Od gosjega peresa do računalniškega oblaka

From quill to the cloud

Geodetska uprava Republike Slovenije
Surveying and Mapping Authority of the Republic of Slovenia

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Informacijska prenova vodenja nepremičninskih evidenc

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Information redesign of real estate record-keeping

REPUBLIKA SLOVENIJA
MINISTRSTVO ZA OKOLJE IN PROSTOR
GEODETSKA UPRAVA REPUBLIKE SLOVENIJE

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EVROPSKA UNIJA
EVROPSKI SKLAD ZA REGIONALNI RAZVOJ
NALOŽBA V VAŠO PRIHODNOST

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Alphabetical list of abbreviations used in this publication

Kratica oz. okrajšava Abbreviation	Pomen v slovenščini Meaning in Slovene	Pomen v angleščini Meaning in English
3D	trirazsežno	Three-dimensional
AJPES	Agencija RS za javnopravne evidence in storitve	Agency of the Republic of Slovenia for Public Legal Records and Related Services
AOK	Avtomatska obdelava katastra	Automated cadastre manipulation
AOP	Avtomatska obdelava podatkov	Automated data manipulation
AS	Arhiv Republike Slovenije	Archive of the Republic of Slovenia
CB Stavbe	Centralna baza stavb	Central Database of Buildings
CBZK	Centralna baza zemljiškega katastra	Central Database of the Land Cadastre
CD	zgoščenka	Compact disc
CRP	Centralni register prebivalstva	Central population register
CVI	Center vlade za informatiko	Government centre for informatics
D48/GK	Datum 1948 Gauss-Krüger - stari državni koordinatni sistem pred 20. 1. 2019	Datum 1948 Gauss-Krüger - old coordinate system used before January 20, 2019
D96/TM	Datum 1996 Transverse Mercator - novi državni koordinatni sistem po 20. 1. 2019	Datum 1996 Transverse Mercator -new coordinate system used after January 20, 2019

Kratica oz. okrajšava Abbreviation	Pomen v slovenščini Meaning in Slovene	Pomen v angleščini Meaning in English
DKN	digitalni katastrski načrt	Digital cadastral map
DM	državna meja	State border record
DOF	digitalni ortofoto načrt	Digital orthophoto
DRO	Državni računalniški oblak	National cloud computing
EDM	Evidenca državne meje	state border register
e-GP	e-Geodetski podatki	e-Surveying/mapping data
EHIŠ	Evidenca hišnih številk	Register of house numbers
EMŠO	enotna matična številka občana (za fizične osebe)	Unique Master Citizen Number (for natural persons)
EVELA	Evidenca elaboratov	Report records
eZKN	elektronski arhiv zemljiškokatastrskih načrtov	Digital archive of land cadastral maps
FAGG	Fakulteta za arhitekturo, gradbeništvo in geodezijo	Faculty of civil engineering, geodesy and architecture (FAGG)
fasc.	fascikel	Fascicle, bundle volume
Fin. min.	Ministrstvo za finance	Ministry of Finance
FLRJ FPRY	Federativna ljudska republika Jugoslavija	Federal People's Republic of Yugoslavia
franc. kat. Franc. cad.	franciscejski kataster	Franciscan cadastre
FURS	Finančna uprava Republike Slovenije	Financial Administration of the Republic of Slovenia
GJI	gospodarska javna infrastruktura	Public utility infrastructure

Kratica oz. okrajšava Abbreviation	Pomen v slovenščini Meaning in Slovene	Pomen v angleščini Meaning in English
GJS	Gospodarski javni servis/storitve	Public utility service provider
GU	Geodetska uprava	Geodetic/surveying/mapping authority
GURS SMARS	Geodetska uprava Republike Slovenije	Surveying and Mapping Authority of the Republic of Slovenia
HKOM	Hitro komunikacijsko omrežje	Central Public Administration Communication Network
HP	Hewlett Packard	Hewlett Packard
HŠ	hišna številka	House number
ID	identifikacijska številka	Identification number
IDPOS	identifikacijska številka postopka	Procedure identification number
IKT ICT	Informacijsko komunikacijske tehnologije	Information communication technologies
INKAT	Informatizirani kataster	Computerized cadastre
INSPIRE	EU direktiva o vzpostavitvi infrastrukture za prostorske informacije v Evropi	EU directive INfrastructure for SPatial InfoRmation in Europe
IO	vhodno-izhodni	Input output
k.o. c.m.	katastrska občina	Cadastral municipality
KRIM	KRIM d.o.o.	KRIM d.o.o.
KRPAN	Nov informacijski sistem za upravljanje z dokumentarnim gradivom	New information system for document material management
KS	kataster stavb	Building cadastre

Kratica oz. okrajšava Abbreviation	Pomen v slovenščini Meaning in Slovene	Pomen v angleščini Meaning in English
LADM	ISO domenski model za zemljiško upravljanje	ISO Land Administration Domain Model
Ljub. kres. Ljub. dist. off.	Ljubljanska kresija	Ljubljana District Office
LRS	Ljudska republika Slovenija	People's Republic of Slovenia
M=	Merilo=	Scale=
MID	Enotni izmenjevalni identifikator	Unique exchange identifier
MJU MPA	Ministrstvo za javno upravo	Ministry of Public Administration
MNZ	Ministrstvo za notranje zadeve	Ministry of Interior
MOP	Ministrstvo za okolje in prostor	Ministry of the Environment and Spatial Planning
MŠ	matična številka (za pravne osebe)	Unique identification number (for legal entities)
nem. Ger.	nemščina	German
NL	naznanilni list	Notice sheet
NUSZ	nadomestilo za uporabo stavbnih zemljišč	Compensation for the use of building lands
OGC	Odprti geoprostorski konzorcij	Open Geospatial Consortium
OGU	Območna geodetska uprava GURS	SMARS Regional Surveying and Mapping Authority (regional geodetic administration)
PC	osebni računalnik	Personal computer
PGP	Prevzem geodetskih podatkov	Handover of surveying data

Kratica oz. okrajšava Abbreviation	Pomen v slovenščini Meaning in Slovene	Pomen v angleščini Meaning in English
PIS	Prostorski informacijski sistem	Spatial Information System
PL	posestni list	Property sheet
PP	Programski paket	Software package
PREG	Pregledovalnik prostorskih podatkov	Spatial data viewer
PRS	Poslovni register Slovenije	Business register of Slovenia
RDBMS	relacijska podatkovna baza	The Relational DataBase Management System
Reg.	deželni	Regional
REN	register evidence nepremičnin	Real estate register
Rev. cad.	reambulančni kataster	Revised (reambulated) cadastre
RGU	Republiška geodetska uprava (1947–1994)	Republic geodetic administration (1947-1994)
ROTE	Register območij teritorialnih enot	Register of areas of territorial units
RPE	register prostorskih enot	Register of spatial units
RUJP	Republiška uprava za javne prihodke	Republic administration for public revenue
SFRJ SFRY	Socialistična federativna republika Jugoslavija	Socialist Federal Republic of Yugoslavia
SI-CAS	Centralni avtentikacijski sistem	Central Autentication System
SI-CES	Centralni sistem za strežniško e-podpisovanje	Central system for server e-signature
SKZG	Sklad kmetijskih zemljišč in gozdov RS	National Farm Land and Forest Fund

Kratica oz. okrajšava Abbreviation	Pomen v slovenščini Meaning in Slovene	Pomen v angleščini Meaning in English
SRS	Socialistična republika Slovenija	Socialist Republic of Slovenia
SURS	Statistični urad Republike Slovenije	Statistical Bureau of the Republic of Slovenia
TTN	temeljni topografski načrt	Basic topographic plan/map
xls, xlsx, doc, docx, pdf, shp, dxf	vrste datotek	File types
ZAID	Zakon o arhitekturni in inženirski dejavnosti	Architecture and Civil Engineering Act
ZDOIONUS	Zakon o določanju območij ter o imenovanju in označevanju naselij, ulic in stavb	Act Regulating the Determination of Territories and the Naming and Marking of Settlements, Streets and Buildings
ZEN	Zakon o evidentiranju nepremičnin	Real Estate Records Act
ZENDMPE	Zakon o evidentiranju nepremičnin, državne meje in prostorskih enot	Recording of Real Estate, State Border and Spatial Units Act
ZGO	Zakon o graditvi objektov	Construction Act
ZIENUS	Zakon o imenovanju in evidentiranju naselij, ulic in stavb	Act Regulating the Naming and Registration of Settlements, Streets and Buildings
ZK LC	zemljiški kataster	Land cadastre
ZK GJI	zbirni kataster gospodarske javne infrastrukture	Consolidated cadastre of public utility infrastructure
ZK točka LC point	zemljiškokatastrska točka	Land Cadastre point
ZKKN	Zakon o katastru komunalnih naprav	Utility Cadastre Act

Kratica oz. okrajšava Abbreviation	Pomen v slovenščini Meaning in Slovene	Pomen v angleščini Meaning in English
ZKKN	Zakon o katastru komunalnih naprav	Utility Cadastre Act
ZKN	Zakon o katastru nepremičnin	Real Estate Cadastre Act
ZKTOC	Evidenca ZK točk	LC point records
ZMVN	Zakon o množičnem vrednotenju nepremičnin	Real Property Mass Valuation Act
ZPNačrt	Zakon o prostorskem načrtovanju	Spatial Planning Act
ZPPLPS	Zakon o posebnih pogojih za vpis lastninske pravice na posameznih delih stavbe v zemljiško knjigo	Act Determining Special Conditions for Registering the Ownership of Individual Parts of Buildings with the Land Register
ZS	Zavod za statistiko	Statistical Office
ZUP	Zakon o splošnem upravnem postopku	General Administrative Procedure Act
ZUReP	Zakon o urejanju prostora	Spatial Management Act
ZVDAGA	Zakon o varstvu dokumentarnega in arhivskega gradiva ter arhivih	Protection of Documents and Archives and Archival Institutions Act
ZZKat	Zakon o zemljiškem katastru	Land Cadastre Act

1 Uvod

Človek vse od pojava zasebne lastnine želi vedeti, čigavo je posamezno zemljišče ali stavba ter kaj je na določenem zemljišču ali stavbi mogoče delati (kakšne so pravice), prav tako pa tudi, česa ne smemo (kakšne so omejitve in režimi) in kaj moramo storiti (kakšne so obveznosti) v povezavi s posameznim zemljiščem ali stavbo. V vseh zgodovinskih obdobjih so si strokovnjaki prizadevali vzpostaviti sistem, ki bi ljudem omogočal na enostaven način in z visoko stopnjo zaupanja določiti lokacijo in obseg vseh pravic, omejitev ter obveznosti, ki se nanašajo na zemljišče oziroma nepremičnino. Tako, kot je bila burna zgodovina na našem ozemlju, tako je pestra tudi zgodovina evidentiranja nepremičnin na tem ozemlju.

Leta 2017 je minilo 200 let, odkar je bila postavljena pravna podlaga za parcelni zemljiški kataster na območju Slovenije, kot ga poznamo še danes. Za začetek sodobnega evidentiranja nepremičnin na našem ozemlju štejemo že cesarski patent Franca I. z dne 23. 12. 1817, s katerim je izdal ukaz za izvedbo stabilnega katastra v avstrijskih deželah. V ogrskem delu ozemlja nekdanjega cesarstva so zakonsko podlago za začetek sistematične katastrske izmere dobili pod vladavino Franca Jožefa I. v letu 1849.

Dvesto let kasneje je zemljiški kataster skupaj s katastrom stavb še vedno uradna evidenca nepremičnin, kjer je zemljišče opredeljeno s parcelo. Parcela je evidentirana z mejo parcele, ki je določena s koordinatami zemljiškokatastrskih točk, in označena s parcelno številko. Kataster tako povezuje stvarne pravice na zemljiščih, ki jih vodi zemljiška knjiga, z lokacijo v prostoru. Podatki katastra so danes prosto dostopni preko spleta in distribucijskega sistema Geodetske uprave Republike Slovenije.

Leta 1817 ustanovljena deželna komisija za regulacijo zemljiškega davka je pomenila predhodnico današnje geodetske uprave. Kot ustanovni datum državne geodetske službe v novejši zgodovini sicer štejemo 20. januar 1944, ko je bila med NOB z odredbo Glavnega štaba NOV in PO Slovenije ustanovljena Geodetska sekcija. Sekcija je bila zadolžena za oskrbo štabov z vojaškim topografskim gradivom ter pripravo in izdelavo novih kart.

Introduction

Ever since the emergence of private property, people have been interested in the ownership of land and buildings in terms of their usage and possibilities (the rights), as well as the prohibitions (the restrictions and regimes) and necessities (the responsibilities) in relation to an individual land parcel or building. Throughout history, experts have sought to establish a system that would allow people to determine the location and scope of all rights, restrictions and responsibilities relating to land or real estate, in a simple manner and with a high degree of confidence. Just as the general history of our territory is quite turbulent, the same could be said of its history of real estate record-keeping.

The year 2017 marked the 200th anniversary of establishing a legal basis for the land cadastre of parcels in Slovenia as we know it today. The imperial patent of Franz I of 23 December 1817, by which he issued an order for the implementation of a stable cadastre in the Austrian lands, is considered to be the beginning of modern real estate record-keeping in our territory. In the Hungarian part of the territory of the former empire, the legal basis for the beginning of a systematic cadastral survey was obtained under the rule of Franz Joseph I in 1849.

Two hundred years later, the land cadastre, along with the building cadastre, still represents the official real estate record, where land is defined by land parcels. A land parcel is recorded with the border of the parcel, which is determined by the coordinates of the land cadastral points and marked with a parcel number. The cadastre thus connects the rights in rem entered in the land registry with the actual location of the land. Today, cadastre data is freely available on the internet and through the distribution system of the Surveying and Mapping Authority of the Republic of Slovenia.

The regional commission for the regulation of land tax, founded in 1817, was the forerunner of the present-day Surveying and Mapping Authority. Currently, the founding date of the national geodetic service is considered to be 20 January 1944, when the Geodetic Section was established during the National Liberation War by order of the General Staff of the National Liberation Army and the Partisan Units

Geodetska uprava pri Vladi Ljudske Republike Slovenije pa je bila ustanovljena z uredbo dne 26. 3. 1947. Državna geodetska služba v Sloveniji ima torej pestro in dolgo zgodovino. Temeljna področja delovanja Geodetske uprave RS vključujejo osnovni geodetski sistem, evidentiranje in vrednotenje nepremičnin, izvajanje postopkov zemljiške administracije in preurejanja zemljišč ter dejavnosti na področju zagotavljanja referenčnih prostorskih podatkov, kot so temeljni topografski podatki, podatki prostorskih enot, zemljepisna imena in drugi podatki o prostoru in nepremičninah. Naše poslanstvo je zagotavljanje kakovostne uradne prostorske podatkovne infrastrukture in sistema zemljiške administracije ter uporabnikom zagotavljati učinkovite storitve in kakovostne uradne prostorske podatke na načine, ki ustrezajo visokim standardom geoinformacijsko usposobljene sodobne družbe.

Zahteve družbe in pričakovanja uporabnikov sistema evidentiranja nepremičnin so se v zadnjih dvesto letih nenehno spreminjale in skupaj z njimi se je spreminjal in razvijal tudi sistem evidentiranja nepremičnin. Nove tehnologije, okoljski izzivi ter družbeni in politični vplivi namreč nenehno preoblikujejo naše vrednote, izkušnje, običaje in pričakovanja. Zemljišča in nepremičnine na splošno so v vsej zgodovini predstavljale osnovo za izvajanje večine človekovih dejavnosti, zato je znanje o zemljiščih in objektih ključnega pomena za pametno odločanje tudi v sodobni družbi. Zato moramo nenehno spremljati potrebe in pričakovanja uporabnikov ter temu prilagajamo tudi sistem zemljiške administracije v državi, saj lahko samo tako izkoristimo razvojne priložnosti in zadostimo potrebam, ki jih prinaša uporaba novih tehnologij v prihodnosti.

Zapis, h kateremu je nastal ta uvodnik, vam nudi zgolj hiter pregled aktivnosti, ki so se v 200 letih izvajale na področju evidentiranja nepremičnin na današnjem slovenskem ozemlju. Slovenski geodeti že vrsto let zagotavljamo učinkovito uporabo prostorskih informacij za potrebe učinkovitega merjenja, spremljanja stanja in doseganja trajnostnega družbenega, gospodarskega in okoljskega razvoja. V preteklosti smo uporabnike naših podatkov že popeljali iz analognega sveta v digitalno upodabljanje prostora kakor tudi od razumevanja nepremičnin zgolj skozi lupo števila kvadratnih metrov do pogleda na nepremičnine skozi njeno vrednost v evrih. Verjamem, da bomo tudi v prihodnje zmogli slediti sodobnim trendom in vizijam na področju zemljiške administracije in infrastrukture za prostorske informacije.

of Slovenia. The section was in charge of supplying the staff with military topographic material and the preparation and production of new maps. The Surveying and Mapping Authority of the Government of the People's Republic of Slovenia was established by a decree of 26 March 1947. The national geodetic service in Slovenia therefore has a long and varied past. The main areas of activity of the Surveying and Mapping Authority of the Republic of Slovenia include the basic geodetic system, the recording and valuation of real estate, implementation of land administration and land redevelopment procedures, and activities in the field of providing reference spatial data such as basic topographical data, spatial unit data, geographical names and other data on land and real estate. Our mission is to provide a high-quality official spatial data infrastructure and land administration system, and to provide users with efficient services and high-quality official spatial data in ways that meet the high standards of a modern spatially enabled society.

The requirements of society and the expectations of the users of the real estate registration system have been constantly changing throughout the last two centuries, and in parallel, the real estate registration system has been changing and developing as well. New technologies, environmental challenges, and social and political impacts are constantly transforming our values, experiences, customs and expectations. Land and real estate in general have historically been the basis for carrying out most human activities, so knowledge of land and buildings is crucial for smart decision-making in modern society as well. Therefore, we must constantly monitor the needs and expectations of users and adjust the system of land administration in the country, as this is the only way we can take advantage of development opportunities and meet the needs brought about by using new technologies in the future.

The record to which this editorial pertains will offer just a quick overview of the activities that have been carried out in the field of real estate registration in the territory of today's Slovenia in the last 200 years. For many years, Slovenian surveyors have been ensuring the efficient use of spatial information for the needs of efficient measurement, monitoring and the achievement of sustainable social, economic and environmental development. In the past, we have already taken the users of our data from the analogue world to the digital imaging of space, as well as from

Kolega dr. Joc Triglav je leta 2013 v svojem članku v Geodetskem vestniku zapisal: »Včasih je treba pogledati nazaj, če hočeš videti naprej. To na prvi pogled nelogično pravilo je uporabno v vsakdanjem življenju ter tudi na področjih znanstvenega in strokovnega razvoja, zato prav tako velja na področju geodezije in zemljiškega katastra«.

Z zapisanim se seveda v celoti strinjam in menim, da je knjiga, ki jo držite v rokah, samo še ena od potrditev zgoraj zapisanih besed. Želim vam prijetno branje.

Tomaž Petek

Generalni direktor Geodetske uprave Republike Slovenije
Director-General of the Surveying and Mapping Authority of the Republic of Slovenia

understanding real estate simply through the number of square meters to looking at real estate through its value in euros. I believe that we will continue to be able to follow modern trends and visions in the field of land administration and infrastructure of spatial information.

A colleague of mine, dr. Joc Triglav, wrote in his article in the Geodetski vestnik in 2013: »Sometimes you have to look back if you want to see ahead. This seemingly illogical rule is as applicable in everyday life as it is in the fields of scientific and professional development, and so it also applies in the field of geodesy and land cadastre.«

I completely agree with his statement, and I believe that the book you are holding is just additional confirmation of this sentiment. I wish you pleasant reading.

2 Zgodovina

V začetku 19. stoletja so se začeli pripravljati na nov kataster – franciscejski kataster, po cesarju Francu I. 23. decembra 1817 je namreč cesar Franc I. izdal znameniti Zakon o zemljiškem davku (nem. Grundsteuerpatent), ki je s svojimi obsežnimi podzakonskimi tehničnimi in izvedbenimi predpisi ter zakonskimi prenovitvami in dopolnitvami tudi na Slovenskem postavil temelje katastrskega sistema za dobro stoletje, vse do izdaje starojugoslovanske katastrske in zemljiškoknjižne zakonodaje v 30. letih prejšnjega stoletja.

Novost franciscejskega katastra je bila v tem, da so parcele za vsako katastrsko občino v celotnem cesarstvu izmerili in izrisali v predpisanem merilu – sprva z izjemo ogrskih dežel, ki so spadale pod t. i. Štefanovo krono.

Cilj nastavitve stabilnega katastra je bil, da skladno s sprejetimi predpisi izdelajo zanesljiv kataster zemljišč, ki bo zagotavljal pravično obdavčitev kmetijske proizvodnje. V ta namen je bilo treba z izmerjenimi zemljišči povezati tudi podatke o osebah, ki imajo na teh zemljiščih lastniške pravice in druge pravice uporabe. Vsaki posesti so določili tudi fizične lastnosti njenih zemljišč. Povezava teh grafičnih in opisnih podatkov in lastnosti v sistem katastra zemljišč je omogočala trden temelj za obdavčitev.

History

At the beginning of the 19th century, preparations began for a new cadastre – the Franciscan cadastre, named after Emperor Franz I. On 23 December 1817, the Emperor issued the famous Land Tax Act (Ger. Grundsteuerpatent), whose extensive technical and implementing regulations, as well as legal revisions and supplements, laid the foundations of the cadastral system in Slovenia for more than a century, until the issuance of the old Yugoslav cadastral and land registry legislation in the 1930s.

The novelty of the Franciscan cadastre was that the land parcels for each cadastral municipality in the entire empire were measured and plotted in the prescribed scale – initially excluding Hungarian lands, which belonged to the crown of Stephen (Stephen I of Hungary).

The goal of setting up a stable cadastre was to draw up a reliable land cadastre in accordance with the provisions adopted to ensure the fair taxation of agricultural production. To this end, the measured land also had to be connected to the information on the persons with property rights and other rights of use on those lands. The physical properties of the land were also determined for each property. The integration of this graphic and descriptive data and properties into the land cadastre system provided a solid foundation for taxation.

2.1 Zemljiškokatastrski operat

Zemljiškokatastrski operat izkazuje podatke, ki tvorijo osnovo za vodenje evidenc o nepremičninah in za določanje prispevkov in davkov. Predstavlja javno, metodološko urejeno, tehnično in topografsko evidenco zemljišč (parcel) za določeno upravno ali administrativno območje. Že od svojega nastanka je sestavljen iz opisnega in grafičnega dela, ki se kot zaključena celota vodi po katastrski občinah.

The land cadastral record

The land cadastral record presents the data that form the basis for real estate record-keeping and for determining contributions and taxes. It represents a public, methodologically arranged, technical and topographic record of land (parcels) for a specific administrative area. Since its very inception, its content has consisted of descriptive and graphic parts, which are kept as complete units in cadastral municipalities.

2.1.1 Operat franciscejskega katastra

Franciscejski katastrski operat ima poleg indikacijskih skic in katastrskih map tudi spisovni del. Ta je sestavljen po obrazcih, v katerih so zajeti vsi podatki o izmeri in podatki za pridobitev hitre informacije o posameznem posestniku ali o posameznem zemljišču. Sestavljajo ga: zapisnik zemljiških parcel, zapisnik stavbnih parcel, izkaz površine zemljišč po katastrskih kulturah, abecedni seznam zemljiških posestnikov, popis mej katastrske občine, seznam neznanih lastnikov zemljišč, zapisnik o izračunavanju površine zemljišč, pisna dokazila o imenovanju.

Franciscejski katastrski operat za Kranjsko ne vsebuje zadnjih treh sestavnih delov, pač pa so mu priključeni tako imenovani cenilni operati (izračuni davkov glede na velikost in kvaliteto oziroma donos zemljišč). Arhivsko gradivo franciscejskega katastrskega operata za slovensko ozemlje je nastalo v letih 1818–1828, rektifikacijske mape (popravki) so nastajale kasneje.

Operat franciscejskega katastra, ki ga je moral geodet po končani izmeri predati inšpektorju, je vseboval:

- katastrske načrte (originalne katastrske mape),
- indikacijske skice,
- seznam (zapisnik) zemljiških in stavbnih parcel,
- abecedni seznam posestnikov,
- končni opis meje katastrske občine,
- seznam kultur,
- seznam parcel nepoznanih posestnikov,
- izračun površin
- ter pisne navedbe davkarije o davčnih zavezancih.

Instrukcija o katastrski izmeri. Leto 1823

Instrukcija obsega 6 poglavij, v katerih je urejeno vodenje in izvedba katastrske izmere, določa organe za izvedbo izmere, metodologijo za podrobno merjenje, način izračunavanja površin, izdelavo barvnih map ter hranjenje map. V VI. poglavju je določeno, da se mora katastrski operat hraniti v ognjevarnih obokanih prostorih Deželne komisije za regulacijo zemljiškega davka ter tudi določa način ureditve, hranjenje, opremo za hranjenje ter uporabo katastrskega gradiva.

(Vir: AS, Gub. VIII. 1823, fasc. 10–8, spis 6528, priloga)

The Franciscan cadastre record

In addition to field cadastral plans and cadastral maps, the Franciscan cadastral record also includes a written part. This part comprises forms that include all survey data and the data required for obtaining quick information about an individual landowner or an individual part of land. It consists of: a record of land parcels, a record of building parcels, statements of land surface areas by cadastral cultures, an alphabetical list of landowners, a survey of cadastral municipality borders, a list of unknown landowners, a record of calculating land surface areas and written evidence of appointment.

The Franciscan cadastral record for Carniola does not contain the last three components, but is supplemented by so-called appraisal records (calculations of taxes according to the size and quality or yield of land). The archival material of the Franciscan cadastral record for the Slovenian territory was created in the years 1818-1828, and rectification maps (corrections) were created subsequently.

The Franciscan cadastre record, which the surveyor had to hand over to the inspector after the cadastral survey was completed, contained:

- cadastral plans (original cadastral maps),
- field cadastral plans,
- a list (record) of land and building parcels,
- alphabetical list of owners,
- final description of the border of the cadastral municipality,
- list of cultures,
- list of parcels of unknown owners,
- calculation of areas,
- written tax authority statements about the taxpayers.

Cadastral survey instruction. Year 1823

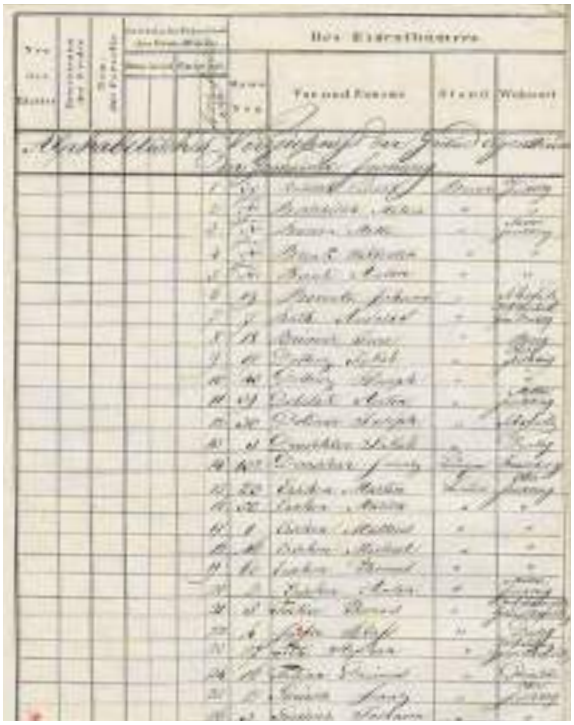
The instruction consists of 6 chapters regulating the management and implementation of the cadastral survey and determining the bodies for the implementation of the survey, the methodology for detailed measurement, the method of calculating surface areas, the production of colour maps and the storage of maps. Chapter VI stipulates that the cadastral record must be kept in the fireproof vaulted premises of the Regional Commission for Land Tax Regulation and determines the manner of arrangement, storage, storage equipment and the use of cadastral material.

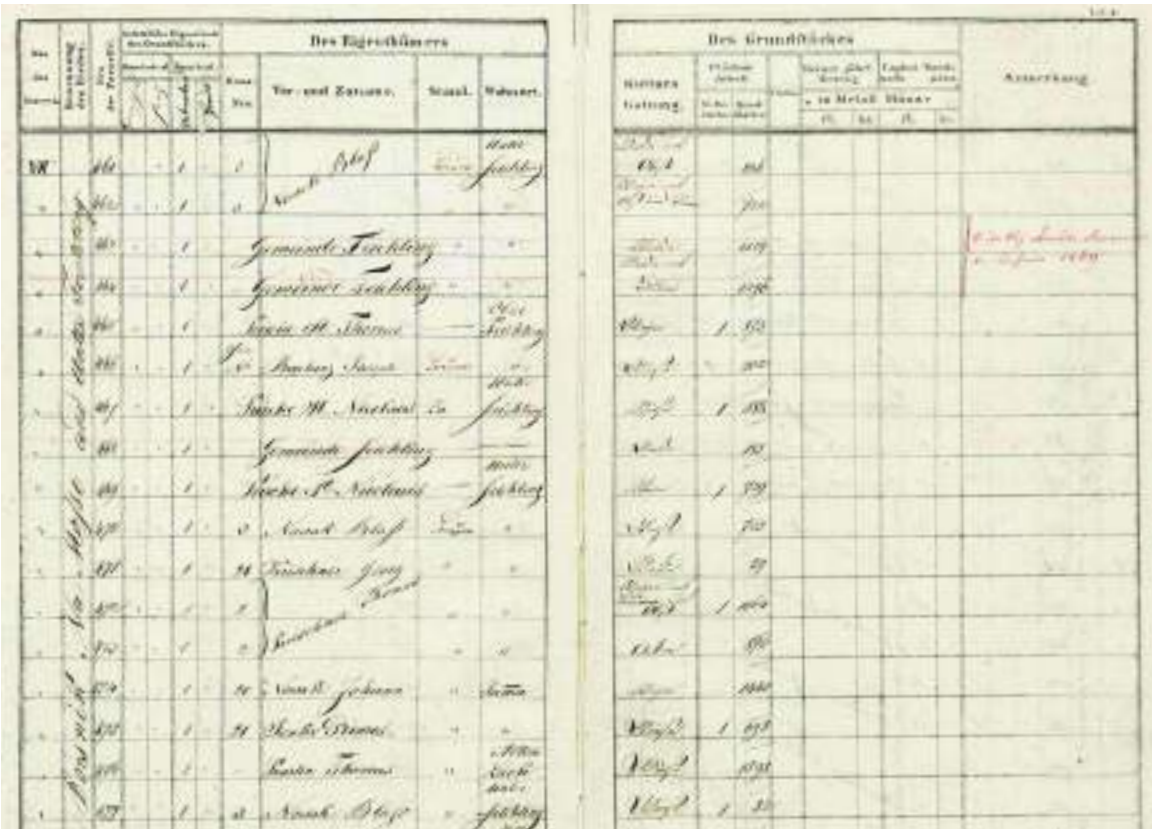
(Source: AS, Gub. VIII. 1823, fasc. 10–8, file 6528, annex)

Zapisnik zemljiških parcel predstavlja numerično evidenco vseh obdelovalnih in drugih parcel v katastrski občini, ne glede na katastrsko kulturo. Pojem parcela je bil opredeljen v navodilu: to je posebna zemljiška enota, vezana na lastništvo in na vrsto katastrske kulture. V navodilih se je tudi priporočalo, naj bi bile meje posameznih parcel čimbolj naravne. Med zemljiške parcele se ob merjenju ni štelo zemljišč, ki so bila manjša od 25 (dunajskih) kvadratnih sežnjev – klafter (1 dunajski kvadratni seženj = 3,5966 m^2). Taka so bila navadno ob hišah kot majhni vrtovi ali pa ob njivah kot travniške parcele, ki so služile za obračanje živine pri obdelavi njiv. Prve so zato vračunali med stavbne, druge pa med njivske parcele. Pripomniti velja, da se izvajanje tega navodila ni dosledno upoštevalo.

Zapisnik zemljiških parcel vsebuje naslednje rubrike: številka mapnega lista, v katerem je narisana parcela, ime ledine, tekoča številka parcele, vrsta lastništva parcele (dominikalna, rustikalna), lastnik parcele (hišna številka, priimek in ime, poklic in kraj bivanja),

The land parcel record represents a numerical record of all arable and other parcels in the cadastral municipality regardless of their cadastral culture. The instruction defined the concept of a land parcel: a special unit of land tied to ownership and to a type of cadastral culture. The instructions also recommended that the borders of individual parcels should be as natural as possible. Parts of land smaller than 25 (Viennese) square yards - fathoms (1 Viennese square yard = 3.5966 m^2) were not included as land parcels in the measurement. These were usually next to houses as small gardens, or next to fields as meadow parcels used for turning cattle during the cultivation of the fields. The former were therefore counted as building parcels, and the latter as field parcels. It should be noted that the implementation of this guideline was not strictly observed. The record of land parcels contains the following sections: number of the map sheet in which the parcel is drawn, name of fallow, current parcel number, type of parcel ownership (dominical, rustic), parcel owner (house number, surname and name, occupation and place of residence), type of land





Slika 2.1.1.1: Zapisnik zemljiških parcel katastrske občine 2132 Bitnje iz leta 1827. Zapisnik vsebuje popis vseh zemljiških parcel v katastrski občini. Zapisnik je sestavil civilni geometer Leopold Larenz, kontrolni pregled pa je opravil nadporočnik, meritveni inšpektor Margheri.
(Vir: AS, Franc. kat., Ljubljanska kresija, k. o. Bitnje, L -54)

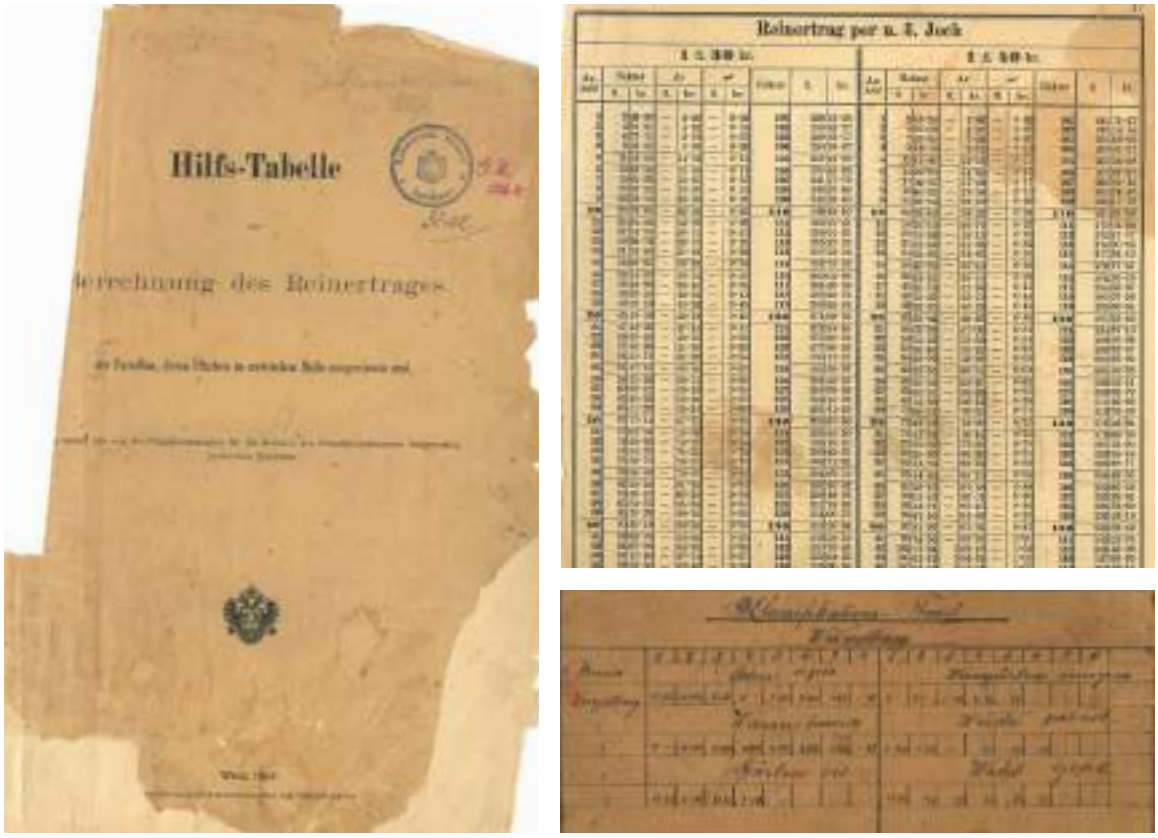
Figure 2.1.1.1: Record of land parcels of cadastral municipality 2132 Bitnje from 1827. This record contains an inventory of all land parcels in the cadastral municipality. The record was com-piled by civil surveyor Leopold Larenz and a control inspection was performed by senior lieutenant survey inspector Margheri.
(Source: AS, Franc. cad., Ljub. dist. off., c. m. Bitnje, L-54)

vrsta zemljišča po katastrski kulturi, površina v oralih in klaftrah, kakovostni razred, čisti letni donos v kovanem denarju, vrednost zemljišča in pripombe. V zapisniku zemljiških parcel so zajete vse zemljiške parcele po tekočih številkah, ki so vpisane v katastrski mapi. Najprej so popisane vse parcele posameznih lastnikov, zatem pa so popisane še parcele cest in poti, rek in potokov. Nekatere rubrike so v zapisniku ostale neizpolnjene, zlasti so ostale prazne rubrike, ki so bile namenjene zapisu vrednosti in oceni zemljišča. Te rubrike so ostale neizpolnjene, ker je bila ocenitev zemljišč opravljena nekaj let po izdelavi zapisnika.

by cadastral culture, surface area in cadastral acres and fathoms, quality class, net annual return in coined money, value of the land, and comments. The record of land parcels covers all land parcels according to the current numbers, which are entered in the cadastral plan. First, all parcels of individual owners are listed, then the parcels with roads, paths, rivers and streams. Some sections in the record did not have an entry, in particular sections intended for recording the value and assessment of the land. These sections remained blank because the land valuation was carried out a few years after the record was compiled.

Poimenovanje katastrskih kultur za posamezne zemljiške parcele so v zapisnik vpisali po določenem ključu. Ta ključ je predvideval naslednje katastrske kulture: zelenjavni vrt, sadovnjak, park, vinograd, hmeljnik, travnik (suh ali moker), travnik s sadnim drevjem, pašnik, močvirje, močvirje s trstiko, njiva, njiva s sadnim drevjem, njiva z oljkami, njiva z drevesi in vinsko trto, riževo polje, gozd, grmičevje, peskokop, ilovna jama, kamnolom, šotišče, gole skale, pustota, reka ali potok, jezero ali ribnik, solina, pot, stavbna parcela. V zapisniku naletimo tudi na drugačna poimenovanja, zlasti pri opisovanju gozdnih parcel, kjer najdemo zapis: mlad gozd, srednji gozd, visoki gozd, poleg tega pa tudi listnati gozd, iglasti gozd in mešani gozd.

The naming of the cadastral cultures for individual land parcels was entered in the record following a certain key. This key presupposed the following cadastral cultures: vegetable garden, orchard, park, vineyard, hop field, meadow (dry or wet), meadow with fruit trees, pasture, swamps, swamp with reeds, field, field with fruit trees, field with olive trees, field with trees and vines, rice field, forest, shrubs, sand pit, clay cave, quarry, peat bog, bare rocks, wasteland, river or stream, lake or pond, salt pans, path, building parcel. The record also uses alternative naming, especially for forest parcels, including: young forest, medium forest, high forest, as well as deciduous forest, coniferous forest and mixed forest.



Slika 2.1.1.2: Uporaba tabele za preračun čistega donosa za katastrski okraj Višnja Gora.
(Vir: Arhiv GURS)

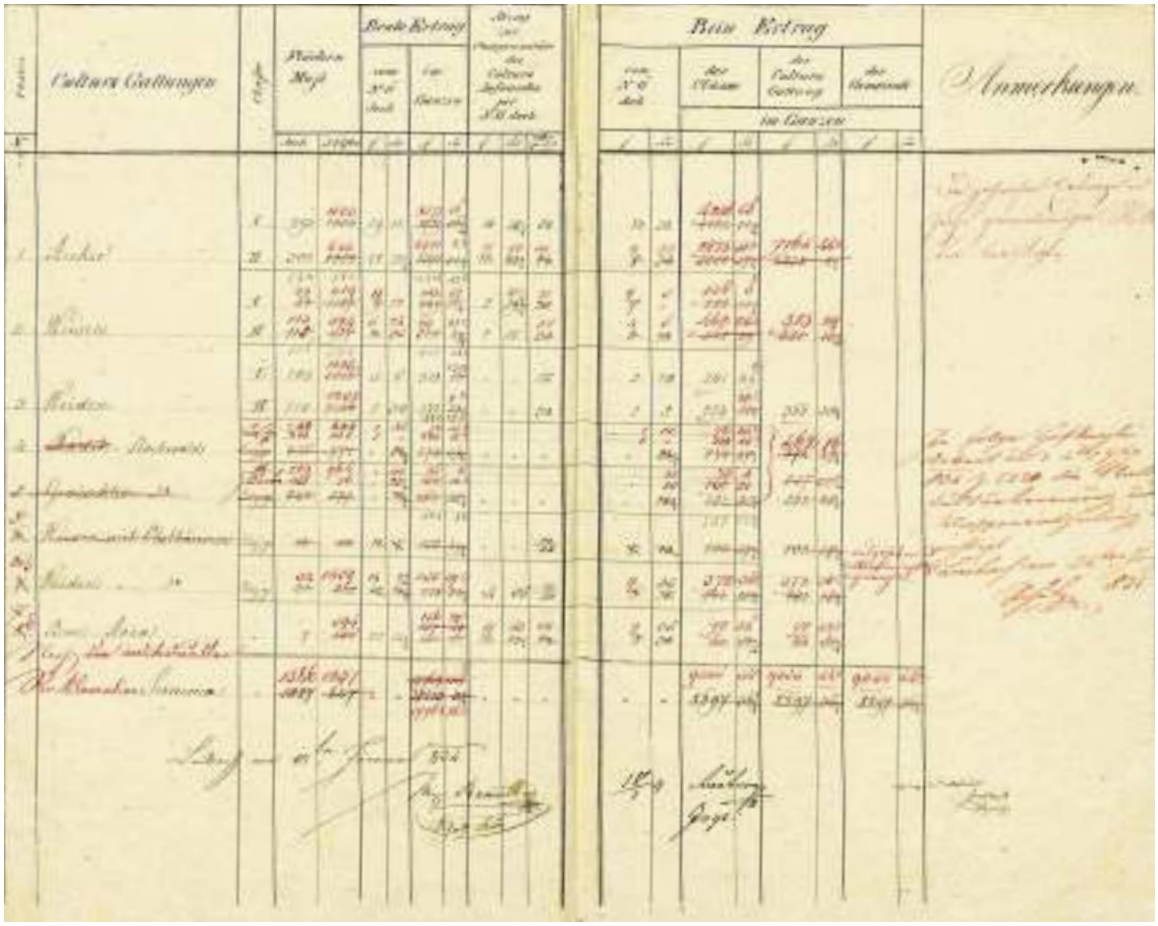
Figure 2.1.1.2: Using the table for calculating the net yield for the cadastral district of Višnja Gora.
(Source: The SMARS archive)

Pri izmeri gozdnih parcel je sodeloval gozdarski izvedenec, ki je tudi določal kategorijo gozda za zapis v zapisnik.

Katastrske kulture so se ugotavljale na terenu neposredno ob izmeri. Če so bile na zemljišču različne kulture, se je navedla glavna kultura, postransko koriščenje pa je bilo zabeleženo kot pripomba. Oceno katastrskega čistega dohodka, ki je bil osnova za odmero davka, so opravili potem, ko so predhodno vsako zemljišče v okviru katastrske občine uvrstili v eno od navedenih katastrskih kultur, glede na različno rodovitnost pa v ustrezni razred.

The measurement of forest parcels employed a forestry expert, who also determined the category of the forest to be stated in the record.

Cadastral cultures were identified in the field directly at the time of the survey. If a piece of land contained several cultures, the main culture was indicated and incidental use was noted in a comment. The assessment of the cadastral net income, which was the basis for tax assessment, was performed after previously including each piece of land within the cadastral municipality in one of the listed cadastral cultures and in the appropriate class according to its fertility level.



Slika 2.1.1.3: Zapisnik o klasifikaciji zemljišč za ocenitev donosnosti zemljišč katastrske občine 2132 Bitnje, z dne 2. oktober 1830. Spremembe, ugotovljene 10. januarja 1834, so vpisane v rdeči barvi.
(Vir: AS, Franc. kat., Ljub. kres., cenilni operat k. o. Bitnje, L-54)

Figure 2.1.1.3: Record on the classification of land for the assessment of land profitability of cadastral municipality 2132 Bitnje, dated 2 October 1830. The changes determined on 10 January 1834, are in-scribed in red.
(Source: AS, Franc. cad., Ljub. dist. off., appraisal record of c. m. Bitnje, L-54)

Na koncu zapisnik vsebuje povzetek o izmerjenih površinah, in sicer po posameznih straneh zapisnika. Poleg tega so na koncu zapisnika podpisi oseb, ki so zapisnik izdelale in izračunale površino zemljišč ter datum izdelave zapisnika. Zapisnik ima obliko broširane knjige.

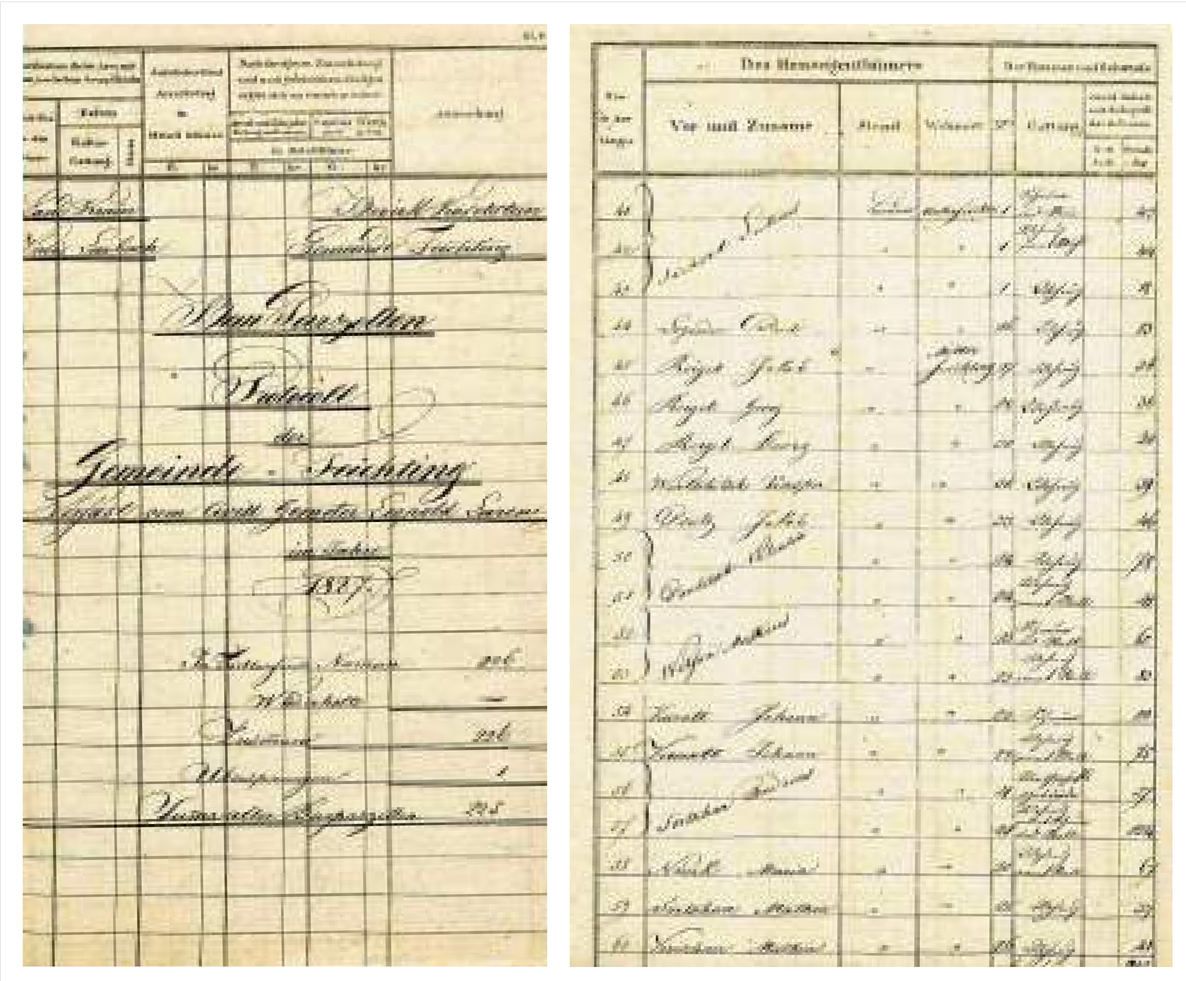
Zapisnik stavbnih (gradbenih) parcel obsega podatke o zgradbah, postavljenih na teh parcelah. V stavbno parcelo so vključene vse zgradbe enega lastnika v okviru istega dvorišča, vključno z manjšim vrtom ob hiši. Če so bile hiše postavljene druga ob drugo v strnjeni pozidavi in so bile last različnih posestnikov, so po navodilih popisali vsako zgradbo posebej kot posebno stavbno zemljišče. V zapisniku so stavbne parcele vpisane kot stanovanjska hiša, stanovanjska hiša z dvoriščem, gospodarsko poslopje z dvoriščem, hlev z dvoriščem, stanovanjska hiša z gospodarskim poslopjem, stanovanjska hiša s hlevom, grajsko poslopje, kovačnica, mlin, žaga, cerkev itd. Stanovanjske hiše so bile v zapisniku vpisane tudi kot zidana ali lesena stanovanjska hiša ter kot pritlična hiša oziroma hiša v dveh ali več nadstropjih.

Obrazec zapisnika za stavbne parcele ima naslednje rubrike: številka lista v mapi, podatek o lastniku zgradbe (ime in priimek, poklic, kraj stanovanja), podatek o hiši in zgradbi po namenu (hišna številka, stanovanjska hiša oziroma druga vrsta zgradbe in skupna površina parcele), letni donos hiše v kovanem denarju, pripombe. V zapisniku stavbnih parcel niso vse rubrike izpolnjene, zlasti velja to za rubriko o letnem donosu hiše. Zapisnik so datirali in podpisali njegovi sestavljavci ter ga dali vezat v broširani obliki.

In the conclusion, the record contains a summary of the measured areas by individual pages of the record. In addition, the conclusion includes the signatures of those involved in creating the record and calculating the land areas, and the date of drawing up the record. The record is in paperback form.

The record of building (construction) parcels includes data on buildings constructed on these parcels. A building parcel includes all the buildings of one owner within the same yard, including a small garden next to the house. Where houses were placed next to each other in compact construction and were owned by different landowners, each building was listed separately as a separate building parcel. The record includes the following building parcel entries: residential house, residential house with a yard, outbuilding with a yard, barn with a yard, residential house with an outbuilding, residential house with a barn, castle building, smithy, mill, sawmill, church, etc. Residential houses were also entered in the record as brick or wooden residential houses, as well as ground floor houses or houses with two or more floors.

The form of the building parcel record includes the following sections: sheet number in the map, information on the owner of the building (name and surname, profession, place of residence), information on the purpose of the building (house number, residential house or other type of building and total parcel area), annual return of the house in coined money, comments. Not all sections of the building parcel record are filled in, in particular the column on the annual return of the house is missing. The record was dated and signed by its compilers and bound in paperback form.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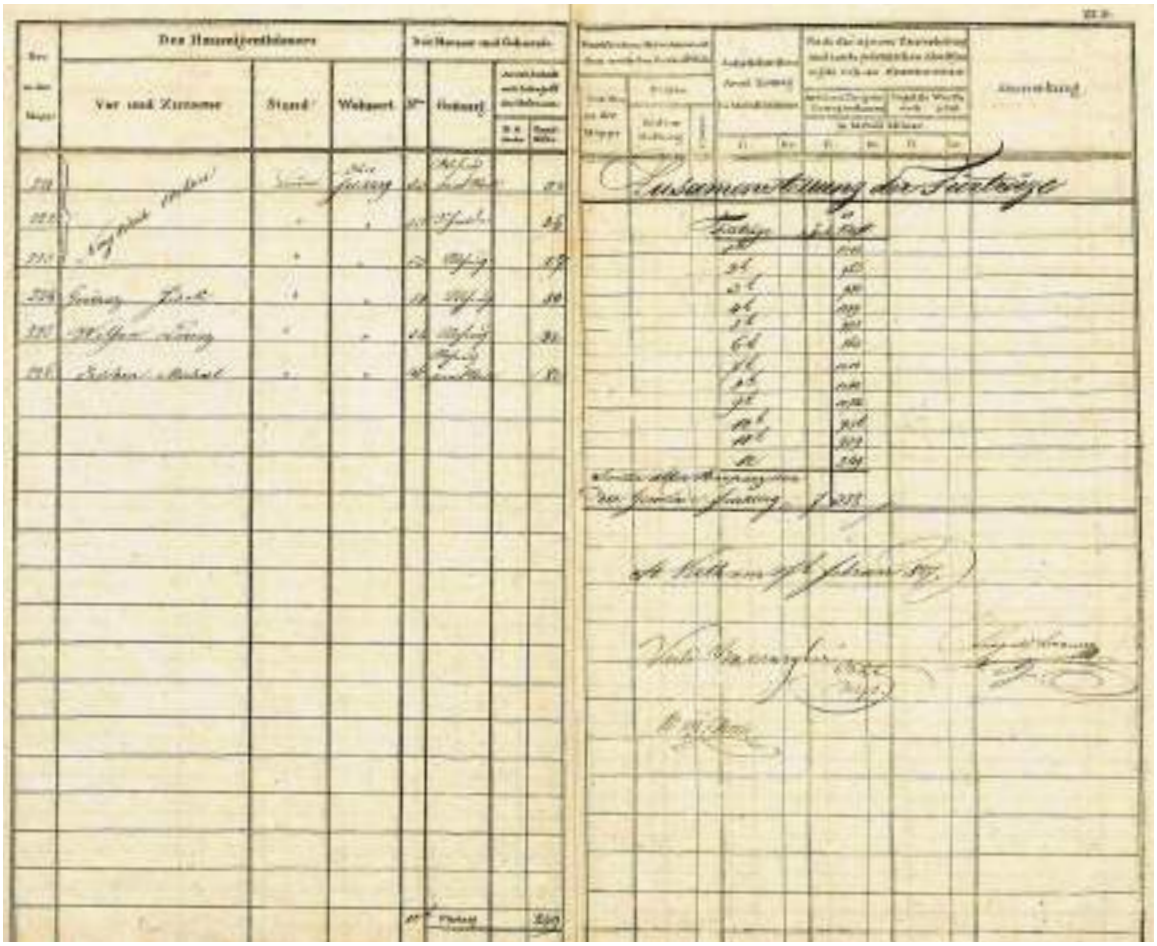
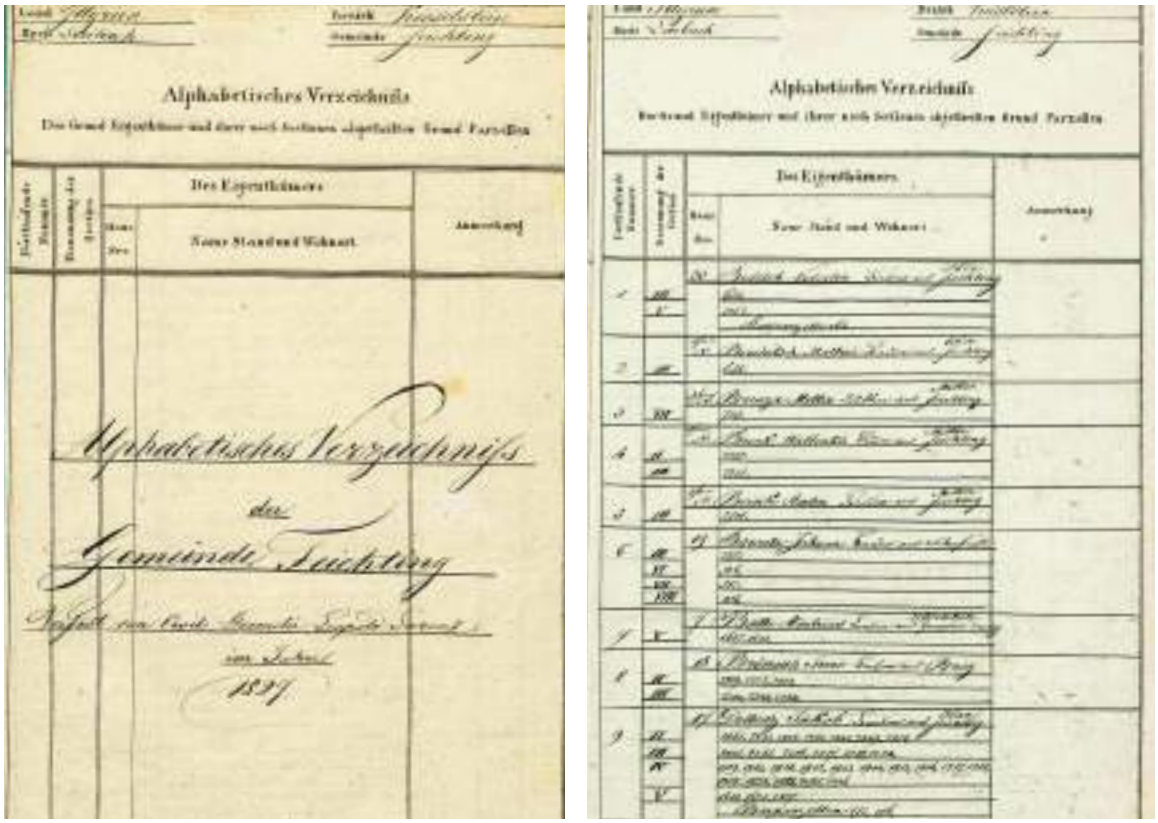


Slika 2.1.1.4: Zapisnik stavbnih parcel katastrske občine 2132 Bitnje z dne 27. februarja 1827. Zapisnik vsebuje popis vseh stavbnih (gradbenih) parcel v katastrski občini. Sestavil ga je civilni geometer Leopold Larenz, kontrolni pregled pa je opravil nadporočnik, meritveni inšpektor Margheri.
(Vir: AS, Franc. kat., Ljub. kres., k. o. Bitnje, L-54)

Figure 2.1.1.4: Record of building parcels of cadastral municipality 2132 Bitnje of 27 February 1827. The record contains an inventory of all building (construction) parcels in the cadastral municipality. They were compiled by civil surveyor Leopold Larenz and a control inspection was performed by senior lieutenant survey inspector Margheri.
(Source: AS, Franc. cad., Ljub. dist. off., c. m. Bitnje, L-54)

Obrazec z abecednim seznamom zemljiških posestnikov katastrske občine je namenjen pregledu lastnikov zemljišč in evidentiranju vseh parcel, ki jih je posedoval posamezen lastnik. Ta obrazec je služil kot pripomoček za pridobitev hitre informacije o posestnem stanju določenega posestnika v katastrski občini. Obrazec ima naslednje rubrike: tekoča številka, ime sekcije, v kateri ležijo posamezne parcele, podatek o lastniku (hišna številka, ime in priimek, vključno z domačim imenom, poklic, stanovanje), pripombe. Abecedni seznam je vezan v broširani obliki.

The form including the alphabetical list of landowners of the cadastral municipality is intended for the review of landowners and the recording of all parcels owned by an individual owner. This form served as a tool to quickly obtain information on the ownership status of a particular landowner in a cadastral municipality. The form consists of the following sections: current number, name of the section in which the individual parcels are located, information on the owner (house number, name and surname, including home name, occupation, apartment), comments. The alphabetical list is bound in paperback.

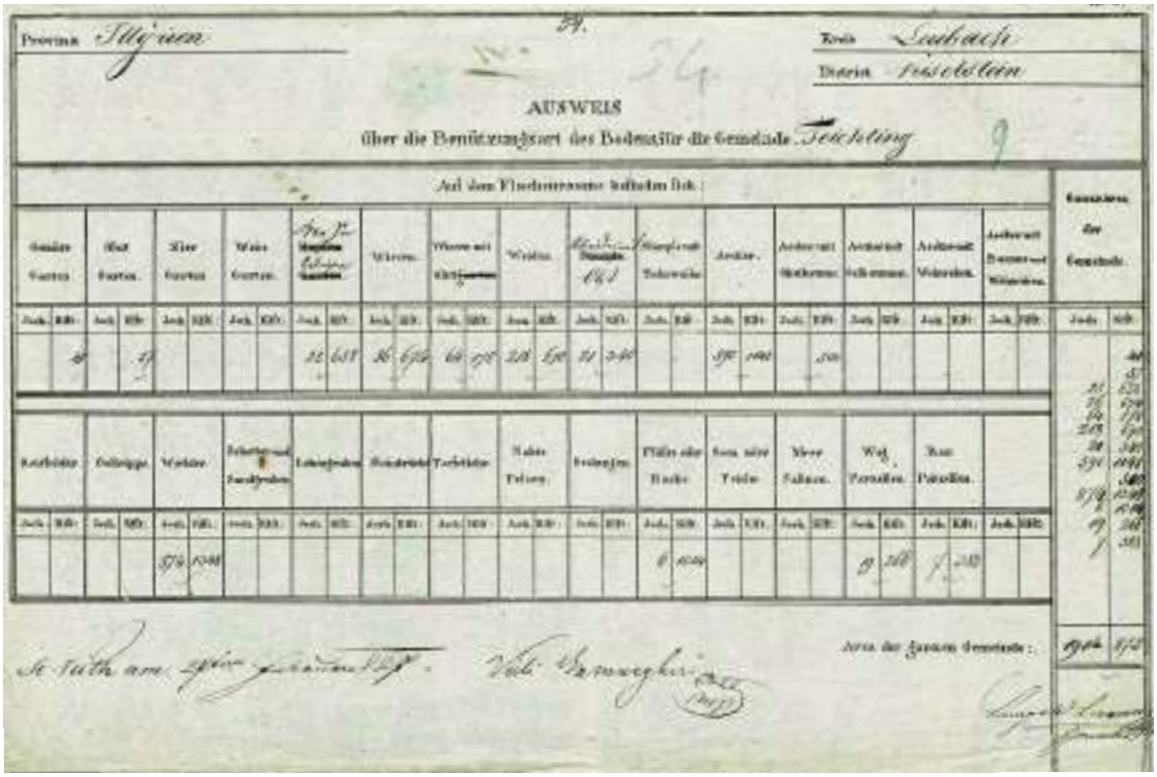


Slika 2.1.1.5: Abecedni seznam zemljiških posestnikov v katastrski občini 2132 Bitnje, sestavljen 27. februarja 1827. Seznam vsebuje podatke o številu parcel, ki jih ima posamezni posestnik. Zapisnik je sestavil civilni geometer Leopold Larenz, kontrolni pregled pa je opravil nadporočnik, meritveni inšpektor Margheri.
(Vir: AS, Franc. kat., Ljub. kres., k. o. Bitnje)

Figure 2.1.1.5: Alphabetical list of landowners in cadastral municipality 2132 Bitnje, compiled on 27 February 1827. The list contains information on the number of parcels owned by each owner. The record was compiled by civil surveyor Leopold Larenz and a control inspection was performed by senior lieutenant survey inspector Margheri.
(Source: AS, Franc. cad., Ljub. dist. off., c. m. Bitnje)

Obrazec za izkaz površine zemljišč po katastrskih kulturah je sestavljen na enem listu in je namenjen zbirnemu seštevku površine vseh vrst katastrskih kultur v občini. V obrazcu so zajete vse po uradnem ključu zajete katastrske kulture vključno s stavbnimi parcelami. Pri izpolnjevanju tega obrazca so mnoge rubrike ostale neizpolnjene, ker določenih katastrskih kultur v posameznih občinah ni bilo, obrazec pa je bil izdelan za zajetje vseh katastrskih kultur.

The form for the statement of land area by cadastral cultures is compiled on one sheet and is intended for the consolidated sum of the area of all types of cadastral cultures in the municipality. The form covers all cadastral cultures covered by the official key, including building parcels. Several sections of this form remained blank because there were no specific cadastral cultures in individual municipalities, and the form was designed to cover all cadastral cultures.

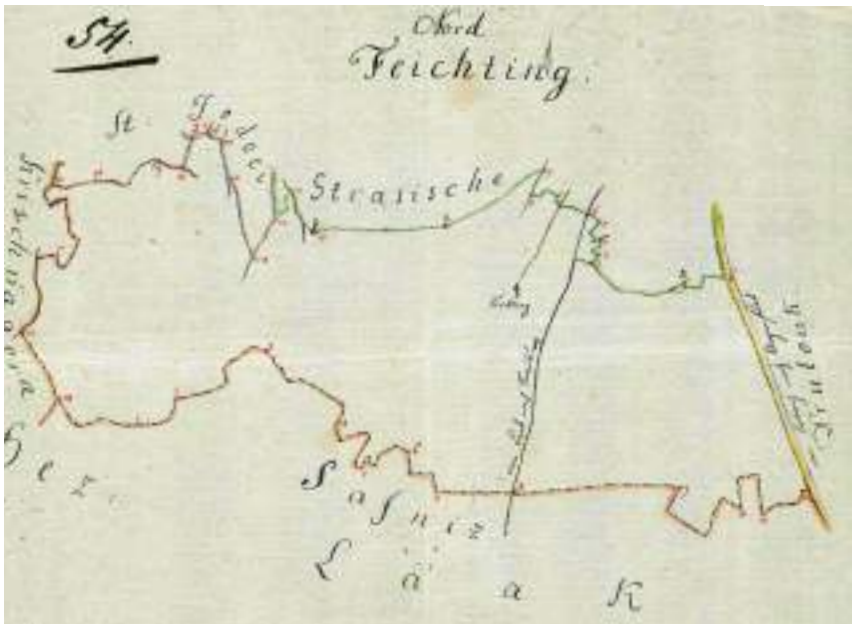


Slika 2.1.1.6: Izkaz površin zemljišč po katastrskih kulturah katastrske občine 2132 Bitnje z dne 27. februarja 1827. Seznam vsebuje razvid površin posameznih katastrskih kultur v katastrski občini. Sestavil ga je civilni geometer Leopold Larenz, kontrolni pregled pa je opravil nadporočnik, meritveni inšpektor Margheri.
(Vir: AS, Franc. kat., Ljub. kres., k. o. Bitnje, L-54)

Figure 2.1.1.6: Statement of land areas by cadastral cultures of cadastral municipality 2132 Bitnje dated 27 February 1827. The list contains an inventory of the areas of individual cadastral cultures in the cadastral municipality. They were compiled by civil surveyor Leopold Larenz and a control inspection was performed by senior lieutenant survey inspector Margheri.
(Source: AS, Franc. cad., Ljub. dist. off., c. m. Bitnje, L-54)

Površine so računali po pravilu iz velikega v malo. Detajlni list katastrskega načrta so razdelili na parcelne skupine, jim izračunali površine ter jih izravnali na znano površino lista. Površine posameznih parcel pa so izravnavali na parcelne skupine. Pri tem je smelo dopustno nesoglasje znašati največ 1/200 površine. Površine parcel so računali tako, da so poljubni lik parcele v načrtu pretvorili v pravilne like, ki so jim nato iz grafičnih mer izračunali površino. Konstruirane like so izrisali s svinčnikom na indikacijskih skicah kakor tudi na načrtih. Za majhne parcele, predvsem stavbe, je bil predpisan izračun površin iz direktnih terenskih merskih podatkov. Pri izračunu površin so si pomagali tudi s kvadratno mrežo, ki je bila naznačena na robovih lista načrta in katere stranice so znašale en palec, kar je v merilu 1 : 2880 pomenilo 40 (dunajskih) sežnjev (1 seženj = 1,89648 m). Površina kvadrata je torej znašala 40 x 40 = 1600 sežnjev ali 1 oral. Navodilo za izmero za potrebe katastra iz leta 1856 že omenja tudi uporabo nitnega planimetra za izračun površine parcel, vendar le za dolge in ozke parcele, to so bili predvsem vodotoki in poti.

The areas were calculated following a »large to small« rule. The detailed sheet of the cadastral plan was divided into parcel groups and the areas were calculated and equalized to the known area of the sheet. The areas of individual parcels were equalized into parcel groups. The permissible disagreement between them could amount to a maximum of 1/200 of the area. The areas of the parcels were calculated by converting any figure of the parcel in the plan into groups of simple geometrical figures, which then enabled calculation of the area from the graphical dimensions of these figures. The constructed figures were drawn with a pencil on the field cadastral plans, as well as on the plans. For small parcels, buildings in particular, the calculation of areas from direct field measurement data was prescribed. In calculating the areas, they also used a square grid, which was indicated on the edges of the plan sheet and whose sides were one inch, which, in the scale of 1 : 2880, meant 40 (Viennese) fathoms (1 fathom = 1.89648 m). The area of the square was therefore 40 x 40 = 1600 fathoms or 1 cadastral acre. The survey instruction for the needs of the cadastre from 1856 already mentions the use of a thread planimeter to calculate the areas of parcels, but only for long and narrow parcels, mainly watercourses and paths.



Slika 2.1.1.7: Skica o popisu meje katastrske občine 2132 Bitnje.
(Vir: AS, Franc. kat., Ljub. kres., k. o. Bitnje)

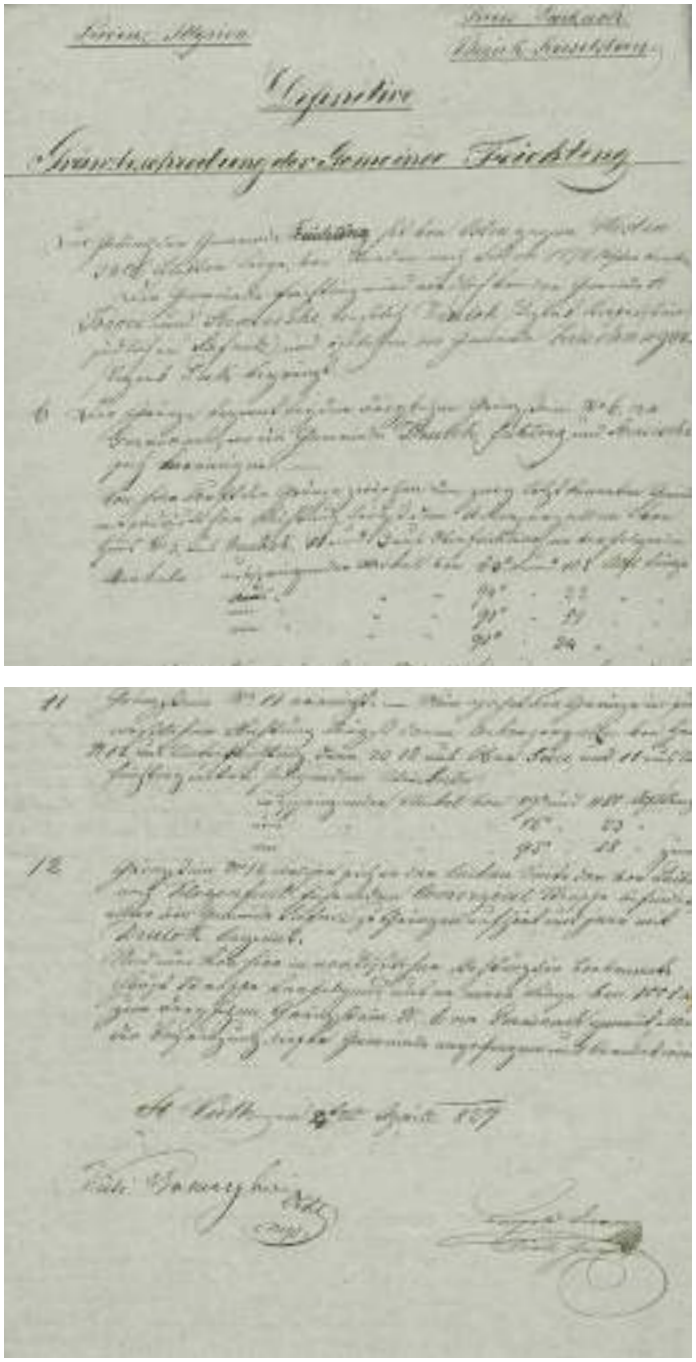
Figure 2.1.1.7: Sketch of the border survey of cadastral municipality 2132 Bitnje.
(Source: AS, Franc. cad., Ljub. dist. off., c. m. Bitnje)

Opisu meje katastrske občine in njenemu zamejničenju so namenili veliko pozornost. Kot katastrske občine so bile v glavnem prevzete nekdanje davčne občine, ki so bile določene za časa cesarja Jožefa. V glavnem so se nespremenjene ohranile še do danes. Površina katastrske občine naj ne bi bila manjša od 500 oralov (približno 285 ha). Zapisnik o popisu meje katastrske občine nima predpisanega obrazca. Izdelan je bil po ustaljenem postopku za izdelavo takega popisa. Zapisnik sestavljata dva dela, in sicer predhodni popis, ki je bil narejen pred izvedbo podrobne izmere in vsebuje tudi katastrsko skico z opisom meje in popisom mejnikov, ter končni popis meje, v katerem so zajeti podatki o razsežnosti občine v dolžino in širino, položaj katastrske občine v okviru okrajne gosposke ter opis meje s postavljenimi mejniki. Predhodni popis meje izkazuje tudi podatke o osebah, ki so sodelovale pri obhodu meje. Zapisnik so nato tudi podpisali, med podpisniki je uradnik gosposke, geometer, župan, po šest izvoljenih občinskih odbornikov ter zastopniki mejnih občin. Končni zapisnik o popisu meje je bil izdelan po zaključku izdelave katastrskega operata oziroma pred predajo katastrskega operata inšpektorju za merjenje, ki je bil pristojen za njegov pregled.

Zapisnik o popisu meje je vezan v broširani obliki.

Much attention was paid to the description of the cadastral municipality border and its marking. Cadastral municipalities were based on former tax municipalities, which were determined during the time of Emperor Joseph. They have remained largely unchanged to this day. The area of the cadastral municipality should not be less than 500 cadastral acres (approximately 285 ha). The record of the cadastral municipality border census has no prescribed form. It was made according to the established procedure for conducting this type of census. The record consists of two parts, namely the preliminary census, which was made before the detailed survey and also contains a cadastral sketch with a description of the border and the census of border stones, as well as the final census of the border, which includes data on the length and width of the municipality, the position of the cadastral municipality within the county lordship and a description of the border with set border stones. The preliminary border census also shows data on persons who participated in the border tour. The record was then also signed, and the signatories included an official of the lordship, a surveyor, the mayor, six elected municipal councillors, and representatives of the border municipalities. The final record of the border census was prepared after the completion of the cadastral record or before the handing over of the cadastral record to the survey inspector who was responsible for its inspection.

The border census record is in paperback form.



Slika 2.1.1.8: Zapisnik o dokončnem opisu meje katastrske občine 2132 Bitnje z dne 2. aprila 1827. Zapisnik vsebuje končne podatke o mejah katastrske občine po zaključku izdelave katastrskega operata. Sestavil ga je geometer Herrisch. Kontrolni pregled pa je opravil nadporočnik, meritveni inšpektor Margheri.
(Vir: AS, Franc. kat., Ljub. kres., k. o. Bitnje, L-54)

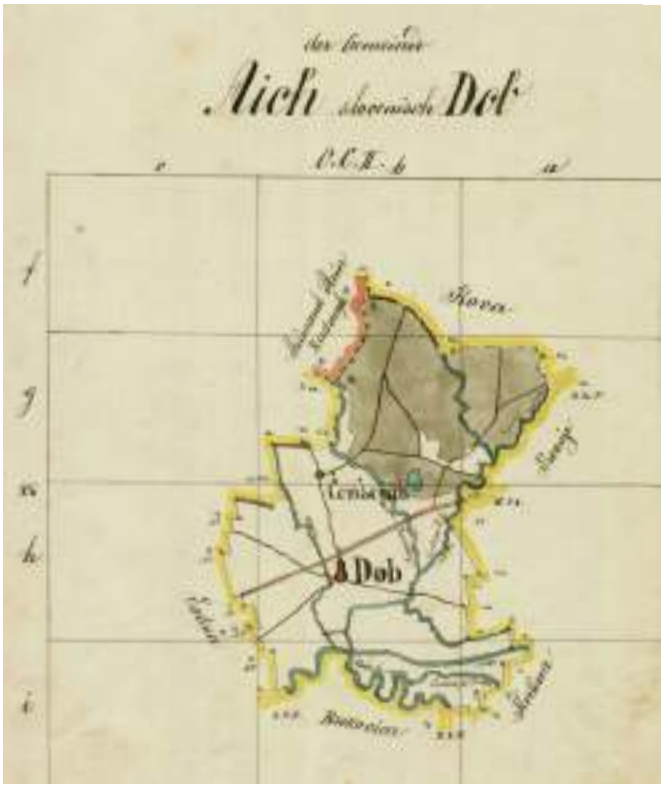
Figure 2.1.1.8: Record on the final description of the border of cadastral municipality 2132 Bitnje dated 2 April 1827. The record contains the final data on the borders of the cadastral municipality after the completion of the cadastral record. It was composed by surveyor Herrisch. The inspection was carried out by senior lieutenant survey inspector Margheri.
(Source: AS, Franc. cad., Ljub. dist. off., c. m. Bitnje, L-54)

Grafični del katastrskega operata predstavljajo originalna katastrska mapa in indikacijska skica, mapna kopija in rektifikacijska mapa. Originalna katastrska mapa je bila izdelana kot avtentičen naris stanja vseh zemljišč v katastrski občini, praviloma v merilu 1 : 2880. Originalne katastrske mape so bile izdelane na izredno kvalitetnem papirju ročne izdelave z vodnim znakom tvrdke, ki ga je izdelala, in grbom. Vsak posamezen list katastrske mape meri 71,5 cm x 58 cm in ima predpisan rob 2,5 cm, ki se ni smel uporabiti za zajemanje narisa katastrskih površin ter je bil oštevilčen s tekočo označbo nomenklature lista.

Vsi mapni listi ene katastrske občine so bili nato vloženi v poseben ovoj, na katerem je bila nalepka s pripadajočimi podatki katastrske občine in mapna skica.

The graphic part of the cadastral record is represented by the original cadastral map and field cadastral plan, the map copy, and the rectification map. The original cadastral map was made as an authentic drawing of the situation of all land in the cadastral municipality, usually on a scale of 1 : 2880. The original cadastral plans were produced on high-quality hand-made paper, including a watermark of the manufacturing firm and a coat of arms. Each individual sheet of the cadastral plan is sized 71.5 cm x 58 cm and has a prescribed edge of 2.5 cm, which was not to be used for recording the elevation view of cadastral areas and was numbered with the current designation of the sheet nomenclature.

All the map sheets of one cadastral municipality were then placed in a special envelope marked with a sticker with the corresponding data of the cadastral municipality and a map sketch.



Slika 2.1.1.9: Vsak mapni listi znotraj katastrske občine ima svojo oznako, kar je prikazano na naslovni strani ovojne mape.
(Vir: AS, Franc. kat., Ljub. kres.)

Figure 2.1.1.9: Each map sheet within the cadastral municipality has its own label, which is shown on the title page of the envelope map.
(Source: AS, Franc. cad., Ljub. dist. off.)

Originalna katastrska mapa je obarvana z barvami, določenimi za označitev posameznih katastrskih kultur po navodilih za izvedbo katastrske izmere. Barvni toni posameznih katastrskih kultur v okviru ene katastrske občine so se morali ujemati, na kar so morali inšpektorji ob končnem pregledovanju mape posebej paziti. Barvne nianse po posameznih katastrskih kulturah so bile za njivo rumenkasto rjava ali tobačno rjava, za vrt sočno zelena, za travnik svetlozelena, za pašnik bledo zelena, za kostanjev gozd rjava, za gozd temno siva ali bledo črna, za potok in vodo svetlomodra, za jezero in ribnik močna modra, za riževo polje svetlomodra z rjavimi črtami, za šotišče, gramozno jamo rjava, za pustoto brez barve, za kamnolom modra s tušem, za vozno pot svetlo rjava, za stezo, pot svetlo rumena, za zidano hišo, kamnit most svetlo rdeča, za javno zgradbo rdeča s poudarkom sprednje fasade, za leseno hišo svetlo rumena s poudarkom fasade z debelejšo črno črto. V obarvano mapo so vpisali in vrisali ostale napise in oznake.

Stavbne parcele so oštevilčili s črnim tušem, zemljiške parcele pa z rdečim. Vsi ostali vpisi v katastrski mapi so zapisani s črnim tušem, v skladu z navodilom za izvedbo katastrske izmere, ki je vsebovalo enotne normative za izdelavo napisov za imena krajev in ledin ter drugih vpisov v katastrsko mapo. V katastrski mapi ni bilo dovoljeno uporabljati kakršnih koli olepšav za zapisovanje podatkov. Na vsak list katastrske mape se je moral podpisati geometer, ki je izdelal mapni list.

Originalna katastrska mapa ima naslednje podatke: številko zemljiške parcele, številko stavbne parcele, naris stavbe oziroma gradbenega objekta, zapis imena naselja, zapis imena ledine, zapis topografskega znaka za določene katastrske kulture. Zapisovanje topografskih oznak in drugih zapisov v katastrsko mapo se je izvedlo na osnovi posebnega ključa za vpisovanje in vrisavanje konvencionalnih znakov posameznih katastrskih kultur. Med temi znaki so pri nas najpogostejši znaki za označevanje pašnikov (črka W), skupnih pašnikov (črki GW), gozdov (smrečica in črki MH za iglast gozd srednje starosti, drevesce za listnat gozd, črki GH za mešan gozd) in vinogradov (ob kolu navita vinska trta).
(Za grafično ponazoritev zgoraj navedenih opisov glej prikaz priloge Pravilnika za katastrsko izmero iz leta 1824 v publikaciji GURS z naslovom Dediščina katastrov na Slovenskem, Priloga 1.)

The original cadastral plan uses colouring in line with the specifications for marking individual cadastral cultures in accordance with the instructions for carrying out cadastral surveys. The colour tones of individual cadastral cultures within one cadastral municipality had to match, which the inspectors had to pay special attention to during the final inspection of the map. The colour shades by individual cadastral cultures were yellowish brown or tobacco brown for fields, dark green for gardens, light green for meadows, pale green for pastures, brown for chestnut forests, dark grey or pale black for forests, light blue for streams and water bodies, dark blue for lakes and ponds, light blue with brown stripes for rice fields, brown for peat bogs and gravel pits, no colour for barren land, inked blue for quarries, light brown for driveways, light yellow for paths, light red for brick houses and stone bridges, red for public buildings with an emphasis on the front façade, light yellow for wooden houses with an emphasis on the façade with a thicker black line. Other inscriptions and markings were entered and drawn on the coloured maps.

Building parcels were numbered with black ink and land parcels with red ink. All other entries in the cadastral plan are in black ink, in accordance with the instructions for the cadastral survey, which contained uniform norms for the production of inscriptions for the names of places, fallows and other entries in the cadastral plan. No embellishments were permitted for recording data in the cadastral plan. Each sheet of the cadastral plan had to be signed by the surveyor who produced the map sheet.

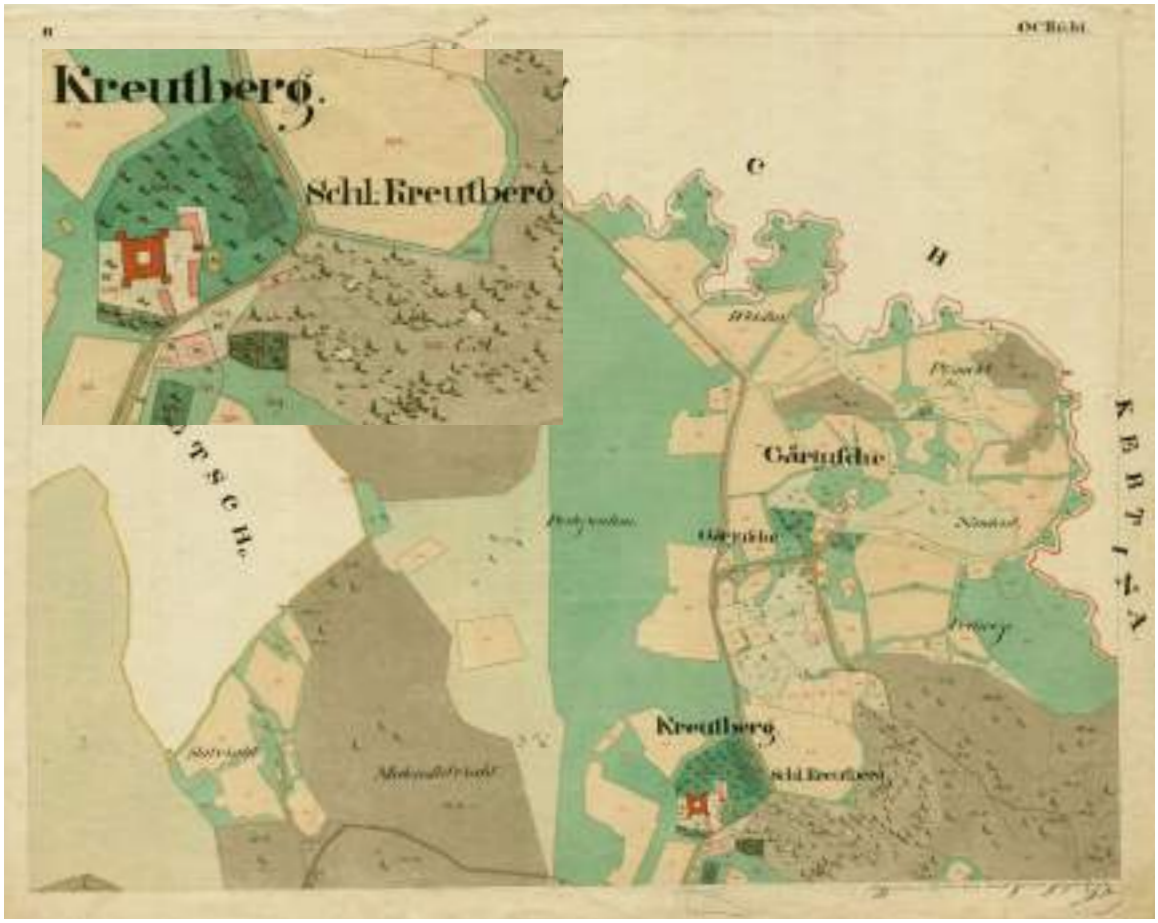
The original cadastral plan contains the following data: number of the land parcel, number of the building parcel, ground outline of the building or construction object, record of the name of the settlement, record of the name of the fallow, record of the topographic sign for certain cadastral cultures. The recording of topographic marks and other records in the cadastral folder was carried out on the basis of a special key for entering and drawing conventional signs of individual cadastral cultures. Among these signs, the most common ones in our country are those for marking pastures (the letter W), shared pastures (the letters GW), forests (a spruce icon and the letters MH for coniferous forest of middle age, a tree icon for deciduous forest, the letters GH for mixed forest) and vineyards (coiled vine).
(For a graphic illustration of the above descriptions, see the appendix to the Annex to the Rules for Cadastral Surveying from 1824 in the SMARS publication entitled The Cadastral Heritage of Slovenia, Annex 1.)

Originalna katastrska mapa je grafični naris zemljišč, ki ga je geometer izdelal ob merjenju na terenu. Velikost posameznega mapnega lista je bila vnaprej določena. Vsak mapni list je bil ob merjenju na terenu prilepljen z jajčnim beljakom na merilno mizico. S tem je bila zagotovljena nepremičnost mapnega lista na mizici ob merjenju oziroma zajemanju parcel na mapni list. Mapni listi, ki imajo sledove jajčnega beljaka, predstavljajo originalni list franciscejske katastrske mape, tisti, ki teh sledov nimajo, pa so lahko le kopije ali dvojniki.

The original cadastral plan is a graphical drawing of the land, made by the surveyor during field measurements. The size of each map sheet was predetermined. Each map sheet was pasted with egg white onto the plane table during field measurement. This ensured the immobility of the map sheet on the table when measuring or recording parcels on the map sheet. Map sheets with traces of egg white represent original Franciscan cadastral map sheets, and those without such traces can only be copies or duplicates.

Slika 2.1.1.10: Originalni katastrski načrt k. o. 2093 Podbrezje iz leta 1823. (Vir: AS, Franc. kat., Ljub. kres.)

Figure 2.1.1.10: The original cadastral plan of c. m. 2093 Podbrezje from 1823. (Source: AS, Franc. cad., Ljub. dist. off.)



Slika 2.1.1.11: Originalni katastrski načrt k. o. 1958 Brezovica iz leta 1825. (Vir: AS, Franc. kat., Ljub. kres.)

Figure 2.1.1.11: The original cadastral plan of c. m. 1958 Brezovica from 1825. (Source: AS, Franc. cad., Ljub. dist. off.)

Indikacijska skica je prav tako grafični naris zemljišč katastrskega operata, ki se po točnosti in izdelavi skoraj povsem približuje narisu zemljišč v originalni katastrski mapi. Indikacijska skica je izdelana v enakem merilu kot original. En list originalne katastrske mape predstavlja štiri liste indikacijske skice. Velikost lista indikacijske skice je 34 cm x 27,5 cm. Indikacijska skica je izdelana na kartonu kot podlaga za komisijski ogled o opravljeni izmeri na terenu. V skladu z navodili o izdelavi indikacijske skice so v indikacijske skice poleg vpisov, ki jih vsebuje originalni mapni list, vneseni še podatki

The field cadastral plan is also a graphic view of the lands of the cadastral record, which, in terms of accuracy and construction, almost completely reflects the outline of the land in the original cadastral plan. The field cadastral plan was made to the same scale as the original. One sheet of the original cadastral plan represents four sheets of the field cadastral plan. The size of a field cadastral plan sheet is 34 cm x 27.5 cm. The field cadastral plan is inscribed on cardboard and used as a basis for a commission inspection of the field survey. Pursuant to the instructions on drawing up the

o lastniku zemljišča, hišna številka, kraj bivanja lastnika in izmera zemljišča.

Če je bila zemljiška parcela last več koristnikov oziroma vasi, so navedena vsa njihova imena oziroma imena vasi, iz katerih so bili koristniki parcele. V posameznih parcelah so tudi vrisani konvencionalni znaki za označevanje posameznih katastrskih kultur. Indikacijsko skico sestavlja več listov, ki so posebej označeni. Prvi naslovni list indikacijske skice je namenjen označitvi, zato vsebuje ime občine, ime davčnega okraja in okrožja ter pomanjšano skico katastrske občine, tekočo številko katastrske občine, določeno ob ureditvi oziroma razvrstitvi v mapnem arhivu. Poleg tega je še podpis geometra, ki je opravil izmero, ter letnica izdelave. Naslednji listi indikacijske skice so oštevilčeni v smislu tekočega oštevilčenja listov v originalni katastrski mapi.

Na vsakem listu je tudi podpis geometra, ki je indikacijsko skico izdelal. Indikacijske skice so bile izdelane zaradi preverjanja pravilnosti opravljene izmere na terenu. Preverjanje je opravila posebna komisija, člani komisije pa so s svojimi podpisi na hrbtni strani vsakega lista indikacijske skice potrdili pravilnost izmere oziroma ugotovljenega stanja na terenu. Poleg podpisov in datuma komisijskega ogleda ter ustreznega žiga so na listih indikacijske skice, na katerih so zajeta naselja, še zapisi imen vseh posestnikov, hišne številke ter imena ledin. Komisijski ogled stanja na terenu je trajal več dni, kar je razvidno iz datumov, ki so zapisani na posameznih listih.

Indikacijske skice so obarvane z enakimi barvami kot originalne katastrske mape. Indikacijska skica ima zajete naslednje podatke: številko parcele, izmero parcele, ime in priimek lastnika parcele, hišno številko lastnika parcele, oznako za vrsto lastništva parcele (dominikalna lastnina, kmečka lastnina), imena krajev in ledin, naris stavb in gradbenih objektov, vpis topografskih in konvencionalnih znakov za katastrske kulture po predpisanem ključu.

field cadastral plan, in addition to the entries contained in the original map sheet, field cadastral plans also include information on the owner of the land, the house number, the place of residence of the owner and a land survey.

If the land parcel was owned by several users or villages, it lists all their names or the names of the villages of the users. Conventional signs for marking individual cadastral cultures are also drawn in individual parcels. The field cadastral plan consists of several sheets that are individually marked. The first title page of the field cadastral plan is intended for marking, so it contains the name of the municipality, the name of the tax district and precinct and a reduced plan of the cadastral municipality, and the current number of the cadastral municipality, determined upon arranging or classifying in the plan archive. In addition, there is the signature of the surveyor who performed the survey and the year of production. The following sheets of the field cadastral plan are numbered according to the current numbering of the sheets in the original cadastral plan.

Each sheet also contains the signature of the surveyor who produced the field cadastral plan. Field cadastral plans were produced in order to verify the correctness of the field survey. The inspection was carried out by a special commission, and the members of the commission confirmed the correctness of the survey or the established situation in the field with their signatures on the back of each sheet of the field cadastral plan. In addition to the signatures, the date of the commission inspection and the appropriate stamp, the sheets contain field cadastral plans covering settlements, as well as records of the names of all landowners, house numbers and the names of fallows. The commission inspection of the situation in the field lasted several days, as can be seen from the dates inscribed on individual sheets.

Field cadastral plans are coloured in the same way as the original cadastral plans. The field cadastral plan includes the following data: parcel number, parcel measurement, name and surname of the parcel owner, house number of the parcel owner, designation of the type of parcel ownership (dominical property, farm property), names of places and fallows, ground outlines of buildings and constructions, and the entry of topographical and conventional signs for cadastral cultures according to the prescribed key.

Slika 2.1.1.12: Indikacijska skica k. o. 1777 Javor iz leta 1826.
(Vir: e-ZKN Pregledovalnik arhivskih zemljiško katastrskih načrtov)

Figure 2.1.1.12: Field cadastral plan of c. m. 1777 Javor from 1826.
(Source: the e-ZKN archive land cadastre map viewer)

Mapne kopije oziroma kopije originalne katastrske mape so veren odraz originalne katastrske mape in so bile izdelane za upravne in druge potrebe ter z namenom varovanja originalnega izvoda katastrske mape. Mapne kopije so bile izdelane v Litografskem inštitutu na Dunaju.

Leta 1818 se z ukazom cesarja ustanovi Litografski inštitut zemljiško-davčnega katastra na Dunaju, ki je tiskal in reproduciral katastrske načrte, sprva še po tako imenovani »mokri metodi«.

En izvod kopije originalne katastrske mape je bil obarvan in so ga uporabljali kot izvedbeno katastrsko mapo, v katero so kasneje vrisovali vse popravke, ki so nastali s spremembo stanja na terenu. Druge mapne kopije niso bile obarvane, razen zgradb, ki so jih obarvali ročno z rdeče rumeno barvo, s katero so razlikovali kvaliteto posamezne zgradbe oziroma gradbeni material, iz katerega je bila stavba zgrajena.

Dopis Centralne meritvene direkcije Ilirskemu guberniju. Dunaj, 19. april 1828

Centralna meritvena komisija sporoča, da je litografiranje katastrskih map za Primorsko skoraj gotovo in da se bo pričelo z litografiranjem katastrskih map za Ilirijo (Kranjsko). Mapni arhivar naj zato pripravi določeno število map za litografiranje. Iz Ljubljane na Dunaj je potrebno katastrske mape pošiljati v posebnih zabojih.

(Vir: AS, Gub. VIII, 1828, fasc. 10-g-11, spis 9121)

Plan copies or copies of the original cadastral plan are a faithful reproduction of the original cadastral plan and were made for administrative and other purposes and with the purpose of protecting the original copy of the cadastral plan. The plan copies were produced at the Lithographic Institute in Vienna.

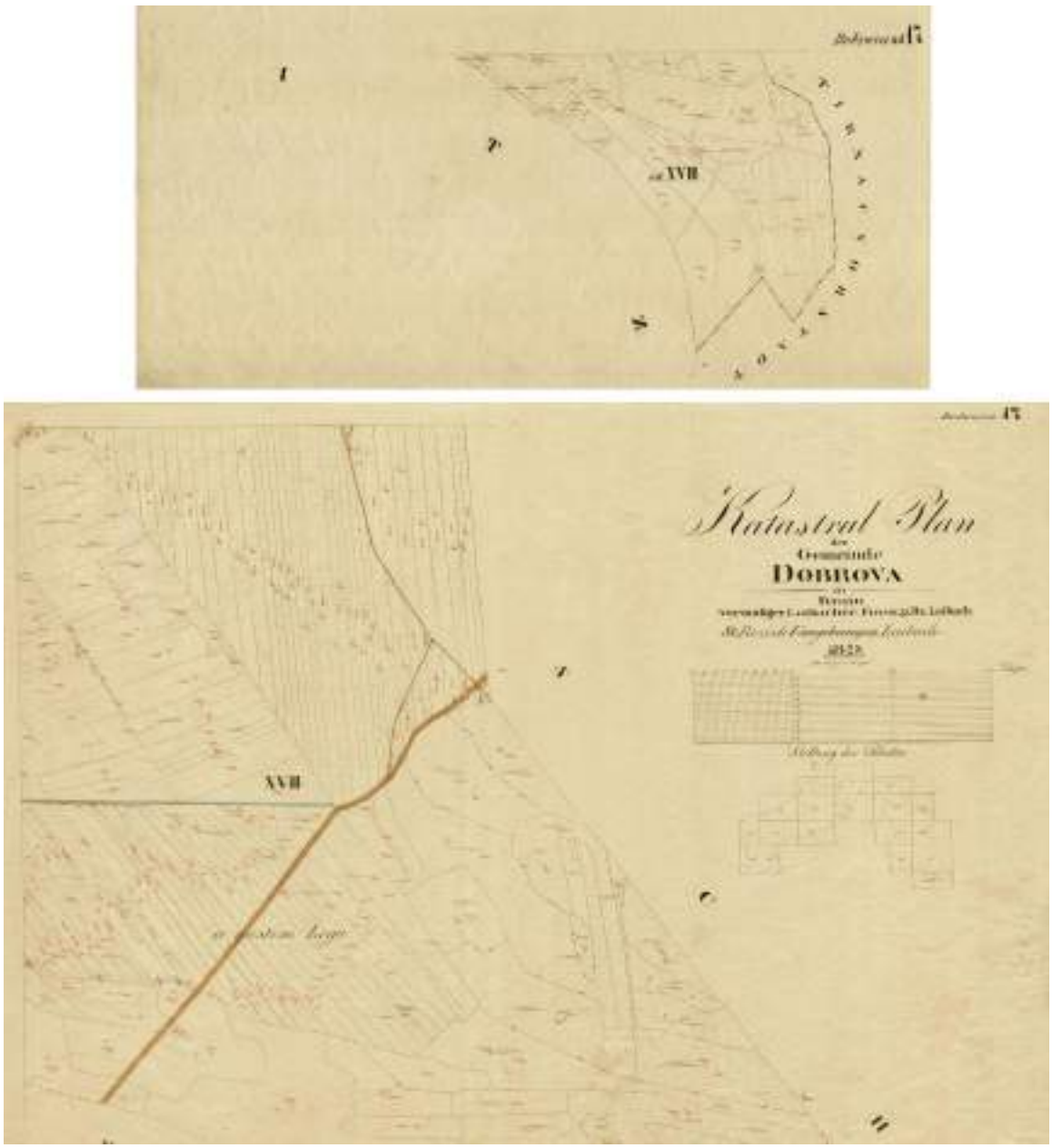
In 1818, by order of the emperor, the Lithographic Institute of the Land Tax Cadastre was established in Vienna, which printed and reproduced cadastral plans, initially using the so-called »wet method«.

One copy of the original cadastral plan was coloured and used as a model cadastral plan, in which they would subsequently inscribe all the corrections made due to changes in the situation in the field. The other plan copies were not coloured, except for the buildings, which were painted by hand with red-yellow colour, which was used to distinguish the quality of an individual building or the building material from which the building was constructed.

Letter from the Central Surveying Directorate to the Illyrian Governorate. Vienna, 19 April 1828

The Central Surveying Commission is announcing that the lithography of the cadastral plans for Primorska is almost finished and that the lithography of the cadastral plans for Ilirija (Kranjska) will commence. The plan archivist should therefore prepare a certain number of plans for lithography. The cadastral plans must be sent from Ljubljana to Vienna in special containers.

(Source: AS, Gub. VIII, 1828, fasc. 10-g-11, file 9121)

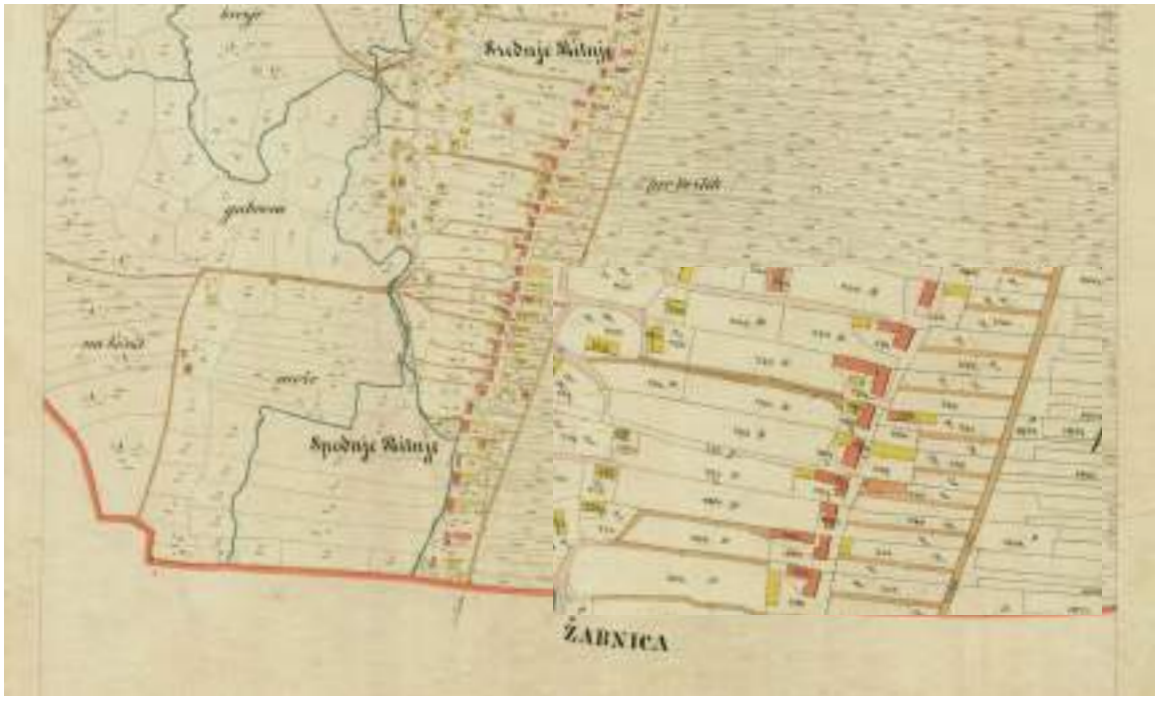


Slika 2.1.1.13: Drugi izvod originalnega katastrskega načrta k. o. 1994 Dobrova iz leta 1825 (brez barvne vsebine).
(Vir: AS, Franc. kat., Ljub. kres.)

Figure 2.1.1.13: The second copy of the original cadastral plan of c. m. 1994 Dobrova from 1825 (without colour content).
(Source: AS, Franc. cad., Ljub. dist. off.)

Rektifikacijska mapa je bila izdelana v začetku 40. let 19. stoletja torej približno 20 let po nastanku originalne mape. Za rektifikacijske mape so uporabljali nebarvane mapne kopije. Ta mapa vsebuje vse popravke in dopolnitve, ki so nastale v času po prvotni katastrski izmeri. V mapi so z rdečim tušem izrisani popravki na parcelah, kjer so nastale spremembe, zlasti v času razdeljevanja velikih srenjskih parcel med več lastnikov, ob delitvah kmetij, gradnji novih prometnih poti in v zvezi z industrializacijo v naseljenih krajih. Oštevilčenje posameznih parcel ni bilo izvršeno, razen na parcelah, kjer so bili opravljeni popravki. Pri popravkih so zadržali staro parcelno številko, kateri so dodali v obliki ulomka še dodatno podštevilko od 1 naprej. Rektifikacijsko mapo so hranili v posebnem ovoju, ki so ga opremili s posebno nalepko z ustreznim napisom. Skupaj z originalno mapo je rektifikacijska mapa tvorila osnovo za izdelavo kasnejših reambulančnih katastrskih operatov.

A rectification map was produced in the early 1840s, about 20 years after the original plan. These were produced as uncoloured map copies and contained all the corrections and additions that had occurred after the original cadastral survey. The map shows in red ink the corrections to the land parcels where changes took place, in particular the changes made during the distribution of large municipal parcels among several owners, the division of farms, the construction of new traffic routes and industrialization in populated areas. The numbering of individual parcels was not performed, except on parcels where corrections had been made. The corrections retained the old parcel number, with the addition of a subheading from 1 onwards in the form of a fraction. The rectification map was kept in a special envelope, marked with a special label with the appropriate inscription. The rectification map, along with the original, formed the basis for the production of revised cadastral records.



Slika 2.1.1.14: Mapni list 7 rektifikacijske katastrske mape k. o. 2132 Bitnje. Popravki so narejeni na mapni kopiji iz leta 1826. Popravki so vrisani z rdečim tušem.
(Vir: AS, Franc. kat., Ljub. kres., rektifikacijska mapa k. o. 2132 Bitnje, L-54)

Figure 2.1.1.14: Map sheet 7 of the rectification cadastral plan of c. m. 2132 Bitnje. Corrections are made on a plan copy from 1826. Corrections are inscribed with red ink.
(Source: AS, Franc. cad., Ljub. dist. off., rectification map of c. m. 2132 Bitnje, L-54)

2.1.2 Reambulančni kataster

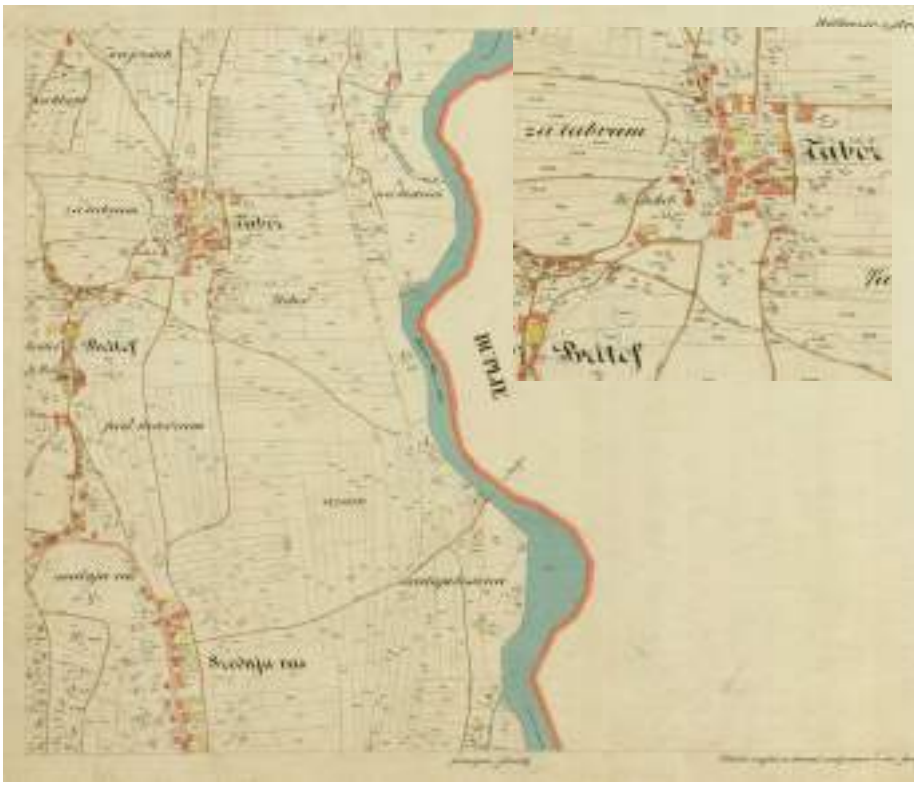
Na osnovi opisane franciscejske izmere izdelani zemljiški kataster je bil namenjen obdavčitvi, ki je bila po novem prvič uporabljena leta 1847. Hitro se je ugotovilo, da je katastrski čisti dohodek previsoko ocenjen, poleg tega so bili podatki že nekoliko zastareli, na splošno pa je veljalo, da je novi zemljiški davek slovenske dežele obremenil bolj kakor druge avstrijske dežele.

To in dejstvo, da ni bilo organizirane službe za evidentiranje sprotnih sprememb, ki so nastale zlasti po zemljiški odvezi leta 1848, so bili razlogi, da so se leta 1869 lotili zemljiško-davčne reforme in obnove katastra. Zaradi velikih sprememb je bilo treba kataster obnoviti, reambulirati. Leta 1869 so sprejeli patent, ki je določal, kako naj se katastrski operat reambulira.

Revised cadastre

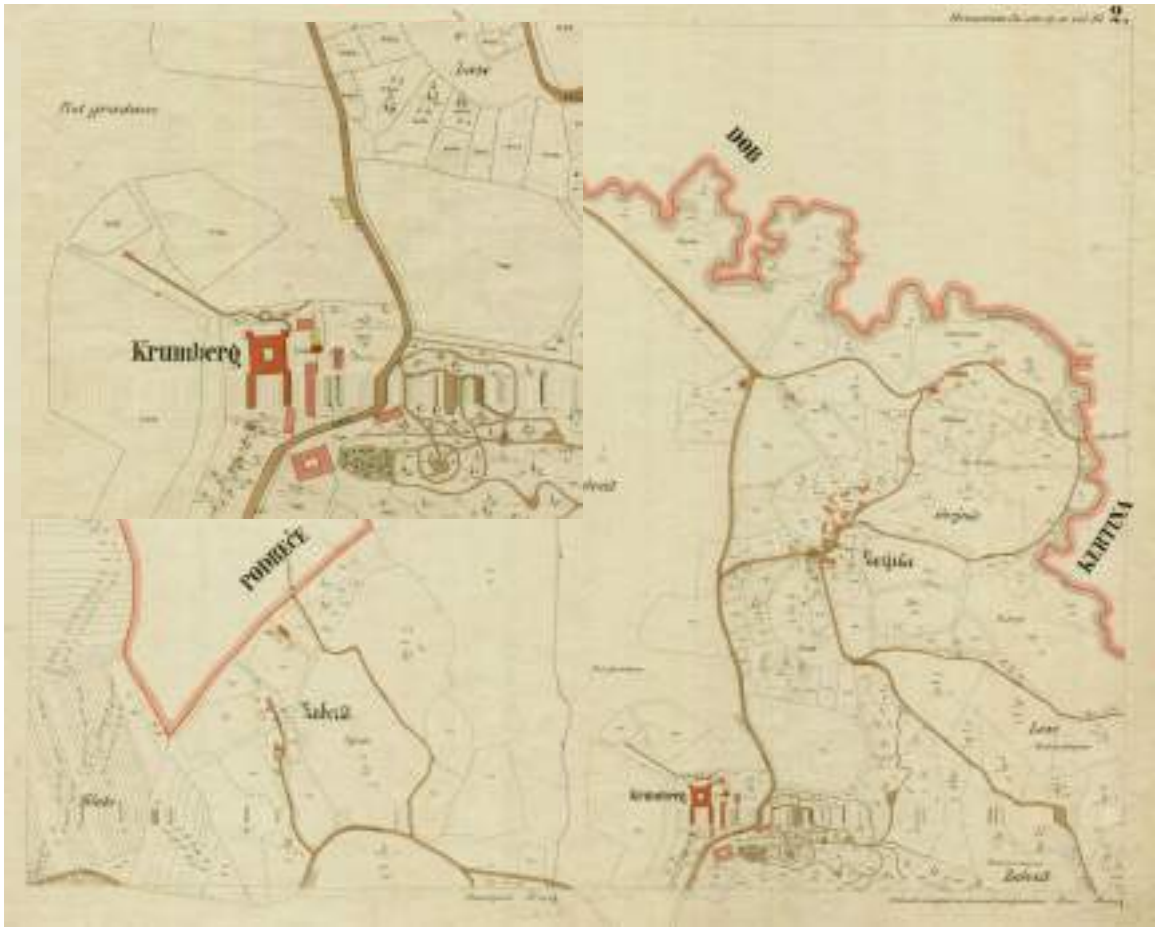
The land cadastre produced on the basis of the described Franciscan survey was intended for taxation, which was first introduced in 1847. It was quickly established that the cadastral net income was overestimated, and the data was already somewhat outdated, and in general it was considered that the new land tax burdened the Slovenian lands more than other Austrian lands.

This, along with the fact that there was no organized service for recording current changes, particularly those that occurred after the land acquisition in 1848, was the reason why a land tax reform and renewal of the cadastre were undertaken in 1869. Due to major changes, the cadastre had to be renewed and revised. In 1869, a patent was adopted that determined the method of the revision (i.e. reambulation) of the cadastral record.



Slika 2.1.2.1: Reambulirani katastrski načrt iz leta 1867 (na načrtu zemljiške parcele niso več obarvane, zidani objekti so obarvani rdeče, leseni pa rumeno, javne poti svetlo rjavo, vodovje modro). (Vir: AS, Franc. kat., Ljub. kres.)

Figure 2.1.2.1: Revised cadastral plan from 1867 (the land parcels are no longer coloured, masonry buildings are coloured red, wooden buildings yellow, public paths light brown, and water bodies blue). (Source: AS, Franc. cad., Ljub. dist. off.)



Slika 2.1.2.2: Reambulirani katastrski načrt iz leta 1867 (na načrtu zemljiške parcele niso več obarvane, zidani objekti so obarvani rdeče, javne ustanove temno rdeče, leseni objekti rumeno, javne poti svetlo rjavo).
(Vir: AS, Franc. kat., Ljub. kres.)

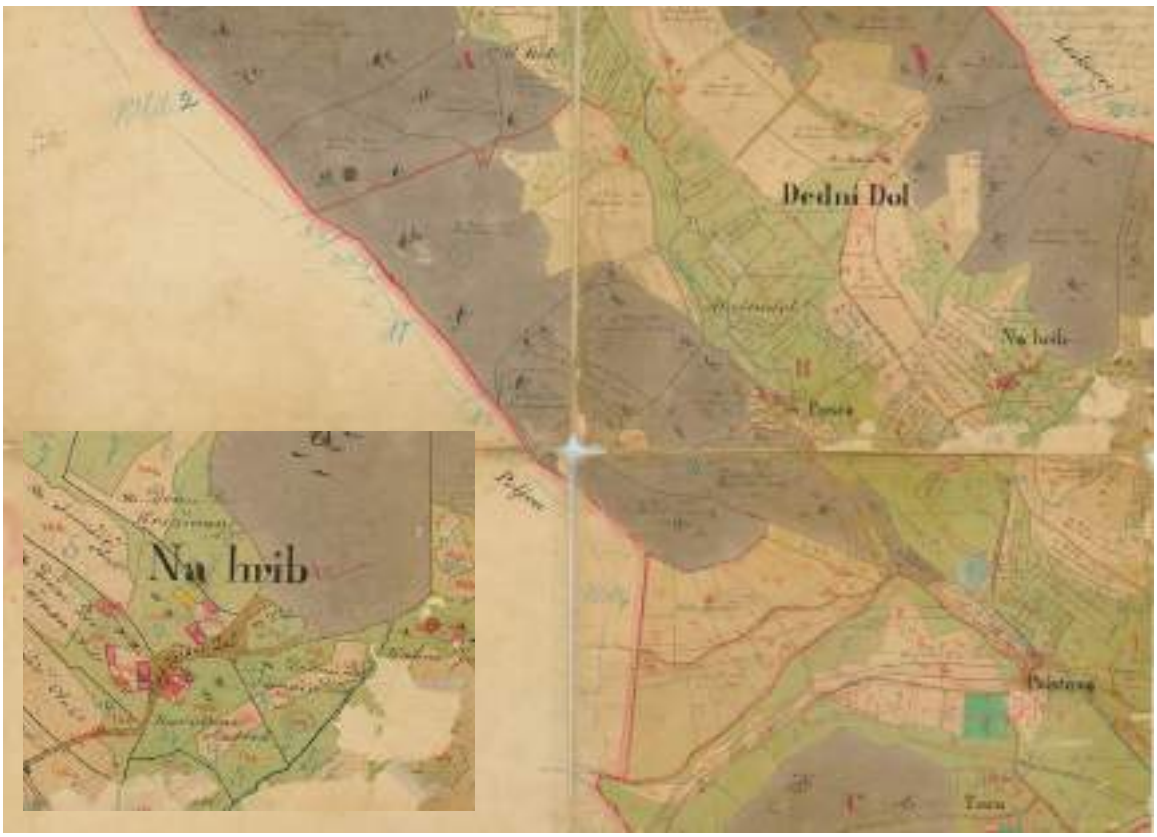
Figure 2.1.2.2: Revised cadastral plan from 1867 (the land parcels are no longer coloured, masonry buildings are coloured red, public institutions dark red, wooden buildings yellow and public paths light brown).
(Source: AS, Franc. cad., Ljub. dist. off.)

Reambulacija se je pričela s preverjanjem oboda katastrske občine, ki je imela poleg izrisa tudi natančen opis mej. Pripravili so nove indikacijske skice, ki so vsebovale spremembe parcel in njihovih lastnikov. Pri vnosu novih lastnikov v indikacijske skice so sodelovali zastopniki posameznih občin.

The revision began with checking the perimeter of the cadastral municipality, which, in addition to mapping, also included a detailed description of the borders. New field cadastral plans were drawn up, which contained all changes to the parcels and their respective owners. Representatives of individual municipalities participated in the entering of new owners into the field cadastral plans.

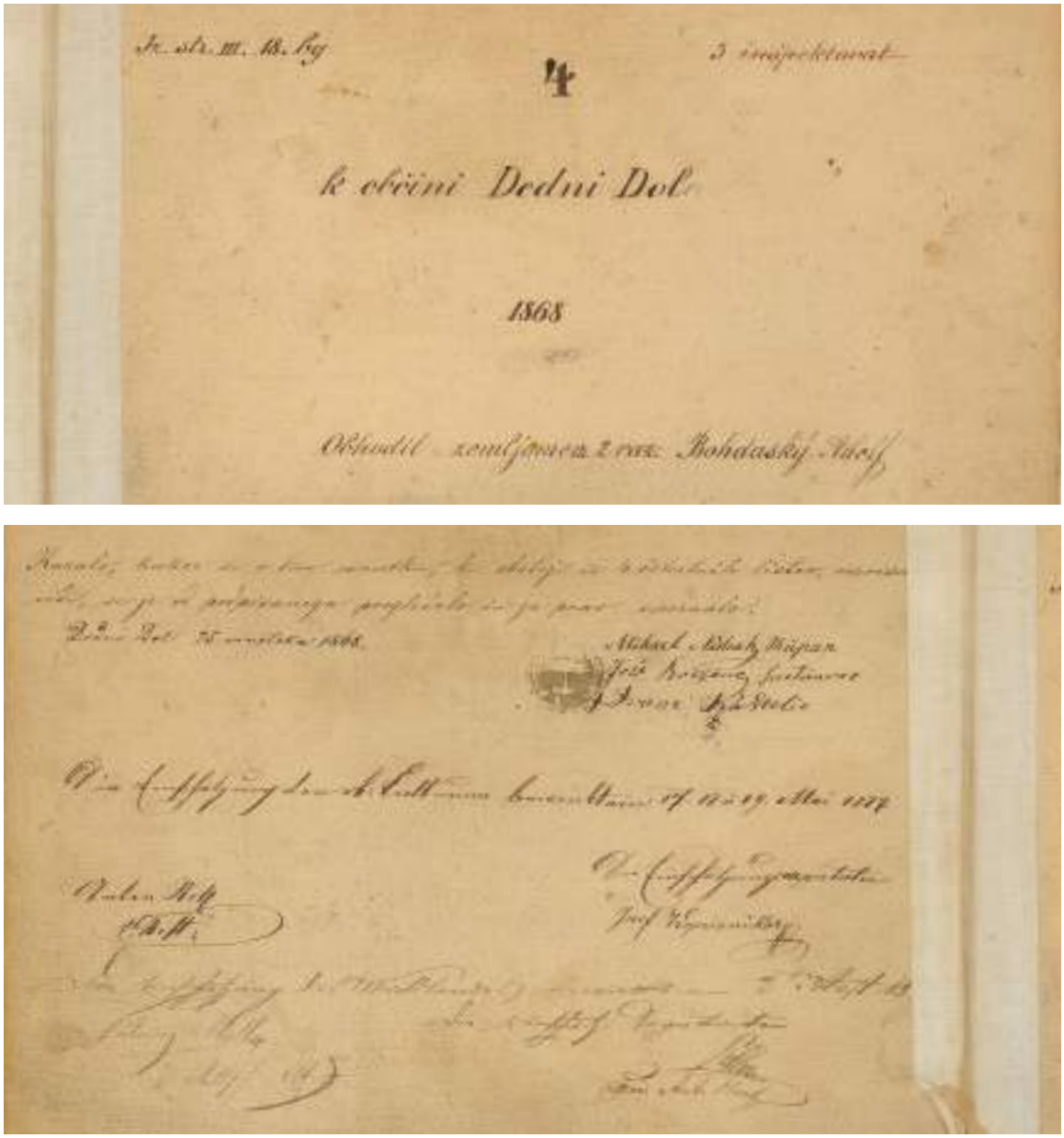
Podatki, ki so jih vpisali na parcelo, so bili: priimek, ime, naslov, okraj, naselje in tudi posamezne značilnosti iz okolice. Poudariti je treba, da nova Instrukcija za katastrsko izmero iz leta 1865 ni več ločevala posebne oštevilčbe za zemljiške in stavbne parcele. Ta instrukcija pa se ni upoštevala dosledno na vseh območjih. Dopolnjene spremembe so z rdečim tušem vrisane v načrte prvotne izmere, na novo izdelane katastrske načrte so na novo tiskali, odtisi iz tega obdobja pa so še danes v uporabi na geodetski upravi kot arhivsko gradivo. Za odtis reambuliranih načrtov se ni več uporabljal vodni tisk.

The data entered on the parcels were: surname, name, address, district, settlement and also individual characteristics of the surroundings. It should be noted that the new Cadastral Survey Instruction of 1865 no longer included separate numbering for land and building parcels. However, this instruction was not followed consistently in all areas. The amended changes are drawn in red ink in the original survey plans, the newly made cadastral plans were reprinted and prints from this period are still in use today at the Surveying and Mapping Authority as archival material. 'Wet method' was no longer used for printing revised plans.



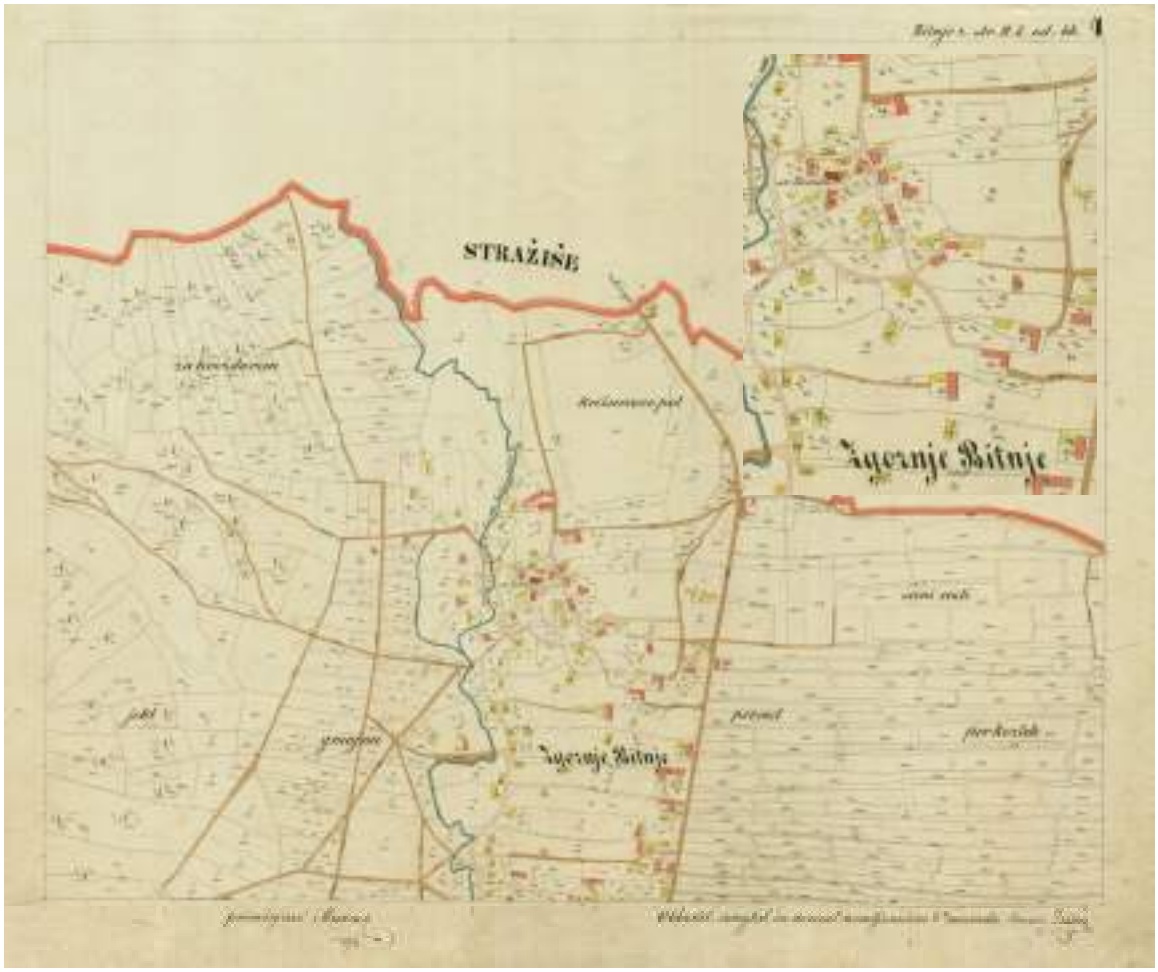
Slika 2.1.2.3: Indikacijska skica, narejena leta 1868 za potrebe izvedbe reambulacije.
(Vir: e-ZKN Pregledovalnik arhivskih zemljiško katastrskih načrtov)

Figure 2.1.2.3: Field cadastral plan produced in 1868 for the purpose of performing revision.
(Source: the e-ZKN archive land cadastre map viewer)



Slika 2.1.2.4: Zadnja stran indikacijske skice z navedbo izdelovalca in kontrolorja ter z vsemi podpisi komisije, ki je načrt, »kakor se narisano vidi pregledalo in za prav spoznalo«.
(Vir: e-ZKN Pregledovalnik arhivskih zemljiško katastrskih načrtov)

Figure 2.1.2.4: The last page of the field cadastral plan with the indication of the author and the auditor and with the signatures of all the commission members who »reviewed and verified the plan as it was«.
(Source: the e-ZKN archive land cadastre map viewer)



Slika 2.1.2.5: Reambulančna katastrska mapa za katastrsko občino 2132 Bitnje iz leta 1867. Mapni list 4 reambulančne katastrske mape, na katerem je naselje Zgornje Bitnje. Teren je obhodil, »izrajtal« in »dorisal« zemljemerec 4. razreda Janez Žiška. Primerjal jo je Meeraus, pregledal in spoznal, da se popolnoma ujema s protokoli, pa inšpektor Kraus. Zapisi na mapi so v slovenščini.
(Vir: AS, Reamb. kat., Ljub. kres., k. o. Bitnje, L-54)

Figure 2.1.2.5: Revised cadastral plan for cadastral municipality 2132 Bitnje from 1867. Map sheet 4 of the revised cadastral plan containing the settlement of Zgornje Bitnje. The location was visited, »checked« and »supplemented« by Janez Žiška, a 4th level surveyor. It was reviewed by Meeraus and Inspector Kraus, who inspected it and found that it met the protocols. The entries on the map are in Slovene.
(Source: AS, Rev. cad., Ljub. dist. off., c. m. Bitnje, L-54)

Slika 2.1.2.6: Prednja in zadnja stran indikacijske skice iz leta 1869. Na zadnji strani so navedeni podatki o izdelovalcu in kontrolorju ter vsi podpisi komisije, ki je načrt, »kakor se narisano vidi pregledalo in za prav spoznalo«. Dva člana komisije lastnoročni podpis izkazujeta s xxx oz. +++ (torej v tistem času nepismenost ni bila nobena redkost).
(Vir: e-ZKN Pregledovalnik arhivskih zemljiško katastrskih načrtov)

Figure 2.1.2.6: The first and last pages of a field cadastral plan from 1869. The last page of the field cadastral plan with the indication of the author and the auditor and with the signatures of all the commission members who »reviewed and verified the plan as it was«. Two members of the commission inscribed their handwritten signatures with xxx or +++ (so illiteracy was not uncommon at the time).
(Source: the e-ZKN archive land cadastre map viewer)

Reambulacija je zajela vsa zemljišča, nov zemljiški davek pa se je plačal glede na obdelovalno kulturo in površino. Izjema so bila zemljišča, ki so spremenila rabo in pridobila trajno ali začasno oprostitev davka. Trajna oprostitev davka je veljala za neproduktivne površine (močvirja, morja itd.) ter za poti, ceste, trge, kanale, struge rek in potokov, pokopališča, dvorišča itd. Začasna oprostitev davka pa je veljala za zemljišča, ki so zaradi nezgod, ki so jih povzročile naravne sile, postala neproduktivna. V obnovljen katastrski operat so zajeli vse posestnike, davčna zemljišča in vrsto kulture.

Kot pomoč pri reambulaciji so pri izmeri uporabljali podatke okrajne cenilne komisije, katastrske načrte, indikacijske skice, prepise zapisnikov za vzpostavitev mej posamezne parcele ter posesti nad parcelo.

Leta 1867 je v izdelavo reambulančnih katastrskih operatov uveden slovenski jezik.

The revision covered all the land and the new land tax was paid according to the cultivated culture and crop area. The exception was land whose use was changed and that had obtained permanent or temporary exemption from tax. A permanent tax exemption applied to unproductive areas (swamps, seas, etc.) and to paths, roads, squares, canals, riverbeds and streams, cemeteries, courtyards, etc. A temporary tax exemption applied to land that had become unproductive due to natural accidents. The restored cadastral record included all landowners, tax areas and types of culture.

In the revision, the data of the district appraisal commission, cadastral plans, field cadastral plans, transcripts of records for the establishment of the borders of an individual parcel and property on the parcel were all employed in the survey.

In 1867, the Slovenian language was introduced into the production of revised cadastral records.

Dopis Finančne direkcije v Ljubljani Deželni vladi v Ljubljani. Ljubljana, 1. junij 1867

Finančna direkcija prosi v imenu Inšpektorata za reambulacijo Deželno vlado za mnenje o uporabi slovenskega jezika pri izdelavi reambulančnega katastrskega operata. Mnenje Deželne vlade bodo predložili v odločitev finančnemu ministrstvu. Finančna direkcija še pristavlja, da bo treba, v kolikor bodo občinski predstavniki zahtevali izdelavo reambulančnega elaborata v slovenskem jeziku, vse tehnične izraze prevesti v slovenski jezik ter jih razločno zapisati v tabele tega elaborata.

(Vir: AS, Dež. Vlada v Ljubljani, 1867, fasc. 38-5, spis 4676, priloga)

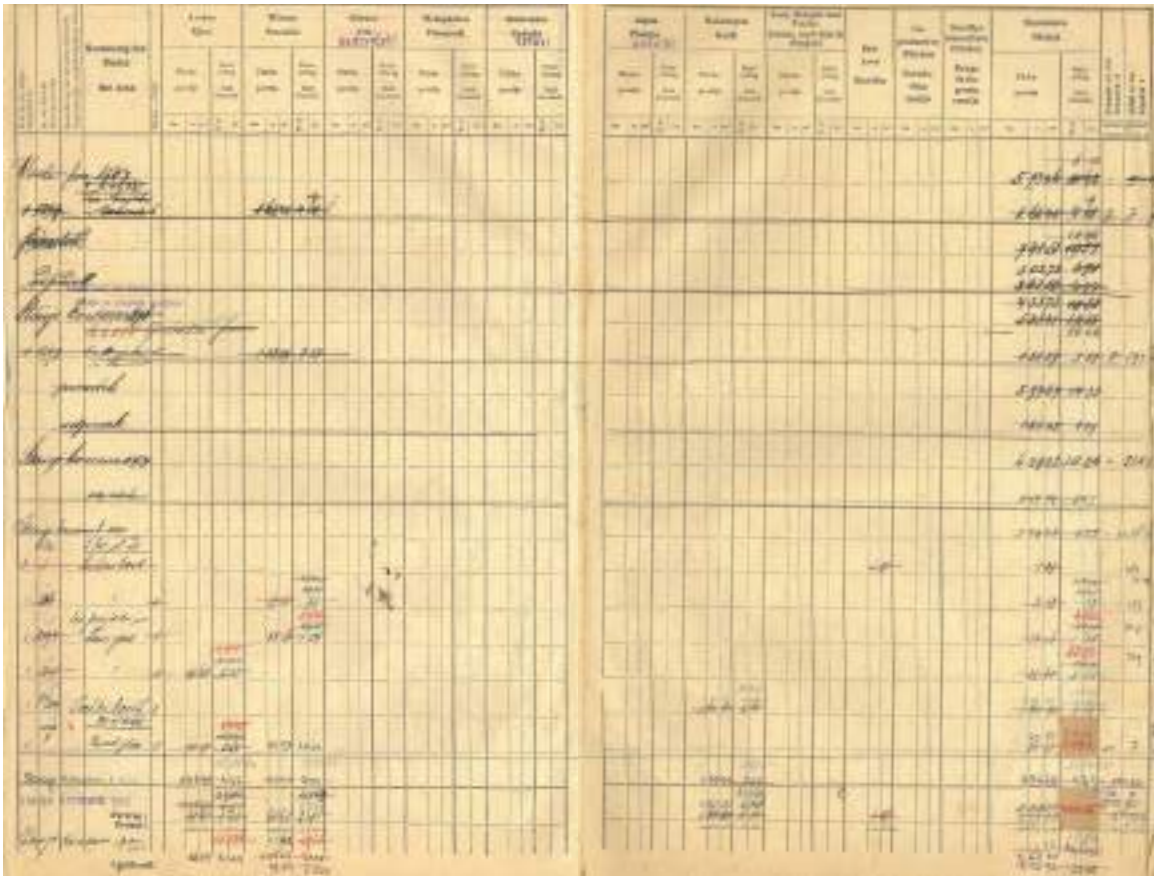
Letter from the Financial Directorate in Ljubljana to the Provincial Government in Ljubljana. Ljubljana, 1 June 1867

The Financial Directorate requests on behalf of the Inspectorate of the provincial government an opinion on the use of the Slovenian language in the production of revised cadastral records. The opinion of the provincial government will be submitted for a decision to the Ministry of Finance. The Financial Directorate also notes that if the municipal representatives request the preparation of revised cadastral records in the Slovenian language, it will be necessary to translate all the technical terms into the Slovenian language and to clearly tabulate them within these records.

(Source: AS, Reg. Government in Ljubljana, 1867, fasc. 38-5, file 4676, annex)

Novo nastali katastrski operat je obsegal: parcelni protokol, seznam parcel, seznam izbrisanih parcel, abecedni seznam zemljiških in hišnih posestnikov, seznam hiš, izkaz zemljiške posesti, protokol preračunavanj, cenitvene tabele, cenitveni register in protokol sprememb.

The newly created cadastral record included: the parcel protocol, list of parcels, list of deleted parcels, alphabetical list of land and house owners, list of houses, land ownership statement, recalculation protocol, valuation tables, valuation register and protocol of changes.



Slika 2.1.2.7: Izkaz zemljiške posesti – posestni list in vzdrževanje le-tega skozi čas. (Vir: Arhiv GURS)

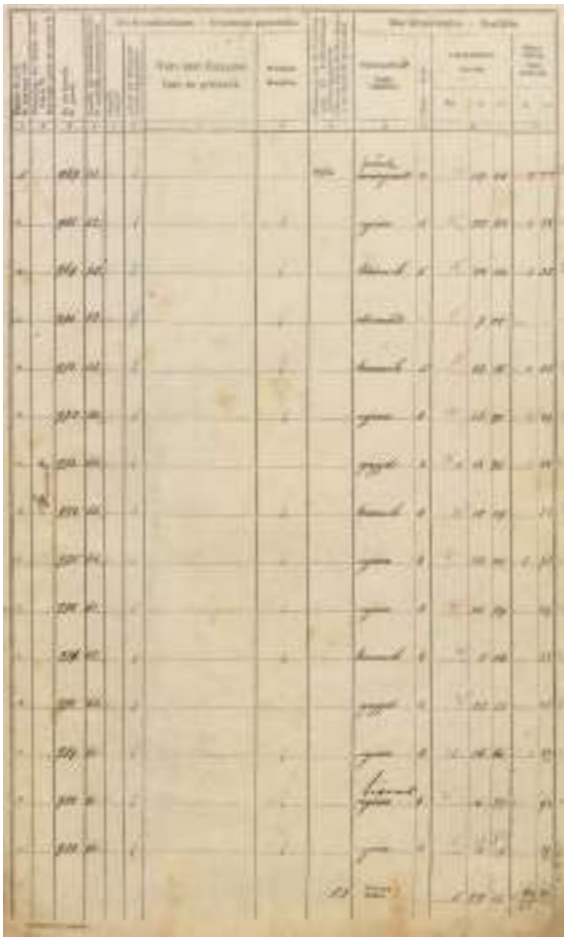
Figure 2.1.2.7: Statement of land ownership – possession sheet and its maintenance over time. (Source: The SMARS archive)

Zapisnik zemljiških parcel je vseboval podatke o parceli, lastniku, rabi tal, kakovosti parcele, vrednosti ipd.

Zapisnik stavbnih parcel je obsegal podatke o zgradbah, kot so tip zgradbe in njene značilnosti.

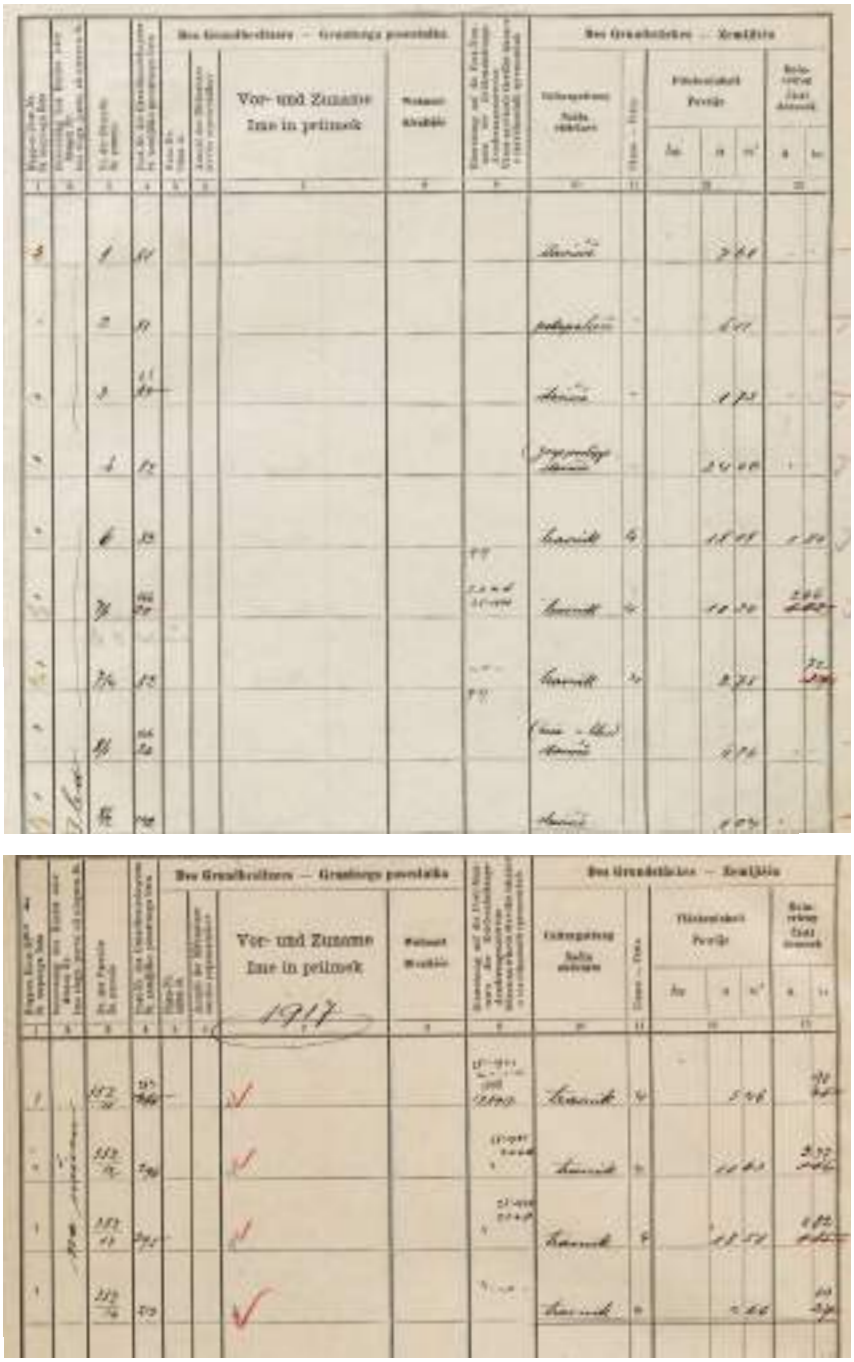
The land parcels record contained data on the parcels, owners, land use, parcels' quality, value, etc.

The building parcels record contained data on buildings, such as the type of building and its features.



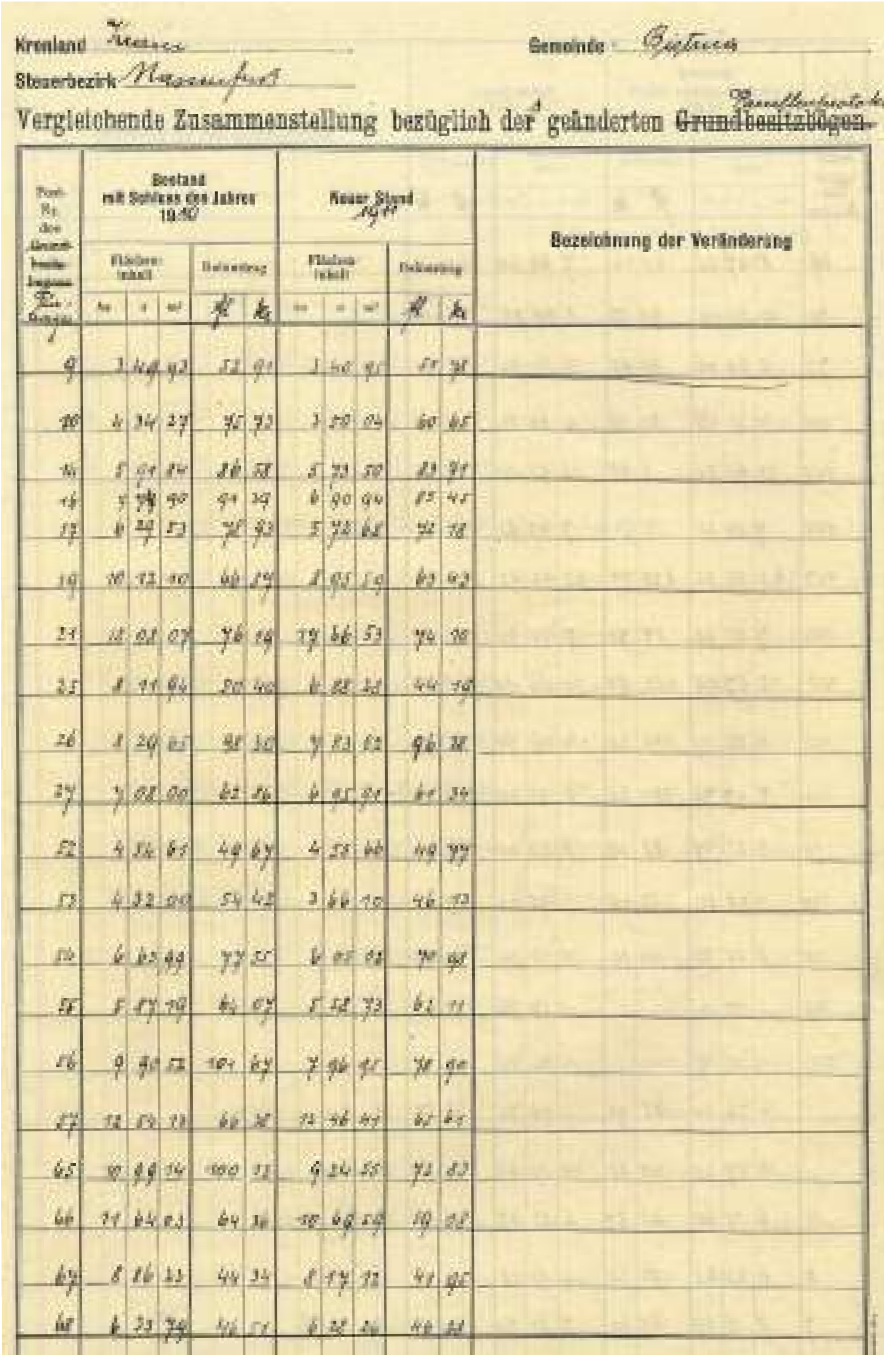
Slika 2.1.2.8: Zapisnik zemljiških parcel (stran 83, 93) v k. o. 1381 Boštanj iz leta 1898. (Vir: Pregledovalnik digitalnih elaboratov arhiva ZK)

Figure 2.1.2.8: Land parcel records (page 83, 93) in c. m. 1381 Boštanj from 1898. (Source: ZK archive digital survey report viewer)



Slika 2.1.2.9: Prva stran zapisnika stavbnih zemljišč v k. o. 2190 Veldes (danes Bled) iz leta 1916.
(Vir: Pregledovalnik digitalnih elaboratov arhiva ZK)

Figure 2.1.2.9: The first page of the building land record in c. m. 2190 Veldes (today Bled) from 1916.
(Source: ZK archive digital survey report viewer)



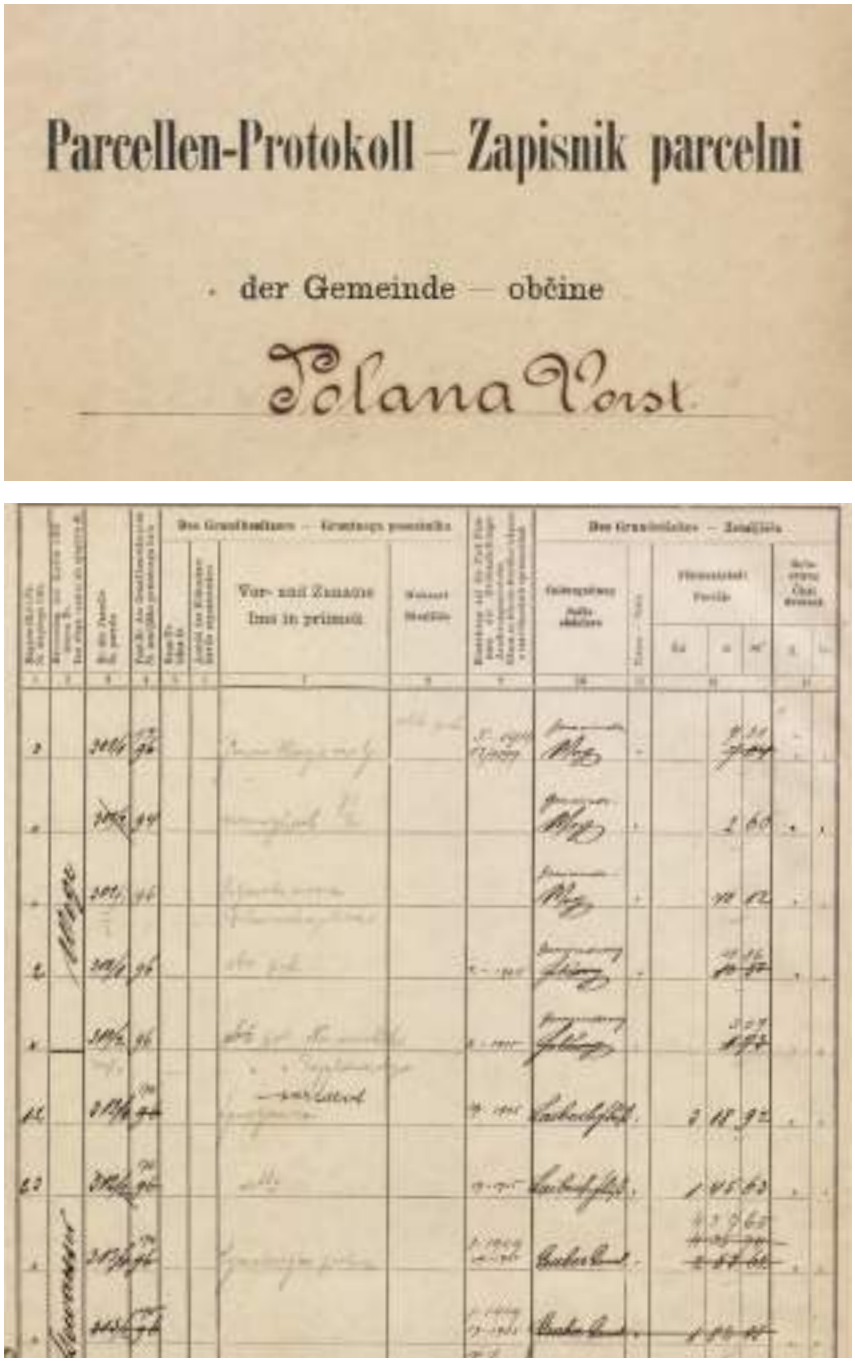
Kronland Krain
Steuerbezirk Nassenfuss
Gemeinde [illegible]

Vergleichende Zusammenstellung bezüglich der geänderten ~~Grundbesitzbögen~~ [illegible]

Post-Nr. des Grundbesitzbogens	Bestand mit Schluss des Jahres 1910					Neuer Stand 1911					Bezeichnung der Veränderung
	Flächeninhalt			Reinertrag		Flächeninhalt			Reinertrag		
	ha	a	m²	K	h	ha	a	m²	K	h	
9	3	64	92	52	91	3	50	91	58	38	
10	4	34	27	45	73	3	50	04	60	65	
11	5	91	84	86	58	5	73	50	83	91	
14	5	79	90	91	39	6	90	94	85	45	
17	6	24	53	76	93	5	72	68	52	18	
19	10	32	40	66	19	8	95	19	63	43	
23	18	08	07	76	19	19	66	53	74	38	
25	8	11	64	50	40	6	88	31	44	79	
26	8	29	65	98	30	9	83	62	96	38	
27	3	08	00	62	56	4	95	91	61	39	
52	4	56	61	49	67	4	58	66	49	97	
53	4	32	00	54	45	3	66	10	46	73	
54	6	65	49	77	55	6	05	08	70	98	
55	5	47	79	64	07	5	58	73	61	11	
56	9	40	52	101	67	7	96	45	78	90	
57	12	54	78	66	38	12	46	41	65	61	
65	10	69	54	100	32	9	24	56	72	83	
66	11	64	03	64	36	10	69	59	59	08	
67	8	86	33	44	34	8	17	72	41	95	
68	6	23	79	46	51	6	38	26	46	38	

Slika 2.1.2.10: Parcellen protokoll – parcelni zapisnik (primerjava med letoma 1910 in 1911 za spremenjene vrednosti površin in katastrskega donosa, izkazanega v forintih in krajcarjih, kljub temu, da je v tistem času v deželi veljala denarna enota krona, kot se vidi v predtiskanem obrazcu). (Vir: Arhiv GURS)

Figure 2.1.2.10: Parcellen-Protokoll – parcel record (comparison between 1910 and 1911 for changed values of areas and cadastral yield shown in forints and kreuzers, despite the fact that at that time, the currency of the country was the krone, as can be seen in the pre-printed form). (Source: The SMARS archive)



Slika 2.1.2.11: Parcelni zapisnik iz leta 1896 k. o. 1727 Poljansko predmestje. (Vir: Pregledovalnik digitalnih elaboratov arhiva ZK)

Figure 2.1.2.11: Parcel record from 1896 of c. m. 1727, Poljansko predmestje. (Source: ZK archive digital survey report viewer)

Okrožnica c.-kr. ministrstva za notranje zadeve na Dunaju Deželni vladi v Ljubljani. Dunaj 27. junij 1875

Ministrstvo za notranje zadeve obvešča, da je finančno ministrstvo naročilo pomožne tabele za preračunavanje površin v metrski sistem. Tabele je izdelal Katastrski triangulacijski računski urad, razmnožila jih je Direkcija litografskega katastrskega inštituta. Deželni vladi v Ljubljani naroča, naj o tem seznani vse urade.

(Vir: AS, Dež. Vlada v Ljubljani, 1875, fasc. 13-1, spis 5167)

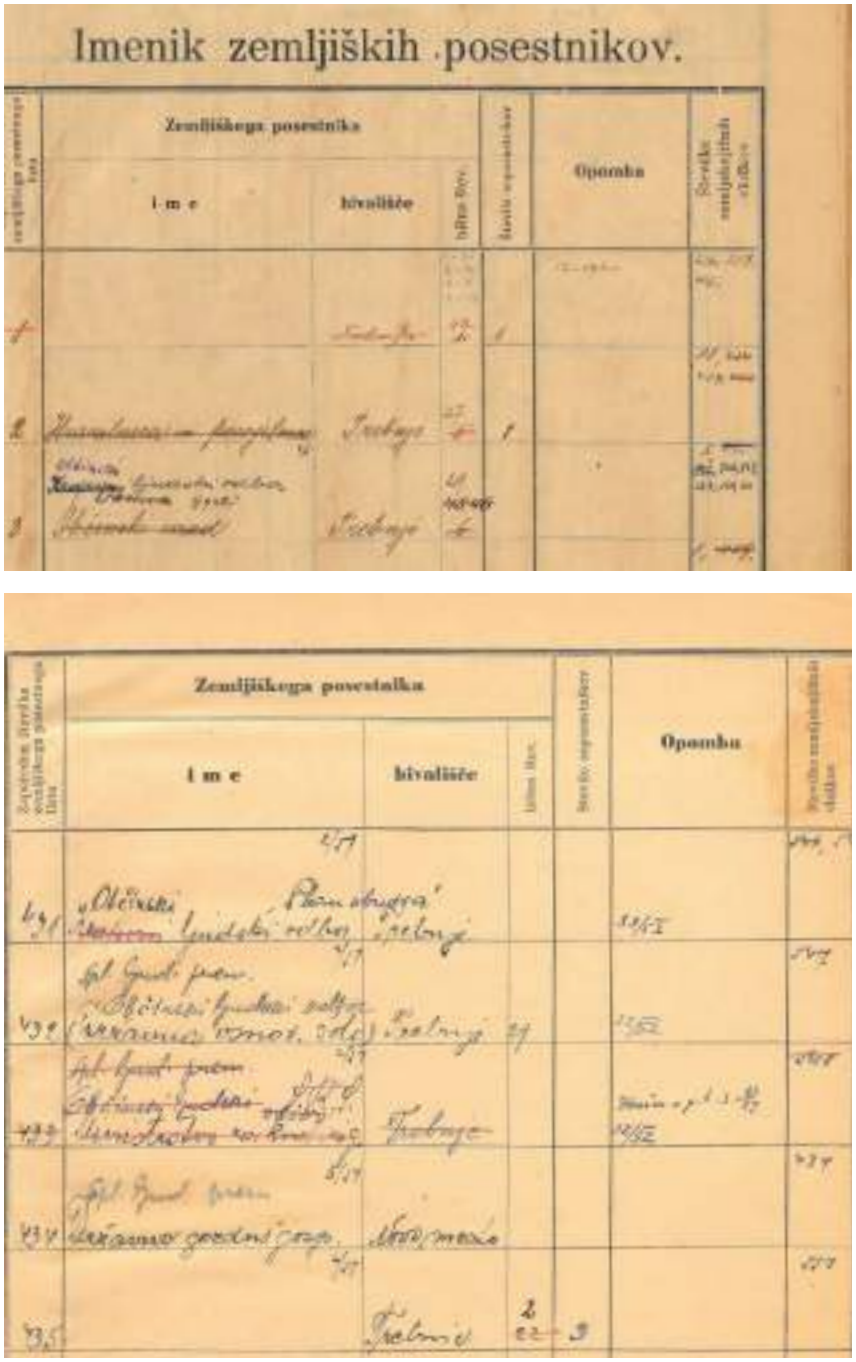
Circular of the Imperial-Royal Ministry of the Interior in Vienna to the Provincial government in Ljubljana. Vienna, 27. June 1875

The Ministry of the Interior hereby informs that the Ministry of Finance has ordered auxiliary tables for converting areas into the metric system. The tables were prepared by the Cadastral Triangulation Calculation Office and reproduced by the Directorate of the Lithographic Cadastral Institute. The Provincial government in Ljubljana is instructed to inform all offices about this.

(Source: AS, Reg. Government in Ljubljana, 1875, fasc. 13-1, file 5167)

Obrazec za izkaz površine zemljišč po kulturah je prikazoval seštevek površin parcel glede na kategorije kultur. V obrazcu Abecedni seznam zemljiških posestnikov so bili zbrani vsi posestniki znotraj katastrske občine.

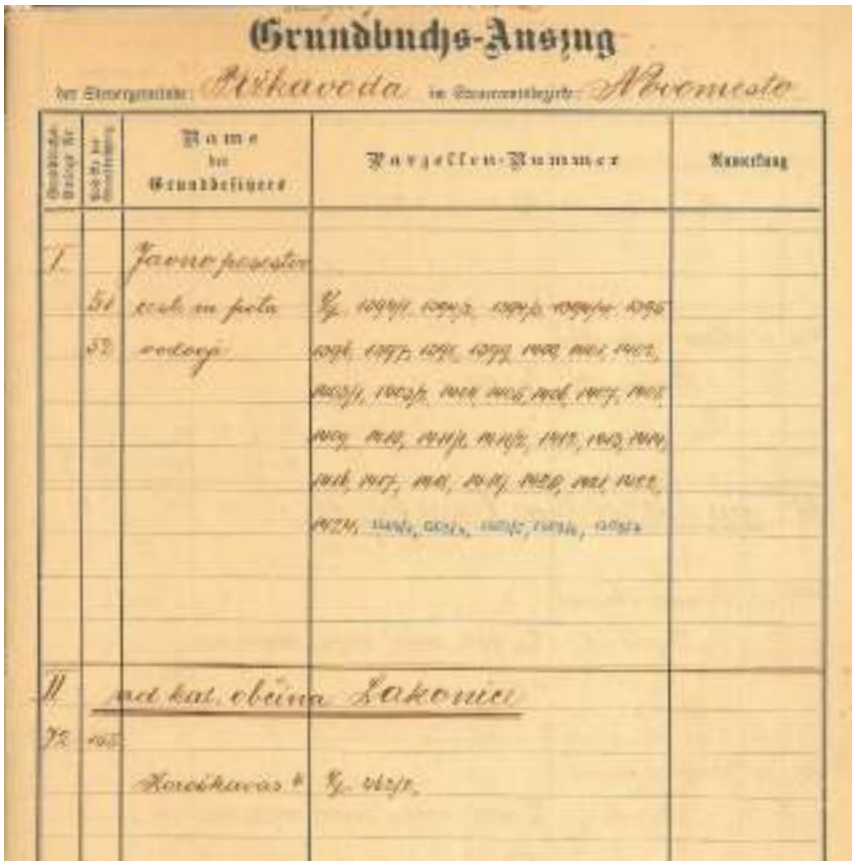
The form for the statement of land area by cultures showed the sum of the areas of parcels according to culture categories. The Alphabetical List of Landowners included all landowners within the cadastral municipality.



Slika 2.1.2.12: Zaporedni seznam zemljiških posestnikov po številkah posestnih listov (del prve in zadnje strani ene od k. o.).
(Vir: Arhiv GURS, OGU Novo mesto)

Figure 2.1.2.12: The sequential list of landowners by numbers of possession sheets (part of the first and last pages of one of the c. m.).
(Source: The SMARS archive, OGU Novo mesto)

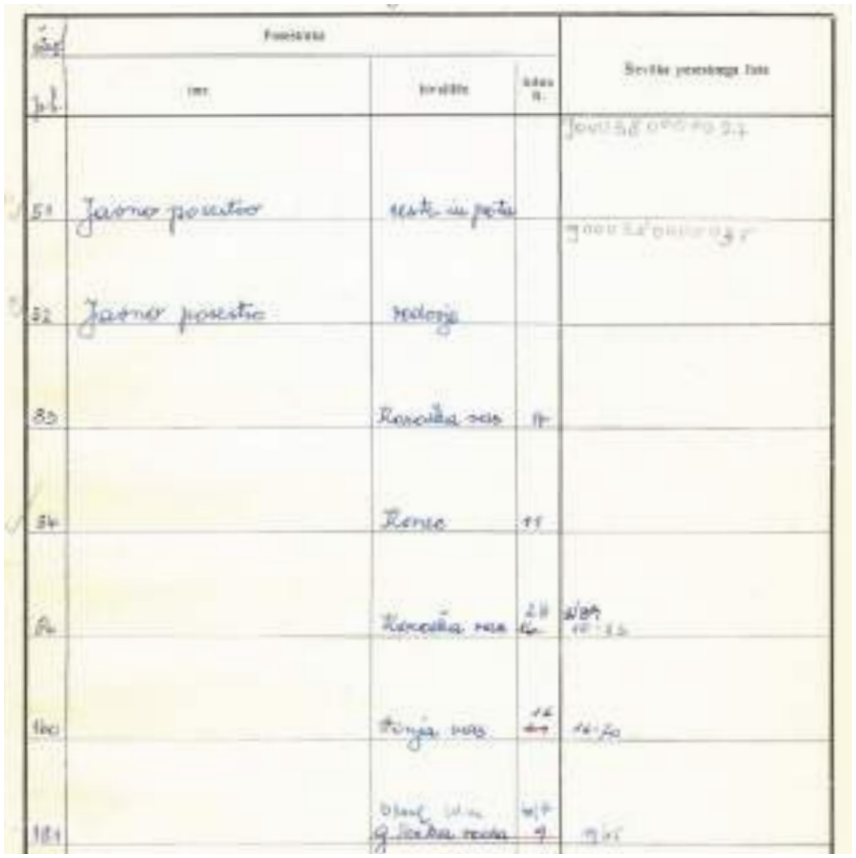
Opomba: V dokumentih iz zbirke listin Zemljiškega katastra so varovani osebni podatki zakriti
Note: Protected personal data is hidden in the land cadastre documents.



Slika 2.1.2.13: Seznam zemljiškoknjižnih vložkov s pripisom vseh parcel k posameznemu vložku. Ta imenik je nastal kot posledica nastavitve zemljiške knjige po letu 1883.
(Vir: Arhiv GURS, OGU Novo mesto)

Figure 2.1.2.13: List of land registry entries with the attribution of all parcels to an individual entry. This directory was created as a result of setting up the land registry after 1883.
(Source: The SMARS archive, OGU Novo mesto)

Opomba: V dokumentih iz zbirke listin Zemljiškega katastra so varovani osebni podatki zakriti
Note: Protected personal data is hidden in the land cadastre documents.



Slika 2.1.2.14: Abecedni imenik posestnikov, kamor se je v 80. letih prejšnjega stoletja k vsakemu imetniku pripisala enotna matična številka občana (desni stolpec).
(Vir: Arhiv GURS, OGU Novo mesto)

Figure 2.1.2.14: Alphabetical directory of landowners, where each holder was assigned a unique personal identification number (right column) in the 1980s.
(Source: The SMARS archive, OGU Novo mesto)

Opomba: V dokumentih iz zbirke listin Zemljiškega katastra so varovani osebni podatki zakriti
Note: Protected personal data is hidden in the land cadastre documents.

2.1.3 Zemljiški kataster danes

Evidenca zemljiškega katastra danes še vedno sestoji iz opisnih podatkov posamezne parcele in grafičnega prikaza parcel. V zemljiškem katastru se danes vodijo podatki, določeni z Zakonom o evidentiranju nepremičnin:

- identifikacijska oznaka parcele,
- meja,
- površina,
- lastnik,
- upravljavec državnega ali lokalnega premoženja,
- dejanska raba,
- zemljišče pod stavbo,
- boniteta zemljišč,
- povezave z registrom prostorskih enot, katastrom stavb in zemljiško knjigo.

The land cadastre today

Currently, the land cadastre record still consists of descriptive data of individual parcels and a graphic representation of the parcels. Today, the land cadastre keeps data determined by the Real Estate Records Act:

- parcel identification code,
- border,
- surface area,
- owner,
- manager of property of state or local communities,
- land cover,
- land under buildings,
- land quality rating,
- linking with the register of spatial units, the building cadastre and the land registry.

Tehnološke posodobitve so omogočile prehod iz ročnega vodenja podatkov v elektronsko.

Danes je v zemljiškem katastru v Sloveniji uveljavljen koordinatno zasnovan katastrski prikaz za vse katastrske občine. Uradno je od 1. 1. 2008 uveljavljen nov koordinatni sistem D96/TM (prej je bil D48/GK) in uveljavljena je tehnologija GNSS za vzdrževanje katastrskih načrtov.

Technological upgrades have enabled the transition from manual to electronic data management.

Today, the land cadastre in Slovenia uses a coordinate-based cadastral map for all cadastral municipalities. As of 1 January 2008, the new D96/TM coordinate system (formerly the D48/GK) has been established and the GNSS technology measurements are used for the maintenance of cadastral plans.

3 Vzdrževanje analognega zemljiškega katastra

Čeprav je že osnovni patent iz leta 1817 predvideval sprotno vzdrževanje stabilnega katastra, se to v praksi skoraj ni izvajalo. To sprotno vzdrževanje se je nanašalo na spremembo lastništva ali objektne spremembe na načelu prostovoljne prijave. Za vzdrževanje evidence je bilo za takratno območje izmerjene Avstrije zaposlenih 19 geometrov, ki so delali kot kartografi arhivarji.

6. 12. 1822 je bil izdan dekret o ustanovitvi deželnih mapnih arhivov »za hranjenje in upravljanje izmeritvenih in cenilnih operatov stabilnega katastra«. Za Koroško in Kranjsko se ustanovi v Ljubljani. Sprejet je bil tudi sklep, da se nastavi poseben arhivar, čim izmeritveni operati dosežejo 200 kvadratnih milj.

Leta 1824 izide v dopolnjeni izdaji izmeritvena instrukcija iz leta 1818, ki v paragrafu 515 določa nastavitev posebnega arhivarja v vsaki deželi pri deželni komisiji, in sicer za »hranjenje izmeritvenega operata, za nadzor in red«.

Leta 1844 se imenuje dva geometra za vzdrževanje katastra, in sicer v 4 deželah, med njimi tudi za Štajersko, Kranjsko in Koroško, ki so podrejeni vodjem mapnih arhivov.

Tehnično pojmujemo vzdrževanje katastrskih načrtov kot vris sprememb glede na stanje na zemljišču (tj. razne delitve, parcelacije, spremembe kultur (v določenem obdobju) vris novih objektov in podobno). Takšen vris se opravi na osnovi izmere dejanskega stanja na terenu, kartiranja v merilu katastrskega načrta ob upoštevanju skrčka lista in vklapljanjem novega stanja v obstoječi katastrski načrt.

Na podlagi sprememb v grafičnem delu katastrskega operata se izvede še spremembe v opisnem delu katastra: izračunajo se nove oz. spremenjene površine zemljiških parcel in objektov, uskladijo podatki o kulturah in katastrskih razredih, izračuna katastrski dohodek in pripiše novega oz. spremenjenega imetnika.

Maintenance of the analogue land cadastre

Although the basic patent from 1817 already provided for the ongoing maintenance of a stable cadastre, this was hardly implemented in practice. This ongoing maintenance related to changes of ownership or object changes on the principle of voluntary reporting. To maintain the records, 19 surveyors were employed for the then surveyed area of Austria, working as cartographers and archivists.

On 6 December 1822, a decree was issued on the establishment of regional map archives »for the storage and management of the surveying and evaluation records of the stable cadastre.« For Carinthia and Carniola, such archives were established in Ljubljana. It was also decided to employ a special archivist as soon as the survey record reached 200 square miles.

A supplemented edition of the survey instruction from 1818 was published in 1824, which stipulates in paragraph 515 the employment of a special archivist in each province at the provincial commission, namely for »keeping the survey record, for performing control and keeping order«.

In 1844, two surveyors were appointed to maintain the cadastre, namely in 4 provinces, including Styria, Carniola and Carinthia, who were subordinated to the heads of the map archives.

The maintenance of cadastral plans, in technical terms, is the inscription of changes in relation to the situation in the field (i.e. various divisions, parcel allocation, changes of crops (within a certain period), the addition of new objects, etc.). This type of inscription was made on the basis of surveying the actual situation in the field, mapping the cadastral plan to scale while taking into account the constriction of the sheet, and incorporating the new situation into the existing cadastral plan.

On the basis of changes in the graphic part of the cadastral record, changes are also made in the descriptive part of the cadastre: calculation of new or changed areas of land parcels and buildings, harmonization of data on cultures and cadastral classes, calculation of cadastral income and the attribution of a new or different holder.

Slika 3.1: Mapna kopija, izdana stranki leta 1888, prerisana iz reambulančnega katastra. Seznam izpisanih parcel je tudi barvno ponazorjen: stavbne parcele izpisane v črni barvi, zemljiške parcele pa v rdeči, tako kot so se ti podatki vodili v originalni mapi.
(Vir: Arhiv GURS, OGU Novo mesto)

Figure 3.1: A map copy issued to a client in 1888, copied from the revised cadastre. The list of printed parcels is also colour-coded: building parcels are printed in black and land parcels in red, just as this data was kept in the original map.
(Source: The SMARS archive, OGU Novo mesto)

Slika 3.2: Prerisi načrtov so se do prihoda fotokopirnih strojev izvajali s pomočjo različnega risarskega pribora (na sliki v kompletu poleg tehničnega in ničelnega šestila še garnitura grafos peres različnih debelin in damsko pero (majhno pero s priostrenim koncem za pisanje s tušem)).
(Fotografija: Janez Slak)

Figure 3.2: Before photocopiers, the tracing of plans was performed with various drawing accessories (pictured is a set including a pair of technical and bow-compasses, a set of graphos nib pens of various thicknesses, and a ladies pen (a small pen with a pointed nib for writing with ink)).
(Photo: Janez Slak)

Leta 1883 izide Zakon o vzdrževanju zemljiškega katastra, ki je veljal v Avstriji 75 let

Glavni namen: usklajenost katastrskega operata s spremembami v naravi ter zemljiško knjigo. To leto je tudi prelomno leto, kar se tiče stalne zaposlitve uradnikov, ki so se ukvarjali s katastrsko izmero. Na 320 izmeritvenih okrajih se je zaposlilo 370 geometrov za vzdrževanje katastra. V nadaljevanju so izmeritveni uradi postali katastrski uradi in domala takšno ureditev poznamo še danes. 370 uradnikov je bilo zaposlenih na območju celotne takratne avstrijske dežele.

V obdobju stare Jugoslavije je bilo na območju Slovenije 22 katastrskih uradov, kjer je bilo zaposlenih 31 geodetskih strokovnjakov.

Z zakonom iz leta 1883 je bilo predvideno, da se vsaka sprememba vnese v original katastrskega načrta pri reviziji katastra. Zaradi prevelikih stroškov je bila izpeljana samo ena revizija, nato pa je novi zakon iz leta 1896 predvidel dosledno evidenco sprememb.

Poleg te lastninsko-davčne funkcije so se mape novega franciscejskega katastra kot enotna kartografska osnova za ozemlje vse monarhije izkazale tudi kot nepogrešljiv sestavni del prostorskega načrtovanja v deželi, predvsem za načrtovanje:

- razvoja mest
- gradnje železnice in cest

In 1883, the Land Cadastre Maintenance Act was passed, which would remain in force in Austria for 75 years

Its main purpose was the harmonization of the cadastral records with changes in nature and the land registry. This year was also a turning point in terms of the employment of cadastral survey officials on a permanent basis. In order to maintain the cadastre, 370 surveyors were employed in 320 survey districts. Subsequently, survey offices became cadastral offices, which were fairly similar to the situation we have today. 370 officials were employed throughout the then Austrian lands.

In the period of the old Yugoslavia, 22 cadastral offices operated in Slovenia, employing 31 surveying experts.

The Act of 1883 stipulated that any changes should be included in the original cadastral plan during the revision of the cadastre. Due to excessive costs, only one revision was carried out, and after that, the new Act of 1896 provided for a consistent record of changes.

In addition to this property-tax function, the maps of the new Franciscan cadastre, a unified cartographic basis for the territory of the entire monarchy, also proved to be an indispensable component of spatial planning in the country, particularly for planning:

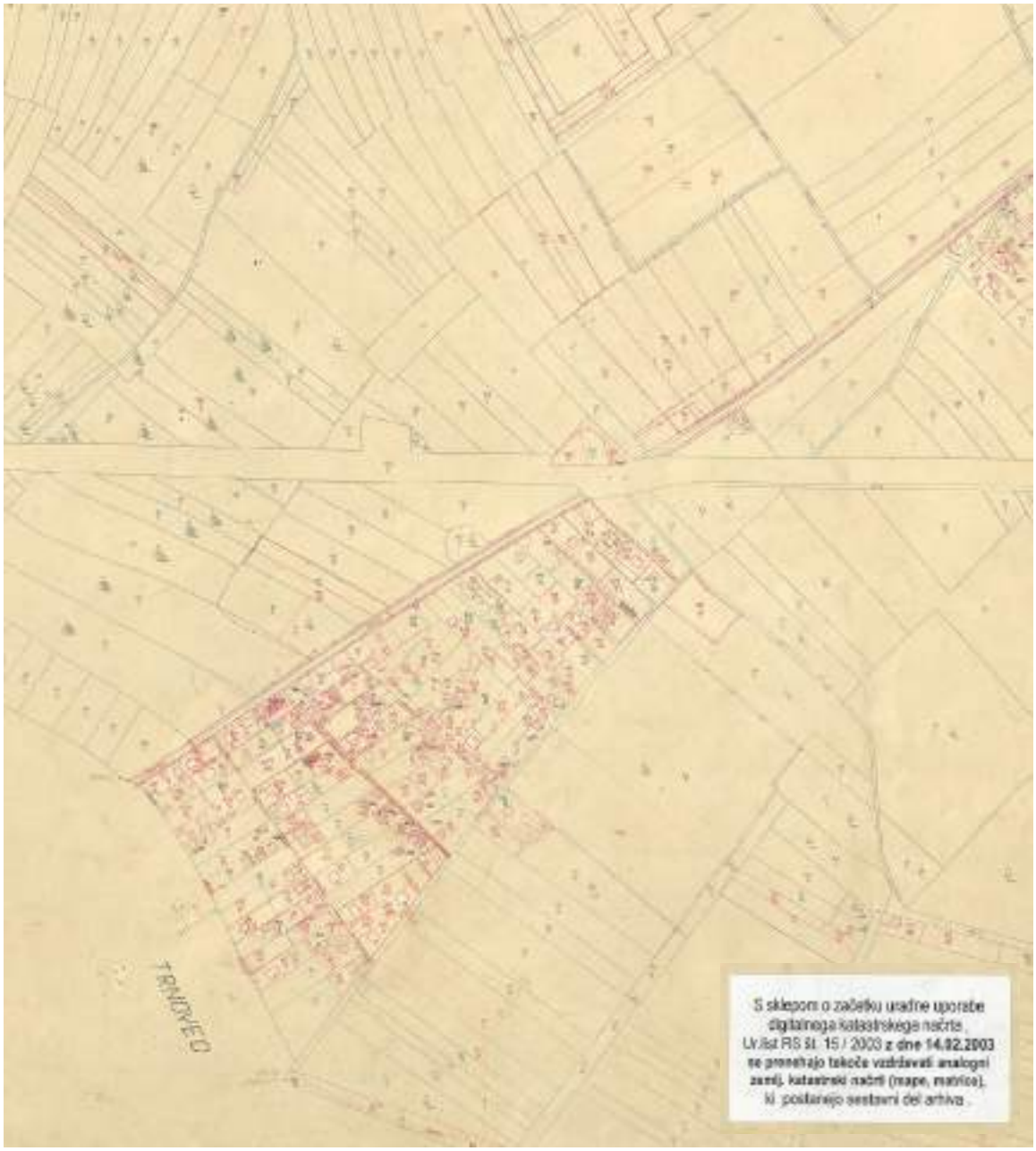
- urban development
- the construction of railways and roads

Slika 3.4: Izrez iz originalnega katastrskega načrta k. o. 397 Hajdina, reambuliranega leta 1872, kjer je na novo prikazan potek železniške proge Pragersko–Ptuj.
(Vir: Arhiv GURS)

Figure 3.4: Excerpt from the original cadastral plan of c. m. 397 Hajdina, revised in 1872, showing the new course of the Pragersko–Ptuj railway line.
(Source: The SMARS archive)

Slika 3.5: Izsek iz katastrskega načrta k. o. 397 Hajdina – stanje leta 1941. (Vir: e-ZKN Pregledovalnik arhivskih zemljiško katastrskih načrtov)

Figure 3.5: Excerpt from the cadastral plan of c. m. 397 Hajdina – situation in 1941. (Source: the e-ZKN archive land cadastre map viewer)

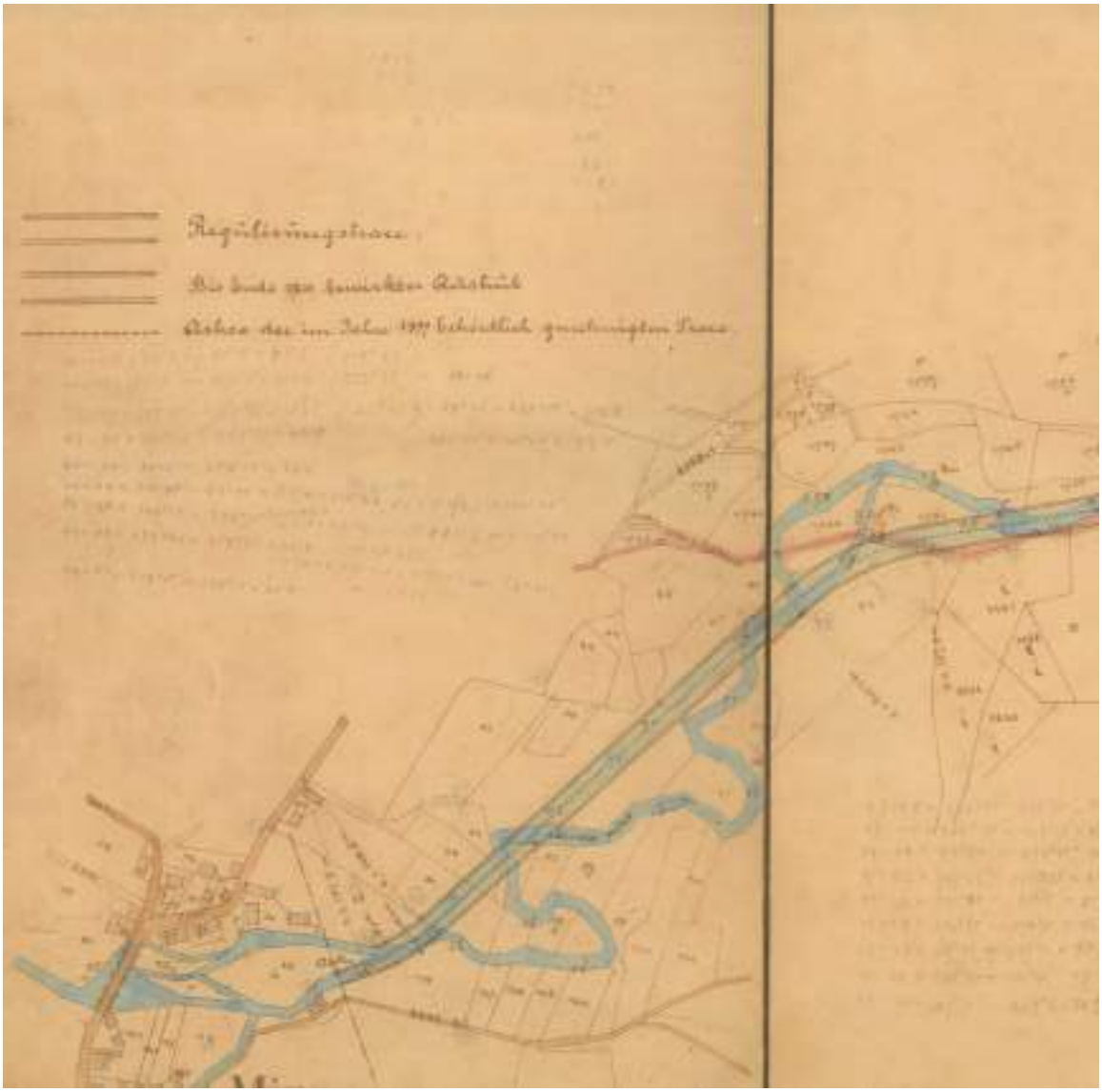


Slika 3.6: Izsek iz katastrskega načrta k. o. 397 Hajdina – stanje leta 2003. (Vir: e-ZKN Pregledovalnik arhivskih zemljiško katastrskih načrtov)

Figure 3.6: Excerpt from the cadastral plan of c. m. 397 Hajdina – situation in 2003. (Source: the e-ZKN archive land cadastre map viewer)

- regulacije vodotokov in

- regulation of watercourses and



Slika 3.7: Vris regulacije reke Mirna v letih 1899 do 1901 (meritev se je izvedla z busolnim teodolitom, merjenje kotov je bilo opravljeno v dveh krožnih legah, na skici izmere nazorno prikazana nova trasa reke, kakor tudi stari rokavi).
(Vir: Arhiv GURS, OGU Novo mesto)

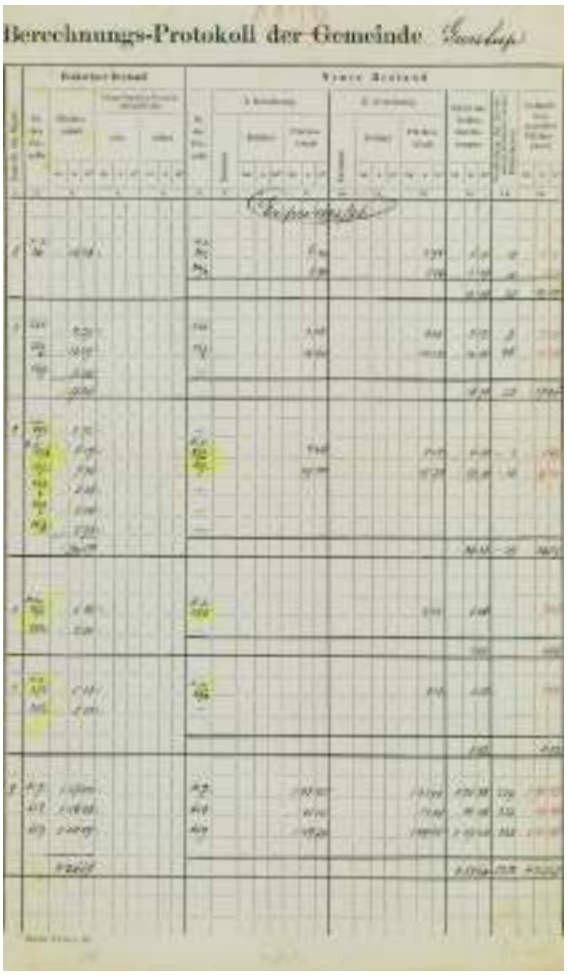
Figure 3.7: Plotting of the Mirna river regulation from 1899 to 1901 (the measurement was performed using a compass theodolite, the measurement of angles was performed in two positions on the circle; the sketch of the measurement clearly shows the new route of the river, as well as old river branches).
(Source: The SMARS archive, OGU Novo mesto)

- gospodarjenja z gozdovi

K temu je pripomogla tudi povezava katastra in zemljiške knjige, ki je pomenila skupen vnos podatkov o spremembi lastnikov in parcel. Zakon iz leta 1883 je predvidel, da se v vsaki provinci ustanovi civilna katastrska služba, ki je imela svoj izmeritveni okoliš. Le-ta je predstavljal administrativno mejo in je lahko pokrival enega ali več celih sodnih okolišev zaradi povezave z zemljiško knjigo. Takšen katastrski oddelek je imel več zaposlenih za opravljanje različnih nalog.

- forest management

This change was facilitated by the connection between the cadastre and the land registry, which meant the joint entry of data on changes in the condition and ownership of a land parcel. The 1883 Act provided for the establishment of a civil cadastral service in each province, which had its own survey district. The latter represented an administrative border and could cover one or several judicial districts due to its connection to the land registry. This type of cadastral department had several employees to perform various tasks.



Opomba: V dokumentih iz zbirke listin Zemljiškega katastra so varovani osebni podatki zakriti
Note: Protected personal data is hidden in the land cadastre documents.

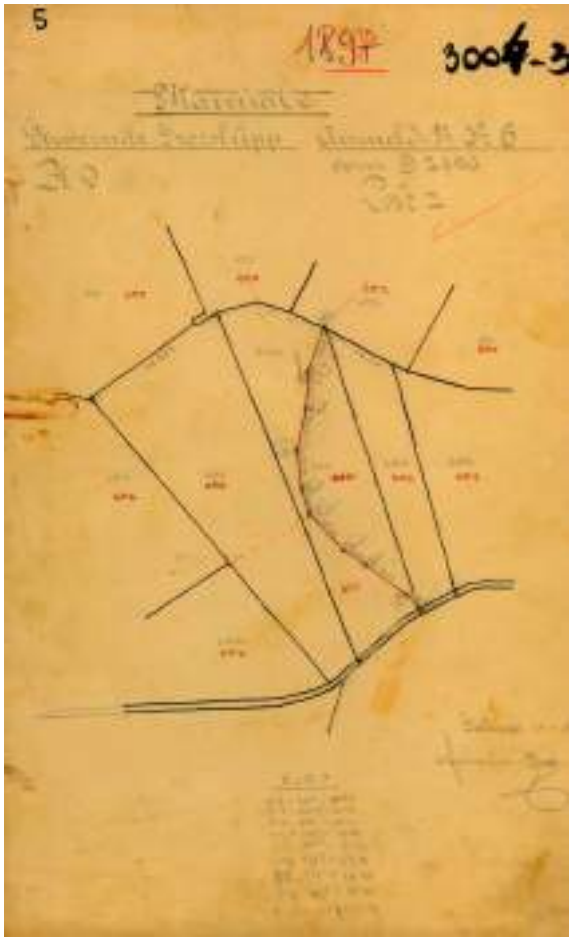
Slika 3.8: Skica izmere iz leta 1896 in prikaz izračuna površin. Iz skice izmere je razvidno, da se je pri izvedbi izmere (delitev, poprave meje in združevanje parcel) uporabljal le metrski trak. Pravilo, da se pri določevanju novih številk parcel največje število obdrži v imenovalcu parcelne številke, zapisane v obliki ulomka (zadnja poddelilka), ni bilo upoštevano. Pri vrisu novega stanja v originalne načrte so bili v uporabi nanašalni trikotniki in transverzalno merilo. Za izračun površin se je že uporabljal polarni planimeter.
(Vir: Pregledovalnik digitalnih elaboratov arhiva ZK, foto Boštjan Pucelj)

Figure 3.8: Sketch of the survey from 1896 and calculation of areas. It can be seen from the survey sketch that only a measuring tape was used to carry out the survey (border division, corrections, and merging of parcels). The rule that the largest number should be kept as the denominator of the parcel number when determining new parcel numbers, written in the form of a fraction (last subdivision), was largely disregarded. Precision compasses and the transverse scale were used in plotting the new situation in the original plans. The polar planimeter was already in use for calculating areas.
(Source: ZK archive digital survey report viewer, photo Boštjan Pucelj)

Slika 3.9: Izrez iz originalne mape k. o. 2642 Grosuplje iz leta 1891 in vrisi vseh nadaljnjih vzdrževanj do leta 1972.
(Vir: e-ZKN Pregledovalnik arhivskih zemljiško katastrskih načrtov)

Figure 3.9: Excerpt from the original map of c. m. 2642 Grosuplje from 1891 and the plotting of all further maintenance until 1972.
(Source: the e-ZKN archive land cadastre map viewer)

Opomba: V dokumentih iz zbirke listin Zemljiškega katastra so varovani osebni podatki zakriti
Note: Protected personal data is hidden in the land cadastre documents.



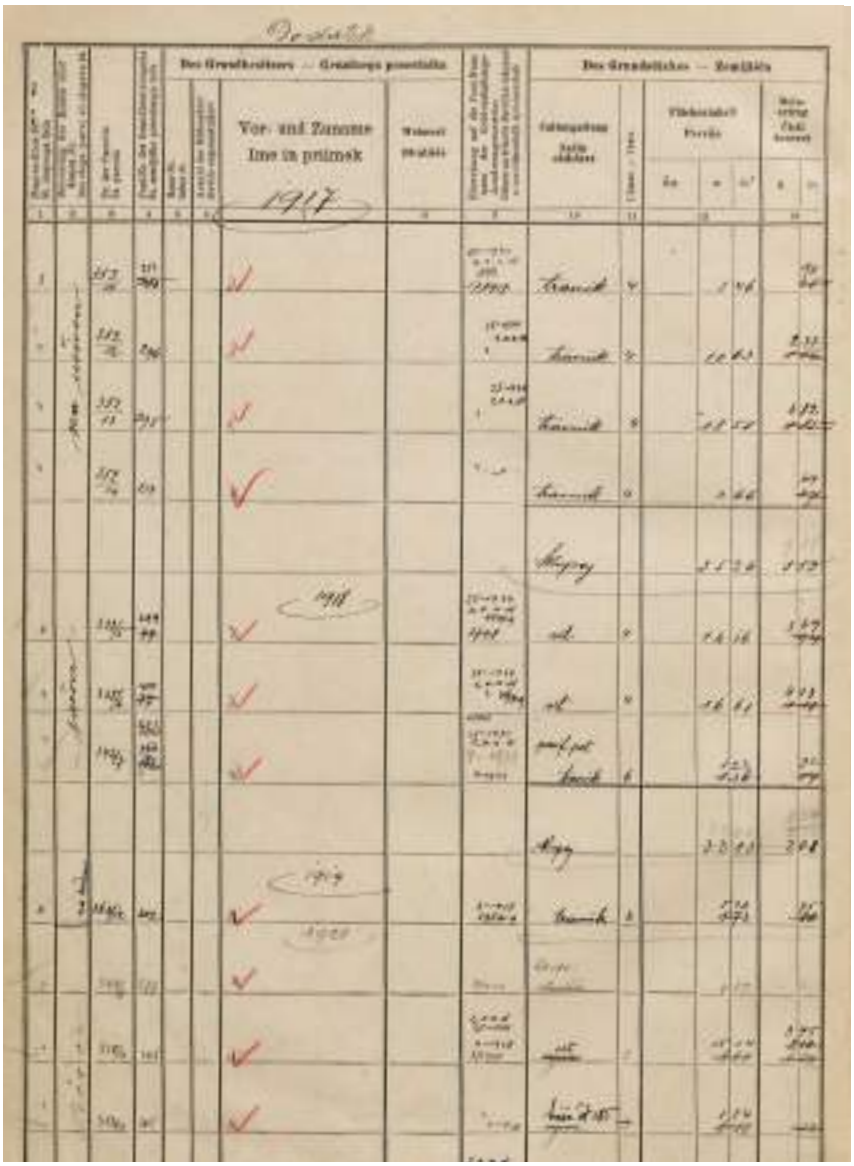
Slika 3.10: Skica izmere in »tahimetrični« podatki iz leta 1897 v k. o. 2642 Grosuplje. Meritev narejena s pomočjo busole (koti zabeleženi na ¼ stopinje natančno) – na vsaki lomni točki izmerjen azimut in razdalja do naslednje točke. Za kartiranje se je uporabil vektor – tahigraf.
(Vir: Pregledovalnik digitalnih elaboratov arhiva ZK, foto Boštjan Pucelj)

Figure 3.10: Sketch of the survey and »tachymetric« data from 1897 in c. m. 2642 Grosuplje. Measurement made with a compass (angles recorded with an accuracy of ¼ degrees) - azimuth and distance to the next point measured at each gradient point. A vector – tachygraph was used for mapping.
(Source: ZK archive digital survey report viewer, photo Boštjan Pucelj)

Opomba: V dokumentih iz zbirke listin Zemljiškega katastra so varovani osebni podatki zakriti
Note: Protected personal data is hidden in the land cadastre documents.

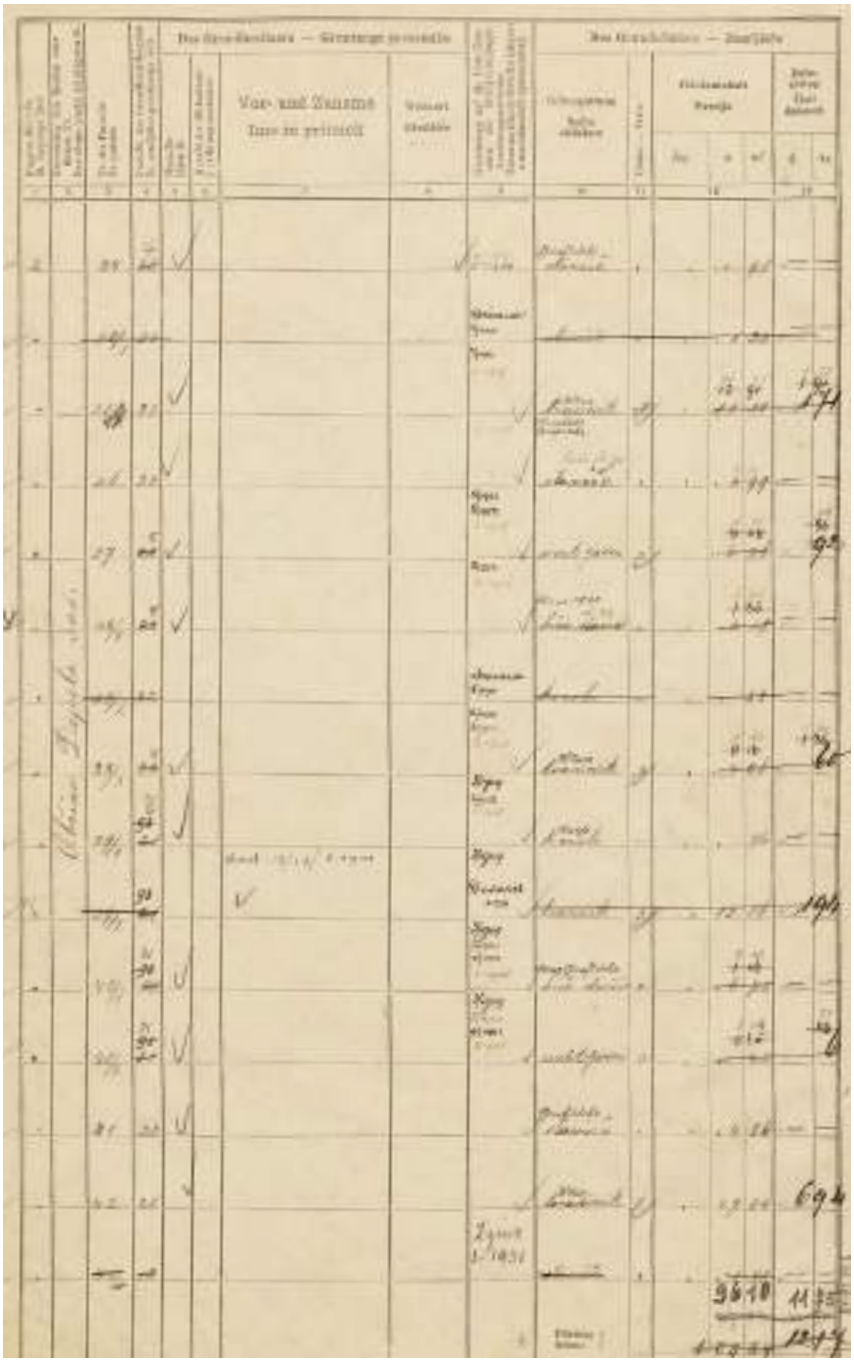
Leta 1896 se je začela in v letu 1897 zaključila prva in edina revizija zemljiškega (stabilnega) katastra, ki je bila zakonsko predvidena vsakih 15 let. Izvedena je bila v vsej Avstriji za približno 50 milijonov parcel, utež pa je bila na izravnavi cenilnih tarif, ki so bile zelo različne po posameznih deželah.

The first and only revision of the land (stable) cadastre, which was legally provided for every 15 years, started in 1896 and finished in 1897. It was carried out throughout Austria for about 50 million parcels, and weighting was placed on balancing appraisal tariffs, which varied greatly from county to county.



Slika 3.11: Vnos popravkov kot posledica tekočega vzdrževanja se je v seznamu parcel odražal kot dodatek na koncu vezanega zvezka za vsako leto (primer k. o. 2190 Veldes – danes Bled – za leta 1917 do 1920).
(Vir: Pregledovalnik digitalnih elaboratov arhiva ZK)

Figure 3.11: The entry of corrections as a result of ongoing maintenance was reflected in the list of parcels as an addition at the end of the notebook for each year (example c. m. 2190 Veldes - today Bled - for the years 1917 to 1920).
(Source: ZK archive digital survey report viewer)



Slika 3.12: Parcelni zapisnik k. o. 1962 Depala vas – stanje leta 1900; katastrske kulture kljub uzakonjeni rabi slovenskega jezika vpisane dvojezično.
(Vir: Pregledovalnik digitalnih elaboratov arhiva ZK)

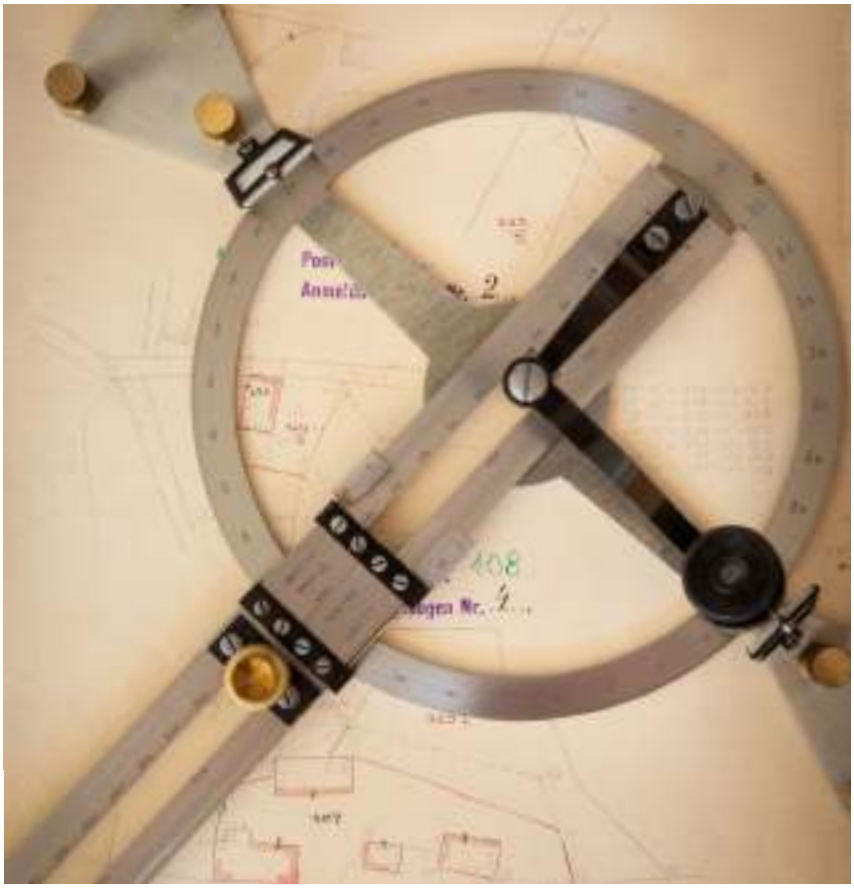
Figure 3.12: Parcel record of c. m. 1962 Depala vas – situation in 1900; cadastral cultures, despite the legality of the usage of the Slovenian language, are written bilingually.
(Source: ZK archive digital survey report viewer)

Obdobje po letu 1918

Po združitvi nekaterih slovenskih dežel v Kraljevino Jugoslavijo leta 1918 se je zemljiški kataster vzdrževal, zahvaljujoč že uvedeni službi. Vendar je razvoj v primerjavi z Avstrijo, s katero smo se razšli, zastajal. Jugoslavija je nastala iz različno razvitih dežel. Na območju Slovenije, Hrvaške, Bosne in Hercegovine in Vojvodine je bil izdelan avstrijski grafični zemljiški kataster z uvedeno katastrsko službo, na območju ostalih dežel (Srbije, Črne gore, Makedonije in Kosova) pa so bile v veljavi tapije, torej le popis lastništva, ki je izhajal iz turškega sistema evidentiranja zemljišč.

The period after 1918

After the unification of some Slovenian lands into the Kingdom of Yugoslavia in 1918, the land cadastre was maintained by the previously introduced service. However, its development stalled in comparison with Austria, with which we had parted ways. Yugoslavia was created from countries with various stages of development. In the area of Slovenia, Croatia, Bosnia and Herzegovina and Vojvodina, an Austrian graphic land cadastre was prepared with the introduction of a cadastral service, while in the area of other countries (Serbia, Montenegro, Macedonia and Kosovo), deeds were in force; that is, only an inventory of ownership, which was derived from the Turkish land registration system.



Slika 3.13: Primer kartiranja s pomočjo polarnega koordinatografa. Izmera terena je bila opravljena z busolnim teodolitom na preskok. Koti so merjeni v dveh krožnih legah. Odčitki za dolžine zabeleženi na skici neposredno (brez navedbe zgornje, srednje in spodnje niti), pri poševnih vizurah pripisan še vertikalni kot. Poševno izmerjene dolžine je bilo treba preračunati v horizontalne dolžine. Za to so se uporabljale posebne logaritemske tablice oz. logaritmično računalo (nem. Rechenschieber).
(Vir: Pregledovalnik digitalnih elaboratov arhiva ZK, foto Boštjan Pucelj)

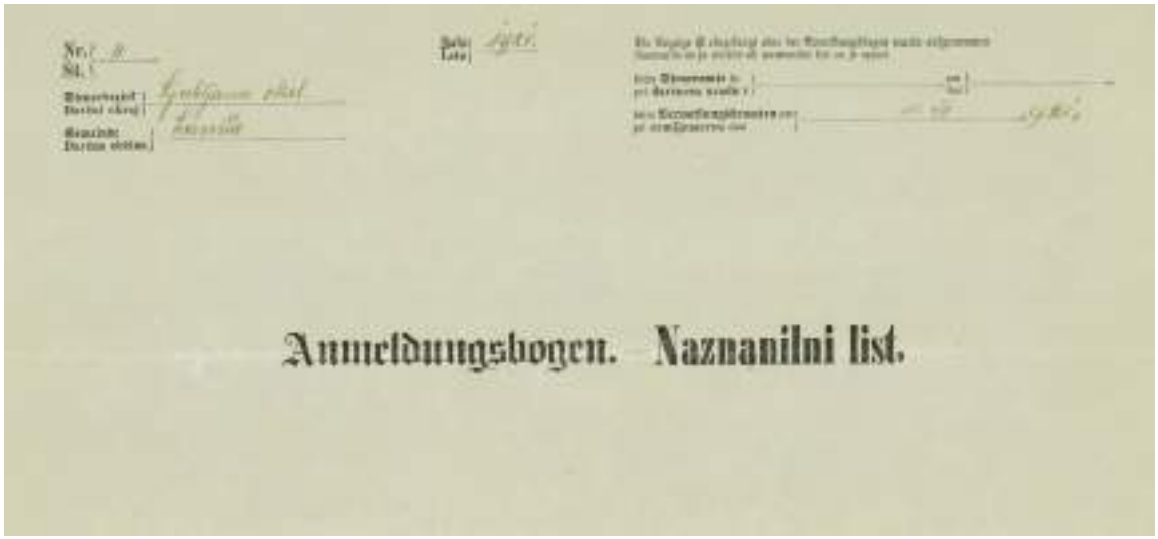
Figure 3.13: Example of mapping using a polar coordinatograph. The terrain survey was performed with a transit compass theodolite. The angles were measured in two positions on the circle. Readings for lengths were recorded directly on the sketch (without indicating the upper, middle and lower threads); in the case of oblique vistas, a vertical angle was assigned as well. The obliquely measured lengths had to be converted into horizontal lengths. For this, they used special logarithmic tables or a slide rule (Ger. Rechenschieber).
(Source: ZK archive digital survey report viewer, photo Boštjan Pucelj)

Opomba: V dokumentih iz zbirke listin Zemljiškega katastra so varovani osebni podatki zakriti
Note: Protected personal data is hidden in the land cadastre documents.

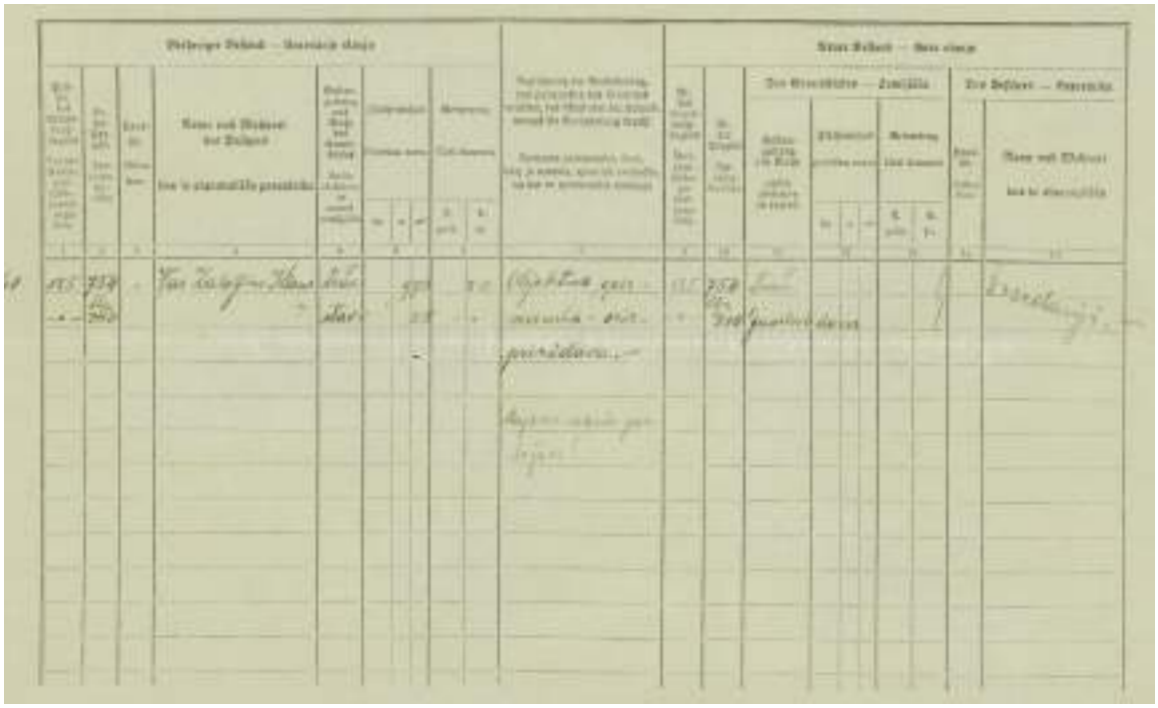
Slika 3.14: Skica izmere in primer izračuna površin.
Izračun površin se je opravil s pomočjo nitnega planimetra ali polarnega planimetra, površina objekta je bila izračunana direktno iz izmerjenih stranic objekta.
(Vir: Pregledovalnik digitalnih elaboratov arhiva ZK)

Figure 3.14: Sketch of the survey and example of calculating areas.
The calculation of the areas was performed with a thread planimeter or a polar planimeter, the area of the building was calculated directly from the measured sides of the building.
(Source: ZK archive digital survey report viewer)

Opomba: V dokumentih iz zbirke listin Zemljiškega katastra so varovani osebni podatki zakriti
Note: Protected personal data is hidden in the land cadastre documents.

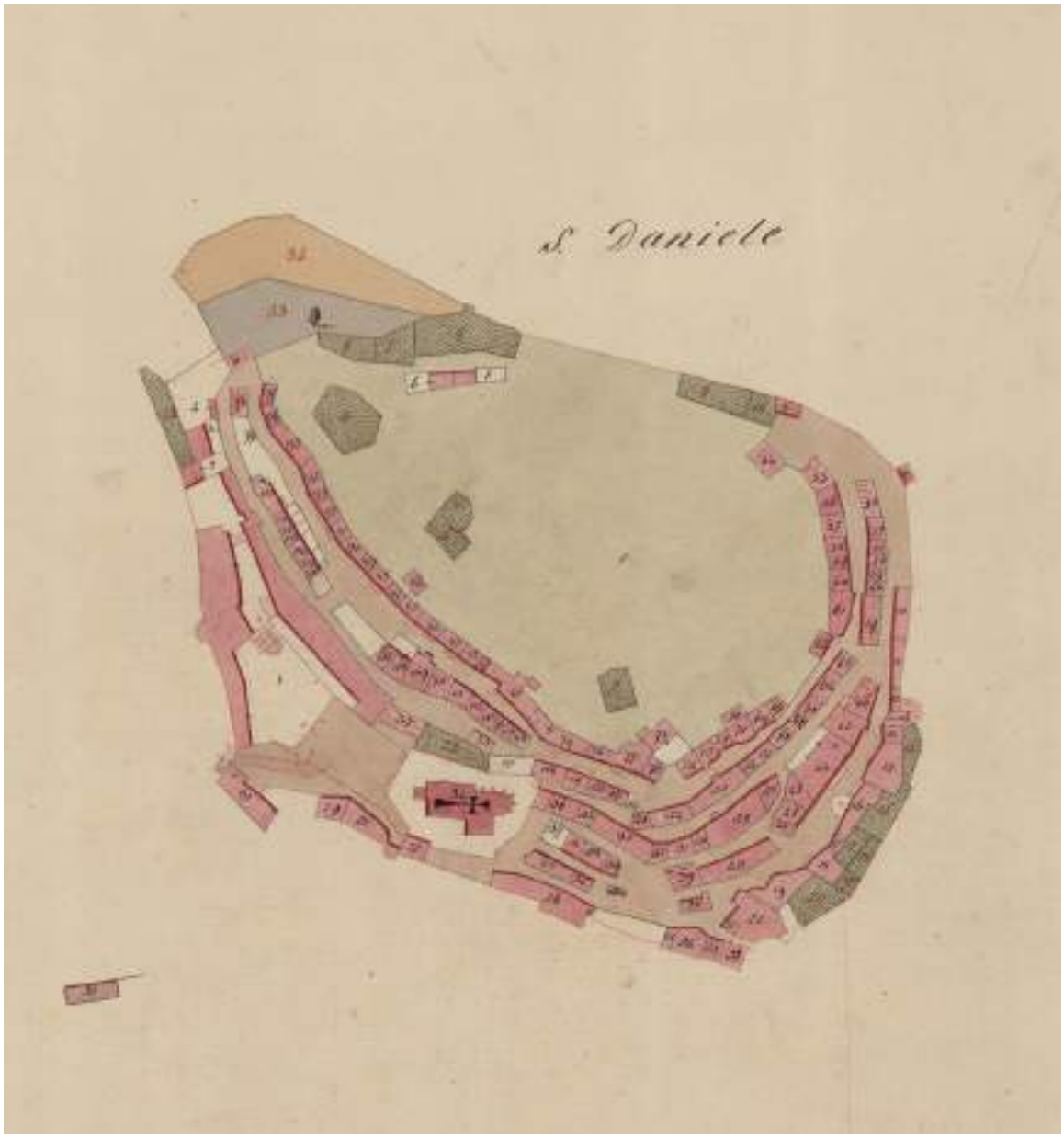


Anmeldungsbogen. Naznanilni list.



Slika 3.15: Naznanilni list je bil podlaga za izvedbo sprememb v opisnem delu zemljiškokatastrskega operata.
(Vir: Pregledovalnik digitalnih elaboratov arhiva ZK)

Figure 3.15: The notice sheet was the basis for the implementation of changes in the descriptive part of the land cadastre record.
(Source: ZK archive digital survey report viewer)



Slika 3.16: Naselje Štanjel v M 1 : 1440.
V času fašizma se je vzdrževanje katastrskih map kakor tudi vsega ostalega opisnega dela katastrskega operata izvajalo dosledno v italijanskem jeziku.
(Vir: e-ZKN Pregledovalnik arhivskih zemljiško katastrskih načrtov)

Figure 3.16: The Štanjel settlement in scale 1 : 1440.
During fascism, the maintenance of the cadastral maps and the remaining descriptive part of the cadastral record was carried out consistently in Italian.
(Source: the e-ZKN archive land cadastre map viewer)

Zakon o katastru zemljišč, ki je bil izdan leta 1929, je prevzel avstrijski sistem zemljiškega katastra in zemljiške knjige, ki je bil v velikem delu države že uveljavljen.

Za državno projekcijo je bila določena Gauss-Krügerjeva konformna projekcija, za detajlno izmero pa polarna in ortogonalna metoda. Z utemeljitvijo, da se bo zemljiški kataster uporabljal tudi za tehnične in druge namene, sta bila predpisana še višinska izmera in predstavitev reliefa. Za Slovenijo zakon ni prinesel bistvenih sprememb. Katastrska izmera se je intenzivno izvajala le na območju države brez zemljiškega katastra, tako da je bila na izmeri zunaj Slovenije zaposlena večina slovenskih strokovnjakov.

Čeprav je novi zakon predvideval revizijo katastra vsakih 10 let, je bila ta v Sloveniji opravljena le leta 1934. V Sloveniji je v tem času za vzdrževanje katastra skrbelo le 16 katastrskih uradov, v katerih je bilo zaposlenih 31 geodetov.

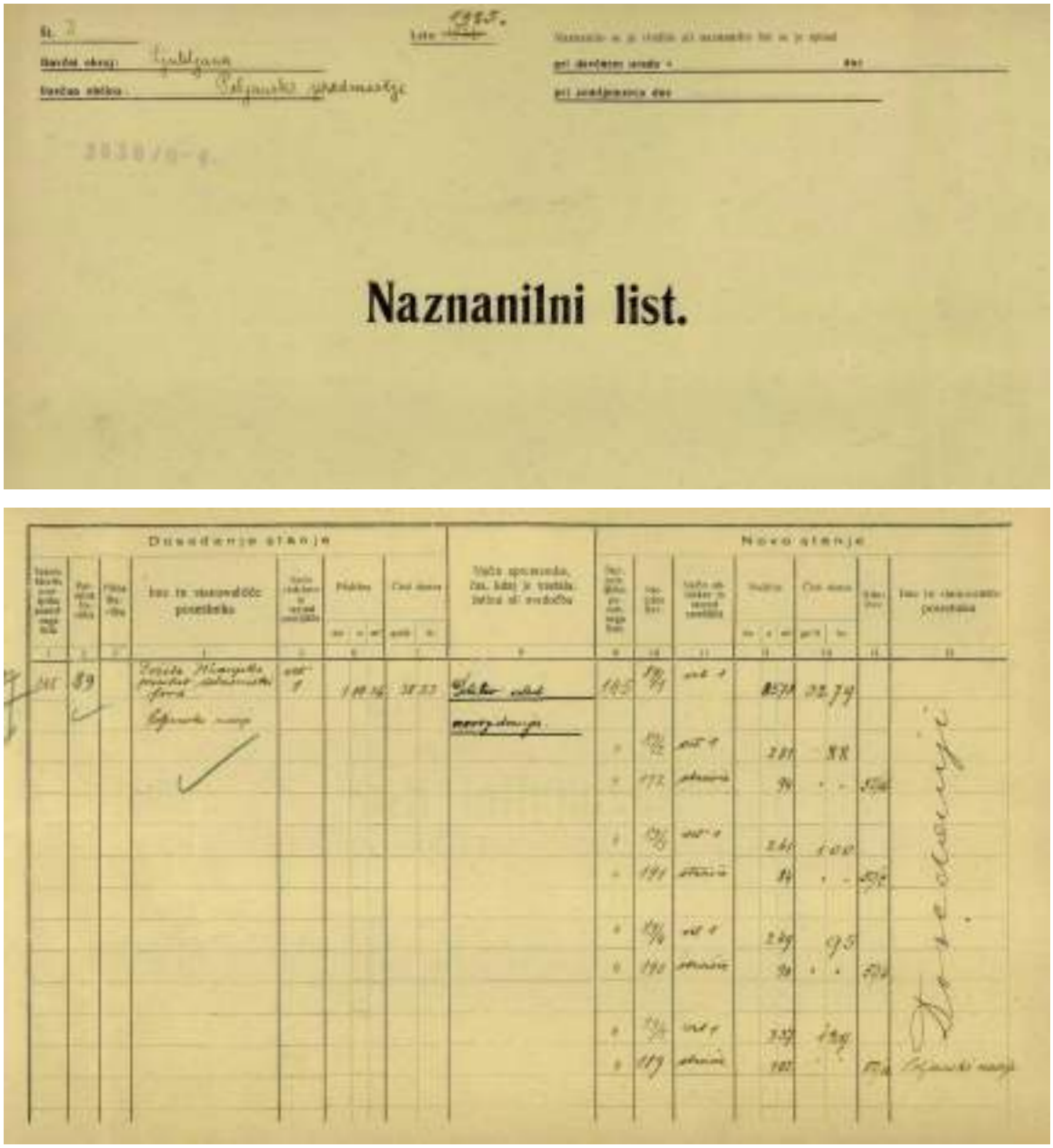
The Land Cadastre Act, issued in 1929, took over the Austrian land cadastre and land registry system, which was already in place in a large part of the country.

The Gauss-Krüger conformal projection was determined as the national projection, and detailed surveying involved the polar and orthogonal method. Height measurement and a presentation of terrain levelling were also prescribed, with the justification that the land cadastre would also be used for technical and other purposes. The act did not bring about significant changes for Slovenia. Cadastral surveying was only carried out intensively in the territories of the country that did not have a land cadastre, so most Slovenian experts were employed for surveying outside Slovenia.

Although the new act provided for a revision of the cadastre every 10 years, it was only carried out in Slovenia in 1934. At that time, there were only 16 cadastral offices in Slovenia overseeing the maintenance of the cadastre, employing 31 surveyors.

Slika 3.17: Skica ortogonalne izmere leta 1925 v k. o. 1727 Poljansko predmestje. Kartiranje nove situacije se je izvajalo neposredno na originalnem katastrskem načrtu s pomočjo koordinatografa. (Vir: Pregledovalnik digitalnih elaboratov arhiva ZK)

Figure 3.17: Sketch of an orthogonal survey in 1925 in c. m. 1727 Poljansko predmestje. The mapping of the new situation was carried out directly on the original cadastral plan using a coordinatograph. (Source: ZK archive digital survey report viewer)



Slika 3.18: Naznanilni list, izdelan leta 1925 za potrebe popravkov v vseh delih katastrskega operata.
(Vir: Pregledovalnik digitalnih elaboratov arhiva ZK)

Figure 3.18: Notice sheet, produced in 1925 for the needs of corrections in all parts of the cadastral record.
(Source: ZK archive digital survey report viewer)

Na podlagi Zakona o katastru zemljišč je bilo v dveh letih izdanih sedem pravilnikov. Za Slovenijo je pomemben Pravilnik za vzdrževanje katastra v občinah, ki je bil izdan januarja 1930. Izmera se je morala obvezno navezati na državno trigonometrično ali nivelmansko mrežo. Iz katastrske izmere naj bi izhajala nadaljnja topografska in kartografska izmera.

Based on the Land Cadastre Act, seven regulations were issued in two years. Of importance for Slovenia are the Rules for the maintenance of the cadastre in municipalities, issued in January 1930. The survey had to be linked to the national trigonometric or levelling network. The cadastral survey was supposed to be the basis for further topographic and cartographic surveys.

Na predlog Vladimirja Globočnika pl. Sorodolskega – slovenskega pravnika (leta 1910 je na finančnem ministrstvu na Dunaju postal generalni direktor službe za odmero davka na osnovi zemljiškega katastra), je bivša Avstrija leta 1909 začela izvajati triangulacijska dela, kjer je bila podlaga Gaussova konformna projekcija. Z uvedbo Gaussove projekcije so triangulacijska dela dobila solidno matematično in kartografsko osnovo.

At the suggestion of Slovenian lawyer Vladimir Globočnik pl. Sorodolski (who in 1910 became Director-General of the Land Cadastre Tax Office at the Ministry of Finance in Vienna), the former Austria commenced triangulation work in 1909 based on the Gauss Conformal Projection. With the introduction of the Gauss projection, the triangulation works were given a solid mathematical and cartographic basis.

Posamezne določbe so izrecno govorile o vertikalni predstavitvi terena in o njegovi nadaljnji uporabi za potrebe državne uprave in gospodarstva.

Individual provisions explicitly mention the vertical presentation of the terrain and its further use for the needs of the state administration and the economy.

Slika 3.19: Primer kartiranja detajla, izmerjenega po ortogonalni metodi (za kartiranje se je uporabljal koordinatograf oz. čemus).
(Vir: e-ZKN Pregledovalnik arhivskih zemljiško katastrskih načrtov, foto Boštjan Pucelj)

Figure 3.19: Example of mapping a detail measured using the orthogonal method (a coordinatograph or »čemus« was used for the mapping).
(Source: the e-ZKN archive land cadastre map viewer, photo Boštjan Pucelj)

Slika 3.20: Izsek iz skice izmere po ortogonalni metodi.
(Vir: Arhiv GURS, OGU Novo mesto)

Figure 3.20: Excerpt from a survey sketch using the orthogonal method.
(Source: The SMARS archive, OGU Novo mesto)

Opomba: V dokumentih iz zbirke listin Zemljiškega katastra so varovani osebni podatki zakriti
Note: Protected personal data is hidden in the land cadastre documents.

Obdobje po letu 1930

Vzdrževanje zemljiškega katastra se je delilo na tri vrste sprememb, ki so se uvedle v operat zemljiškega katastra in zemljiško knjigo z naznanilnim listom. Pravilnik o vzdrževanju zemljiškega katastra je vse vrste sprememb, ki so nastale na zemljišču, razdelil na tri skupine:

- spremembe, ki se dokončno izvedejo v katastrskem operatu,
- spremembe, ki se dokončno izvedejo samo v pisnem delu operata, niso pa predmet vrisa v katastrske načrte, in
- spremembe, ki se samo začasno zaznamujejo le v posameznih delih pisnega dela operata.

The period after 1930

The maintenance of the land cadastre included three types of changes being introduced in the land cadastre record and the land register via a notice sheet. The Rules on the Maintenance of the Land Cadastre divided all types of changes that had occurred on the land into three groups:

- changes that are finally implemented in the cadastral record,
- changes that are only finalized in the written part of the record, but are not subject to entry in the cadastral plans, and
- changes that are only temporarily marked in individual parts of the written part of the record.

Slika 3.21: Naznanilni list v k. o. 1727 Poljansko predmestje št. 10/35. Ugotovljene spremembe se dokončno izvedejo samo v pisnem delu operata, niso pa predmet vrisa v katastrske načrte.
(Vir: Pregledovalnik digitalnih elaboratov arhiva ZK)

Figure 3.21: Notice sheet in c. m. 1727 Poljansko predmestje no. 10/35. The identified changes are only finalized in the written part of the record, but are not subject to entry in the cadastral plans.
(Source: ZK archive digital survey report viewer)

Spremembe v prvi skupini

V vseh delih katastrskega operata so se dokončno izvajale naslednje spremembe na zemljiščih.

a) Spremembe v mejah katastrske občine kot posledica:

- odcepitve dela katastrske občine in priključitve tega dela k sosednji katastrski občini,
- delitve katastrske občine na dve ali več novih katastrskih občin,
- združitve dveh ali več katastrskih občin v eno,
- poprave občinske meje,
- poprave meje v katastrskem načrtu, katere vzrok je napačna izmera ali kartiranje.

b) Spremembe v površini parcele:

- kadar se je parcela delila na več delov,
- kadar se je del parcele, ki ni dobil svoje parcelne številke, priključil sosednji parceli, zaradi spojitve dveh parcel enake kulture in razreda ter istega posestnika v eno parcelo, toda pod pogojem, da sta obe prvotni parceli vpisani v istem zemljiškoknjižnem vložku,
- zaradi ureditve posestne meje s sosednjo parcelo na podlagi pogodbe, medsebojnega sporazuma ali po sodni poravnavi,
- zaradi poprave napake pri prvotni izmeri, pri napačnem kartiranju ali računanju površin,
- ker se je na delu parcele spremenila obdelovalna vrsta, je dobil ta del svojo parcelno številko ali pa se je nova meja vrisala v katastrske načrte in se je del pripojil prvotni parceli brez posebne številčne označbe,
- zaradi izmere nove stavbe s stalnim ali spremenljivim dvoriščem,
- zaradi izmere novih cest in poti, železniških prog, kanalov ter drugih vodnih zgradb in
- zaradi črtanja porušenih stavb.

Changes in the first group

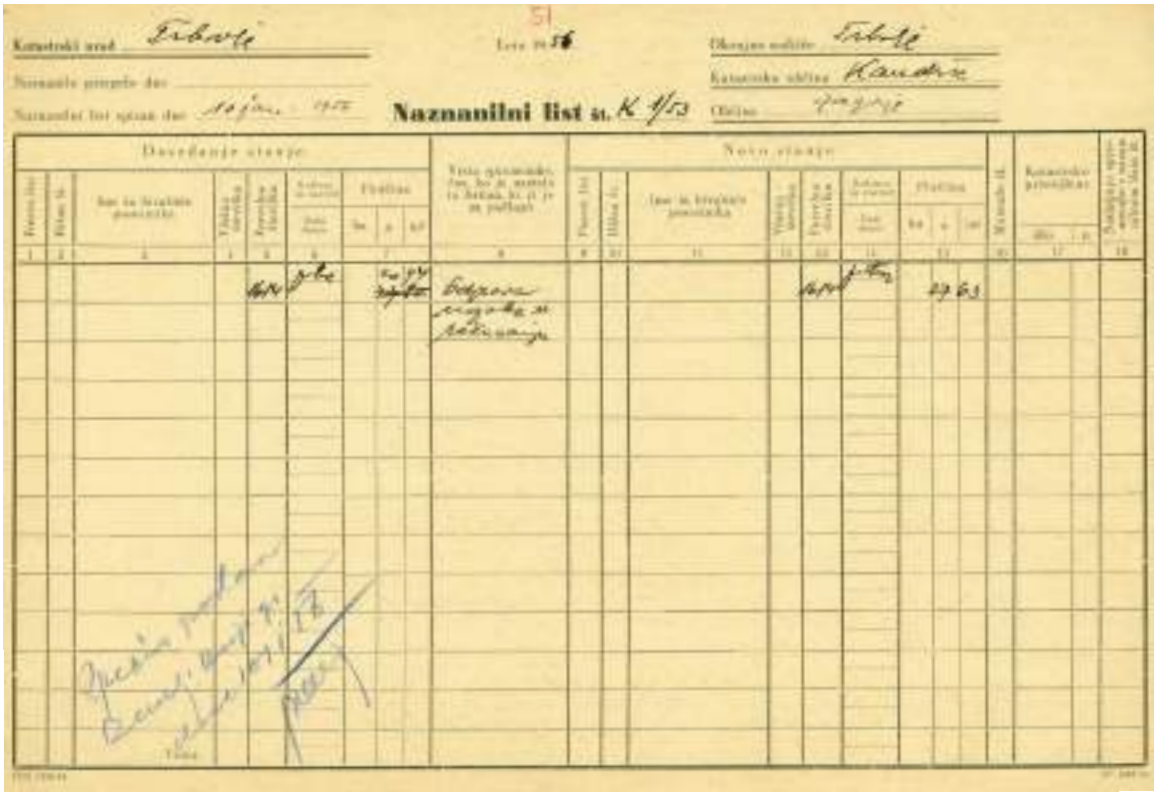
The following land changes were finalized in all parts of the cadastral record.

a) Changes within the borders of the cadastral municipality as a result of:

- the secession of part of the cadastral municipality and the connection of this part to a neighbouring cadastral municipality,
- the division of a cadastral municipality into two or more new cadastral municipalities,
- the merging of two or more cadastral municipalities into one,
- municipal border corrections,
- border corrections in the cadastral plan caused by incorrect surveying or mapping.

b) Changes in the parcel area:

- when the parcel has been divided into several parts,
- when a part of a parcel that did not receive its parcel number was joined to a neighbouring parcel, due to the merging of two parcels of the same culture and class and the same owner into one parcel, but provided that both original parcels were contained in the same land registry entry,
- due to the arrangement of the property border with the adjacent parcel on the basis of a contract, mutual agreement or court settlement,
- due to the correction of an error in the original survey, incorrect mapping or calculation of areas,
- when the cultivated crop has been changed on a parcel part, the part is given its parcel number or the new border is drawn in the cadastral plans and the part is annexed to the original parcel without a specific numerical designation,
- due to a survey of a new building with a permanent or variable yard,
- due to a survey of new roads and paths, railways, canals and other water structures, and
- due to the deletion of demolished buildings.

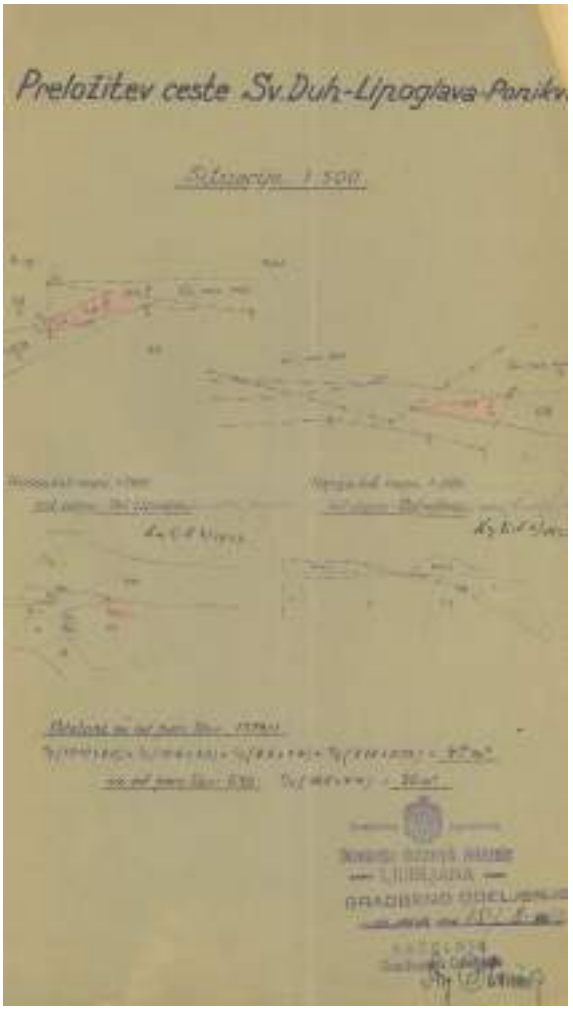


Slika 3.22: Naznanilni list, s katerim se odpravlja napaka v izračunu površine. (Vir: Pregledovalnik digitalnih elaboratov arhiva ZK)

Figure 3.22: Notice sheet eliminating an error in the calculation of the area. (Source: ZK archive digital survey report viewer)

Spremembe prve skupine so se dokončno izvedle v vsem katastrskem operatu, torej v katastrskih načrtih in v pisnem delu operata.

The changes in the first group were ultimately implemented in the entire cadastral record, i.e. both in the cadastral plans and in the written part of the record.



Sliki 3.23: Parcelacija zemljišča za potrebe južne železnice in poprave zarisa (preložitev) ceste v k. o. 1118 Lipoglav. V obeh primerih je bila izmera opravljena le z odmerjanjem dolžin – površina parcele se je skonstruirala iz površin virtualno oblikovanih pravokotnih trikotnikov (P = osnovnica x višina/2).
(Vir: Pregledovalnik digitalnih elaboratov arhiva ZK)

Figures 3.23: Parcel allocation for the needs of the southern railway and correction of the outline (transfer) of the road in c. m. 1118 Lipoglav. In both cases, the survey was only performed by measuring lengths - the parcel area was constructed from surfaces of virtually shaped right-angle triangles (P = base x height/2).
(Source: ZK archive digital survey report viewer)

Slika 3.24: Primer konstruiranja izmerjenega detajla s pomočjo nanašalnih trikotnikov in izris novega stanja s pomočjo grafos peresa.
(Vir: e-ZKN Pregledovalnik arhivskih zemljiško katastrskih načrtov, foto Boštjan Pucelj)

Figure 3.24: An example of constructing a survey detail using precision plotting triangles and drawing the new situation with a graphos nib pen.
(Source: the e-ZKN archive land cadastre map viewer, photo Boštjan Pucelj)

Spremembe v drugi skupini

V pisnem delu katastrskega operata so se za stalno izvedle spremembe:

- kadar se je prepisala cela parcela, več parcel ali celo posestvo enega posestnika na drugega,
- kadar se je spremenil priimek, ime ali bivališče posestnika,
- kadar se je spremenil naziv vasi, naselja, mesta, ali so se preimenovale ulice, trgi in hišne številke,
- če so bili osebni podatki posestnika v katastrskem operatu prvotno napačno vpisani, se je napaka odpravila,
- zaradi napačnega vpisa kulture ali razreda,
- sprememba v katastrskem dohodku.

Za spremembe v katastrskem dohodku se je štelo, če se je na celi parceli spremenila kultura, če je zemljišče zaradi posebne uporabe trajno oproščeno davka na dohodek od zemljišča ali pa, če je zemljišče zaradi izredne elementarne nezgode postalo trajno nesposobno za poljedelstvo.

Changes in the second group

Permanent changes in the written part of the cadastral record were made:

- when the whole parcel, several parcels or the whole property of one owner was transferred to another,
- when the surname, first name or residence of an owner has changed,
- when the name of a village, settlement, town, street, square or house number has been changed,
- if the personal data of an owner was initially entered incorrectly in the cadastral record, the error was corrected,
- due to incorrect entry of culture or class,
- due to a change in cadastral income.

Changes in cadastral income included cases where the culture of the whole parcel changed, where the land was permanently exempt from income tax due to special use, or where the land became permanently unsuitable for farming due to a natural disaster.

Slika 3.25: Naznanilni list iz leta 1927 k. o. 2354 Gorenja Kanomlja.
Spremembe v katastrskem operatu se izvedejo le v opisnem delu, in sicer se spremenijo kulture in katastrski razredi.
(Vir: Pregledovalnik digitalnih elaboratov arhiva ZK)

Figure 3.25: Notice sheet of c. m. 2354 Gorenja Kanomlja from 1927.
Changes in the cadastral record are only made in the descriptive part, namely the cultures and cadastral classes are changed.
(Source: ZK archive digital survey report viewer)

Opomba: V dokumentih iz zbirke listin Zemljiškega katastra so varovani osebni podatki zakriti
Note: Protected personal data is hidden in the land cadastre documents.

Spremembe v tretji skupini

Začasno in le v nekaterih delih katastrskega operata pa sta se izvedli začasna oprostitev davka na dohodek od zemljišč (novo zgrajeni vinogradi, sadovnjaki in podobno) in oprostitev davka na dohodek od zemljišča, ki je zaradi elementarne nesreče postalo nesposobno za obdelavo za več kot eno leto, a ne za zmeraj (danes po Zakonu o množičnem vrednotenju nepremičnin – ZMVN take primere obravnavamo kot posebne okoliščine)

Pri terenskih meritvah je bilo treba vsako novo določeno katastrsko točko (mejnik) izmeriti s polarno ali ortogonalno metodo. Poleg katastrske izmere novega stanja je moralo biti izmerjeno tudi večje število t. i. priklepnih točk obstoječega stanja. Katastrska izmera se je zaradi zadostnega števila ustreznih priklepnih točk morala razširiti na takšen obseg, da se je sama izmera nedvoumno ujemala s katastrskim načrtom. Zato so pravilno lego mejnikov večkrat preverili z ročnim odmerjanjem od bližnjih katastrskih točk. Teoretično so sicer zadoščale tri takšne točke.

Obnova posestnih mej je bila povezana z vzdrževanjem mej in se je izvedla le v primerih, ko so le-te postale nepoznane ali sporne. Obnova se je lahko izvedla, če sta v ta postopek privolila oba sosednja lastnika in če so bili katastrski načrti zanesljivi.

Katastrska meritev, ki je povzročila vzdrževanje katastrskega operata, je bila lahko:

- zemljiška delitev (parcelacija),
- poprava katastrskega zarisa (ureditev meje),
- objektna sprememba (vris nove stavbe, tudi izbris) ali
- kulturna sprememba (sprememba vrste rabe).

Vsaka katastrska meritev je morala biti opravljena vsaj z natančnostjo, ki odgovarja natančnosti prvotne ali nove izmere kakor tudi natančnosti izdelave načrtov. Natančnost načrtov se je razlikovala od katastrske občine do katastrske občine. Zato je katastrska izmera morala obsegati izmero cele parcele ali skupino sosednjih parcel in se ni smela omejiti zgolj na določen odcepljeni del parcele. Vsako spremembo je bilo treba izmeriti in vrisati v katastrski načrt tako, da se načrt ni samo dopolnil, ampak v najbližji okolici tudi popravil.

Changes in the third group

A temporary exemption from the land income tax (newly built vineyards, orchards, etc.) and exemption from income tax on land that has become incapable of cultivation for more than a year due to a natural disaster, but not permanently (today, under the Real Property Mass Valuation Act - ZMVN, such cases are treated as special circumstances) were implemented temporarily and only in some parts of the cadastral record.

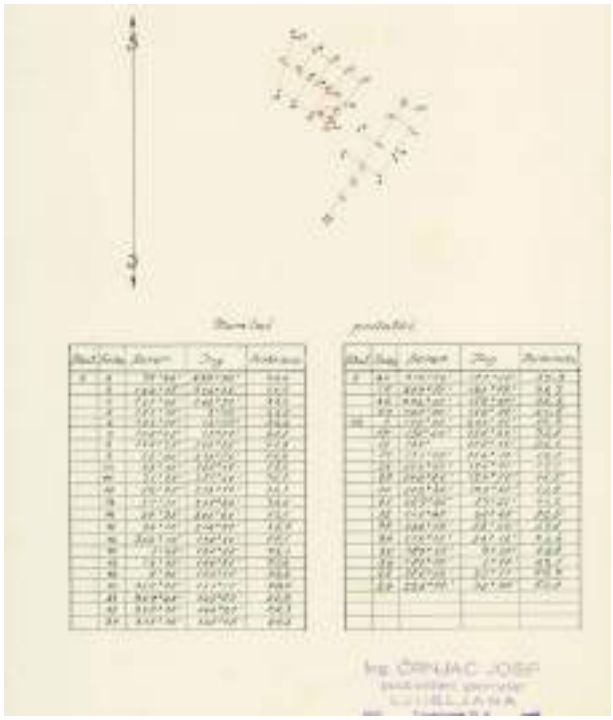
In field measurements, each newly determined cadastral point (border stone) had to be measured using the polar or orthogonal method. In addition to the cadastral survey of the new situation, a larger number of reference points of the existing situation in the field had to be measured. Due to the sufficient number of relevant reference points, the cadastral survey had to be extended so that the survey itself unambiguously corresponded to the cadastral plan. Therefore, the correct position of the border stones was manually checked several times by surveying from nearby cadastral points. In theory, three such points were sufficient.

Restoration of property borders was related to the maintenance of borders and was carried out only in cases when they became unknown or disputed. The restoration could be carried out if both neighbouring owners agreed to this procedure and if the cadastral plans were reliable.

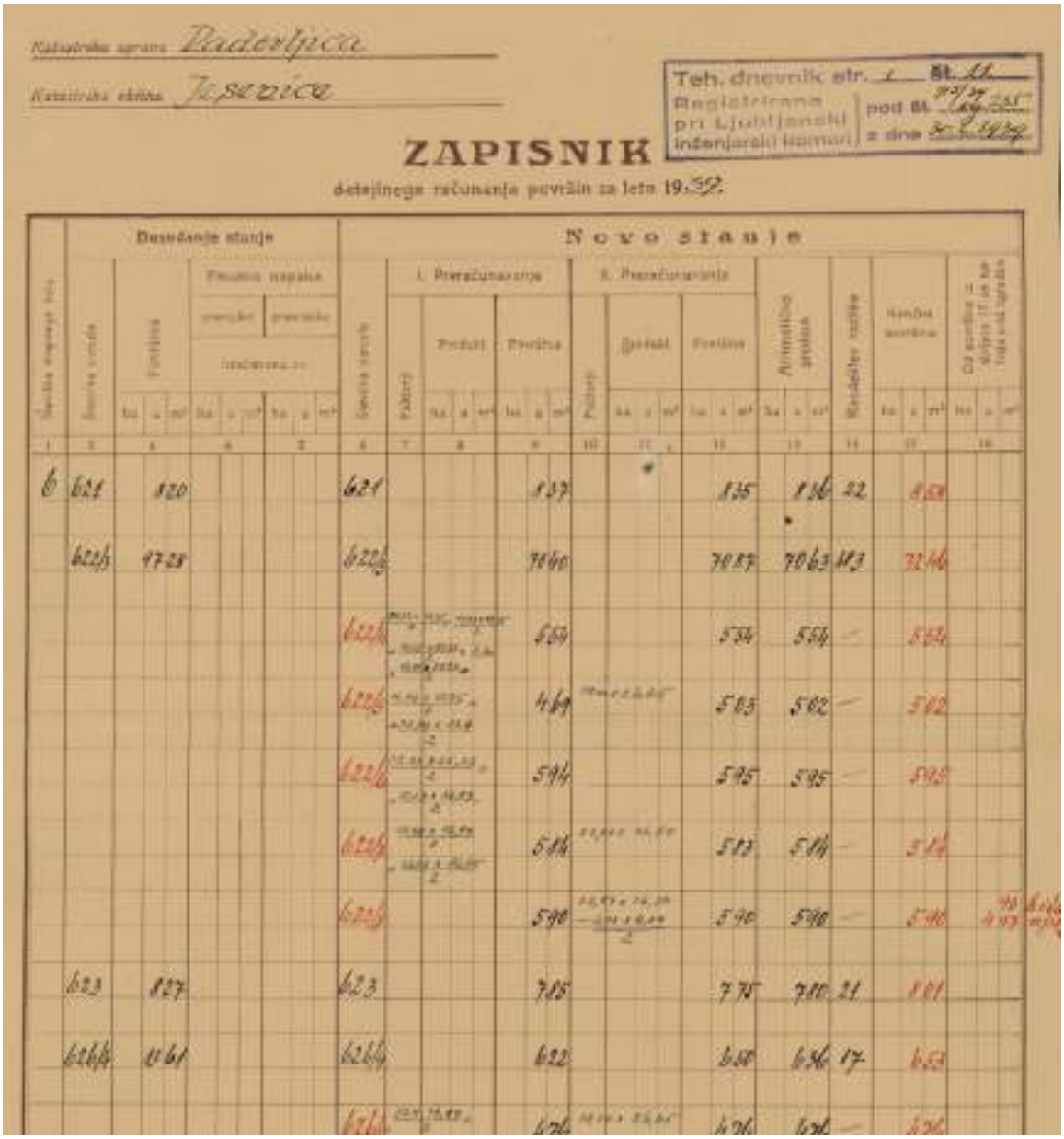
A cadastral measurement that would lead to the maintenance of the cadastral record could be:

- division of land (parcel allocation),
- correction of the cadastral outline (border regulation),
- object change (drawing a new building or deletion), or
- culture change (change of type of use).

Each cadastral measurement had to be performed with at least a precision corresponding to the precision of the original or new measurements, as well as the precision of plan production. The precision of the plans varied among cadastral municipalities. Therefore, the cadastral survey had to include the measurement of the whole parcel or a group of adjacent parcels and could not be limited to a specific detached part of the parcel. Each change had to be surveyed and plotted in the cadastral plan so that not only was the plan supplemented, but also the immediate vicinity was corrected.



Opomba: V dokumentih iz zbirke listin Zemljiškega katastra so varovani osebni podatki zakriti
Note: Protected personal data is hidden in the land cadastre documents.



Slika 3.26: Parcelacija v k. o. 2175 Jesenice leta 1939 za potrebe stavbnih parcel. Elaborat izmere vsebuje skico, delilni načrt, tahimetrični zapisnik, kartiranje in izračun površin.
(Vir: Pregledovalnik digitalnih elaboratov arhiva ZK)

Figure 3.26: Parcel allocation in c. m. 2175 Jesenice in 1939 for the needs of building parcels. The survey report includes a sketch, the division plan, the tachymetric record, the mapping, and the calculation of areas.
(Source: ZK archive digital survey report viewer)

Slika 3.27: Garnitura risarskega pribora. Izdelki, narisani na predhodni sliki, so izdelani s pomočjo pribora, ki je vseboval: nastavljivo tehnično šestilo, ničelno šestilo, pero za izrisovanje različne debeline črt (izvlačilec), natančno (nanašalno) šestilo za odmerjanje in grafos pero (v garnituri manjka). Šele v začetku 70. let 20. stoletja so se na trgu pojavili rapidografi (priprava, tehnično podobna nalivnemu peresu za pisanje, risanje s tušem).
(Fotografija: Janez Slak)

Figure 3.27: A set of drawing accessories. The products shown in the previous figure were produced using the following accessories: an adjustable technical compass, a zero compass, a pen for drawing lines of various thicknesses (extractor), a precision compass and a graphos pen (missing from the set) . It was not until the early 1970s that rapidographs (a device technically similar to a fountain pen for writing and drawing with ink) appeared on the market.
(Photo: Janez Slak)

Obdobje po letu 1945

Dopis Ministrstva za finance LRS, oddelek za kataster Ministrstvu za Finance LRS, obči oddelek. Ljubljana, 22. oktober 1945

Oddelek za kataster je posredoval problematiko o delu oddelka. Med najvažnejšimi nalogami so:

- *vrnitev katastrskih map, indikacijskih skic, posestnih listov, parcelnih zapisnikov, alfabetičnih in numeričnih imenikov posestnikov, vsotnikov posestnih listin in razredni sestav, ki jih je odpeljal okupator,*
- *obnovitev celotnega katastrskega operata bivših sodnih okrajev Kočevje, Ribnica in Velike Lašče,*
- *obnovitev pisnega dela katastrskega operata za več katastrskih občin Prekmurja, ki je bil med vojno uničen,*
- *vzpostavitev prenosov lastništva posesti, ki jo je izvedel okupator v korist Reichsgauov Koroška, Štajerska,*
- *izvedba agrarne reforme,*
- *komasacija krajevnih območij (za odcepljene dele katastrskih občin bo treba izdelati nov katastrski operat),*
- *organiziranje katastrskih oddelkov na Primorskem.*

(Vir: AS, Min. fin. LRS, 1945, spis 1506/3)

The period after 1945

Letter from the Ministry of Finance of the People's Republic of Slovenia, cadastre department, to the Ministry of Finance of the People's Republic of Slovenia, general department. Ljubljana, 22 October 1945

The cadastre department would submit issues on its work. The most important tasks include:

- *the return of cadastral maps, field cadastral plans, possession sheets, parcel records, alphabetical and numerical directories of owners, summaries of possession documents and class compositions, taken by the occupier,*
- *restoration of the entire cadastral record of the former judicial districts of Kočevje, Ribnica and Velike Lašče,*
- *restoration of the written part of the cadastral record for several cadastral municipalities in Prekmurje, which was destroyed during the war,*
- *the establishment of transfers of ownership of land, performed by the occupier in favour of the Reichsgaus of Carinthia, Styria,*
- *implementation of agrarian reform,*
- *land consolidation of local areas (a new cadastral record will have to be produced for the detached parts of cadastral municipalities),*
- *organizing cadastral departments in the Primorska region.*

(Source: AS, LRS Fin. Min., 1945, file 1506/3)

Za lažje razumevanje alineje iz zgornjega dopisa »-vzpostavitev prenosov lastništva posesti, ki jo je izvedel okupator v korist Reichsgauov Koroška, Štajerska« je pojasnilo spodaj.

Dežela Koroška, kot jo poznamo danes, je bila v času druge svetovne vojne zelo razširjena. Ob vzpostavitvi nemške okupacijske oblasti in po določitvi dokončnih mej med Nemčijo, Madžarsko in Kraljevino Italijo, so se tudi ozemlja pod nemško oblastjo vključila v sistem nemških Gauov, ki so bili teritorialno pokriti z nekdanjimi avstrijskimi deželnimi mejami v prvi Republiki Avstriji. Ti Gaui so bili srednja stopnja državne oblasti med centralno vlado s Hitlerjem na čelu v Berlinu in med občinami z občinskimi komisarji na koncu oblastne strukture. Vsaka dežela oziroma Gau se je delila naprej na okrožja, katera so nastala tudi na slovenskem zasedenem ozemlju. Tako je bila h Gau Štajerska priključena skoraj celotna spodnja Štajerska in sedem vasi v Prekmurju. H Gau Koroška so priključili preostanek ozemlja, ki je pripadel Nemčiji. To je bila zgornja Kranjska oziroma Gorenjska z Zasavjem in Mežiška dolina z Dravogradom, kot del nekdanje Avstro-Ogrske dežele Koroške. Vendar teh, h Koroški priključenih ozemelj, še niso v celoti vključili v deželo Koroško, ampak so za njih izoblikovali posebno civilno upravo, in sicer podobno, kot je bila v Alzaciji, Loreni in Luksemburgu.

Politični komisar je imel popolno oblast, ki je bila primerljiva s tisto, ki jo je imel in izvrševal šef civilne uprave na zasedenih območjih in je bil tudi njemu osebno odgovoren, če ni izpolnil nalog, ki jih je dobil od šefa civilne uprave. Tako so mu bila podrejena področja pravosodja, financ, urad za delo, urad za kataster, bolniška blagajna, prehrambeni urad, pošta, železnice, ...

Nadalje je nemška oblast ob začetku okupacije zasegla in zaplenila vse premoženje, premično in nepremično, ki je bilo v lasti ljudi ali pravnih oseb, ki so bili sovražni nemškemu narodu in nemški državi. V tej odredbi, ki je bila izdana 24. 4. 1941, je zabeleženo, da se mora zapleniti vse omenjeno premoženje v korist nemške države preko Urada državnega komisarja za utrjevanje Nemštva. Premoženje, ki je bilo zaplenjeno v korist gaulajterske uprave Gau Kärnten/Koroška in Gau Steiermark/Štajerska, je obsegalo: premoženje države Kraljevine Jugoslavije, premoženje nekdanje krone, cerkve, premoženje religioznega fonda, premoženje Judov in banovinsko premoženje v korist gaulaiterske uprave Gau Kärnten/Koroška in Gau Steiermark/Štajerska.

(Vir: Skitek V., 2009, Delovanje nacističnega režima med drugo svetovno vojno na slovenskem Koroškem)

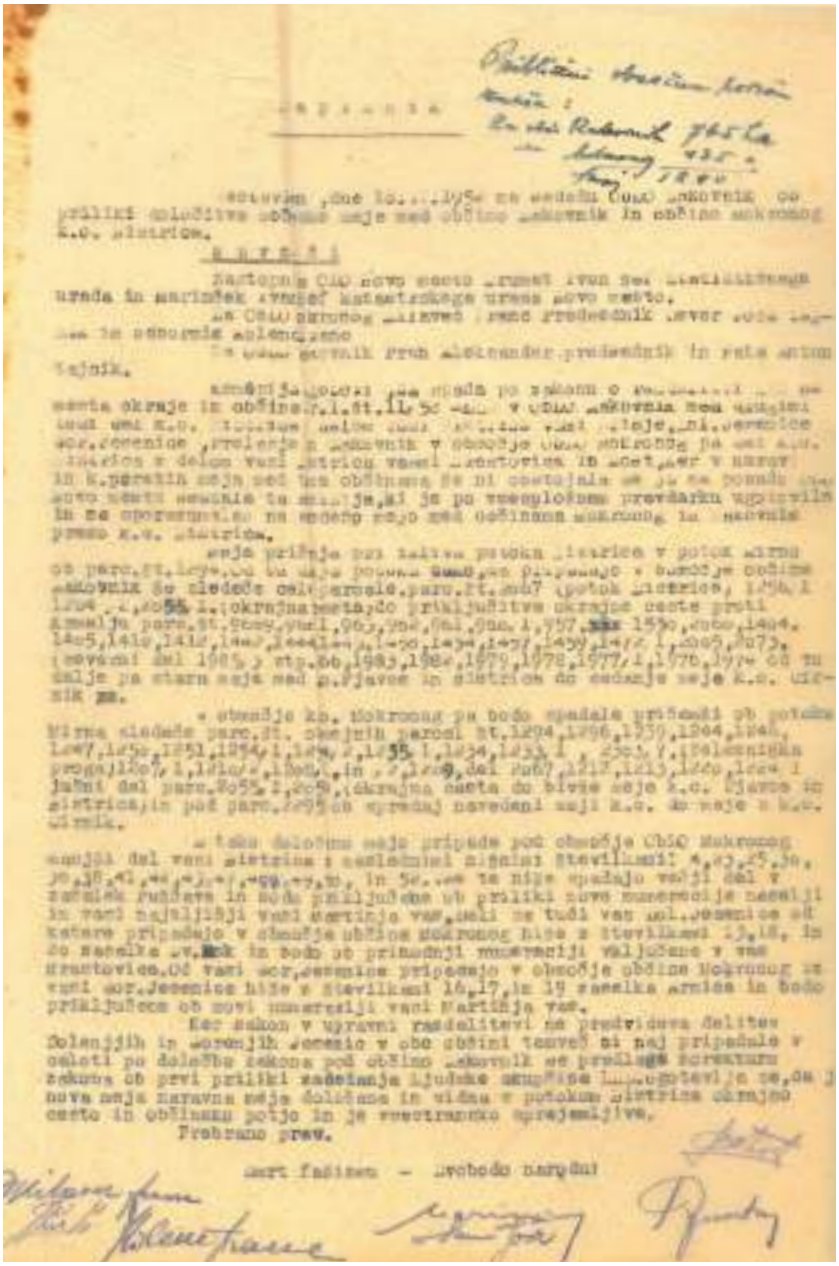
For easier understanding of the indent from the above letter »-establishment of transfers of ownership of property carried out by the occupier in favour of the Reichsgaus of Carinthia, Styria«, see the explanation below.

The land of Carinthia as we know it today was very extensive during the Second World War. With the establishment of the German occupation authority and the determination of the final borders between Germany, Hungary and the Kingdom of Italy, the territories under German rule also became part of the German Gau system, which was territorially covered by the former Austrian provincial border system from the first Republic of Austria. These Gaue were the middle level of state power in between the central government led by Hitler in Berlin and the municipalities with municipal commissioners at the bottom of the power structure. Each province or Gau was further divided into districts, which were also formed in the occupied Slovenian territory. Thus, almost the whole of Lower Styria and seven villages in Prekmurje were annexed to the Štajerska Gau. The rest of the territory belonging to Germany was annexed to the Koroška Gau. These were the upper Carniola or Gorenjska with Zasavje and the Mežica valley with Dravograd, as part of the former Austro-Hungarian land of Carinthia. However, these territories annexed to Carinthia had not yet been fully integrated into the province of Carinthia, but a special civil administration was formed, similar to that in Alsace, Lorraine and Luxembourg.

The political commissioner had complete authority, comparable to that held and exercised by the head of the civil administration in the occupied territories, to whom the former was also personally responsible in the case of failing the assigned tasks. Thus, the areas of justice, finance, labour office, cadastre office, health care funds, food office, post office, railways, ... were all subject to this title.

Furthermore, at the beginning of the occupation, the German authorities seized and confiscated all property, movable and immovable, owned by people or legal entities that were hostile to the German nation and the German state. This order, issued on 24 April 1941, states that all the said property must be confiscated in favour of the German state through the Reich Commissioner for the Consolidation of German Nationhood. The property confiscated in favour of the Gau Kärnten/Koroška (i. e. Carinthia) and Gau Steiermark/Štajerska (i.e. Styria) administration included: the property of the Kingdom of Yugoslavia, the property of the former crown, the Church, religious fund property, Jewish property and Banovina property, in favour of the Gau Kärnten/Koroška and Gau Steiermark/Štajerska administration.

(Source: Skitek V., 2009, Delovanje nacističnega režima med drugo svetovno vojno na slovenskem Koroškem)



Slika 3.28: Zapisnik o določitvi občinske meje med občino Mokronog in Rakovnik iz leta 1952.
(Vir: Arhiv GURS)

Figure 3.28: Record on the determination of the municipal border between the municipality of Mokronog and Rakovnik from 1952.
(Source: The SMARS archive)

Slika 3.29: Izsek iz katastrskega načrta k. o. 1398 Bistrica z vrisano mejo med občinama Mokronog in Rakovnik. Zemljiškokatastrski načrti so bili predmet vzdrževanja tudi zaradi ustanavljanja novih občin. V večini primerov je meja med novo nastalimi občinami potekala po parcelnih mejah, so bile pa situacije, ko je bilo potrebno izvesti delitev parcele (predvsem dolžinskih objektov) in posledično popraviti tudi opisne podatke v katastrskih elaboratih.
(Vir: e-ZKN Pregledovalnik arhivskih zemljiško katastrskih načrtov)

Figure 3.29: Excerpt from the cadastral plan of c. m. 1398 Bistrica with a border drawn between the municipalities of Mokronog and Rakovnik. Land cadastral plans were also subject to maintenance due to the establishment of new municipalities. In most cases, the border between newly formed municipalities ran along parcel borders, but there were situations when it was necessary to divide the parcel (especially longitudinal structures) and consequently correct the descriptive data in the cadastral report.
(Source: the e-ZKN archive land cadastre map viewer)

Spremembe družbe, koncepta razvoja kmetijstva in lastninsko preoblikovanje po letu 1945 so postavili vprašanje o potrebi zemljiškega katastra kot evidence zemljišč po lastništvu. Že leta 1946 je bila opuščena obdavčitev zemljišč na podlagi katastrskega dohodka. V takih razmerah se je kakovost vzdrževanja zniževala. Tudi uredba o ureditvi katastrske službe ni veliko spremenila stanja na tem področju. Uveljavilo se je pravilo iz območij države, kjer zemljiški kataster ni bil uveljavljen ali je bil zanemarjen, da se je v zemljiški kataster vpisal posestnik, ugotovljen pri vzdrževanju

Changes in society and the concept of agricultural development, as well as ownership transformation after 1945, raised the issue of the need for a land cadastre as a record of land ownership. Land taxation on the basis of cadastral income was abolished as early as 1946. These circumstances caused the quality of maintenance to deteriorate. The regulation on the organization of the cadastral service did not do much to change the situation in this field. The accepted rule, which emerged from areas of the state where the land cadastre was not enforced or was

na terenu, in ne lastnik na podlagi dokumenta zemljiške knjige. Posledica tega pravila je bila vse večja neskladnost zemljiškega katastra in zemljiške knjige. Sčasoma se je že v nekaj letih pokazalo, da je urejena evidenca zemljišč in podatkov o zemljiščih državi potrebna.

neglected, was that the owner identified in the field maintenance was entered in the land cadastre, and not the owner from the land registry document. This rule resulted in increasing inconsistency between the land cadastre and the land registry. Eventually, within a few years, it became clear that the state needed a regulated land registry and data on land.

Slika 3.30: Merjenje (ugotavljanje) skrčka papirja. Za vsak detajlni list se je na določeno časovno obdobje ugotavljal skrček. Za ugotovitev skrčka so se uporabljala posebna merila, ki so imela na razdelbi za vsako palčno oznako prikaz skrčka v odstotkih. (Vir: e-ZKN Pregledovalnik arhivskih zemljiško katastrskih načrtov, foto Boštjan Pucelj)

Figure 3.30: Measuring (identifying) paper shrinkage. Over certain periods of time, each detail sheet would be inspected for shrinkage. Special measuring tools were used to determine the shrinkage, which had a percentage value of the shrinkage noted at each inch mark. (Source: the e-ZKN archive land cadastre map viewer, photo Boštjan Pucelj)

Leta 1952 je bila ponovno uveljavljena obdavčitev zemljišč na podlagi katastrskega dohodka, ki se je prvič izvedla leta 1954. Podlaga za to je bila Uredba o zemljiškem katastru (Ur. l. FLRJ, št. 43/53), ki je v bistvu prvi zakon o zemljiškem katastru po II. svetovni vojni.

In 1952, land taxation on the basis of cadastral income was reintroduced, and it was first performed in 1954. The basis for this was the Decree on the Land Cadastre (Official Gazette of the FPRY, No. 43/53), which is essentially the first act on the land cadastre after the Second World War.

Dolenjski list je 20. novembra 1953 objavil pod naslovom « Kdaj bodo kmetje plačevali davek po katastrskem dohodku?« tole novico:

Vse od 1. januarja naprej. Zato pa imajo na katastrskem uradu v Novem mestu te dni toliko dela kot še nikoli doslej. Osrednji katastrski uradi v Ljubljani zahtevajo, naj novomeški katastrski urad čim preje izračuna katastrski dohodek vsakega posameznika, na podlagi tega dohodka pa še dohodek vseh gospodarstev. Poleg tega je tudi treba vsa gospodarstva razvrstiti po kategorijah, da bodo v bodoče pravilno obremenjena z davki. Katastrski urad v Novem mestu je do 4. novembra najel že 75 honorarnih moči, ki izračunavajo katastrski dohodek v dinarjih. Tako je treba spremeniti vse goldinarje in krajcarje, ki so v letu 1896 izražali katastrski dohodek za posamezna posestva v dinarje, da bo lahko vsakdo s posestnega lista sam razbral, koliko katastrskega dohodka ima posestvo v dinarjih. Navajamo nekaj številk, s katerimi izračunavajo na katastrskem uradu dohodke. Novomeški okraj je na primer razdeljen v dve cenilni področji. Prvo zajema ravninske predele v okraju, a drugo višje ležeče kraje.

Vsa zemlja je razdeljena po kakovosti zemljišča na 8 razredov. Tako je treba računati za vsak razred posebej koliko ima dohodka v dinarjih. Poglejmo kako se izračunava katastrski dohodek v novomeškem okraju za niže ravninske predele! Vsak goldinar dohodka, ki so ga dale v stari Avstriji njive pomnožimo s 3060 dinarji in vidimo, koliko dohodka nam daje njiva v današnji valuti. Za vinograde je katastrski količnik znatno višji. Goldinarje je treba pomnožiti s 6200 din, kar nam da katastrski dohodek izražen v dinarjih. En krajcer dohodka v vinogradih je torej zdaj 62 din. Pri gozdu naletimo spet na druge številke; goldinarje pomnožimo s 1200 din, a dohodek, ki so ga dali nekoč travniki in pašniki, izraženi v goldinarjih, s 1560 dinarji. Goldinarje, ki jih je dala sadjereja pa spet z 2560 dinarji. Že v poletju je Katastrski urad v Novem mestu s honorarnimi močmi očistil vse katastrske listine in spise napak. V novembru pa naj bi novomeški, šoštanjski in ljutomerski okraj prvi izračunali katastrske dohodke v dinarjih. Nova davčna odmera, odmera po katastrskem dohodku bo mnogo pravičnejša, kakor je bila odmera po dohodkih. Vsi kmetje je že težko pričakujejo, saj jih bo pravilno obremenila, toda le če so v predvojnih in povojnih letih sproti javljali na katastrskem uradu vse spremembe na zemljiščih. Prizadeti bodo posestniki, ki so zanemarili vinograde in tega niso javili, saj je za vinograde predviden zelo visok katastrski dohodek. Zato pripravlja Katastrski urad v Novem mestu za drugo leto revizijo katastra predvsem v vinogradniških legah. Okraj bo preskrbel dovolj geometrov in dovolj administrativnih moči, ki bodo drugo leto vsaj delno opravile to revizijo.

On 20 November 1953, Dolenjski list published this news article under the title "When will farmers pay tax on cadastral income?":

From January 1st onwards. That is also why the cadastral office in Novo mesto is seeing a lot of work these days. The central cadastral offices in Ljubljana demand that the Novo mesto cadastral office calculate the cadastral income of each individual as soon as possible, and on the basis of this income, also calculate the income of all holdings. In addition, all holdings need to be categorized in order to be properly taxed in the future. By November 4th, the cadastral office in Novo mesto had hired 75 part-time staff to calculate cadastral income in dinars. Thus it is necessary to convert all florin and kreuzer values, which in 1896 represented the cadastral income for individual estates, into dinars, so that it becomes apparent from the possession sheet how much cadastral income each estate has in dinars. Here are some numbers used to calculate income at the cadastral office. The Novo mesto district, for example, is divided into two valuation areas. The first covers the flat areas in the district, and the second covers the higher altitude areas.

All land is divided into 8 classes according to its quality. Thus, it is necessary to separately calculate how much income each class has in dinars. Let's see how the cadastral income is calculated in the Novo mesto district for the lower areas! Each goldinar of the income generated by the fields in old Austria is multiplied by 3060 dinars, giving us the amount of income of the field in the present currency. For vineyards, the cadastral quotient is significantly higher. Goldinars must be multiplied by 6,200, giving us the cadastral income expressed in dinars. One kreuzer of income from vineyards is now therefore 62 din. Woods are subject to different numbers altogether; goldinars are multiplied by 1200 dinars, but the income previously generated by meadows and pastures is multiplied by 1560 dinars. The goldinar values generated by fruit growing are multiplied by 2560 dinars. Already during the summer, the cadastral office in Novo mesto eliminated all errors from the cadastral documents and files. In November, the districts of Novo mesto, Šoštanj and Ljutomer are expected to be the first to calculate cadastral revenues in dinars. The new tax assessment according to cadastral income will be much fairer than the income assessment. The farmers are already eager to see it implemented, as it will burden them correctly, but only if they had reported all changes in the lands to the cadastral office in the pre-war and post-war years. Owners who neglected their vineyards and did not report this will be affected, as a very high cadastral income is expected for vineyards. Therefore, the cadastral office in Novo mesto is preparing a revision of the cadastre for next year, mainly in wine-growing areas. The district will provide enough surveyors and administrative power to carry out this audit, at least in part, next year.

Da ne bo kdo izmed posestnikov moral po nepotrebnem na sodišče, bomo navedli nekaj odločb, objavljenih v uradnem listu, ki imajo namen doseči, da bo davek po katastrskem donosu res pravilno odmerjen. Da bi bile izmeritve točne, morajo lastniki in posestni organi, ki upravljajo državno zemljo, pred vsako izmeritvijo omejičiti in z vidnimi mejniki iz naravnega ali umetnega kamna označiti meje. Vsak, kdor bo uničil mejna znamenja in mejnike, bo kaznovan z denarno kaznijo do 100.000 din ali zaporno do 30 dni. Če posestnik na zahtevo katastrske uprave ne omejiči zemljišča in povzroči s tem napačno merjenje, mora povrniti vso škodo in stroške, ki zaradi tega nastanejo. Vsakemu lastniku zemljišča mora biti jasno, kako velik pomen ima odmera davka po katastrskih dohodkih, zato se naj brezpogojno v vseh vprašanjih, ki zadevajo razmejitve in kategorizacijo zemljišča brez upiranja ravna po navodilih katastrskih uradov in katastrskih organov.

(Vir: Dolenjski list, 1953, Kdaj bodo kmetje plačevali davek po katastrskem dohodku?)

In order to prevent unnecessary court procedures for the owners, we will list some decisions published in the Official Gazette, which are intended to ensure that the taxation from cadastral return is assessed correctly. In order for the surveys to be accurate, the owners and possessory bodies that manage the state land must delimit and mark the borders with visible border stones made of natural or artificial stone before each survey. Anyone who destroys border signs and border stones will be fined up to 100,000 dinars or imprisoned for up to 30 days. If a landowner does not delimit the land at the request of the cadastral administration and thus causes an incorrect measurement, they must reimburse all damages and costs incurred as a result. It must be clear to every landowner how important the assessment of tax on cadastral income is, so the instructions of the cadastral offices and cadastral authorities should be followed without objection in all matters concerning the delimitation and categorization of land.

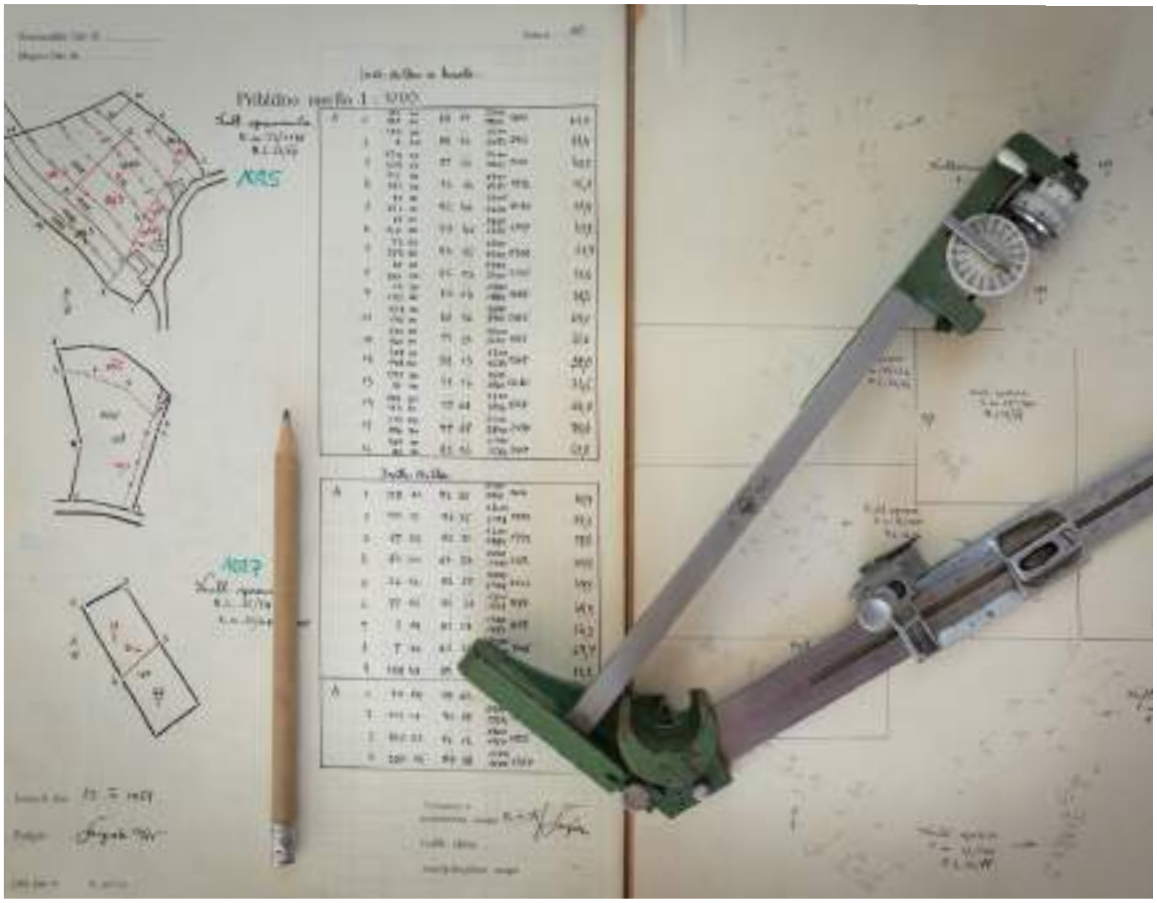
(Source: Dolenjski list, 1953, When will farmers pay tax on cadastral income?)

Slika 3.31: Preračun katastrskega dohodka iz goldinarjev v dinarje. Preračun se je opravljal z mehanskimi računskimi stroji, tako imenovanimi mlinčki (pozneje celo z računskimi stroji, katerih mehanizem je bil prožen s pomočjo električnih impulzov). Da je bilo to mukotrpno delo, pove podatek, da je samo Katastrski urad v Novem mestu za te potrebe najel 75 honorarnih delavcev. So pa k tej nalogi prvi v Sloveniji pristopili prav v novomeškem, šoštanjskem in ljutomerskem okraju. (Vir: Pregledovalnik digitalnih elaboratov arhiva ZK, foto Boštjan Pucelj)

Figure 3.31: Conversion of cadastral income from goldinars to dinars. The conversion was performed using mechanical calculating machines, so-called »mlinčki« (mills) (later on, even with calculating machines powered by electrical impulses). The difficulty of such work can be seen from the fact that the cadastral office in Novo mesto hired 75 part-time workers for this task alone. They were the first in Slovenia to approach this task in the districts of Novo mesto, Šoštanj and Ljutomer. (Source: ZK archive digital survey report viewer, photo Boštjan Pucelj)

Zaradi vse večje neusklajenosti katastrske evidence kultur in razredov s stanjem v naravi je bilo treba opraviti revizijo kultur. Revizija je pomenila uskladitev katastrskih podatkov vrst rabe zemljišč s stanjem v naravi. V primeru kmetijskih zemljišč je bila izvedena katastrska klasifikacija zemljišč (uvrščanje zemljišč v katastrske kulture in v katastrske razrede ter njihovo evidentiranje v zemljiško katastrskem operatu).

Due to the growing inconsistency between the cadastral records of cultures and classes and the situation in nature, it was necessary to conduct an audit of cultures. The audit included the harmonization of cadastral data on land use types with the situation in nature. In the case of agricultural land, a cadastral classification of land was carried out (classification of land into cadastral cultures and cadastral classes and their registration in the land cadastral record).



Slika 3.32: Skica izmere na območju izvajanja revizije vrst rabe zemljišč (več skic skupaj, spetih v posebnem zvezku) in primer kartiranja s polarnim koordinatografom. (Vir: Pregledovalnik digitalnih elaboratov arhiva ZK, foto Boštjan Pucelj)

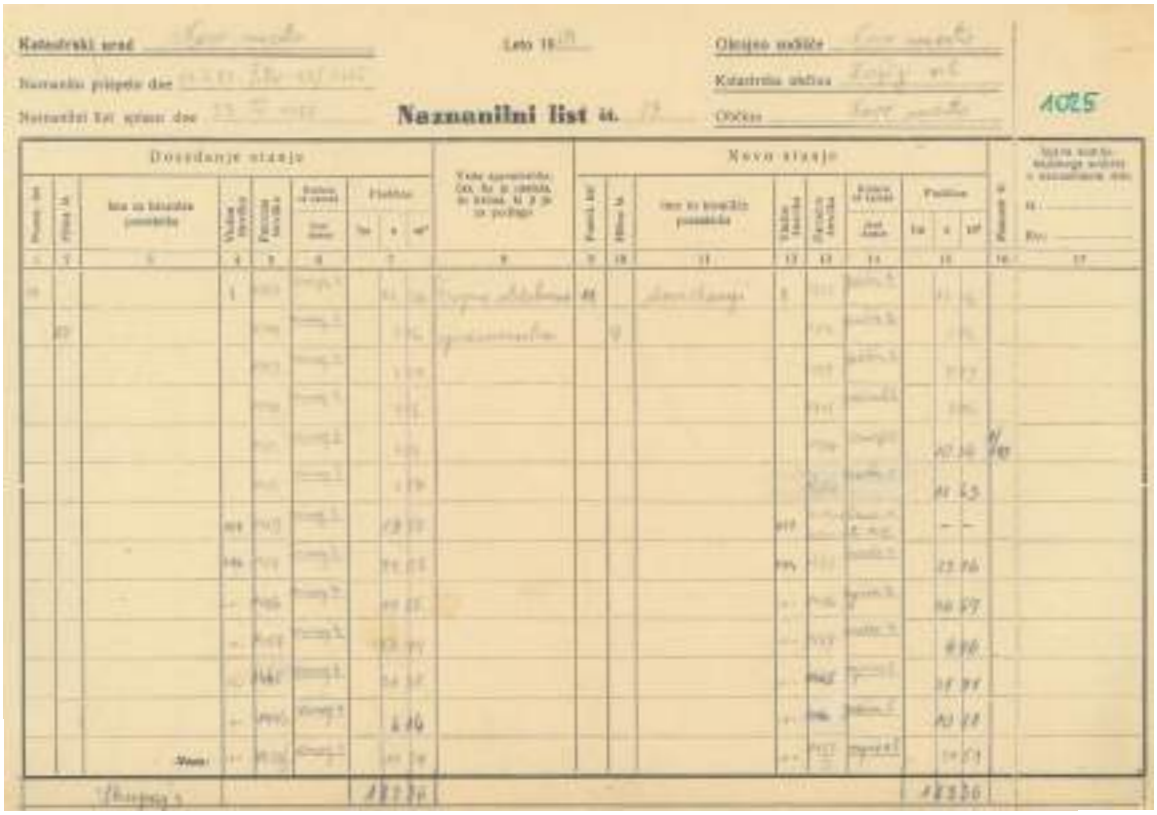
Figure 3.32: A sketch of the survey in the area of the land use audit (several sketches together, bound in a separate notebook) and an example of mapping with a polar coordinatograph.
(Source: ZK archive digital survey report viewer, photo Boštjan Pucelj)

Opomba: V dokumentih iz zbirke listin Zemljiškega katastra so varovani osebni podatki zakriti
Note: Protected personal data is hidden in the land cadastre documents.

Slika 3.33: Primer izračuna površin s polarnim planimetrom.
(Vir Pregledovalnik digitalnih elaboratov arhiva ZK, foto Boštjan Pucelj)

Figure 3.33: Example of calculating areas with a polar planimeter.
(Source ZK archive digital survey report viewer, photo Boštjan Pucelj)

Opomba: V dokumentih iz zbirke listin Zemljiškega katastra so varovani osebni podatki zakriti
Note: Protected personal data is hidden in the land cadastre documents.



Katastrski urad

Leto 19

Okrajno sodišče

Naznanilo prispelo dne

Katastrska občina

Naznanilni list št.

Občina

1025

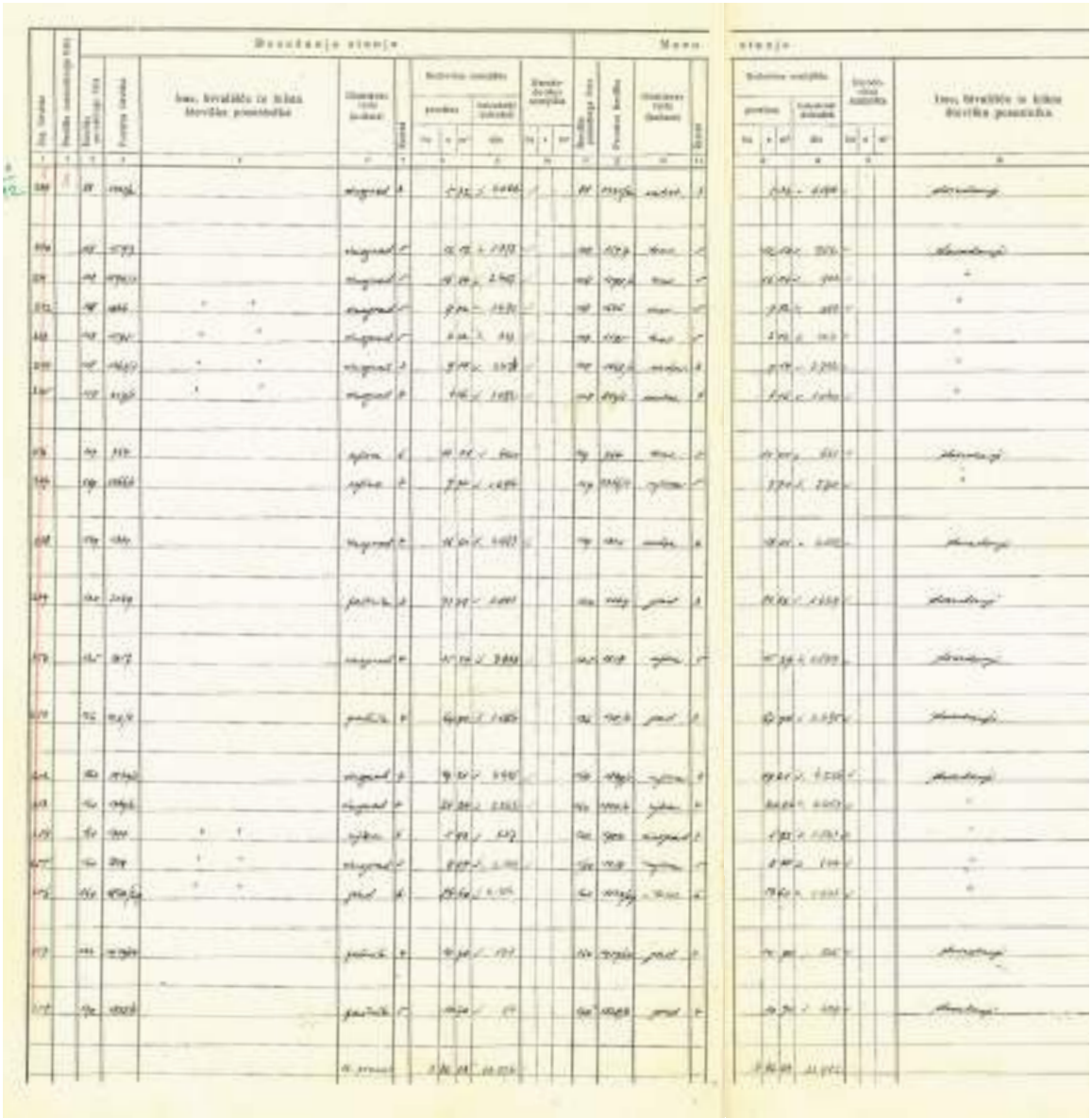
Dosedanje stanje

Novo stanje

Slika 3.34: Naznanilni list, izdelan na podlagi revizije vrst rabe zemljišč, kot posledica visokega katastrskega dohodka od vinogradov. Meritve je Dolenji list za Katastrski urad Novo mesto napovedal v svojem članku 20. novembra 1953. V tem članku so bili lastniki tudi obveščeni na dolžno ravnanje, predvsem tisti, »ki so zanemarili vinograde in tega niso javili«.
(Vir: Pregledovalnik digitalnih elaboratov arhiva ZK)

Figure 3.34: Notice sheet produced on the basis of an audit of land use types as a result of high cadastral income from vineyards. The measurements were announced by Dolenji list for the Novo mesto cadastral office in an article on 20 November 1953. In this article, the owners were also informed about the due course of action, especially those »who had neglected the vineyards and did not report it«.
(Source: ZK archive digital survey report viewer)

Opomba: V dokumentih iz zbirke listin Zemljiškega katastra so varovani osebni podatki zakriti
Note: Protected personal data is hidden in the land cadastre documents.



Slika 3.35: Izkaz sprememb je bil izdelan za vsako katastrsko občino ob zaključku leta. Izkaz sprememb je vseboval vse spremembe tekočega leta in služil za izvedbo nadaljnje računalniške obdelave (popravki v parcelnem zapisniku, izdelava novih posestnih listov ...), ki so jih za večino katastrskih uradov opravile zunanje institucije – Statistični urad SRS in Geodetski zavod SRS.
(Vir: Pregledovalnik digitalnih elaboratov arhiva ZK)

Figure 3.35: A statement of changes was prepared for each cadastral municipality at the end of the year. The statement of changes contained all changes from the current year and was used for further computer processing (corrections in the parcel record, the production of new possession sheets ...) performed by external institutions for most cadastral offices – the Statistical Bureau of Slovenia and the Geodetic Survey of Slovenia.
(Source: ZK archive digital survey report viewer)

Opomba: V dokumentih iz zbirke listin Zemljiškega katastra so varovani osebni podatki zakriti
Note: Protected personal data is hidden in the land cadastre documents.

Razpored katastrskega dohodka je vključeval vsa zemljišča enega lastnika. Kasneje je razpored katastrskega dohodka zamenjal zbirni list posestva oz. gospodinjski list. Na njem so bili zbrani podatki o vseh nepremičninah enega gospodinjstva in njegovih članov. Zbirni list je vseboval vse posestne liste in površine po kulturah.

Glavne naloge zemljiškega katastra so postale, kar se tiče lastništva, dosledna povezava z zemljiško knjigo, obdavčitev dohodkov od zemljišč ter uporaba zemljiškega katastra za tehnične, ekonomske in statistične zadeve. Vse geodetske izmere so po tej uredbi morale biti opravljene na način, da so se lahko podatki uporabili tudi za vzdrževanje ali obnovo zemljiškega katastra. Vse izmere so morale vsebovati tudi katastrsko izmero in biti izdelane tako, da se je prikazal horizontalni in višinski prikaz območja izmere.

The cadastral income schedule included all land of one owner. Later, the schedule of cadastral income was replaced by the consolidated possession sheet or the household sheet. This sheet included data on all real estate of one household and its members. The consolidated sheet contained all possession sheets and areas by cultures.

In terms of ownership, the main tasks of the land cadastre became consistent connection with the land registry data, taxation of land income and the use of the land cadastre for technical, economic and statistical matters. Under to this regulation, all geodetic surveys had to be performed in such a way that the data could also be used for the maintenance or renewal of the land cadastre. All surveys had to include a cadastral survey and be produced in such a way that they showed a horizontal and elevation display of the survey area.

Slika 3.36: Načrt katastrske izmere z višinskim prikazom terena (za izris izohips se je uporabljala rasnolka oz. kozja noga).
(Vir e-ZKN Pregledovalnik arhivskih zemljiško katastrskih načrtov, foto Boštjan Pucelj)

Figure 3.36: Cadastral survey plan with a display of the terrain elevation (a »rasnolka« or "goat's foot" was used to draw the contours).
(Source: the e-ZKN archive land cadastre map viewer, photo Boštjan Pucelj)

V katastrskih evidencah so se takoj po drugi svetovni vojni za vsa zemljišča vodili podatki o:

- lastnini v zasebni lasti,
- splošnem ljudskem premoženju (t. i. družbeni lastnini), ki je bila v lasti občinskih ljudskih odborov in gozdnega gospodarstva,
- agrarnih skupnostih (vaške gmajne),
- nerodovitnosti zemljišč,
- vodah, cestah in poteh,
- železnicah,
- kmetijskih zadrugah in kmetijskih posestvih in
- zemljiščih in stavbah, oddanih v najem ali prodanih privatnim lastnikom za obdobje 99 let.

Pri vzdrževanju zemljiškega katastra v povojnem obdobju pa so pomembne tudi nove katastrske izmere, ki so se izvajale v Prekmurju in na Kočevskem, predvsem pa na območjih mest in večjih naselij. Z novimi katastrskimi oziroma katastrsko topografskimi načrti je bilo tako v preteklem stoletju prekrite približno 30 % površine Slovenije, stanje se do danes ni občutno izboljšalo.

In the period after the Second World War, cadastral records kept data for all lands on:

- privately owned property,
- general public property (so-called social property) owned by the municipal public committees and the forestry industry,
- agrarian communities (village communities),
- land infertility,
- waters, roads and paths,
- railways,
- agricultural cooperatives and agricultural holdings, and
- land and buildings leased or sold to private owners for a period of 99 years.

Of particular importance in the maintenance of the land cadastre in the post-war period were new cadastral surveys, which were carried out in Prekmurje and the Kočevje region, and especially in the areas of towns and larger settlements. The new cadastral or cadastral-topographical plans thus covered approximately 30% of Slovenia's surface area in the past century, and the situation has not significantly improved to date.

Slika 3.37: Izsek iz katastrsko-topografskega načrta k. o. 2630 Piran. Kljub temu da so bile nove izmere v določenih obdobjih obogatene z višinsko predstavo, pa ta vsebina ob tekočem vzdrževanju zemljiškega katastra ni bila deležna vzdrževanja. (Vir: e-ZKN Pregledovalnik arhivskih zemljiško katastrskih načrtov)

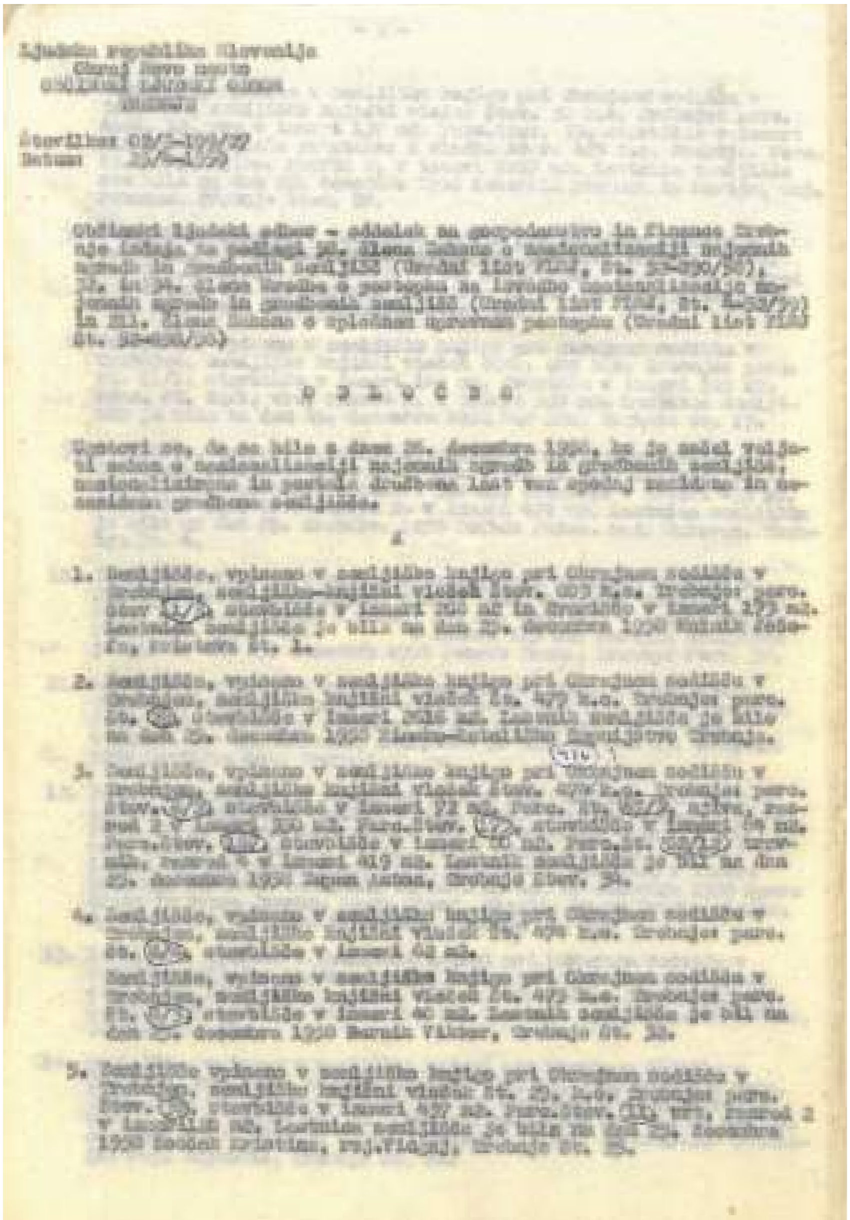
Figure 3.37: Excerpt from the cadastral-topographic plan of c. m. 2630 Piran. Despite the fact that the new surveys were enriched with an elevation display in certain periods, this content was not maintained during the course of the current maintenance of the land cadastre.
(Source: the e-ZKN archive land cadastre map viewer)

Leta slabega vzdrževanja in veliko sprememb v strukturi parcelnega stanja in lastništva so bili vzrok za nepreglednost splošnega družbenega premoženja. Namesto da bi omogočili ureditev obstoječe evidence zemljiškega katastra z že organizirano službo vzdrževanja zemljiških evidenc, je Odlok o uvedbi evidence nepremičnin splošnega ljudskega premoženja (Ur. l. LRS, št. 46/57) leta 1957 uvedel novo evidenco. Navodilo k odloku je celo zahtevalo grafični prikaz zemljišč na katastrskem načrtu. Evidenca je bila pomanjkljivo vzpostavljena, le v nekaterih občinah se je pravzaprav vzpostavila in ni imela nikoli uradne veljave, saj za to ni bilo osnovnih pogojev.

Od leta 1956 do 1962 je potekala izpeljava odločb nacionalizacije in arondacije (Ur. l. SFRJ 58-428/47). Nacionalizacija ali podržavljenje je predstavljala prevzem zasebne lastnine (zemljišča, objektov) s strani države in je pomenila spremembo zasebnih, zlasti proizvajalnih sredstev in podjetij v državno oz. družbeno lastnino.

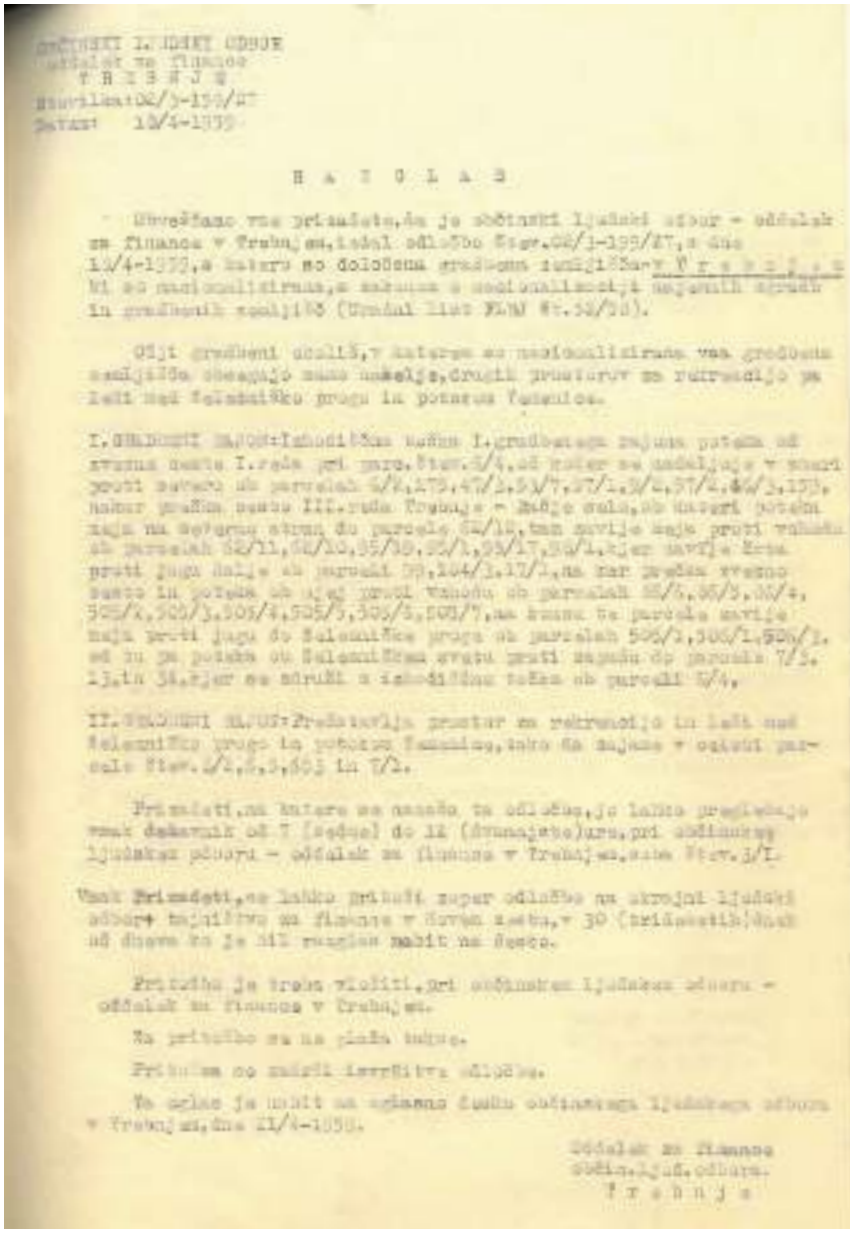
Years of poor maintenance and many changes in the structure of the parcel condition and ownership led to the non-transparency of general social property. Instead of enabling the regulation of the existing records of the land cadastre with the already organized service of maintaining land records, the Decree on the introduction of real estate registers of general public property (Official Gazette of the LRS, No. 46/57) introduced new records in 1957. The instruction accompanying the decree even required a graphic representation of the land on the cadastral plan. The register was poorly established; it was only fully implemented in some municipalities and it never had official validity, as there were no basic conditions for it.

From 1956 to 1962, decisions on nationalization and rounding (Official Gazette of the SFRY 58-428/47) were carried out. Nationalization represented the takeover of private property (land, buildings) by the state and meant the change of private, especially productive assets and companies into state or social property.



Slika 3.38: Primer odločbe o nacionalizaciji gradbenih parcel znotraj naselij iz leta 1959, ki so takratnim katastrskim uradom naložile dodatno delo in novo evidenco o družbeni lastnini. (Vir: Arhiv GURS)

Figure 3.38: An example of the decision on the nationalization of building parcels within settlements from 1959, which imposed additional work and the establishment of new records on social property on the cadastral offices. (Source: The SMARS archive)



R A Z G L A S

Slika 3.39: Razglas Občinskega ljudskega odbora o nacionalizaciji gradbenih parcel.
(Vir: Arhiv GURS)

Figure 3.39: Proclamation of the Municipal People's Committee on the nationalization of building parcels.
(Source: The SMARS archive)

Leta 1965 je bil sprejet Temeljni zakon o izmeritvi zemljišč in zemljiškem katastru (Ur. l. SFRJ, št. 15/65). Zakon je opredelil izmero in kataster za zadeve, ki imajo pomen za vso državo, pristojnosti zveze, republik in občin in še posebej podatke v pristojnosti takratnega Državnega sekretariata za ljudsko obrambo. Osnovna geodetska dela, temeljne geodetske mreže in osnovna državna karta so bili v pristojnosti federacije, izdelava zemljiškega katastra v pristojnosti republike, vzdrževanje zemljiškega katastra pa v pristojnosti občin. Pomembno je, da je zakon dovoljeval izvajanje geodetskih del le organizacijam, ki so bile ustanovljene za te namene, drugim organizacijam pa le za svoje potrebe, npr. cestnim podjetjem le za gradnjo cest.

Na podlagi Temeljnega zakona o izmeritvi zemljišč in zemljiškem katastru je bila izdana Uredba o izdelavi topografske izmere in zemljiškega katastra in njunem vzdrževanju (Ur. l. SFRJ, št. 44/67). Le-ta je predvidevala delovne metode, stopnje natančnosti in vsebino pri izdelavi in izmeri zemljiškega katastra, ki je morala biti v skladu z natančnostjo zemljiške izmere. Na podlagi te Uredbe pa je bil izdan Pravilnik o tehničnih predpisih za izdelavo izvirnikov načrtov in za določanje površin parcel pri izmeritvi zemljišč (Ur. l. SFRJ, št. 8/70). Na novo je bil predpisan zajem katastrske vsebine pri izmeri in uvajanju sprememb v grafične katastrske načrte. Velik poudarek je bil na natančnosti grafičnih katastrskih in topografskih načrtov.

Na podlagi podatkov izmeritve in katastrske klasifikacije zemljišč je katastrski operat obsegal:

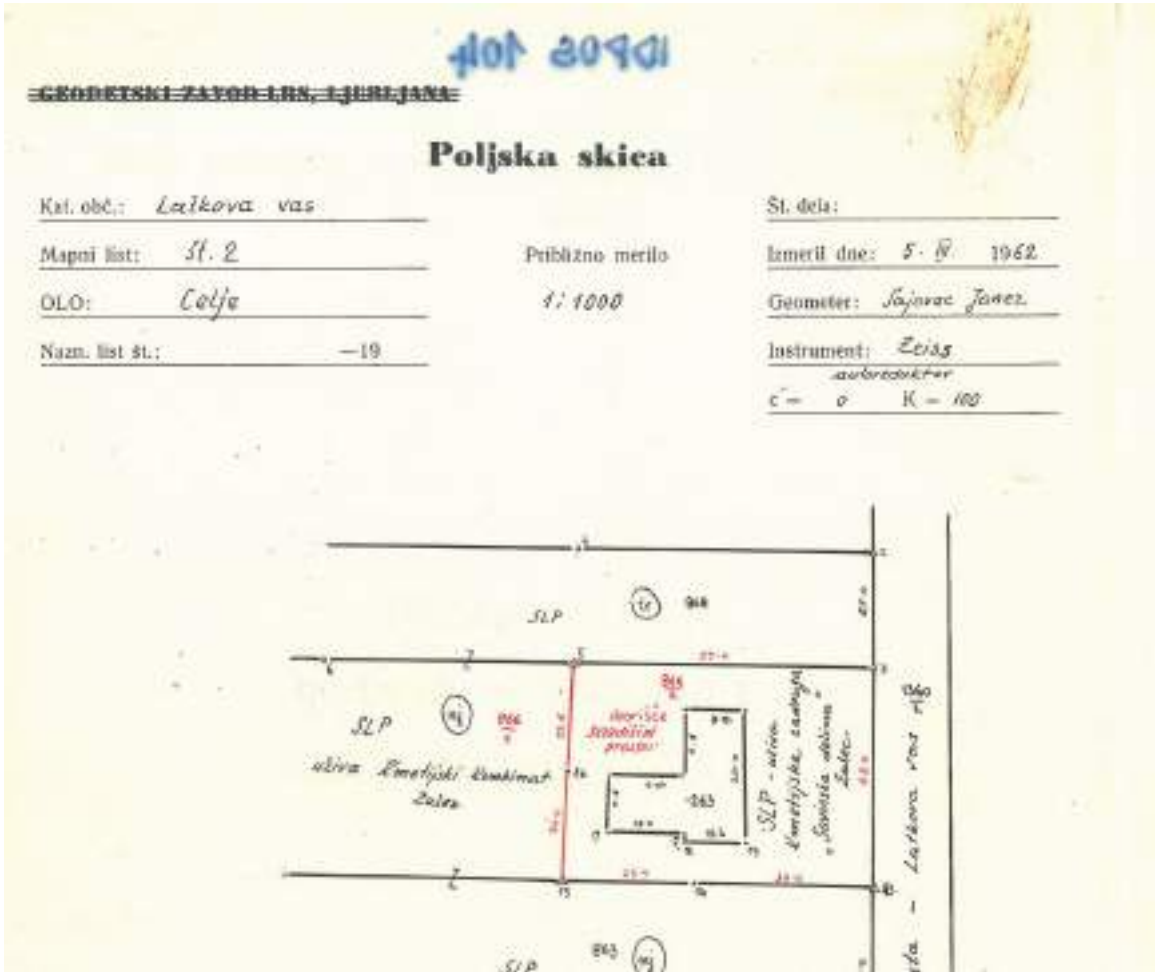
- zapisnik o določitvi mej katastrske občine,
- detajlne skice o izmeritvi,
- kopije detajlnih načrtov (map),
- seznam parcel,
- posestne liste,
- sumarnik posestnih listov,
- razvrstitev po kulturah in razredih,
- abecedni pregled posestnikov,
- številčni pregled posestnih listov,
- seznam vzorčnih zemljišč,
- seznam koordinat in absolutnih višin (kot).

In 1965, the Basic Land Surveying and Land Cadastre Act (Official Gazette of the SFRY, No. 15/65) was adopted. The law defined surveying and the cadastre for matters of importance to the entire state, the competences of the federation, republics and municipalities, and especially the data within the competence of the then Federal Secretariat of People's Defence. Basic geodetic work, basic geodetic networks and the basic state map were the responsibility of the federation, the production of the land cadastre was the responsibility of the republic, and the maintenance of the land cadastre was the responsibility of the municipalities. It is important to note that the law only permitted the implementation of geodetic works by organizations established for these purposes, and other organizations only for their own needs, e.g. road companies only for road construction.

On the basis of the Basic Land Surveying and Land Cadastre Act, the Decree on the preparation of topographical surveys and the land cadastre and their maintenance (Official Gazette of the SFRY, no. 44/67) was issued. The latter provided working methods, levels of precision and content in the production and surveying of the land cadastre, which had to be in accordance with the precision of the land survey. On the basis of this Decree, the Rules on technical regulations for the production of original plans and for determining the area of parcels in land surveying (Official Gazette of the SFRY, No. 8/70) were issued. New stipulations included the capture of cadastral content in the survey and the introduction of changes in graphic cadastral plans. Considerable emphasis was placed on the precision of the graphic cadastral and topographic plans.

Based on the survey data and the cadastral classification of land, the cadastral record included:

- record on the determination of the borders of the cadastral municipality,
- detailed sketches of the survey,
- copies of detailed plans (maps),
- list of parcels,
- possession sheets,
- summary of possession sheets,
- classification by cultures and classes,
- alphabetical overview of landowners,
- numerical overview of possession sheets,
- list of sample model parcels,
- list of coordinates and absolute heights.



GEODETSKI ZAVOD LRS, LJUBLJANA

Poljska skica

Kat. obč.: Laškova vas

Mapni list: St. 2

OLO: Celje

Nazn. list št.: —19

Približno merilo 1:1000

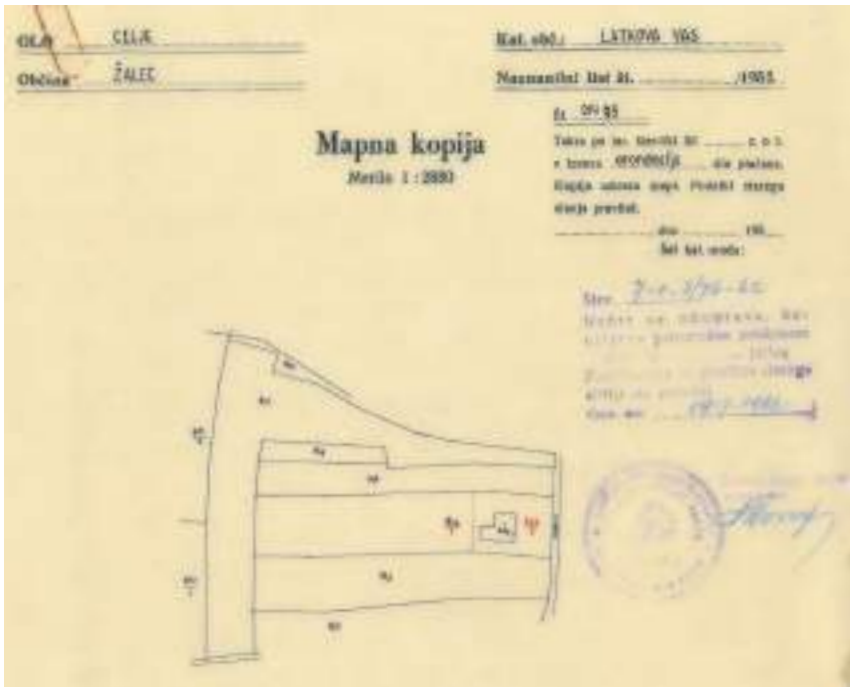
St. dela:

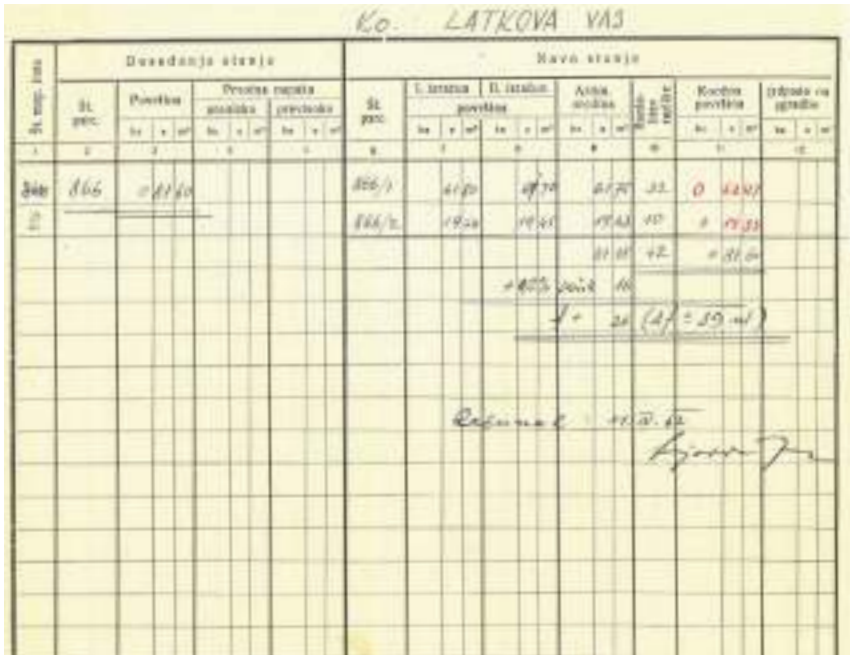
Izmeril dne: 5. IV 1962

Geometer: Sajovec Janez

Instrument: Zeiss avtoreduktor

c = 0 K = 100





Slika 3.40: Delitev parcele za potrebe arondacije leta 1962. Elaborat vsebuje poljsko skico s tahimetričnim zapisnikom, oleato (prosojnico) kartiranja, mapno kopijo in izračun površin. Za kartiranje se je najpogosteje uporabljal polarni koordinatograf (tahimetrično snemanje), površine pa so se računale s pomočjo nitnega ali polarnega planimetra.
(Vir: Pregledovalnik digitalnih elaboratov arhiva ZK)

Figure 3.40: Division of a parcel due to rounding in 1962. The report contains a field sketch with a tachymetric record, a mapping oleate (transparent foil), a map copy and a calculation of areas. A polar coordinatograph (tachymetric recording) was most commonly used for mapping, and parcel areas were calculated using a thread or polar planimeter.
(Source: ZK archive digital survey report viewer)

Zakon o zemljiškem katastru iz leta1974

Večje spremembe je leta 1974 prinesel Zakon o zemljiškem katastru (ZZKat, Ur. l. SRS št. 16/1974), sprejet za Slovenijo po odpravi Zvezne geodetske uprave po spremembah ustave v tem letu.

Zakon o zemljiškem katastru je predpisoval, da se evidentirajo naslednji podatki o zemljiščih:

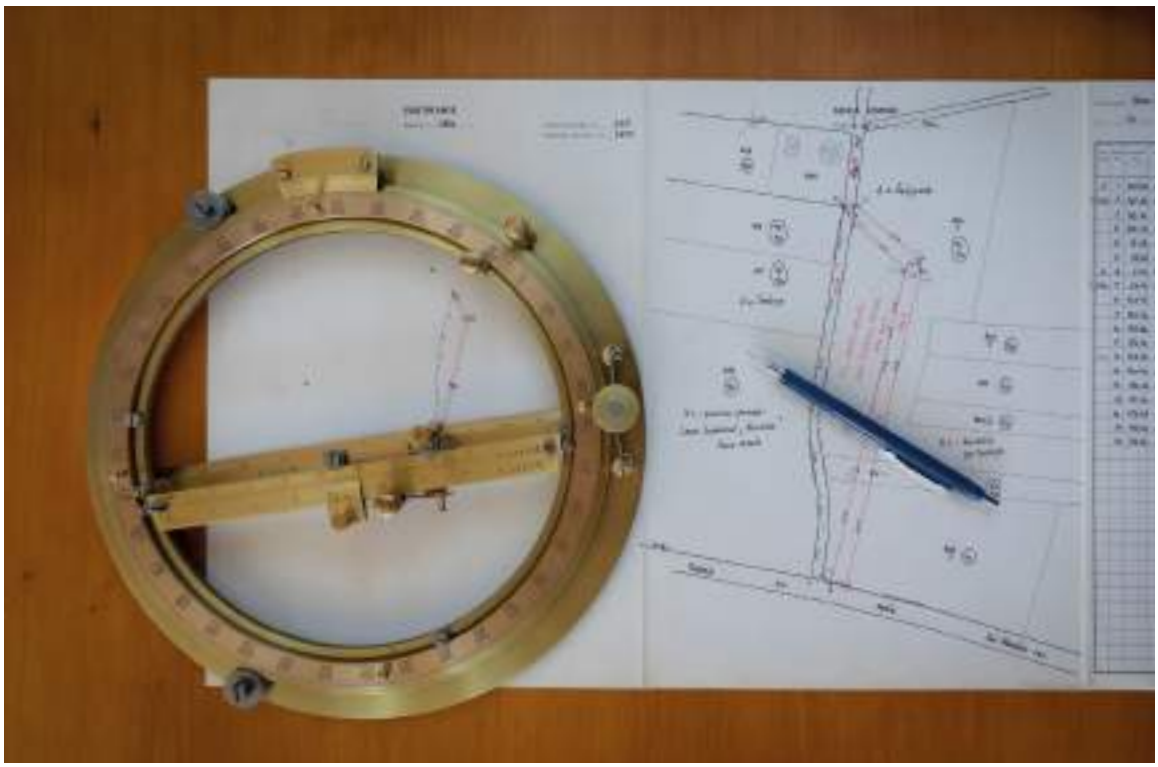
- nosilci stvarnopravnih pravic na zemljiščih,
- lega, oblika, površina, vrsta rabe, katastrski razred, katastrski dohodek, rodovitnost in proizvodna sposobnost zemljišča,
- posebni režimi uporabe in razpolaganja z zemljišči, ki so določeni s predpisi družbenopolitičnih skupnosti, ter
- pripadnost zemljišča statističnim okolišem.

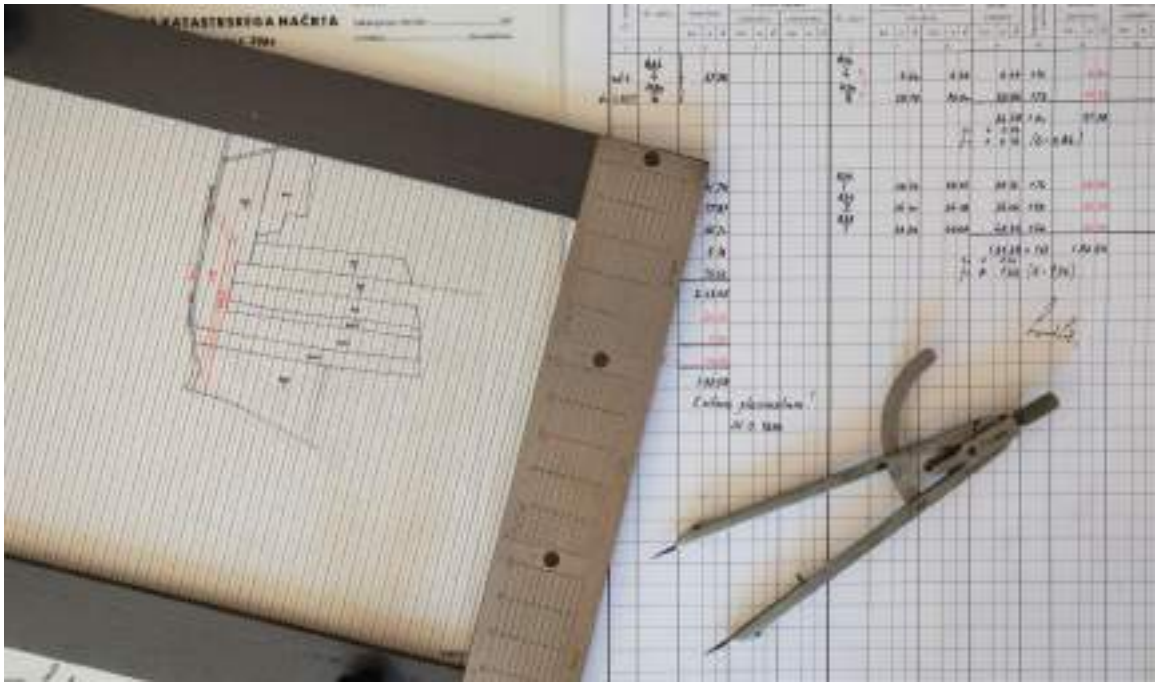
The Land Cadastre Act of 1974

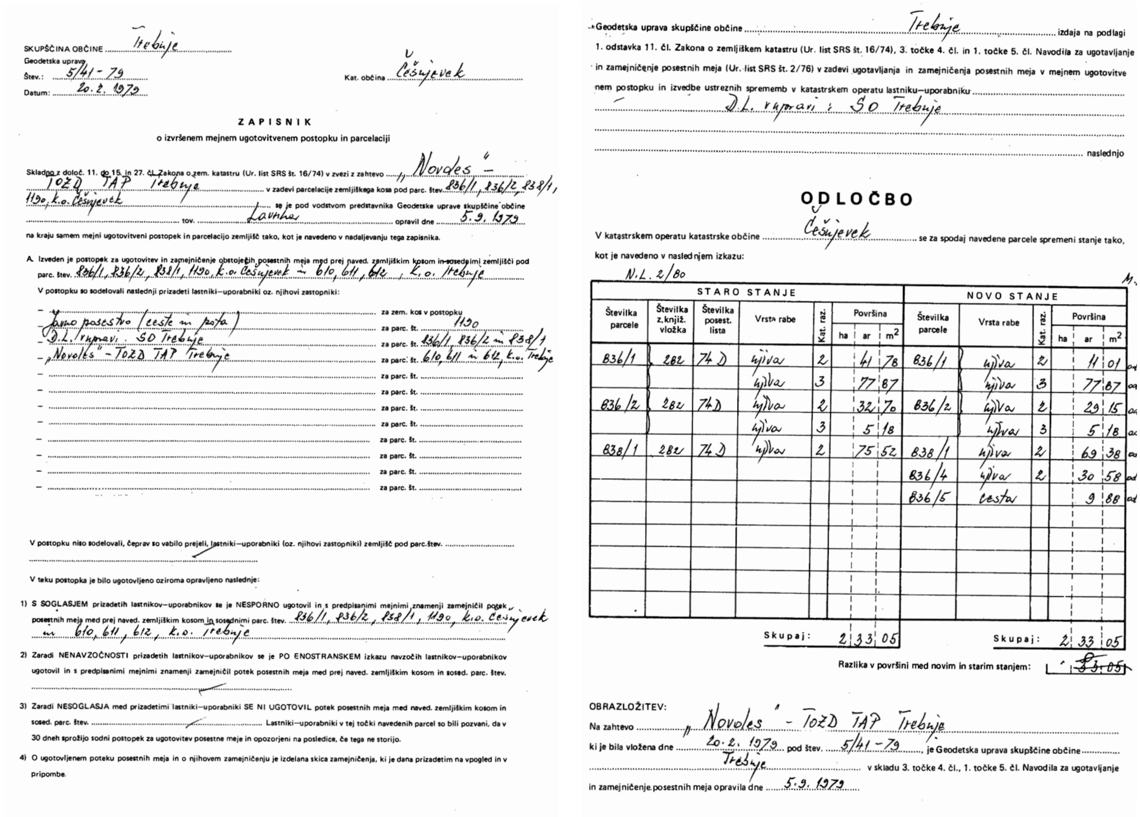
Major changes were introduced in 1974 by the Land Cadastre Act (ZZKat, Official Gazette of the SRS No. 16/1974), which was adopted for Slovenia after the abolition of the Federal Geodetic Administration following the amendments to the Constitution of that year.

The Land Cadastre Act prescribed that the following data on land should be recorded:

- holders of ownership rights on the land,
- location, shape, area, type of use, cadastral class, cadastral income, fertility and productive capacity of the land,
- special regimes of land use and disposal determined by the regulations of socio-political communities, and
- affiliation of land to statistical districts.







SKUPŠČINA OBČINE Trebnje
Geodetska uprava
Štev.: 5/41 - 79
Datum: 20. 2. 1979

Kat. občina Češnjevek

ZAPISNIK

o izvršenem mejnem ugotovitvenem postopku in parcelaciji

Skladno z določ. 11. do 15. in 27. čl. Zakona o zem. katastru (Ur. list SRS št. 16/74) v zvezi z zahtevo „Novoles" – TOZD TAP Trebnje v zadevi parcelacije zemljiškega kosa pod parc. štev. 836/1, 836/2, 838/1, 1190, k.o. Češnjevek se je pod vodstvom predstavnika Geodetske uprave skupščine občine .... tov. Lavrih opravil dne 5. 9. 1979 na kraju samem mejni ugotovitveni postopek in parcelacijo zemljišč tako, kot je navedeno v nadaljevanju tega zapisnika.

A. Izveden je postopek za ugotovitev in zamejničenje obstoječih posestnih meja med prej naved. zemljiškim kosom in sosednimi zemljišči pod parc. štev. 836/1, 836/2, 838/1, 1190, k.o. Češnjevek in 610, 611, 612, k.o. Trebnje

V postopku so sodelovali naslednji prizadeti lastniki–uporabniki oz. njihovi zastopniki:

– .... za zem. kos v postopku
– Javno posestvo (ceste in pota) za parc. št. 1190
– D.L. upravi. SO Trebnje za parc. št. 836/1, 836/2 in 838/1
– „Novoles" – TOZD TAP Trebnje za parc. št. 610, 611 in 612, k.o. Trebnje
– .... za parc. št. ....
– .... za parc. št. ....
– .... za parc. št. ....
– .... za parc. št. ....
– .... za parc. št. ....
– .... za parc. št. ....
– .... za parc. št. ....
– .... za parc. št. ....

V postopku niso sodelovali, čeprav so vabilo prejeli, lastniki–uporabniki (oz. njihovi zastopniki) zemljišč pod parc.štev. ....

V teku postopka je bilo ugotovljeno oziroma opravljeno naslednje:

1) S SOGLASJEM prizadetih lastnikov–uporabnikov se je NESPORNO ugotovil in s predpisanimi mejnimi znamenji zamejničil potek posestnih meja med prej naved. zemljiškim kosom in sosednimi parc. štev. 836/1, 836/2, 838/1, 1190, k.o. Češnjevek in 610, 611, 612, k.o. Trebnje
2) Zaradi NENAVZOČNOSTI prizadetih lastnikov–uporabnikov se je PO ENOSTRANSKEM izkazu navzočih lastnikov–uporabnikov ugotovil in s predpisanimi mejnimi znamenji zamejničil potek posestnih meja med prej naved. zemljiškim kosom in sosed. parc. štev. ....
3) Zaradi NESOGLASJA med prizadetimi lastniki–uporabniki SE NI UGOTOVIL potek posestnih meja med naved. zemljiškim kosom in sosed. parc. štev. .... Lastniki–uporabniki v tej točki navedenih parcel so bili pozvani, da v 30 dneh sprožijo sodni postopek za ugotovitev posestne meje in opozorjeni na posledice, če tega ne storijo.
4) O ugotovljenem poteku posestnih meja in o njihovem zamejničenju je izdelana skica zamejničenja, ki je dana prizadetim na vpogled in v pripombe.

Geodetska uprava skupščine občine Trebnje izdaja na podlagi 1. odstavka 11. čl. Zakona o zemljiškem katastru (Ur. list SRS št. 16/74), 3. točke 4. čl. in 1. točke 5. čl. Navodila za ugotavljanje in zamejničenje posestnih meja (Ur. list SRS št. 2/76) v zadevi ugotavljanja in zamejničenja posestnih meja v mejnem ugotovitvenem postopku in izvedbe ustreznih sprememb v katastrskem operatu lastniku–uporabniku D.L. upravi SO Trebnje naslednjo

ODLOČBO

V katastrskem operatu katastrske občine Češnjevek se za spodaj navedene parcele spremeni stanje tako, kot je navedeno v naslednjem izkazu:

N.L. 2/80

STARO STANJE								NOVO STANJE					
Številka parcele	Številka z.knjiž. vložka	Številka posest. lista	Vrsta rabe	Kat. raz.	Površina ha	ar	m²	Številka parcele	Vrsta rabe	Kat. raz.	Površina ha	ar	m²
836/1	282	74 D	njiva	2		41	78	836/1	njiva	2		11	01
			njiva	3		77	87		njiva	3		77	87
836/2	282	74 D	njiva	2		32	70	836/2	njiva	2		29	15
			njiva	3		5	18		njiva	3		5	18
838/1	282	74 D	njiva	2		75	52	838/1	njiva	2		69	38
								836/4	njiva	2		30	58
								836/5	cesta			9	88
Skupaj:					2	33	05	Skupaj:			2	33	05

Razlika v površini med novim in starim stanjem: ~~33 05~~

OBRAZLOŽITEV:
Na zahtevo „Novoles" – TOZD TAP Trebnje ki je bila vložena dne 20. 2. 1979 pod štev. 5/41 - 79, je Geodetska uprava skupščine občine Trebnje v skladu 3. točke 4. čl., 1. točke 5. čl. Navodila za ugotavljanje in zamejničenje posestnih meja opravila dne 5. 9. 1979

Slika 3.41: Elaborat vrisa poteka javnega dobra. Sestavni del elaborata je skica izmere, tahimetrični zapisnik, kartiranje s pomočjo ploskovnega transporterja, izračun površin iz koordinat (lokalnih), izračun površine s pomočjo nitnega planimetra, zapisnik o izvršenem mejnem ugotovitvenem postopku in parcelaciji ter odločba, s katero se ugotavljajo spremembe v katastrskem operatu. V tem elaboratu je prvič zadišalo po računalniški obdelavi podatkov, saj je bila površina novih parcel izračunana iz koordinat s pomočjo programskega kalkulatorja HP25C, pozneje HP67.
(Vir: Pregledovalnik digitalnih elaboratov arhiva ZK, foto Boštjan Pucelj)

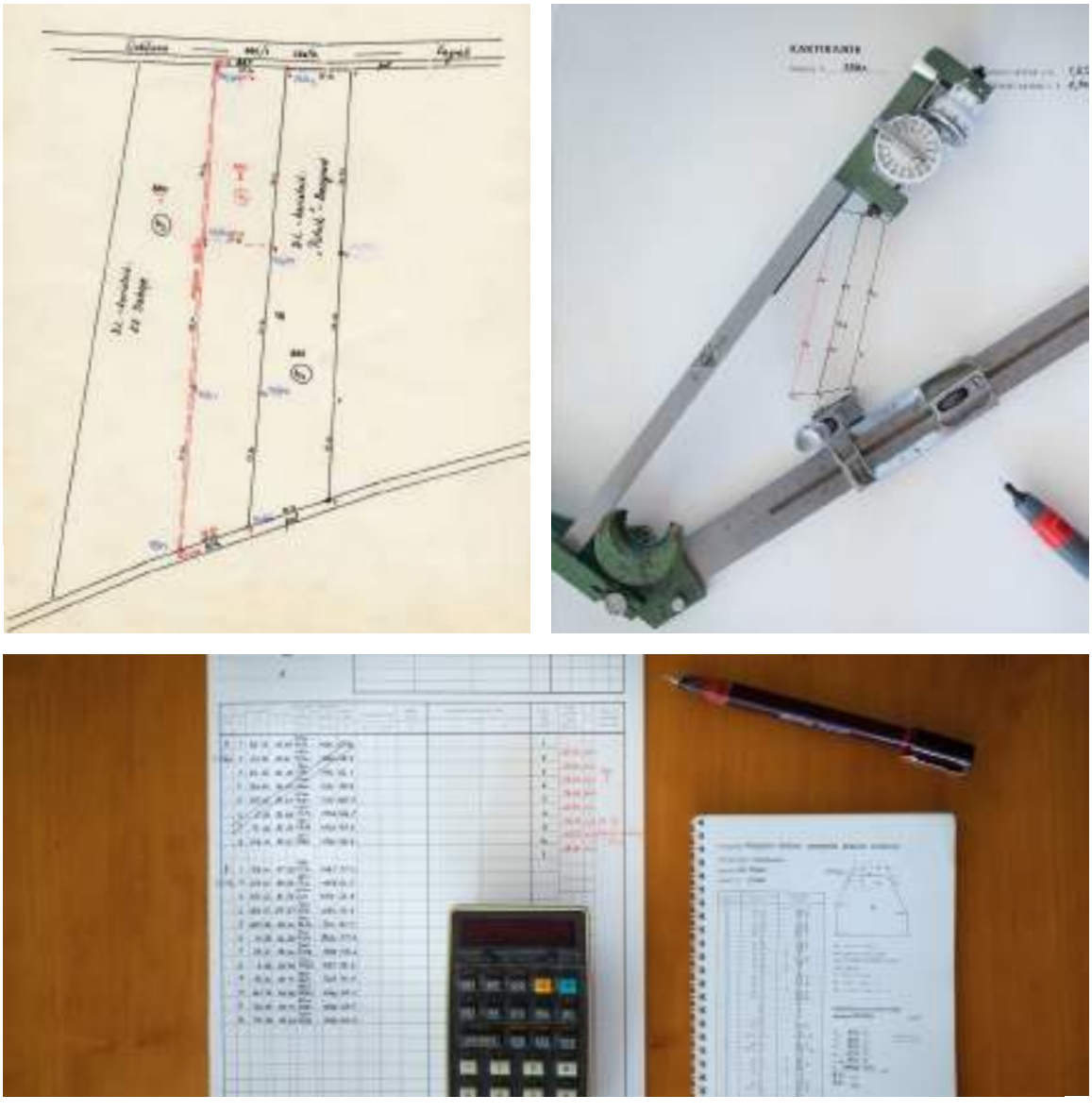
Figure 3.41: The report of the outline of a public interest land. The integral part of the report includes the survey sketch, tachymetric record, mapping with the help of a flat transporter, calculation of areas from (local) coordinates, calculation of the area with the help of a thread planimeter, record of the border determination procedure and parcel division, and a decision by which changes in the cadastral record are identified. This report contains the first hints of computer data processing, as the area of the new parcels was calculated from the coordinates using an HP25C programmable calculator, and an HP67 later on.
(Source: ZK archive digital survey report viewer, photo Boštjan Pucelj)

Slika 3.42: Parcelni zapisnik k. o. 1422 Trebnje leta 1977. Iz seznama je razvidna zaznamba pri parcelah 836/1, 836/2 in 838/1, in sicer so se z NL (naznanilnim listom) 2/80 na teh parcelah izvedle določene spremembe.
(Vir: Arhiv GURS, OGU Novo mesto)

Figure 3.42: Parcel record of c. m. 1422 Trebnje in 1977. The list shows a note for parcels 836/1, 836/2 and 838/1, namely that certain changes were made on these parcels with NL (notice sheet) 2/80.
(Source: The SMARS archive, OGU Novo mesto)

Slika 3.43: Parcelni zapisnik k. o. 1422 Trebnje kot dodatek v letu 1980. Seznam izkazuje spremenjeno stanje na parcelah 836/1, 836/2, 836/4,836/5 in 838/1.
(Vir: Arhiv GURS, OGU Novo mesto)

Figure 3.43: Parcel record of c. m. 1422 Trebnje as an addition in 1980. The list shows the changed situation on parcels 836/1, 836/2, 836/4,836/5 and 838/1.
(Source: The SMARS archive, OGU Novo mesto)



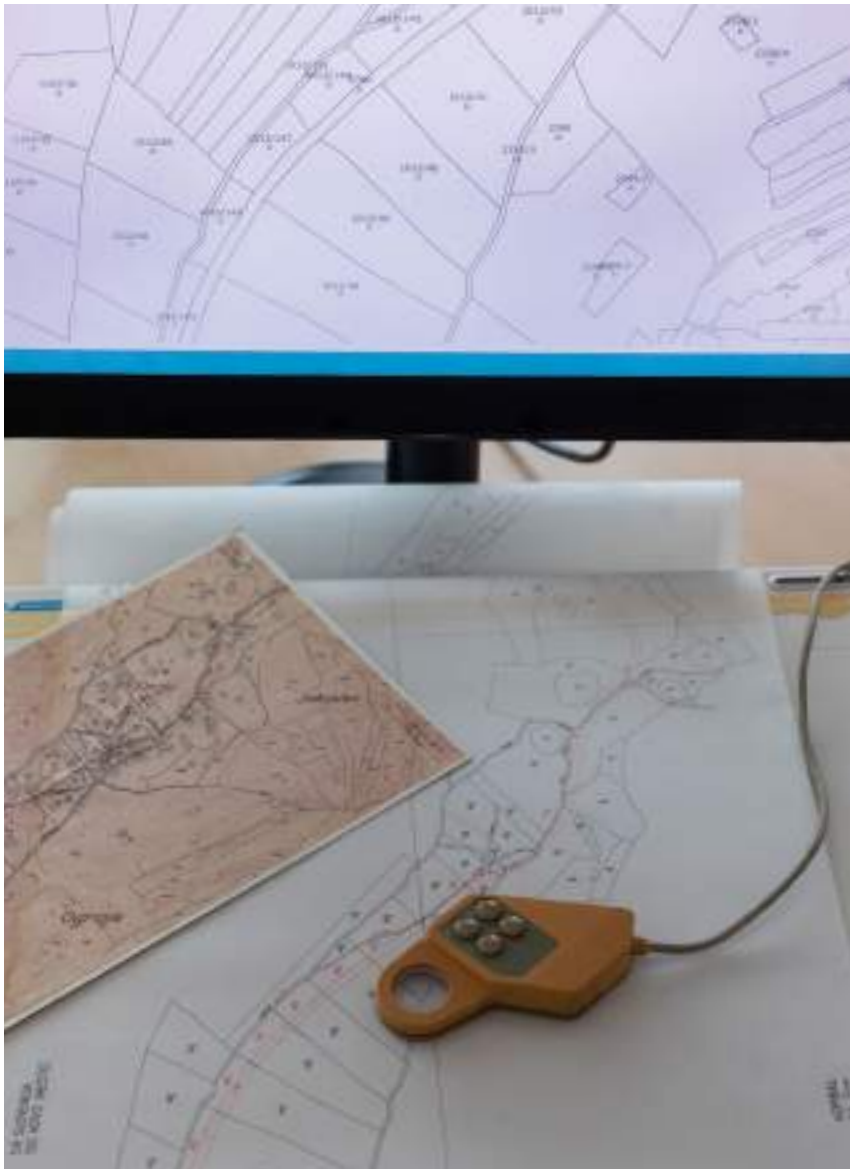
Slika 3.44: Elaborat pogojne parcelacije (odmera točno vnaprej določene površine) v k. o. 1422 Trebnje. S pomočjo programskih rešitev, izdelanih za HP25C, je bilo možno izračun površine in popravkov (pomika meje, ali samo enega mejnika ali pa vzporedno cele linije) izvesti neposredno na terenu. Pri vseh kartiranjih je bilo treba upoštevati skrček originalnega načrta, ki se ga je ugotavljalo s pomočjo palčne razdelbe, narisane na robu lista (glej sliko 3.30).
(Vir: Pregledovalnik digitalnih elaboratov arhiva ZK, foto Boštjan Pucelj)

Figure 3.44: Conditional parcel division report (measurement of a precisely predetermined area) in c. m. 1422 Trebnje. Using software solutions designed for HP25C, it was possible to calculate the area and corrections (a border shift, either of just one border point or the whole line parallel) directly in the field. All mappings had to take into account the shrinkage of the original plan, which was determined by means of an inch division drawn on the edge of the sheet (see Figure 3.30).
(Source: ZK archive digital survey report viewer, photo Boštjan Pucelj)

Opomba: V dokumentih iz zbirke listin Zemljiškega katastra so varovani osebni podatki zakriti
Note: Protected personal data is hidden in the land cadastre documents.

Od sredine 80. let prejšnjega stoletja so osebni računalniki in periferni priključki (risalniki – ploterji, tiskalniki – printerji, digitalizatorji ...) postopoma nadomestili mehanska orodja za kartiranje.

Since the mid-1980s, personal computers and peripherals (plotters, printers, digitizers ...) have gradually replaced mechanical mapping tools.



Slika 3.45: Primer izračuna površin parcelnih delov s pomočjo digitalizatorja. Površina dolžinskega objekta (ceste) je bila izračunana iz koordinat. Površina dela dolžinskega objekta, ki je predstavljala presek z lastniškim kosom in površine delov parcel znotraj istega lastnika pa se je s prihodom osebnih računalnikov (PC) namesto z nitnim planimetrom izračunavala s pomočjo za to prilagojene programske rešitve (SW) in digitalizatorja.
(Vir: Pregledovalnik digitalnih elaboratov arhiva ZK, foto Boštjan Pucelj)

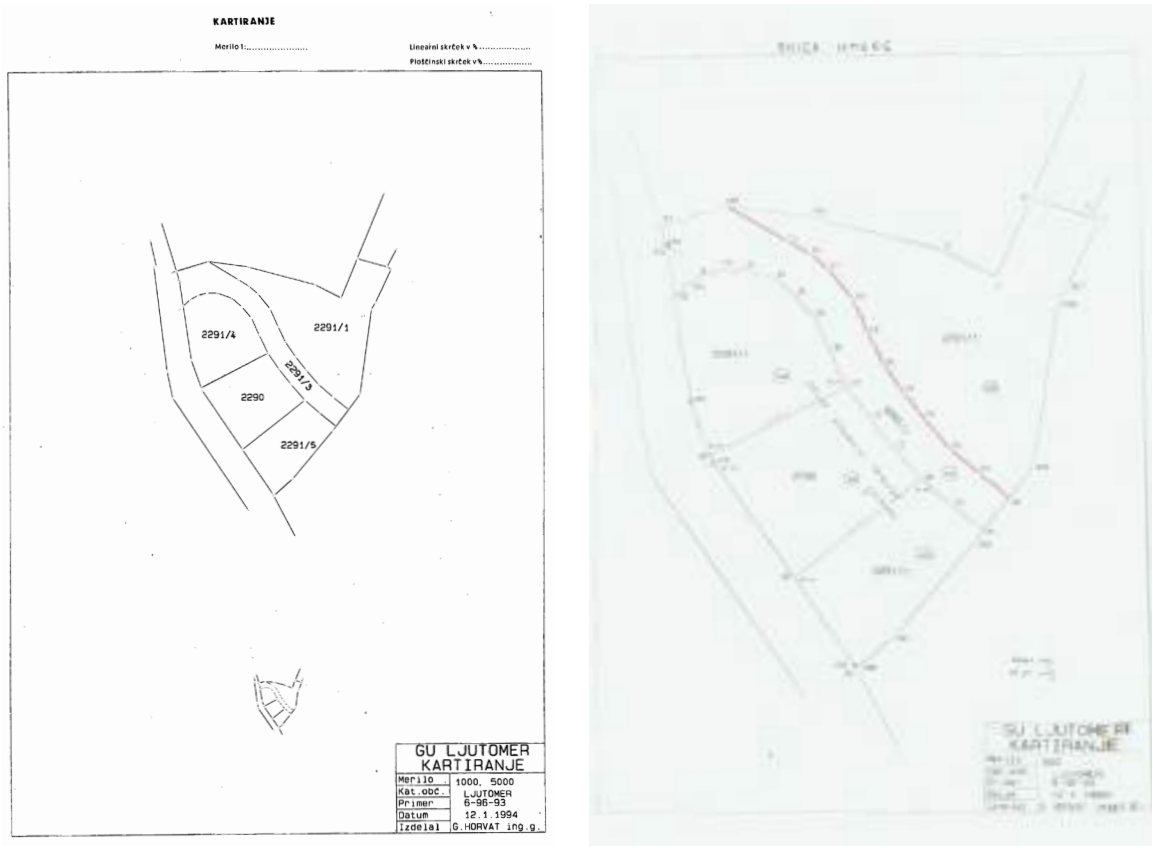
Figure 3.45: Example of calculating the areas of parcel parts using a digitizer. The area of the longitudinal structure (road) was calculated from the coordinates. With the advent of personal computers (PCs), the area of a part of a longitudinal object that represented a cross-section with an owner's part and the area of parts of parcels with the same owner could be calculated using a custom software solution and a digitizer instead of a thread planimeter.
(Source: ZK archive digital survey report viewer, photo Boštjan Pucelj)

Osebni računalniki so bili tudi povod za razvoj novih računalniških rešitev, ki so poenostavljale postopke pri rednem vzdrževanju še vedno analognega katastrskega načrta.

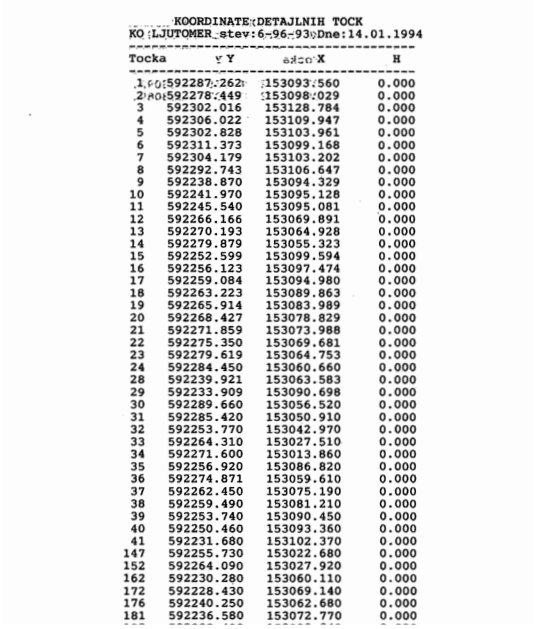
Na geodetskih upravah so se glede na razvojni potencial lastnih zaposlenih oz. zaposlenih v občinskih računalniških centrih začele stihijsko uvajati novitete, ki so bile plod razvoja posameznih geodetskih zanesenjakov. Treba je poudariti, da so bili geodetski strokovnjaki mnogokrat gonilna sila informatizacije ne samo geodetskih uprav temveč tudi celotne občinske uprave.

Personal computers were also the reason for the development of new computer solutions that simplified the procedures for the regular maintenance of the cadastral plan, which had still been in analogue form.

In accordance with the development potential of their own employees or the employees of municipal computer centres, geodetic administrations began to spontaneously introduce innovations that were the result of the development of individual geodetic enthusiasts. It should be emphasized that geodetic experts have often been the driving force behind the computerization of not only geodetic administrations but also of the entire municipal administration.



Opomba: V dokumentih iz zbirke listin Zemljiškega katastra so varovani osebni podatki zakriti
Note: Protected personal data is hidden in the land cadastre documents.

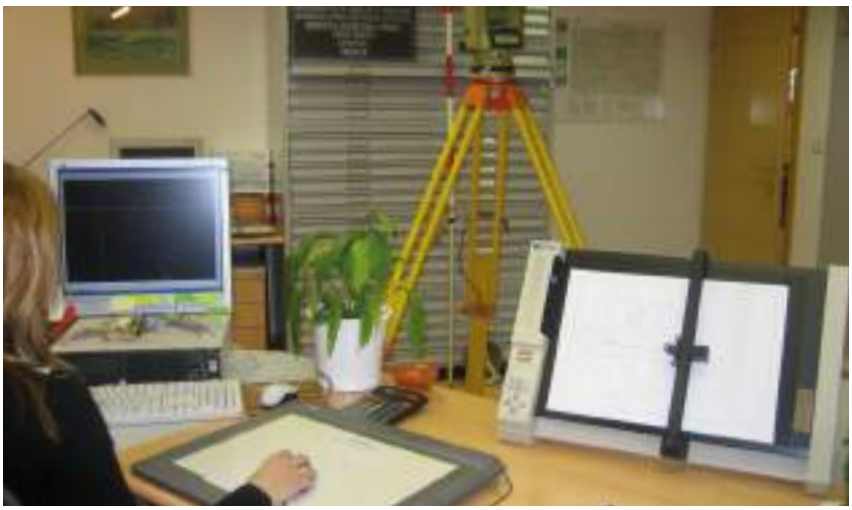


KOORDINATE DETAJLNIH TOCK
KO:LJUTOMER stev:6-96-93 Dne:14.01.1994

Tocka	Y	X	H
1	592287.262	153093.560	0.000
2	592278.449	153098.029	0.000
3	592302.016	153128.784	0.000
4	592306.022	153109.947	0.000
5	592302.828	153103.961	0.000
6	592311.373	153099.168	0.000
7	592304.179	153103.202	0.000
8	592292.743	153106.647	0.000
9	592238.870	153094.329	0.000
10	592241.970	153095.128	0.000
11	592245.540	153095.081	0.000
12	592266.166	153069.891	0.000
13	592270.193	153064.928	0.000
14	592279.879	153055.323	0.000
15	592252.599	153099.594	0.000
16	592256.123	153097.474	0.000
17	592259.084	153094.980	0.000
18	592263.223	153089.863	0.000
19	592265.914	153083.989	0.000
20	592268.427	153078.829	0.000
21	592271.859	153073.988	0.000
22	592275.350	153069.681	0.000
23	592279.619	153064.753	0.000
24	592284.450	153060.660	0.000
28	592239.921	153063.583	0.000
29	592233.909	153090.698	0.000
30	592289.660	153056.520	0.000
31	592285.420	153050.910	0.000
32	592253.770	153042.970	0.000
33	592264.310	153027.510	0.000
34	592271.600	153013.860	0.000
35	592256.920	153086.820	0.000
36	592274.871	153059.610	0.000
37	592262.450	153075.190	0.000
38	592259.490	153081.210	0.000
39	592253.740	153090.450	0.000
40	592250.460	153093.360	0.000
41	592231.680	153102.370	0.000
147	592255.730	153022.680	0.000
152	592264.090	153027.920	0.000
162	592230.280	153060.110	0.000
172	592228.430	153069.140	0.000
176	592240.250	153062.680	0.000
181	592236.580	153072.770	0.000

Slika 3.46: Pisarniški del elaborata, izdelan s pomočjo programskega paketa Geos, plod znanja domačih strokovnjakov.
(Vir: Pregledovalnik digitalnih elaboratov arhiva ZK)

Figure 3.46: The office part of the report, created with the help of the Geos software package, is the result of the knowledge of local experts.
(Source: ZK archive digital survey report viewer)



Slika 3.47: Kartiranje detajlne izmere s pomočjo PC in periferne enote risalnik (ploter)
(Vir: Slak, J. (et al.) 50 let geodetske službe v Trebnjem)

Figure 3.47: Mapping a detailed survey using a PC and a peripheral unit - plotter.
(Source: Slak, J. (et al.) 50 years of geodetic service in Trebnje)

4 Vzdrževanje zemljiškega katastra danes

Vzdrževanje zemljiškega katastra je pretežno povezano z delom s strankami. Zato je treba dosledno upoštevati vsa določila o posebnem upravnem postopku iz Zakona (in podzakonskih predpisov) o evidentiranju nepremičnin – ZEN (Uradni list RS, št. 47/06, 65/07 – odl. US, 79/12 – odl. US, 61/17 – ZAID, 7/18 in 33/19). V primerih, ko ta zakon ne vsebuje posebnih določil, pa se uporabljajo določila Zakona o splošnem upravnem postopku.

Po končani izdelavi in izvršeni reviziji zemljiškega katastra v osemdesetih letih 19. stoletja so za namene vzdrževanja zemljiškega katastra začeli ustanavljati katastrske urade, njihovi nasledniki so bili občinski geodetski upravni organi – geodetske uprave, ki so sicer dobili nove naloge, (opisane v tej knjigi), vendar pa je bil še vedno njihov največji del dejavnosti namenjen vzdrževanju zemljiškega katastra. V devetdesetih letih preteklega stoletja je delovanje občinskih geodetskih uprav prešlo v pristojnost državne geodetske uprave, kar velja še danes.

Land cadastre maintenance today

The maintenance of the land cadastre mainly involves working with clients. Thus, it is necessary to consistently comply with all provisions on the special administrative procedure from the Real Estate Records Act - ZEN (and implementing regulations) (Official Gazette of the Republic of Slovenia, No. 47/06, 65/07 - dec. US, 79/12 – dec. US, 61/17 – ZAID, 7/18 and 33/19). In cases for which this Act does not contain special provisions, the provisions of the General Administrative Procedure Act apply.

After the completion and revision of the land cadastre in the 1980s, cadastral offices were established for the purpose of maintaining the land cadastre, and their successors were municipal geodetic administrative bodies – geodetic administrations, which were given new tasks (described in this book), however, most of their activity was still devoted to the maintenance of the land cadastre. In the 1990s, the operation of municipal geodetic administrations passed into the competence of the national geodetic administration, which is the present situation.

Slika 4.1: Shematski prikaz Območnih geodetskih uprav in geodetskih pisarn.
(Vir: GURS)

Figure 4.1: Schematic representation of regional geodetic administrations and geodetic offices.
(Source: SMARS)

Operativno izmero danes opravljajo zasebna podjetja, za kakovost in pravilnost pa jamči pooblaščeni inženir. Zakon o arhitekturni in inženirski dejavnosti – ZAID (Uradni list RS, št.61/17) je s 1. 6. 2018 prinesel določene spremembe, veljavne za pooblaščene inženirje, ki izvajajo dela geodetskih storitev (ureditev meje, parcelacija ...). Od tega datuma dalje je geodetskim izvajalcem brez opravljenega strokovnega izpita dovoljeno le izvajanje geodetske dejavnosti brez izvajanja geodetskih storitev.

Vzroki za spremembe v zemljiškem katastru izhajajo iz potreb:

- lastnikov zemljišč za ureditev ali spremembo parcelnih meja,
- posodabljanja podatkov na osnovi drugih uradnih evidenc (npr. raba),
- prevzemanja podatkov o lastništvu oziroma pravici uporabe iz zemljiške knjige,
- ugotavljanja sprememb v opisnih podatkih po uradni dolžnosti.

V dolgi dobi veljavnosti katastrskih načrtov se je posestno stanje v marsičem spremenilo: nastale so nove parcele, nekatere prejšnje so se združile, zlasti zaradi prodaje, menjav, dedovanja, agrarnih operacij ipd. Geodetska uprava ima arhivirane elaborate meritev, ki so bile opravljene zaradi evidentiranja vseh teh sprememb.

Postopek evidentiranja geodetske storitve v nepremičninskih evidencah izvajajo pisarne območnih geodetskih uprav na podlagi vloge za izvedbo sprememb v bazah zemljiškega katastra, katerega del je izdelan elaborat geodetskega podjetja.

Od leta 1995 se opisni del zemljiškega katastra za celotno državo vodi v računalniški obliki, tako da so vzdrževani podatki strankam na voljo takoj. V celoti je od leta 2002 dostopen v digitalni obliki tudi grafični del evidence zemljiškega katastra.

Operational surveys are presently performed by private companies, and the quality and accuracy are guaranteed by a certified engineer. The Architecture and Civil Engineering Act - ZAID (Official Gazette of the Republic of Slovenia, No. 61/17) brought about certain changes for certified engineers performing geodetic services as of 1 June 2018 (border regulation, parcel allocation ...). From this date onwards, surveying contractors without a completed professional examination were only allowed to perform surveying activities but not surveying services.

The reasons for the changes in the land cadastre stem from the needs of:

- landowners for the rearrangement or change of parcel borders,
- updating data based on other official records (e.g. land cover, land use),
- taking over data on ownership or the right of use from the land registry,
- identifying changes in descriptive data by official duty.

During the long period of validity of cadastral plans, the state of ownership has changed in many ways: new parcels were created, while some previous ones were merged, especially due to sales, exchanges, inheritance, agrarian operations, etc. The Surveying and Mapping Authority has an archive of reports of surveys that were performed in order to record all these changes.

The procedure for recording the geodetic service in real estate records is performed by the offices of regional geodetic administrations on the basis of an application for the implementation of changes in the land cadastre databases, part of which is a report from the geodetic company.

Since 1995, the descriptive part of the country-wide land cadastre has been kept in computerized form, so that the maintained data is available to customers immediately. The entire graphic part of the land cadastre records has also been available in digital form since 2002.

5 Prehod na računalniško vzdrževanje zemljiškega katastra

Začetki šestdesetih let prejšnjega stoletja so z vidika avtomatizacije postopkov vzdrževanja nepremičninskih evidenc pomembni zaradi uvajanja avtomatske obdelave opisnega dela zemljiškega katastra. V tem času govorimo o paketni obdelavi podatkov. Zavod za statistiko (v tistem času še Zavod Socialistične Republike Slovenije za statistiko) in Geodetski Zavod Slovenije sta v svojih računalniških centrih izvajala te obdelave. Spremembe so na občinskih geodetskih upravah (v določenem obdobju še pod imenom katastrski urad) ročno vpisovali v tako imenovane K-obrazce, ki so se enkrat letno vnašale v njihove računalnike.

V sedemdesetih in osemdesetih letih so se razvili nekateri programi za obdelavo podatkov v računalniških centrih posameznih podjetij (Mura, Meblo, Razvojni center Celje ...) in nekaterih občinskih službah AOP (Koper, Novo mesto, ...). Nekateri so že imeli terminalske povezave in so se obdelave izvajale interaktivno.

Transitioning to computer maintenance of the land cadastre

The early 1960s are an important period for the automation of the procedures for maintaining real estate records due to the introduction of automatic processing of the descriptive part of the land cadastre. This was the emergence of batch data processing. It was carried out in the computer centres of the Statistical Bureau (at that time the Bureau of the Socialist Republic of Slovenia for Statistics) and the Geodetic Survey of Slovenia. Changes were manually entered at municipal geodetic administrations (also called cadastral offices in certain periods) using so-called K-forms, which were entered into their computers once a year.

In the 1970s and 1980s, some data processing programs were developed in the computer centres of individual companies (Mura, Meblo, Razvojni center Celje ...) and some municipal services AOP (Koper, Novo mesto, ...). Some already had terminal connections and the processing was performed interactively.

Slika 5.1: Primer dokumenta občinskega katastrskega urada Murska Sobota iz leta 1965 o izdelavi posestnih listov in parcelnih zapisnikov katastrskega operata po sistemu luknjanih kartic.
(Vir: Pregledovalnik digitalnih elaboratov arhiva ZK)

Figure 5.1: Example of a document of the municipal cadastral office of Murska Sobota from 1965 on the production of possession sheets and parcel records of the cadastral record using a punch card system.
(Source: ZK archive digital survey report viewer)

Pisni (katastrsko knjigovodski) del operata zemljiškega katastra je pred uvedbo računalniške obdelave podatkov vseboval seznam parcel, posestne liste, zaporedni seznam posestnih listov, abecedni seznam lastnikov, seznam zemljiškoknjižnih vložkov, razpored po kulturah in razredih. Grafični del zemljiškega katastra je bil z nekaj izjemami vse do sredine 90. let prejšnjega stoletja še večinoma v papirni obliki.

Spremembe družbenega sistema v Sloveniji v začetku 90. let prejšnjega stoletja so bistveno spremenile pomen lastnine na nepremičninah. Nov družbeni sistem je pričakoval sodobno urejeno evidentiranje nepremičnin kot osnovo za zagotavljanje pravic in obveznosti, ki izhajajo iz lastništva nad nepremičnino. Geodetska stroka se je tako znašla pred odgovorno nalogo, kako urediti evidentiranje nepremičnin vse od izboljšanja kakovosti obstoječih podatkov, evidentiranja manjkajočih podatkov do tehnološke posodobitve evidentiranja nepremičnin.

Prior to the introduction of computer data processing, the written (cadastral accounting) part of the land cadastre record contained a list of parcels, possession sheets, a sequential list of possession sheets, an alphabetical list of owners, a list of land registry entries, and ordering by cultures and classes. The graphic part of the land cadastre was still largely uncomputerized until the mid-1990s, with a few exceptions.

Changes in the social system in Slovenia in the early 1990s significantly impacted the importance of real estate ownership. The new social system presupposed the modern regulation of real estate as a basis for ensuring the rights and obligations arising from the ownership of real estate. The surveying profession was thus faced with the responsible task of regulating real estate registration, from improving the quality of existing data and recording missing data to the technological modernization of real estate registration.

5.1 Informatizacija opisnih podatkov zemljiškega katastra

S pojavom osebnih računalnikov (po letu 1984) so se začele pojavljati vedno nove aplikacije za vodenje zemljiškega katastra. Leta 1989 je bilo v Sloveniji kar 14 različnih paketov za vodenje zemljiškega katastra. Najbolj razširjen je bil programski paket AOK – Geodetskega zavoda SRS (avtor Zupan). Kar polovica takratnih občinskih geodetskih uprav je pri vodenju pisnega dela zemljiškega katastra prešla na te PC rešitve.

Problem teh rešitev se je kazal v tem, da so bile obdelave decentralizirale, niso bile enotno vodene, ne tehnološko niti metodološko (različni načini zapisov za posamezne entitete in atribute). Programsko opremo so občinske geodetske uprave uvajale samostojno brez vednosti ali soglasja takratne RGU (Republiške geodetske uprave). Grozil je propad ideje, da bi se uvedla enotna informacijska rešitev na nivoju Slovenije, kar je bil cilj že več let pred tem. Večina teh rešitev je zadovoljevala predvsem osnovne potrebe občinskih geodetskih uprav, ne pa tudi drugih uporabnikov (npr.

Computerization of descriptive data in the land cadastre

With the emergence of personal computers (after 1984), new applications for land cadastre management started appearing. In 1989, there were as many as 14 different packages for managing the land cadastre in Slovenia. The most widely used software package was the AOK - by the Geodetic Survey of Slovenia (created by Zupan). As many as half of the then municipal geodetic administrations switched to these PC solutions for managing the written part of the land cadastre.

The problem with these solutions was that the processing was decentralized and not uniformly managed, neither technologically nor methodologically (multiple record modes for individual entities and attributes). The software was introduced by the municipal geodetic administrations independently without the knowledge or consent of the then RGU (Republic Geodetic Administration). The idea of introducing a unified information solution at the level of the whole country, which had been the goal for several years, was beginning to die out.

Most of these solutions mainly met the basic needs of the municipal geodetic administrations, but not other users (e.g. the tax service), nor were they related

davčna služba), niti niso bile povezane z drugimi evidencami na republiškem nivoju (npr. Register prebivalstva). Ker so bile občinske geodetske uprave takrat kadrovsko in finančno v celoti odvisne od politike posamezne občine, je bilo težko pričakovati, da se stanje razdrobljenosti podatkov zemljiškega katastra ne bi še nadaljevalo. Preostali del opisnega dela zemljiškega katastra, ki zajema vodenje postopkov, vodenje zgodovine sprememb itd. pa v teh rešitvah ni bil informatiziran.

Tudi grafični del zemljiškega katastra je bil do sredine 80. let še popolnoma neinformatiziran, le posamezni deli postopkov vzdrževanja (obdelava terenskih meritev) so se ponekod izvajali v digitalni tehnologiji.

to other records at the national level (e.g. the Civil register). As the municipal geodetic administrations at that time were entirely dependent on the policy of every individual municipality in terms of staff and finances, it was to be expected that the fragmentation of land cadastre data would continue.
The remainder of the descriptive part of the land cadastre, which includes the management of procedures, the management of the history of changes etc., was not computerized as part of these solutions.

The graphic part of the land cadastre was also completely non-computerized until the mid-1980s; only individual parts of maintenance procedures (the processing of field measurements) were carried out using digital technology in some places.

Slika 5.1.1: Prikaz vodenja dela katastrskega operata – parcelnika v k. o. 1442 Stavča vas – v času, ko je potekala obdelava katastrskih podatkov enkrat letno na programsko podprti bazi vodeni na Zavodu SRS za statistiko.
(Vir: Arhiv GURS, OGU Novo mesto)

Figure 5.1.1: Demonstration of the management of the cadastral record – parcel record in c. m. 1442 Stavča vas - during the time when the processing of cadastral data took place once a year on a software-supported database maintained at the Statistical Bureau of Slovenia.
(Source: The SMARS archive, OGU Novo mesto)

Velika informacijska raznolikost po posameznih občinskih geodetskih upravah je na Republiški geodetski upravi spodbudila aktivnosti v smeri poenotenja informacijskih rešitev za vodenje in vzdrževanje opisnih podatkov zemljiškega katastra. Oktobra 1989 je bila na Republiški geodetski upravi imenovana delovna skupina za izdelavo standardov zemljiškega katastra.

Delovna skupina je imela nalogo, da pripravi standarde za pisni del zemljiškega katastra, ki bo zagotavljal celovit, medsebojno povezan sistem, ki ne pokriva le ozkega upravnega področja, temveč omogoča povezovanje med različnimi upravnimi področji. Zemljiški kataster ne sme biti zaprt sistem razbit na posamezne samostojne in nepovezane občinske geodetske uprave. Novi standardi naj bi omogočali vzpostavitev povezanega sistema, ki bi zagotavljal vsem upravnim subjektom bistveno boljše informacije ob znatno manjših stroških. Delovna skupina se je držala naslednjih izhodišč:

- vzpostaviti in vzdrževati je treba informacijsko jedro, ki omogoča integracijo v sistemu,
- polnjenje in vzdrževanje informacij v sistem mora zagotoviti upravni subjekt pri katerem informacije nastajajo,
- vsaka posamezna vrsta informacije mora biti pred vnosom v sistem vsebinsko in postopkovno natančno opredeljena,
- informacijska tehnologija mora pokriti potrebe po sistemu ob minimalnih stroških.

Informacijsko jedro je sestavljeno iz štirih osnovnih upravnih evidenc, od katerih vsaka vsebuje vse enote v slovenskem prostoru, in sicer:

- evidenco fizičnih oseb,
- evidenco pravnih oseb,
- evidenco zemljiških enot (parcel) in
- evidenco zgradb.

Delovna skupina je v letu 1990 zaključila s svojim delom in pripravila katalog osnovnih standardov podatkov zemljiškega katastra. Katastra zgradb se ni lotila.

The diversity of information in individual municipal geodetic administrations stimulated activities at the Republic geodetic administration in the direction of unifying information solutions for the management and maintenance of the descriptive data of the land cadastre. In October 1989, a working group for the preparation of land cadastre standards was appointed at the Republic geodetic administration.

The task of the working group was to prepare standards for the written part of the land cadastre, which would provide a comprehensive, interconnected system that did not just cover a narrow administrative field, but also enabled connections between different administrative fields. The land cadastre must not be a closed system broken down into individual independent and unconnected municipal geodetic administrations. The new standards should make it possible to set up an integrated system that would provide all administrative entities with significantly higher-quality information at significantly lower costs. The working group took the following starting points:

- an information core must be established and maintained to enable integration into the system,
- the entry and maintenance of information in the system must be provided by the administrative entity where the information is generated,
- each individual type of information must be precisely defined in terms of content and procedure before being entered into the system,
- information technology must cover the needs of the system with minimal cost.

The information core consists of four basic administrative records, each of which contains all the units in the territory of Slovenia, namely:

- record of natural persons,
- record of legal entities,
- record of land units (parcels) and
- record of buildings.

In 1990, the working group completed its work and prepared a catalogue of basic land cadastre data standards. They did not address the building cadastre.

Katalog podatkov je bil zasnovan tako, da je omogočil povezavo podatkov zemljiškega katastra tudi z drugimi državnimi evidencami, ki niso v pristojnosti geodetske službe.

Na podlagi rezultatov dela te skupine je Republiška geodetska uprava v juniju 1991 objavila Katalog osnovnih standardov podatkov, ki jih je potrebno voditi v zemljiškem katastru.

Vzporedno s pripravo standardov je nastajala programska oprema za vodenje zemljiškega katastra na centralnem nivoju (avtor Franc Cimperman) na računalniku Centra vlade za informatiko (CVI) in tudi INKAT (avtor Tone Kogovšek) za vodenje na lokalnem nivoju (PC).

INKAT je bil uradno predstavljen v jeseni 1989 na Fakulteti za gradbeništvo, geodezijo in arhitekturo (FAGG). Prisostvovali so predstavniki vseh občinskih geodetskih uprav. V letu 1990 se je INKAT začel inštalirati po upravah. Postopek je bil zahteven in se je izvajal po naslednjih korakih:

- najprej podpis pogodbe z Izvršnim svetom občine (občinske geodetske uprave so bili takrat oddelki občin),
- prevzem in analiza obstoječe baze (obstoječe baze so bile različno vodene – več kot 10 sistemov je bilo v uporabi),
- opremljanje lastnikov z EMŠO in MŠ,
- urejanje deležev,
- urejanje šifranta vrst rab itd.

Ker takrat še ni bilo elektronskih komunikacij med občinskimi geodetskimi upravami, je bilo treba vsako občinsko geodetsko upravo večkrat obiskati. Za prenos baz so se uporabljale diskete.

Nekatere občinske geodetske uprave so se odločile tudi za razgrnitev podatkov. Vsem lastnikom so bili po pošti poslani podatki o njihovih parcelah. S tem so se odpravile napake, ki so nastale pri prevzemu baz, predvsem pri določanju EMŠO.

The information catalogue was designed in such a way that it enabled the connection of land cadastre data with other national records that were not within the competence of the RGU - Republic geodetic administration.

Based on the results of the work of this group, in June 1991 the Republic geodetic administration published the Catalogue of basic standards of data to be kept in the land cadastre.

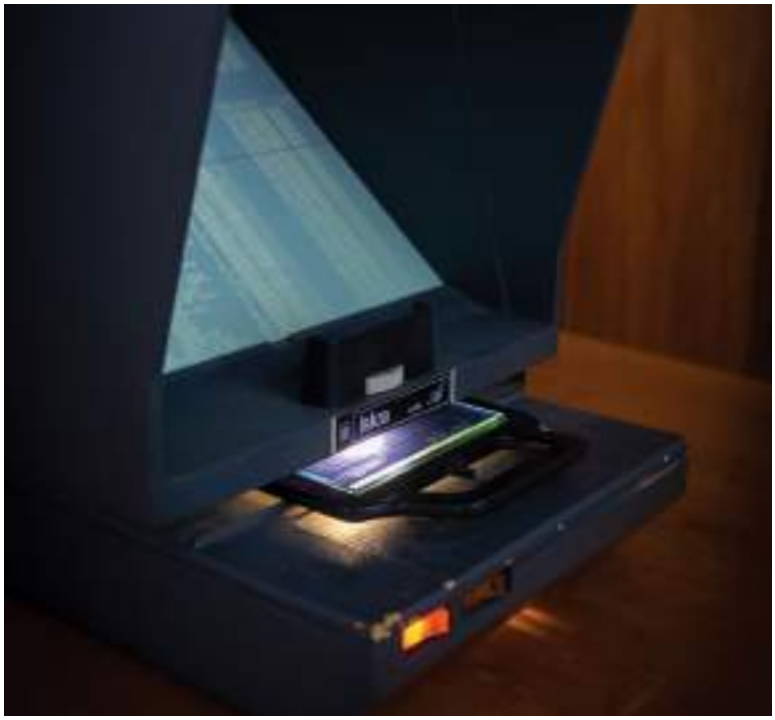
In parallel with the preparation of the standards, software was created for managing the land cadastre at the central level (author Franc Cimperman) on the computer of the Government centre for informatics (CVI), as well as INKAT (author Tone Kogovšek) for management at the local level (PC).

INKAT was officially presented in the autumn of 1989 at the Faculty of civil engineering, geodesy and architecture (FAGG). Present were representatives of all the municipal geodetic administrations. In 1990, the administrations started installing INKAT. The procedure was demanding and was carried out in the following stages:

- first, the signing of a contract with the executive council of the municipality (at the time, municipal geodetic administrations were departments of municipalities),
- the acquisition and analysis of the existing database (existing databases were managed in different ways – more than 10 systems were in use),
- assigning owners unique master ID numbers by EMŠO codes (for natural persons) and MŠ codes (for legal entities),
- managing ownership shares,
- managing the code list of types of uses, etc.

As there were no electronic communications between the municipal geodetic administrations at that time, each municipal geodetic administration had to be visited several times. Floppy disks were used to transfer the databases.

Some municipal geodetic administrations also decided to disclose the data. All owners were mailed information about their parcels. This eliminated the errors that occurred in the takeover of databases, especially in determining the EMŠO.



Slika 5.1.2: Mikročitalec je bil pripomoček, ki se je uporabljal v času pripisa EMŠO k vsakemu lastniku nepremične v abecedni seznam lastnikov. Pripis matične številke k vsakemu lastniku je bil predpogoj za prehod na enotno računalniško obdelavo opisnih podatkov zemljiškega katastra.
(Fotografija: Boštjan Pucelj)

Figure 5.1.2: The microreader was a device used at the time of the attribution of the EMŠO to each owner of real estate in the alphabetical list of owners. The assignment of a personal identification number to each owner was a prerequisite for the transition to the uniform computer processing of the descriptive data of the land cadastre.
(Photo: Boštjan Pucelj)

Do začetka leta 1993 je bilo prevzetih v enotno evidenco polovico vseh občinskih geodetskih uprav. Vse prevzete geodetske uprave so istočasno s prehodom na INKAT prenesle bazo v Centralno bazo na Zavodu RS za statistiko, s tem pa je bila tudi zagotovljena povezava z registri (CRP).

Vzdrževanje podatkov je potekalo interaktivno (INKAT), enkrat letno pa se je izvedel prenos na centralno bazo. Pri tem so se izvedle vse kontrole in na občinskih geodetskih upravah so se tudi takrat (enkrat letno) avtomatsko obnovili nazivi in naslovi lastnikov iz CRP.

Gradnja centralne baze je omogočila, da je zemljiški kataster postal tudi avtomatski vir za odmero davkov iz kmetijstva. Takratna Republiška uprava za javne prihodke je spremenila zakon o dohodnini tako, da je uvedla domicilni princip. To pomeni, da zavezance obdavči uprava, kjer ima zavezanec stalno bivališče. Pred tem je veljalo pravilo, da se kmetijska zemljišča obdavčijo tam, kjer ležijo. To je povzročalo veliko dela za davkarje, ki so si morali

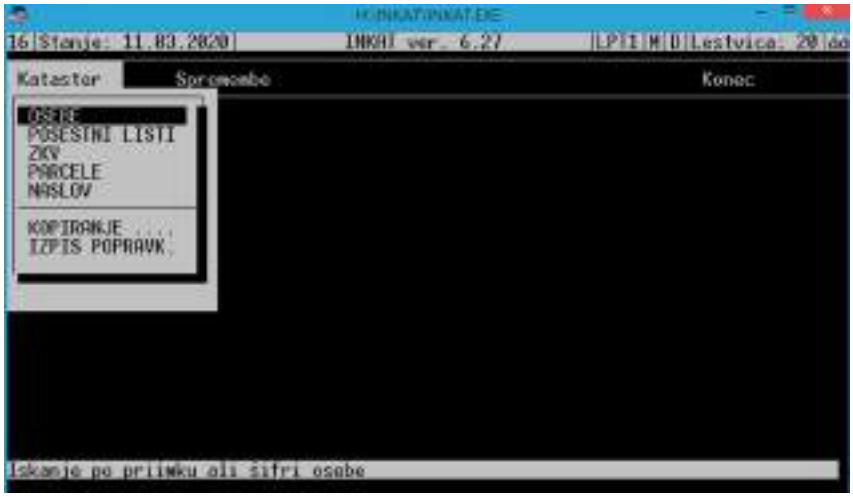
By the beginning of 1993, half of all municipal geodetic administrations had been included in the uniform records. Simultaneously with the transition to INKAT, all the geodetic administrations taken over transferred their databases to the central database at the Statistical Office of the Republic of Slovenia, thus ensuring a connection with the registers (CRP).

Data maintenance was carried out interactively (INKAT) and a transfer to the central database was performed once a year. In parallel (once a year), all controls were carried out and the titles and addresses of the owners from the CRP were also automatically renewed at the municipal geodetic administrations.

The construction of the central database made it possible for the land cadastre to become an automatic source for assessing taxes on agriculture. The then Republic Administration for Public Revenue amended the Personal Income Tax Act by introducing the domicile principle. This means that taxpayers are taxed by the

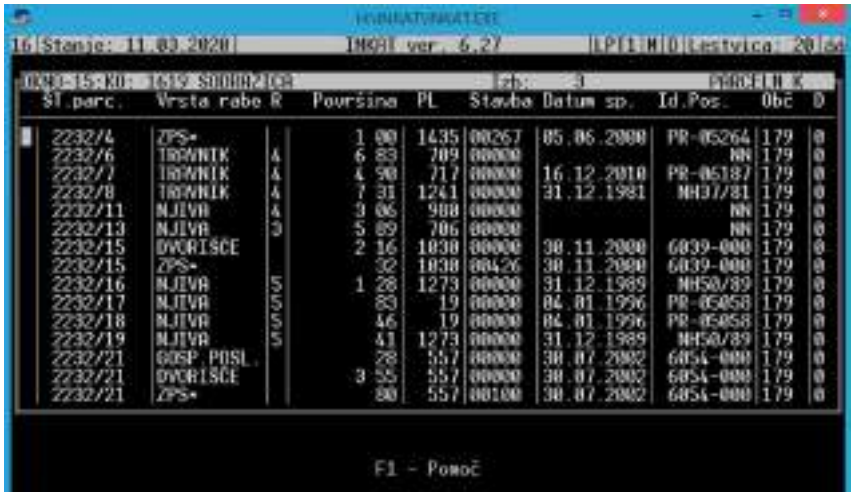
podatke med sabo izmenjevati za tiste zavezance, ki so imeli zemljo v več takratnih občinah. Domicilni princip in centralna baza je bila za obdavčitev na podlagi katastrskega dohodka velika pridobitev.

administration of the location where the taxpayer has a permanent residence. Previously, the rule was that agricultural land was taxed where it lay. This caused a lot of work for the tax authorities, who had to exchange data with each other on the taxpayers who owned land in several municipalities. The domicile principle and the central database were a major step forward for taxation based on cadastral income.



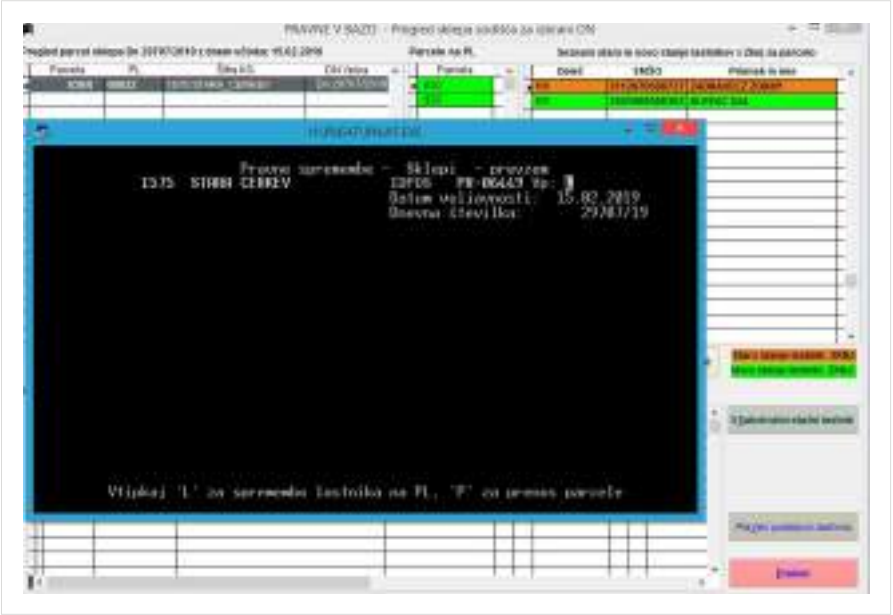
Slika 5.1.3: Osnovna maska PP INKAT. (Vir: PP INKAT)

Figure 5.1.3: The PP INKAT interface. (Source: PP INKAT)



Slika 5.1.4: Opisni podatki zemljiškega katastra, ki se vodijo s PP INKAT. (Vir: PP INKAT)

Figure 5.1.4: Descriptive data of the land cadastre managed through PP INKAT. (Source: PP INKAT)



Slika 5.1.5: Priprava pravne spremembe podatkov zemljiškega katastra v kombinaciji s PP Devo servisi in PP INKAT.
(Vir: PP Devo servisi)

Figure 5.1.5: Preparation of a legal change in land cadastre data in combination with PP Devo servisi and PP INKAT.
(Source: PP Devo servisi)

Republiška uprava za javne prihodke je želela pospešiti gradnjo centralne baze, da bi bila čimprej cela Slovenija vodena na tak enoten način.

Marca 1993 leta se je ustanovil Sklad kmetijskih zemljišč in gozdov, ki je za začetek svojega dela tudi potreboval podatke o parcelah in lastnikih za celo Slovenijo.

Na njihovo pobudo je bil leta 1993 podpisan Sporazum o vzpostavitvi centralne baze zemljiškega katastra za Republiko Slovenijo. Podpisali so ga:

- Center vlade za informatiko (CVI) – Marin Silič,
- Republiška geodetska uprava (RGU) – Aleš Seliškar,
- Zavod za statistiko (ZS) – Tomaž Banovec,
- Republiška uprava za javne prihodke (RUJP) – Ivan Rojc,
- Sklad kmetijskih zemljišč in gozdov (SKZG) – Marija Lukačič,
- KRIM d.o.o. – Tone Kogovšek.

The Republic Administration for Public Revenue wanted to speed up the construction of the central base so that the whole of Slovenia would be managed in a unified way as soon as possible.

In March 1993, the National Farm Land and Forest Fund was established, which also required data on parcels and owners for the whole of Slovenia to commence its operation.

At their initiative, the Agreement on the establishment of a central land cadastre database for the Republic of Slovenia was signed in 1993. It was signed by:

- Government centre for informatics (CVI) - Marin Silič,
- Republic geodetic administration (RGU) - Aleš Seliškar,
- Statistical Office (ZS) - Tomaž Banovec,
- Republic administration for public revenue (RUJP) - Ivan Rojc,
- National Farm Land and Forest Fund (SKZG) - Marija Lukačič,
- KRIM d.o.o. - Tone Kogovšek.

CVI je po sporazumu zagotavljal dostop do centralnega računalnika, RGU je bil osnovni nosilec projekta, ZS je zagotavljal programsko opremo za centralno bazo in dostop do registrov, RUJP je bila največji uporabnik in je zagotovila delno financiranje projekta, SKZG je bil tudi velik uporabnik in financer, KRIM d.o.o. pa je zagotavljal operativno pripravo lokalnih baz in prenos v centralno bazo.

Sporazum je pospešil polnjenje centralne baze in spomladi leta 1995 je bila centralna baza vzpostavljena za celo Slovenijo. To je bil velik korak pri modernizaciji pisnega dela zemljiškega katastra, ki je s tem postal dostopen tudi drugim uporabnikom v državi. Uspeh tega projekta je toliko večji, ker je bil praktično zaključen pred reorganizacijo lokalne samouprave, s katero je geodetska služba prešla iz občin na centralno organiziranost (1. 1. 1995).

V naslednjih letih je Geodetska uprava RS razvila svojo programsko opremo za vodenje centralne baze, ki jo je prejela od Zavoda za statistiko. Prenos podatkov iz lokalnih INKAT-ov v centralno bazo se je, namesto enkrat ali dvakrat letno, začel v letu 1998 izvajati dnevno. S tem je Centralna baza zemljiškega katastra postala ažurna in dostopna uporabnikom.

In accordance with the agreement, CVI provided access to the central computer, RGU was the main project holder, ZS provided software for the central database and access to registers, RUJP was the largest user and provided partial financing of the project, SKZG was also a large user and provided financing, and KRIM d.o.o. provided operational preparation of local databases and transfer to the central database.

The agreement accelerated the filling of the central database and in the spring of 1995, a central database was established for the whole of Slovenia. This was a leap forward in the modernization of the written part of the land cadastre, which thus became accessible to other users in the country. The success of this project is all the greater because it was practically completed before the reorganization of local self-government, with which the geodetic service was moved from municipalities to a central organization (1 January 1995).

In the following years, the Surveying and Mapping Authority of the Republic of Slovenia developed its software for managing the central database, which it received from the Statistical Office. Starting in 1998, the data from local INKATs would be transferred daily to the central database, instead of once or twice a year. With this, the Central land cadastre database became up-to-date and accessible to users.

5.2 Grafični del zemljiškega katastra

Naslednji korak v posodobitvi zemljiškega katastra je predstavljal informatizacijo postopkov in operata grafičnega dela zemljiškega katastra.

Skupen cilj je bil vzpostavitev poenotene digitalne baze podatkov zemljiškega katastra na osnovi obstoječe analogne oblike, zagotovitev kontinuitete v poslovanju z naravnim prehodom iz opisnega na digitalni način vodenja zemljiškega katastra in zadržanje oziroma izboljšanje kvalitete podatkov in poslovanja zemljiškega katastra.

Precej bolj zapleten, kot pretvorba opisnega operata, je bil ta zalogaj, ki je zahteval tudi več časa in več resursov. V ta namen je

Graphical part of the land cadastre

The next step in the modernization of the land cadastre was the computerization of procedures and the record of the graphical part of the land cadastre.

The common goal was to establish a unified digital land cadastre database based on the existing analogue form, to ensure operating continuity with a natural transition from the descriptive to digital land cadastre management, and to maintain or improve the quality of land cadastre data and operations.

This was a much more arduous task than the conversion of the descriptive record and it also required more time and resources. For this purpose, it was necessary to define the basic entities of the digital land cadastre database, such as: parcel (in the descriptive and location parts), possession sheet, owner (all three entities were

bilo potrebno definirati osnovne entitete digitalne baze zemljiškega katastra, kot so: parcela (v opisnem in lokacijskem delu), posestni list, lastnik (vse tri entitete so bile definirane že v Katalogu osnovnih standardov podatkov zemljiškega katastra), zemljiškokatastrska točka, meja parcele, za vodenje postopkov pa so pomembne še zadeve, ki lahko preidejo v postopke in se zaključijo v elaboratu. Za identifikacijo nekaterih entitet so bili prevzeti obstoječi identifikatorji (parcela, posestni list), za druge entitete, pa je bilo potrebno poenotiti in definirati nove identifikatorje.

V okviru katastrske občine so bile definirane številke zemljiškokatastrskih točk, številke meja parcel in številke elaboratov (IDPOS), v okviru posamezne občinske geodetske uprave (od leta 1995 dalje izpostave območnih geodetskih uprav oz. današnje geodetske pisarne) pa so bile oštevilčene zadeve v okviru sprejetega klasifikacijskega načrta oštevilčevanja vlog. Poleg definiranja osnovnih entitet so se definirali tudi enotni postopki vodenja in vzdrževanja teh entitet. Razumeti je potrebno, da so definirani postopki temeljili na osnovi tedaj veljavne zakonodaje. Med pomembnimi dosežki je potrebno poudariti poenotenje do tedaj zelo raznolikih rešitev v posameznih občinskih geodetskih uprav.

Poenotenje je zajemalo vodenje postopkov od sprejema vlog, preko vabljenja strank, priprave podatkov za terensko meritev, do izvedbe postopka terenske izmere, izdelave elaborata, kontrol pri preverjanju pravilnosti elaborata, oštevilčevanja postopkov, odločb in dokumentov v upravnem postopku. Poenotenje je zajelo tudi način ureditve celotnega arhiva zemljiškega katastra in s tem povezane vzpostavitve nove evidence elaboratov, definiranje zemljiškokatastrske in tudi geodetske točke z vsemi njenimi še do tedaj veljavnimi lastnostmi. Vzporedno s poenotenjem in definiranjem standardov je potekala tudi priprava na informatizacijo grafičnega operata zemljiškega katastra (ustrezna tehnično tehnološka dokumentacija). Prvotna ideja je predvidevala izdelavo enotne informacijske rešitve za vodenje baze podatkov in postopkov opisnega in grafičnega dela zemljiškega katastra.

Ta rešitev ni zaživela, ker je zahtevala v digitalni bazi usklajene opisne in lokacijske podatke, kar v praksi ni bilo možno izvesti brez spremembe zakonodaje in brez znatnih dodatnih resursov.

Nadaljnji razvoj se je usmeril v iskanje programskih rešitev, ki so temeljile na kvaliteti obstoječih analognih in digitalnih podatkov. Ločil se je razvoj programskih rešitev za opisni in grafični del

already defined in the catalogue of basic land cadastre data standards), land cadastre point and parcel border, while also important for the management of procedures were cases that could be transferred to procedures and concluded in the report. Existing identifiers (parcel, possession sheet) were used for the identification of some entities, while for others, it was necessary to unify and define new identifiers.

Within the cadastral municipality, land cadastre point numbers, parcel border numbers and procedure identification numbers (IDPOS) were defined, and within individual municipal geodetic administrations (from 1995 onwards branches of regional geodetic administrations or today's geodetic offices) cases were numbered within the framework of the adopted entry numbering classification plan. In addition to the basic entities, uniform procedures for the management and maintenance of these entities were defined as well. It should be noted that the defined procedures were based on the legislation in force at the time. Important achievements include the unification of the highly diverse solutions in individual municipal geodetic administrations of that time.

The unification included the management of procedures including the acceptance of applications, inviting clients, the preparation of data for field surveying, the implementation of the field survey procedure, preparation of the report and checking the correctness of reports, as well as numbering procedures, decisions and documents in the administrative procedure. The unification also covered the manner of arranging the entire archive of the land cadastre and the related establishment of a new record of reports, as well as defining the land cadastre point and the geodetic point with all its properties still valid at the time. In parallel with the unification and definition of standards, preparations were also made for the computerization of the graphical record of the land cadastre (relevant technical and technological documentation). The initial idea was to create a unified information solution for managing the database and procedures of the descriptive and graphical part of the land cadastre.

This solution, however, was not implemented, since it would require harmonized descriptive and locational data in a digital database, which could not be done in practice without a change in legislation and without significant additional resources.

zemljiškega katastra, s tem da so bili pri nadaljnjem razvoju vendarle vključeni elementi za njuno poenotenje. Razvoj programskih rešitev na opisnem delu zemljiškega katastra je šel najprej v smeri izgradnje evidence elaboratov in zemljiškokatastrskih točk in v vodenje celovitih postopkov. V letu 1992 je bila izdelana programska oprema (PP EVELA) za uvedbo poenotene oštevilčbe elaboratov sprememb zemljiškega katastra z identifikacijsko številko postopka – IDPOS. Leta 1993 pa se je začel množičen zajem osnovnih podatkov elaboratov v digitalno obliko, ki je bil v letu 1996 oziroma 1997 večinoma zaključen. Zajeti so bili vsi elaborati sprememb na geodetskih upravah, praktično pa je to pomenilo zajem evidence za celo 20. stoletje in zadnji dve desetletji 19. stoletja. Zajem osnovnih lastnosti elaboratov je narekoval marsikje še reorganizacijo obstoječih arhivov zemljiškega katastra.

Further development focused on finding software solutions based on the quality of existing analogue and digital data. The development of software solutions for the descriptive and graphical parts of the land cadastre was separated, but elements for their unification were included in the further development. The development of software solutions for the descriptive part of the land cadastre initially went in the direction of compiling a record of reports and land cadastral points, and the management of comprehensive procedures. In 1992, software (PP EVELA) was developed for the introduction of the unified numbering of land cadastre change reports with procedure identification numbers - IDPOS. In 1993, the batch capture of basic data from reports into digital form began, which was mostly completed in 1996 and 1997. All the reports of changes in geodetic administrations were covered, and practically this meant capturing records for the entire 20th century and the last two decades of the 19th century. The capture of the main features of the reports dictated in many places the reorganization of the existing archives of the land cadastre.

Slika 5.2.1: Ekranski prikaz vpogledovalnika PREG, ki med drugim omogoča tudi poizvedbe po arhivu evidence elaboratov.
(Vir: PREG)

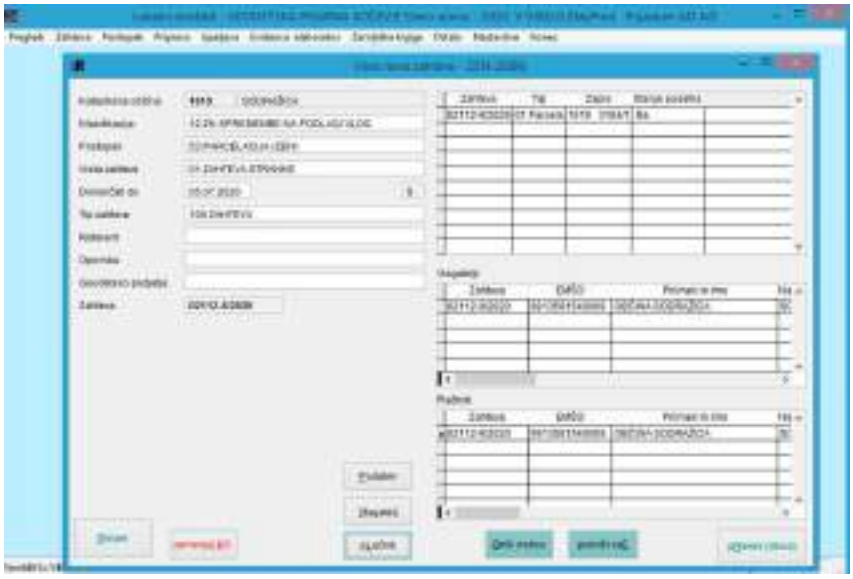
Figure 5.2.1: Screen display of the PREG viewer, which, among other functions, enables queries in the report record archive.
(Source: PREG)

Vzporedno z razvojem evidence elaboratov se je odvijal tudi razvoj baze mejnih točk, ki je bila poimenovana v bazo zemljiškokatastrskih točk – ZK točke. Definirana je bila vsebina evidentiranja posamezne ZK točke in njenega oštevilčevanja v okviru katastrske občine. Množični zajem podatkov ZK točk v digitalno obliko (s programskim paketom ZKTOC) se je začel v letu 1993 in bil večinoma do leta 1996 zaključen. Praktično je to pomenilo zajem vseh mejnih točk, ki so nastale od začetka 60. let, ko so se začele meritve bolj množično izvajati v Gauss-Krügerjevem (državnem) koordinatnem sistemu in izdelovati seznami mejnih točk v pisni obliki.

Vzpostavitev evidence elaboratov in baze zemljiškokatastrskih točk sta bila prva koraka na poti informatizacije postopkov grafičnega dela zemljiškega katastra. Najpomembnejši korak je predstavljala zasnova in izdelava programskega paketa delovodnika za vodenje in vzdrževanje opisnega dela zemljiškega katastra od sprejema vloge do izdaje odločbe.

In parallel with the development of the record of reports, the development of the database of border points also took place, which was renamed to the database of land cadastral points - LC points. The content of the record of an individual LC point and its numbering within the cadastral municipality was defined. The batch capture of LC point data in digital form (with the ZKTOC software package) began in 1993 and was mostly completed by 1996. In practice, this meant capturing all the border points that were created since the early 1960s, when measurements began to be carried out more en masse in the Gauss-Krüger (national) coordinate system and written lists of border points were created.

The establishment of a record of reports and a database of land cadastre points represented the first steps on the path to the computerization of the procedures of the graphical part of the land cadastre. The most important step was the design and production of the Delovodnik software package for the management and maintenance of the descriptive part of the land cadastre from the acceptance of the application to the issuance of the decision.



Slika 5.2.2: Sprejem vloge za izvedbo spremembe podatkov zemljiškega katastra v PP Devo Servisi.
(Vir: PP Devo servisi)

Figure 5.2.2: Acceptance of an application for the implementation of a change in land cadastre data in PP Devo Servisi.
(Source: PP Devo servisi)

Slika 5.2.3: Pregled ZK točk v PP Devo servisi.
(Vir: PP Devo servisi)

Figure 5.2.3: Overview of LC points in PP Devo servisi.
(Source: PP Devo servisi)

Programski paket Devo servisi je funkcionalno združil in nadgradil programske pakete EVELA, ZKTOC in INKAT. PP Devo servisi je v uporabi vse do informacijske prenove v sklopu eProstora, ko ga zamenja PP DELOVODNIK. PP Devo servisi omogoča obdelavo opisnih podatkov zemljiškega katastra na lokalnem nivoju od podatkov parcel, ZK točk do urejenih mej. PP Devo servisi nudi podporo poslovanju zemljiškega katastra in omogoča spremljanje uradnih postopkov, ki tečejo v zemljiškem katastru. PP Devo servisi omogoča poslovanje geodetskim upravam na lokalnem nivoju na področju zemljiškega katastra od sprejema vloge preko vseh vmesnih faz do izdaje odločbe in izvedbe eventualnih sprememb podatkov v baze. Ob tem omogoča tudi rezervacije parcelnih številk in številk ZK točk ter avtomatsko generiranje evidence elaboratov za dokončane postopke. Ena pomembnejših funkcij programa je tudi možnost urejanja relacije med parcelo in stavbo na način, da je poizvedba o obstoječih relacijah izvedena s poizvedovanjem v centralni bazi stavb. PP Devo servisi pripravlja tudi podatke in ima vgrajene ter implementirane funkcije za dnevno vzdrževanje centralnih baz evidence elaboratov (EVELA), ZK točk in urejenih mej.

Programski paket je bil zasnovan (PP DEVO) v letu 1992, izdelan v letu 1993 in implementiran v prva okolja ob koncu leta 1993. Ob začetku množičnega delovanja je bilo izvedenih več sprememb, zato je bila njegova implementacija na vse lokalne enote geodetskih

The Devo servisi software package functionally combined and upgraded the EVELA, ZKTOC and INKAT software packages. PP Devo servisi was in use up until the information redesign within the national eProstor project, at which time it was replaced by PP DELOVODNIK. PP Devo servisi enables the processing of the descriptive data of the land cadastre at the local level including the data of parcels, LC points and regulated borders. PP Devo servisi offers support for the operation of the land cadastre and enables the monitoring of official procedures in the land cadastre. PP Devo servisi also enables geodetic administrations to operate at the local level in the field of land cadastre, from the acceptance of an application through all intermediate phases to the issuance of a decision and the implementation of possible changes to data in databases. It also enables the reservation of parcel numbers and LC point numbers and the automatic generation of report records for completed procedures. A major functionality of the program is also the option of arranging the relationship between the parcel and the building in such a way that the query about existing relationships is performed by querying the central database of buildings. PP Devo servisi also prepares data and has built-in and implemented functions for the daily maintenance of central databases of report records (EVELA), LC points and regulated borders.

The software package (PP DEVO) was designed in 1992,

uprav zaključena šele v prvi polovici 1998. Z uveljavitvijo Zakona o evidentiranju nepremičnin, državne meje in prostorskih enot v letu 2000 (Ur. l. RS 52/2000) je bila izvedena tudi večja delna reorganizacija delovanja programskega paketa, ki je bil prilagojen zahtevam novega zakona.

manufactured in 1993 and implemented in the first environments at the end of 1993. At the beginning of the operation en masse, several changes were made, so its implementation for all local units of geodetic administrations was ultimately completed only in the first half of 1998. With the Recording of Real Estate, State Border and Spatial Units Act of 2000 (Official Gazette of the Republic of Slovenia 52/2000), there was a major partial reorganization of the operation of the software package, which was adjusted to the requirements of the new act.

5.2.1 Analogno digitalna pretvorba grafičnega dela zemljiškega katastra

V začetku 90. let prejšnjega stoletja so se začeli snovati prvi postopki analogno-digitalne pretvorbe. Največji korak na tem področju sta v letu 1991 in 1992 izvedli občini Kranj in Koper z za takratne razmere obsežnim zajemom grafičnega dela zemljiškega katastra v digitalno obliko. Kasneje v letih 1993 so se jim pridružile še občine: Maribor, Ljubljana, Sevnica, Celje. V tem obdobju so bili dokončno definirani postopki skeniranja katastrskih načrtov, njihovega razpačevanja, vektorizacije, sestavljanja vektoriziranih listov v okviru dela katastrske občine in izvedbe kontrole ujemanja opisnega in grafičnega dela zemljiškega katastra. Postopki so bili definirani za območja grafičnega katastra, numeričnega katastra in območja novih izmer.

S strani večjih uporabnikov je bila izražena potreba po izdelavi zveznega sloja lokacijske baze zemljiškega katastra za celotno Slovenijo.

V tem obdobju so bili zajeti podatki vodeni po delih katastrskih občin, s tem da so bili podatki koordinatnega katastra vodeni v državnem koordinatnem sistemu, podatki grafičnega katastra pa v lokalnih koordinatnih sistemih, meje parcel med sosednjimi deli katastrskih občin pa niso bile usklajene.

Sledili so postopki transformacije delov katastrskih občin grafičnega katastra v državni koordinatni sistem, ki so temeljili na Helmertovi transformaciji homogene enote – dela katastrske občine na osnovi identificiranih in preverjenih transformacijskih točk.
V naslednjem koraku so bili definirani tudi postopki usklajevanja

Analogue-digital conversion of the graphical part of the land cadastre

In the early 1990s, the first analogue-digital conversion processes began to emerge. The most important steps were taken in 1991 and 1992 by the municipalities of Kranj and Koper with the extensive capturing of the graphical part of the land cadastre in digital form. Later in 1993, they were joined by the municipalities of Maribor, Ljubljana, Sevnica and Celje. During this period, the procedures for scanning cadastral plans, rubber-sheeting, vectorization, compiling vectorised sheets within the operations of the cadastral municipality and for performing control of the matching of the descriptive and graphical parts of the land cadastre were finally defined. Procedures were also defined for the areas of the graphical cadastre, numerical cadastre and areas of new surveys.

The larger users expressed the need for the creation of a uniform layer of the location database of the land cadastre for the whole of Slovenia.

During this period, the captured data was arranged by parts of cadastral municipalities, where the data of the coordinate cadastre were kept in the national coordinate system, the data of the graphic cadastre in the local coordinate systems, and the borders of parcels between neighbouring parts of cadastral municipalities were not harmonized.

This was followed by procedures for the transformation of parts of cadastral municipalities of the graphical cadastre into the national coordinate system, which were based on Helmert's transformation of a homogeneous unit - part of a cadastral municipality - on the basis of

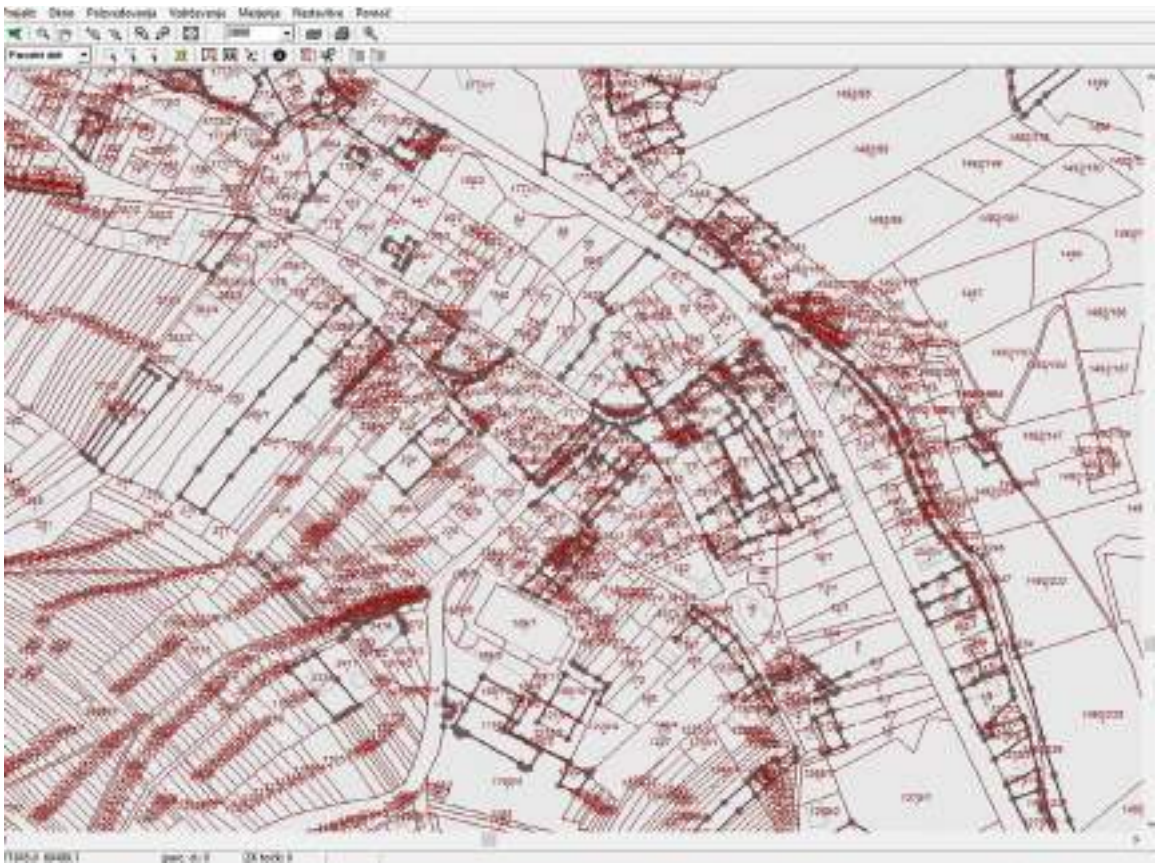
meja delov katastrskih občin. V tem koraku so se meje prvega prilagajala meji drugega dela katastrske občine glede na kvaliteto podatkov v posamezni katastrski občini in glede na predlog usklajevanja, ki ga je pripravila posamezna lokalna enota geodetske uprave.

identified and verified transformation points.

The next step also defined the procedures for harmonizing the borders of parts of cadastral municipalities. In this step, the borders of one part of a cadastral municipality were adjusted to the borders of another part in accordance with the quality of the data in each cadastral municipality and with the harmonization proposal prepared by each local unit of the geodetic administration.

Slika 5.2.1.1: Analogni katastrski načrt k. o. 1619 Sodražica.
(Vir: Vpogledovalnik v e-ZKN)

Figure 5.2.1.1: Analogue cadastral plan of c. m. 1619 Sodražica.
(Source: The e-ZKN viewer)



Slika 5.2.1.2.: Digitalizirani katastrski načrt k. o. 1619 Sodražica. Odebeljene linije v prikazu predstavljajo urejene meje.
(Vir: Ekranska slika v PP Edit DKN)

Figure 5.2.1.2: Digitized cadastral plan of c. m. 1619 Sodražica. Bold lines in the display represent regulated borders.
(Source: Screen image in PP Edit DKN)

Podrobneje so vsi koraki pretvorbe grafičnega dela zemljiškega katastra v digitalni zapis opisani v posebni brošuri »Slovenska zemlja na katastrskih načrtih«, sama izvedba pa je sledila natančno opisanim postopkom v naslednjih korakih:

- skeniranje analognih zemljiškokatastrskih načrtov z razpačenjem,
- vektorizacija skenogramov in združevanje listov vektorizirane vsebine znotraj istega območja zajema,

All the steps of converting the graphic part of the land cadastre into a digital record are described in more detail in a special brochure entitled »Slovenian land on Cadastral maps«, and the implementation itself was performed according to the procedures described in detail in the following steps:

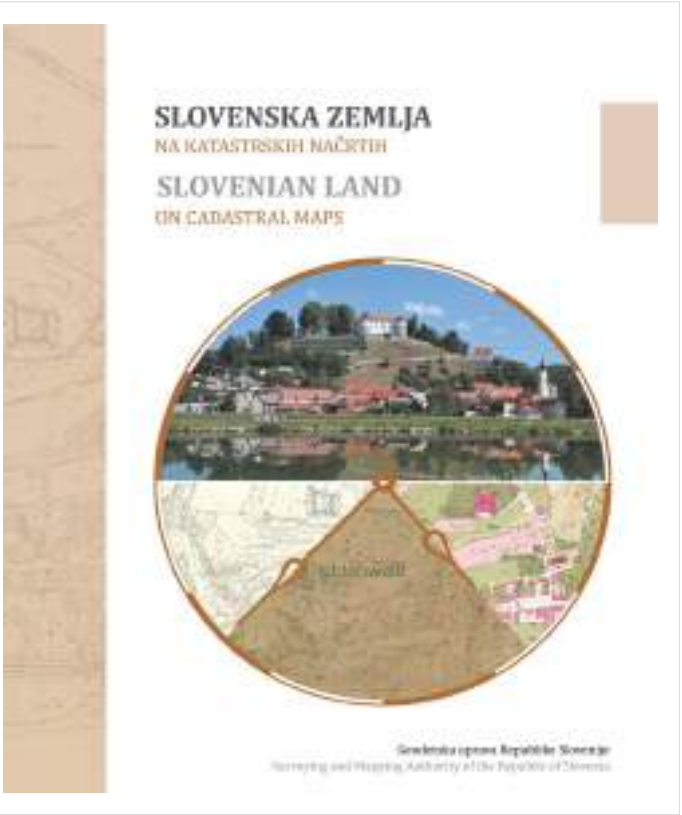
- Scanning analogue cadastral plans with rubber-sheeting,
- Vectorization of scans and the grouping of sheets of vectorised content within the same

priprava slojev listov in priprava seznama napak,
- geolociranje vektoriziranih območij zajema v približen koordinatni sistem D48/GK,
- usklajevanje podatkov,
- dodajanje ZK točk lokacijski bazi (»napenjanje ZK točk«),
- natančnejše geolociranje območij zajema in izdelava skupnih izrisov meje sosednjih območij zajema (transformacija DKN-DOF),
- dovzdrževanje za vmesni čas od skeniranja načrtov dalje,
- uskladitev meja območij zajema.

»Projekt posodobitve evidentiranja nepremičnin« na področju zemljiškega katastra je bil za celo Slovenijo zaključen leta 2009, ko je bila uveljavljena zadnja digitalizirana katastrska občina v državi.

area of coverage, preparation of sheet layers and preparation of error list,
- Geolocation of vectorised areas of coverage in the D48/GK approximate coordinate system,
- Coordination of data,
- Adding LC points to the location database (»tensioning of LC points«),
- The more precise geolocation of the areas of coverage and the production of joint mappings of the borders of adjacent areas of coverage (DKN-DOF transformation),
- Maintenance in the intermediate period after map scanning,
- Harmonization of areas of coverage borders.

The »Project of the Modernization of Real Estate Registration« in the field of the land cadastre was completed for the whole of Slovenia in 2009, when the last of the digitized cadastral municipalities in the country was completed.



Slika 5.2.1.3.: Slovenska zemlja na katarskih načrtih, Geodetska uprava Republike Slovenije, november 2020. (Vir: GURS)

Figure 5.2.1.3: Slovenian Land on Cadastral maps, Surveying and Mapping Authority of the Republic of Slovenia, November 2020.
(Source: SMARS)

5.2.2 Vodenje in vzdrževanje lokacijske baze zemljiškega katastra

Vzporedno z analogno digitalno pretvorbo grafičnega dela in informatizacijo opisnega dela zemljiškega katastra je tekel tudi razvoj informacijskih rešitev za vodenje in vzdrževanje lokacijske baze zemljiškega katastra.

Za lokalne enote geodetskih uprav je bil izdelan programski paket Edit_DKN. PP Edit_DKN je programski paket namenjen za obdelavo grafičnih podatkov zemljiškega katastra na lokalnem nivoju. PP Edit_DKN omogoča vodenje, vzpostavitev, uporabo in vzdrževanje lokacijskih podatkov parcel ter paketno vzdrževanje baze delov k. o., pisarn območnih geodetskih uprav. PP Edit_DKN pripravlja podatke in omogoča vzdrževanje centralne baze lokacijskih podatkov parcel na način paketnega (po celih k. o.) in tekočega postopkovnega (po posameznih IDPOS) vzdrževanja.

Iz PP Edit_DKN je omogočen vpogled tudi v naslednje baze podatkov:

- Opisni podatki parcel,
- Opisni podatki ZK točk,
- Opisni podatki urejenih mej.

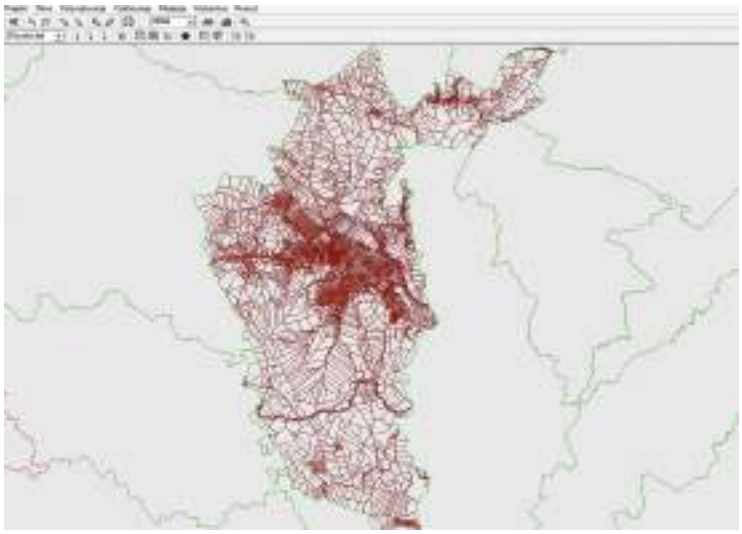
Management and maintenance of the location database of the land cadastre

In parallel with the analogue-digital conversion of the graphical part and the computerization of the descriptive part of the land cadastre, the development of information solutions for the management and maintenance of the location database of the land cadastre also took place.

The Edit_DKN software package was created for local units of geodetic administrations. PP Edit_DKN is a software package intended for processing the graphic data of the land cadastre at the local level. PP Edit_DKN enables the management, establishment, use and maintenance of the location data of parcels and the batch maintenance of the database of c. m. parts and offices of regional geodetic administrations. PP Edit_DKN prepares data and enables the maintenance of the central database of location data of parcels through batch (by whole c. m.-s) and current procedural (by individual IDPOS) maintenance.

PP Edit_DKN also enables insight into the following databases:

- Descriptive data of parcels,
- Descriptive data of LC points,
- Descriptive data of regulated borders.

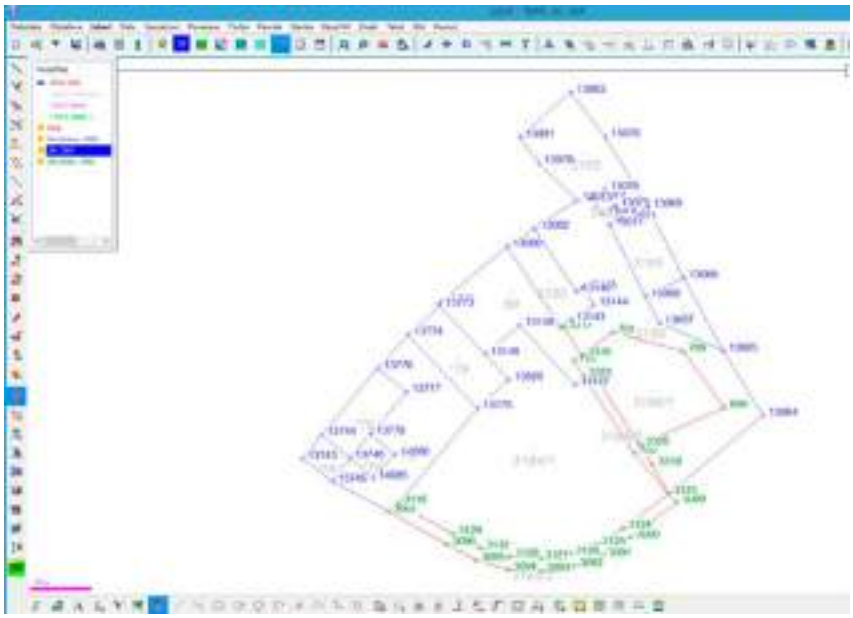


Slika 5.2.2.1: Programsko orodje Edit_ DKN (k. o. 1619 Sodražica).
(Vir: Ekranska slika v PP Edit_DKN)

Figure 5.2.2.1: The Edit_ DKN software (c. m. 1619 Sodražica).
(Source: Screen image in PP Edit_DKN)

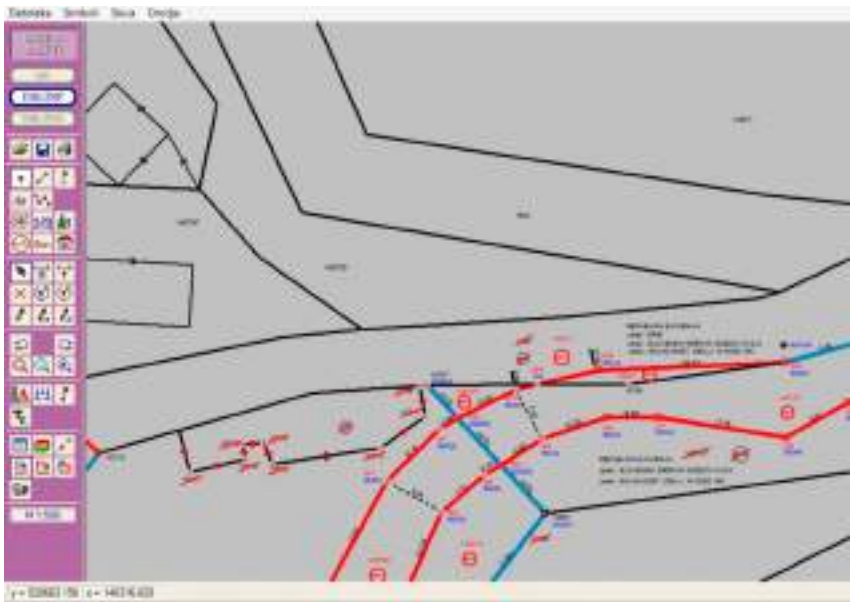
Za delo pri izvajalcih geodetskih storitev je bil izdelan programski paket, ki omogoča prevzem digitalnih lokacijskih in opisnih podatkov iz geodetske uprave, vnos podatkov in izračun meritev, izvedbo grafičnega ali koordinatnega vklopa in pripravo vseh izmenjevalnih datotek, ki so potrebne za vzdrževanje lokacijske in opisne baze zemljiškega katastra na Izpostavah območnih geodetskih uprav.

A software package was developed for work with geodetic service providers, which enables the retrieval of digital location and descriptive data from the Surveying and Mapping Authority, data entry and the calculation of measurements, graphical or coordinate integration and the preparation of all exchange files necessary for the maintenance of the location and a descriptive database of the land cadastre at the branches of regional geodetic administrations.



Slika 5.2.2.2: Ekranski prikaz menija programskega paketa Geos.
(Vir: PP Geos)

Figure 5.2.2.2: Screen display of the Geos software package menu.
(Source: PP Geos)



Slika 5.2.2.3: Izdelava skice izmere s programskim paketom GeoPro.
(Vir: PP GeoPro)

Figure 5.2.2.3: Creating a survey sketch with the GeoPro software package.
(Source: PP GeoPro)

Slika 5.2.2.4: Izdelava delilnega načrta s programskim paketom GeoPro.
(Vir: PP GeoPro)

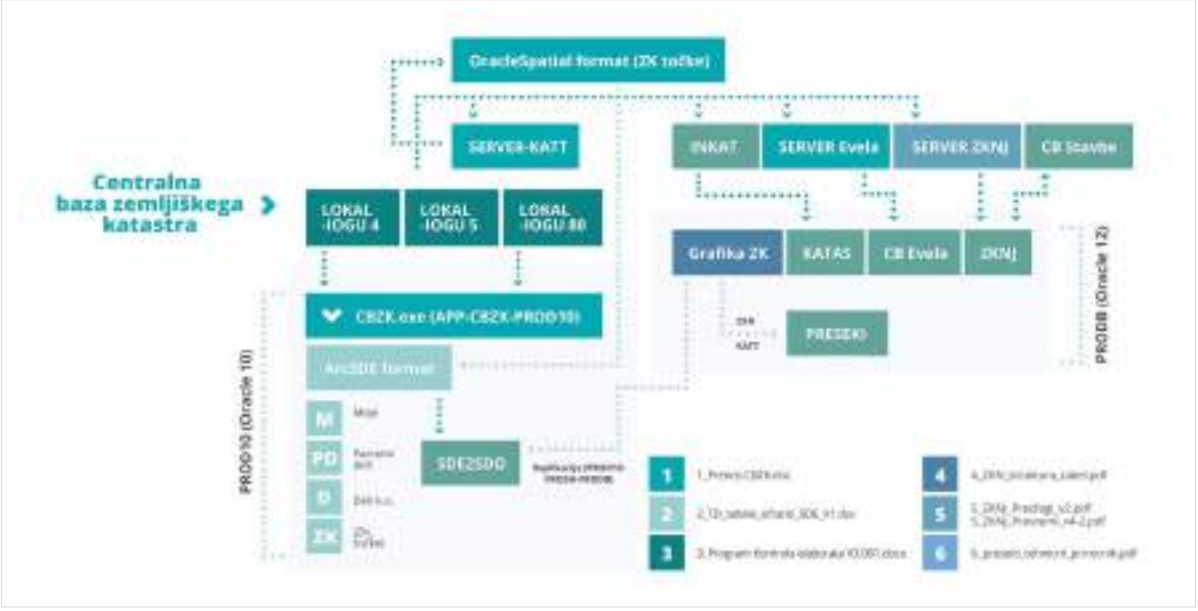
Figure 5.2.2.4: Creating a division plan with the GeoPro software package.
(Source: PP GeoPro)

6 Centralna baza zemljiškega katastra

V centralni bazi zemljiškega katastra so zbrani in redno vzdrževani opisni in lokacijski podatki zemljiškega katastra za območje celotne Slovenije. Za opisne podatke zemljiškega katastra je bila centralna baza vzpostavljena že v letu 1995. Do leta 1999 se je vzdrževala enkrat ali dvakrat letno, kar je zadoščalo za velike uporabnike, predvsem za davčno službo, ki enkrat letno potrebuje podatke za odmero davkov in prispevkov iz kmetijstva. Vir za vzdrževanje so bile lokalne baze zemljiškega katastra, ki se interaktivno vzdržujejo. Glavna značilnost te baze je, da je medresorska, kar pomeni, da vsebuje poleg podatkov zemljiškega katastra tudi podatke, ki so v pristojnosti drugih državnih organov: Finančna uprava RS, Zavod za gozdove Slovenije, Sklad kmetijskih zemljišč in gozdov RS.

The central land cadastre database

Descriptive and location data of the land cadastre for the entire territory of Slovenia are kept and regularly maintained in the central land cadastre database. The central database for descriptive data of the land cadastre was established in 1995. Before 1999, it was maintained once or twice a year, which was sufficient for large users, especially for the tax service, which requires data for the assessment of taxes and contributions from agriculture once per year. The source for maintenance were the local land cadastre databases, which are interactively maintained. The main feature of this database is that it is interdepartmental, which means that in addition to the land cadastre data, it also contains data that is within the competence of other state bodies: Financial Administration of the Republic of Slovenia, Slovenian Forest Service, Farmland and Forest Fund of the Republic of Slovenia.

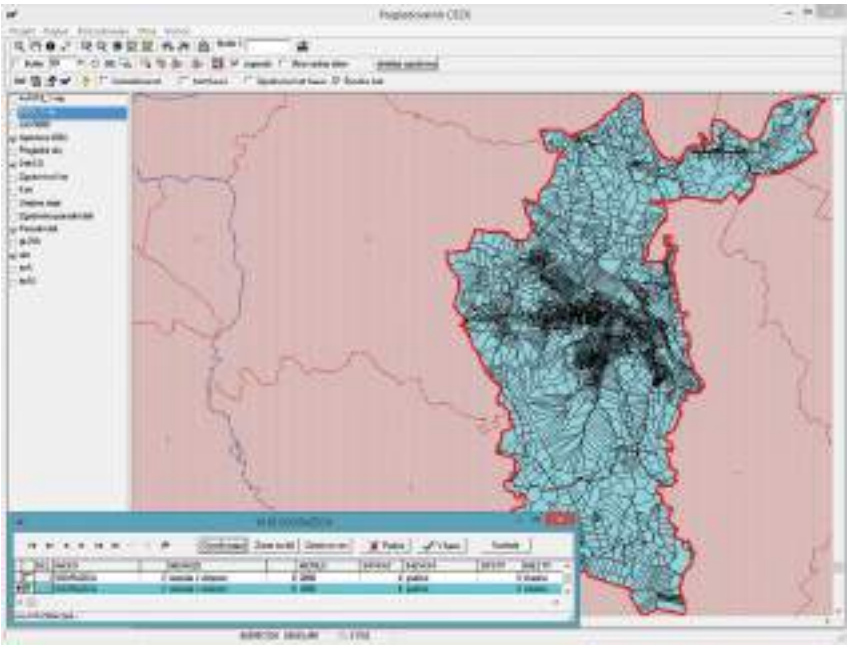


Slika 6.1: Podatkovna arhitektura centralne baze zemljiškega katastra. (Vir: GURS)

Figure 6.1: Data architecture of the central land cadastre database. (Source: SMARS)

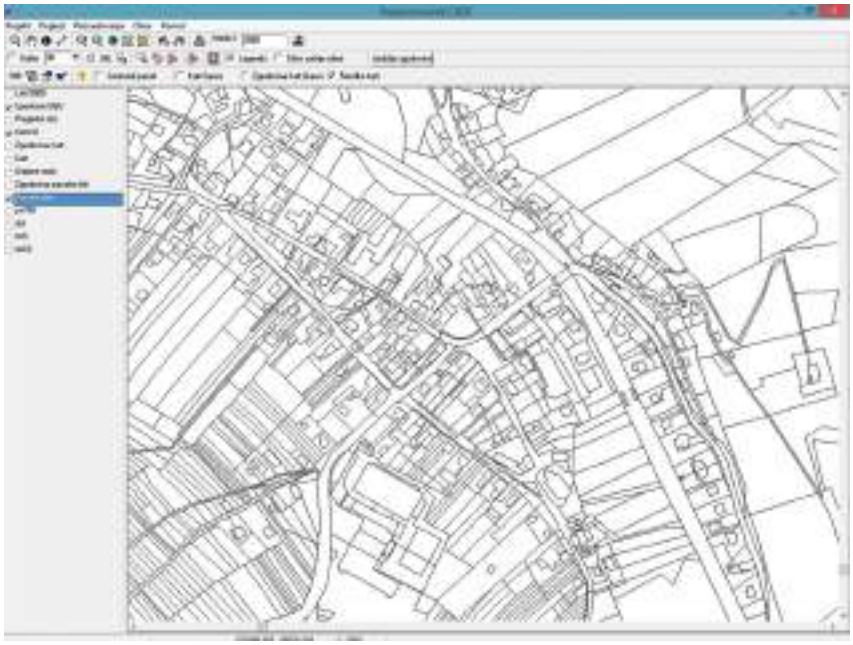
Od leta 1999 dalje je na Geodetski upravi RS vzpostavljena nova centralna baza zemljiškega katastra (za opisne podatke). Zanjo je značilno, da je zgrajena na moderni informacijski tehnologiji in da se dnevno vzdržuje iz lokalnih baz na Izpostavah območnih geodetskih uprav. Postopek vzdrževanja iz lokalnih baz je zasnovan tako, da lahko prenos sprememb poteka poljubno pogosto (tudi večkrat na dan) in se sproži iz centralne baze neodvisno od izpostav. Iz te baze teče izdaja podatkov za vse večje uporabnike (občine, drugi resorji državne uprave, projektivna podjetja, ...). V začetku leta 2001 je bila izvedena replikacija baze na Centru Vlade za informatiko, izdelan je bil vpogledovalnik (skozi leta se je dograjeval in posodabljal), ki ga uspešno uporabljajo drugi resorji državne uprave.

In 1999, a new central land cadastre database (for descriptive data) was established at the Surveying and Mapping Authority of the Republic of Slovenia. It is characterized by the fact that it is built on modern information technology and that it is maintained daily from local databases at the branches of regional geodetic administrations. The process of maintenance from local databases is designed so that the transfer of changes can take place as often as possible (even several times a day) and is triggered from the central database independently of the branches. Data from this database is issued for all major users (municipalities, other departments of the state administration, design companies, ...). At the beginning of 2001, a replication of the database was carried out at the Government centre for informatics and a viewer was created (and upgraded and updated over the years), which is successfully employed by other departments of the state administration.



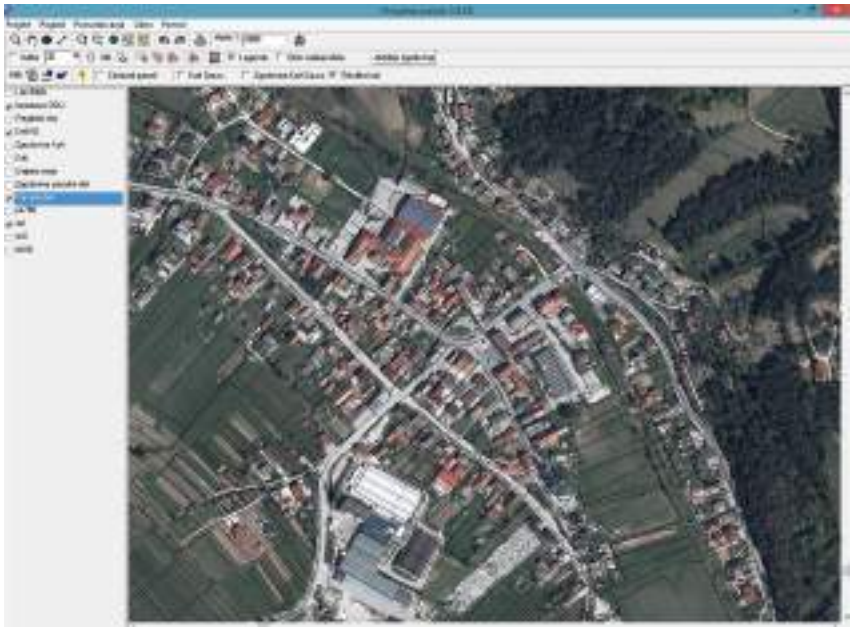
Slika 6.2: Vpogled v centralno bazo zemljiškega katastra (k. o. 1619 Sodražica).
(Vir: CBZK)

Figure 6.2: Insight into the central database of the land cadastre (c. m. 1619 Sodražica).
(Source: CBZK)



Slika 6.3: Izsek iz centralne baze zemljiškega katastra za del k. o. 1619 Sodražica.
(Vir: CBZK)

Figure 6.3: Excerpt from the central database of the land cadastre for a part of c. m. 1619 Sodražica.
(Source: CBZK)

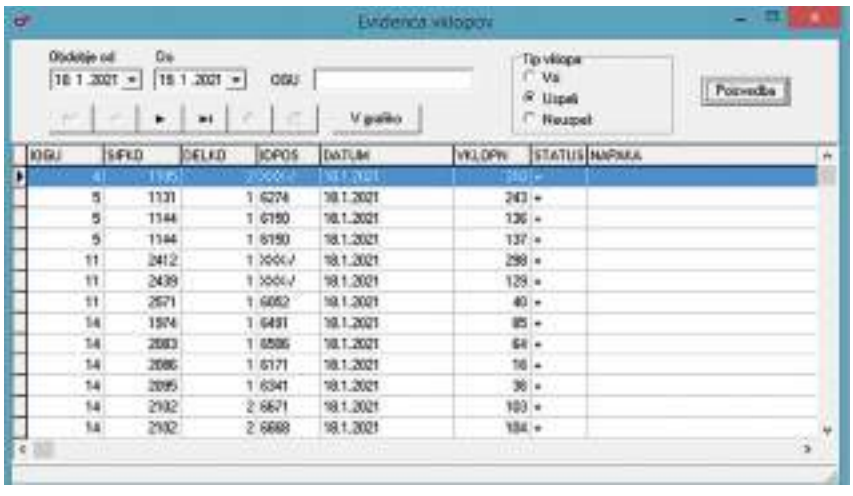


Slika 6.4: Izsek iz centralne baze zemljiškega katastra za del k. o. 1619 Sodražica na DOF-u.
(Vir: CBZK)

Figure 6.4: Excerpt from the central database of the land cadastre for a part of c. m. 1619 Sodražica on the DOF.
(Source: CBZK)

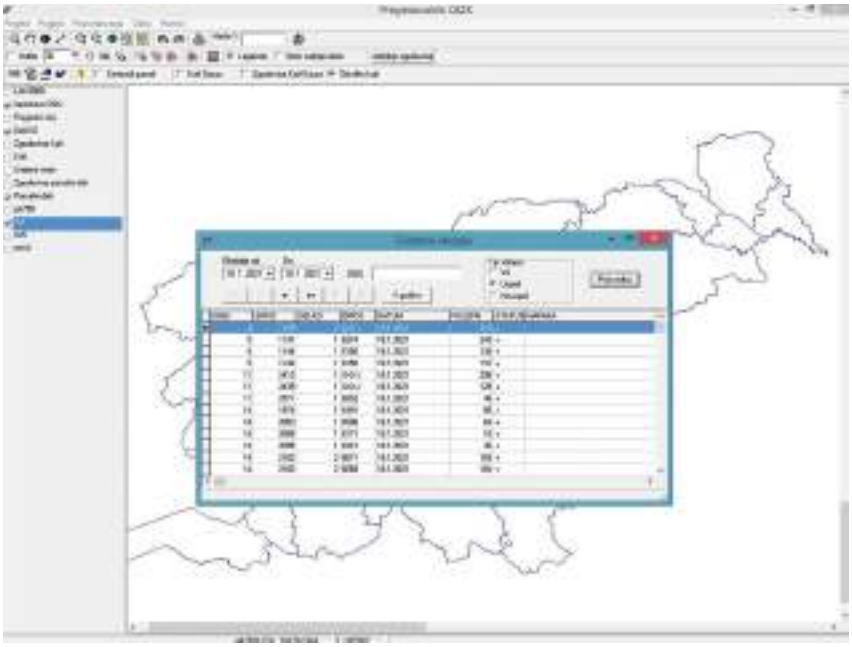
Glede na to, da so ustrezni podatki v digitalni obliki za lokacijski del zemljiškega katastra bili na razpolago pozneje, se je tudi razvoj centralne baze lokacijskega dela zemljiškega katastra začel veliko kasneje. V začetku je nastala centralna baza lokacijskih podatkov zemljiškega katastra na Geoinformacijskem centru Republike Slovenije, ki pa v praksi ni zaživela zaradi organizacijske nepovezanosti z virom vzdrževanja osnovnih podatkov. Zaradi tega je bila v letu 1998 postavljena centralna baza lokacijskih podatkov zemljiškega katastra na Glavnem uradu Geodetske uprave Republike Slovenije, ki je poleg hranjenja omogočala pregledovanje in iznos podatkov ter paketno vzdrževanje po delih katastrskih občin, ki so jih pripravljale izpostave območnih geodetskih uprav. Danes poteka dnevno vzdrževanje lokacijskih podatkov zemljiškega katastra iz podatkov izvedenih postopkov na izpostavah območnih geodetskih uprav, hkrati pa se centralna baza nadgrajuje s centralno bazo zemljiškokatastrskih točk, evidenco elaboratov in parcel v postopkih. Podatki centralne baze lokacijskega in opisnega dela zemljiškega katastra so se odprli za uporabo vsem izvajalcem geodetskih storitev. V ta namen je bila izdelana internetna aplikacija, ki omogoča vpogled v vse podatke zemljiškega katastra in pripravo podatkov za izvedbo sprememb na osnovi meritev, ki jih izvajajo izvajalci geodetskih storitev.

Given that the relevant data in digital form for the location part of the land cadastre was available later on, the development of the central database of the location part of the land cadastre thus began much later. Initially, a central database of location data of the land cadastre was created at the Geographic information centre of the Republic of Slovenia, which in practice did not come into use due to organizational disconnection with the source of maintenance of basic data. For this reason, a central database of land cadastre location data was set up in 1998 at the head office of the Surveying and Mapping Authority of the Republic of Slovenia, which, in addition to storage, enabled the review and export of data and package maintenance by parts of cadastral municipalities, which were prepared by the branches of regional geodetic administrations. Today, the branches of the regional geodetic administrations daily maintain the location data of the land cadastre from the data of performed procedures, and at the same time update the central database with the central database of land cadastral points, records of reports and parcels undergoing procedures. The data of the central database of the location and the descriptive part of the land cadastre were open for use to all providers of geodetic services. For this purpose, an internet application was created that enables access to all data of the land cadastre and the preparation of data for the implementation of changes based on measurements performed by providers of geodetic services.



Slika 6.5: Evidenca uspelih vklopov (sprememb v centralni bazi zemljiškega katastra).
(Vir: CBZK)

Figure 6.5: Record of successful integrations (changes in the central database of the land cadastre).
(Source: CBZK)



Slika 6.6: Pregled uspelih vklopov – celotni zaslon.
(Vir: CBZK)

Figure 6.6:Overview of successful integrations - full screen.
(Source: CBZK)

V Sloveniji je cca. 5.100.000 parcel, ki vsebujejo cca. 6.000.000 poligonov v lokacijski bazi, preko 35 milijonov zemljiškokatastrskih točk in podoben obseg evidentiranih postopkov, kar uvršča digitalno bazo zemljiškega katastra med večje digitalne baze v Sloveniji.

In Slovenia, there are approx. 5,100,000 parcels containing approx. 6,000,000 polygons in the location database, over 35 million land cadastre points and a similar number of recorded procedures, which ranks the digital database of the land cadastre among the larger digital databases in Slovenia.

7 Kataster stavb – nova digitalna evidenca o nepremičninah

Kataster stavb je temeljna evidenca o stavbah in njenih delih. V evidenci katastra stavb so vpisni podatkih o površini, obliki in legi, vrsti rabe in številki stanovanja ali poslovnega prostora. Podatki o lastniku (dokončnem lastniku) so prevzeti iz zemljiške knjige. Izvorni podatek, ki se vodi v katastru stavb, je tudi upravljavec stavbe ali dela stavbe, ki se vodi za stavbe ali dele stavbe v lasti države ali lokalne skupnosti. Posamezen del stavbe je prostor oziroma skupina prostorov v stavbi, ki se lahko samostojno pravno ureja. Kot del stavbe se v katastru stavb evidentirajo tudi skupni deli.

Za stavbo oz. del stavbe se v katastru stavb vodijo naslednji podatki:

- identifikacijska oznaka,
- lastnik,
- upravljavec,
- lega in oblika,
- površina,
- dejanska raba,
- številka stanovanja ali poslovnega prostora,
- povezava z zemljiškim katastrom,
- povezava z registrom prostorskih enot,
- povezava z zemljiško knjigo.

Podatki o stavbah in delih stavb se od samega začetka od nastavitve vodijo digitalno v centralni bazi katastra stavb, ki je povezana z registrom prostorskih enot in zemljiškim katastrom.

Kataster stavb je sestavljen iz zadnjih vpisanih podatkov o stavbah in delih stavb ter iz zbirke listin in podatkov, ki omogočajo historični pregled sprememb. V zbirki listin so elaborati in druge listine, na podlagi katerih so bili opravljeni posamezni vpisi, načrti in podatki, navedeni pred zadnjimi vpisanimi podatki. Zbirka listin se hrani v fizični ali elektronski obliki.

The building cadastre – a new digital record of real estate

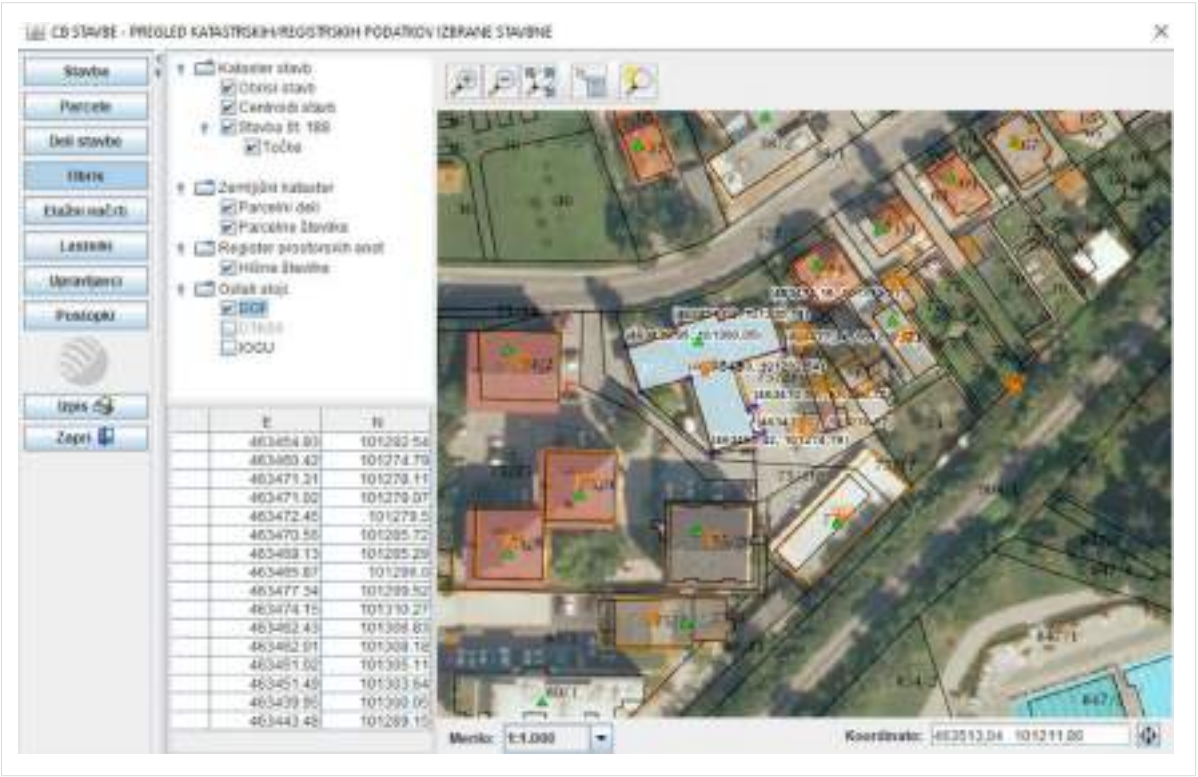
The building cadastre is the main record of buildings and their parts. The records of the building cadastre contain data on the area, shape and location, type of use and number of the apartment or business premises. Information on the owner (final owner) is taken from the land register. An element of source data kept in the building cadastre for buildings or parts of buildings owned by the state or local community is also the manager of the building or part of the building. An individual part of a building is a space or a group of spaces in a building that can be legally regulated independently. Common parts of buildings are also recorded in the building cadastre as parts of buildings.

A building or part of a building has the following data recorded in the building cadastre:

- identification mark,
- owner,
- manager,
- position and shape,
- area,
- actual use,
- apartment or business premises number,
- connection with the land cadastre,
- connection with the register of spatial units,
- connection with the land registry.

Data on buildings and parts of buildings are kept digitally from the very beginning in the central database of the building cadastre, which is connected to the register of spatial units and the land cadastre.

The building cadastre consists of the last entered data on buildings and parts of buildings and a collection of documents and data that enable a historical overview of changes. The collection of documents includes reports and other documents that are the basis for the creation of individual entries, plans and data, stated before the last entered data. The collection of documents is kept in physical or electronic form.



Slika 7.1: Grafični pregled obstoječega stanja v produkciji centralne baze katastra stavb. (Vir: CB Stavbe)

Figure 7.1: Graphical overview of the current situation in the production of the central database of the building cadastre. (Source: CB Stavbe)

7.1 Vzpostavitev evidence o katastru stavb

Leta 1999 je bil sprejet Zakon o posebnih pogojih za vpis lastninske pravice na posameznih delih stavb v zemljiško knjigo (ZPPLPS). Zakon je začel veljati 19. 11. 1999 in je veljal do 19. 11. 2004.

ZPPLPS je omogočal, da se posameznik – imetnik pravice na posameznem delu stavbe (stanovanju) kot etažni lastnik vpiše v zemljiško knjigo. Ni bilo treba, da se v zemljiško knjigo vpiše cela stavba. Vpis je potekal pod pogoji, ki jih določa ZPPLPS, med

The establishment of building cadastre records

The Act Determining Special Conditions for Registering the Ownership of Individual Parts of Buildings with the Land Register (ZPPLPS) was adopted in 1999. It entered into force on 19 November 1999 and remained in force until 19 November 2004.

The ZPPLPS enabled the individual - the holder of the right to an individual part of the building (apartment) to be entered in the land register as a property owner. It was not necessary to enter the entire building in the land registry. The registration took place under the

katerimi sta tudi pogoja, da je odmerjeno stavbišče in da je izdelan etažni načrt posameznega dela stavbe.

ZPPLPS je v 3. členu določil, da se odmeri le zemljišče, na katerem stavba stoji (stavbišče). Odmero stavbišča je bilo treba na terenu izvesti (samo) če zemljišče, na katerem stavba stoji, še ni bilo odmerjeno. Če je bilo zemljišče, na katerem stavba stoji, že odmerjeno, tako da se je v zemljiškem katastru stavba vodila kot vrsta rabe “stan. stavba”, je pristojna izpostava geodetske uprave preverila skladnost evidentiranega stanja z dejanskim stanjem in izdala odločbo o ugotovitvi spremembe vrste rabe zemljišča – iz “stan. stavbe” v “sst.stavb”, ker je vrsta rabe “sst. stavb” izkazovala odmero stavbišča po ZPPLPS. Naziv “sst.stavb” je bila kratica za opis stanovanjska stavba – stavbišče. Če zemljišče, na katerem stavba stoji, še ni bilo odmerjeno, oziroma če je bilo odmerjeno, vendar so bile take pomanjkljivosti, da brez dodatnih izmer ni bilo mogoče izdati odločbe, je bilo treba izvesti odmero stavbišča – parcelacijo na način in pod pogoji 3. člena ZPPLPS.

Zakon je omogočal, da je etažne načrte izdelal geodet ali projektant, ali pa jih je izdelal lastnik sam. Geodet ali projektant je moral izdelati etažni načrt, ko so bile listine (pogodbe) take, da iz njih ni bilo mogoče razbrati površine takega dela stavbe.

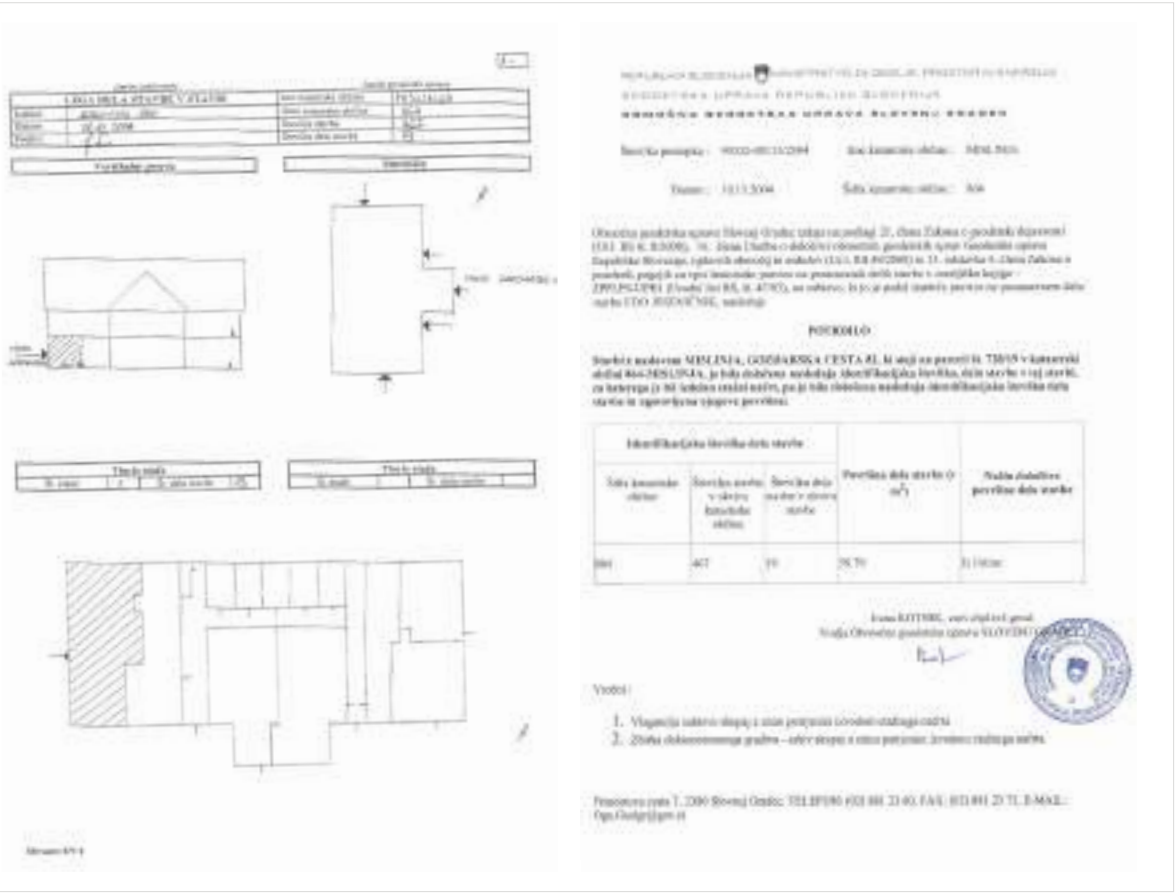
Etažne načrte samo za svoje stanovanje je na predpisanih obrazcih lahko izdelal lastnik sam – v tem primeru je podal tudi površino takega stanovanja iz pogodbe in pogodbo tudi predložil.

conditions determined by the ZPPLPS, including the conditions that the building site has been surveyed and that a floor plan of the individual part of the building has been prepared.

Article 3 of the ZPPLPS stipulates that only the land on which the building stands (the building site) is measured. The survey of the building site had to be carried out in the field (only) if the land on which the building stands has not yet been surveyed. If the land on which the building stands has already been surveyed, so that the land cadastre contained the building under the type »stan. stavba«, the competent branch of the Surveying and Mapping Authority checked the compliance of the recorded condition with the actual situation and issued a decision on establishing the change in the type of land use - from »stan. stavba« to »sst.stavb«, where the »sst. stavb« type meant a survey of the construction site according to the ZPPLPS. The name »sst.stavb« was an abbreviation for the description of a residential building - building site. If the land under the building has not yet been surveyed, or if it has been surveyed but there were shortcomings meaning that it was not possible to issue a decision without additional surveying, the site had to be surveyed - parcel allocation had to be carried out in the manner and under the conditions from Article 3 of the ZPPLPS.

The act allowed floor plans to be made by a surveyor or designer, or by the owners themselves. The floor plan had to have been made by a surveyor or designer in cases where the documents (contracts) were in such condition that it was not possible to deduce the area of such a part of the building from them.

The owners themselves could only make floor plans of their own apartments, using prescribed forms - in this case, they also had to give the area of the apartment from the contract, and submit the contract as well.



Slika 7.1.1: Etažne načrte je na predpisanih obrazcih izdelal lastnik sam. (Vir: Pregledovalnik digitalnih elaboratov arhiva ZK)

Figure 7.1.1: Floor plans produced by the apartment owner on prescribed forms. (Source: ZK archive digital survey report viewer)

Če je etažni načrt izdelal geodet ali projektant, so se vedno evidentirali podatki površine iz izmere geodeta ali projektanta.

If the floor plan was made by a surveyor or designer, the area data from the surveyor's or designer's survey was always recorded.

POTRDILO

Slika 7.1.2: Etažni načrt, ki ga je izdelal projektant.
(Vir: Pregledovalnik digitalnih elaboratov arhiva ZK)

Figure 7.1.2: Floor plan made by a designer.
(Source: ZK archive digital survey report viewer)

Geodetska uprava je etažne načrte potrdila in vpisala v informacijski sistem, ki je bil zgrajen ravno za potrebe vpisov po ZPPLPS. ZPPLPS je to evidenco imenoval »posebna evidenca, povezana s podatki zemljiškega katastra«. Evidenca je vsebovala:

- identifikacijsko številko stavbe,
- površino stavbišča in stavbe,
- identifikacijsko številko in površino posameznega dela stavbe,
- namembnost posameznega dela stavbe,

The Surveying and Mapping Authority approved the floor plans and entered them into the information system, which was built specifically for the needs of entries in accordance with the ZPPLPS. The ZPPLPS dubbed these records »special records related to land cadastre data«. The record contained:

- the building identification number,
- the area of the building site and the building,
- the identification number and area of each part of the building,
- the purpose of each part of the building,

- ime, priimek, naslov in EMŠO fizične osebe oziroma firmo, sedež in matično številko pravne osebe, ki je imetnik pravice na posameznem delu stavbe,
- podatke o lastniku posameznega dela stavbe.

Podatki o stavbah in delih stavb po ZPPLPS so predstavljali prvo polnjenje z zakonom predpisanih podatkov o stavbah in delih stavb v RS – prva predhodnica katastra stavb.

Skupno je bilo vpisanih 60.162 delov stavb, kar je za takratni čas predstavljalo 15,6 % vseh stanovanj v večstanovanjskih stavbah. Na novo je bilo določenih 1.984 stavbišč. Deli stavb, vpisani po ZPPLPS, so se pozneje dopolnjevali z vpisi celotnih stavb po določilih ZENDMPE in ZEN. Na dan 30. 7. 2020 je še 638 stavb, kjer so nekateri deli stavb v katastru stavb nepremičnin evidentirani le s podatki po ZPPLPS.

Zakonska podlaga za vzpostavitev evidence katastra stavb, kot jo poznamo danes, je bila postavljena s sprejemom nove geodetske zakonodaje leta 2000. Po zemljiškem katastru je tako začela nastajati še druga osnovna evidenca – KATASTER STAVB. S pomočjo financiranja s strani Mednarodne banke za obnovo in razvoj se je pristopilo k prvim aktivnostim, ki so omogočile sistemsko nastavitev evidence stavb v Sloveniji.

- name, surname, address and EMŠO of the natural person or company name, registered office and registration number of the legal entity that is the holder of the right to an individual part of the building,
- information on the owner of an individual part of the building.

Data on buildings and parts of buildings in accordance with the ZPPLPS represented the first loading of statutory data on buildings and parts of buildings in the Republic of Slovenia - the first predecessor of the building cadastre.

A total of 60,162 parts of buildings were registered, which at that time represented 15.6% of all apartments in multi-apartment buildings. 1,984 new buildings were identified. Parts of buildings registered under the ZPPLPS were later supplemented with entries of entire buildings in accordance with the provisions of the ZENDMPE and the ZEN. As of 30 July 2020, there are still 638 buildings where some of their parts are recorded in the real estate cadastre only with data in accordance with the ZPPLPS.

The legal basis for the establishment of the building cadastre record as we know it today was laid with the adoption of new geodetic legislation in 2000. After the land cadastre, another basic record began to emerge - the BUILDING CADASTRE. With the financing aid from the International Bank for Reconstruction and Development, the first activities commenced that enabled the systematic establishment of the register of buildings in Slovenia.

Zakonska osnova v Zakonu o evidentiranju nepremičnin, državne meje in prostorskih enot (ZENDMPE), natančneje pa določbe, določene s Pravilnikom o vpisih v kataster stavb, so opredelile naslednja pomembna dejstva:

- v katastru stavb se evidentirajo podatki o stavbah in delih stavb,
- stavba je zgradba, v katero lahko človek vstopi, in je namenjena stalnemu ali začasnemu prebivanju, opravljanju poslovne in druge dejavnosti ali zaščiti ter je ni možno prestaviti brez škode za njeno substanco,
- del stavbe je stanovanje, poslovni prostor ali drug prostor oziroma skupina prostorov v stavbi, ki je/so lahko samostojen predmet pravnega prometa,
- kataster stavb je sestavljen iz zadnjih vpisanih podatkov o stavbah in delih stavbe ter iz zbirke listin,
- za posamezno stavbo oziroma dele stavbe ločimo katastrske in registrske podatke.

V katastru stavb je bilo predvideno zbiranje naslednjih podatkov o stavbi in delih stavbe:

- identifikacijske številke stavbe in delov stavbe,
- lego in obliko stavbe in delov stavbe (geolociran grafični podatek),
- površino stavbe in delov stavbe,
- podatke o lastniku dela stavbe,
- podatke o upravljavcu (če je lastnik država oz. lokalna samouprava).

Evidenca je nastajala postopno po korakih, kot jih je predvidel projekt nastavitve.

Najprej se je opravil pregled podatkov in združevanja obrisov, ki so zadovoljevali predpisane kriterije, sledila je kontrola povezave posamezne stavbe s centroidom hišne številke. Akcija združevanja obrisov in premikov centroidov EHIŠ-a je za rezultat dala reducirano število stavb v Sloveniji, in sicer se je njihovo število po združevanju vrtelo okoli 1.190.000. Grafični del katastra stavb je tako nastal na osnovi zajema obrisov streh iz DOF-ov.

The legal basis in the Recording of Real Estate, State Border and Spatial Units Act (ZENDMPE), and more precisely the provisions set out in the Rules on entries in the building cadastre, defined the following important facts:

- data on buildings and parts of buildings are recorded in the building cadastre,
- a building is a construction that can be entered by a person and is intended for permanent or temporary residence, business and other activities or protection, and cannot be moved without damaging its substance,
- a part of a building is an apartment, business premises or other premises or a group of premises in a building that is/may be an independent subject of legal transactions,
- the building cadastre consists of the last entered data on buildings and parts of buildings, and a collection of documents,
- each individual building or part of a building has separate cadastral and register data.

The building cadastre provided for the collection of the following data on buildings and parts of buildings:

- identification numbers of the building and parts of the building,
- location and shape of the building and parts of the building (geolocated graphical data),
- the area of the building and parts of the building,
- information on the owner of part of the building,
- data on the manager (if the owner is the state or local self-government).

The records were compiled gradually in steps as envisaged by the establishment project.

First, a review of the data and aggregation of contours that met the prescribed criteria was performed, followed by a control of the connection of each individual building with the centroid of the house number. The campaign to combine the contours and movements of the centroids of EHIŠ resulted in a reduced number of buildings in Slovenia, namely their number after merging was around 1,190,000. The graphical part of the building cadastre was thus created on the basis of the coverage of roof outlines from digital orthophotos (DOF).

Sledil je korak povezave stavbe s parcelo. To je bilo za končni rezultat izredno pomembno, saj se preko tega opisa pridobiva eden bolj pomembnih podatkov – podatek o verjetnemu lastniku stavbe ali dela stavbe.

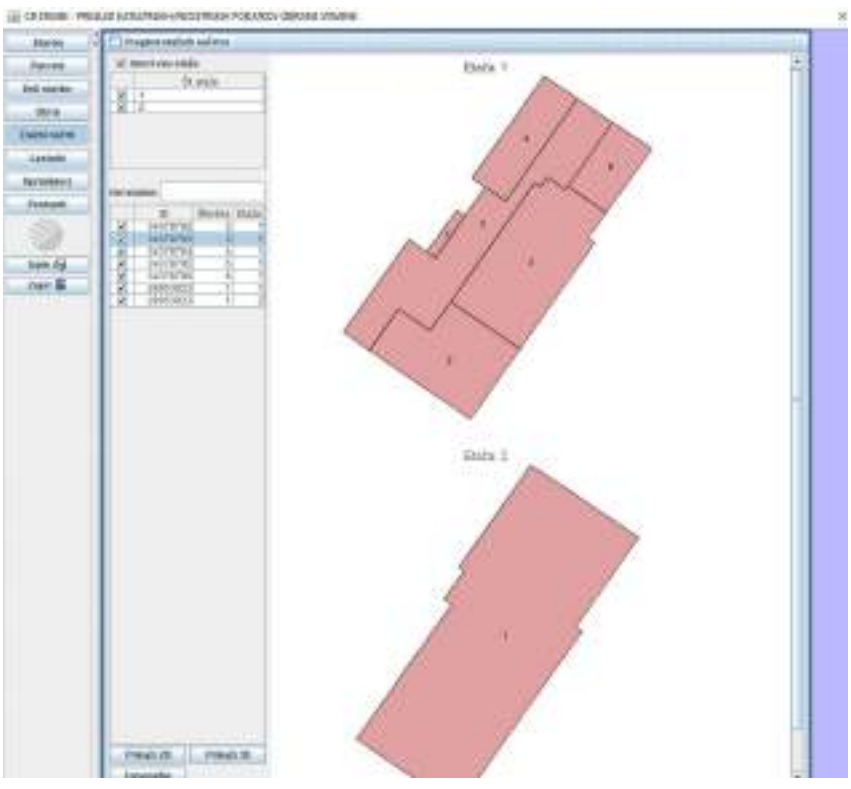
Naslednji korak je bila naloga obdelave podatkov.
Predvidevala je obdelavo podatkov v dveh glavnih fazah. Prva faza je predvidevala obdelavo celotnih stavb z določitvijo naslednjih opisov:

- vrsta rabe stavbe,
- leto izgradnje (poslovne in industrijske stavbe),
- material konstrukcije (poslovne in industrijske stavbe),
- število etaž.

The next step was connecting the building with the parcel. This was extremely important for the final result, as a very important part of the data is obtained through this description - information on the probable owner of the building or part of the building.

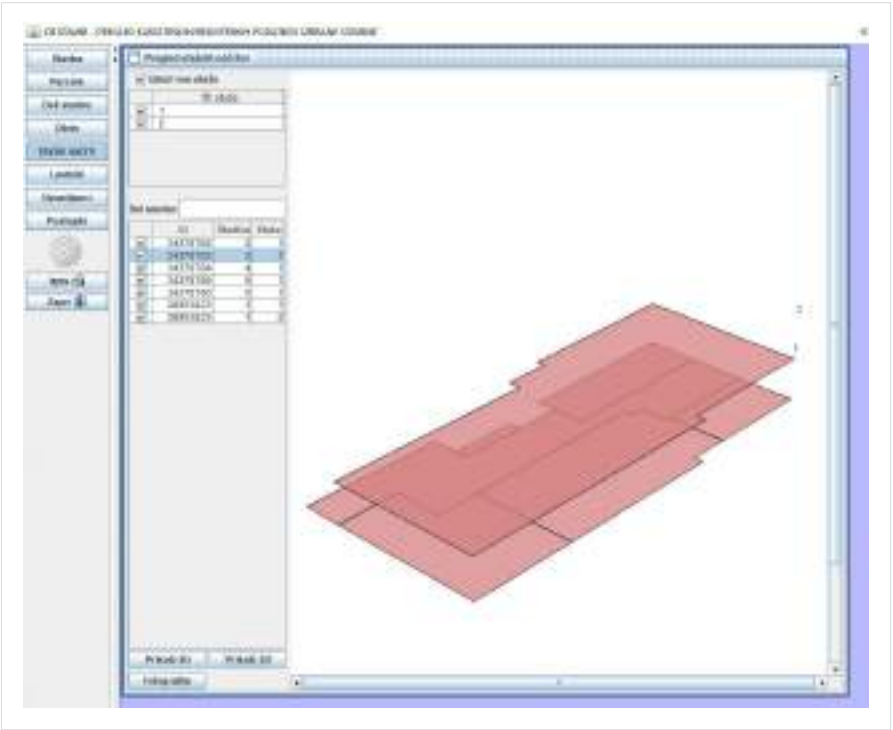
The next step was data processing.
It presupposed two main phases. The first phase involved covering entire buildings by setting out the following descriptions:

- type of use of the building,
- year of construction (commercial and industrial buildings),
- construction material (commercial and industrial buildings),
- number of floors.



Slika 7.1.3: 2D vpogled v centralno bazo katastra stavb.
(Vir: CB Stavbe)

Figure 7.1.3: 2D insight into the central database of the building cadastre.
(Source: CB Stavbe)



Slika 7.1.4: 3D vpogled v centralno bazo katastra stavb.
(Vir: CB Stavbe)

Figure 7.1.4: 3D insight into the central database of the building cadastre.
(Source: CB Stavbe)

Druga faza obdelave podatkov je predvidevala vključitev podatkov upravnikov stavb in tako zapolnitev vrzeli pri kvalitetni določitvi večstanovanjskih stavb. Razpoložljivi podatkovni viri so bili osnova za določitev delov stavb, površine in verjetnih lastnikov.

Pri strukturiranju podatkov je v drugi fazi obdelave podatkov veljala naslednja hierarhija podatkovnih virov:

- podatki upravnikov večstanovanjskih hiš,
- podatki NUSZ,
- podatki zemljiškega katastra,
- podatki centralnega registra prebivalstva,
- podatki poslovnega registra Slovenije,
- podatki o plačnikih električne energije (le kontrolni vir in ne osnova za polnjenje podatkov).

The second phase of data processing envisaged the inclusion of data from building managers and thus filling the gap in the high-quality identification of multi-apartment buildings. The available data sources were the basis for determining the parts of the buildings, the area and the probable owners.

In the course of structuring the data, the second phase of data processing applied the following hierarchy of data sources:

- data from the managers of multi-apartment buildings,
- NUSZ data,
- data from the land cadastre,
- data from the central population register,
- data from the business register of Slovenia,
- data on electricity payers (only a control source and not a basis for loading data).

Z zaključkom teh nalog je bila vzpostavljena podlaga za nastavitev katastra stavb, postavljeni so bili obrisi nove državne evidence. Za dokončno evidenco katastra stavb v Sloveniji, ki bi bila uporabna tako za potrebe različnih aktivnosti države kot za množično uporabo v lokalnih skupnostih in pri drugih uporabnikih prostorskih podatkov, so sledile nove akcije.

Vir za opisne podatke o stavbah je odvisen od vrste vpisa v kataster stavb, in sicer:

- iz etažnih načrtov po standardih geodetske uprave za stavbe in dele stavb, ki so v celoti katastrsko vpisane,
- iz podatkov zemljiške knjige za katastrske vpise pred nastavitvijo katastra stavb (prevzem podatkov po 97. členu ZENDMPE od zemljiške knjige),
- iz pogodb za posamezne dele stavb ali načrtov za posamezne dele stavb v času veljave interventnega zakona za katastrsko vpisane posamezne dele (stavba kot celota ni vpisana katastrsko, skupni deli niso opredeljeni),
- iz registrskih prijav upravnikov stavb za registrsko vpisane stavbe iz različnih drugih evidenc (telefonski imenik, baza elektroštevcev) za stavbe, vpisane v začasnem zajemu stavb.

Vpis upravljavca nepremičnine v kataster stavb, ki so v lasti Republike Slovenije oz. ki so javno dobro v upravljanju Republike Slovenije, rešuje ZEN z Uredbo o načinu vpisa upravljavcev nepremičnin v zemljiški kataster in kataster stavb (Ur. l. RS, št. 121/2006).

V kataster stavb se vpis podatka o upravljavcu nepremičnine lahko izvede kot:

- začasen vpis upravljavca ali
- dokončen vpis upravljavca.

With the completion of these tasks, the basis for the establishment of the building cadastre was established, and the outlines of the new state records were set. New actions followed for the final record of the building cadastre in Slovenia, which would be useful for the needs of various activities of the state, as well as for wider use in local communities and by other users of spatial data.

The source for the descriptive data on buildings depends on the type of entry in the building cadastre, namely:

- from floor plans according to the standards of the Surveying and Mapping Authority for buildings and parts of buildings that are entered in cadastre,
- from the data in the land registry for cadastral entries before the establishment of the building cadastre (taking over the data in accordance with Article 97 of the ZENDMPE from the land registry),
- from contracts for individual parts of buildings or plans for individual parts of buildings during the period of validity of the intervention law for individual parts entered in cadastre (the building as a whole is not registered in cadastre, common parts are not defined),
- from the registration applications of building managers for registered buildings from various other records (telephone directory, electricity meter database) for buildings entered in the temporary record of buildings.

Entries of real estate managers in the cadastre of buildings owned by the Republic of Slovenia or that are a public good under the management of the Republic of Slovenia are resolved by the ZEN with the Decree on the method for registering real estate managers in the land cadastre and buildings cadastre (Official Gazette of the Republic of Slovenia, No. 121/2006).

The entry of data on the property manager in the building cadastre can be done as:

- temporary registration of the manager or
- final registration of the manager.

Zakon o zemljiški knjigi iz leta 1995 in podzakonski predpis Pravilnik o vodenju zemljiške knjige sta dovoljevala vpis etažne lastnine tudi že pred nastavitvijo katastra stavb.

V osnovni vložek je zakon omogočil vpis zemljišča, na katerem stavba stoji, zemljišča, ki je neposredno namenjeno njeni redni rabi (funkcionalno zemljišče), in stavbo v etažni lastnini. V podvložke so se vpisovali posamezni deli stavbe v etažni lastnini in tisti skupni deli, na katerih je bilo lastninsko stanje različno od lastninskega stanja zemljišča in stavbe. Vsak posamezen ali skupen del je imel svoj podvložek.

Pravilnik je podrobneje opredeljeval, da se do vzpostavitve katastra stavb podatki o stavbi v etažni lastnini in o njenih posameznih ter skupnih delih vpišejo v zemljiškoknjižni vložek za stavbo v etažni lastnini in v podvložke na podlagi etažnega načrta stavbe. Etažni načrt stavbe je moral obsegati: zemljiškoknjižno označbo zemljišča, na katerem stavba stoji, površino zemljišča, označbo stavbe z navedbo ulice in hišne številke, mapno kopijo, iz katere je razvidna lega stavbe, za vsako nadstropje risbo, iz katere je razviden razpored posameznih delov stavbe, za katere se je predlagal vpis, ti so morali biti označeni tako, da se nedvoumno ločijo od drugih (različne barve), njihovo označbo in izmero ter lego in izmero tistih delov stavbe, ki služijo stavbi kot celoti ali njenim posameznim delom. Načrt so se praviloma izdelovali v merilu 1 : 100 do 1 : 200 in bili zložen na format A4.

Vse tako evidentirane etažne lastnine v zemljiški knjigi je geodetska uprava po uzakonitvi evidence o katastru stavb prevedla, določila nove identifikatorje in o tem obvestila zemljiško knjigo. Prevzem etažnih načrtov je opredelil 97. člen ZENDMPE danes 135. člen ZEN, kar je v praksi pomenilo, da zemljiškoknjižna sodišča predajo, geodetska uprava pa prevzame vse etažne načrte. Prevzem pomeni, da se ti etažni načrti trajno hranijo pri Geodetski upravi RS. Trajna hramba etažnih načrtov na Geodetski upravi RS je povezana tudi z načelom matičnosti evidenc (v tem primeru katastra stavb in zemljiške knjige). Prevzeti etažni načrti so in še bodo namreč v prihodnosti predmet različnih sprememb (delitev, združitev, ...) v katastru stavb, za katerega vodenje je pristojna Geodetska uprava RS.

V sklopu te akcije je bilo prevzetih skoraj 7.000 etažnih načrtov, največ v Kopru (2.129) in Ljubljani (1.703).

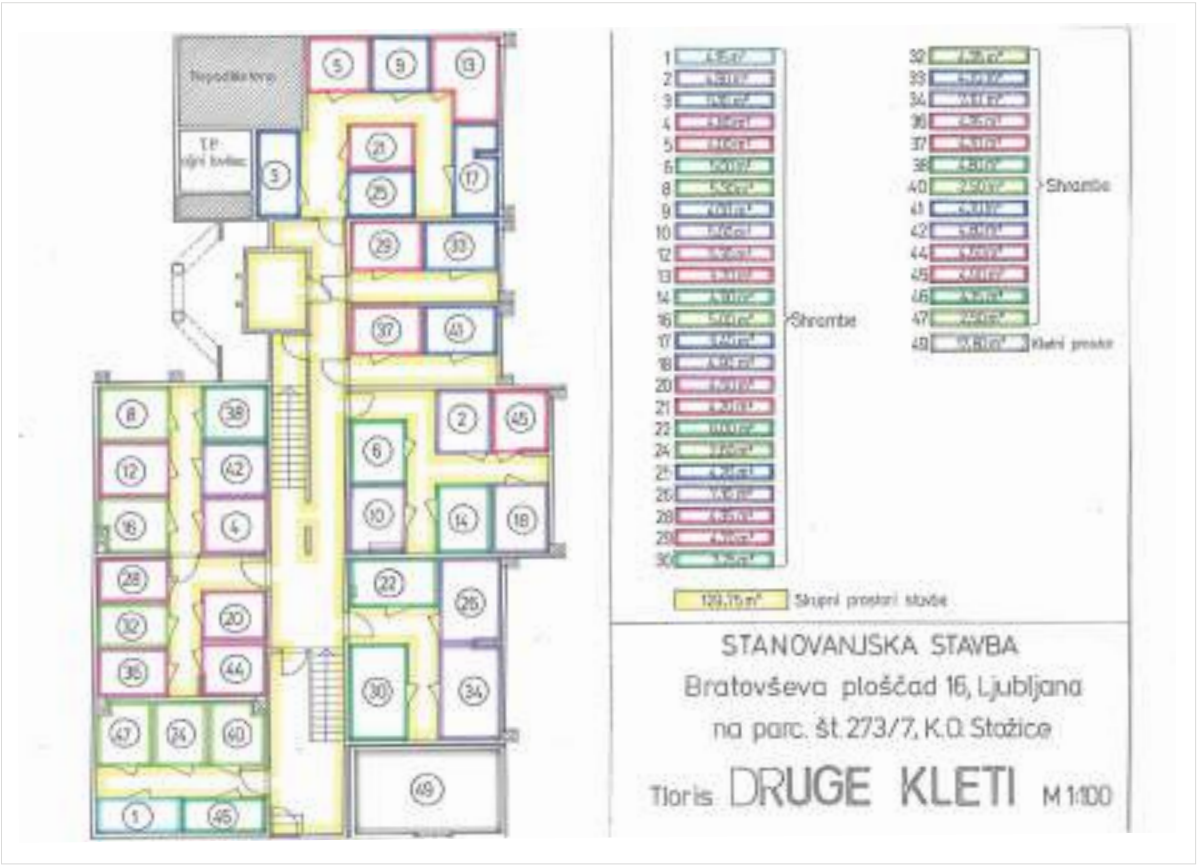
The Land Register Act of 1995 and the by-law of the Rules on land register keeping allowed for the entry of buildings in commonhold tenure even before the establishment of the building cadastre.

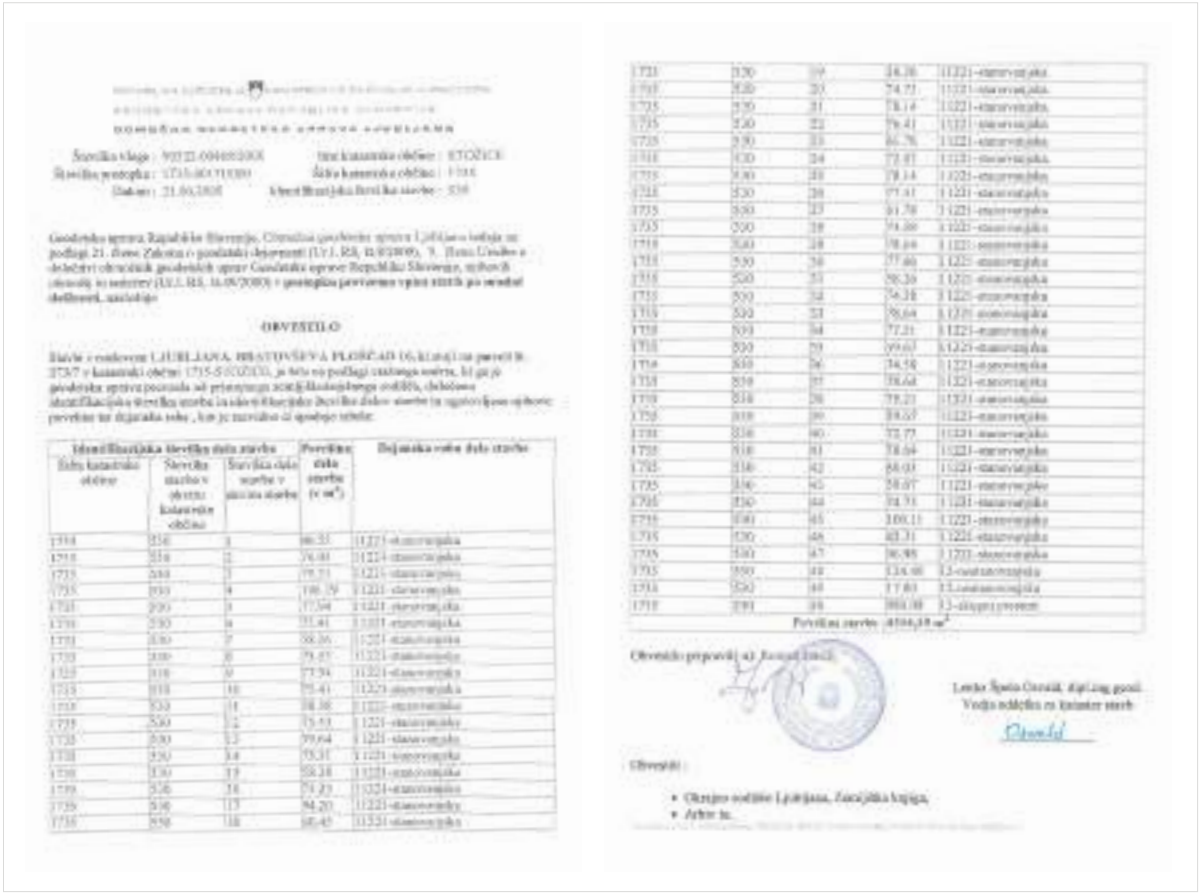
The law enabled the inclusion of the land on which the building stands, the land directly intended for regular use (functional commonhold land) and buildings in commonhold tenure in the main entry. Individual parts of buildings in commonhold tenure and those common parts in which the ownership status was different from the ownership status of the land and the building were included in sub-entries. Each individual or common part had its own sub-entry.

The Rules defined in detail that until the establishment of the building cadastre, data on commonhold tenure buildings and their individual and common parts should be entered in a land registry entry for commonhold tenure buildings and in sub-entries on the basis of the building floor plan. The floor plan of the building had to include: the land registry designation of the land under the building, area of the land, designation of the building with house number address, map copy showing the location of the building, a sketch for each floor showing the layout of individual parts of the building proposed for registration, which must have been unambiguously designated (colour coding), their designation and survey, and the position and survey of those parts of the building which are used by the building as a whole or by its individual parts. As a rule, the plan was made in a scale of 1 : 100 to 1 : 200, and was folded to A4 format.

After the legalization of the building cadastre records, the Surveying and Mapping Authority translated all the commonhold tenure buildings thus recorded in the land registry, determined new identifiers and notified the land registry thereof. The takeover of floor plans is defined by Article 97 of the ZENDMPE, today Article 135 of the ZEN, which in practice meant that the land registry courts hand over and the Surveying and Mapping Authority takes over all floor plans. The takeover means that these floor plans are then permanently kept by the Surveying and Mapping Authority of the Republic of Slovenia. The permanent storage of floor plans at the Surveying and Mapping Authority of the Republic of Slovenia is also related to the principle of the registration of records (in this case, the building cadastre and the land registry). The received floor plans are and will be the subject of various future changes (division, merging, ...) in the building cadastre, which is the responsibility of the Surveying and Mapping Authority of the Republic of Slovenia.

Almost 7,000 floor plans were received as part of this operation, mostly from Koper (2,129) and Ljubljana (1,703).


Shrambe
Shrambe
Skupni prostori stavbe
STANOVANJSKA STAVBA
Bratovševa ploščad 16, Ljubljana
na parc. št. 273/7, K.O. Stožice
Tloris DRUGE KLETI M 1:100



OBVESTILO

Slika 7.1.5: Obvestilo geodetske uprave okrajnemu sodišču o izvedeni določitvi identifikatorjev na podlagi prevzetih načrtov iz zemljiške knjige.
(Vir: Pregledovalnik digitalnih elaboratov arhiva ZK)

Figure 7.1.5: Notification of the Surveying and Mapping Authority to the district court on the determination of identifiers on the basis of the plans taken from the land registry.
(Source: ZK archive digital survey report viewer)

7.2 Vzdrževanje evidence katastra stavb

Vzdrževanje evidence o nepremičninah v katastru stavb danes rešuje Zakon o evidentiranju nepremičnin in na njegovi osnovi izdani podzakonski predpisi in navodila.

Vlogo za vpis stavbe v kataster lahko vloži:

- investitor gradnje,
- lastnik stavbe oziroma njenega dela,
- lastnik parcele, na kateri stoji stavba,
- imetnik stavbne pravice,
- uporabnik stavbe ali dela stavbe,
- upravnik stavbe.

Vlogi se priloži elaborat za vpis stavbe v kataster stavb, ki ga izdelata projektant ali geodetsko podjetje. Če vloga in elaborat izpolnjujeta vse predpisane pogoje, Geodetska uprava izda sklep o vpisu stavbe v kataster stavb.

V kataster stavb se vpiše najmanj en del stavbe; za stanovanjske stavbe, zgrajene po 1. 1. 2003, pa se v kataster stavb lahko vpiše več delov stavbe le, če je izdano pravnomočno gradbeno dovoljenje za gradnjo večstanovanjske stavbe.

Če zemljišče pod stavbo v zemljiškem katastru še ni evidentirano, mora vlagatelj ob zahtevi za vpis stavbe v kataster stavb vložiti še zahtevo za evidentiranje zemljišča pod to stavbo.

Če stavba še nima hišne številke (hišno številko potrebujejo vse stavbe, ki so namenjene stalnemu ali začasnemu prebivanju oziroma opravljanju poslovne dejavnosti), se hkrati z vlogo za vpis stavbe v kataster stavb vloži še zahteva za določitev hišne številke.

Maintenance of building cadastre records

Today, the maintenance of real estate records in the building cadastre is addressed by the Real Estate Records Act and by-laws and instructions issued on its basis.

An application for the entry of a building in the cadastre may be submitted by:

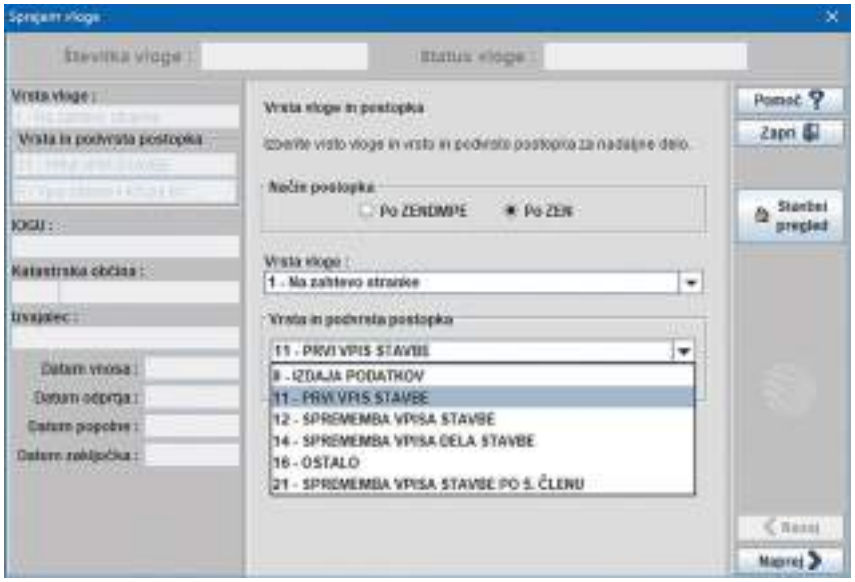
- the construction investor,
- the owner of the building or its part,
- the owner of the parcel on which the building stands,
- the building right holder,
- the user of the building or part of the building,
- building manager.

The application should be accompanied by a report for the entry of the building in the building cadastre, prepared by a designer or surveying company. If the application and the report meet all the prescribed conditions, the Surveying and Mapping Authority will issue a decision on the entry of the building into the building cadastre.

At least one part of the building shall be entered into the building cadastre; for residential buildings built after 1 January 2003, several parts of the building may only be entered into the building cadastre if a valid building permit for the construction of a multi-apartment building has been issued.

If the land under the building has not yet been registered in the land cadastre, the applicant must submit a request for the registration of the land under this building when requesting the entry of the building in the building cadastre.

If the building does not yet have a house number address (a house number is required for all buildings intended for permanent or temporary residence or business activity), a request for a house number must be submitted at the same time as the application for the entry of the building in the building cadastre.



Slika 7.2.1: Vpogled v okno programskega paketa CB Stavbe za odpiranje vloge. (Vir: CB Stavbe)

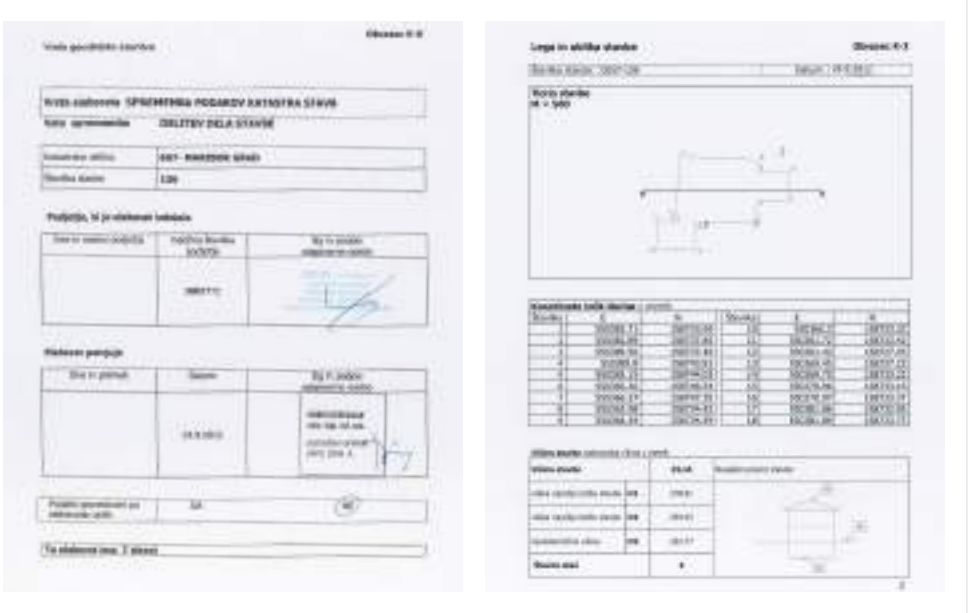
Figure 7.2.1: Insight into the CB Stavbe software package window for opening applications. (Source: CB Stavbe)

Slika 7.2.2: Vpogled v okno programskega paketa CB Stavbe za potrjevanje vloge. (Vir: CB Stavbe)

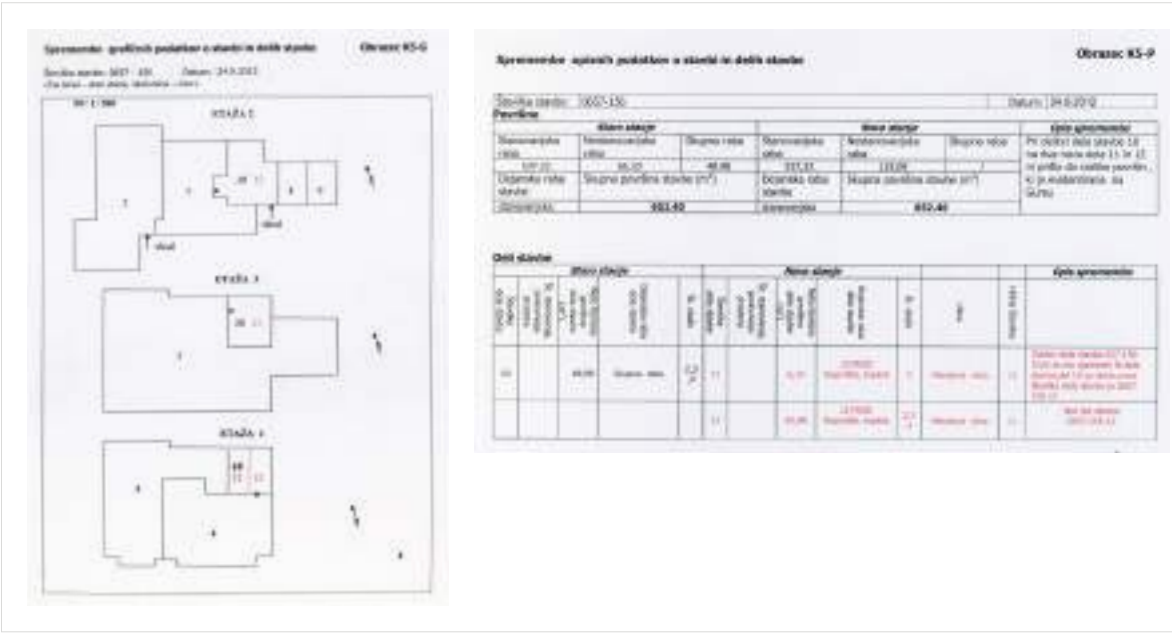
Figure 7.2.2: Insight into the CB Stavbe software package window for confirming applications. (Source: CB Stavbe)

Slika 7.2.3: Vstopno okno programskega paketa CB Stavbe za izvedbo sprememb v katastru stavb.
(Vir: CB Stavbe)

Figure 7.2.3: The home window of the CB Stavbe software package for making changes to the building cadastre.
(Source: CB Stavbe)



Opomba: V dokumentih iz zbirke listin Zemljiškega katastra so varovani osebni podatki zakriti
Note: Protected personal data is hidden in the land cadastre documents.

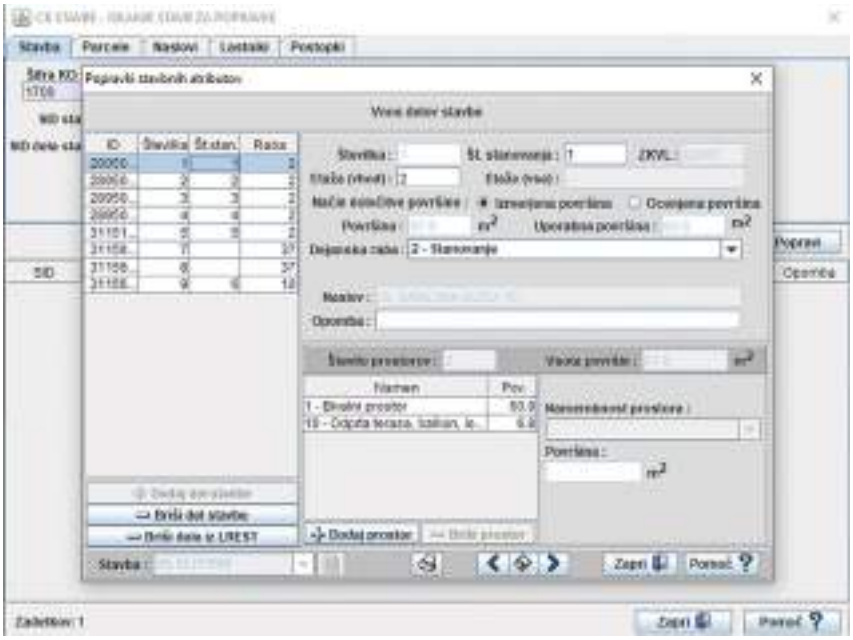


Slika 7.2.4: Elaborat za vpis spremembe podatkov v kataster stavb. Elaborat, ki ga izdela zunanji izvajalec se na geodetsko upravo odda v analogni in digitalni obliki. Geodetska uprava preko modula »CB Stavbe« izvede spremembe v evidenci katastra stavb, avtomatizirano izdela upravni akt in ga vroči naročniku.
(Vir: Pregledovalnik digitalnih elaboratov arhiva ZK)

Figure 7.2.4: Report for entering data changes in the building cadastre. The report, prepared by an external contractor, is submitted to the Surveying and Mapping Authority in analogue and digital form. Through the module »CB Stavbe«, the Surveying and Mapping Authority makes changes in the records of the building cadastre, automatically prepares an administrative act and delivers it to the client.
(Source: ZK archive digital survey report viewer)

Geodetska uprava v sklopu svojih rednih nalog sistematično bdi nad ažurnostjo svoje evidence in z metodami ter tehnikami inventarizacije prostora sprotno ugotavlja skladnost stanja v naravi s stanjem v evidencah. Če stavba ni evidentirana v katastru stavb, pa bi v skladu s predpisi morala biti, geodetska uprava pozove lastnika parcele, ki je povezana s stavbo ali imetnika stavbne pravice, če je na tej parceli vzpostavljena stavbna pravica, da v treh mesecih vloži zahtevo za vpis stavbe v kataster stavb. V primeru pasivnosti lastnika geodetska uprava sama izdela elaborat za vpis stavbe v kataster stavb na podlagi ogleda stavbe v naravi (v tem primeru se obravnava na terenu ne opravi) ter stavbo z enim delom po uradni dolžnosti vpiše v kataster stavb.

As part of its regular tasks, the Surveying and Mapping Authority systematically monitors the promptness of its records and uses spatial inventory methods and techniques in order to determine the compliance of the situation in nature with the situation in the records. If a building is not registered in the building cadastre but should be in accordance with the regulations, the Surveying and Mapping Authority invites the owner of the parcel connected to the building or the holder of the building right, if a building right is established on this parcel, to submit an application for the registration of the building in the building cadastre. If the owner is not responsive, the Surveying and Mapping Authority prepares a report for the entry of the building in the building cadastre on the basis of an inspection of the building on location (in this case, the assessment is not performed in the field) and enters the building in the building cadastre by official duty.



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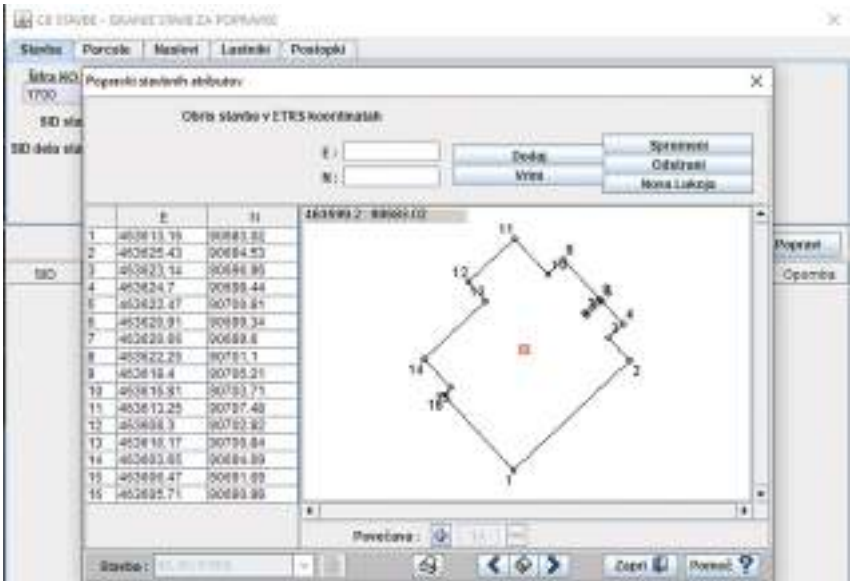
Slika 7.2.5: Ekranski prikaz stavbnih popravkov opisnih podatkov v katastru stavb.
(Vir: CB Stavbe)

Figure 7.2.5: Screen display of building corrections in the descriptive data in the building cadastre.
(Source: CB Stavbe)



Slika 7.2.6: Ekranski prikaz stavbnih popravkov grafičnih podatkov v katastru stavb.
(Vir: CB Stavbe)

Figure 7.2.6: Screen display of building corrections in the graphical data in the building cadastre.
(Source: CB Stavbe)

Vpis stavbe v kataster stavb omogoča:

- pridobitev hišne številke,
- ureditev etažne lastnine v večstanovanjskih stavbah,
- vpis nepremičnine v zemljiško knjigo in s tem tudi možnost sklepanja pravnih poslov (prodaja, nakup, hipotekarni kredit),
- povečanje tržne vrednosti,
- izračun vrednosti nepremičnine v postopku vrednotenja.

Stavba se lahko vpiše v kataster stavb, ko je stavba v taki gradbeni fazi, da je mogoče izmeriti njeno površino.

Obveznost vpisa stavbe v kataster stavb nastane:

- v 30 dneh po izvedbi vseh zaključnih gradbenih del,
- ob začetku uporabe (če je ta pred zaključkom del),
- pred prvo prijavo stalnega prebivališča v stavbi,
- pred prvo prijavo sedeža pravne osebe v stavbi.

Informacijska prenova vodenja nepremičninskih evidenc (usklajenost zemljiškega katastra, katastra stavb in zemljiške knjige) je začrtana v novem zakonu o katastru nepremičnin, ki bo vpeljal enoten postopek evidentiranja zemljišč in stavb ter skupno povezano evidenco, kar je zagotovo korak naprej k usklajenosti.

The entry of a building in the building cadastre enables:

- obtaining a house number,
- the organization of commonhold tenure in multi-apartment buildings,
- the entry of real estate in the land registry and thus also the possibility of concluding legal transactions (sale, purchase, mortgage loan),
- increasing market value,
- calculation of the value of real estate in a valuation process.

A building can be entered into the building cadastre when the building is in a construction phase where its area can be measured.

The obligation to register a building in the building cadastre arises:

- within 30 days after the completion of all final construction works,
- at the beginning of use (if this is before the end of the works),
- before the first registration of permanent residence in the building,
- before the first registration of a registered office of a legal entity in the building.

The information redesign of real estate record-keeping (harmonization of land cadastre, building cadastre and land register) is outlined in the future new Real Estate Cadastre Act, which will introduce a unified procedure for registering land and buildings and jointly linked records, which is certainly a step towards harmonization.

8 Register evidence nepremičnin (REN) – večnamenska evidenca o nepremičninah

Register nepremičnin je javna zbirka podatkov o nepremičninah, ki na enem mestu evidentira dejanske podatke o vseh nepremičninah.

Nepremičnina je lahko samostojno zemljišče (parcela), zemljišče s pripadajočimi sestavinami (npr. parcela z enodružinsko hišo), stavba (npr. stavba s stavbno pravico) ali del stavbe (npr. stanovanje). Vsi deli ene nepremičnine (zemljišča in deli stavb) imajo enako lastništvo. V registru nepremičnin so prevzeti podatki popisa, podatki zemljiškega katastra, katastra stavb, zemljiške knjige in nekaterih drugih javnih evidenc ter podatki, ki jih dnevno posredujejo lastniki nepremičnin. V registru nepremičnin so vpisani tudi podatki o osebah, ki so verjetno lastniki nepremičnine. Predvsem to velja za stanovanja in druge dele stavb, ki lastništva nimajo vpisanega v zemljiško knjigo.

Podatki o stavbah in delih stavb, ki so vpisani samo v registru nepremičnin, lastniku ne zagotavljajo pravne varnosti, saj ne predstavljajo podlage za vpis lastništva v zemljiški knjigi.

Register nepremičnin predstavlja večnamensko evidenco, ki odraža jasno sliko stanja nepremičnin, omogoča pregled nad številom, starostjo in velikostjo nepremičnin, komunalno opremljenostjo ter njihovo vzdrževanostjo.

Podatki iz REN so se prvič s pridom uporabili pri popisu prebivalstva leta 2011 in s tem bistveno pocenili stroške izvedbe popisa.

Real estate register (REN) – a multi-purpose real estate record

The real estate register is a public database of real estate that keeps actual data on all real estate in one location.

Real estate can be independent land (parcel), land with associated components (e.g. a parcel with a single-family house), a building (e.g. a building with a building right) or part of a building (e.g. an apartment). All parts of one property (land and parts of buildings) have the same ownership. The real estate register includes census data, data from the land cadastre, building cadastre, land registry and some other public records, as well as data provided daily by real estate owners. The real estate register also contains data on persons who are the probable owners of a particular part of real estate. This is especially true for apartments and other parts of buildings that do not have ownership registered in the land registry.

Data on buildings and parts of buildings that are entered only in the real estate register do not provide the owner with legal security, as they do not represent a basis for the registration of ownership in the land registry.

The real estate register is a multi-purpose record that reflects a clear picture of the condition of real estate, provides an overview of the number, age and size of real estate, the utilities, and their maintenance.

The data from the REN was employed for the first time in the 2011 census, significantly reducing the cost of conducting the census.

Podatki o stavbi:

Katastrska občina	1427 Veliki Gaber	Leto izgradnje stavbe	1967
Številka stavbe	186	Leto obnove strehe	1999
Katastrski vpis	NE	Leto obnove fasade	2015
Naslov stavbe	Trebnje, Medvedjek 2	Material nosilne konstrukcije	1 - opeka
Centroid N	87970.46	Priključek na vodovodno omrežje	DA
Centroid E	494258.74	Priključek na električno omrežje	DA
Število etaž	3	Priključek na kanalizacijsko omrežje	NE
Številka pritlične etaže	1	Priključek na omrežje plinovoda	-
Število stanovanj	1		
Število poslovnih prostorov	0		
Tip stavbe	1 - samostoječa		

Parcele, na katerih stoji stavba:

Katastrska občina	1427 Veliki Gaber	Površina zemljišča pod stavbo [m^2]	84
Številka parcele	244/7		

Podatki o delu stavbe:

Katastrska občina	1427 Veliki Gaber	Naslov dela stavbe	Trebnje, Medvedjek 2
Številka stavbe	186	Številka stanovanja ali poslovnega prostora	-
Številka dela stavbe	1	Katastrski vpis	NE

Dejanska raba dela stavbe	1 - Stanovanje v enostanovanjski stavbi	Številka nadstropja	-
Uporabna površina dela stavbe [m²]	129,1	Dvigalo	NE
Površina dela stavbe [m²]	166,3	Leto obnove oken	1999
Številka etaže	1	Leto obnove inštalacij	-
Upravnik stavbe	-	Višina etaže	-
Lega dela stavbe v stavbi	2 - pritličje	Prostori s površino	• bivalni prostor 129,1m² • klet 30,4m² • odprta terasa, balkon, loža 6,8m²

Podatki o parceli:

Katastrska občina	1427 Veliki Gaber
Številka parcele	244/7
Površina parcele [m²]	272

Stavbe, ki stojijo na parceli in površina zemljišča pod stavbo na tej parceli:

Katastrska občina	1427 Veliki Gaber	Dejanska raba	**Šifra dejanske rabe**	**Naziv dejanske rabe**	**Delež površine dejanske rabe [%]**
Številka stavbe	186		30	poseljena zemljišča	70,4
Površina zemljišča pod stavbo [m²]	84		30	poseljena zemljišča	29,6
Centroid N	87970.46		31	tloris stavbe	-
Centroid E	494258.74				
		Namenska raba	10130 - površine podeželjskega naselja Delež površine namenske rabe [%]: 100.0		

Slika 8.1: Podatki registra nepremičnin v distribucijski bazi.
(Vir: PREG)

Building information:

Cadastral municipality	1427 Veliki Gaber	Year of construction of the building	1967
Building number	186	Year of roof renovation	1999
Cadastral entry	NO	Year of facade renovation	2015
Building address	Trebnje, Medvedjek 2	Load-bearing construction material	1 - brick
Centroid N	87970.46	Connection to the water supply network	YES
Centroid E	494258.74	Connection to the power network	YES
Number of floors	3	Connection to the sewerage network	NO
Ground floor number	1	Connection to the gas pipeline network	-
Number of dwellings	1		
Number of business premises	0		
Building type	1 - stand-alone		

Parcels on which the building stands

Cadastral municipality	1427 Veliki Gaber	Land area under buildings [m^2]	84
Parcel number	244/7		

Information about building part:

Cadastral municipality	1427 Veliki Gaber	Address of part of the building	Trebnje, Medvedjek 2
Building number	186	Apartment or business premises number	-
Number of building part	1	Cadastral entry	NO

Actual use of the part of the building	1 - Apartment in a single-apartment building	Level number	-
Usable area of the building [m²]	129,1	Elevator	NO
Building part area [m²]	166,3	Year of window renovation	1999
Floor number	1	Year of renovating installations	-
Building manager	-	Floor height	-
Location of the part of the building in the building	2 - ground floor	Rooms with surface area	• living space 129.1m² • basement 30.4m² • open terrace, balcony, lounge 6.8m²

Parcel information:

Cadastral municipality	1427 Veliki Gaber
Parcel number	244/7
Parcel area [m²]	272

Buildings standing on the parcel and the surface area of land under the building on that parcel:

Cadastral municipality	1427 Veliki Gaber	Actual use	Code of actual use	Name of actual use	Share of actual use area [%]
Building number	186		30	inhabited land	70,4
Land area under buildings [m²]	84		30	inhabited land	29,6
Centroid N	87970.46		31	building floor plan	-
Centroid E	494258.74	Dedicated use	10130 - rural settlement areas Share of dedicated land use [%]: 100.0		

Figure 8.1: Data from the real estate register in the distribution database. (Source: PREG)

8.1 Nastavitev REN

Register nepremičnin je evidenca, ki je nastala na podlagi popisa nepremičnin v letih 2006 in 2007. S popisom nepremičnin so bili vzpostavljeni pogoji za vzpostavitev te večnamenske evidence, ki prikazuje dejansko stanje nepremičnin in služi kot osnovna podatkovna baza za izvedbo množičnega vrednotenja nepremičnin. Register nepremičnin je v popolni izvedbi začel poslovati v letu 2008.

S popisom nepremičnin je Geodetska uprava Republike Slovenije želela:

- predstaviti javnosti novo temeljno nepremičninsko evidenco - kataster stavb,
- seznaniti lastnike stavb in delov stavb z uradnimi podatki o stavbah in delih stavb, ki jih Geodetska uprava Republike Slovenije vodi v katastru stavb,
- seznaniti lastnike stavb in delov stavb o načinu spreminjanja podatkov o stavbah in delih stavb,
- pridobiti manjkajoče podatke o stavbah in delih stavb za izboljšanje podatkov v katastru stavb ter vzpostavitev registra nepremičnin,
- vzpostaviti večnamensko evidenco, ki bo omogočala uporabo v različne namene, kot so: izvajanje različnih politik (npr. prostorske, nepremičninske, stanovanjske, zemljiške, itd.), statistični nameni, varstvo pred naravnimi in drugimi nesrečami, obdavčenje nepremičnin, regulacija trga nepremičnin.

Popis je bil zasnovan po tako imenovanem lastniškem principu. To pomeni, da je popisovalec obiskal lastnika nepremičnine na mestu lastnikovega stalnega prebivališča in tam skupaj z njim popisal vse nepremičnine, ki jih ima le-ta v lasti.

Na podlagi teh izmer, ki jih je opravil lastnik, sta se evidentirali neto tlorisna površina in uporabna površina. Neto tlorisna površina stavbe ali dela stavbe je seštevek vseh neto tlorisnih površin posameznih prostorov, uporabna površina pa je odvisna od vrste rabe stavbe ali dela stavb. Za stanovanjske stavbe se je uporabna površina določila tako, da so se seštele površine vseh zaprtih prostorov za bivanje v eni ali več etažah, brez tehničnih prostorov in nedokončanih prostorov.

Establishing the REN

The real estate register is a record created on the basis of the real estate census in 2006 and 2007. The real estate census enabled the conditions for the establishment of this multi-purpose record, which shows the actual condition of real estate and serves as the main database for the implementation of real estate mass valuation. The real estate register commenced full operation in 2008.

With the real estate census, the Surveying and Mapping Authority of the Republic of Slovenia wanted to:

- present to the public the new base real estate records - the building cadastre,
- acquaint the owners of buildings and parts of buildings with official data on buildings and parts of buildings kept by the Surveying and Mapping Authority of the Republic of Slovenia in the building cadastre,
- inform the owners of buildings and parts of buildings about the manner of changing data on buildings and parts of buildings,
- obtain missing data on buildings and parts of buildings in order to improve the data in the building cadastre and establish a real estate register,
- establish a multi-purpose record that will allow use for various purposes, such as: implementation of various policies (e.g. spatial, real estate, housing, land, etc.), statistical purposes, protection against natural and other disasters, real estate taxation, real estate market regulation.

The census was designed according to the so-called ownership principle. This means that the census taker would visit the owner of the real estate at the place of the owner's permanent residence and record all the real estate of the owner.

Based on these surveys, performed by the owner, the net floor area and usable area were recorded. The net floor area of a building or part of a building is the sum of all the net floor areas of individual rooms, and the usable area depends on the type of use of the building or part of the buildings. For residential buildings, the usable area was determined by summing the areas of all

Posamezne enote, ki so bile predmet popisa in so namenjene za bivanje, so: kuhinja, kopalnica, stranišče, dnevna soba, predsoba, spalnica, kabinet, hodnik in podobni prostori.

Tehnični prostori so: klet, shramba za živila, sušilnica, pralnica, garaža, drvarnica, kurilnica, stopnišče, delavnica, garderoba in podobni prostori.

Med tehnične prostore hiše se štejejo tudi: terase (odprte in zaprte), balkoni (odprti in zaprti), lože (odprte in zaprte).

Nedokončani prostori so prostori, ki nimajo izpolnjenih minimalnih kriterijev za bivanje in zato površine teh prostorov niso vključene v seštevek uporabnih površin. Med te prostore se lahko štejejo prostori, ki ustrezajo vsaj dvema od naštetih kriterijev: se ne ogrevajo, nimajo gotovih podov, ometi so samo grobi ali jih ni, inštalacije niso dokončane, strop proti strehi ni dokončan.

Tak scenarij je bil seveda mogoč v vseh primerih, kjer je imel posameznik zadeve lastninsko urejene in zabeležene v javnih evidencah.

Enote popisa nepremičnin so:

- stavba,
- del stavbe,
- lastništvo,
- stanovalec.

Del stavbe je lahko v premeru stavb z več deli samostojen predmet popisa, če je v katastru stavb predhodno izveden vsaj registrski vpis. Popis nepremičnin je potekal po dveh enakovrednih metodah, metodi samoprijave in klasični metodi. V obeh metodah so se izpolnjevali vsebinsko enaki popisni obrazci. Vrsto, vsebino in obliko popisnih obrazcev je določalo metodološko gradivo. Popisovalec je imel za izvedbo popisa pravico dostopa do stavbe ali dela stavbe ter v skupne dele stavbe z več deli stavbe. Popisovalec je v del stavbe lahko vstopil samo v primeru, če mu je to dovolil udeleženec popisa nepremičnine, za katero je izvajal popis (lastnik, stanovalec, najemnik, itd.)

Popisovalec je bil dolžan opraviti popis nepremičnine najprej z lastnikom, solastnikom ali upravljavcem državnega ali lokalnega premoženja. Če lastnik, solastnik ali upravljavec ni bil dosegljiv, je

enclosed living spaces on one or more levels, excluding technical spaces and unfinished spaces.

The individual living units that were the subject of the census are: kitchen, bathroom, toilet, living room, foyer, bedroom, cabinet, hallway and similar rooms.

Technical rooms are: basement, food pantry, drying room, laundry, garage, woodshed, boiler room, staircase, workshop, dressing room and similar rooms.

The technical rooms of the house also include: terraces (open and closed), balconies (open and closed), lounges (open and closed).

Unfinished rooms are rooms that do not meet the minimum criteria for habitation, and therefore the areas of these rooms are not included in the sum of usable areas. These rooms can include rooms that meet at least two of the following criteria: they are not heated, they do not have finished floors, the plaster is only rough or non-existent, the installations are not finished, the ceiling under the roof is not finished.

This type of scenario was, of course, possible in all cases where the individual had matters regulated by property and recorded in public records.

The units of the real estate census are:

- building,
- building part,
- ownership,
- tenant.

A building part within a building with several parts can be an independent subject of the census if at least a register entry has been previously made in the building cadastre. The real estate census was conducted using two equivalent methods, the self-declaration method and the classical method. Both methods included filling out forms that were equal in substance. The type, content and form of the census forms were determined by the methodological material. In conducting the census, the census taker had the right of access to buildings or building parts and to the common parts of buildings with several building parts. The census taker could only enter a part of the building if he obtained permission to do so from the participant in the census of the real estate for which the census was being conducted (owner, occupant, tenant, etc.)

opravil popis nepremičnin z drugimi udeleženci popisa nepremičnin. Popisovalec je udeležencu popisa pomagal interpretirati vprašanja iz popisnih obrazcev, ni pa mu pomagal določiti vrednosti posameznih podatkov (npr. popisovalec ni meril površin, pač pa je površino, ki mu jo je povedal udeleženec popisa nepremičnin, le vpisal v popisni obrazec). Brisanje, dodajanje ali urejanje stavbe ali dela stavbe je popisovalec izvedel na zahtevo udeleženca popisa.

Ob nestrinjanju udeleženca popisa nepremičnin z že evidentiranimi katastrskimi podatki je popisovalec:

- označil nestrinjanje na popisnem obrazcu,
- udeleženca popisa nepremičnin podučil, da bodo ti podatki vodeni v registru nepremičnin, ne pa v katastru stavb,
- napotil udeleženca popisa nepremičnin na Geodetsko upravo Republike Slovenije, kjer lahko po veljavnih postopkih spremembe podatkov spremeni podatke v katastru stavb.

Za stavbe, ki niso bile katastrsko vpisane v kataster stavb, podatkov o skupnih delih stavb ni bilo treba pridobiti, razen če:

- so bili deli stavb ločeni od ostalih skupnih prostorov in niso bili namenjeni uporabi vsem uporabnikom stavbe, pač pa točno določenim osebam (npr. hišniško stanovanje, delavnice za hišnike ipd., ne pa stopnišča, skupni hodniki, sušilnice, pralnice, prostori za odlaganje odpadkov, kolesarnice ipd.),
- je bil skupni del stavbe zaklonišče. V tem primeru se je ne glede na dejansko uporabo skupnega prostora (npr. za drvarnice, garaže ipd.) skupni del opredelil kot zaklonišče.

Določeni subjekti, katerim zakon daje to pravico, so imeli možnost že pred začetkom izvedbe popisa nepremičnin pridobiti od Geodetske uprave Republike Slovenije podatke o stavbah, delih stavb, lastnikih in/ali stanovalcih s stalnim ali začasnim prebivališčem in sami izvesti t. i. postopek predpopisa nepremičnin, ki je bil vsebinsko enak popisu.

The census taker was obliged to conduct the real estate census first with the owner, co-owner or manager of state or local property. If the owner, co-owner or manager was not available, they conducted a real estate census with other participants in the real estate census. The census taker helped the census participant interpret the questions in the census forms, but they did not help determine the values of individual parts of data (e.g. the census taker did not measure areas, only entered the area value reported by the participant in the real estate census in the census form). At the request of the census participant, the census taker could delete, add or edit a building or part of a building.

If the participant in the real estate census did not agree with the cadastral data already registered, the enumerator would:

- make a note on the disagreement in the census form,
- inform the participant in the real estate census that this information would be kept in the real estate register and not in the building cadastre,
- refer the participant in the real estate census to the Surveying and Mapping Authority of the Republic of Slovenia, where they may change the data in the building cadastre in accordance with the applicable procedures.

Data on the common parts of buildings that were not cadastrally registered in the building cadastre did not have to be obtained, unless:

- parts of the buildings were separated from other common areas and were not intended for use by all users of the building, but by specific persons (e.g. caretaker's apartment, caretaker's workshop, etc., but not staircases, common corridors, drying rooms, laundry rooms, waste storage rooms, bicycle sheds, etc.),
- the common part of the building was a shelter. In this case, regardless of the actual use of the common space (e.g. as woodsheds, garages, etc.), the common part was defined as a shelter.

Certain entities were granted the right to obtain data on buildings, parts of buildings, owners and/or residents with permanent or temporary residence from the Surveying and Mapping Authority of the Republic of Slovenia even before the start of the real estate census and to independently carry out the so-called procedure of pre-registration of real estate, which was essentially the same as the census.

Ti subjekti so bili:

- upravniki stavb,
- upravljavci državnega premoženja,
- večji lastniki,
- lokalne skupnosti.

Podatki, pridobljeni v predpopisu nepremičnin, so bili enakovredni podatkom, pridobljenim v popisu nepremičnin.

S terenskim delom popisa nepremičnin na območju Slovenije je bilo evidentirano 1.689.941 enot, kar predstavlja 91,36 odstotkov vseh stavb in delov stavb na območju Republike Slovenije.

These entities were:

- building managers.
- state property managers,
- large owners,
- local communities.

The data obtained in the real estate pre-census was equivalent to the data obtained in the real estate census.

The field part of the real estate census in the territory of Slovenia recorded 1,689,941 units, representing 91.36 percent of all buildings and parts of buildings in the territory of the Republic of Slovenia.

8.2 Vzdrževanje evidence registra nepremičnin

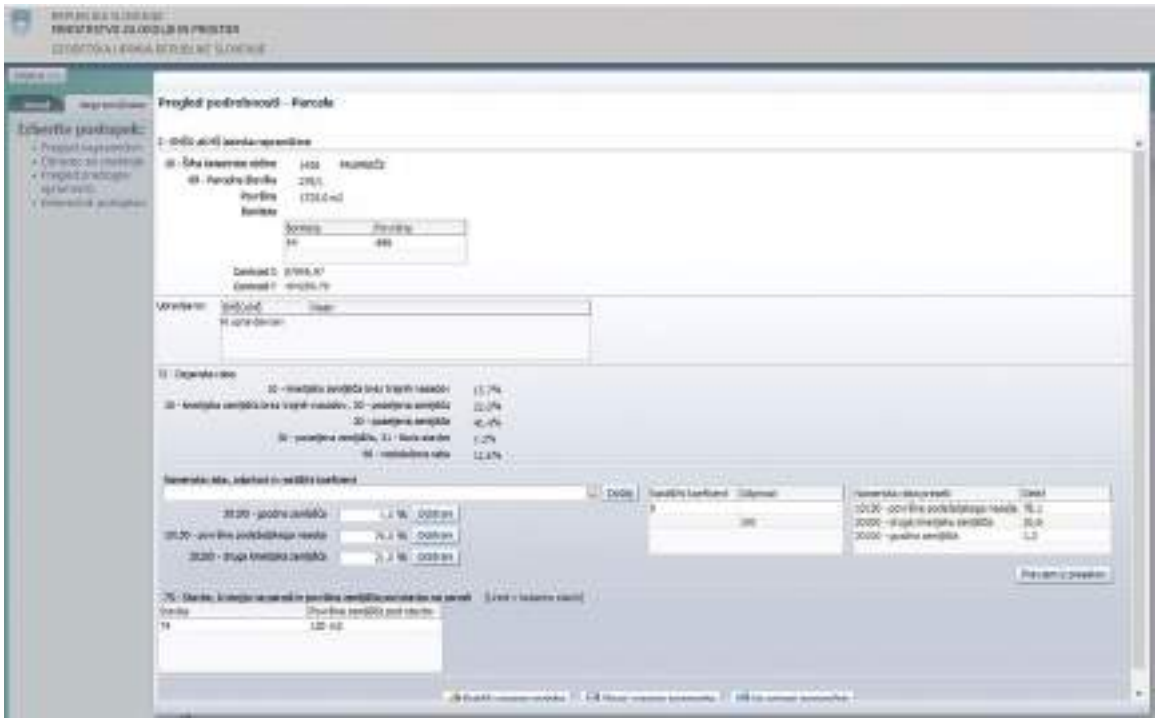
V evidenci registra nepremičnin se vodijo podatki o parcelah iz zemljiškega katastra, stavbah in delih stavb iz katastra stavb ter podrobnejši registrski podatki, in sicer:

Za parcelo; boniteta zemljišča, centroid, dejanska raba zemljišča, delež površine dejanske rabe, delež površine namenske rabe, katastrska občina, namenska raba, parcelna številka, površina parcele, površina zemljišča pod stavbo, stavbe, ki stojijo na parceli, in upravljavec.

Maintenance of real estate register records

The records of the real estate register contain data on parcels from the land cadastre, buildings and parts of buildings from the building cadastre and additional detailed register data, namely:

For parcels; land rating, centroid, land cover, share of area of land cover, share of area of land use, cadastral municipality, land use, parcel number, parcel area, area of land under the building, buildings standing on the parcel, and the manager.



Slika 8.2.1: Vpogled v podrobnosti sestavine parcele.
(Vir: Ekranski vpogled v REN)

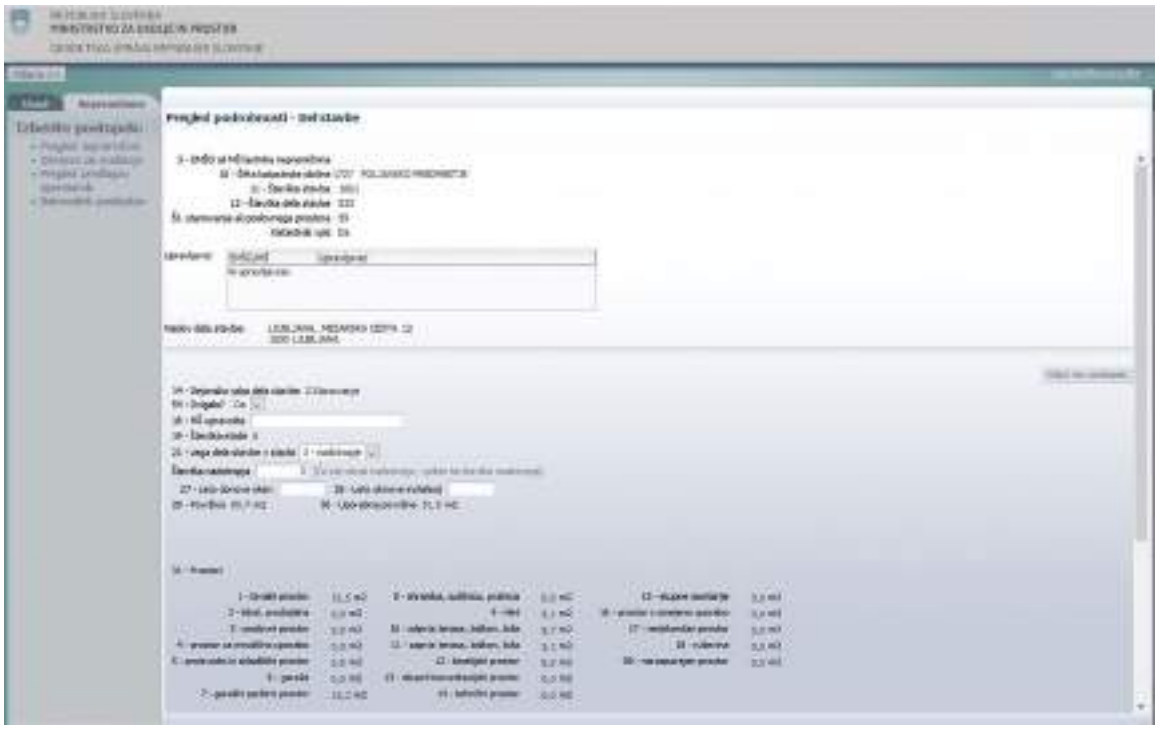
Figure 8.2.1: Insight into the details of a parcel attributes.
(Source: Screen capture from REN)

Za stavbo; centroid, elektrika, kanalizacija, katastrska občina, leto izgradnje stavbe, leto obnove fasade, leto obnove strehe, material nosilne konstrukcije, naslov stavbe, parcele, na katerih stoji stavba, plin, površina zemljišča pod stavbo, številka pritlične etaže, številka stavbe, število etaž, število poslovnih prostorov, število stanovanj, tip stavbe in vodovod.

Za del stavbe; dejanska raba dela stavbe, dvigalo, katastrska občina, lega dela stavbe v stavbi, leto obnove inštalacij, leto obnove oken, naslov dela stavbe, površina dela stavbe, površina prostora, številka dela stavbe, številka etaže, številka nadstropja, številka stanovanja ali poslovnega prostora, številka stavbe, uporabna površina, upravljavec, upravnik, vrsta prostora in višina etaže.

For buildings; centroid, electricity, sewerage, cadastral municipality, year of construction of the building, year of facade renovation, year of roof renovation, load-bearing construction material, building address, parcels on which the building stands, gas, area of land under the building, ground floor number, building number, number of floors, number of business premises, number of apartments, type of building, and water supply.

For building parts; actual use of the part of the building, elevator, cadastral municipality, location of the part of the building in the building, year of renovation of installations, year of renovation of windows, address of the part of the building, area of the part of the building, floor area, building part number, floor number, level number, apartment or business premises number, building number, usable area, controller, manager, type of space, and floor height.



Slika 8.2.2: Vpogled v podrobnosti sestavine dela stavbe.
(Vir: Ekranski vpogled v REN)

Figure 8.2.2: Insight into the details of a building part component.
(Source: Screen capture from REN)

Podatki v registru stavb se lahko spreminjajo na podlagi vprašalnika. S pomočjo posebnega vprašalnika je dovoljeno lastnikom spreminjati podatke o stavbi, ki so povezani s priključki (elektrika, kanalizacija, vodovod, plin), o letu obnov (fasada, streha), o materialu nosilne konstrukcije in o tipu stavbe.

O delu stavbe je dovoljeno s pomočjo vprašalnika spreminjati naslednje podatke: o letih obnov (okna, inštalacije), o dvigalu, o višini etaže, o številki nadstropja, o upravniku, za rezervoarje in silose pa še njihova prostornina.

Podatkov o legi in obliki stavbe, o površinah, dejanskih rabah delov stavb in letnicah izgradnje lastniki ne morejo spreminjati preko vprašalnikov. Za spremembo teh podatkov je treba naročiti elaborat geodetske storitve pri geodetskem podjetju ali projektantu ter nato vložiti zahtevo za vpis stavbe v kataster stavb ali zahtevo za spremembo podatkov katastra stavb na geodetski upravi.

Geodetska uprava pa tudi sama ugotavlja (z metodami in tehnikami inventarizacije prostora – terenski ogled, geodetska izmera ali interpretacija strokovnih geodetskih podlag) skladnost evidentiranih podatkov. Če vpisani registrski podatki ne ustrezajo dejanskemu stanju v naravi, pozove lastnika ali upravnika, da podatke posreduje z vprašalnikom. Če lastnik ali upravnik v postavljenem roku ne pošlje izpolnjenega vprašalnika ali pošlje nepopolno izpolnjen vprašalnik, geodetska uprava sama evidentira podatke o nepremičnini, ugotovljene z opisanimi metodami in tehnikami, ter o tem izda odločbo.

The data in the building register can be changed on the basis of a questionnaire. By way of a special questionnaire, owners are allowed to change information about the building concerning the utilities (electricity, sewerage, plumbing, gas), the year of renovation (facade, roof), the material of the load-bearing structure, and the type of building.

The questionnaire also enables changing the following information about parts of buildings: years of renovation (windows, installations), elevator, floor height, floor number, manager, and the volume of any tanks or silos.

Data on the location and shape of the building, areas, actual use of parts of buildings and years of construction cannot be changed by the owners via questionnaires. To change this data, it is necessary to order a report of the surveying services from a surveying company or designer and then submit an application for the entry of the building in the building cadastre or a request to change the data of the building cadastre at the Surveying and Mapping Authority.

The Surveying and Mapping Authority itself determines (using spatial inventory methods and techniques - field inspection, geodetic survey or interpretation of professional data sources) the compliance of the recorded data. If the entered registration data does not correspond to the actual situation in nature, they invite the owner or manager to provide the data through a questionnaire. If the owner or manager does not send the completed questionnaire or sends an insufficiently completed questionnaire within the set deadline, the Surveying and Mapping Authority itself records the data on the real estate as determined by the described methods and techniques and issues a decision.

9 Evidenca registra prostorskih enot – RPE

Začetki segajo v leto 1973, ko je bil pripravljen predlog za izgradnjo Registra območij teritorialnih enot (ROTE), ki je zajemal hierarhijo prostorskih enot do ravni statističnega okoliša. Register se je izgrajeval parcialno in postopoma ob upoštevanju takratnih pravil informacijskih sistemov. Statistični okoliši kot osnovni gradniki so bili dostopni na Zavodu SR Slovenije za statistiko v obliki opisov mej in skic. Iz teh materialov so se statistični okoliši prenesli v osnovno državno karto v merilu 1 : 5000 (1 : 10000), kjer so se tudi vzdrževali. V Registru območij teritorialnih enot je bilo doseženo sodelovanje dveh velikih sistemov: statističnega in geodetskega.

Register of spatial units – RPE

The beginnings date back to 1973 when a proposal was prepared for the establishment of the Register of areas of territorial units (ROTE), which included the hierarchy of spatial units up to the level of the statistical district. The register was built partially and gradually, taking into account the rules of information systems at the time. Statistical districts as basic building blocks were available at the Statistical Bureau of Slovenia in the form of border descriptions and sketches. From these materials, the statistical districts were transferred to the basic national map at a scale of 1 : 5000 (1 : 10000), where they were also maintained. The Register of territorial unit areas succeeded in achieving the cooperation of two major systems: statistical and geodetic.

Slika 9.1: Popisni okoliši s hišnimi številkami. Na območjih, kjer še niso bili izdelani TTN (temeljni topografski načrti), so se za potrebe popisa prebivalstva, gospodinjstva in stanovanj v letu 1981 popisna območja s hišnimi številkami vrisovala na ozalidne kopije aerofotoposnetkov.
(Vir: Arhiv OGU Novo mesto)

Figure 9.1: Census districts with house numbers. In areas where TTNs (basic topographic maps) had not yet been produced, census areas with house numbers were drawn on Ozalide copies of aerial photographs for the purposes of the census of population, households and dwellings in 1981.
(Source: Archives of OGU Novo mesto)

9.1 Vzpostavitev evidence RPE

V drugi polovici leta 1978 je potekala akcija operativne vzpostavitve ROTE in Evidence hišnih številk (EHIŠ), katere rezultat je bil tudi paket predpisov s tega področja, ki je bil objavljen leta 1980.

Leta 1980 se je začelo tudi z neposredno pripravo gradiv za popis. Do konca leta 1980 je bila v občinah izvedena vzpostavitev evidenc ROTE in EHIŠ. Geodetska služba je prevzela tudi dodeljevanje hišnih številk, ki je bilo do tedaj v večini občin neorganizirano, kar se je odražalo v neurejenosti oštevilčbe v naseljih.

Popis kot največje statistično raziskovanje se je leta 1981 v Sloveniji izvajal s pomočjo evidenc ROTE in EHIŠ. Uporaba ROTE in EHIŠ v popisu leta 1981 v Sloveniji je povsem upravičila skupno odločitev statistike in geodezije o vzpostavitvi geodetsko-statističnih podlag. Datum popisa 1981 pa pomeni tudi formalni začetek delovanja obeh evidenc. V Registru območij teritorialnih enot (ROTE) so se registrirale in vzdrževale meje evidentiranih območij teritorialnih enot, površine, šifre, imena in centroidi le-teh. Register teritorialnih enot so sestavljali kartografski prikazi, računalniško vodene baze podatkov in dokumentacija, ki se je vodila za območja občin in za območje tedanje SR Slovenije.

Teritorialne enote so bile prostorsko določljive enote, določene po administrativnih, gospodarskih ali drugih načelih. Glede na velikost, pomen, uporabo in prostorsko hierarhijo so se teritorialne enote delile na osnovne in dopolnilne.

Občinski geodetski organi so vodili in vzdrževali osnovne in pregledne kartografske prikaze ter dokumentacijo na ravni občine. Zavod Socialistične Republike Slovenije za statistiko je vodil in vzdrževal računalniško vodene baze podatkov Registra območij teritorialnih enot za potrebe občin in takratne SR Slovenije.

Evidenca hišnih številk (EHIŠ) je obsegala podatke o hišnih številkah in ulicah ter podatke o pripadnosti stavb s hišno številko posameznim teritorialnim enotam v okviru naselij. Evidenco hišnih številk so sestavljali kartografski prikazi, računalniško vodena baza

Establishment of the RPE records

In the second half of 1978, the operational establishment of ROTE and the Register of house numbers (EHIŠ) was carried out, the result of which was a set of regulations in this field, published in 1980.

In the same year, the direct preparation of materials for the census began as well. By the end of 1980, the ROTE and EHIŠ records were established in the municipalities. The Surveying and Mapping Authority also took over the allocation of house numbers, which until then had been unorganized in most municipalities, reflecting in disorderly house numbering in settlements.

The census, being the largest statistical survey, was conducted in Slovenia in 1981 with the use of ROTE and EHIŠ records. The use of ROTE and EHIŠ in the 1981 census in Slovenia fully justified the joint decision of the fields of statistics and geodesy on the establishment of geodetic-statistical bases. The date of the 1981 census also marks the formal commencement of both records. In the Register of areas of territorial units (ROTE), the borders of the registered areas of territorial units, their areas, codes, names and centroids were registered and maintained. The register of territorial units consisted of cartographic representations, computer-controlled databases and documentation kept for the areas of municipalities and for the area of the then SR Slovenia.

Territorial units were spatially identifiable units determined according to administrative, economic or other principles. In terms of size, importance, use and spatial hierarchy, territorial units were divided into basic and complementary types.

Municipal geodetic authorities managed and maintained basic and transparent cartographic representations and documentation at the municipal level. The Statistical Bureau of Slovenia managed and maintained computer-controlled databases of the Register of areas of territorial units for the needs of municipalities and the then SR Slovenia.

The Register of house numbers (EHIŠ) included data on house numbers and streets and data on the affiliation of buildings with a house number to individual

podatkov in dokumentacija, ki se je vodila za območje občin in za območje SR Slovenije.

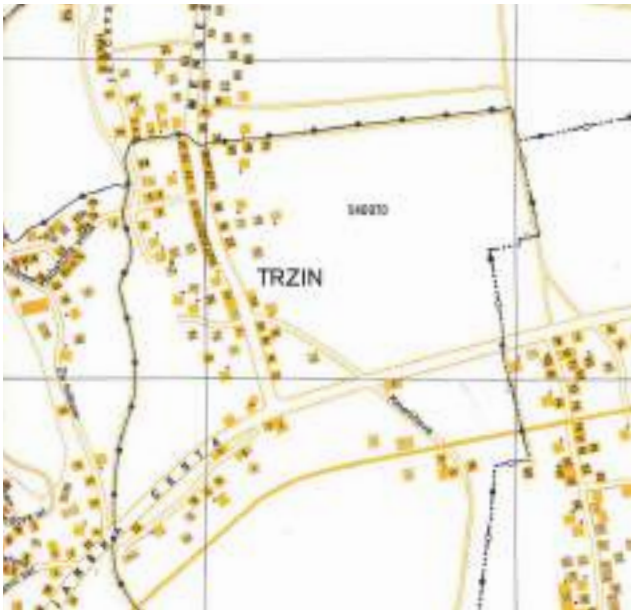
Občinski geodetski organi so vodili in vzdrževali osnovne kartografske prikaze evidence hišnih številk, centroide hiš in dokumentacijo EHIŠ-a. Zavod Socialistične Republike Slovenije za statistiko pa je računalniško vodil in vzdrževal EHIŠ za potrebe občin SR Slovenije.

territorial units within settlements. The record of house numbers consisted of cartographic displays, a computer-controlled database and documentation kept for the areas of municipalities and for the area of SR Slovenia.

Municipal geodetic authorities kept and maintained basic cartographic representations of the register of house numbers, house centroids and EHIŠ documentation. The Statistical Bureau of Slovenia managed and maintained the EHIŠ for the needs of the municipalities of the SR of Slovenia.

Vodja skupine za nastavitev ROTE pri GU SRS Peter Svetik je ob izidu publikacije »1 ROTE register območij teritorialnih enot« za območje Skupščine občine Domžale leta 1979 zapisal:
»Pred vami je izredno dragoceno gradivo. Prvo v SR Sloveniji in prvo v SFR Jugoslaviji. Gradivo, ki je zaradi vrste podatkov zaupnega značaja, gradivo, ki ga bomo lahko uporabili za mnoge namene, vendar ga moramo skrbno hraniti.«

The head of the ROTE establishment group at the GU SRS, Peter Svetik, wrote the following about the publication of the »1 ROTE register of areas of territorial units« for the area of the Domžale Municipal Assembly in 1979:
»In front of you is some extremely valuable reading. The first of its kind both in SR Slovenia and SFR Yugoslavia. This document is confidential due to the type of data contained, and one that we will be able to use for many purposes, but we must be diligent in keeping it.«



Naslovnica in izsek dela vsebine iz prve tovrstne publikacije, katere podlaga je bila evidenca ROTE in EHIŠ.
(Vir: Arhiv GURS)

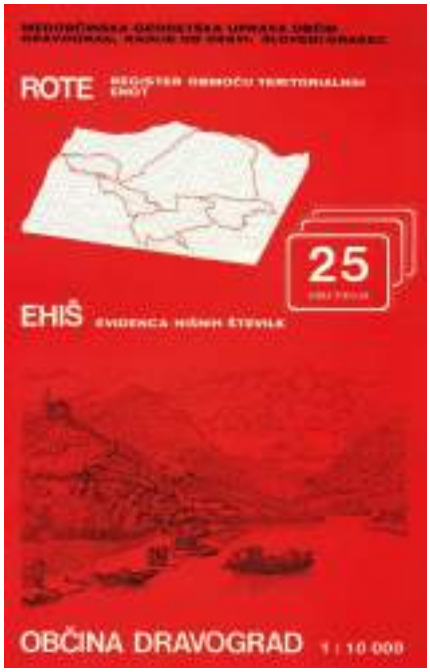
Cover and excerpt of a part of the content from the first publication of this type, the basis of which were the records of ROTE and EHIŠ.
(Source: The SMARS archive)

Podatke, vodene v evidenci ROTE in EHIŠ, so v nekaterih občinah uporabili in izdelali za njihove individualne potrebe lične kataloge oz. brošure.

V uvodnem besedilu so ob izdaji publikacije leta 1984 zapisali občinski možje: »Priročnik je služil lažjemu delu poleg geodetske službe tudi vsem ostalim organom, ki se ukvarjajo z urejanjem prostora. Tak material je solidna osnova kmetijstvu, gozdarstvu, varovanju okolja, prometu, turizmu in gostinstvu, lovu, ribolovu, planinstvu in podobnim dejavnostim.
Zbrani material v tej brošuri je nadgradnja osnovne evidence ROTE in EHIŠ, ki je služila potrebam popisa prebivalstva v letu 1981. Posebej je gradivo dragocen prispevek k potrebam splošnega ljudskega odpora in družbene samozaščite v občini in krajevnih skupnostih, inšpekcijskim in drugim strokovnim službam pa koristen pripomoček za racionalnejše opravljanje pisarniškega in terenskega dela.«

In some municipalities, the data kept in the ROTE and EHIŠ records were used in the production of their own catalogues or brochures.

When the publication was published in 1984, the municipal officers wrote in the introduction: »Apart from the surveying service, the manual was also useful for all other bodies involved in spatial planning. This type of document is a solid basis for agriculture, forestry, environmental protection, transport, tourism and catering, hunting, fishing, mountaineering and similar activities.
The material collected in this brochure is an upgrade of the basic records of ROTE and EHIŠ, which served the needs of the 1981 census. In particular, this document is a valuable contribution to the needs of the general security of the people and social self-protection in the municipality and local communities, and a useful tool for inspection and other professional services to facilitate a more rational performance of office and fieldwork.«



Naslovnica publikacije Register območij teritorialnih enot in evidenca hišnih številk občine Dravograd in prikaz območja naselja Libeliče, ki ima zanimivo zgodovino.
(Vir: Arhiv GURS)

Cover of the publication of the Register of areas of territorial units, record of house numbers of the municipality of Dravograd, and an image of the area of the settlement Libeliče, which has an interesting history.
(Source: The SMARS archive)

Prebivalci odmaknjene majhne koroške vasice Libeliče, stisnjene med reko Dravo in mejo z Avstrijo, so pred sto leti na podlagi plebiscita pripadli Avstriji. Po dveh letih vztrajnega in trmastega upora, ki ga je vodila skupina libeliških

The inhabitants of the small and remote village of Libeliče in Koroška, sandwiched between the Drava River and the border with Austria, passed to Austria a hundred years ago on the basis of a

domoljubov, so dosegli vrnitev v matično domovino. Dve leti po prvi svetovni vojni je o usodi Koroške odločal plebiscit. Na referendumu je večina volivcev glasovala, da ostanejo v Avstriji. V njej so pristale tudi Libeliče, čeprav je večina Libeličanov glasovala za priključitev h kraljevini SHS.

»Libeliče pripadajo Avstriji. Pod vasjo naj se v sedmih dneh postavijo mejniki, napelje bodeča žica in nastavi avstrijska straža. Prebivalci tega območja so nacionalno nezanesljivi, zato jim je treba v najkrajšem času vcepiti nemški duh in utrditi te labilne mejne kraje,« se je glasil avstrijski ukaz.

Za Avstrijo (vsaj mislili so tako) je bil problem urejen. Niti pomislili niso, da bi bila narodnostna zavest Libeličanov močnejša od avstrijskih zakonov in določil. Že prvo noč po postavitvi državne meje so izruvali nekaj mejnih kamnov in tu in tam prerezali žico. Začel se je svojevrsten upor v zgodovini slovenskega naroda.

Nihče ni upošteval novih avstrijskih predpisov, ampak le tiste, ki so jih poznali pred 10. oktobrom 1920. Dve leti so premišljeno in skrbno vodili upor. Organizirali so shode, zborovanja, mitinge in z različnimi akcijami ves čas nagajali avstrijskim oblastem. Orožniki se zaradi ljubega miru niso upali približevati kmetijam, kjer so bila zborovanja, imeli pa so tudi dovolj dela s stalnim postavljanjem mejnikov, ki so jih dan za dnem izruvali libeliški fantje. Avstrija se je po dobrem letu odločila, da neposlušne Libeličane stre s silo.

Libeliški domoljubi so se obrnili na oblast v Ljubljani, ki si je po dveh letih le malo opomogla od poraza na plebiscitu in dosegli njihovo podporo. Ko so na njihovo zahtevo znova pregledali rezultate plebiscita, je bilo jasno, da so imeli Libeličani ves čas prav. Na plebiscitu so glasovali za domovino. Avstrijci so morali oktobra 1922 uporno vas vrniti matični domovini, v zameno pa so dobili neposeljeno ozemlje na levem bregu reke Drave.

Državno mejo so prestavili, tokrat onstran cerkve svetega Martina. Še danes se tišči libeliških kmetij. Nekaterim seče vrtove, drugim dvorišča. Dirntišu, hribovskemu kmetu, ki se je odločil za Jugoslavijo, pa je meja za celo uro in pol podaljšala pot v Libeliče.

(Vir: Brošura "LIBELIČE 1920–1922", 1982)

plebiscite. After two years of persistent and stubborn rebellion led by a group of Libeliče patriots, they succeeded in returning to their homeland. Two years after the First World War, the fate of Koroška would be decided by a plebiscite. In the referendum, a majority of voters voted to remain in Austria. This also included the village of Libeliče, even though the majority of Libeliče voted to join the kingdom of SHS.

»Libeliče belongs to Austria. In seven days, landmarks are to be arranged under the village, barbed wire installed, and an Austrian guard set up. The inhabitants of this area are nationally unreliable, so the German spirit must be instilled in them as soon as possible to consolidate these unstable border towns,« read the Austrian order.

For Austria, the issue was settled - or so it seemed. They did not expect the national consciousness of the Libeliče villagers to overcome the Austrian laws and regulations. Even on the first night after the border was set up, some border stones were excavated and the wire was cut in several places. A sort of uprising had started that was distinctive in the history of the Slovenian nation.

No one complied with the new Austrian regulations, only with those known before 10 October 1920. For two years, the rebellion was maintained diligently and carefully. They organized rallies, assemblies, meetings and constantly harassed the Austrian authorities with various actions. For the sake of peace, the militiamen did not dare approach the farms where the rallies were held, and they were also busy with the constant re-setting of landmarks, which would be dug up day after day by the villagers of Libeliče.

After just over a year, Austria decided to overcome the disobedient Libeliče villagers by force. The patriots of Libeliče turned to the authorities in Ljubljana, which, after two years, had only barely recovered from the defeat in the plebiscite, and gained their support. When, at their request, the results of the plebiscite were re-examined, it was clear that the villagers of Libeliče had been in the right all along. In the plebiscite, they had voted for their homeland. In October 1922, Austria had to return the rebellious village to its homeland and in return, they received uninhabited territory on the left bank of the Drava River.

The state border was moved, this time beyond the church of St. Martin. Even today, it sticks to the farms in Libeliče, splitting a garden here, a backyard there. For Dirntiš, a hill farmer who decided on Yugoslavia, the border extended the route to Libeliče by an hour and a half.

(Source: Brochure "LIBELIČE 1920–1922", 1982)

Razlogi za prenos upravljanja registra prostorskih enot

Register prostorskih enot, oziroma do leta 1993 še ROTE in EHIŠ, so takrat vzdrževali trije subjekti, območne geodetske uprave (OGU) z izpostavami[1] (vir sprememb, izpolnjevanje obrazcev o spremembah, kartografsko definiranje sprememb), Statistični

Reasons for the transfer of the management of the spatial unit register

At the time, the register of spatial units, along with ROTE and EHIŠ until 1993, was maintained by three entities; regional geodetic administrations (OGU) and their branches[1] (source of changes, filling in change

[1] Do leta 1995 občinske geodetske uprave
[1] Municipal geodetic administrations before 1995

urad Republike Slovenije (SURS) (računalniško vzdrževanje opisnih podatkov) in Glavni urad Geodetske uprave Republike Slovenije (GURS) (vodenje in usmerjanje izpostav ter območnih geodetskih uprav, vzdrževanje digitalnih lokacijskih podatkov). Ker je vsak od treh subjektov vzdrževal svoje podatke, opisni in lokacijski del baze nista bila povezana in usklajena. Logična posledica stanja sta bila usmeritev in cilj, da se vodenje in vzdrževanje podatkov prenese v okolje, kjer podatki nastajajo.

Zakon o družbenem sistemu informiranja navaja, da »Register prostorskih enot v občini in republiki vodi upravni organ, pristojen za geodetske zadeve«. Pristojnost za vodenje Registra prostorskih enot pa je navedena tudi v Zakonu o organizaciji in delovnem področju ministrstev: »Geodetska uprava Republike Slovenije |...| opravlja upravne in strokovne zadeve, ki se nanašajo na osnovni geodetski sistem, na geodetska dela v zvezi z državno mejo in evidenco o državni meji, na državne karte, na zemljiški kataster in kataster zgradb, na register prostorskih enot z evidenco hišnih številk, na evidenco zemljepisnih imen ...«

forms, cartographic definition of changes), the Statistical Bureau of Slovenia (SURS) (computer maintenance of descriptive data), and the Main Office of the Surveying and Mapping Authority of the Republic of Slovenia (SMARS) (management and direction of branches and regional geodetic administrations, maintenance of digital location data). As each of the three entities maintained its own data, the descriptive and locational parts of the database were not linked and coordinated. The logical consequence of the situation was the direction and goal of transferring the management and maintenance of data to the environment where the data is generated.

The Social System Information Act states that »The register of spatial units in the municipality and the republic is kept by the administrative body responsible for geodetic matters«. The competence for keeping the Register of spatial units is also stated in the Organization and Competence of Ministries Act: »The Surveying and Mapping Authority of the Republic of Slovenia | ... | performs administrative and professional matters relating to the base geodetic system, geodetic works related to the state border and state border records, state maps, the land cadastre and building cadastre, the register of spatial units with the record of house numbers, the record of geographical names ... »

9.2 Vzdrževanje RPE

Maintenance of RPE

Register prostorskih enot je nastal z nadgradnjo Registra območij teritorialnih enot (ROTE) in evidence hišnih številk (EHIŠ), ki sta ju vzpostavila statistika in geodetska služba na začetku 80. let. Meje prostorskih enot in centroidi hišnih številk so bili postopoma digitalizirani iz osnovnih kartografskih prikazov Registra osnovnih teritorialnih enot in Evidence hišnih številk. Leta 1990 so bili vsi opisni in lokacijski podatki, vključno s centroidi hišnih številk in mejami prostorskih enot, prevedeni v digitalno obliko in tako združeni v enotno bazo, vodeno v RDBMS[2] Oracle.

Osnova Registra prostorskih enot je integrirana podatkovna baza z lokacijskimi in opisnimi podatki, ki je bila vzpostavljena leta 1995. Ob vzpostavitvi se je začelo tudi njeno vzdrževanje. Centralno bazo, ki jo imenujemo tudi delovna baza, vzdržujejo izpostave, območne geodetske uprave in glavni urad preko lokalnih baz s pomočjo aplikacij za vodenje, vzdrževanje in izdajanje podatkov Registra prostorskih enot in hitrega komunikacijskega omrežja državnih organov po principu distribuiranih baz podatkov[3].

The Register of Spatial Units was created by upgrading the Register of areas of territorial units (ROTE) and the Register of house numbers (EHIŠ), which were established by the statistics service and the Surveying and Mapping Authority in the early 1980s. The borders of the spatial units and centroids of house numbers were gradually digitized from the basic cartographic representations from the Register of territorial units and the Register of house numbers. In 1990, all descriptive and location data, including the centroids of house numbers and spatial unit boundaries, were translated into digital form and thus combined into a single database managed through RDBMS[2] Oracle.

The core of the Register of spatial units is an integrated database with location and descriptive data, which was established in 1995. At the time of its establishment, its maintenance started as well. The central database, also called the working database, is maintained by branches, regional geodetic administrations and the main office through local databases by using applications for managing, maintaining and issuing data from the

[2] Relational DataBase Management System – Sistem upravljanja relacijske baze podatkov. / The Relational DataBase Management System.
[3] Distribuirana baza podatkov pomeni porazdelitev ene ali več baz podatkov na več računalnikov, povezanih v omrežje, katerega arhitektura je nevidna za uporabnike, ki ga morajo videti kot logično celoto (Šumrada). / A distributed database means the distribution of one or more databases to several computers connected to a network, the architecture of which is invisible to users, who must see it as a logical whole (Šumrada).

Vzpostavljena je tudi distribucijska baza Registra prostorskih enot, ki je kopija centralne baze na glavnem uradu. V distribucijsko bazo se enkrat dnevno zapišejo vse spremembe, ki so bile izvedene v delovni bazi. Baza je namenjena uporabnikom, ima pa tudi funkcijo zaščitne kopije baze.

Uporabniki lahko dostopajo do baze Registra prostorskih enot (centralne oz. uporabniške) na različne načine.

Register of spatial units and the fast communication network of state bodies, based on distributed database principles[3].

A distribution database of the Register of Spatial Units has also been established, which is a copy of the central database at the main office. All changes that have been made to the working database are recorded in the distribution database once a day. The database is intended for users, but it also has the function of creating back-ups.

Users can access the (the central or user) database of the Register of spatial units in various ways.

Slika 9.2.1: Grafični del elaborata spremembe meje naselja.
(Vir: Arhiv GURS)

Figure 9.2.1: The graphical part of the report of a change in a settlement border.
(Source: The SMARS archive)

Vrste enot, ki se vodijo v bazi

Enote, ki se vodijo v bazi Registra prostorskih enot, se večinoma ujemajo z enotami iz Registra območij teritorialnih enot in Evidence hišnih številk. S sistemom nove lokalne samouprave se je:

- spremenila hierarhija med nekaterimi enotami (npr. občine niso več definirane s katastrskimi občinami, temveč z naselji),
- posamezne vrste enot so spremenile status (npr. krajevna skupnost je iz obvezne prostorske enote postala dodatna enota, ker delitev občine na krajevne skupnosti ni več obvezna),
- uvedene so bile nove enote (upravna enota kot osnovna enota in vaške ter četrtne skupnosti kot dodatne enote).

Sistem šifriranja je ostal nespremenjen, zaradi povezav z drugimi evidencami in registri pa je bil uveden MID[4] za vsako enoto v bazi. S projektom se je v bazo uvedlo tudi nove enote tehničnega značaja.

V bazi Registra prostorskih enot se vodijo podatki o enotah:

- s poligonsko topologijo; to so prostorski okoliš, statistični okoliš, naselje, občina, katastrska občina, katastrski okraj, geodetska uprava, upravna enota, država. Za te enote se vodi šifre, imena (razen za prostorski in statistični okoliš), centroide in površine;
- z linijsko topologijo; to je ulica, za katero se vodi ime ulice, os ulice, šifro, MID;
- s točkovno topologijo; to je hišna številka, za katero se vodi podatke o šifri, centroidu, poštni številki, MID-u prostorskega okoliša, ulice in naselja.

Types of units kept in the database

The units kept in the database of the Register of spatial units mostly correspond to the units from the Register of areas of territorial units and the Register of house numbers. The system of new local self-government:

- changed the hierarchy between some units (e.g. municipalities are no longer defined by cadastral municipalities, but by settlements),
- changed the status of individual types of units (e.g. a local community was no longer a mandatory spatial unit and has become an additional unit, since the division of a municipality into local communities is no longer mandatory),
- new units were introduced (the administrative unit as a basic unit and village and district communities as additional units).

The coding system remained unchanged, and due to connections with other records and registers, a MID[4] was introduced for each unit in the database. The project also introduced new technical units into the database.

The database of the Register of Spatial Units keeps data on units:

- with polygon topology; these are the spatial district, the statistical district, the settlement, the municipality, the cadastral municipality, the cadastral district, the geodetic administration, the administrative unit, the state. These units have assigned codes, names (except for spatial and statistical districts), centroids and areas;
- with line topology; this is the street for which data is kept on the street name, street axis, code, MID;
- with point topology; this is the house number for which data is kept on the code, centroid, postal code, MID of the spatial district, street and settlement.

[4] MID – medresorski enotni identifikator. Vsak objekt mora imeti izrecno določen identifikator, ki je neodvisen od trenutnih vrednosti drugih atributov. Identifikator je enolična nespremenljiva vrednost, ki je dodeljena vsakemu objektu. Določimo ga ob nastanku objekta, ga nikoli ne spreminjamo in ga lahko opustimo samo, ko določen objekt izbrišemo. Vsak pojav objekta ohrani svoj identifikator, četudi se spremenijo vrednosti vseh njegovih atributov (Šumrada: 28). / MID - interdepartmental unique identifier. Each object must have an explicit identifier that is independent of the current values of the other attributes. An identifier is a unique fixed value assigned to each object. It is defined when an object is created, it is never changed, and it can only be abandoned when the object in question is deleted. Each occurrence of the object retains its identifier, even if the values of all its attributes change (Šumrada: 28).

Osnovne prostorske enote

Osnovne prostorske enote so enote, ki homogeno pokrivajo celotno območje države. V Registru prostorskih enot so obvezne, imajo določeno medsebojno hierarhijo in jih je treba vzdrževati.

- **Prostorski okoliš** je najmanjša prostorska enota, ki se z novimi rešitvami ukinja.
- **Statistični okoliš** obsega enega ali več prostorskih okolišev. Območje določajo območne geodetske uprave oz. izpostave. Šifre statističnih okolišev se določajo v okviru države.
- **Naselje** je strnjena ali nestrnjena skupina stavb, ki sestavljajo naseljeno zemljepisno enoto (mesto, trg, vas, zdravilišče, ipd.), ki ima skupno ime, lastni sistem oštevilčenja stavb ter določeno območje, ki ga tvori eden ali več statističnih okolišev. Območje in ime naselja določi občinski svet z odlokom. Šifre naselij se določajo v okviru občin.
- **Občina** je temeljna lokalna samoupravna skupnost. Obsega eno ali več naselij, ki so povezana s skupnimi potrebami in interesi prebivalcev. Območje in ime občine določi državni zbor z zakonom. Šifre občin se določajo v okviru države.
- **Katastrska občina** je temeljna teritorialna enota za vodenje zemljiškega katastra. Določa se v zemljiškem katastru, od koder se prevzema v Register prostorskih enot, in obsega enega ali več prostorskih okolišev. Območje in ime katastrske občine določi Geodetska uprava Republike Slovenije. Šifre katastrskih občin se določajo v okviru države.
- **Upravne enote** se organizirajo za posamezna območja za izvrševanje z zakonom določenih nalog uprave, ki zaradi narave ali načina dela zahtevajo dekoncentrirano opravljanje. Upravna enota obsega eno ali več naselij. Območje in ime upravne enote določi Vlada Republike Slovenije z uredbo. Šifre upravnih enot se določajo v okviru države.

Basic spatial units

Basic spatial units are units that homogeneously cover the entire territory of the state. They are mandatory in the Register of spatial units, have a certain mutual hierarchy and must be maintained.

- The **spatial district** is the smallest spatial unit, which is being abolished by new solutions.
- A **statistical district** comprises one or more spatial districts. The area is determined by regional geodetic administrations or branches. The codes of statistical districts are determined within the state.
- A **settlement** is a condensed or non-condensed group of buildings that make up an inhabited geographical unit (town, square, village, health resort, etc.) that has a common name, its own building numbering system, and a specific area formed by one or more statistical districts. The area and the name of the settlement are determined by decree of the municipal council. Settlement codes are determined within the municipalities.
- The **municipality** is a basic local self-governing community. It comprises one or more settlements related to the common needs and interests of the inhabitants. The area and the name of the municipality are determined by the National Assembly. The codes of municipalities are determined within the state.
- The **cadastral municipality** is the general territorial unit for managing the land cadastre. It is determined in the land cadastre, from where it is transferred to the Register of Spatial Units, and it comprises one or more spatial districts. The area and the name of the cadastral municipality are determined by the Surveying and Mapping Authority of the Republic of Slovenia. The codes of the cadastral municipalities are determined within the state.
- **Administrative units** are organized for individual areas for the execution of statutory tasks of the administration, which, due to the nature or manner of work, require deconcentrated implementation. An administrative unit comprises one or more settlements. The area and name of the administrative unit is determined by a decree of the Government of the Republic of Slovenia. The codes of the administrative units are determined within the state.

- **Država** je organizirana politična skupnost, ki ima na prostorsko omejenem ozemlju suvereno oblast. Država obsega območje vseh upravnih enot (oz. starih občin).

- **Hišna številka** se določi vsem stanovanjskim in poslovnim stavbam, ki so namenjene za stalno ali začasno uporabo. Hišne številke določajo na izpostavah območnih geodetskih uprav. Vsaki stavbi s hišno številko se določi centroid.

- The **state** is an organized political community that has sovereign power over a spatially limited territory. The state covers the area of all administrative units (or what used to be municipalities).

- The **house number** is assigned to all residential and commercial buildings intended for permanent or temporary use. House numbers are determined at the branches of regional geodetic administrations. Each building with a house number is assigned a centroid.

Slika 9.2.2: Osnovne prostorske enote (meja občine, naselja, ulice, hišne številke), ki se vodijo v evidenci RPE.
(Vir: GURS, vpogled v aplikacijo RPE)

Figure 9.2.2: Basic spatial units (municipality borders, settlements, streets, house numbers) kept in the RPE records.
(Source: SMARS, insight into the RPE application)

Dodatne prostorske enote

Dodatne prostorske enote lahko pokrivajo območje cele države ali pa le posamezna zaključena območja. Glede na to lastnost dodatnih enot so v aplikaciji za vzdrževanje Registra prostorskih enot različni tudi postopki za njihovo vzdrževanje. Dodatne prostorske enote so:

- ulica,
- volilna enota,
- volilni okraj,
- volišče:
  - volišče za državnozborske volitve,
  - volišče za lokalne volitve,
- območna geodetska uprava,
- krajevna skupnost,
- vaška skupnost,
- četrtna skupnost,
- šolski okoliš.

Med dodatnimi enotami se še vedno vodi tudi staro krajevno skupnost (do 4. 10. 1994) in staro občino (do 31. 12. 1994).

Additional spatial units

Additional spatial units can cover the entire area of the state or only individual completed areas. Due to this property of additional units, the procedures for their maintenance are also different in the application for the maintenance of the Register of Spatial Units. The additional spatial units are:

- street,
- constituency,
- voting district,
- polling station:
  - polling station for parliamentary elections,
  - polling station for local elections,
- regional geodetic administration,
- local community,
- village community,
- neighbourhood community,
- school district.

Additional units still include the deprecated units of the local community (until 4 October 1994) and the old municipality (until 31 December 1994).

Slika 9.2.3: Prostorske enote krajevnih skupnosti in šolskih okoliševv.
(Vir: GURS, vpogled v aplikacijo RPE)

Figure 9.2.3: Spatial units of local communities and school districts.
(Source: SMARS, insight into the RPE application)

Zakon o določanju območij ter o imenovanju in označevanju naselij, ulic in stavb (ZDOIONUS) iz leta 2008, še prej pa Zakon o imenovanju in evidentiranju naselij, ulic in stavb (ZIENUS), podrobneje opredeljuje naloge in pristojnosti, ki so v domeni geodetske uprave.

Zakon pravi, da se podatki o območjih in imenih naselij ter oznakah stavb uporabljajo, ko so evidentirani v registru prostorskih enot. Pri navajanju podatka o naslovu je treba navesti podatek o imenu naselja in hišni številki oziroma o imenu naselja, imenu ulice in hišni številki, če je v naselju vzpostavljen ulični sistem, kot je evidentiran v registru prostorskih enot.

Geodetska uprava Republike Slovenije evidentira podatke o urejeni meji občin in spremembah območij naselij v registru prostorskih enot, ko je v skladu s predpisom, ki ureja evidentiranje nepremičnin, vložena zahteva za ureditev meje med občinami in ko so sprejeti odloki udeleženih občin. Županje ali župani udeleženih občin morajo geodetsko upravo o sprejemu odlokov obvestiti v skladu z določili zakona.

Ravno tako je treba pred vložitvijo predloga za določitev imena naselja pridobiti potrdilo geodetske uprave, da v Republiki Sloveniji ni naselja z istim imenom, kot se predlaga.

Zaradi evidentiranja sprememb podatkov o območjih in imenih naselij mora župan v treh dneh po objavi odloka o določitvi območja naselja oziroma odloka o določitvi imena naselja v uradnem glasilu občine obvestiti geodetsko upravo, kdaj in kje je bil objavljen odlok o določitvi območja naselja oziroma odlok o določitvi imena naselja.

Geodetska uprava nato po uradni dolžnosti evidentira spremembe podatkov o območjih in imenih naselij v registru prostorskih enot.

Zakon eksplicitno določa postopek v zvezi z določitvijo hišne številke, ki je v celoti v domeni geodetske uprave, in sicer se postopek določitve hišne številke lahko začne, če je stavba evidentirana v katastru stavb ali registru nepremičnin.

Zakon tudi določa, kdaj se ukine hišno številko in kdaj se lahko izvede preštevilčenje hišnih številk stavb po uradni dolžnosti.

The Act Regulating the Determination of Territories and the Naming and Marking of Settlements, Streets and Buildings (ZDOIONUS) of 2008 and the earlier Act Regulating the Naming and Registration of Settlements, Streets and Buildings (ZIENUS) defines in more detail the tasks and responsibilities of the Surveying and Mapping Authority.

The act says that data on areas and names of settlements and building codes are used when they are recorded in the register of spatial units. When stating the address, it is necessary to state the name of the settlement and the house number, or the name of the settlement, the name of the street and the house number, if a street system has been established in the settlement as recorded in the register of spatial units.

The Surveying and Mapping Authority of the Republic of Slovenia records data on the regulated borders of municipalities and changes in settlement areas in the register of spatial units when a request for the regulation of the border between municipalities is submitted in accordance with the regulation governing real estate registration and when ordinances of participating municipalities are adopted. The mayors of the participating municipalities must inform the Surveying and Mapping Authority about the adoption of ordinances in accordance with the provisions of the act.

Additionally, before submitting a proposal for determining the name of a settlement, it is necessary to obtain a certificate from the Surveying and Mapping Authority that there is no settlement with the same name in the Republic of Slovenia.

For the purpose of recording changes in data on zones and names of settlements, the mayor must inform the Surveying and Mapping Authority, within three days of the publication of the ordinance on determining the zone of the settlement or the ordinance on determining the name of the settlement in the official gazette of the municipality, about the time and place of issuance of the ordinance determining the zone or name of the settlement.

The Surveying and Mapping Authority then records the changes in data on zones and names of settlements in the register of spatial units by official duty.

The law explicitly stipulates the procedure for determining the house number, which is entirely in the domain of the Surveying and Mapping Authority; namely, the procedure for determining the house number may be initiated if the building is registered in the building cadastre or the real estate register.

The law also determines when the house number is cancelled and when the renumbering of house numbers of buildings can be carried out by official duty.

Za vodenje in vzdrževanje centralne baze RPE (atributni in grafični podatki) na glavnem uradu GURS in lokalnih baz RPE na OGU je v uporabi aplikacija za vzdrževanje RPE, ki deluje na osebnih računalnikih (PC). Poleg izvedbe postopkov vzdrževanja RPE omogoča tudi pregledovanje grafičnih in atributnih podatkov, izdajanje podatkov v različnih standardnih formatih in nudi pomoč administraciji sistema.

Za vzdrževanje hišnih številk (pristojnost GP) se uporablja intranet aplikacija za vzdrževanje hišnih številk. Poleg izvedbe vnosa hišnih številk v lokalno bazo RPE omogoča tudi izdajanje potrdil in obvestil ter nekaj preprostejših izpisov.

The RPE maintenance application, running on personal computers (PCs), is used for the management and maintenance of the central RPE database (attribute and graphical data) at the main office of the SMARS and the local RPE databases at the OGU. In addition to performing maintenance procedures, the RPE also enables the review of graphical and attribute data, the issuance of data in various standard formats, and provides assistance to system administration.

The house number maintenance intranet application is used to maintain house numbers (branch offices' jurisdiction). In addition to entering house numbers into the local RPE database, it also enables the issuance of certificates and notices and some basic printouts.

10 Evidenca državne meje – DM

Z začetkom slovenske samostojnosti dne 25. junija 1991 je država Slovenija prevzela tudi nalogo vzdrževanja meja s sosednjimi državami.

V nekdanji skupni državi, Jugoslaviji, je bila pri Zveznem ministrstvu za zunanje zadeve »Služba za granice«. Vsa srečanja meddržavnih komisij za mejo in terensko delo na meji je bilo vodeno centralistično, in to iz Beograda – »Službe za granice«. V vseh meddržavnih komisijah so bili člani z jugoslovanske strani, vojaške osebe; in tudi dela na terenu so izvajali zaposleni v vojaški službi.

V trenutku, ko je te naloge prevzela Slovenija kot samostojna država, ni imela nobene dokumentacije o državni meji. V začetku naše samostojnosti tudi ni bilo mogoče pridobiti dokumentacije iz Beograda.

Samostojna Republika Slovenija se je tako znašla brez vsakršne evidence o državni meji s sosednjimi državami. Meja z Republiko Hrvaško pa, kot je znano, ob razglasitvi samostojnosti v naravi ni bila določena.

10.1 Vzpostavitev evidence DM

Najprej je Vlada Republike Slovenije imenovala člane meddržavnih komisij za mejo. Za Mešano slovensko-italijansko komisijo za vzdrževanje državne meje, za Stalno slovensko-avstrijsko komisijo za mejo in za Mešano komisijo za obnavljanje, označevanje in vzdrževanje slovensko-madžarske državne meje, ki so bile sestavljene iz predsednika, namestnika predsednika in dveh članov. Sprva so bili to eni in isti ljudje v vseh treh komisijah.

Vse tri sosednje države so Republiki Sloveniji pomagale pri pridobitvi dokumentacije o meji.

State border record – DM

With the beginning of Slovenian independence on 25 June 1991, the state of Slovenia also took on the task of maintaining the borders with neighbouring states.

In the former common state, Yugoslavia, there was a »Border Service« at the Federal Ministry of Foreign Affairs. All meetings of the interstate commissions for the border and fieldwork at the border were conducted centrally, from Belgrade - the »Border Service«. All interstate commissions had members from the Yugoslav side - military personnel, who would also carry out the fieldwork.

At the time when Slovenia took over these tasks as an independent state, it did not hold any documentation on the state border. At the beginning of our independence, it was also not possible to obtain the documentation from Belgrade.

The independent Republic of Slovenia thus found itself without any records of the border with neighbouring states, and the border with the Republic of Croatia was not determined in the field when independence was declared.

Establishment of the DM records

First, the Government of the Republic of Slovenia appointed members of interstate commissions for the border. For the Joint Slovenian-Italian Commission for the Maintenance of the state border, for the Standing Slovenian-Austrian Commission for the Border and for the Mixed Commission for the Restoration, Marking and Maintenance of the Slovenian-Hungarian state border, which consisted of a president, deputy president, and two members. Initially, the same people were in all three commissions.

All three neighbouring states assisted the Republic of Slovenia in obtaining border documentation.

Evidenca DM z Republiko Italijo

Italijanska stran je na 1. zasedanje 16. novembra 1992 v Gorici s seboj pripeljala vso dokumentacijo za vseh osem mejnih sektorjev na 230 km dolgi skupni državni meji. Vse dokumente so skopirali in vsako stran kopije potrdili z žigom in podpisom, da je kopija enaka originalu.

Fizično je to predstavljalo:

- knjiga (A4) Katalog geodetskih in topografskih podatkov mejnih znakov (**Seznam koordinat** za 3542 mejnih znakov; 208 strani),
- knjiga (A4) Katalog mejnih znakov (**Opis meje**; 870 strani),
- knjiga (A4) Katalog geodetskih podatkov triangulacijskih točk (Topografije geodetskih točk; 220 strani),
- knjiga (A1) **Karte in načrti** v merilu 1 : 5000 in 1 : 10.000 (88 načrtov in kart).

Na 2. zasedanju 23. decembra 1993 v Novi Gorici pa so Republiki Sloveniji predali še zapisnike vseh 3542 mejnih znakov (A3 papir obojestransko). Tako je Slovenija pridobila vso potrebno dokumentacijo in lahko enakovredno nadaljevala delo ter izpolnjevala naloge, ki jih predpisuje meddržavna pogodba o vzdrževanju skupne slovensko-italijanske državne meje.

Record of the state border with the Republic of Italy

At the 1st session on 16 November 1992 in Gorizia, the Italian side provided all the documentation for all eight border sectors on the 230 km long common state border. All the documents were copied and each page was stamped and signed to confirm that the copy was identical to the original.

Physically, this included:

- book (A4) Catalogue of geodetic and topographic data of border markers (**List of coordinates** for 3542 border markers; 208 pages),
- book (A4) Border Marker Catalogue (**Border description**; 870 pages),
- book (A4) Catalogue of geodetic data of triangulation points (Topographies of geodetic points; 220 pages),
- Book (A1) **Maps and plans** in scale 1 : 5000 and 1 : 10,000 (88 plans and maps).

At the 2nd session on 23 December 1993 in Nova Gorica, the record of all 3542 border markers (two-sided A3 sheet) was handed over to the Republic of Slovenia. Thus, Slovenia obtained all the necessary documentation and was able to continue its work on an equal footing and fulfil the tasks prescribed by the intergovernmental agreement on the maintenance of the common Slovenian-Italian state border.

Evidenca DM z Republiko Avstrijo

Prvo srečanje z avstrijsko stranjo je bilo 18. februarja 1992, kjer je bilo dorečeno, da je samostojna Slovenija naslednica vseh pogodb med nekdanjo Jugoslavijo in Avstrijo. Pred prvim zasedanjem so Avstrijci marca 1993 predali vso dokumentacijo o meji (Opis meje, Seznam koordinat in Mejne načrte) za skoraj 7000 mejnih znakov v vseh 27 mejnih sektorjih na 320 km dolgi skupni državni meji. Prvo zasedanje je bilo od 1. do 4. junija 1993 v Mariboru.

Record of the state border with the Republic of Austria

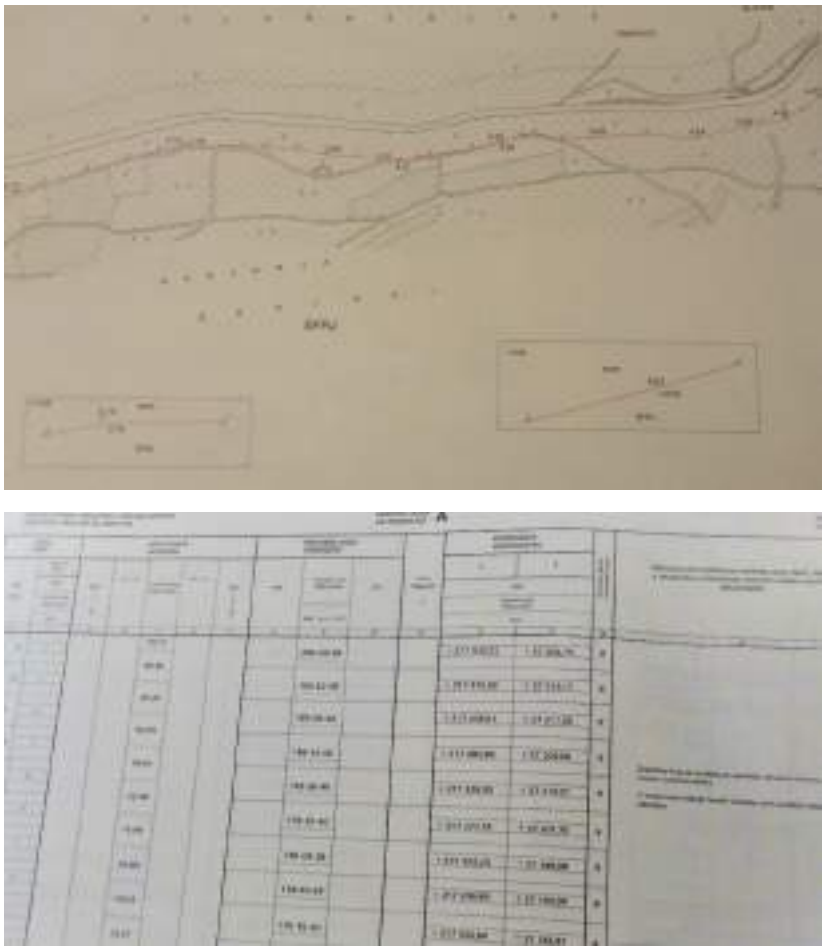
The first meeting with the Austrian side was on 18 February 1992, where it was decided that independent Slovenia would be the successor to all treaties between the former Yugoslavia and Austria. Prior to the first session, in March 1993, Austria handed over all border documentation (Description of the border, Coordinate list and Border plans) for almost 7,000 border markers in all 27 border sectors on the 320 km long common state border. The first session was held from 1 to 4 June 1993 in Maribor.

Evidenca DM z Republiko Madžarsko

Z madžarsko stranjo je bilo 1. zasedanje 9. in 10. marca 1993 v kraju Bajansenye, kjer se je dogovorilo o nadaljevanju del na skupni državni meji in sprejelo Navodila za vzdrževanje mejnih znakov. Še pred tem, septembra 1992, pa je Sloveniji Madžarska predala en izvod dokumentacije (knjigo Seznam koordinat z opisom meje in knjigo Mejni načrti) o državni meji in to za odsek A, kjer poteka slovensko-madžarska državna meja v dolžini 100 km s 3551 mejnimi znaki.

Record of the state border with the Republic of Hungary

The first session with the Hungarian side was held on 9 and 10 March 1993 in Bajansenye, where an agreement was made on the continuation of work on the common state border and the adoption of the Instructions for the maintenance of border markers. Prior to that, in September 1992, Hungary handed over to Slovenia a copy of the documentation (List of coordinates with a description of the border and Border plans) on the state border for section A, which includes 100 km of the Slovenian-Hungarian border with 3551 border markers.



Slika 10.1.1: Dokumentacija, prevzeta od sosednje države (stara dokumentacija) – opis meje in seznam koordinat ter mejni načrt.
(Vir: Arhiv GURS)

Figure 10.1.1: Documentation received from a neighbouring state (old documentation) - description of the border, list of coordinates and border plan.
(Source: The SMARS archive)

10.2 Vzdrževanje evidence DM

Po prevzemu dokumentacije od sosednjih držav se je pokazala potreba po evidenci vseh dokumentov o meji. Najprej se je skušalo pripraviti seznam za vsako državo v obliki tabele, ki je bila pripravljena v tekstovni obliki (Wordu).

V letu 1999 so se pripravili tehnični pogoji za nastavitev evidence državne meje (EDM) in izvedel razpis za javno naročilo za izdelavo aplikacije, ki bi delovala kot intranetna aplikacija kot zavihek poleg zemljiškega katastra in katastra stavb.

V ta namen so bili skenirani in vektorizirani vsi mejni načrti, in tako smo pridobili črto državne meje v digitalni obliki.

Seznam koordinat je bil prepisan »s papirja« v tabele excel, s čimer smo vzpostavili seznam koordinat v digitalni obliki. Tako pripravljeni podatki so bili primerni za prevzem v novo aplikacijo EDM, ki je bila leta 2000 že v testiranju.

Aplikacija se je v naslednjih dveh letih nadgrajevala in je bilo možno na osnovi podatkov, ki so bili uvoženi v bazo, izrisati mejno črto in vse mejne točke, ki so imele koordinate. Torej so se izrisale vse označene in neoznačene mejne točke. To je pomenilo vse mejnike, ne glede na to, ali so neposredni ali posredni (ali so na mejni črti ali v bližini mejne črte). Te datoteke mejne črte in mejnih točk se je lahko uvozilo tudi v grafični program AutoCAD. Iz navedenih podatkov so se pripravili mejni načrti za izris. Seveda je bilo potrebno še dodatno editiranje urejanje (imena mejnikov, topografska imena ...), namesto klasične topografske karte pa so se »podložili« ortofoto posnetki.

Maintenance of the DM records

After receiving the documentation from neighbouring states, there was a need to establish a record of all border documentation. First, an attempt was made to compile a list for each state in the form of a table, which was prepared in text format (Word).

In 1999, the technical conditions for setting up the state border register (EDM) were prepared and a tender was launched for the development of an application that would act as an intranet application and as a tab next to the land cadastre and the building cadastre.

For this purpose, all border plans were scanned and vectorised, and thus we obtained the state border line in digital form.

The list of coordinates was transcribed »from paper« into excel tables, establishing a list of coordinates in digital form. The data prepared in this way was suitable for download into the new EDM application, which was already being tested in 2000.

The application was upgraded over the next two years and on the basis of data imported into the database, it was possible to plot the border line and all border points that had coordinates. All the marked and unmarked border points were plotted. This meant all border markers, whether direct or indirect (whether on the border line or near the border line). These border line and border point files could also be imported into the AutoCAD graphics program. Border plans for plotting were prepared from the above data. Of course, additional editing was required (names of border markers, topographic names ...), and orthophotos were »inserted« instead of the classic topographic map.

Nova mejna dokumentacija

New border documentation

Opis meje Border description

Seznam koordinat List of coordinates

Mejni načrt (M 1 : 2000) Border plan (1 : 2000)

Slika 10.2.1: Nova dokumentacija – veljavna dokumentacija o evidenci državne meje. (Vir: GURS)

Figure 10.2.1: New documentation - the valid documentation on state border records. (Source: SMARS)

Že v letu 2001/2002 je Slovenija razpolagala s podatki o državni meji tudi v digitalni obliki (mejna črta in seznam koordinat) in ne samo s fotokopijo mejnega načrta ali kopijo seznama koordinat na papirju.

V naslednjih letih se je aplikacija EDM še nadgrajevala, omogočen je tudi paketni vnos podatkov in ne samo brisanje ali dodajanje posamezne točke oziroma mejnika. Paketni vnos je bil praktičen pri uvozu večjega števila podatkov hkrati; saj se je v tistih letih že opravljala nova izmera posameznih sektorjev in v tem primeru so se uvozili posodobljeni podatki za odsek meje ali pa kar za cel mejni sektor.

V obdobju od leta 2008 do 2019 se aplikacija EDM ni nadgrajevala, niti ne tekoče vzdrževala. Posledično ni bilo možno popravljati podatkov za posamezne mejne točke in dodati nove mejne točke ali je brisati.

V tem času so se za vsako mejo posebej vodile excelove tabele in wordove datoteke, ki so nadomeščale aplikativno rešitev EDM. V excelovi datoteki so se kreirali zavihki: vse, mejna črta, mejni znaki, …. , pri posameznem mejnem znaku so pripete še slike in zapisnik mejnega znaka.

V okviru Programa projektov eProstor se je v letu 2019 pristopilo k preureditvi aplikativnih rešitev za vodenje podatkov o državni meji. Razpisala se je naloga za projekt Evidenca državne meje. V letu 2021 se pričakuje, da bo aplikacija v redni uporabi in bo omogočala izvoz/izpis raznovrstnih vpogledov, analiz in poročil ter tudi izris mejnih načrtov.

As early as 2001/2002, Slovenia had data on the state border in digital form (border line and list of coordinates) and not only as photocopies of the border plan or paper copies of the list of coordinates.

In the following years, the EDM application was further upgraded; batch data entry was enabled on top of the previous options of just deleting or adding an individual point or border marker. Batch entry was practical for importing large amounts of data simultaneously, as in those years a new survey of individual sectors was already being carried out and in this case, updated data was imported for a section of the border or for the entire border sector.

In the period from 2008 to 2019, the EDM application was not upgraded or maintained on an ongoing basis. As a result, it was not possible to correct the data for individual border points or add or delete new border points.

During this time, excel spreadsheets and word files were kept separately for each border, replacing the EDM application solution. Tabs were created in an excel file: all, border line, border markers …, and each border marker had an attachment of images and the record of the border marker.

As part of the Programme of the projects eProstor, in 2019 there was a plan to reorganize the applicable solutions for the management of data on the state border. A call for the state border record project was announced. This application is expected to be in regular use by 2021 and will enable the exporting/printing of various insights, analyses and reports, as well as the plotting of border plans.

11 Evidenca zbirnega katastra gospodarske javne infrastrukture – ZK GJI

Zbirni kataster gospodarske javne infrastrukture (v nadaljnjem besedilu: zbirni kataster GJI) je zbirna evidenca, v kateri se vodijo podatki o infrastrukturnih objektih. Osnovni namen zbirnega katastra je prikaz zasedenosti prostora z objekti gospodarske javne infrastrukture. Zbrani in urejeni podatki o gospodarski javni infrastrukturi nam omogočajo smotrnejše urejanje prostora, varnejše izvajanje posegov v prostoru in gospodarnejše ravnanje z infrastrukturnimi objekti.

V preteklosti je bilo evidentiranje podatkov o komunalnih vodih in objektih, ki pripadajo posameznim vodom, najprej urejeno z Zakonom o katastru komunalnih naprav iz leta 1974 (v nadaljnjem besedilu: ZKKN). ZKKN je določal, da je kataster komunalnih naprav tehnična evidenca, v kateri se evidentirajo podatki o podzemnih, površinskih in nadzemnih omrežjih vodovoda, kanalizacije, plina, tekočih goriv, elektrike, javne razsvetljave, telefona, telegrafa in toplovoda s pripadajočimi objekti ter podatki o ulicah, javnih cestah in trgih z njihovo opremljenostjo ter o podzemnih in nadzemnih cisternah, ki vsebujejo zdravju škodljive snovi. ZKKN je tudi določal, da:

- komunalne in druge organizacije združenega dela, ki upravljajo komunalne naprave in objekte, za svoje potrebe vodijo »kataster komunalnih naprav organizacije«, ki se izdela za celotno območje, na katerem so te naprave oziroma objekti,
- za geodetske zadeve pristojni občinski upravni organ pa v »zbirnem katastru komunalnih naprav« vodi in vzdržuje podatke o primarnem in sekundarnem omrežju vseh komunalnih naprav s pripadajočimi objekti na območju občine.

Consolidated Cadastre of Public Utility Infrastructure – ZK GJI

The consolidated cadastre of public utility infrastructure (hereinafter: the GJI consolidated cadastre) is a collective record that stores data on utility infrastructure facilities. The basic purpose of the consolidated cadastre is to show the occupancy of space by public utility infrastructure facilities. Collected and arranged data on public utility infrastructure enable us to organize space more efficiently, carry out interventions in space more safely, and manage infrastructure facilities more economically.

In the past, the recording of data on utility lines and facilities belonging to individual lines was first regulated by the Utility Cadastre Act of 1974 (hereinafter: ZKKN). The ZKKN stipulated that the cadastre of utility installations is a technical record containing data on underground, surface and above-ground networks of water supply, sewerage, gas, liquid fuels, electricity, public lighting, telephone, telegraph and heating with associated facilities, as well as data on streets, public roads and squares along with buildings and on underground and above-ground cisterns containing substances harmful to health. The ZKKN also stipulated that:

- communal and other organizations, which manage communal installations and facilities, must keep a »cadastre of communal installations of the organization« for their own needs, which is made for the entire area in which these installations or facilities are located,
- the municipal administrative body responsible for geodetic affairs must keep and maintain data on the primary and secondary networks of all communal installations with the associated facilities in the area of the municipality in the »consolidated utility cadastre«.

Slika 11.1: Načrt komunalnega katastra, ki ga je geodetska uprava vodila po določilih Zakona o katastru komunalnih naprav.
(Vir: Arhiv GURS, OGU Novo mesto)

Figure 11.1: The plan of the utility cadastre, which was managed by the Surveying and Mapping Authority in accordance with the provisions of the Utility Cadastre Act.
(Source: The SMARS archive, OGU Novo mesto)

ZKKN ni dosegel svojega namena – zbrani podatki o komunalnih objektih in napravah so »obležali« na kartah in papirjih v arhivih geodetskih organov ali občinskih uprav. Kataster komunalnih naprav je bil vzpostavljen le za posamezna območja in posamezne vrste komunalnih naprav, še slabše pa je bilo z vzdrževanjem podatkov. Evidence se niso vzdrževale in se niso uporabljale kot podlage za prostorsko planiranje ali ob posegih v prostor. Edine evidence, ki so se vodile in vzdrževale, so bile evidence o komunalnih objektih in napravah, ki so jih vodili upravljavci posamezne infrastrukture, vendar so bile te evidence v različnih formatih – nestandardizirane in težko dosegljive.

The ZKKN did not achieve its purpose - the collected data on communal facilities and devices was »buried« in maps and papers in the archives of geodetic authorities or municipal administrations. The utility cadastre was only established for individual areas and individual types of communal installations, and data maintenance was lacking as well. Records were not maintained and were not used as a basis for spatial planning or spatial interventions. The only records that were kept and maintained were the records on communal facilities and installations kept by the managers of individual parts of the infrastructure, but these records were in various formats - non-standardized and difficult to obtain.

Slika 11.2: Izsek iz načrta komunalnega katastra za komunalni vod kanalizacije. (Vir: Arhiv GURS, OGU Novo mesto)

Figure 11.2: Excerpt from a plan of the utility cadastre for a sewer utility line. (Source: The SMARS archive, OGU Novo mesto)

11.1 Vzpostavitev evidence ZK GJI

Pravna ureditev ZKKN je veljala do ureditve sistema evidentiranja objektov gospodarske javne infrastrukture v prostorski zakonodaji iz leta 2002: Zakon o urejanju prostora (v nadaljnjem besedilu: ZUreP-1), pojem »zbirni kataster gospodarske javne infrastrukture«. ZUreP-1 je določal obveznost, da se v zbirki podatkov o dejanski rabi vodijo tudi »podatki o omrežjih in objektih gospodarske javne infrastrukture«.

S sprejetjem prostorske in gradbene zakonodaje v letu 2002 (ZUreP-1 in ZGO-1) so bile postavljene nove zakonske podlage

Establishment of the ZK GJI records

The legal regulation of the ZKKN was valid until the regulation of the system of registration of buildings of public utility infrastructure in the spatial legislation from 2002: The Spatial Management Act (hereinafter: ZUreP-1), the term » consolidated cadastre of public utility infrastructure«. The ZUreP-1 stipulated the obligation to keep »data on networks and facilities of public utility infrastructure« in the database on actual use.

With the adoption of spatial and construction legislation in 2002 (ZUreP-1 and ZGO-1), new legal bases were set

za vzpostavitev evidentiranja gospodarske javne infrastrukture v Sloveniji. ZUreP-1, ki je ukinil veljavnost ZKKN, je za razliko od ZKKN predpisal evidentiranje na državni ravni – Geodetski upravi Republike Slovenije (za geodetske zadeve pristojnemu organu) je bila naložena naloga, da na podlagi podatkov, evidentiranih v katastrih gospodarske javne infrastrukture, vodi zbirne podatke o vrstah in legi omrežij in objektov gospodarske javne infrastrukture v topografski bazi, povezljivi z zemljiškim katastrom.

Od aprila 2007 pravno podlago za evidentiranje gospodarske javne infrastrukture predstavlja Zakon o prostorskem načrtovanju (v nadaljnjem besedilu: ZPNačrt).

Geodetski upravi Republike Slovenije je bila z ZUreP-1 in ZPNačrt naložena naloga vzpostavitve zbirnega katastra GJI in vodenje tega katastra. Z aktivnostmi je Geodetska uprava Republike Slovenije začela že leta 2004 (vzpostavitev prototipa zbirnega katastra), v naslednjih letih pa je izvedla projekt vzpostavitve zbirnega katastra gospodarske javne infrastrukture, ki je temeljil na interdisciplinarnosti in sodelovanju med posameznimi institucijami in resorji (ministrstva, lokalne skupnosti, upravljavci gospodarske javne infrastrukture, ...). Pri vzpostavljanju sistema je bila Geodetska uprava Republike Slovenije povezovalna institucija, ki je skladno z zakonodajo zagotovila organizacijski, postopkovni in podatkovni model sistema, vzpostavila centralno zbirko podatkov o gospodarski javni infrastrukturi v Sloveniji, imenovano »zbirni kataster gospodarske javne infrastrukture«, in zagotovila dostop do podatkov vsem uporabnikom.

Z vzpostavitvijo zbirnega katastra GJI je bilo:

- zagotovljeno centralno vodenje podatkov o gospodarski javni infrastrukturi na ravni države,
- omogočen dostop do osnovnih podatkov o vsej infrastrukturi na enem mestu prek spleta,
- omogočena povezava državnih organov in organov lokalnih skupnosti v enoten sistem evidentiranja gospodarske javne infrastrukture.

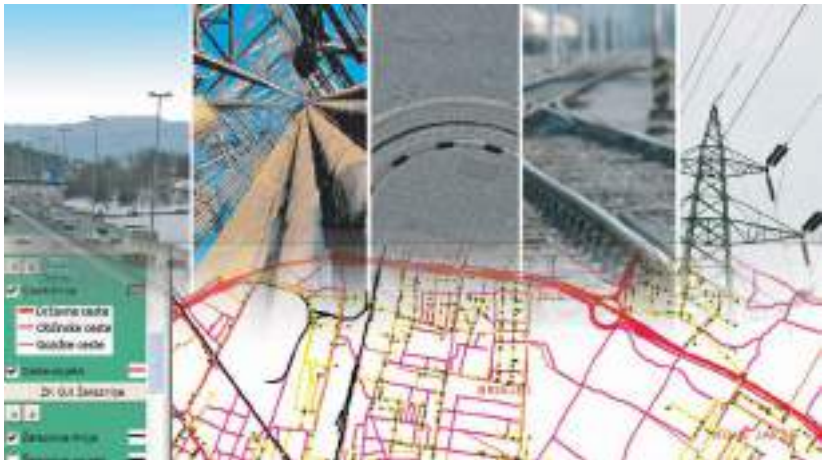
for the establishment of the registration of public utility infrastructure in Slovenia. The ZUreP-1, which superseded the validity of the ZKKN, unlike the latter act, prescribed record-keeping at the state level - the Surveying and Mapping Authority of the Republic of Slovenia (the competent authority for geodetic affairs) was tasked with keeping consolidated data on the types and locations of networks and facilities of public utility infrastructure in a topographical database connectable to the land cadastre.

Since April 2007, the legal basis for the registration of public utility infrastructure has been represented by the Spatial Planning Act (hereinafter: ZPNačrt).

The Surveying and Mapping Authority of the Republic of Slovenia was entrusted with the task of establishing and managing the GJI consolidated cadastre by the ZUreP-1 and ZPNačrt. The Surveying and Mapping Authority of the Republic of Slovenia started activities in 2004 (the establishment of a prototype of the consolidated cadastre), and in the following years carried out a project of establishing a consolidated cadastre of public infrastructure, which was based on interdisciplinarity and cooperation between individual institutions and departments (ministries, local communities, public utility infrastructure managers, ...). In establishing the system, the Surveying and Mapping Authority of the Republic of Slovenia was the intermediary institution that provided the organizational, procedural and data models of the system in accordance with the legislation, established a central database on public utility infrastructure in Slovenia called the » consolidated cadastre of public utility infrastructure«, and enabled access for all users.

The establishment of the GJI consolidated cadastre:

- ensured the central management of data on public utility infrastructure at the state level,
- enabled access to basic data on the entire infrastructure in one place via the internet,
- enabled the connection of state bodies and bodies of local communities into a unified system of recording public utility infrastructure.



Slika 11.1.1: V zbirnem katastru gospodarske javne infrastrukture so na enem mestu dostopni podatki o vseh vrstah infrastrukture.
(Vir: GURS)

Figure 11.1.1: The consolidated cadastre of public utility infrastructure contains data on all types of infrastructure in one place.
(Source: SMARS)

Osnovni namen zbirnega katastra GJI je prikazati zasedenost prostora z objekti gospodarske javne infrastrukture in omrežnimi priključnimi točkami javnega komunikacijskega omrežja za območje celotne države, kar omogoča smotrnejše urejanje prostora in varnejše izvajanje posegov v prostor. Tako so na enem mestu dostopni osnovni podatki o vseh vrstah omrežij in objektov GJI, kjer je s pomočjo informacije o upravljavcu možno pridobiti podrobnejše podatke o GJI. Zbirni kataster GJI tako nudi podporo procesom urejanja prostora, upravljanja in gospodarjenja s prostorom, kot so:

- izdelava strateških in izvedbenih prostorskih aktov,
- opremljanje stavbnih zemljišč in komunalnega prispevka,
- vrednotenje stavbnih zemljišč,
- oblikovanje cen komunalnih proizvodov in storitev,
- izvajanje instrumentov prostorske politike,
- osnova za investicije.

Zbirni kataster GJI je temeljna nepremičninska evidenca v Sloveniji, v kateri se evidentirajo objekti gospodarske javne infrastrukture:

- prometna infrastruktura (ceste, železnice, letališča, pristanišča, žičnice),

The basic purpose of the GJI consolidated cadastre is to show the occupancy of space by public utility infrastructure facilities and network connection points of the public communication network for the entire territory of the state, which enables more efficient spatial planning and the safer implementation of spatial interventions. Thus, the basic data on all types of GJI networks and facilities are available in one location, where it is possible to obtain more detailed data on GJI with the help of information on the manager. The GJI consolidated cadastre thus offers support for spatial planning, management and space management processes, such as:

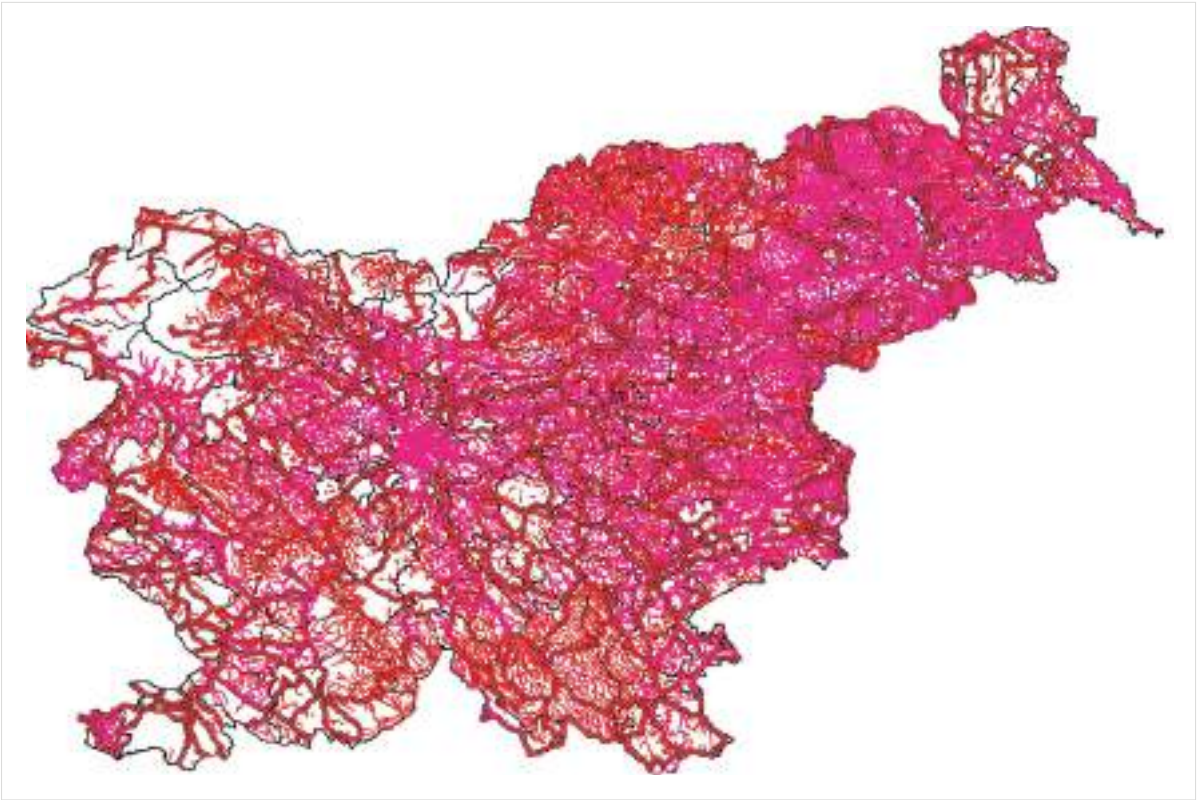
- drafting strategic and implementing spatial acts,
- equipping building land and the communal contribution,
- valuation of building land,
- pricing of utility products and services,
- implementation of spatial policy instruments,
- basis for investment.

The GJI consolidated cadastre is the main real estate record in Slovenia that keeps data on public utility infrastructure facilities:

- transport infrastructure (roads, railways, airports, ports, cable cars),

- energetska infrastruktura (infrastruktura za prenos in distribucijo električne energije, zemeljskega plina, toplotne energije, nafte in naftnih derivatov),
- komunalna infrastruktura (vodovod, kanalizacija, odlagališča odpadkov),
- vodna infrastruktura,
- infrastruktura za opazovanje naravnih pojavov in naravnih virov, infrastruktura za opazovanje stanja okolja, infrastruktura za gospodarjenje z drugimi vrstami naravnega bogastva,
- drugi objekti v javno korist (elektronske komunikacije),
- omrežne priključne točke javnega komunikacijskega omrežja.

- energy infrastructure (infrastructure for the transmission and distribution of electricity, natural gas, heat, oil and petroleum products),
- municipal infrastructure (water supply, sewerage, landfills),
- water infrastructure,
- infrastructure for the observation of natural phenomena and natural resources, infrastructure for the observation of the state of the environment, infrastructure for the management of other types of natural resources,
- other facilities for public benefit (electronic communications),
- connection points of the public communications network.



Slika 11.1.2: Zbirni kataster gospodarske javne infrastrukture v RS – ceste.
(Vir: GURS)

Figure 11.1.2: Consolidated cadastre of public utility infrastructure in the Republic of Slovenia - roads.
(Source: SMARS)

Slika 11.1.3: Zbirni kataster gospodarske javne infrastrukture na primeru Mestne občine Maribor.
(Vir: GURS)

Figure 11.1.3: Consolidated cadastre of public utility infrastructure in an example from the City Municipality of Maribor.
(Source: SMARS)

V zbirnem katastru GJI je evidentirana večina gospodarske javne infrastrukture državnega pomena (npr. državne ceste, železnice, prenosni plinovod) in del infrastrukture, ki je v občinski in zasebni lasti.

The GJI consolidated cadastre records the majority of public utility infrastructure of national importance (e.g. state roads, railways, transmission pipelines) and the part of the infrastructure that is owned by the municipality and the private sector.

Slika 11.1.4: Podatki v zbirnem katastru gospodarske javne infrastrukture na primeru Mestne občine Ljubljana – Prešernov trg z okolico.
(Vir: GURS)

Figure 11.1.4: Data in the consolidated cadastre of public utility infrastructure in an example from the City Municipality of Ljubljana - Prešeren Square with surroundings.
(Source: SMARS)

Zbirni kataster GJI v širšem pomenu predstavlja okolje, v katerem se srečujejo uporabniki in upravljavci podatkov, ki na podlagi določenih postopkov posredujejo podatke v zbirni kataster GJI ali v njem dostopajo do podatkov. V širšem smislu zbirni kataster GJI ni le tehnična rešitev, zbirka podatkov ali aplikacija, ampak celoten organizacijski model, katerega namen je zagotavljati pogoje za uspešno evidentiranje in posredovanje podatkov o objektih GJI.

Ključni udeleženci v sistemu zbirnega katastra GJI so:

- lokalne skupnosti, ministrstva in drugi upravljavci gospodarske javne infrastrukture, ki zagotavljajo podatke,
- uporabniki podatkov, ki podatke potrebujejo pri svojem delu,
- geodezija kot povezovalec sistema.

The GJI consolidated cadastre in a broader sense represents an environment where users and data controllers meet, respectively accessing data in the GJI consolidated cadastre and transmitting data to it. In a broader sense, the GJI consolidated cadastre is not just a technical solution, database or application, but a complete organizational model, the purpose of which is to provide conditions for the successful recording and transmission of data on GJI facilities.

The key participants in the GJI consolidated cadastre system are:

- local communities, ministries and other public utility infrastructure managers who provide data,
- users who require the data for their work,
- geodesy as the system facilitator.

Slika 11.1.5: Akterji v sistemu zbirnega katastra gospodarske javne infrastrukture.
(Vir: GURS)

Figure 11.1.5: Actors in the system of the consolidated cadastre of public utility infrastructure.
(Source: SMARS)

11.2 Vzdrževanje ZK GJI

Upravljavci gospodarske javne infrastrukture in drugi subjekti so dolžni ob vsakem novozgrajenem objektu gospodarske javne infrastrukture oziroma vsaki spremembi podatkov o že evidentirani gospodarski infrastrukturi posredovati podatke o gospodarski javni infrastrukturi v zbirni kataster GJI, ki ga vodi in vzdržuje Geodetska uprava RS. Vsi novozgrajeni objekti oz. vse spremembe morajo biti posredovane na Geodetsko upravo RS v obliki elaborata sprememb.

Sprememba podatkov o obstoječi gospodarski javni infrastrukturi se zazna, če se na objektu gospodarske infrastrukture izvedejo določene spremembe. Vzroki za spremembe so lahko rekonstrukcija, nadgradnja, odstranitev ali opustitev objektov gospodarske javne infrastrukture. Geodetska uprava RS je v skladu s Pravilnikom o dejanski rabi prostora določila izmenjevalne formate datotek elaborata sprememb in izhodnih datotek iz zbirnega katastra GJI s pripadajočimi šifranti ter način oštevilčevanja elaboratov sprememb.

Predpisane datoteke elaborata sprememb, ki predstavljajo t. i. vhodne datoteke v zbirni kataster GJI so identične izhodnim datotekam za izdajo podatkov iz zbirnega katastra GJI s strani Geodetske uprave RS. Razlike nastopajo le v poimenovanju datotek in zapolnitvi zapisov v sicer identični strukturi datotek.

Vsebina in struktura elaborata sprememb

Posredovanje sprememb v zbirni kataster GJI se izvede tako, da se vse spremembe evidentirajo na objekt natančno. To pomeni, da je potrebno za vsak objekt posredovati informacijo o tem ali je objekt dodan, spremenjen, brisan.

Podatke o objektih GJI se zapiše v ustrezno datoteko glede na njihovo topološko obliko (točka, linija ali poligon).

Maintenance of the ZK GJI records

Managers of public utility infrastructure and other entities are obliged to submit data on public utility infrastructure for each newly constructed public utility infrastructure facility or any change in data on already registered economic infrastructure to the GJI consolidated cadastre, which is managed and maintained by the Surveying and Mapping Authority of the Republic of Slovenia. All newly built facilities and all changes must be submitted to the Surveying and Mapping Authority of the Republic of Slovenia in the form of a change report.

A change in data on existing public utility infrastructure is acknowledged if certain changes are made to the economic infrastructure facility. The reasons for the changes may be the reconstruction, upgrade, removal or abandonment of public infrastructure facilities. In accordance with the Rules on Actual Spatial Use, the Surveying and Mapping Authority of the Republic of Slovenia determined the exchange formats of files of the report of changes and output files from the GJI consolidated cadastre with the corresponding code lists and the method of numbering the reports of changes.

Prescribed files of the report of changes representing the so-called input files to the GJI consolidated cadastre are identical to the output files for the issuance of data from the GJI consolidated cadastre by the Surveying and Mapping Authority of the Republic of Slovenia. The only differences are in the naming of the files and the filling of the entries in an otherwise identical file structure.

Content and structure of the report of changes

The transmission of changes to the GJI consolidated cadastre is carried out in such a way that all changes to objects are recorded in detail. This means that it is necessary to provide information for each object on whether it has been added, changed or deleted.

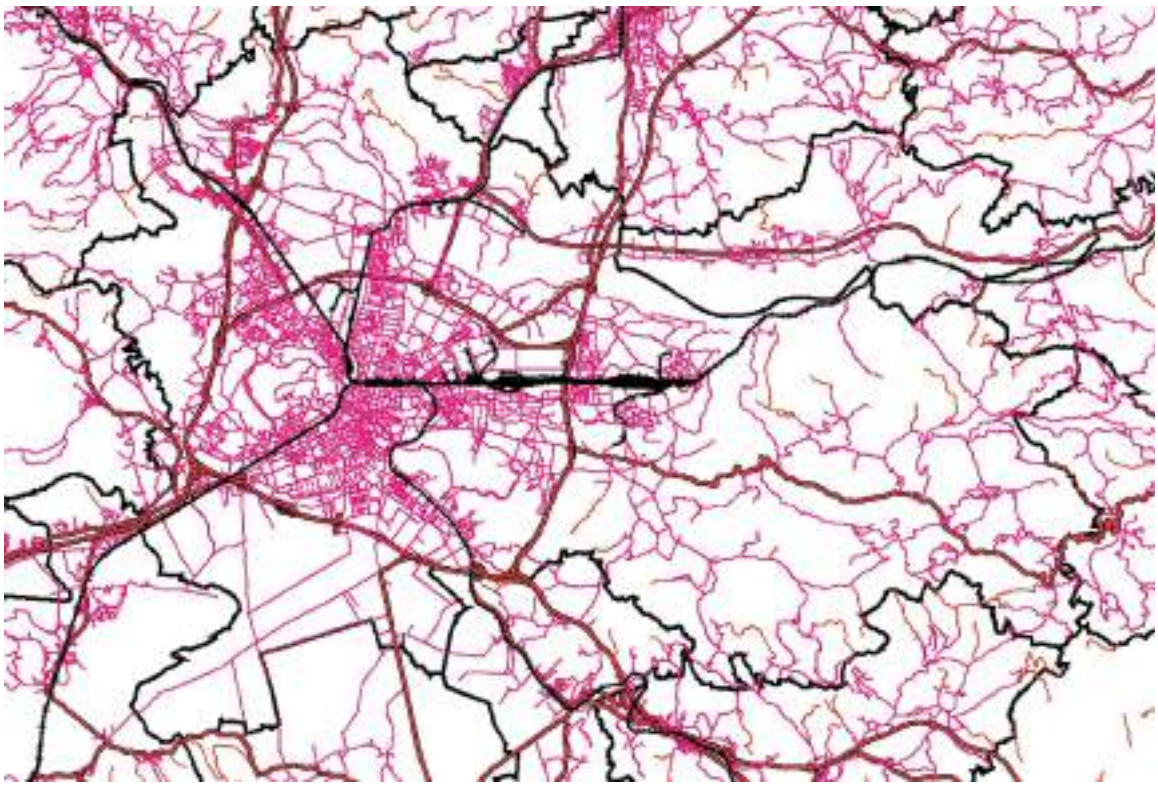
Data on GJI objects are written to the appropriate file according to their topological form (point, line or polygon).

Elaborat sprememb vsebuje naslednje izmenjevalne datoteke:

- osnovna datoteka,
- datoteke lokacijskih in opisnih podatkov o objektih GJI:
  - točkovnih objektov,
  - linijskih objektov,
  - višinskih točk linijskih objektov,
  - poligonskih objektov,
  - višinskih točk poligonskih objektov,
- datoteka opisnih podatkov o več upravljavcih objekta GJI.

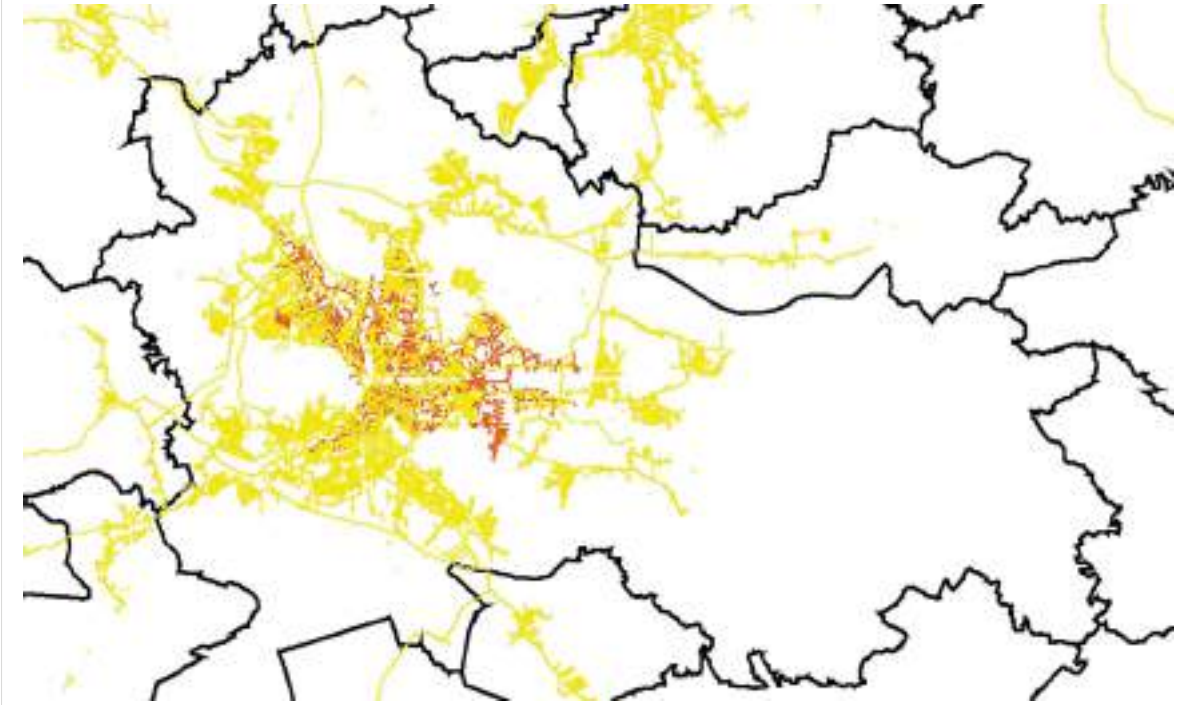
The report of changes contains the following exchange files:

- elementary file,
- files of location and descriptive data on GJI objects:
  - point objects,
  - line objects,
  - vertical points of line objects,
  - polygonal objects,
  - vertical points of polygonal objects,
- descriptive data file on the managers of the GJI object.



Slika 11.2.1: Zbirni kataster gospodarske javne infrastrukture na primeru Mestne občine Ljubljana – slika ceste + železnice.
(Vir: GURS)

Figure 11.2.1: The consolidated cadastre of public utility infrastructure in an example from the City Municipality of Ljubljana - picture of road + railway.
(Source: SMARS)



Slika 11.2.2: Zbirni kataster gospodarske javne infrastrukture na primeru Mestne občine Ljubljana – plinovod + toplovod.
(Vir: GURS)

Figure 11.2.2: The consolidated cadastre of public utility infrastructure in an example from the City Municipality of Ljubljana – gas pipeline + heat pipe.
(Source: SMARS)

Dostop do podatkov ZK GJI

Podatki o gospodarski javni infrastrukturi v zbirnem katastru GJI so javni. Podatki so prek geolokacije povezljivi z drugimi zbirkami nepremičninskih (zemljiški kataster, kataster stavb) in prostorskih podatkov (topografski podatki). Na ta način je dana možnost, da se z uporabo geoinformacijskih orodij, npr. za vsako zemljiško parcelo pridobi informacijo o tem, kateri objekti gospodarske javne infrastrukture se na parceli nahajajo. Pri tem je treba upoštevati natančnost podatkov iz posamezne evidence.

Vpogled v podatke in dostop do podatkov je možen na več načinov. Na internetni strani Geodetske uprave RS: http://e-prostor.gov.si/ je tako možno dostopati na različne načine do podatkov iz Zbirnega katastra GJI:

Access to ZK GJI data

The data on public utility infrastructure in the GJI consolidated cadastre is public. The data is connected to other collections of real estate (land cadastre, building cadastre) and spatial data (topographic data) via geolocation. This enables the possibility of using geoinformation tools, for example, to obtain information for each parcel of land about which public utility infrastructure objects are located on the parcel. The accuracy of the data in each record must be taken into account.

There are several ways to view and access the data. On the website of the Surveying and Mapping Authority of the Republic of Slovenia: http://e-prostor.gov.si/ data from the GJI consolidated cadastre can be accessed in various ways:

- Javni vpogled je namenjen fizičnim osebam. Omogoča iskanje na parcelo natančno in prikaz infrastrukture na iskanem območju.

- Public access is intended for natural persons. It enables accurate searching by parcel and shows the public utility infrastructure in the searched area.

Slika 11.2.3: Javni vpogled za fizične osebe.
(Vir: GURS)

Figure 11.2.3: Public access for natural persons.
(Source: SMARS)

- Aplikacija PREG omogoča dostop vsem registriranim uporabnikom, ki so vključeni v sistemu hitro komunikacijsko omrežje javne uprave. Aplikacija omogoča kompleksnejše iskanje in prikaz ter povezovanje različni geodetskih zbirk med seboj. Pri zbirnem katastru GJI je možen prikaz vseh opisov posameznega objekta GJI.

- The PREG application provides access to all the registered users who are included in the high-speed communication network of public administration. The application enables more complex search and display functions, as well as the interlinking of various geodetic collections. In the case of the GJI consolidated cadastre, it is possible to display all the descriptions of an individual GJI object.

Slika 11.2.4: Aplikacija PREG za registrirane uporabnike.
(Vir: GURS)

Figure 11.2.4: GJI consolidated cadastre in the PREG application for registered users.
(Source: SMARS)

- Aplikacija PGP omogoča prenos podatkov GJI iz zbirnega katastra GJI za lokalne skupnosti in državne organe. Posamezna lokalna skupnost lahko tako na enem mestu prevzame vse vpisane podatek GJI na svojem območju, oz. državni organ za katerokoli lokalno skupnost v državi.

- Aplikacija E-GP z registracijo omogoča dostop do brezplačnih geodetskih podatkov. Uporabniki morajo ob prvem dostopu izvesti postopek brezplačne registracije, na podlagi katere na svoj elektronski naslov prejmejo geslo, s katerim nato dostopajo v sistem brezplačnih podatkov. Preko aplikacije E-GP je omogočen prenos podatkov poleg drugih geodetskih evidenc tudi za zbirni kataster GJI, po posamezni lokalni skupnosti ali za celotno državo.

- Aplikacija ZK GJI omogoča upravljavcem in izdelovalcem elaboratov GJI za hiter dostop do uveljavljenih elaboratov ter prevzem zadnjega stanja objektov GJI v ZK GJI.

- The PGP application enables the transfer of GJI data from the GJI consolidated cadastre to local communities and state bodies. An individual local community can thus get all the entered GJI data in its area in one place, or a state authority can do so for any local community in the state.

- The E-GP application provides access to free geodetic data upon registration. Upon first access, users must carry out a free registration process, on the basis of which they receive a password via e-mail with which they can then access the free data system. Through the E-GP application, it is possible to transfer data for the GJI consolidated cadastre, in addition to other geodetic records, by individual local community or for the entire state.

- The ZK GJI application enables managers and producers of GJI reports quick access to established reports and the latest state of GJI objects in ZK GJI.

Z vzpostavitvijo zbirnega katastra GJI, ki predstavlja centralno vodeno evidenco, ki omogoča zbiranje in evidentiranje podatkov o državni, lokalni in zasebni gospodarski javni infrastrukturi, je bil osnovni namen – prikaz zasedenosti prostora z objekti gospodarske javne infrastrukture – dosežen. Država je tako prvič dobila sodobno okolje, kjer se na enem mestu evidentirajo vsi objekti gospodarske javne infrastrukture na območju Republike Slovenije.

Zbirni kataster GJI danes zagotavlja:

- standardizacijo evidentiranja gospodarske javne infrastrukture,
- enostaven dostop do podatkov gospodarske javne infrastrukture,
- možnost analiziranja podatkov za potrebe resorjev in lokalnih skupnosti,
- osnovo za smotrnejše urejanje prostora,
- varnejše izvajanje posegov v prostoru,
- gospodarnejše ravnanje z infrastrukturnimi objekti.

With the establishment of the GJI consolidated cadastre, which represents a central record that enables the collection and recording of data on state, local and private-public utility infrastructure, the main purpose was to show the occupancy of space by public utility infrastructure facilities, and this was successful. For the first time, the state has got a modern environment where all objects of public utility infrastructure in the territory of the Republic of Slovenia were recorded in one place.

Today, the GJI consolidated cadastre provides:

- standardization of registration of public utility infrastructure,
- easy access to public infrastructure data,
- the possibility of analysing data for the needs of government departments and local communities,
- a basis for more efficient spatial planning,
- safer implementation of interventions in the field,
- more economical management of infrastructure facilities.

12 Vzdrževanje nepremičninskih evidenc jutri

Obstoječa zakonodaja s področja evidentiranja nepremičnin, evidentiranja lastništva, področja graditve, prostorskega načrtovanja in drugih področij, ki ureja evidentiranje prostorsko orientiranih podatkov, je medsebojno slabo usklajena. »Neusklajenost« se nanaša na podatkovno nepovezanost, nepovezanost procesov, nejasno odgovornost za popolnost in kakovost podatkov, neupoštevane oziroma neopredeljene so pristojnosti (neusklajene definicije, večkratno zbiranje istih podatkov, neusklajene informacijske rešitve, nepovezani procesi, pretrgani informacijski tokovi z ročnim prepisovanjem, neaktivnost upravljavcev podatkov, prenašanje odgovornosti za usklajevanje na fizične in pravne osebe ...). Neusklajena zakonodaja izvira predvsem iz priprave zakonskih rešitev brez predhodnega koncepta vodenja in povezovanja podatkov ali zbirk podatkov, neupoštevanja dejanskega stanja kakovosti in popolnosti obstoječih evidenc in neupoštevanje zmožnosti služb za zbiranje in vodenje podatkov ter nekritično vključevanje političnih rešitev v normativne ureditve.

Obstoječe informacijske rešitve, ki jih za vodenje nepremičninskih evidenc po ZEN uporablja geodetska uprava, ne omogočajo učinkovitega vodenja in povezovanja podatkov. Informacijske rešitve so nestabilne zaradi zastarelosti in parcialnih nadgradenj, obstaja velika stopnja tveganja, da prenehajo delovati, njihovo vzdrževanje je predrago.

Namen novega Zakona o katastru nepremičnin (ZKN) je povečanje učinkovitosti geodetske uprave s poenostavitvijo izvajanja upravnih postopkov, njihovo podprtostjo z novim informacijskim sistemom, povečanim izvajanjem del in nalog po uradni dolžnosti in z izvajanjem strokovno tehničnih nalog z namenom vzpostavitve popolnih in kakovostnejših nepremičninskih evidenc in zagotavljanja podatkov in izdelkov uporabnikom distribucijskega okolja.

Maintaining real estate records in the future

The existing legislation in the field of real estate registration, ownership registration, construction, spatial planning and other areas, which regulates the recording of spatially oriented data, is poorly coordinated. Its »inconsistency« is due to data incoherence, the incoherence of processes, unclear responsibility for the completeness and quality of data, non-compliance or undefined competencies (inconsistent definitions, the multiple collection of the same data, inconsistent information solutions, unrelated processes, interrupted information flows with manual copying, inactivity of data managers, transfer of coordination responsibilities to natural and legal persons ...). Non-harmonized legislation stems mainly from the preparation of legal solutions without prior management concepts and without linking data or databases, disregarding the actual quality and completeness of existing records and disregarding the capacity of data collection and management services, and uncritically integrating policy solutions into regulations.

The existing information solutions used by the Surveying and Mapping Authority for keeping real estate records according to the ZEN do not enable the efficient management and linking of data. Information solutions are unstable due to obsolescence and partial upgrades; there is a high level of risk that they will stop working, and their maintenance is too costly.

The purpose of the new Real Estate Cadastre Act (ZKN) is to increase the efficiency of the Surveying and Mapping Authority by simplifying the implementation of administrative procedures, supporting them with a new information system, increasing the performance of work and tasks on their own initiative, and by performing professional and technical tasks with the purpose of establishing higher-quality real estate records and providing data and products to users of the distribution environment.

Ključni poudarki so:

- ena evidenca za vse nepremičnine,
- dodan je Register naslovov,
- možnost vodenja območij služnosti in stavbnih pravic,
- vodenje sestavin delov stavb (na parceli, ki je skupni del stavbe),
- vodenje evidence gradbene parcele,
- možnost priključitve novih vsebin (inženirski objekti),
- povezani in poenoteni podatki v eni bazi – konsistentnost podatkov (meje parcel/meje občin; prostorske enote ne sekajo tlorisov stavb; hierarhija RPE),
- soodvisni postopki se obravnavajo v eni vlogi.

Takšen namen in cilj ZKN je povezan z organizacijskim preoblikovanja geodetske uprave v sodobno javno in učinkovito upravo.

Z ZKN se uzakonjajo pravne podlage za informatizacijo vseh postopkov, ki jih ureja ZKN, s čimer se dosledno zasleduje cilj e-poslovanja, ki bo glede na načrte in stanje projekta informatizacije postopkov na področju evidentiranja nepremičnin v celoti zaživelo ob zaključku projekta eProstor. ZKN vzpostavlja distribucijski sistem geodetske uprave, sestavljen iz »informacijskega sistema Katastra«, ki zagotavlja informacijsko podporo za integrirano izvajanje vseh postopkov po ZKN, vodenje baz podatkov katastra nepremičnin, registra prostorskih enot, evidence državne meje in registra naslovov, spreminjanje podatkov katastra nepremičnin, registra prostorskih enot, evidence državne meje in registra naslovov s predpisanimi postopki, samodejno preverjanje predlaganih sprememb in zahtev za spremembo podatkov katastra nepremičnin, registra prostorskih enot, evidence državne meje in registra naslovov, povezavo z drugimi zbirkami podatkov, od katerih se prevzema podatke, in podporo upravnega poslovanja geodetske uprave, ter distribucijskega informacijskega sistema, ki zagotavlja javno, brezplačno objavo podatkov iz evidenc, ki se vodijo po ZKN, in omogoča izdajanje podatkov iz teh evidenc vsem zainteresiranim uporabnikom.

Osrednji cilj ZKN je vzpostavitev enotne evidence, imenovane »kataster nepremičnin«, o parcelah, stavbah in delih stavb v Republiki Sloveniji, z namenom zagotavljanja še večje učinkovitosti, medsebojne usklajenosti, kvalitetnega in lažjega dostopa do evidentiranih podatkov, uveljavljanja novih načinov vlaganja vlog

The key data is:

- a single record for all real estate,
- the Register of addresses has been added,
- the possibility of managing easement areas and building rights,
- managing the components of parts of buildings (on a parcel that is a common part of the building),
- keeping records of construction parcels,
- the possibility of linking new content (engineering facilities),
- linked and unified data in one database - consistency of data (borders of parcels /borders of municipalities; spatial units do not intersect floor plans of buildings; hierarchy of RPE),
- interdependent procedures are handled under a single entry.

This purpose and goal of the ZKN is related to the organizational transformation of the Surveying and Mapping Authority into an efficient modern public administration.

The ZKN provides the legal bases for the computerization of all procedures regulated by the ZKN, thus consistently pursuing the goal of e-business, which will, according to the plans and the status of the project of the computerization of procedures in real estate registration, fully commence at the end of the eProstor project. The ZKN establishes a distribution system for the Surveying and Mapping Authority, consisting of the »Kataster information system«, which provides information support for the integrated implementation of all procedures under the ZKN, the management of real estate cadastre databases, the spatial units register, the state border and address register, the changing of these records with prescribed procedures and the automatic verification of the proposed changes and requirements for changes of these records, linking to other databases from which data is retrieved, and supporting the administrative operations of the Surveying and Mapping Authority and the distribution information system that ensures the public and free publication of data from records kept under the ZKN and enables the issuance of data from these records to all interested users.

The main goal of the ZKN is to establish a unified record, entitled the »real estate cadastre«, on parcels, buildings and parts of buildings in the Republic of Slovenia, in order to ensure greater efficiency, mutual harmonization,

s sredstvi informacijsko komunikacijske tehnologije, pospešitve postopkov vpisa sprememb, razvijanje novih storitev posredovanja obdelanih podatkov o nepremičninah in zagotovitev dostopa do celovitih podatkov o nepremičninah na enem mestu.

Ključni cilji ZKN so:

- nedvoumna opredelitev nepremičnine, ki se evidentira v katastru nepremičnin,
- določitev katastra nepremičnin kot uradne evidence, katere namen je prikaz dejanskega stanja nepremičnine kot celote; podatki morajo biti sistemsko in enotno evidentirani za vse nepremičnine,
- zagotovitev usklajenosti podatkovnega in procesnega modela katastra nepremičnin z direktivo INSPIRE, LADM, slovensko zakonodajo in mednarodnimi standardi za prostorske podatke (npr. OGC),
- sistemsko urejanje izvajanja katastrskih postopkov z določitvijo vsebine podatkov, ki se evidentirajo v katastru nepremičnin, in določitvijo postopkovnih pravil za njihovo določitev,
- izboljšanje in poenostavitev sistema evidentiranja nepremičnin z zagotovitvijo informacijske podpore poslovnim procesom,
- ureditev ustreznega in celostnega nadzora na področju izvajanja katastrskih postopkov (prek dopolnitev prekrškovnih določb).

12.1 Informacijska prenova nepremičninskih evidenc – Kataster

Geodetska uprava bo v okviru eProstora do konca leta 2021 informacijsko prenovila nepremičninske evidence in s tem vzpostavila enotno informacijsko rešitev, ki bo omogočala sodobno delovanje nepremičninskega sistema in bo predstavljala enotno osnovno državno prostorsko infrastrukturo. S tem bo vzpostavljena enotna platforma, enotna vstopna točka, preko katere bo potekala komunikacija med Geodetsko upravo in gospodarstvom

simple and high-quality access to recorded data, implementing new ways of submitting forms through information-communication technologies, speeding up change registration procedures, developing new services for the transmission of processed real estate data, and providing access to comprehensive real estate data in a single place.

The key objectives of the ZKN are:

- the unambiguous definition of the real estate registered in the real estate cadastre,
- the definition of the real estate cadastre as the official record, the purpose of which is to show the actual condition of the real estate as a whole; the data must be systematically and uniformly recorded for all real estate,
- ensuring the compliance of the data and the process model of the real estate cadastre with the INSPIRE directive, LADM, Slovenian legislation and international standards for spatial data (e.g. OGC),
- the systematic regulation of the implementation of cadastral procedures by determining the content of data recorded in the real estate cadastre and determining the procedural rules for their determination,
- improving and simplifying the real estate registration system by providing information support to business processes,
- regulation of appropriate and comprehensive supervision in the field of cadastral procedures (through amendments to sanctioning provisions).

Information redesign of the real estate record-keeping – Kataster

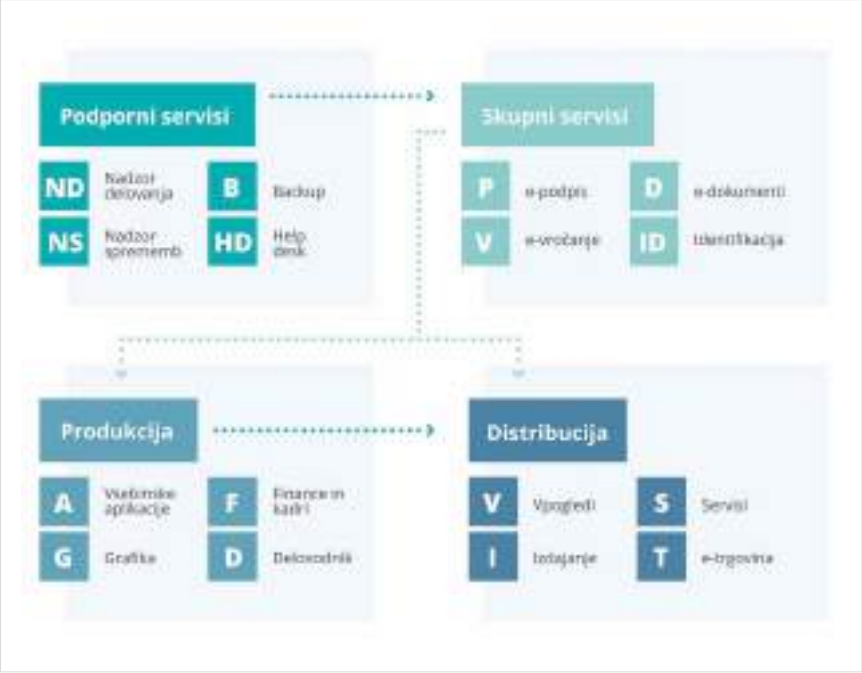
Within the framework of eProstor project, the Surveying and Mapping Authority will update real estate records by the end of 2021 and thus establish a unified information solution that will enable the modern operation of the real estate system and represent a basic unified national spatial infrastructure. This will establish a single platform – a single entry point, through which communication will take place between the Surveying and Mapping Authority and businesses or surveying service providers. The connection with other systems in the state will be

oz. izvajalci geodetskih storitev. Zagotovljena bo povezava z drugimi sistemi v državi preko identifikatorjev nepremičnin (PIS, e-Uprava, zemljiška knjiga, PRS, centralni register prebivalstva ...), omogočen bo elektronski način poslovanja ter odpravljene številne administrativne ovire.

V informacijsko prenovo nepremičninskih evidenc je vključeno produkcijsko in distribucijsko okolje. Razvoj skupnih servisov se lahko razvija samostojno ali v sodelovanju z MJU (e-podpis, e-vročanje, itd.) kakor tudi podporni servisi (helpdesk, backup itd.) za delovanje celotnega sistema nepremičninskih evidenc.

provided via real estate identifiers (PIS, e-Government, land registry, PRS, central population register ...), an electronic way of doing business will be enabled and numerous administrative barriers will be removed.

The information redesign of real estate record-keeping also covers the information and production environment. The development of joint services can be developed independently or in cooperation with the MPA-Ministry of Public Administration (e-signature, e-service, etc.), as well as support services (helpdesk, backup, etc.) for the operation of the entire system of real estate records.



Slika 12.1.1: Informacijska zasnova nepremičninskih evidenc.
(Vir: GURS – Tehnična dokumentacija)

Figure 12.1.1: Information design of the real estate records.
(Source: SMARS – Technical documentation)

Pred migracijo v nov podatkovni model je bila potrebna njihova ureditev, ki je vključevala izboljšavo njihove kvalitete oziroma medsebojne usklajenosti.

Prior to the migration to the new data model, they had to be prepared, which included the improvement of their quality and mutual harmonization.

Pred dokončno implementacijo informacijske prenove je bilo treba opraviti naslednje aktivnosti:

- delitev prekomejnih parcel,
- prevedba vrst rabe v zemljišča pod stavbami,
- izboljšava lokacijske natančnosti grafičnih podatkov zemljiškega katastra,
- ureditev grafičnih podatkov za migracijo zemljiškega katastra,
- ureditev opisnih podatkov vseh nepremičninskih evidenc GU in grafičnih podatkov katastra stavb, registra prostorskih enot, hišnih številk, državne meje,
- vektorizacija etažnih načrtov,
- izvedba migracije grafičnih in opisnih podatkov nepremičninskih evidenc GU,
- priprava in izvedba migracije postopkov v delu,
- skeniranje arhiva,
- migracija arhiva,
- vzpostavitev skupne dejanske rabe zemljišč,
- ureditev območja enakih bonitet,
- transformacija vseh podatkov v nov koordinatni sistem.

Izvedba opisanih aktivnosti je potekala v več korakih po posameznih področjih in vsebinah.

Before the final implementation of the information redesign, the following activities had to be performed:

- division of cross-border parcels,
- conversion of types of old use types of built land into unified land under buildings,
- improving the positional accuracy of graphical data of the land cadastre,
- arrangement of graphic data for land cadastre migration,
- arrangement of descriptive data of all real estate records of GU and graphical data of the building cadastre, the register of spatial units, house numbers, state border,
- vectorization of floor plans,
- implementation of the migration of graphical and descriptive data of GU real estate records,
- preparation and implementation of the migration of ongoing procedures,
- archive scanning,
- archive migration,
- establishing the common record of land cover,
- regulation of the area of equal land quality ratings,
- transformation of all data into the new coordinate system.

The implementation of the activities described took place in several steps by individual activity fields and contents.

Programska rešitev informacijske prenove

Namen prenove nepremičninskih evidenc, izhajajoč iz projekta »eProstor«, je zagotovitev pogojev, da bo na koncu projekta »eProstor« imela:

- država enostavno dostopne in razumljive ter povezane (standardizirane) vse najpomembnejše informacije o stanju prostora in vzpostavljeno enotno informacijsko infrastrukturo za prostorske informacije (vstopno točko – portal) za podporo procesom prostorskega planiranja, graditve objektov, upravljanja nepremičnin ter vodenju stanovanjske in okoljske politike,
- strokovna javnost dostop do vseh potrebnih informacij o prostoru (portal PIS za spremljanje stanja v prostoru in sodelovanje v procesih),

Software solution for information redesign

The purpose of the redesign of the real estate records, based on the eProstor project, is to ensure the following conditions at the end of the eProstor project:

- that the state will possess easily accessible, understandable and connected (standardized) important information on the state of space and an established unified information infrastructure for spatial data (entry point - portal) to support the processes of spatial planning, construction, real estate management and housing and environmental policy,
- that the professional public will have access to all the necessary information on space (the PIS portal for monitoring the situation in space and participation in processes),

- širša javnost (državljani) vzpostavljene življenjske dogodke na področju graditve (e-informacija o prostoru, e-gradbeno dovoljenje, portal INSPIRE).

Informacijska prenova nepremičninskih evidenc je namenjena prenovi upravljanja obstoječih nepremičninskih evidenc (kataster stavb – KS, register nepremičnin – REN, register prostorskih enot – RPE, zemljiški kataster – ZK in evidenca državne meje – DM) in s tem dvigu kvalitete podatkov in lažji dostopnosti storitev za končnega uporabnika.

Pri informacijski prenovi nepremičninskih evidenc se je izhajalo iz predpostavke, da bo le-ta:

- izboljšala in poenostavila sistem evidentiranja nepremičnin,
- vsebovala podatke vseh nepremičninskih evidenc: zemljiški kataster – ZK, kataster stavb – KS, register nepremičnin – REN, register prostorskih enot – RPE in podatke o državni meji – DM,
- poenotila iste in povezljive podatke o nepremičninah ter delovne procese nad podatkovnimi zbirkami in skrbniki procesov,
- izboljšala kakovost podatkov o nepremičninah,
- zagotovila informacijsko podporo poslovnim procesom,
- izboljšala učinkovitost vzdrževanja podatkov,
- omogočila enostavno in učinkovito uporabo podatkov o nepremičninah,
- poenostavila dostop do nepremičninskih in prostorskih podatkov.

Postavljeni cilji informacijske prenove nepremičninskih evidenc so bili naslednji:

- vzpostavitev enotne informacijske rešitve, ki bo omogočala delovanje nepremičninskega sistema in bo predstavljala enotno državno prostorsko infrastrukturo (SDI) tako za izvajanje produkcijskih kot tudi distribucijskih procesov,
- vzpostavitev enotne platforme (enotna strežniška infrastruktura za produkcijsko in distribucijsko okolje, centralna baza vseh podatkov, enoten zapis grafičnih podatkov, enotno vodenje in izvajanje opravil ipd.),
- vzpostavitev enotne vstopne točke, preko katere bo potekala komunikacija med izvajalci geodetskih storitev

- that the general public (citizens) will have established life events in the field of construction (e-information on space, e-building permit, the INSPIRE portal).

The information redesign of real estate records is intended to update the management of existing real estate records (building cadastre - KS, real estate register - REN, register of spatial units - RPE, land cadastre - ZK and state border records - DM) and thus increase the quality of data and facilitate access to the services for the end-user.

The information redesign of the real estate records was based on the assumption that it would:

- improve and simplify the real estate registration system,
- contain data from all real estate records: land cadastre - ZK, building cadastre - KS, real estate register - REN, register of spatial units - RPE and state border records - DM,
- unify identical and connectable real estate data and work processes among databases and process administrators,
- improve the quality of real estate data,
- provide information support for business processes,
- improve the efficiency of data maintenance,
- enable the simple and efficient use of real estate data,
- simplify access to real estate and spatial data.

The information redesign of the real estate records had the following goals:

- establishment of a unified information solution that will enable the operation of the real estate system and will represent a unified national spatial infrastructure (SDI) for the implementation of both production and distribution processes,
- establishment of a unified platform (unified server infrastructure for the production and distribution environment, central database of all data, unified recording of graphic data, unified management and execution of tasks, etc.),
- establishment of a single entry point through which communication between geodetic service providers and SMARS will take place (geodetic

in GURS (izvajalcem geodetskih storitev bodo omogočeni uvoz in izvoz podatkov, kontrola izmenjevalnih formatov ter vpogled v podatke (npr. predlagane spremembe na objektu, stanje postopka, vpogled v arhiv)),
- zagotovitev povezave z drugimi sistemi v državi preko identifikatorjev (e-Uprava, eProstor, zemljiška knjiga, PRS, centralni register prebivalstva ...), zagotovitev povezanosti podatkov znotraj informacijske rešitve,
- optimizacija delovnih procesov GURS in izvajalcev geodetskih storitev z enotnimi procesi sprememb vseh nepremičninskih podatkov,
- zagotovitev možnosti elektronskega poslovanja (e-podpis, e-vročanje, e-pooblaščanje) med akterji v sistemu.

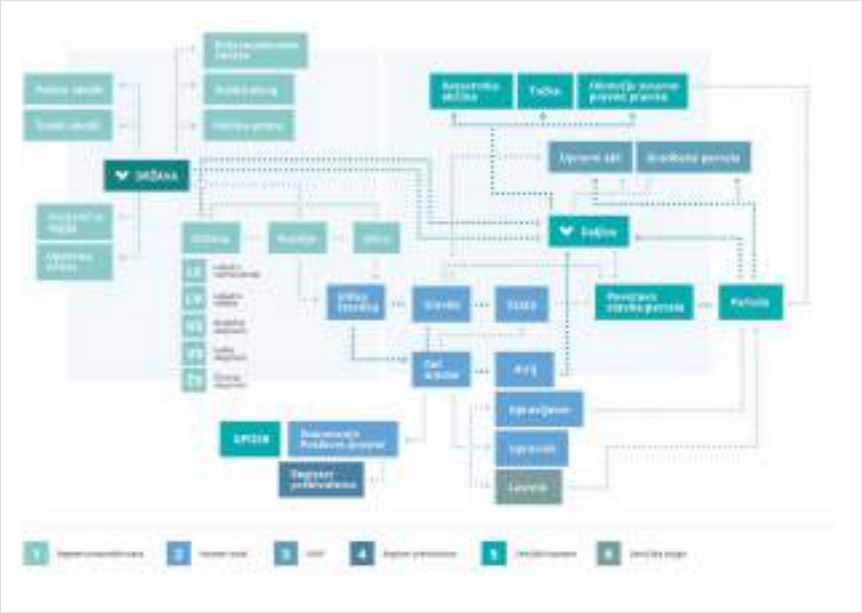
Izhodišča za informacijsko prenovo in opis obstoječega stanja nepremičninskih evidenc so bili opredeljeni v dokumentu »Koncept nepremičninskih evidenc – Opis osnovnega koncepta in funkcionalnosti«.

Ciljni konceptualni podatkovni model katastra nepremičnin je prikazan v spodnji sliki.

service providers will be able to import and export data, control exchange formats and view data (e.g. proposed changes to data objects, the status of procedures, access to archives)),
- ensuring connection with other systems in the state via identifiers (e-Government, e-Space, land registry, PRS-Business register of Slovenia, CRP - Central population register ...), ensuring data connectivity within the information solution,
- optimization of the work processes of the SMARS and geodetic service providers with uniform processes of changes for all real estate data,
- providing e-business options (e-signature, e-service, e-authorization) to actors in the system.

The starting points for the information renovation and the description of the existing state of real estate records were defined in the document »Concept of real estate records - Description of the basic concept and functionality«.

The target conceptual data model of the real estate cadastre is shown in the figure below.



Slika 12.1.2: Podatkovni model katastra nepremičnin.
(Vir: GURS – Tehnična dokumentacija)

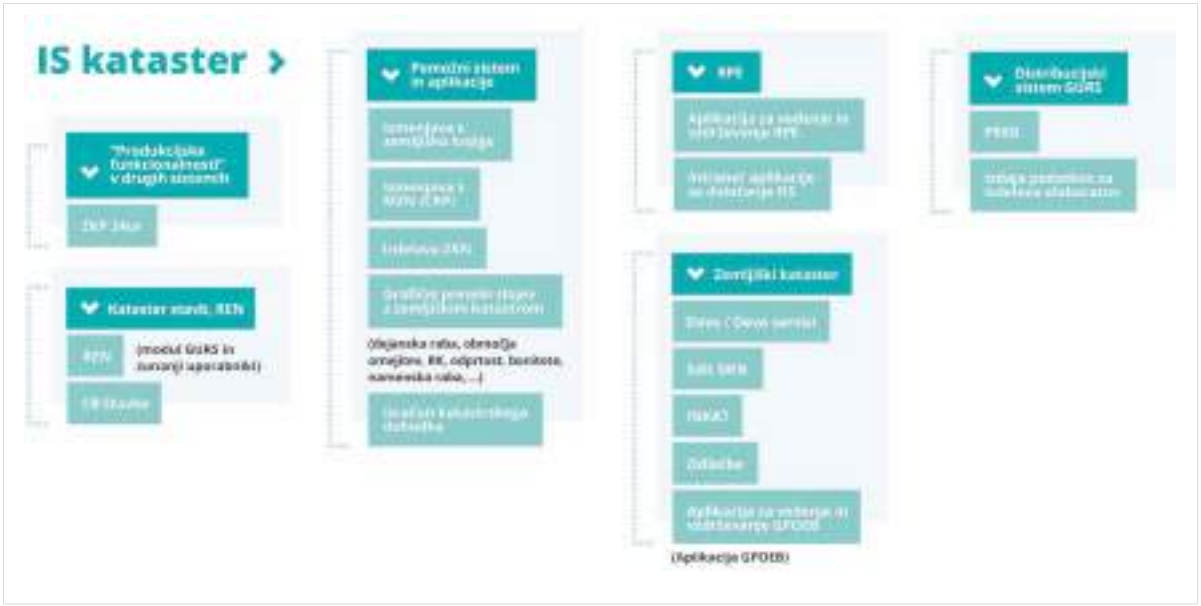
Figure 12.1.2: Real estate cadastre data model.
(Source: SMARS – Technical documentation)

Akterji, ki so bili vključeni v informacijsko prenovo in njihove povezave v informacijski rešitvi:

- GURS,
- MOP – povezava ZK z gradbeno parcelo, funkcionalnim območjem,
- lokalne skupnosti (referenti) – vzdrževanje podatkov volilnih enot, posredovanje namenske rabe zemljišč,
- MJU – vzdrževanje podatkov upravljavcev, upravnikov večstanovanjskih stavb,
- MNZ – povezava s CRP (številke stanovanj, HŠ), vzdrževanje podatkov,
- AJPES – povezava s PRS,
- inšpektorji – dostop do ugotovljenih neevidentiranih stanj,
- geodetska in projektivna podjetja – prevzem podatkov in vzdrževanje podatkov zemljiškega katastra, katastra stavb, bonitet itd.,
- lastniki nepremičnin – vpogled v podatke.

Actors involved in the information redesign and their connections within the information solution:

- SMARS,
- MOP – connection of the land cadastre with the building parcel, functional area,
- local communities (clerks) – maintenance of constituency data, intermediation of intended land use,
- MJU – maintenance of data of controllers, managers of multi-apartment buildings,
- MNZ – link to CRP (apartment numbers, HŠ), data maintenance,
- AJPES – link to PRS,
- inspectors – access to identified unrecorded situations,
- geodetic and design companies – data acquisition and maintenance of land cadastre, building cadastre, land quality data, etc.,
- property owners – data insight.

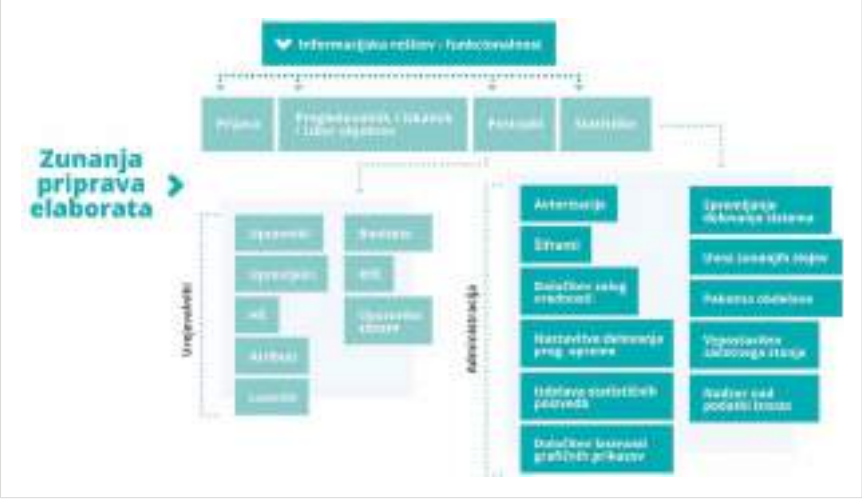


Slika 12.1.3: Prikaz polnjenja podatkovne baze informacijskega sistema Kataster. (Vir: GURS)

Figure 12.1.3: Diagram of data entry in the database of the Kataster information system. (Source: SMARS)

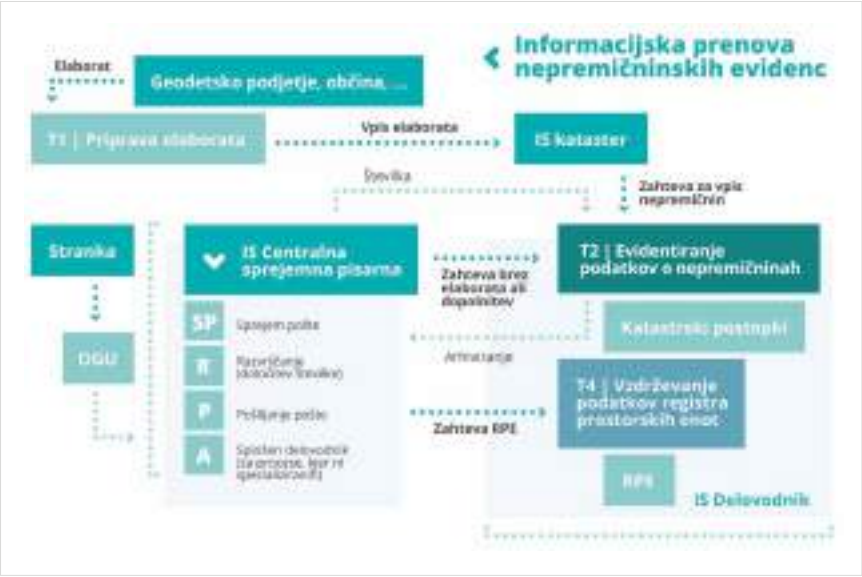
Shematski prikaz posameznih funkcionalnosti celotne rešitve informacijske prenove nepremičninskih evidenc.

Schematic presentation of individual functionalities of the entire solution of the information redesign of real estate records.



Slika 12.1.4: Funkcionalnosti informacijske prenove.
(Vir: GURS – Tehnična dokumentacija)

Figure 12.1.4: Information redesign functionalities.
(Source: SMARS – Technical documentation)



Slika 12.1.5: Shema delovanja prenovljenega informacijskega sistema Kataster.
(Vir: GURS)

Figure 12.1.5: Scheme of operation of the redesigned Kataster information system.
(Source: SMARS)

12.2 Prenova procesov – Delovodnik

Informacijski prenovi katastra nepremičnin je sledila vključitev prenovljenih procesov v prenovljen informacijski sistem nepremičninskih evidenc (Delovodnik).

Delovodnik je del celovitega Informacijskega sistema Kataster (IS Kataster), ki vključuje informacijski rešitvi Delovodnik in Kataster. Informacijski rešitvi Delovodnik in Kataster skupaj predstavljata Informacijski sistem Kataster, ki je za uporabnika izdelan kot enovit informacijski sistem.

Ključni cilj je uvedba elektronskega poslovanja na zadevnem področju in:

- omogočanje enostavnega in celovitega elektronskega poslovanja,
- omogočanje informacijske podpore pri izvajanju procesov,
- povezovanje storitev, sistemov,
- omogočanje poenotenja podatkov in storitev,
- omogočanje dostopa do podatkovnih virov,
- omogočanje poenotenja in optimiziranja vodenja procesov.

Izhodišča za informacijsko prenovo so bili modeli procesov, ki so predstavljali znano stanje novega načina izvajanja procesov. Procesi, poslovna pravila, podatki, dokumenti, sistem merjenja in drugo so se v času programiranja prilagajala področni zakonodaji. Ta dokumentacija je predstavljala vsebinski obseg procesov, ki so vsebovani v končnih informacijskih rešitvah.

Pri informacijski rešitvi se je izhajalo iz temeljnih procesov, ki so identificirani v nadaljevanju:

- Priprava elaborata (T1)
- Evidentiranje podatkov o nepremičninah (katastrski postopki) (T2)
- Prevzem podatkov o nepremičninah iz drugih evidenc (T3)
- Vzdrževanje podatkov registra prostorskih enot (T4)
- Vnos omejitev na nepremičninah (T5)
- Izračun podatkov (T6)

Process redesign – Delovodnik

The information redesign of the real estate cadastre was followed by the inclusion of the redesigned processes in the redesigned information system of real estate records (Delovodnik).

Delovodnik is part of the comprehensive Kataster information system (IS Kataster), which includes the information solutions Delovodnik and Kataster. These information solutions jointly represent the Kataster information system, which is designed as a unified information system for the user.

The key objective is to introduce electronic business in the area concerned and:

- to enable simple and comprehensive electronic business,
- to provide information support in the implementation of processes,
- to connect services, systems,
- to enable the unification of data and services,
- to provide access to data sources,
- to enable the unification and optimization of process management.

The starting points for information redesign were process models, which represented the known state of the new method of implementing processes. Processes, business rules, data, documents, the measurement system and other elements were adjusted to the professional legislation at the time of programming. This documentation represented the substantive scope of the processes contained in the final information solutions.

The information solution was based on the basic processes, which are identified below:

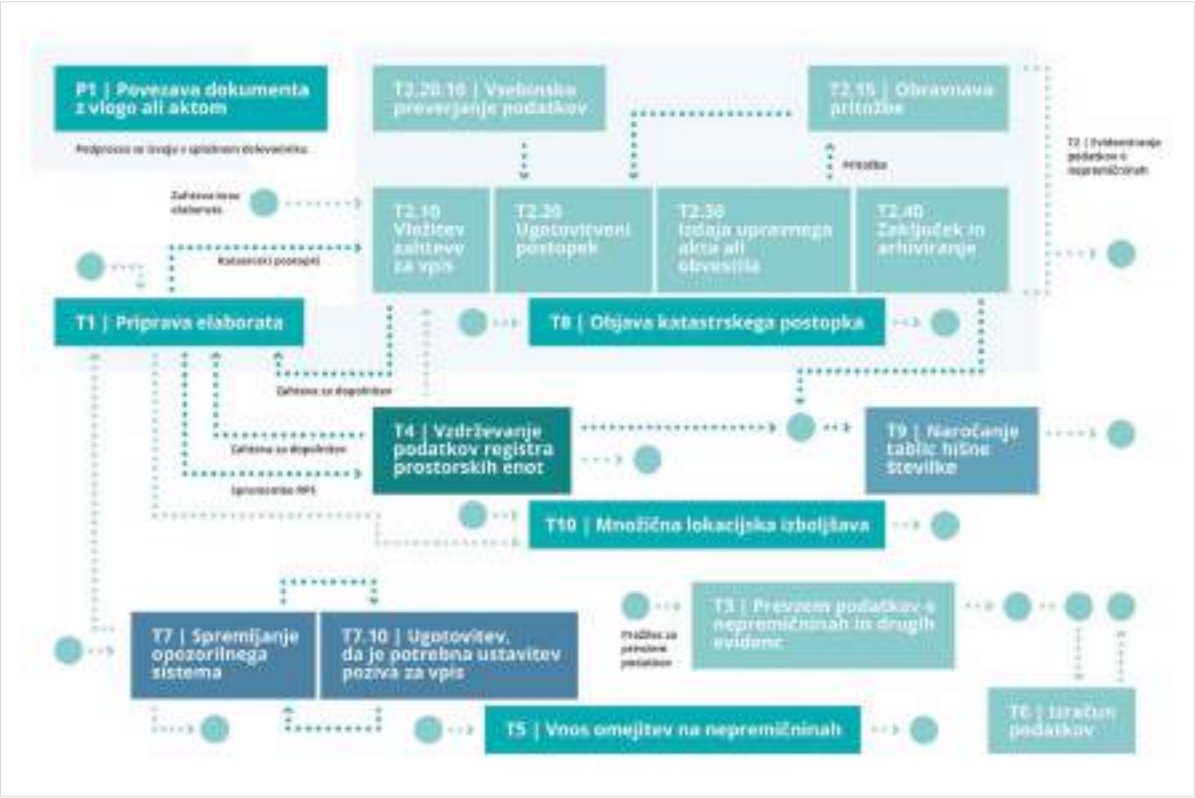
- Preparation of a report (T1)
- Recording real estate data (cadastral procedures) (T2)
- Retrieval of real estate data from other records (T3)
- Maintenance of data in the register of spatial units (T4)
- Entering restrictions on real estate (T5)
- Data calculation (T6)

- Spremljanje opozorilnega sistema (T7)
- Objava katastrskega postopka (T8)
- Naročanje tablic hišne številke (T9)
- Množična lokacijska izboljšava (T10)

Temeljni procesi so medsebojno povezani, kar ponazarja spodnja slika.

- Warning system monitoring (T7)
- Publication of the cadastral procedure (T8)
- Ordering house number plates (T9)
- Mass positional accuracy improvement (T10)

The main processes are interconnected, as illustrated in the figure below.

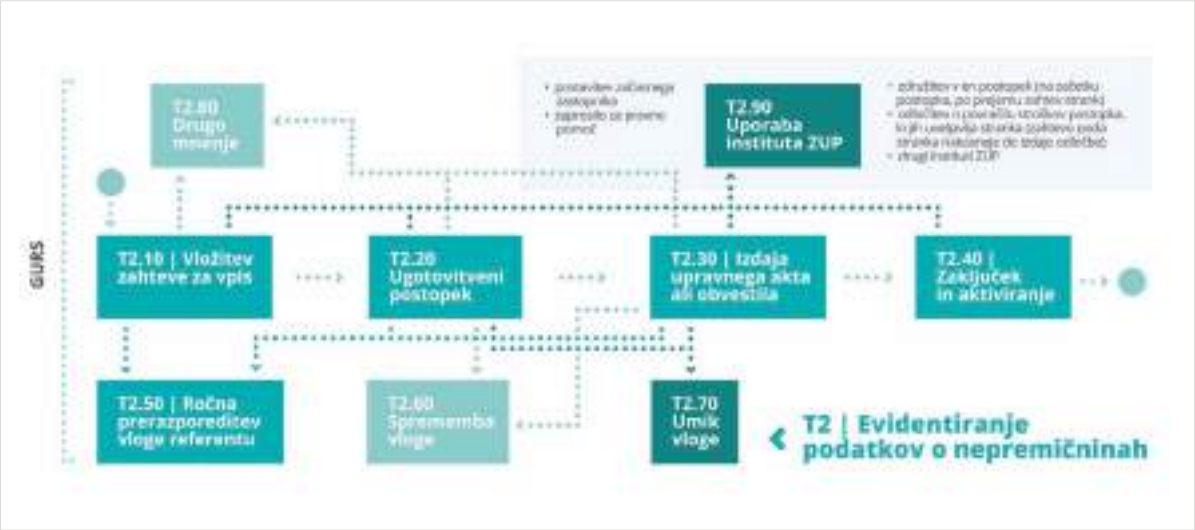


Slika 12.2.1: Pregledni model procesov – procesna arhitektura.
(Vir: GURS – Tehnična dokumentacija)

Figure 12.2.1: Process model overview - process architecture.
(Source: SMARS – Technical documentation)

Ključni in najobsežnejši proces, ki vključuje tudi obravnavo po ZUP, je T2 Evidentiranje podatkov o nepremičninah, ki ga sestavlja več faz in tudi podprocesov.

The crucial and most extensive process, which also includes handling in accordance with the ZUP- General Administrative Procedure Act, is the T2 Recording of real estate data, which consists of several phases and sub-processes.



Slika 12.2.2: Prikaz enega od procesov (proces T2 – evidentiranje podatkov o nepremičninah).
(Vir: GURS – Tehnična dokumentacija)

Figure 12.2.2: An example process (the T2 process - recording of real estate data).
(Source: SMARS – Technical documentation)

Informacijska podpora je bila torej ključna za optimizacijo procesov, ki se odvijajo znotraj organizacij.

Informacijska rešitev Delovodnik zagotavlja:

- izvajanje vseh aktivnosti v vseh procesih (z izjemo nekaj aktivnosti, ki se izvajajo v drugih rešitvah); nekatere aktivnosti izvajajo uporabniki preko vmesnikov, lahko v kombinaciji z uporabo drugih rešitev (klici storitev), nekatere avtomatsko (izvaja rešitev samostojno, npr. preverjanje podatkov, ki jih pridobi iz informacijske rešitve Kataster, izračunavanje takse, razporejanje vlog izvajalcem), nekatere pa se izvajajo s klici storitev drugih rešitev,
- usmerjanje izvajanja procesov oz. delovnih tokov; usmerjanje je ali avtomatsko, na podlagi opredeljenih poslovnih pravil (npr. v primeru odločitve v predhodni aktivnosti se avtomatsko usmeri na izvajanje naslednje aktivnosti in dodeli ustreznemu izvajalcu) ali ročno (uporabnik določi izvajalca aktivnosti); posamezen uporabnik ima na voljo seznam odprtih nalog,
- zajem in upravljanje vseh podatkov, potrebnih za izvajanje procesov; podatke se lahko zajema z vnosom preko

Information support was therefore crucial for optimizing the processes taking place within organizations.

The Delovodnik information solution provides:

- the implementation of all activities in all processes (with the exception of some activities carried out within other solutions); some activities are performed by users via interfaces, potentially in combination with the use of other solutions (service calls), some are automatic (the solution is performed independently, e.g. data verification, the scheduling of forms for contractors), and some are performed by service calls of other solutions; a business code is implemented, automatically on the basis of data where possible, otherwise it warns users to verify the business rules,
- directing the implementation of processes or workflows; direction is either automatic, based on defined business rules (e.g. in the case of a decision in a previous activity, it is automatically directed to the implementation of the next activity and assigned to the appropriate contractor) or manual (the user determines the

uporabniških vmesnikov, pridobiva iz drugih rešitev (npr. informacijska rešitev Kataster) ali avtomatsko zajema (npr. časi za spremljanje izvajanja procesov),
- pripravo dokumentov na podlagi predlog, ki so predizpolnjene s podatki, ki so na voljo,
- pošiljanje in vročanje dokumentov,
- zajem in upravljanje dokumentov, ki so potrebni za izvajanje procesa ali nastanejo v času izvajanja procesa; pri tem se informacijska rešitev naslanja na mikrostoritve Krpana,
- vodenje razpoložljivosti kadrov – izvajalcev aktivnosti,
- razdeljevanje dela med zaposlene; omogočeno je avtomatsko razporejanje dela, pa tudi ročno prerazporejanje,
- zagotavljanje revizijske sledi in verzioniranja podatkov (vloge in postopka) ter dokumentnega gradiva,
- spremljanje izvajanja procesov:
    - stanje zadev pri posameznih aktivnostih, po izvajalcih,
    - zajemanje podatkov za potrebe izračuna KPI – ključnih indikatorjev uspešnosti,
    - izračun in prikaz ključnega števila KPI, ki se naslanjajo na podatke, nastajajoče v informacijski rešitvi Delovodnik,
    - zagotavljanje podatkov zunanjim aplikacijam, namenjenim izdelavi naprednih statistik in upravnih statistik ter
    - izvedba osnovnih upravnih statistik,
- upravljanje sistema.

Informacijska rešitev Delovodnik je komplementarna informacijski rešitvi Kataster, ki se je razvila v okviru projekta Informacijske prenove nepremičninskih evidenc.

contractor); each user has a list of open tasks available,
- capturing and managing all the data required to run the processes; data can be captured by input via user interfaces, obtained from other solutions (e.g. the Kataster information solution) or captured automatically (e.g. times for monitoring the implementation of processes),
- preparation of documents on the basis of templates pre-completed with available data,
- sending and serving documents,
- capturing and managing documents necessary for the implementation of the process or generated during the implementation of the process; the information solution is based on the micro-services of the Krpan system,
- managing the availability of staff – contractors,
- delegating work to employees; automatic scheduling of work is enabled, as well as manual reassignment,
- an audit trail and versioning of (application and procedure) data and documentary material,
- monitoring the implementation of processes:
    - state of matters in individual activities, by contractors,
    - data collection for the purposes of calculating the KPI- Key Performance Indicators,
    - calculation and printout of the key number of KPIs that rely on the data generated in the Delovodnik information solution,
    - provision of data to external applications for the production of advanced and administrative statistics and
    - implementation of basic administrative statistics,
- system management.

The Delovodnik information solution is complementary to the Kataster information solution, which was developed within the project of the Information redesign of real estate records.

Slika 12.2.3: Shema komplementarne informacijske rešitve.
(Vir: GURS –Tehnična dokumentacija)

Figure 12.2.3: The complementary information solution scheme.
(Source: SMARS – Technical documentation)

Skupaj in povezano, v povezavi s še drugimi informacijskimi rešitvami, zagotavlja izvajanje procesov na predmetnem področju. Pri tem informacijska rešitev Kataster omogoča delo z nepremičninskimi evidencami (usmerjena na vsebino), informacijska rešitev Delovodnik pa predstavlja vmesnik pri izvajanju procesov, omogoča usmerjanje in spremljanje izvajanja procesov (usmerjena na procese).

Informacijska rešitev Delovodnik sledi določilom Uredbe EU 2016/679 (splošna uredba o varstvu podatkov). Izvedba je v skladu z določili Zakona o katastru nepremičnin.

Jointly and in conjunction, and along with other information solutions, it ensures the implementation of processes in the subject area. The Kataster information solution enables work with real estate records (is content-oriented), while the Delovodnik information solution represents an interface in the implementation of processes, enables directing and monitoring the implementation of processes (is process-oriented).

The Delovodnik information solution adheres to the provisions of EU Regulation 2016/679 (General Data Protection Regulation). The implementation is in accordance with the provisions of the ZKN -Real Estate Cadastre Act.

12.3 Informacijska prenova evidence državne meje

Evidenca državne meje je temeljna evidenca o mejnih točkah, ki določajo državno mejo Republike Slovenije, ter dokumenti o mejnih točkah in mejni črti.

Geodetska uprava RS z vzpostavitvijo baze podatkov o državnih mejah Republike Slovenije in izdelavi spletne aplikacije za vodenje

Information redesign of the state border records

The state border register is the fundamental record of border points that determine the state border of the Republic of Slovenia, as well as documents on border points and the border line.

By establishing a database on the state borders of the Republic of Slovenia and creating an online application for the management and maintenance of data on state

in vzdrževanje podatkov o državnih mejah informatizira tudi to do sedaj več ali manj ročno vodeno evidenco.
Aplikacija omogoča delo več hkratnim uporabnikom na različnih lokacijah in zagotavlja naslednje sklope funkcij:

1.) Grafično pregledovanje podatkov.

Grafično pregledovanje mejnih objektov omogoča ekranski prikaz mejne črte in mejnih znakov v kombinaciji z drugimi podatki. Grafična podoba je enaka kot pri ostalih aplikacijah, ki so razvite za GURS v okviru eProstora.

2.) Opisno pregledovanje podatkov.

Pregledovanje opisnih lastnosti mejnih točk se izvaja kot tabelarični prikaz seznama zapisov.

3.) Vzdrževanje lokacijskih in opisnih podatkov mejnih točk (vnos novih, popravljanje opisnih podatkov, vnos nove slike, dokumentov).

Vzdrževanje lokacijskih (koordinate) in opisnih podatkov (opisi in dokumenti) se izvajajo posamično ali preko paketnega vnosa podatkov (več mejnih točk hkrati).

Posamično vzdrževanje omogoča brisanje, dodajanje, spreminjanje podatkov posameznega zapisa (ena mejna točka) v bazi podatkov. Paketni vnos podatkov omogoča vnos podatkov preko predhodno pripravljene datoteke z novimi podatki mejnih točk v dogovorjenem formatu (npr. xls). Aplikacija predhodno izvede logične kontrole o pravilnosti podatkov in v primeru napak (na primer koordinata ni v območju Slovenije, napaka pri tipu mejnika, številki sektorja, ...) izpiše opozorila na ekran in/ali posebno datoteko na lokalnem računalniku.

4.) Izračun oddaljenosti posrednih mejnih znakov od mejne črte in izračun razdalj med mejnimi znaki.

Izračun oddaljenosti vseh posrednih mejnih znakov od mejne črte se izvede vsakokrat po paketnem vnosu podatkov mejnih znakov (koordinate državnega koordinatnega sistema), po vsaki spremembi koordinat mejnega znaka (koordinate

borders, the Surveying and Mapping Authority of the Republic of Slovenia is also computerizing records that have been mostly kept in analogue form.
The application allows multiple simultaneous users to work in different locations and provides the following sets of features:

1.) Graphical data viewing.

Graphical viewing of border facilities is enabled by the screen display of the border line and border markers in combination with other data. The graphical design is the same as for other applications developed for SMARS within eProstor project.

2.) Descriptive review of data.

The review of the descriptive properties of border points is performed as a tabular display of the list of records.

3.) Maintenance of the location and descriptive data of border points (entry of new data, correction of descriptive data, entry of new images, documents).

Maintenance of positional (coordinates) and descriptive data (descriptions and documents) is performed individually or via batch data entry (several border points at the same time).

Individual maintenance allows the user to delete, add or change the data of an individual record (one border point) in the database. Batch data entry enables data entry via a pre-prepared file with new border point data in a pre-determined format (e.g. xls). The application pre-emptively performs logical checks on the correctness of the data and in case of errors (for example, when a coordinate is not in Slovenia, error in the type of border marker or sector number, ...), displays screen warnings and/or a special file on the local computer.

4.) Calculation of the distance of indirect border markers from the border line and calculation of the distances between border markers.

The calculation of the distance of all indirect border markers from the border line is performed each time after the batch entry of border marker data

državnega koordinatnega sistema) in po brisanju/vnosu novih lomnih točk.

5.) Generiranje mejne črte (v celotni dolžini).

Mejna črta se generira avtomatično po vsaki spremembi položajnih podatkov mejnih točk.

6.) Izdelava statističnih poročil meje.

Aplikacija omogoča standardna povpraševanja, kot so:

- dolžina vzdolž poteka mejnih točk na mejni črti (dolžina mejne črte, dolžina mejne črte sektorja),
- skupno število mejnih znakov, ki so v bazi opredeljeni s posamezno vrednostjo opisa za mejo ali sektor.

7.) Pregledovanje dokumentov (doc, pdf), povezanih z mejno točko oziroma mejnim znakom (slike teh znakov), izpis podatkov o eni mejni točki ali o skupini mejnih točk.

Aplikacija omogoča prikaz in arhiviranje dokumentov, ki so povezani s posameznim mejnim znakom oz. neoznačeno lomno točko. S tem se vidi tudi zgodovina dogodkov, ki so povezani s posamezno mejno točko.

8.) Izris načrtov, ki je specifičen za vsako mejo, po matrici.

Izrisi podatkov obsegajo pripravo končnega izrisa slike (mejnega načrta) v grafičnem pregledovalniku, njegovo tiskanje, izvoze in drugo. Izris mejnih znakov in mejne črte v grafičnem delu pregledovalnika skupaj z drugimi podatki (podlagami) v izbranem merilu (1 : 2000, 1 : 5000, 1 : 25.000 in 1 : 50.000). Z izborom merila in sosednje države (šifra meje) se izbere ustrezna matrica, ki je za vsako državo in merilo nekoliko drugačna (okvir, glava, izvenokvirna vsebina).

(coordinates of the national coordinate system), after each change of border marker coordinates (coordinates of the national coordinate system) and after the deletion/entry of new breaking points.

5.) Generating the border line (full length).

The border line is generated automatically after each change in the positional data of the border points.

6.) Production of border statistical reports.

The application enables standard queries such as:

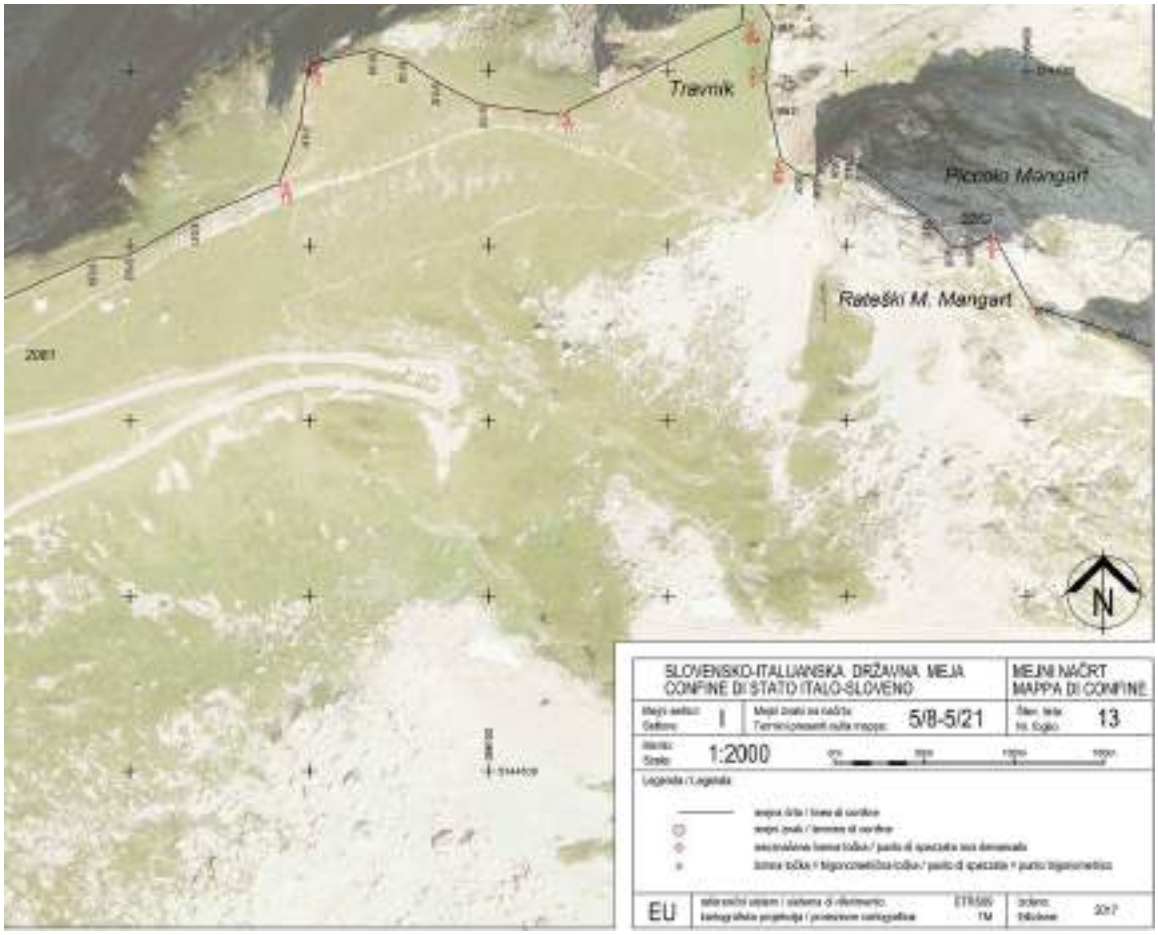
- length along the border points at the border line (length of the border line, length of the sector border line),
- the total number of border markers defined in the database by each value of the description for the border or sector.

7.) Review of documents (doc, pdf) related to a border point or border marker (images of these markers), a printout of the data on a single border point or on a group of border points.

The application enables the display and archiving of documents related to an individual border marker or unmarked breaking point. This also shows the history of events related to a particular border point.

8.) Drawing of plans, specific for each border, according to the template.

Data plots include the preparation of the final rendering of the image (border plan) in the graphic viewer, its printing, exporting and other operations. Drawing of border markers and the border line in the graphical part of the viewer together with other data (layers) in the selected scale (1 : 2000, 1 : 5000, 1 : 25,000 and 1 : 50,000). By selecting the scale and the neighbouring state (border code), the appropriate template is selected, which is slightly different for each state and criterion (frame, header, out-of-frame content).



Slika 12.3.1: Izris načrtov, ki je specifičen za mejo z Italijo.
(Vir: GURS – Tehnična dokumentacija)

Figure 12.3.1: Plotting of plans specific to the border with Italy.
(Source: SMARS – Technical documentation)

9.) Izvoz izbranih podatkov (za vse točke, za sektor, za zaporedje točk, za posamezno mejno točko, za poljubno naštete posamezne točke; po izboru z možnostjo izbora posameznih opisov) iz baze državne meje v različne formate (shp, dxf ...).

Aplikacija omogoča izvoz podatkov za vse izbrane mejne znake ali mejno črto iz centralne baze na lokalni računalnik. Izvoz je omogočen v vektorski (shp, dxf) in rastrski (tiff, jpg) obliki kot npr.:

9.) Export of selected data (for all points, for a sector, for a sequence of points, for an individual border point, for any individual points listed; optionally with the possibility of selecting individual descriptions) from the state border database in various formats (shp, dxf ...).

The application enables exporting data for all selected border markers or the border line from a central database to a local computer. Export is enabled in vector (shp, dxf) and raster (tiff, jpg) formats, including:

- možnost izbire koordinatnega sistema za izvoz (D48/GK ali D96/TM),
- izvoze podatkov vseh mejnih znakov ali mejnih točk ali mejne črte z izborom opisov,
- izvoz vsebine poljubno izbranih mejnih znakov (izbor grafično ali s seznama).

10.) Podpora izvajanju osnovnih postopkov na državni meji in vodenje podatkov o stanju mejnih znakov.

Osnovni postopki pri vzdrževanju podatkov o državni meji so brisanje, dodajanje in spreminjanje podatkov. Aplikacija omogoča tudi vodenje podatkov o opozorilih glede stanja mejnega znaka.

11.) Funkcionalnosti, ki so povezane z aplikacijo Kataster.
Aplikacija je povezana z informacijsko rešitvijo Kataster, zato vsebuje naslednje funkcionalnosti:

- povezave med točkami državne meje in katastrskimi točkami se vodijo v evidenci državne meje. Zaradi tega je v podatkovnem modelu zagotovljeno evidentiranje številke katastrske točke (šifra KO, številka točke znotraj KO),
- aplikacija DM ima dostop do podrobnejših podatkov Katastra (parcel in stavb),
- ob spremembi točke državne meje se sprememba posreduje v aplikacijo Kataster, v kateri se sproži ustrezen postopek spremembe katastrskih točk in posledično parcel v Katastru,
- plombiranje točk, kjer se izvaja sprememba točke na DM, se zagotavlja v aplikaciji Kataster,
- po spremembi katastrske točke na državni meji v aplikaciji Kataster se izvede poprava povezave točke državne meje s spremenjeno ali novo številko katastrske točke v aplikaciji DM.

12.) Izpis lastnikov parcel ob državni meji.

13.) Uporaba spletnih storitev.

- the option of selecting the coordinate system for export (D48/GK or D96/TM),
- exporting the data on all border markers, border points or border lines with a choice of descriptions,
- exporting the content of arbitrarily selected border markers (graphical selection, or from a list).

10.) Support for the implementation of basic procedures at the state border and the management of data on the status of border markers.

The basic procedures for maintaining state border data are deleting, adding and modifying data. The application also allows the management of data on alerts regarding the status of border markers.

11.) Functionalities related to the Kataster application.
The application is connected to the Kataster information solution, so it contains the following functionalities:

- links between state border points and land cadastral points are kept in the state border records. For this reason, it is ensured that the land cadastral point number is recorded in the data model (KO code of cadastral municipality, number of point within the cadastral municipality),
- the DM application has access to more detailed data from Kataster (parcels and buildings),
- when a change is made in a state border point, the change is forwarded to the Kataster application, which initiates the appropriate procedure for changing land cadastral points and consequently the parcels in Kataster,
- the sealing of points, where the point is being changed in the DM, is performed in the Kataster application,
- after changing a land cadastral point at the state border in the Kataster application, the connection between the state border point and the changed or new land cadastral point number is corrected in the DM application.

12.) List of owners of parcels along the state border.

13.) Use of online services.

Baza podatkov je vzpostavljena na enem mestu (centralno). Izveden je bil prepis vseh obstoječih podatkov iz obstoječega načina vodenja v centralno bazo.

Baza podatkov se za namen različnih prikazov podatkov na ekranu ali izdelavo dokumentov povezuje z drugimi bazami GU, posebej s topografskimi podatki in podatki o parcelah in stavbah.
Pri razvoju informacijskih sistemov so se uporabili skupni gradniki in horizontalne funkcije Ministrstva za javno upravo ter tisti, ki so bili razviti v okviru Programa projektov eProstor.

Podatki produkcije se prenašajo v distribucijsko okolje za namene posredovanja podatkov. Produkcijski sistem zagotavlja zapise spremembe v takšni obliki, da omogoča izročanje prostorskih podatkov za arhiviranje, kot je predpisano v Uredbi o varstvu dokumentarnega in arhivskega gradiva.

Arhitektura okolja samostojno omogoča dvosmerno integracijo z informacijskim sistemom Kataster.

The database is established in one location (centrally). All existing data from the existing management mode were transcribed to the central database.

The database connects with other SMARS databases, especially topographical data and data on parcels and buildings, for the purpose of various screen displays of data or the creation of documents.
The development of information systems included the use of common building blocks and horizontal functions of the Ministry of Public Administration (MPA), as well as those developed within the eProstor project program.

Production data is transferred to the distribution environment for data transmission purposes. The production system provides records of the change in such a form that it enables the delivery of spatial data for archiving, as prescribed in the Decree on the protection of documentary and archive material.

The architecture of the environment independently enables two-way integration with the Kataster information system.

12.4 Informacijska prenova Zbirnega katastra gospodarske javne infrastrukture (ZK GJI)

Informacijska prenova Zbirnega katastra gospodarske javne infrastrukture je namenjena vodenju in vzdrževanju ZK GJI in predstavlja temeljno nepremičninsko evidenco v Sloveniji, v kateri se evidentirajo objekti gospodarske javne infrastrukture:

- prometna infrastruktura (ceste, železnice, letališča, pristanišča),
- energetska infrastruktura (infrastruktura za prenos in distribucijo električne energije, zemeljskega plina, toplotne energije, nafte in naftnih derivatov),
- komunalna infrastruktura (vodovod, kanalizacija, odlagališča odpadkov),
- vodna infrastruktura,

Information redesign of the Consolidated Cadastre of Public Utility Infrastructure (ZK GJI)

The information redesign of the Consolidated Cadastre of Public Utility Infrastructure is intended for the management and maintenance of the ZK GJI and represents the fundamental real estate records in Slovenia, which records public utility infrastructure facilities:

- transport infrastructure (roads, railways, airports, ports),
- energy infrastructure (infrastructure for the transmission and distribution of electricity, natural gas, heat, oil and petroleum products),
- municipal infrastructure (water supply, sewerage, landfills),
- water infrastructure,
- infrastructure for the observation of natural phenomena and natural resources, infrastructure for the observation of the

- infrastruktura za opazovanje naravnih pojavov in naravnih virov, infrastruktura za opazovanje stanja okolja, infrastruktura za gospodarjenje z drugimi vrstami naravnega bogastva,
- druga omrežja in objekti v javni rabi (elektronske komunikacije) in
- omrežne priključne točke javnega komunikacijskega omrežja.

Osnovni namen ZK GJI je prikaz zasedenosti prostora z objekti gospodarske javne infrastrukture in omrežnimi priključnimi točkami javnega komunikacijskega omrežja za območje celotne države, kar nam omogoča smotrnejše urejanje prostora in varnejše izvajanje posegov v prostor.

Informacijska rešitev ZK GJI, ki jo sofinancirata Republika Slovenija in Evropska unija iz Evropskega sklada za regionalni razvoj iz prednostne osi »2. Povečanje dostopnosti do informacijsko-komunikacijskih tehnologij ter njihove uporabe in kakovosti«, prednostne naložbe »2.2 Krepitev aplikacij IKT za e-upravo, e-učenje, e-vključenost, e-kulturo in e-zdravje«, nadomešča obstoječo informacijsko rešitev, ki jo je GURS uporabljala za vodenje podatkov o gospodarski javni infrastrukturi.

Informacijska rešitev ZK GJI upošteva določila uredb in tehničnih smernic INSPIRE. Informacijska prenova Zbirnega katastra gospodarske javne infrastrukture je povezljiva z ostalimi informacijskimi rešitvami GURS, ki so bile izvedene v okviru projekta eProstor:

- informacijska prenova nepremičninskih evidenc (Kataster),
- modeliranje procesov in oblikovanje organizacije,
- distribucijsko okolje.

Pri načrtovanju informacijske prenove ZK GJI so bila upoštevana določila veljavne zakonodaje s področja graditve objektov, prostorskega načrtovanja, evidentiranja nepremičnin, elektronskega in upravnega poslovanja in druge veljavne področne zakonodaje.

Rešitev omogoča dolgoročno hrambo in revizijske sledi vseh digitalnih vsebin, ki nastajajo v posameznih sistemih, ter njihove časovne žige (datum in čas spremembe za npr. vnos, izbris, vpogled,

state of the environment, infrastructure for the management of other types of natural resources,
- other networks and facilities in public use (electronic communications) and
- connection points of the public communications network.

The basic purpose of the ZK GJI is to show the occupancy of space by public utility infrastructure facilities and network connection points of the public communication network for the entire territory of the state, which enables more efficient spatial planning and the safer implementation of spatial interventions.

The ZK GJI information solution, co-financed by the Republic of Slovenia and the European Union from the European Regional Development Fund from the priority axis »2. Increasing access to information and communication technologies, their use and quality«, priority investment »2.2 Strengthening ICT applications for e-government, e-learning, e-inclusion, e-culture and e-health« replaces the existing information solution used by SMARS to manage data on public utility infrastructure.

The ZK GJI information solution is compliant with the provisions of the INSPIRE regulations and technical guidelines. The Information redesign of the Consolidated Cadastre of Public Utility Infrastructure is compatible with other information solutions of the SMARS, which were implemented within the eProstor project:

- information redesign of real estate records (Kataster),
- process modelling and organization design,
- distribution environment.

The planning of the information renovation of the ZK GJI took into account the provisions of the applicable legislation in the field of building construction, spatial planning, real estate registration, electronic and administrative operations, and other applicable sectoral legislation.

The solution enables the long-term storage and audit trails of all digital content generated in individual systems, as well as their timestamps (date and time

spremembo itd.). Omogočena je učinkovita dolgoročna hramba skladno z Zakonom o varstvu dokumentarnega in arhivskega gradiva ter arhivih (ZVDAGA).

Sistem je zgrajen na način, da je odprt, nadgradljiv in razširljiv glede:

- integracij z drugimi sistemi,
- spreminjanja in dopolnjevanja funkcionalnosti,
- večanja obsega in količine podatkov,
- notranje organizacije uporabnikov in
- večanja števila uporabnikov.

Sistem omogoča pravico uporabljati informacijsko rešitev ZK GJI:

- vlagatelju zahteve za vpis objektov v ZK GJI, kot je;
  - upravljavec GJI – gospodarska družba/pravni subjekt,
  - izvajalec gospodarske javne službe (GJS) – gospodarska družba/pravni subjekt, ki v imenu upravljavca GJI gospodari z GJI (izvaja javno službo, vzdrževanje infrastrukture ipd.) – po pooblastilu upravljavca GJI in
  - geodetsko podjetje z dovoljenjem za opravljanje geodetskih storitev/inženirske dejavnosti – po pooblastilu upravljavca GJI,
- zaposlenim na GURS.

Informacijska rešitev ZK GJI zagotavlja:

- izvajanje vseh aktivnosti v vseh procesih; nekatere aktivnosti izvajajo uporabniki preko vmesnikov, lahko v kombinaciji z uporabo drugih rešitev (klici storitev), nekatere avtomatsko (izvaja rešitev samostojno, npr. preverjanje podatkov, razporejanje vlog izvajalcem), nekatere pa se izvajajo s klici storitev drugih rešitev; implementirano je izvajanje poslovnih pravil, kjer je mogoče avtomatsko na podlagi podatkov, sicer pa opozarja uporabnike na preverjanje poslovnih pravil,
- usmerjanje izvajanja procesov oz. delovnih tokov; usmerjanje je avtomatsko, na podlagi opredeljenih poslovnih pravil (npr. v primeru odločitve v predhodni aktivnosti se avtomatsko usmeri na izvajanje naslednje aktivnosti in dodeli ustreznemu izvajalcu) ali ročno (uporabnik sam določi izvajalca aktivnosti); posamezen uporabnik ima na voljo seznam odprtih nalog,
- zajem in upravljanje vseh podatkov, potrebnih za izvajanje

of change of an entry, deletion, insight, change, etc.). Effective long-term storage is provided in accordance with the Protection of Documents and Archives and Archival Institutions Act (ZVDAGA).

The system is built in such a way that it is open, upgradeable and scalable in terms of:

- integrations with other systems,
- changing and supplementing functionality,
- increasing the volume and amount of data,
- internal user organization, and
- increasing the number of users.

The system enables the right to use the ZK GJI information solution:

- to the applicant for the registration of facilities in the ZK GJI, such as;
  - the GJI manager - company/legal entity,
  - public utility service provider (GJS) - a company/legal entity that manages the GJI on behalf of the GJI manager (performs public services, infrastructure maintenance, etc.) - by authorization of the GJI manager, and
  - surveying company with a license to provide surveying services/engineering activities - by authorization of the GJI manager,
- employees at SMARS.

The ZK GJI information solution provides:

- implementation of all activities in all processes; some activities are performed by users via interfaces, potentially in combination with the use of other solutions (service calls), some are automatic (the solution is performed independently, e.g. data verification, scheduling of forms for contractors), and some are performed by service calls of other solutions; a business code is implemented, automatically on the basis of data where possible, otherwise it warns users to verify business rules,
- directing the implementation of processes or workflows; direction is either automatic, based on defined business rules (e.g. in the case of a decision in a previous activity, it is automatically

procesov; podatke se zajema z vnosom preko uporabniških vmesnikov, iz izmenjevalnih datotek, pridobiva iz drugih rešitev ali avtomatsko zajema (npr. časi za spremljanje izvajanja procesov),

- pripravo dokumentov na podlagi predlog, ki so predizpolnjene s podatki, ki so na voljo,
- pošiljanje in vročanje dokumentov,
- zajem in upravljanje dokumentov, ki so potrebni za izvajanje procesa ali nastanejo v času izvajanja procesa; pri tem se informacijska rešitev naslanja na mikrostoritve informacijskega sistema »Krpan«,
- vodenje razpoložljivosti kadrov – izvajalcev aktivnosti,
- razdeljevanje dela med zaposlene; omogočeno je avtomatsko razporejanje dela, pa tudi ročno prerazporejanje,
- zagotavljanje revizijske sledi in verzioniranja podatkov (vloge in postopka) ter dokumentnega gradiva,
- spremljanje izvajanja procesov;
    - stanje zadev na posameznih aktivnostih, po vlagateljih in referentih,
    - zajemanje podatkov za potrebe izračuna KPI (Key Performance Indicator – ključni indikatorji uspešnosti),
    - izračun in prikaz ključnega števila KPI, ki se naslanjajo na podatke, nastajajoče v informacijski rešitvi ZK GJI,
    - zagotavljanje podatkov zunanjim aplikacijam, namenjenim izdelavi naprednih statistik.

Omogočeno je vodenje postopkov za posamezno zadevo. Obstaja enostavna povezava med elaboratom in vlogo, kar pomeni en elaborat – ena vloga – ena zadeva.

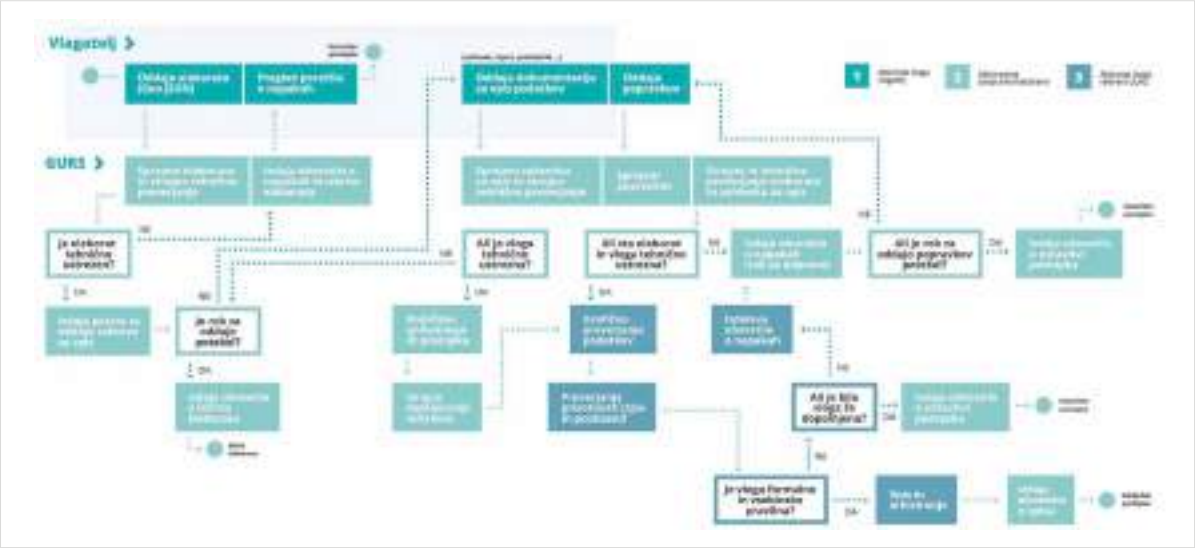
Potek ugotovitvenega procesa, ki je implementiran v informacijski rešitvi ZK GJI, je prikazan na sliki spodaj.

directed to the implementation of the next activity and assigned to the appropriate contractor) or manual (the user determines the contractor); each user has a list of open tasks available,

- capturing and managing all the data required to run the processes; data can be captured by input via user interfaces, from exchange files, obtained from other solutions or captured automatically (e.g. times for monitoring the implementation of processes),
- preparation of documents on the basis of templates pre-completed with available data,
- sending and serving documents,
- capturing and managing documents necessary for the implementation of the process or generated during the implementation of the process; the information solution is based on the micro-services of the »Krpan« information system,
- managing the availability of staff – contractors,
- delegating work to employees; the automatic scheduling of work is enabled, as well as manual reassignment,
- an audit trail and versioning of (application and procedure) data and documentary material,
- monitoring the implementation of processes;
    - the state of matters in individual activities, by applicants and clerks,
    - capturing data for the purposes of calculating KPIs (Key Performance Indicators),
    - calculation and display of the key number of KPIs based on the data generated in the ZK GJI information solution,
    - provision of data to external applications for the production of advanced statistics.

The management of processes is enabled for each individual case. There is a simple connection between the report and the application, namely one report - one application - one case.

The course of the identification process, which is implemented in the ZK GJI information solution, is shown in the figure below.



Slika 12.4.1: Procesni model ZK GJI.
(Vir: GURS – Tehnična dokumentacija)

Figure 12.4.1: The ZK GJI process model.
(Source: SMARS – Technical documentation)

Funkcionalnosti, ki so vključene v informacijsko rešitev, omogočajo:

- sprejem podatkov,
- strojno tehnično preverjanje podatkov,
- brisanje elaboratov,
- izdelavo poročil, obvestil in pozivov,
- obveščanje uporabnikov,
- številčenje, verzioniranje in zagotavljanje revizijske sledi podatkov ter postopkov,
- grafično in opisno pregledovanje podatkov,
- 3D pregledovanje,
- povezovanje s sistemom Katastra,
- pregledovanje dokumentnega gradiva in metapodatkov in
- arhiviranje podatkov,

in naslednje podporne funkcionalnosti:

- upravljanje uporabnikov,
- sistemski nadzor nad delovanjem,
- upravljanje nastavitev procesov,
- organizacija dela,
- pomoč uporabnikom,

The functionalities included in the information solution enable:

- reception of data,
- mechanical technical verification of data,
- deleting reports,
- preparation of reports, notifications and calls,
- informing users,
- numbering, versioning and providing an audit trail of data and procedures,
- graphical and descriptive data review,
- 3D viewing,
- connection with the Kataster system,
- review of documentary material and metadata, and
- data archiving,

and the following support functionalities:

- user management,
- system control over operations,
- managing process settings,
- work organization,
- customer support,
- document template management,

- upravljanje predlog dokumentov,
- upravljanje s šifranti,
- upravljanje strukture elaborata in preverb podatkov,
- vodenje statistik postopkov in izračun kazalnikov uspešnosti,
- povezovanje z registri in informacijskimi rešitvami,
- vzpostavitev začetnega stanja,
- vodenje in vzdrževanje metapodatkov,
- dodajanje oziroma spreminjanje navodil za uporabo in drugih gradiv vključenih v ZK GJI,
- statistike in seznami podatkov,
- urejanje nastavitev zalog vrednosti podatkovnega modela,
- urejanje nastavitev delovanja programske opreme in
- določitev lastnosti grafičnih prikazov posameznega sloja.

Aplikacija je nadgradila dotedanjo rešitev – dotedanji podatkovni model ZK GJI v 2,5 oz. 3D podatkovni model ZK GJI.

- code list management,
- management of the structure of the report and data verifications,
- keeping statistics of procedures and calculating performance indicators,
- connecting with registers and information solutions,
- restoring the initial state,
- management and maintenance of metadata,
- adding or changing instructions for use and other materials included in the ZK GJI,
- statistics and data lists,
- editing data model value inventory settings,
- editing software operation settings, and
- determining the properties of graphic representations of each layer.

The application upgraded the previous solution - the previous ZK GJI data model to the 2.5 or 3D ZK GJI data model.

13 Državni računalniški oblak - DRO

Storitve računalništva v oblaku so v poslovnem svetu zelo razširjene. V javnem sektorju pa je poraba teh storitev manjša in njihovo vpeljevanje poteka postopno. Da se je javni sektor odločil za reševanje informacijskih zagat v sklopu računalniškega oblaka je narekovalo dejstvo, da ob krčenju proračunov za informacijske in komunikacijske tehnologije (IKT) in ob hkratni zahtevi državljanov po kakovostnih e-storitvah brez racionalizacije in konsolidacije virov tega ne bo mogoče zagotavljati.

Vlada RS je na podlagi analize stanja in strateških dokumentov na nivoju državne uprave sprejela ukrepe, ki so v letu 2015 vodili k reorganizaciji državne informatike in k vzpostavitvi državnega računalniškega oblaka (DRO).

Vse pristojnosti in zadolžitve so v domeni Ministrstva za javno upravo. Za učinkovito informatiko, ki združuje različna in med seboj povezana področja, državna uprava potrebuje rešitve, ki so podprte s takšno tehnologijo, ki to omogoča na najbolj racionalen način. Hitro in zanesljivo delovanje lahko zagotavlja le s centralnim informacijsko-komunikacijskim omrežjem, po katerem teče množica podatkov, ki so ustrezno informacijsko varovani. Da je delovanje med organi čim bolj preprosto in elektronsko, so bile razvite različne skupne informacijske rešitve oziroma storitve, ki so na voljo državljanom in gospodarstvu. Državni računalniški oblak (DRO) predstavlja računalniško infrastrukturo za neposredne proračunske uporabnike in jim nudi shranjevalne, razvojne, poslovne in druge zmogljivosti v obliki storitev ter možnost, da z uporabo koncepta računalništva v oblaku hitro dosežejo svoje poslovne cilje. Infrastruktura je v lasti in upravljanju države, na njej se izvajajo storitve, ki uporabljajo občutljive, osebne in druge podatke ter informacije, ki jih država ne želi shranjevati izven svojega okolja.

DRO je logična celota podporne infrastrukture ter strojne in računalniške programske opreme. Obsega npr. sisteme UPS, strežniške rezine, različne diskovne sisteme, dostopovne terminale, različne virtualizacijske platforme, operacijske sisteme, lastniško in odprtokodno programsko opremo, nadzorne sisteme, upravljavske sisteme, strojno in programsko definirane mrežne komponente itd.

National cloud computing - DRO

Cloud computing services are very common in the business world. In the public sector, however, the usage of these services is lower and their introduction has been gradual. The public sector's decision to solve information issues with cloud computing was dictated by the fact that with the reduction of budgets for information and communication technologies (ICT), it would be impossible to meet the simultaneous demand of citizens for quality e-services without the rationalization and consolidation of resources.

Based on the analysis of the situation and strategic documents at the level of the state administration, the Government of the Republic of Slovenia adopted measures that in 2015 led to the reorganization of state informatics and the establishment of the national computing cloud (DRO).

All responsibilities and duties are in the domain of the Ministry of Public Administration. For efficient informatics that combines different and interconnected areas, the state administration requires solutions that are supported by technology that enables this in the most rational way. It can only ensure fast and reliable operation with a central information and communication network, through which flows a multitude of data that is adequately protected. In order to make the operation between the authorities as simple as possible and electronic, various common information solutions or services have been developed and are available to citizens and the economy. National cloud computing (DRO) is a computing infrastructure for direct state budget users, providing storage, development, business and other capabilities in the form of services and the ability to quickly achieve their business goals using the concept of cloud computing. The infrastructure is owned and operated by the state and provides services that use sensitive, personal and other data and information that the state does not want to store outside its environment.

DRO is a logical whole of support infrastructure, hardware and software. It includes e.g. UPS systems, blade servers, various disk systems, access terminals, various virtualization platforms, operating

Temelj računalniškega oblaka DRO je virtualizacija strojnih virov, ki so razporejeni v tri logične skupine (podatkovne centre) na dveh lokacijah (Ljubljana, Maribor).

V DRO so pripravljene ali v pripravi storitve za zelo različna področja. DRO tako ponuja npr. storitev centralne elektronske pošte, storitev hrambe elektronskih dokumentov, storitev centralnega varnostnega kopiranja, storitev univerzalne hrambe objektov (dokumentov, zadev, multimedijskih datotek), skupne gradnike (Varnostna shema, SI-CAS, SI-CES, Pladenj, IO-modul, Piwik, iskalnik, elektronski podpis, časovno žigosanje, elektronsko vročanje, spletno odložišče velikih datotek, storitveno vodilo), gostovanja informacijskih sistemov in spletnih predstavitvenih mest itn. vključno s storitvami s področja informacijske varnosti.

Z vzpostavitvijo Državnega računalniškega oblaka je vpeljana politika odprtih standardov, zagotovljena je povezljivost storitev, vzpostavljena enovita storitvena platforma na temelju skupne arhitekture za potrebe izboljšanja dostopnosti javnih storitev državljanom, zagotovljena je razpoložljivost storitev od kjerkoli in kadarkoli ter poskrbljeno je za učinkovito informacijsko varnost.

Preko Centralnega komunikacijskega omrežja državne uprave (HKOM) se zagotavlja varen prenos podatkov in varen dostop do interneta, saj ves promet poteka v centralnem sistemu zaznavanja in preprečevanja vdorov ter požarnih pregrad, visoko prepustnost, vidnost e-storitev v internetu in druge pomembne pripadajoče storitve, kot so javni prostor, videokonference, dostop koncesionarjem, povezava v omrežja Evropske unije.

To omogoča na državni ravni zagotovljen tehnološko dovršen centralni komunikacijski sistem, na katerega je priključenih 1100 lokacij, 2000 lokalnih mrež in 30.000 uporabnikov.

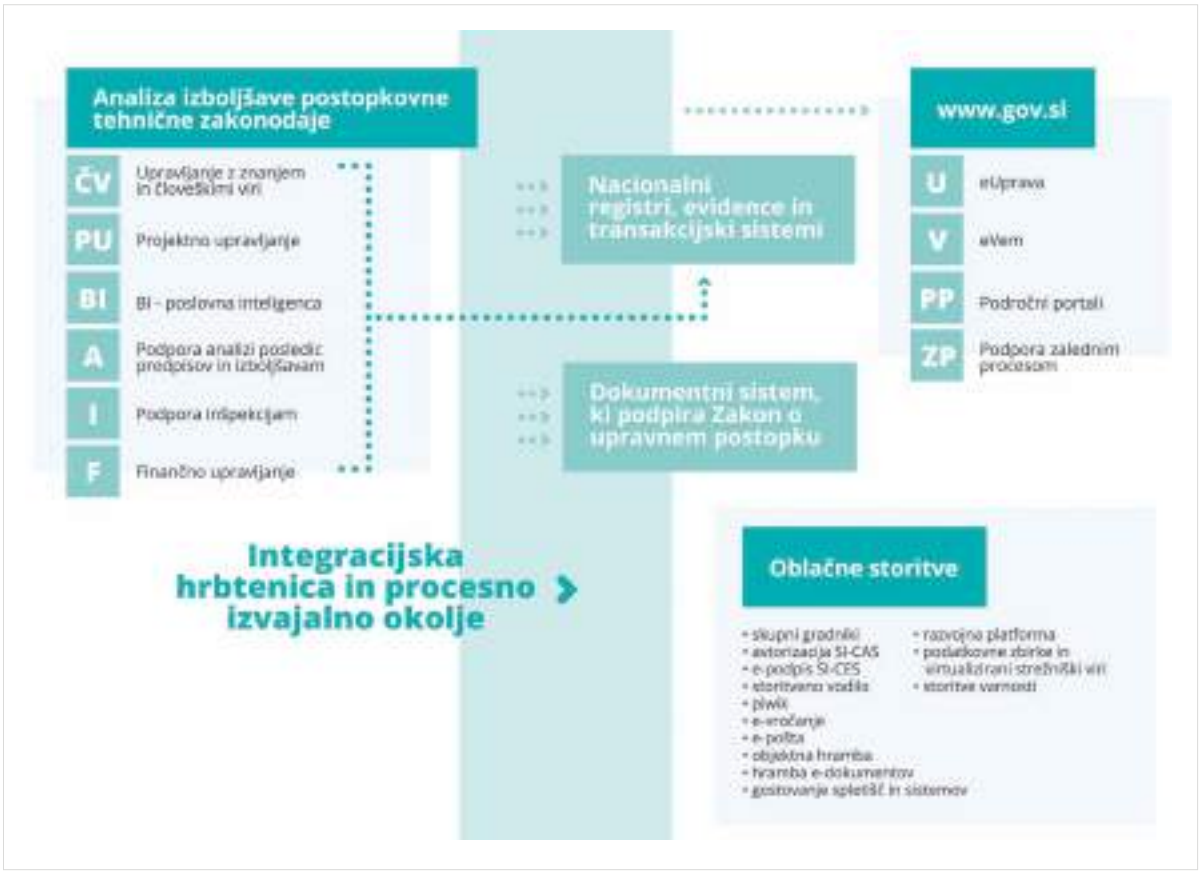
systems, proprietary and open-source software, control systems, management systems, hardware- and software-defined network components, etc. The foundation of the DRO cloud is the virtualization of machine resources, which are arranged in three logical groups (data centres) at two locations (Ljubljana and Maribor).

Within DRO, services are prepared or are being prepared for very different areas. DRO thus provides e.g. a central e-mail service, an electronic document storage service, a central backup service, a universal storage service for objects (documents, cases, multimedia files), common building blocks (Security scheme, SI-CAS, SI-CES, Pladenj, IO-module, Piwik, search engine, electronic signature, time stamping, electronic delivery, online storage of large files, service bus), the hosting of information systems and web presentation sites etc., including information security services.

The establishment of National cloud computing introduced a policy of open standards, ensured service connectivity, established a unified service platform based on a common architecture for »improving the accessibility of public services for citizens«, and ensured service availability anytime and anywhere.

The Central Public Administration Communication Network (HKOM) provides secure data transmission and internet access, as all traffic goes through the central system of the detection and prevention of intrusions and firewalls, high throughput, the visibility of e-services and other relevant related services, such as public space, video conferencing, access to concessionaires and connection to European Union networks.

This is made possible by a country-level »technologically advanced central communication system«, connecting to 1,100 locations, 2,000 local networks and 30,000 users.



Slika 13.1: Zasnova državnega računalniškega oblaka. (Vir: MJU)

Figure 13.1: The design of National cloud computing. (Source: MJU)

Geodetska uprava je za izdajanje in povezovanje podatkov za potrebe izvajanja nalog organov državne uprave, javnih agencij, organov samoupravnih lokalnih skupnosti, izvajalcev javnih pooblastil in drugih uporabnikov vključena v računalniško okolje v okviru centralne informacijske komunikacijske infrastrukture – državni računalniški oblak.

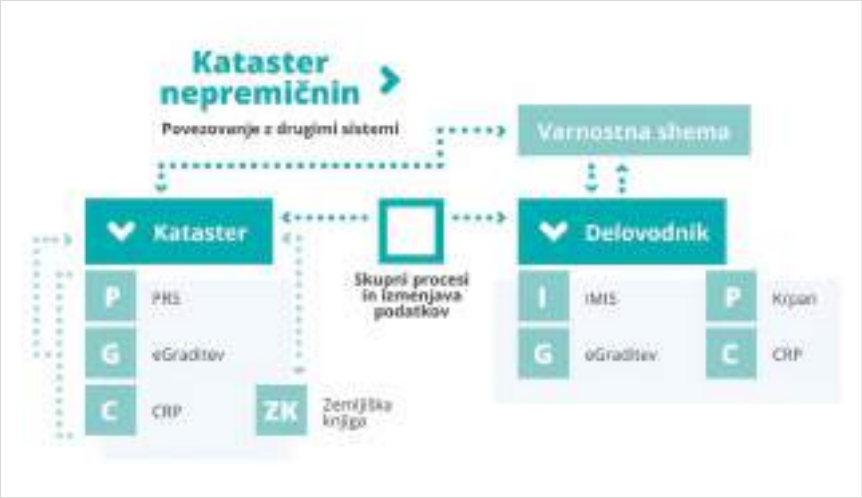
Za shranjevanje, upravljanje in obdelavo podatkov namesto lokalnega strežnika ali osebnega računalnika uporablja mrežo oddaljenih strežnikov, gostujočih na internetu. Torej so prostorski podatki del spletnih – omrežnih storitev.

The Surveying and Mapping Authority is included in the computer environment within the central information communication infrastructure - the state computer cloud - for issuing and linking data for the needs of performing tasks of state administration bodies, public agencies, bodies of self-governing local communities, public authorities and other users.

Instead of a local server or personal computer to store, manage and process data, it employs a network of remote web-hosted servers. Thus, spatial data is part of the online – network services.

Začetki prenosa podatkov geodetske službe na skupno platformo segajo v leto 1997, ko se je, takrat še pod okrilje Centra za informatiko, postavil dostop do baze registra prostorskih enot skupaj z internetnim pregledovalnikom. Od leta 2002 je preko internetnega pregledovalnika dostopen zemljiški kataster. Od leta 2005 pa se preko enotne vstopne točke dostopa tudi do podatkov distribucije.

The beginnings of the transfer of data from the Surveying and Mapping Authority to a common platform date back to 1997, when access to the database of the register of spatial units together with an online browser was established under the Centre for Informatics. Since 2002, the land cadastre has been accessible via an internet browser. Since 2005, distribution data can also be accessed through a single entry point.



Slika 13.2: Delovanje prenovljenih aplikativnih rešitev nepremičninskih evidenc znotraj DRO.
(Vir: GURS)

Figure 13.2: Operation of redesigned application solutions for real estate records within DRO.
(Source: SMARS)

Tehnološko okolje informacijskega sistema, tako distribucijskega kot produkcijskega, bo v prihodnje v celoti nameščeno na obstoječo infrastrukturo v upravljanju Ministrstva za javno upravo, Direktorata za informatiko (MJU/DI).

Za hrambo dokumentov se uporablja namenski IMiS/Arc strežnik, ki ima ustrezno konfiguriran nivo zajema revizijske sledi.

Preko centralne storitve SI-CAS se zagotavlja preverjanje identitet, varnost, zaupanje in zanesljivost pri ugotavljanju identitete uporabnikov informacijskih rešitev v okviru javnega sektorja.

The technological environment of the information system, both the distribution and production parts, will in future be fully integrated into the existing infrastructure managed by the Ministry of Public Administration, Directorate for Informatics (MJU/DI).

Documentation is stored in a dedicated IMiS/Arc server with a properly configured level of audit trail recording.

The central SI-CAS service ensures identity verification, security, trust and reliability in establishing the identity of users of information solutions within the public sector.

14 Za osvežitev spomina

Johann Carl Friedrich Gauss, nemški matematik, astronom, fizik in geodet, je bil rojen 30. aprila 1777 v Braunschweigu, umrl 23. februarja 1855 v Göttingenu.

Pred natanko 200 leti se je vsestranski znanstvenik, ki sodi med tri največje matematične genije, kar jih premore človeštvo, začel ukvarjati z geodezijo.

Po naročilu angleškega kralja Jurija IV. je Gauss meril triangulacijo v hanovrskem kraljestvu na severu Nemčije in za vrednotenje meritev uporabil svojo metodo izravnave po metodi najmanjših kvadratov, ki je odtlej postala pravilo izravnave v vsej geodeziji, matematiki, statistiki itd.

Sredi 90. let prejšnjega stoletja (ko je bila nemška marka sinonim za evropske valute, še posebej za narode Jugoslavije) je bil njegov lik upodobljen na bankovcu za 10 DM.

To refresh your memory

Johann Carl Friedrich Gauss, German mathematician, astronomer, physicist and surveyor, was born on 30 April 1777 in Braunschweig, and died on 23 February 1855 in Göttingen.

Exactly 200 years ago, this multidisciplinary scientist, one of the three greatest mathematical geniuses of mankind, started studying geodesy.

By order of King George IV of England, Gauss measured triangulation in the kingdom of Hanover in northern Germany and used his method of least-squares adjustment to evaluate the measurements, which has since become the rule for adjustment in all geodesy, mathematics, statistics, etc.

In the mid-1990s (when the German mark was synonymous with European currencies), his image was depicted on a 10 DM banknote.

(Vir: Wikipedija)

(Source: Wikipedia)

Na eni strani bankovca je naslikan Gauss s svojo krivuljo pred svojo univerzo in astronomskim observatorijem v Göttingenu, na drugi strani bankovca pa sta narisana njegov sekstant in njegova triangulacija.

One side of the banknote shows Gauss's silhouette in front of his university and the astronomical observatory in Göttingen, and the other side shows his sextant and his triangulation.

Pred 400 leti – leta 1620 je Edmund Gunter z Oxforda razvil računsko pripravo z eno logaritemsko lestvico.

To leto lahko štejemo kot rojstni dan **logaritemskega računala** (po domače imenovano »reh'nšiber«, iz nemške besede Rechenschieber). To je preprost analogni računalnik, podoben ravnilu, po navadi sestavljen iz treh vpetih umerjenih tračnih letev in drsečega okvirja. V splošnem se je uporabljal do leta 1970, ko so ga zamenjala elektronska računala.

400 years ago, in 1620, Edmund Gunter from Oxford developed a computational device with a single logarithmic scale.

This year can be considered the birth year of the **logarithmic computer**, i.e. slide rule (colloquially named »reh'nšiber«, from the German word Rechenschieber). It is a simple analogue computer, similar to a ruler, usually consisting of three clamped calibrated strip bars and a sliding frame. It was commonly used until 1970, when it was replaced by electronic computers.

(Fotografija: Janez Slak)

(Photo: Janez Slak)

V geodetski stroki se je kot koristen pripomoček uporabljal pri računanju tahimetrije (izračun horizontalne dolžine na podlagi izmerjenega vertikalnega kota in poševne dolžine) in upoštevanju skrčka ob kartiranju detajla, ko je bilo treba posamezno dolžino korigirati za skrček (raztezka) papirja.

In the field of geodesy, it was a useful tool in calculating tachymetry (the calculation of horizontal length based on measured vertical angle and oblique length) and identifying shrinkage when mapping details, when an individual length had to be corrected due to paper shrinkage.

Le 40 let (1980) je od tega, ko je na trg prišla zgoščenka (angleško CD), **kompaktni disk,** ki se danes uporablja za zapisovanje digitalnih podatkov. Čeprav je bil v osnovi razvit za shranjevanje digitalnega zvočnega signala, je nadaljnji razvoj doprinesel vsesplošno uporabnost takega medija za shranjevanje vseh do tedaj na papirju shranjenih podatkov.

It has been only 40 years (1980) since the introduction of the CD - **the compact disc**, used today to record digital data. Although it was originally developed to store a digital audio signal, further development contributed to the general usability of this medium for storing all data that had been recorded on paper up until then.

(Vir: Wikipedija)

(Source: Wikipedia)

Viri in literatura

- Ferlan, M. 2005. Geodetske evidence. Ljubljana, Univerza v Ljubljani, Fakulteta za gradbeništvo in geodezijo, Oddelek za geodezijo.
- Grilc M., Pogorelčnik E., Triglav M., Pegan - Žvokelj B. 2003. Vzpostavitev katastra stavb – registrski podatki, Geodetski vestnik 47/3
- https://www.dolenjskilist.si/media/arhiv-pdf/dl/1953/DL_1953_11_20_46_0193.pdf, pridobljeno februar 2020
- https://encrypted-tbn0.gstatic.com/images?q=tbn%3AANd9GcQpdhkWnK5vrie3VZ0-oX_HKidmcS5d9OxT9A&usqp=CAU, pridobljeno junij 2020
- https://www.libelice.si/wp-content/uploads/2009/06/Libelice-1920-19221.pdf, pridobljeno junij 2020
- https://www.publicdomainpictures.net/pictures/10000/nahled/33-1204659378q2xs.jpg, pridobljeno julij 2020
- https://nio.gov.si/nio/asset/drzavni+racunalniski+oblak+dro, pridobljeno julij 2020
- Klarič, M. 1987. Obnova zemljiškega katastra. Ljubljana, Geodetski vestnik.
- Krašovec, D. 2016. Računalništvo v oblaku v državni upravi. Fakulteta za računalništvo in informatiko.
- Korošec, B. 1978. Naš prostor v času in projekciji, Oris razvoja zemljemerstva, kartografije in prostorskega urejanja na osrednjem Slovenskem. Ljubljana, Geodetski zavod Republike Slovenije.
- Kresevič, P. 2008. Popis nepremičnin kot metoda nabora podatkov za ... planiranje. Diplomsko delo, Ljubljana: FGG – Fakulteta za gradbeništvo in geodezijo.
- Kupic A., Mivšek E., Kogovšek A. (2001). Pregled razvoja digitalnih baz zemljiškega katastra v zadnjem desetletju. Ljubljana, Geodetski vestnik.
- Mladenović, U. 2002. G2G v Zemljiškem katastru. Ljubljana, Geodetski vestnik.
- Mladenović, U. 2003. Distribucijsko okolje geodetskih podatkov. Ljubljana, Geodetski vestnik.
- Mlakar, G. 1986. Kataster 1, Zemljiški kataster in zemljiška knjiga. Ljubljana, Tehniška založba Slovenije.
- Navodilo o preoštevilčbi stavbnih parcel v zemljiškem katastru. (Uradni list SRS, št. 15/1984)
- Navodilo o prevedbi starih imen rabe zemljišč v kategorije po nomenklaturi pravilnika o vodenju vrst rabe zemljišč. (Uradni list SRS, št. 1/1989).
- Navodilo o uvedbi novih katastrskih kultur v zemljiškokatastrski operat. (Uradni list SRS, št. 35/1983).
- Navodilo o začetku uradne uporabe digitalnega katastrskega načrta (Uradni list RS, št. 57/1999).
- Navodilo za ugotavljanje in zamejničenje posestnih meja parcel (Uradni list SRS, št. 2/1976, 6/1987).
- Odlok o uvedbi evidence nepremičnin splošnega ljudskega premoženja (UL LRS, št. 46/57).
- Osnovne značilnosti digitalnega katastrskega načrta. (1998). Ljubljana, Geodetska uprava Republike Slovenije.
- Portal javnih naročil, Vključitev prenovljenih procesov v prenovljen

Sources and literature

- Ferlan, M. 2005. Geodetske evidence. Ljubljana, Univerza v Ljubljani, Fakulteta za gradbeništvo in geodezijo, Oddelek za geodezijo.
- Grilc M., Pogorelčnik E., Triglav M., Pegan - Žvokelj B. 2003. Vzpostavitev katastra stavb – registrski podatki, Geodetski vestnik 47/3
- https://www.dolenjskilist.si/media/arhiv-pdf/dl/1953/DL_1953_11_20_46_0193.pdf, accessed in February 2020
- https://encrypted-tbn0.gstatic.com/images?q=tbn%3AANd9GcQpdhkWnK5vrie3VZ0-oX_HKidmcS5d9OxT9A&usqp=CAU, accessed in June 2020
- https://www.libelice.si/wp-content/uploads/2009/06/Libelice-1920-19221.pdf, accessed in June 2020
- https://www.publicdomainpictures.net/pictures/10000/nahled/33-1204659378q2xs.jpg, accessed in June 2020
- https://nio.gov.si/nio/asset/drzavni+racunalniski+oblak+dro, accessed in July 2020
- Klarič, M. 1987. Obnova zemljiškega katastra. Ljubljana, Geodetski vestnik.
- Krašovec, D. 2016. Računalništvo v oblaku v državni upravi. Fakulteta za računalništvo in informatiko.
- Korošec, B. 1978. Naš prostor v času in projekciji, Oris razvoja zemljemerstva, kartografije in prostorskega urejanja na osrednjem Slovenskem. Ljubljana, Geodetski zavod Republike Slovenije.
- Kresevič, P. 2008. Popis nepremičnin kot metoda nabora podatkov za ... planiranje. Diplomsko delo, Ljubljana: FGG – Fakulteta za gradbeništvo in geodezijo.
- Kupic A., Mivšek E., Kogovšek A. (2001). Pregled razvoja digitalnih baz zemljiškega katastra v zadnjem desetletju. Ljubljana, Geodetski vestnik.
- Mladenović, U. 2002. G2G v Zemljiškem katastru. Ljubljana, Geodetski vestnik.
- Mladenović, U. 2003. Distribucijsko okolje geodetskih podatkov. Ljubljana, Geodetski vestnik.
- Mlakar, G. 1986. Kataster 1, Zemljiški kataster in zemljiška knjiga. Ljubljana, Tehniška založba Slovenije.
- Navodilo o preoštevilčbi stavbnih parcel v zemljiškem katastru. (Uradni list SRS, št. 15/1984)
- Navodilo o prevedbi starih imen rabe zemljišč v kategorije po nomenklaturi pravilnika o vodenju vrst rabe zemljišč. (Uradni list SRS, št. 1/1989).
- Navodilo o uvedbi novih katastrskih kultur v zemljiškokatastrski operat. (Uradni list SRS, št. 35/1983).
- Navodilo o začetku uradne uporabe digitalnega katastrskega načrta (Uradni list RS, št. 57/1999).
- Navodilo za ugotavljanje in zamejničenje posestnih meja parcel (Uradni list SRS, št. 2/1976, 6/1987).
- Odlok o uvedbi evidence nepremičnin splošnega ljudskega premoženja (UL LRS, št. 46/57).
- Osnovne značilnosti digitalnega katastrskega načrta. (1998). Ljubljana, Geodetska uprava Republike Slovenije.
- Portal javnih naročil, Vključitev prenovljenih procesov v prenovljen informacijski sistem nepremičninskih evidenc (Delovodnik), JN000911-B01.
- Portal javnih naročil, Informacijska prenova nepremičninskih

informacijski sistem nepremičninskih evidenc (Delovodnik), JN000911-B01.
- Portal javnih naročil, Informacijska prenova nepremičninskih evidenc, JN001338/2017-B01
- Pravilnik o evidenci državne meje (Uradni list RS, št.73/17).
- Pravilnik o vodenju vrst rabe zemljišč v zemljiškem katastru (Uradni list SRS, št. 41/1982).
- Pravilnik o vpisih v kataster stavb (Uradni list RS, št. 15/2002).
- Pravilnik o vpisih v kataster stavb (Uradni list RS, št.73/12, 78/14 in 66/16).
- Pravilnik o vsebini in načinu vodenja registra prostorskih enot (Uradni list RS, št. 71/2003).
- Pravilnik o vodenju zemljiške knjige (Uradni list RS, št. 77/95).
- Pravilnik za katastrsko klasifikacijo zemljišč (Uradni list SRS, št. 28/1979, 35/1983).
- PREG, Vpogled v podatke o nepremičninah, http://prostor3.sigov.si/preg/
- Pregledovalnik digitalnih elaboratov arhiva ZK, http://gublu3.gurs.sigov.si:7021/DAZK/DAZK.jsp
- 35 let geodetske službe v RS Sloveniji. 1979. Ljubljana, Odbor za proslavo 35-letnice geodetske službe v SRS.
- Ribnikar P. 1982. Zemljiški kataster kot vir za zgodovino. Ljubljana, ČZ Zveza zgodovinskih društev 36, številka 4
- SI AS 178 Franciscejski kataster za Koroško, 1823–1869
- SI AS 176 Franciscejski kataster za Kranjsko, 1823–1869
- SI AS 179 Franciscejski kataster za Primorsko, 1811–1869
- SI AS 177 Franciscejski kataster za Štajersko, 1823–1869
- Skitek V. 2009. Delovanje nacističnega režima med drugo svetovno vojno na slovenskem Koroškem. Diplomsko delo, Maribor, Univerza Maribor.
- 160 let mapnega arhiva. 1987. Ljubljana, Republiška geodetska uprava.
- Škarja I. 2012. Analiza vsebine in sprememb grafičnega zemljiškega katastra na primeru k. o. Ivanjševci. Diplomsko delo, Ljubljana: FGG – Fakulteta za gradbeništvo in geodezijo.
- Tehnična dokumentacija za programske rešitve »Informacijska prenova nepremičninskih evidenc«. (februar 2017). Ljubljana, Geodetska uprava Republike Slovenije.
- Tehnična dokumentacija za programsko rešitev »Prenovljeni procesi v prenovljenem informacijskem sistemu nepremičninskih evidenc (Delovodnik). (februar 2019). Ljubljana, Geodetska uprava Republike Slovenije.
- Tehnična dokumentacija za izdelavo informacijske rešitve Zbirnega katastra gospodarske javne infrastrukture (ZK GJI). (november 2019). Ljubljana, Geodetska uprava Republike Slovenije
- Tehnična dokumentacija za vzpostavitev evidence državne meje. (februar 2019). Ljubljana, Geodetska uprava Republike Slovenije
- Tehnično navodilo za uporabo novega koordinatnega sistema v zemljiškem katastru. (2007). Ljubljana, Geodetska uprava Republike Slovenije
- Tehnični pogoji za razpis za zajem DKN. (februar 1999). Ljubljana, Geodetska uprava Republike Slovenije
- Tehnični pogoji za transformacijo DKN – DOF in izdelavo skupnih izrisov meja sosednjih območji zajema. (marec 1999). Ljubljana, Geodetska uprava Republike Slovenije
- Temeljni zakon o izmeritvi zemljišč in zemljiškem katastru (UL SFRJ, št 15/65)
- Uredba o vpisu upravljavcev nepremičnin v državni lasti v zemljiški kataster in kataster stavb (Uradni list RS, št. 20/2002)

evidenc, JN001338/2017-B01
- Pravilnik o evidenci državne meje (Uradni list RS, št.73/17).
- Pravilnik o vodenju vrst rabe zemljišč v zemljiškem katastru (Uradni list SRS, št. 41/1982).
- Pravilnik o vpisih v kataster stavb (Uradni list RS, št. 15/2002).
- Pravilnik o vpisih v kataster stavb (Uradni list RS, št.73/12, 78/14 in 66/16).
- Pravilnik o vsebini in načinu vodenja registra prostorskih enot (Uradni list RS, št. 71/2003).
- Pravilnik o vodenju zemljiške knjige (Uradni list RS, št. 77/95).
- Pravilnik za katastrsko klasifikacijo zemljišč (Uradni list SRS, št. 28/1979, 35/1983).
- PREG, Vpogled v podatke o nepremičninah, http://prostor3.sigov.si/preg/
- Pregledovalnik digitalnih elaboratov arhiva ZK, http://gublu3.gurs.sigov.si:7021/DAZK/DAZK.jsp
- 35 let geodetske službe v RS Sloveniji. 1979. Ljubljana, Odbor za proslavo 35- letnice geodetske službe v SRS.
- Ribnikar P. 1982. Zemljiški kataster kot vir za zgodovino. Ljubljana, ČZ Zveza zgodovinskih društev 36, številka 4
- SI AS 178 Franciscejski kataster za Koroško, 1823–1869
- SI AS 176 Franciscejski kataster za Kranjsko, 1823–1869
- SI AS 179 Franciscejski kataster za Primorsko, 1811–1869
- SI AS 177 Franciscejski kataster za Štajersko, 1823–1869
- Skitek V. 2009. Delovanje nacističnega režima med drugo svetovno vojno na slovenskem Koroškem. Diplomsko delo, Maribor, Univerza Maribor.
- 160 let mapnega arhiva. 1987. Ljubljana, Republiška geodetska uprava.
- Škarja I. 2012. Analiza vsebine in sprememb grafičnega zemljiškega katastra na primeru k. o. Ivanjševci. Diplomsko delo, Ljubljana: FGG – Fakulteta za gradbeništvo in geodezijo.
- Tehnična dokumentacija za programske rešitve »Informacijska prenova nepremičninskih evidenc«. (februar 2017). Ljubljana, Geodetska uprava Republike Slovenije.
- Tehnična dokumentacija za programsko rešitev »Prenovljeni procesi v prenovljenem informacijskem sistemu nepremičninskih evidenc (Delovodnik). (februar 2019). Ljubljana, Geodetska uprava Republike Slovenije.
- Tehnična dokumentacija za izdelavo informacijske rešitve Zbirnega katastra gospodarske javne infrastrukture (ZK GJI). (november 2019). Ljubljana, Geodetska uprava Republike Slovenije
- Tehnična dokumentacija za vzpostavitev evidence državne meje. (februar 2019). Ljubljana, Geodetska uprava Republike Slovenije
- Tehnično navodilo za uporabo novega koordinatnega sistema v zemljiškem katastru. (2007). Ljubljana, Geodetska uprava Republike Slovenije
- Tehnični pogoji za razpis za zajem DKN. (februar 1999). Ljubljana, Geodetska uprava Republike Slovenije
- Tehnični pogoji za transformacijo DKN – DOF in izdelavo skupnih izrisov meja sosednjih območji zajema. (marec 1999). Ljubljana, Geodetska uprava Republike Slovenije
- Temeljni zakon o izmeritvi zemljišč in zemljiškem katastru (UL SFRJ, št 15/65)
- Uredba o vpisu upravljavcev nepremičnin v državni lasti v zemljiški kataster in kataster stavb (Uradni list RS, št. 20/2002)
- Uredba o zemljiškem katastru (UL FLRJ, št 43/53)
- Zakon o določanju območij ter o imenovanju in označevanju naselij, ulic in stavb – ZDOIONUS (Uradni list RS, št.25 /08)
- Zakon o določitvi volilnih enot za volitve poslancev v državni zbor (Uradni list RS, št. 46/92)
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- Zakon o evidentiranju nepremičnin, državne meje in

- Uredba o zemljiškem katastru (UL FLRJ, št 43/53)
- Zakon o določanju območij ter o imenovanju in označevanju naselij, ulic in stavb – ZDOIONUS (Uradni list RS, št.25 /08)
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- Zakon o družbenem sistemu informiranja (Uradni list SRS, št. 10/83)
- Zakon o evidentiranju nepremičnin, državne meje in prostorskih enot – ZENDMPE (Uradni list RS, št. 52/2000)
- Zakon o evidentiranju nepremičnin – ZEN (Uradni list RS, št. 47/06, 65/07 - Odl. US, 79/12- Odl. US, 61/17)
- Zakon o geodetski dejavnosti (Uradni list RS, št. 8/2000)
- Zakon o imenovanju in evidentiranju naselij, ulic in stavb (Uradni list SRS, št. 5/80, 42/86 in Uradni list RS, št. 8/90)
- Zakon o katastru komunalnih naprav (Uradni list SRS, št. 26/74, 42/86)
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- Zakon o posebnih pogojih za vpis lastninske pravice na posameznih delih stavbe v zemljiško knjigo – ZPPLPS (Uradni list RS, št. 89/99)
- Zakon o upravi (Uradni list RS, št. 67/94)
- Zakon o volitvah v državni zbor (Uradni list RS, št. 44/92)
- Zakon o zemljiškem katastru (ZZKat) Uradni list SRS, št. 16/74, 42-/86)

prostorskih enot – ZENDMPE (Uradni list RS, št. 52/2000)
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- Zakon o geodetski dejavnosti (Uradni list RS, št. 8/2000)
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- Zakon o zemljiškem katastru (ZZKat) Uradni list SRS, št. 16/74, 42-/86)

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When you can measure what you are speaking about, and express it in numbers, you know something about it, when you cannot express it in numbers, your knowledge is of a meager and unsatisfactory kind.

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