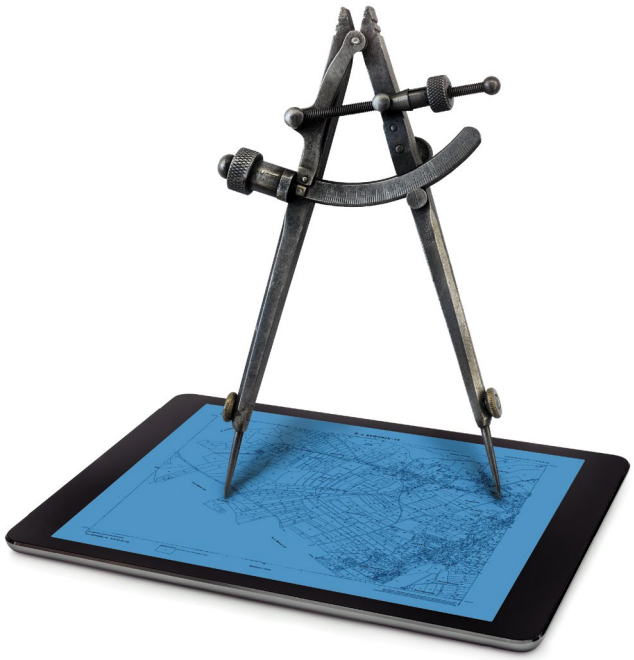
Dediščina katastrov na Slovenskem

The Cadastral Heritage of Slovenia



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

Dediščina katastrov na Slovenskem

Digitalni arhiv zemljiškega katastra, katastra stavb in državnih prostorskih načrtov

The Cadastral Heritage of Slovenia

The digital archive of land cadastre, building cadastre and national spatial plans

REPUBLIKA SLOVENIJA
MINISTRSTVO ZA OKOLJE IN PROSTOR
GEODETSKA UPRAVA REPUBLIKE SLOVENIJE

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MINISTRSTVO ZA OKOLJE IN PROSTOR

EVROPSKA UNIJA
EVROPSKI SKLAD ZA REGIONALNI RAZVOJ
NALOŽBA V VAŠO PRIHODNOST

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I FEEL SLOVENIA

Dediščina katastrov na Slovenskem
Digitalni arhiv zemljiškega katastra, katastra stavb
in državnih prostorskih načrtov

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building cadastre and national spatial plans

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Uvodna beseda

V Sloveniji naloge državne geodetske službe izvaja Geodetska uprava Republike Slovenije. Temeljna področja njenega delovanja tradicionalno vključujejo osnovni geodetski sistem, evidentiranje in vrednotenje nepremičnin, izvajanje postopkov zemljiške administracije in preurejanja zemljišč ter dejavnosti pri zagotavljanju referenčnih prostorskih podatkov, kot so temeljni topografski podatki, podatki prostorskih enot, zemljepisna imena in drugi podatki o prostoru in nepremičninah.

Poslanstvo Geodetske uprave Republike Slovenije je zagotavljati kakovostno uradno prostorsko podatkovno infrastrukturo in sistem zemljiške administracije ter svojim uporabnikom nuditi učinkovite storitve in kakovostne uradne prostorske podatke na načine, ki ustrezajo visokim standardom geoinformacijsko usposobljene sodobne družbe.

Za razvoj slovenske geodetske stroke pa so še posebej pomembna dejanja, ki so se zgodila pred dvesto leti v takratni avstro-ogrski monarhiji. V zelo kratkem obdobju smo dobili podlage za poznejši zemljiški kataster, ki nam v dobršni meri služijo še danes. Za začetek sodobnega evidentiranja nepremičnin na našem ozemlju štejemo že cesarski patent, s katerim je 23. decembra 1817 Franc I. izdal ukaz za izvedbo stabilnega katastra v avstrijskih deželah. Takrat ustanovljena deželna komisija za regulacijo zemljiškega davka je predstavljala predhodnico današnje geodetske uprave. Kot ustanovni datum državne geodetske službe v novejši zgodovini sicer štejemo 20. januar 1944, ko je bila med narodnoosvobodilnim bojem z odredbo Glavnega štaba NOV in PO Slovenije ustanovljena Geodetska sekcija. Sekcija je bila odgovorna za oskrbo štabov z vojaškim topografskim gradivom ter za pripravo in izdelavo novih kart. Geodetska uprava pri Vladi Ljudske republike Slovenije pa je bila ustanovljena z uredbo 26. marca 1947.

Državna geodetska služba v Sloveniji ima torej pestro in dolgo zgodovino. Znana trditev, da se iz zgodovine učimo, velja tudi za geodetsko stroko. Veliko tega, kar danes človeštvo ima, je pravzaprav podedovano iz preteklosti in je nastalo s spoštovanjem izkušenj iz zgodovine. Zato moramo znati vse to ceniti in na pravilen način predstaviti širši strokovni in splošni javnosti. Geodetska uprava Republike Slovenije se skupaj z drugimi

Foreword

On a national level, the surveying and mapping tasks in Slovenia are carried out by the Surveying and Mapping Authority of the Republic of Slovenia. Its core areas of activity include the basic geodetic system, the recording and valuation of real estate, performing land administration and land rearrangement procedures, and activities in the field of providing reference spatial data, such as basic topographic data, spatial unit data, geographical names, and other spatial and real estate information.

The mission of the Authority is to ensure high-quality official spatial data infrastructure and real estate administration system in Slovenia as well as provide our clients with effective services and high-quality official spatial data in a manner that is in accordance with the high standards of contemporary geoinformation society.

Of particular importance for the development of Slovenian surveying are the events that took place two hundred years ago in the then Austro-Hungarian monarchy, when in a relatively short span of time the foundations for what was to become the land cadastre and which remain important to this very day have been laid. The start of modern real estate records on the Slovenian territory is the imperial patent of Franz I, dated 23 December 1817, which contains an order for the implementation of a land cadastre in the Austrian lands, while the then established committee for the assessment of land tax was the precursor of today's Authority. The founding date of the National State Surveying Authority in more recent history is meanwhile generally considered to be 20 January 1944, when a Surveying Section was established by a decree of the general staff of the National Liberation Army and the Partisan Committee of Slovenia and tasked with supplying command structures with military topographic data and preparing and producing new maps. The Surveying and Mapping Authority of the Government of the People's Republic of Slovenia was established by a decree dated 26 March 1947.

The Authority has a long and interesting past. A well-known saying states that history is our

deležniki geodetske stroke zaveda pomena ohranjanja starih načrtov, arhivskih letalskih posnetkov oziroma celotnih arhivskih elaboratov izmere in njihove pretvorbe v digitalno obliko. Preteklost in zgodovino stroke moramo pravilno umestiti v zgodovinsko in kulturno dediščino.

Nekateri naši kolegi so to znali izpeljati pred desetletji. Leta 1982 je bilo postavljeno spominsko obeležje geometričnega središča Slovenije (GEOSS) na območju Spodnje Slivne pri Vačah v občini Litija. Pet let pozneje smo dobili slovensko geodetsko zbirko na gradu Bogenšperk, ki velja za osrednjo muzejsko predstavitev naše stroke na Slovenskem. Pred 25 leti je bilo postavljeno obeležje koordinatnega izhodišča prve katastrske izmere na območju sedanje Slovenije na Krimu. Omenim naj še monografijo Geodetski instrumenti na Slovenskem avtorjev Janeza Slaka in Boštjana Puclja, izdano konec leta 2017 ob 200-letnici začetka nastajanja zemljiškega katastra. Njeno izdajo je pospremila tudi razstava starih geodetskih instrumentov in opreme na Slovenskem, ki je zaokrožila po muzejih in razstavnih prostorih po Sloveniji. Pristopili smo k aktivnostim, s katerimi želimo postaviti izhodišča za vključitev določenih geodetskih točk v tehnično in kulturno dediščino ter opredeliti obveznosti za njihovo vzdrževanje. Skupaj s Fakulteto za gradbeništvo in geodezijo sodelujemo tudi pri pobudi avstrijskih kolegov za uvrstitev določenih geodetskih znakov na Unescov seznam kulturne dediščine. Pričujoča publikacija predstavlja še en pomemben drobec v mozaiku upravljanja z obsežnim katastrskim operatom in promoviranja bogate tehnične kulturne dediščine v Sloveniji. Kolegom, ki so vse to uresničili, se na tem mestu zahvaljujem za njihova prizadevanja.

Seveda pa je glavnina našega dela usmerjena v prihodnost in rekli bi lahko, da Geodetska uprava Republike Slovenije skrbi za pripravo in vzpostavitev »prihodnjih spomenikov« geodetske dejavnosti. Z izvedbo vsakoletnega programa dela državne geodetske službe in izvajanjem posameznih projektov nastajajo nove evidence oziroma se obstoječe izboljšujejo.

Z izvajanjem obsežnega programa projektov eProstor, financiranega iz evropskih kohezijskih sredstev, želimo izboljšati procese pri prostorskem načrtovanju, graditvi objektov in upravljanju z nepremičninami, kar je mogoče doseči s povezljivimi, enostavno dostopnimi in zanesljivimi zbirkami prostorskih podatkov. Eden od temeljnih ciljev projektov eProstor je informacijska prenova nepremičninskih evidenc. Prvič po letu 1882 smo digitalizirali vse elaborate katastrskih meritev in se v celoti preusmerili v elektronsko poslovanje. Z digitaliziranim katastrom nepremičnin in

teacher and it certainly holds true for the surveying profession. Much of humankind's current assets were inherited and created by respecting the lessons that history taught us. That is why we need to be able to appreciate the past and present it to the wider public in a suitable way. The Authority, together with other stakeholders in the surveying profession, is aware of the importance of preserving old plans, archival aerial photographs and even entire archival reports by converting them to a digital format. Our history must be positioned accordingly as part of our historical and cultural heritage.

Some of our colleagues already knew this decades ago. In 1982, a memorial stone marking the Geometric Centre of Slovenia (GEOSS) was erected in the Spodnja Slivna near Vače in the Litija Municipality. Five years later, the Slovenian Geodetic Collection at Bogenšperk Castle, was opened as the main national exhibition showcasing our profession. 25 years ago, a memorial marking the starting point of the first cadastral measurement on the territory of present-day Slovenia was placed on Krim. I would also like to mention Surveying Instruments and Equipment in Slovenian Lands, a 2017 monograph by Janez Slak and Boštjan Pucelj published to mark the 200th anniversary of the beginning of the land cadastre in the country. The publication was accompanied by an exhibition of old surveying equipment that then went on a national tour. We have launched activities for the inclusion of some survey points in the cultural heritage and for defining the requirements for their maintenance. We have also joined forces with the Faculty of Civil and Geodetic Engineering to jointly take part in an Austrian initiative to place several survey marks on the UNESCO List of Cultural Heritage. This publication thus presents another important piece in the mosaic of managing large-scale cadastral records and promoting Slovenia's rich cultural and technical heritage. I would like to hereby express my sincere gratitude to all the colleagues who have been striving to achieve all of the above.

However, the majority of our activities are turned towards the future, and it could be said that the Authority is in charge of preparing and establishing »future monuments« to surveying. Through its annual activities, including the implementation of individual projects, the Authority continues to create new or improve existing records.

We are implementing a large-scale eProstor project

izboljšanim grafičnim prikazom bo vnos sprememb podatkov (o parcelah, stavbah, prostorskih enotah in državni meji) preprostejši, natančnejši in hitrejši. Elektronsko poslovanje bo mogoče v postopkih pridobitve gradbenega dovoljenja, priprave prostorskih aktov in evidentiranja nepremičnin. Izvedena bo lokacijska izboljšava grafičnega dela zemljiškega katastra in zajeti bodo podatki o pozidanih stavbnih zemljiščih.

Podatki in storitve Geodetske uprave Republike Slovenije, ki so pomembni tudi za številne institucije državne in lokalne javne uprave, prav tako pa za uresničevanje strateških ciljev države, predstavljajo pomembno področje sodelovanja z različnimi javnimi institucijami, ki uporabljajo ali soustvarjajo rešitve na področjih prostorske podatkovne infrastrukture in zemljiške administracije.

Tomaž Petek

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

funded by EU's Cohesion Fund, which aims to improve processes in spatial planning, construction of facilities and property management, which can be achieved through connected, easily accessible and reliable spatial data sets. One of its main goals is an information overhaul of real estate records. We have digitized all cadastral reports and completely switched over to online services and procedures for the first time after 1882. Digitized real estate cadastre and improved graphical display will make it easier, more accurate and faster to enter changes to the data (on land plots, buildings, spatial units and the national border). This will enable us to provide online procedures for obtaining a construction permit, drafting of spatial planning documents and recording real estate. The positional accuracy of the graphical part of the land cadastre will be improved and data on built-up land will be recorded.

Data and services of the Authority are, among other things, important for many state and local public administration institutions, also for the implementation of national strategic goals. Cooperation with various public institutions which use or co-create solutions in the field of spatial data infrastructure and land administration thus presents an important area of activities.

Kazalo

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1 Uvod

> *Vsaka kultura mora biti zakoreninjena v prostoru (zemlji) in času (zgodovini). Kultura in narod sta ozko med seboj povezana. Narod, ki nima svoje kulture, še sploh ni narod, je kvečjemu pleme.*
>
> – Anton Trstenjak

Na Geodetski upravi Republike Slovenije smo v letu 2019 uspešno pripeljali do konca večletni projekt digitalizacije arhivskih dokumentov nepremičninskih evidenc. Naš odnos do dela predhodnih generacij geodetov in rezultatov njihovega dela nam nalaga, da s temi podatki ravnamo odgovorno. Geodeti smo s skupnimi močmi zmogli zbrati potrebno energijo, voljo in sredstva, da smo spihali prah z vsebin in izdelkov lastne bogate in kakovostne strokovne tradicije ter jih digitalno dali »na svetlo« in jih tako naredili dostopne vsem.

Za zaključek tega izjemno obsežnega projekta s to publikacijo na kratko predstavljamo obseg in vsebino opravljenega dela. Publikacija ni namenjena le geodetom, temveč predvsem širši javnosti, saj ljudje bistveno preslabo poznajo delo geodetske službe v Sloveniji in rezultate njenega dela ter pomen teh rezultatov in izdelkov za državo, vsakega posameznika kot državljana in člana naše družbene skupnosti.

Latinski pregovor pravi: »***Historia magistra vitae est.***« – Zgodovina je učiteljica življenja. A ta pregovor je le del stavka, vzet iz dela *De Oratore* avtorja Marka Tulija Cicera (106 pr. n. š.–43 pr. n. š.). Celoten stavek iz znamenitega dela, ki govori o vlogi in pomenu govornikov, se glasi: »Historia vero testis temporum, lux veritatis, vita memoriae, magistra vitae, nuntia vetustatis, qua voce alia nisi oratoris immortalitati commendatur?« Ali v slovenskem prevodu: »S kakšnim drugim glasom kot z glasom govornika je zgodovina, priča časa, svetloba resnice, življenje spomina, učiteljica življenja, glasnik davne preteklosti, predana trajnemu spominu?«

»Glasu govornika« iz časov antičnega Rima so se do danes pridružile različne pojavne oblike trajnega analognega in digitalnega ohranjanja vsebin in dejstev iz preteklosti. Publikacija, ki jo imate v rokah, poskuša

Introduction

> *Every culture must be rooted in space (land) and time (history). Culture and nation are closely interlinked. A nation without a culture of its own is not a nation but a tribe at best.*
>
> – Anton Trstenjak

In 2019, the Mapping and Surveying Authority of the Republic of Slovenia (Surveying Authority) successfully concluded its multi-year project to digitize its archival real estate records. Our debt to the work done by previous generations of surveyors and the results thereof behooves us to manage such data responsibly. We, the current crop of surveyors, were able to poll our energy, will and means to dust off the products of our own rich professional tradition, to reproduce them in their digital form to make them accessible to everybody.

As a final touch to this extremely comprehensive project, we have produced this publication in order to briefly outline the scope and contents of the work that has been done. This publication is not intended for surveyors alone, but primarily for the general public, as people know all too little about the land surveying service in Slovenia, its activities, its results and the importance of its output and products for the country as a whole as well as for its individual citizens.

A Roman saying tells us that ***Historia magistra vitae est*** – history is life's teacher. But this is just a part of a sentence taken from *De Oratore* by Marcus Tullius Cicero (106-43 BCE) The complete sentence from the famous dialogue, which describes the role and importance of orators, runs as follows: "Historia vero testis temporum, lux veritatis, vita memoriae, magistra vitae, nuntia vetustatis, qua voce alia nisi oratoris immortalitati commendatur?" which has been translated into English as: "By what other voice, too, than that of the orator, is history, the witness of time, the light of truth, the life of memory, the directress of life, the herald of antiquity, committed to immortality?" (*Translated by Watson, J. S. New York: Harper & Brothers*)

The "voice of the orator" from the times of ancient Rome has been by now joined by various other means of preserving historical data – both analogue

biti tak glas, tak glasnik, ki nas opominja na vsestransko bogato preteklost geodetske službe na Slovenskem, skupaj z vsemi njenimi izdelki in storitvami. S svojim omejenim obsegom seveda lahko ponudi samo okvir tega trajnega spomina, v katerega so kot drobci vstavljeni slikovno prikazani primeri iz različnih časovnih obdobij geodetske prakse. Publikacija tako zmore ponuditi le nekaj vzorcev odgovorov na vprašanje »kaj«, obsežnejši odgovori na številna morebitna vprašanja »kje, kako, zakaj, kdaj ...« pa so dostopni ob raziskovanju navedenih spletnih povezav in zapisov v seznamu virov in literature.

Pravo bogastvo, pravi zaklad narodne zgodovine dokumentov nepremičninskih evidenc pa se skriva v arhivih, tako Arhiva Republike Slovenije kot Geodetske uprave Republike Slovenije. Vendar dostopnost podatkov v arhivih, bodisi v analogni ali digitalni obliki, sama po sebi ni dovolj. Svoj namen in poslanstvo bo dosegla šele, če bomo te vire hoteli in znali vsaj poiskati, prebrati ter se iz njih tudi kaj naučiti. To ne velja le za geodete, katerim arhivski podatki pomenijo enega od temeljev njihovega dela, ampak tudi za širšo javnost.

Oblika in vsebina arhivskih gradiv s podatki o nepremičninah sta tesno povezani z vsakokratno materialno zakonodajo, ki se je skozi čas ter z menjavo državne ureditve in družbeno-političnih razmer spreminjala. Zato v publikaciji navajamo tudi pregledne sezname vsakokratne osnovne geodetsko-katastrske zakonodaje, veljavne v posameznih časovnih obdobjih. Pri predpisih, za katere v času priprave te publikacije že obstajajo spletne povezave na besedila teh predpisov, so navedeni tudi naslovi spletnih povezav, ki omogočajo poglobljeno nadaljnje raziskovanje medsebojne obojestranske odvisnosti vsebine in oblike geodetskih elaboratov od vsakokratnih geodetsko-katastrskih predpisov. Naša želja namreč ni le seznaniti bralcev z osnovnimi informacijami o arhivu geodetske službe, prizadevamo si jih spodbuditi k celovitemu raziskovanju arhivskih virov, da bi jih lažje spoznali, prebirali in se iz njih učili.

Vabljeni torej k prebiranju in nadaljnjemu raziskovanju.

and digital. The document you are holding wants to be one of such means, a messenger to remind us of the versatile and rich past of the land surveying service in Slovenia, alongside all of its products and services. But its limited scope can, however, only provide a framework for this lasting memory, into which examples of surveying and mapping activities from different time periods, including images, are inserted like so many pieces of the mosaic. It can therefore only provide answers to a few "what" questions, but has to leave the answers to numerous »where, how, why, when...« queries to be found at the included web links and references in the sources and literature.

True wealth, indeed a veritable treasure of national history of documents of real estate records, can be found in archives, both the Archives of the Republic of Slovenia (Archives) and the archives of the Surveying Authority. But mere accessibility of data in the archives, either in analogue or digital form, is by itself insufficient. It will only achieve its purpose and mission if we are willing and able to find these sources, read them and learn from them. This applies not only to the surveyors, for whom archival data represent a basis for their work, but also to the general public.

The form and contents of archival materials containing data on real estate are closely related to applicable legislation, which has changed with time as well as due to changes to the political system and the socio-political environment. This is why the extant document also includes illustrative lists of the framework surveying and cadastre legislation, which was applicable during various time periods. The document contains links to those legal acts which were already available online at the time of its drafting, which allows for a further in-depth study of the mutual dependence between the content and form of surveying reports and the applicable surveying and cadastre regulations. Our wish is not just to provide the readers with basic information about archival materials of the land surveying service, but to entice them to comprehensively research archival sources to recognise, read and learn from them.

We kindly invite you to follow the links and continue the research.

2 Kje hranimo arhivske podatke nepremičninskih evidenc

> *Odgovorni smo za to, kar delamo, pa tudi za tisto, česar ne delamo.*
>
> – Moliere

Arhivske podatke nepremičninskih evidenc, odvisno od njihove starosti in uporabnosti, hranita dve osnovni državni službi – Arhiv Republike Slovenije in Geodetska uprava Republike Slovenije (v nadaljevanju: geodetska uprava). Arhivska gradiva, ki imajo prvenstveno le še zgodovinopisni pomen, hrani Arhiv Republike Slovenije, tista arhivska gradiva, ki ohranjajo neposredno uporabnost tudi v sodobni dnevni praksi geodetske službe, pa hrani geodetska uprava v svojem trajnem arhivu. Predmet digitalizacije arhivskega gradiva nepremičninskih evidenc, ki jo opisujemo v tej publikaciji, so arhivska gradiva geodetske uprave. Zaradi celovitosti in preglednosti opisa arhivskega gradiva podatkov o nepremičninah pa na kratko navajamo tudi arhivsko gradivo Arhiva Republike Slovenije.

2.1 Arhivsko gradivo Arhiva Republike Slovenije

> *Tisti, ki se ne spominjajo preteklosti, so obsojeni na to, da jo bodo ponavljali.*
>
> – George Santayana

Arhiv Republike Slovenije, ki je organ v sestavi Ministrstva za kulturo, skrbi za enotno strokovno izvajanje javne arhivske dejavnosti v Sloveniji. Poleg tega, da skrbi za prevzemanje, varovanje, urejanje in omogočanje uporabe nacionalne arhivske kulturne dediščine, skrbi tudi za nacionalno zakonodajo arhivske

How archival data from real estate records is kept

> *It is not only what we do, but also what we do not do, for which we are accountable.*
>
> – Moliere

Depending on their age and utility, archival data from real estate records is stored by two basic civil service offices – the Archives of the Republic of Slovenia (Archives) and the Surveying Authority. Archival material, which is primarily of historical significance only, is kept by the Archives, while archival material with direct applicability for the daily functioning of the Surveying Authority is stored in the Surveying Authority's permanent archives. The archival real estate records which were subject to digitization as described herein, are those kept in the archives of the Surveying Authority. To provide a complete and transparent description of archival real estate data, we also briefly touch upon the archival material kept by the Archives.

Archival records of the Archives of the Republic of Slovenia (Archives)

> *Those who cannot remember the past are condemned to repeat it.*
>
> – George Santayana

The Archives is a body within the Ministry of Culture, tasked with ensuring a standardised and professional performance of public archival activities in Slovenia. Apart from being in charge of obtaining, safekeeping, maintaining and enabling

dejavnosti in določitev standardov za dolgotrajno hrambo dokumentarnega gradiva.

Tudi za množično digitalizacijo dokumentov je bilo treba določiti pravila in standarde za dolgoročno hrambo elektronskega gradiva, ki ni enostavno primerljivo z dolgoročno hrambo dokumentov v fizični obliki. Arhiv Republike Slovenije je izdelal enotne tehnološke zahteve za zajem in hrambo arhiva v digitalni obliki, ki so skupaj z veljavnimi predpisi obvezni pri delu z javnim arhivskim gradivom.

V Arhivu Republike Slovenije hranijo arhivsko gradivo nepremičninskih evidenc iz preteklih stoletij. Seznami, v katerih so zapisani dohodki in pravice zemljiškega gospostva ali kakšne druge posesti ter podložniške dajatve in služnosti, se imenujejo urbarji. Ohranjeni urbarji in urbarialni registri za slovensko ozemlje obsegajo čas od sredine 12. do sredine 19. stoletja. So pomemben vir za preučevanje agrarne strukture, vrst in oblik podložniških dajatev, bremen in ostalih dohodkov, strukture kmečke posesti, mer, vrst živine in posevkov, kmečkih in obrtnih orodij, načinov obdelave in podeželske trgovine.

Imenjsko knjigo, ki je bila podlaga za obdavčitev nepremičnin vse od 16. stoletja (v času vladanja vladarice Marije Terezije je bila nastavljena tako imenovana izboljšana imenjska knjiga), je Narodnemu muzeju oziroma arhivu v letih 1937, 1938 in 1939 izročilo predsedstvo Okrožnega sodišča v Ljubljani.

V skladu s 43. členom Pouka o popisu, izmeri in napovedi zemljišč iz leta 1785 naj bi se katastrski operat hranil pri županu katastrske občine, pozneje so to določilo spremenili tako, da naj bi se operat hranil v ognjevarni hiši pri županu ali v župnišču. Po prenehanju veljavnosti jožefinskega katastrskega operata naj bi se operat shranil pri okrajnih gosposkah. Še vedno ni jasno, kako so jožefinski katastrski operat za Kranjsko hranili v času od njegovega nastanka do leta 1950, ko je bilo gradivo odkrito v poslopju Narodnega muzeja v Ljubljani. Z njegovo ureditvijo se je pokazalo, da je ohranjena približno ena tretjina.

Arhivsko gradivo franciscejskega katasterskega operata za slovensko ozemlje je nastalo v letih od 1818 do 1828, rektifikacijske mape (popravki) pa so nastajale pozneje. Triangulacija je bila na Kranjskem opravljena v letih od 1822 do 1826. Arhivsko gradivo franciscejskega katastrskega operata za Kranjsko je Arhivu Republike Slovenije izročila Republiška geodetska uprava v letih 1948, 1949, 1952, 1956 in 1961.

the use of national archival cultural heritage, the Archives also prepares the legislation on archival matters and defines the standards for long-term storing of documentary materials.

The mass digitization of documents required setting the rules and standards for long-term keeping of electronic materials, which differ materially from those governing the storage of materials in physical form. The Archives drafted single technological requirements for creating and storing digital archival documents, which, together with the applicable legislation, are required for working with public archival materials.

The Archives store archival material of real estate records from the past centuries. Urbaria are lists that include income and rights of the landed gentry and other land proprietors as well as the duties and servitudes of serfs. The preserved urbaria and urbarial registers for the Slovenian territory date from the middle of the 12th to the middle of the 19th century. They present an important source for studying the agrarian structure, the types and forms of serf duties, obligations and other income, the structure of farmland, measurements, types of livestock and crops, farm and craft tools, processing methods and rural trade.

The medieval land income records, which served as the basis for taxation of real estate since the 16th century (enhanced land income records were drafted during the reign of Maria Theresa), were handed over to the National Museum (serving as the national archives at the time) by the Ljubljana District Court in 1937, 1938 and 1939.

In accordance with Article 43 of the Imperial decree on tax and surveying from 1785, cadastral records were kept by the mayors of cadastral municipalities. This provision was later changed so that the records were kept inside a mayor's fire-proof house or the presbytery. After the end of the validity of Josephine cadastral records, they were to be kept by the district gentry. The exact history of the keeping of Josephine cadastral records for the Duchy of Carniola until 1950, when they were discovered in the National Museum building in Ljubljana, is still unknown. After the records were processed, it was discovered that about a third have been preserved.

Archival materials of the Franciscan cadastral records for Slovenian lands were created between 1818 and 1828, with rectification maps coming at

Zemljiški kataster je nastal iz potrebe države po ureditvi davčnega sistema, zemljiška knjiga pa zaradi ureditve evidence o lastništvu in prometu z zemljišči. Evidenci sta med seboj povezani, saj je predmet njunega obstoja zemlja kot nepremičnina, dokumentirata pa razvid stanja zemljišč, njihovih lastnikov in zgodovino sprememb tega stanja od nastanka do najnovejše dobe. Danes gradivo imenjske knjige, deželne deske in katastrov predstavlja izjemen vir za preučevanje, pregledujejo ga tako raziskovalci najrazličnejših strok kakor posamezniki za pravne posle ali pri raziskavah lastnih družinskih korenin.

*Vir: **http://www.arhiv.gov.si**.*

The land cadastre sprung from the state's need to regulate the tax system, and the land registry in order to regulate the record of ownership and land transactions. The records are interconnected, since the purpose of their existence is land as property. They document the state of land plots, their owners and changes to their state from the documents' creation until now. The medieval land income records, medieval land registries and cadastres represent an extraordinary source for study, and are scrutinised by researchers of various disciplines as well as individuals for legal transactions or in researching their family roots.

*Source: **http://www.arhiv.gov.si**.*

2.2 Arhivsko gradivo geodetske uprave

Archival records of the Surveying Authority

> *Ozrite se daleč v svojo preteklost, da boste videli svojo prihodnost.*
>
> – Winston Churchill

Zemljiški kataster je bil v osnovi namenjen odmeri davkov. Postopoma pa je s posodabljanjem načina izmere in sprotnim vzdrževanjem evidence pridobil dokumentarno vrednost in stari katastrski operati so postali dragocen zgodovinski vir za raziskave. Poleg zgodovinarjev ga uporabljajo še geografi, etnografi, jezikoslovci, pravniki, ekonomisti, urbanisti, agronomi, gozdarji in drugi raziskovalci, ki najdejo v arhivu zemljiškega katastra gradivo za svoje raziskovalno delo. Katastrski načrti in indikacijske skice namreč prikazujejo sliko krajine. Izrisi stavbnih in zemljiških parcel, vodotokov, cest, poti pa prikazujejo naravne in druge značilnosti naše dežele.

Podatki o nepremičninah so živa materija in taka evidenca se nenehno spreminja. Število sprememb podatkov v zemljiškem katastru in katastru stavb v Sloveniji na letni ravni sega v milijone. Podatki o nepremičninah se

> *The farther back you can look, the farther forward you are likely to see.*
>
> – Winston Churchill

The land cadastre was originally compiled for the purposes of taxation. It gradually acquired a historical value as new surveying and mapping methods were developed and came into use, changing the old cadastral records into a valuable historical source for research. Besides historians, the cadastre is also used by geographers, ethnographers, linguists, legal experts, economists, urban planners, agronomists, foresters and others, whose research requires the data found in the land cadastre archives. Cadastral plans and field cadastral maps show us the lay of the land, while mapping of building and land plots, streams, roads and paths showcase the natural and other characteristics of our country.

Data on real estate is a living matter and such records are subject to constant change. The

spreminjajo bodisi na zahtevo lastnikov nepremičnin in drugih upravičenih strank ali po uradni dolžnosti. Podatki niso zloženi v evidenco posamično kot artikli na policah v trgovini, ki jih je mogoče brez hudih posledic enostavno premeščati. Podatki o nepremičninah so strukturirani, med seboj povezani in soodvisni. Arhive o nepremičninskih evidencah sestavljata dva katastra v grafični in pisni obliki.
Geodetska uprava vodi in vzdržuje evidenco zemljiškega katastra, ki je evidenca o stvarnem stanju na zemljiščih. Podatki se vodijo v katastrskih operatih, ki obsegajo grafični in opisni del. S prehodom na digitalno obliko vodenja in vzdrževanja evidence so analogni dokumenti katastrskega operata postali arhivsko gradivo.

Podlaga za izvedbo sprememb v evidenci zemljiškega katastra so elaborati katastrske izmere (listine z merskimi in drugimi podatki o zemljiščih, listine upravnih postopkov). Elaborati katastrskih izmer so dokumenti, ki jih trajno hrani geodetska uprava.

Arhiv zemljiškega katastra ni klasičen arhiv, ki ga proučujejo zgodovinarji, ampak je del evidence, ki se uporablja vsak dan. Pomemben mejnik za uporabo arhiva je bil prenos geodetskih storitev z geodetske uprave na zunanje izvajalce. Ko geodet ugotavlja potek katastrske meje, uporabi zadnje vpisane podatke in podatke iz arhiva, kar zagotavlja lastnikom zemljišč, da ob spremembah na terenu niso oškodovani. Z digitalizacijo arhiva zemljiškega katastra je geodetska uprava omogočila pregledovanje dokumentov na spletu in hkrati preprečila obrabo gradiva, ki ga je povzročalo dnevno fotokopiranje.

Pri pretvorbi in hrambi arhivskih dokumentov so bile upoštevane zahteve in pravila za dolgotrajno hrambo digitalnih dokumentov, ki jih narekuje zakonodaja Arhiva Republike Slovenije.

number of changes to the land cadastre and building cadastre data in Slovenia amounts to several million annually. Real estate data gets altered due to request by real estate owners, other stakeholders or according to law. Data is not placed individually, i.e. like products on store shelves which can be simply moved to a different shelf. Real estate data is structured, interconnected and co-dependent. Archived real estate records are composed of two cadastres: graphical and descriptive.

The Surveying Authority maintains and manages the land cadastre, the records depicting the actual situation in the field. Data is kept in cadastral records, which consist of the graphical and descriptive part. The change to a digital form of record keeping and management turned the paper-based cadastral records into archival materials.

The basis for carrying out the changes to the land cadastre records are the cadastral surveying reports (documents containing surveying and other data on land plots alongside administrative procedure records). Cadastral surveying reports are kept permanently by the Surveying Authority.

The land cadastre archive is not a classical archive, studied by historians, but rather consists of records that are used on a daily basis. An important milestone in the usability of the archive was transferring land surveying services from the Surveying Authority to contractual partners. In order to determine a cadastral border, the surveyor uses the latest recorded data as well as archival data to ensure that land owners are not adversely affected in case of changes on the ground. By digitizing the land cadastre archives, the Surveying Authority allowed documents to be reviewed online and at the same time prevented the wear and tear caused by everyday photocopying.

The digitization of archival documents also took into account the requirements and regulations for long term document safekeeping, as required by the legislation governing the Archives.

3 Zgodovina katastrov na Slovenskem do leta 1945

> *Če ne napreduješ, nazaduješ.*
>
> – Latinski pregovor

O zgodovini zemljiškega katastra in geodetske službe na Slovenskem iz obdobja pred 20. stoletjem hranijo največ podatkov v fondih Arhiva Republike Slovenije. Po geografski opredeljenosti lahko na tleh današnje Slovenije obravnavamo tri katastre: v osrednjem delu (Kranjska, Koroška, Štajerska, Primorska) se zgodovina vleče od terezijanskega preko jožefinskega do franciscejskega katastra, na zahodu (desni breg Soče) je bil v uporabi francoski kataster, na vzhodu (Prekmurje) pa ogrski kataster, ki je bil narejen z nekaj desetletno zamudo po približno enakih pravilih kot franciscejski kataster.

Marija Terezija
Maria Theresa
(1717–1780)

Jožef II.
Joseph II
(1741–1790)

Franc II./I.
Francis II/I
(1768–1835)

Pred terezijanskimi in jožefinskimi zemljiškimi davčnimi reformami iz 18. stoletja je bil v habsburški monarhiji temelj za obdavčenje imetja ocenjeni dohodek zemljiškega gospoda od lastne (dominikalne) zemlje in od podložnikov (rustikalne). Davčne evidence deželnih stanov v habsburških dednih deželah so bile tako imenovane imenjske knjige. Vedno večje

History of cadastre in Slovenia until 1945

> *If you don't move forward, you move backward.*
>
> – Roman proverb

The Archives is the best place to look for documents on the history of land cadastres in Slovenia and the land surveying service prior to the 20th century. Geographically speaking, three cadastres existed on the territory of what is now Slovenia. The first cadastre for the central part (Carniola, Carinthia, Lower Styria and Slovenian Littoral) was the Theresian cadastre, followed by Josephine and Franciscan cadastres; the western part (on the right bank of the Soča river) used the French cadastre and the country's eastern part (Prekmurje) utilised the Hungarian cadastre, which used similar rules as its Franciscan counterpart but was created a few decades later.

Slika 1: Davčne reforme, ki so jih uvajali skozi stoletja v habsburški monarhiji, so dobile imena kar po monarhih: terezijanski kataster po vladarici Mariji Tereziji (1717–1780), jožefinski kataster po cesarju Jožefu II. (1741–1790) in franciscejski kataster po cesarju Francu II./I. (1768–1835).
(Vir: Wikipedia)

Figure 1: Tax reforms, implemented through the centuries in the Habsburg monarchy, were named after the monarchs. The Theresian cadastre after Empress Maria Theresa (1717-1780), the Josephine cadastre after Emperor Joseph II (1741-1790) and the Franciscan cadastre after Emperor Francis II/I (1768-1835).
(Source: Wikipedia)

Prior to the Theresian and Josephine land reforms in the 18th century, the basis for determining the property tax in the Habsburg Monarchy was the estimated income of the landlord from his own (dominical) and his subjects' (rustical) lands. Tax records of the ruling estates in Habsburg

potrebe dežel in pozneje cesarstva so se prek svobodnih lastnikov (plemstvo, duhovščina, cerkev, mesta in drugi svobodni posestniki) praviloma prenesle na podložne posestnike in tako postajale čedalje bolj nevzdržne. Pravično odmero davka je omogočila šele nastavitev stabilnega katastra v prvi polovici 19. stoletja s franciscejskim katastrom.

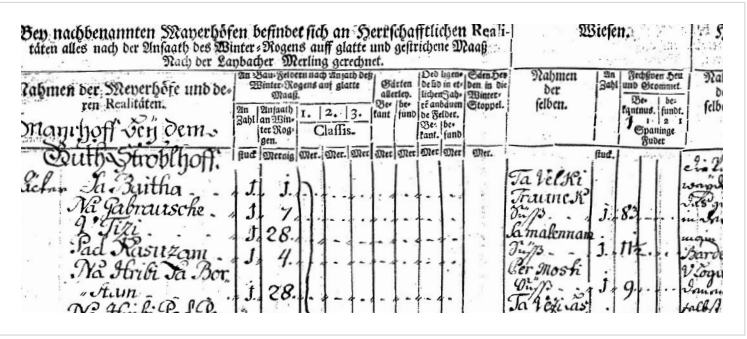
hereditary lands, were written in the medieval land income records. As increasing financial needs of the lands (and later the empire) were placed on the free owners (nobility, clergy, the church, cities and other free landowners) these as a rule increased the levy on their subjects, causing their situation to become increasingly unbearable. A fair tax assessment was only enabled by the creation of a stable cadastre at the beginning of the 19th century with the implementation of the Franciscan cadastre.

3.1 Terezijanski kataster

> *Kapljici črnila uspe pripraviti k premišljevanju milijone.*
>
> – Lord Byron

V Arhivu Republike Slovenije je gradivo terezijanskega katastra za Kranjsko ohranjeno skoraj v celoti. Gradivo je javno dostopno, zapisano je v nemškem jeziku in gotski poševni pisavi.

- SI AS 173 Imenjska knjiga za Kranjsko za obdobje 1539–1871 (36 knjig, 4,0 tekočega metra, prevzeto od Okrožnega sodišča v Ljubljani v letih od 1937 do 1939); **http://arsq.gov.si/Query/detail.aspx?ID=23250**
- SI AS 174 Terezijanski kataster za Kranjsko za obdobje 1747–1805 (265 škatel, 68 knjig, 50,0 tekočega metra, prevzeto od Okrožnega sodišča v Ljubljani leta 1948); **http://arsq.gov.si/Query/detail.aspx?ID=23251**


Bey nachbenannten Mayerhöfen befindet sich an Herrschafftlichen Realitäten alles nach der Ansaath des Winter-Rogens auff glatte und gestrichene Maaß Nach der Laybacher Merling gerechnet.

Wiesen.

Nahmen der Meyerhöfe und deren Realitäten.

Nahmen der selben.

Theresian cadastre

> *A drop of ink may make a million think.*
>
> – Lord Byron

The Theresian cadastre records for Carniola are preserved almost in entirety in the Archives. The material is publicly available, written in German and uses the Gothic cursive.

- SI AS 173 Medieval land income records for Carniola for the period 1539-1871 (36 books, 4.0 linear metres, received from the Ljubljana District Court between 1937 and 1939); **http://arsq.gov.si/Query/detail.aspx?ID=23250**
- SI AS 174 Theresian cadastre for Carniola for the period 1747-1805 (265 boxes, 68 books, 50.0 linear metres, received from the Ljubljana District Court in 1948); **http://arsq.gov.si/Query/detail.aspx?ID=23251**

Slika 2: Primer arhivskega gradiva terezijanskega katastra za Gospostvo Bokalce.
(Vir: Arhiv Republike Slovenije SI AS 174, L285)

Figure 2: Example of archival material of the Theresian cadastre – Bokalce estate.
(Source: Archives of the Republic of Slovenia SI AS 174, L285)

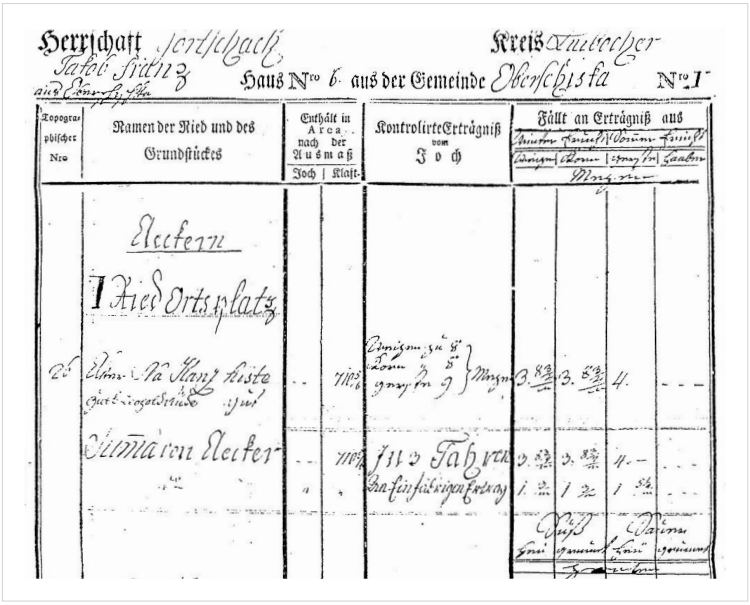
3.2 Jožefinski kataster

Josephine cadastre

> *Nikomur ni dodeljena kaka pravica, ne da bi imel hkrati tudi odgovornosti.*
>
> – Gerald W. Johnson

Gradivo jožefinskega katastra, ki ga hranijo v Arhivu Republike Slovenije, je le delno ohranjeno, je javno dostopno, zapisano v nemškem jeziku in poševni gotici.

- SI AS 175 Jožefinski kataster za Kranjsko za obdobje 1784–1790 (307 škatel, 3 ovoji, 58,0 tekočega metra, prevzeto od Narodnega muzeja v Ljubljani leta 1950); http://arsq.gov.si/Query/detail.aspx?ID=23252
- AS 1110 Jožefinski kataster za Štajersko za obdobje 1784–1790 (odbrano gradivo: 387 fasciklov, 62,0 tekočega metra, prevzeto od Republike Avstrije v letih od 1981 do 1985); http://arsq.gov.si/Query/detail.aspx?ID=25425
- AS 1111 Jožefinski kataster za Koroško za obdobje 1784–1790 (odbrano gradivo: 40 knjig, 0,9 tekočega metra, prevzeto od Republike Avstrije leta 1976); http://arsq.gov.si/Query/detail.aspx?ID=25426



Slika 3: Primer posestnega lista iz jožefinskega katastra za Kranjsko, naborni okraj Goričane, davčna občina Zgornja Šiška.
(Vir: Arhiv Republike Slovenije SI AS 175)

> *No man was ever endowed with a right without being at the same time saddled with a responsibility.*
>
> – Gerald W. Johnson

Josephine cadastre records, stored in the Archives, have been preserved only partially. The material is publicly available, written in German and uses the Gothic cursive.

- SI AS 175 Josephine cadastre for Carniola for the period 1784-1790 (307 boxes, 3 wraps, 58.0 linear metres, received from the National Museum in Ljubljana in 1950); http://arsq.gov.si/Query/detail.aspx?ID=23252
- AS 1110 Josephine cadastre for Lower Styria for the period 1784-1790 (selected materials: 387 folders, 62.0 linear metres, received from the Republic of Austria between 1981-1985); http://arsq.gov.si/Query/detail.aspx?ID=25425
- AS 1111 Josephine cadastre for Carinthia for the period 1784-1790 (selected materials: 40 books, 0.9 linear metres, received from the Republic of Austria in 1976); http://arsq.gov.si/Query/detail.aspx?ID=25426

Figure 3: Example of a land possession record from the Josephine cadastre for Carniola, Goričane recruitment district, Zgornja Šiška tax municipality.
(Source: Archives of the Republic of Slovenia SI AS 175)

3.3 Franciscejski kataster

> *Bodi ti zmeraj jasno, da je tvoj košček zemlje prav tako dober kot drugi kraji na svetu in da imaš tu vse tisto, kar na vrhovih gora ali ob morju ali kjerkoli.*
>
> – Mark Avrelij

V Arhivu Republike Slovenije je gradivo franciscejskega katastra javno dostopno. Zapisano je v nemškem jeziku in nemški kurenta gotici. Spisovno in kartografsko gradivo franciscejskega katastra hranijo pod sledečimi oznakami.

- AS 176 Franciscejski kataster za Kranjsko za obdobje 1823–1869 (1091 škatel, 745 fasciklov, 925 ovojev, 604,2 tekočega metra, prevzeto od geodetske uprave v letih od 1948 do 1961); http://arsq.gov.si/Query/detail.aspx?ID=23253
- AS 177 Franciscejski kataster za Štajersko za obdobje 1823–1869 (464 škatel, 1174 map, 347,0 tekočega metra, prevzeto od geodetske uprave v letih od 1948 do 1961); http://arsq.gov.si/Query/detail.aspx?ID=23254
- AS 178 Franciscejski kataster za Koroško za obdobje 1823–1869 (44 škatel, 49 map, 18,3 tekočega metra, prevzeto od geodetske uprave v letih od 1948 do 1961); http://arsq.gov.si/Query/detail.aspx?ID=23255
- AS 179 Franciscejski kataster za Primorsko za obdobje 1811–1869 (184 katastrskih map franciscejskega katastra, vključno z 22 mapami francoskega katastra, 22,8 tekočega metra, prevzeto od geodetske uprave v letih od 1948 do 1961); http://arsq.gov.si/Query/detail.aspx?ID=23256
- AS 180 Kataster za Prekmurje za obdobje 1858–1860 (51 škatel, 50 map, 16,7 tekočega metra, prevzeto od geodetske uprave leta 1961); http://arsq.gov.si/Query/detail.aspx?ID=23257
- AS 181 Reambulančni kataster za Kranjsko za obdobje 1867–1882 (1683 fasciklov, 1320 map, 72,0 tekočega metra, prevzeto od geodetske uprave v letih 1947 in 1948); http://arsq.gov.si/Query/detail.aspx?ID=23258
- AS 182 Reambulančni kataster za Koroško za leto 1869 (52 fasciklov, 4,0 tekočega metra, prevzeto od geodetske uprave v letih 1961 in 1962; http://arsq.gov.si/Query/detail.aspx?ID=23259

Franciscan cadastre

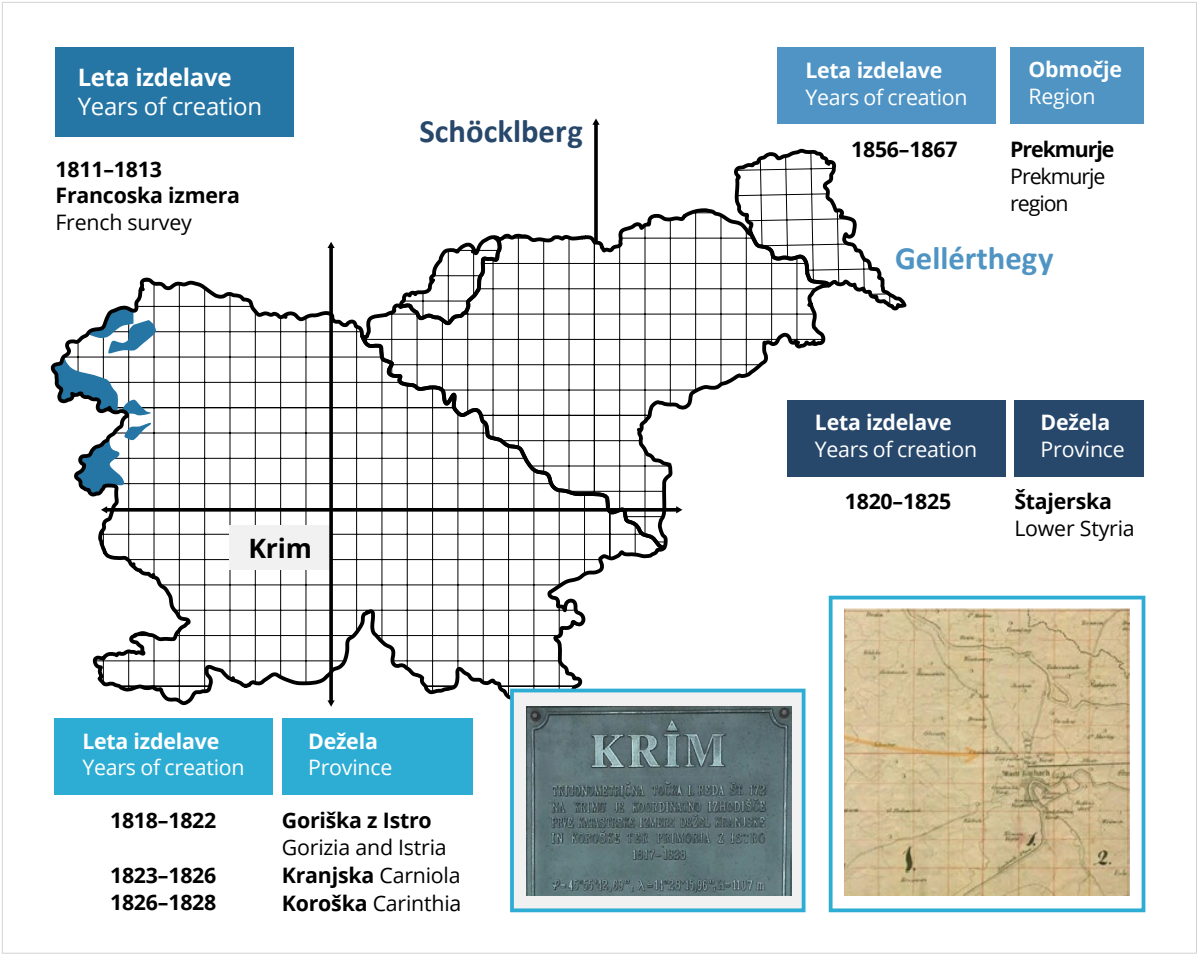
> *Let this always be plain to you, that this piece of land is like any other; and that what is here is the same as what is on top of a mountain, or on the seashore, or wherever you choose.*
>
> – Marcus Aurelius

The Franciscan cadastre is publicly available in the Archives. It is written in German and uses a version of the German Gothic cursive script. Written descriptive and cartographic materials of the Franciscan cadastre are stored under the following labels:

- AS 176 Franciscan cadastre for Carniola for the period 1823-1869 (1091 boxes, 745 folders, 925 wraps, 604.2 linear metres, received from the Surveying Authority between 1948 and 1961); http://arsq.gov.si/Query/detail.aspx?ID=23253
- AS 177 Franciscan cadastre for Lower Styria for the period 1823-1869 (464 boxes, 1174 maps, 347.0 linear metres, received from the Surveying Authority between 1948 and 1961); http://arsq.gov.si/Query/detail.aspx?ID=23254
- AS 178 Franciscan cadastre for Carinthia for the period 1823-1869 (44 boxes, 49 maps, 18.3 linear metres, received from the Surveying Authority between 1948 and 1961); http://arsq.gov.si/Query/detail.aspx?ID=23255
- AS 179 Franciscan cadastre for the Slovenian Littoral for the period 1811-1869 (184 cadastral maps of the Franciscan cadastre, including 22 maps of the French cadastre, 22.8 linear metres, received from the Surveying Authority between 1948 and 1961); http://arsq.gov.si/Query/detail.aspx?ID=23256
- AS 180 Franciscan cadastre for Prekmurje for the period 1858-1860 (51 boxes, 50 maps, 16.7 linear metres, received from the Surveying Authority in 1961); http://arsq.gov.si/Query/detail.aspx?ID=23257
- AS 181 Revised cadastre for Carniola for the period 1867-1882 (1683 folders, 1320 maps, 72.0 linear metres, received from the Surveying Authority in 1947-1948); http://arsq.gov.si/Query/detail.aspx?ID=23258

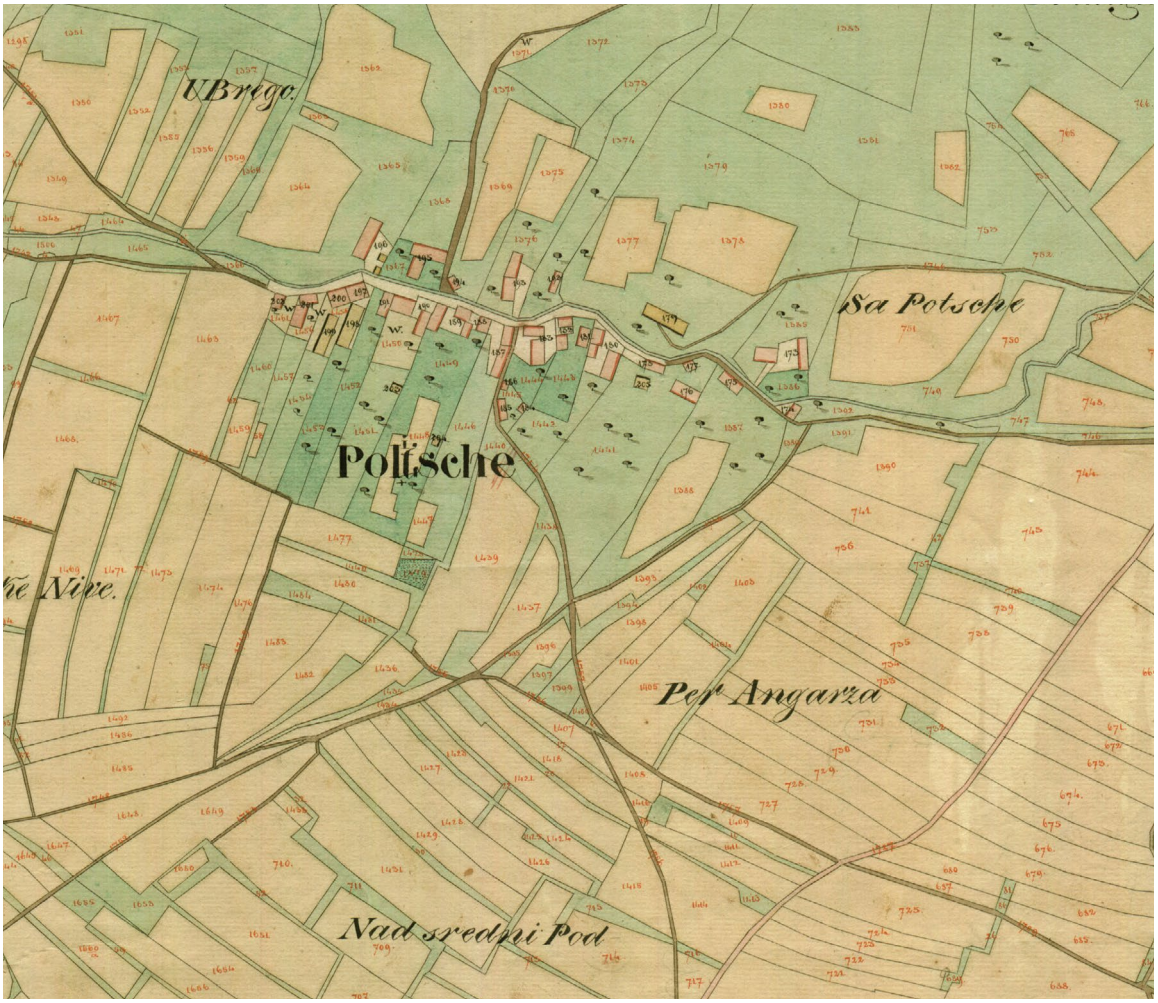
- AS 183 Reambulančni kataster za Prekmurje za leto 1909 (159 fasciklov, 11,5 tekočega metra, prevzeto od geodetske uprave leta 1961); http://arsq.gov.si/Query/detail.aspx?ID=23260

- AS 182 Revised cadastre for Carinthia for 1869 (52 folders, 4.0 linear metres, received from the Surveying Authority in 1961 and 1962); http://arsq.gov.si/Query/detail.aspx?ID=23259
- AS 183 Revised cadastre for Prekmurje for 1909 (159 folders, 11.5 linear metres, received from the Surveying Authority in 1961); http://arsq.gov.si/Query/detail.aspx?ID=23260



Slika 4: Časovni potek izdelave zemljiškega katastra na Slovenskem v 19. stoletju.

Figure 4: The timeline of land cadastre creation for Slovenian lands in the 19th century.

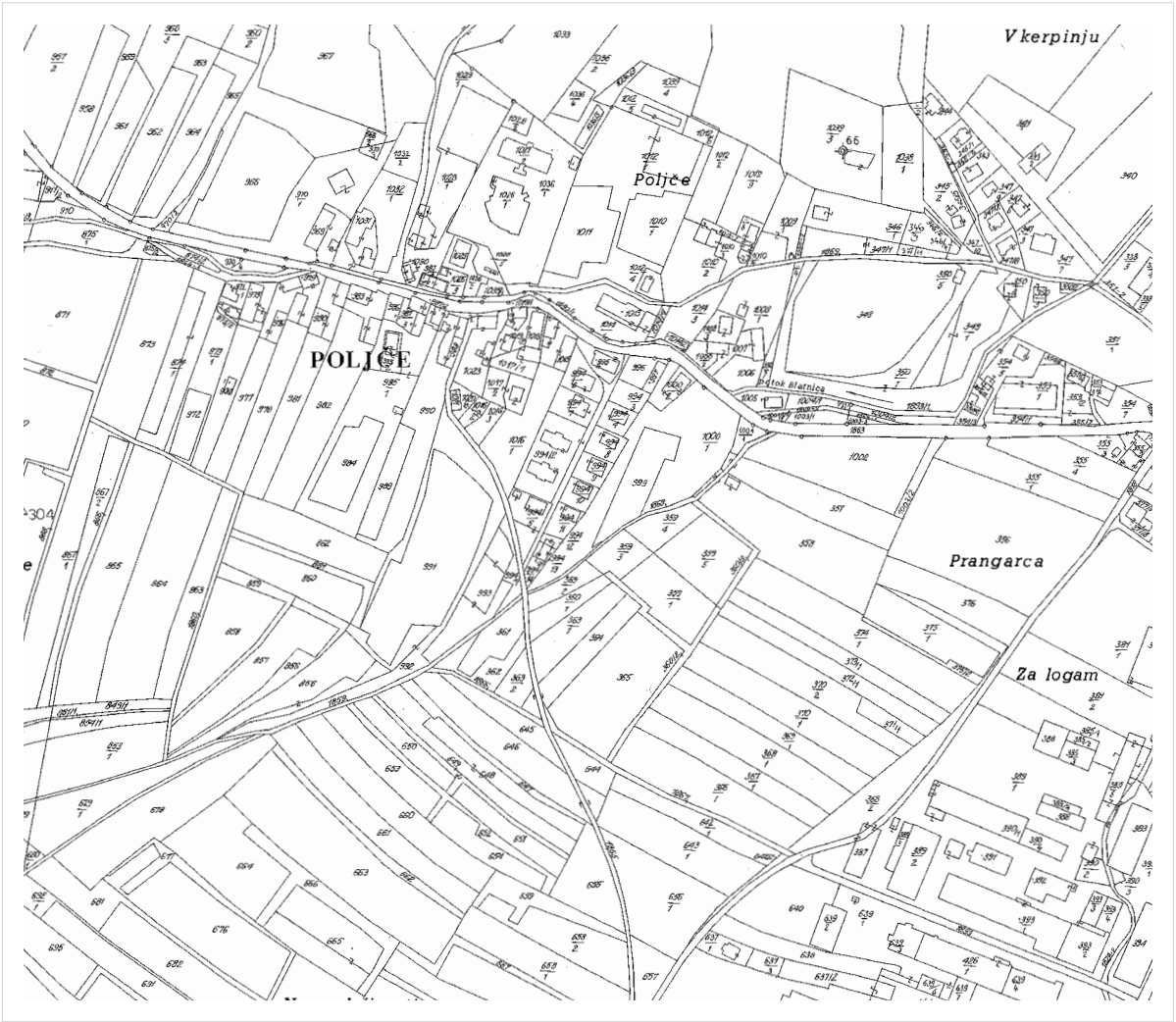


Slika 5: Primer arhivskega gradiva franciscejskega katastra iz leta 1826 – katastrska občina Poljče. (Vir: Geodetska uprava RS)

Figure 5: An example of archival material from the Franciscan cadastre from 1826 – Poljče cadastral municipality. (Source: Surveying Authority)

Slika 6: Primer arhivskega gradiva iz leta 1913 – katastrska občina Poljče. (Vir: Geodetska uprava RS)

Figure 6: An example of archival material from 1913 – Poljče cadastral municipality. (Source: Surveying Authority)



Slika 7: Primer arhivskega gradiva iz obdobja 1993–2002 – katastrska občina Poljče.
(Vir: Geodetska uprava RS)

Figure 7: An example of archival material from 1993-2002 – Poljče cadastral municipality.
(Source: Surveying Authority)

3.4 Francoski kataster

French cadastre

> *Moder človek si bo zagotovil več priložnosti, kot jih more najti.*
>
> – Francis Bacon

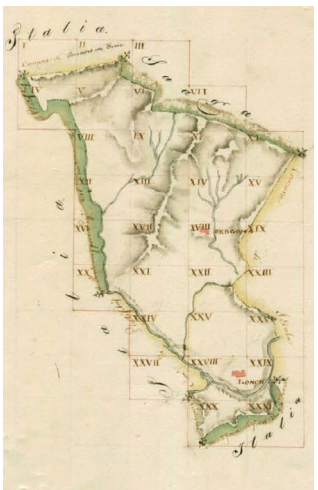
Primorska, zahodno od Soče, je bila v letih od 1805 do 1813 del Napoleonovega kraljestva v Italiji. Francoska oblast je v letih od 1811 do 1813 za to območje izdelala katastrski operat, ki je bil podoben poznejšemu franciscejskemu, zato ga Avstrija, ki ji je bilo to ozemlje po Dunajskem kongresu leta 1815 vrnjeno, za te katastrske občine ni izdelala na novo.

Za francosko katastrsko izmero ni bila vzpostavljena enotna triangulacijska mreža, temveč je imela vsaka katastrska občina svojo, lokalno triangulacijo. Načrti so bili izdelani v merilu 1:2000 in 1:1000 za večja urbana območja ter v merilu 1:4000 za hribovita območja.

> *A wise man will make more opportunities than he can find.*
>
> – Francis Bacon

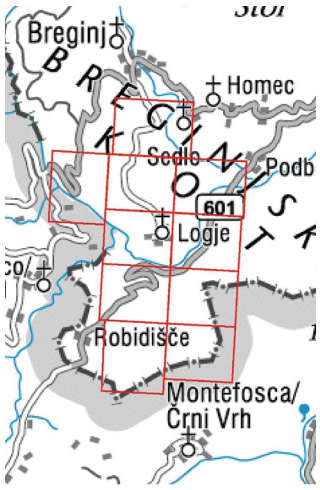
Between 1805 and 1813, the Slovenian Littoral west of the Soča river belonged to the Napoleonic Kingdom of Italy. The French created cadastral records for the area between 1811 and 1813, which were similar to the later Franciscan records, so Austria, to which these lands were returned after the 1815 Congress of Vienna, did not create records anew.

The French cadastral surveying did not use a single triangulation network, but rather separate local triangulations for each cadastral municipality. The plans were made to the scale of 1:2,000 and 1:1,000 for larger urban areas and the scale of 1:4,000 for hilly areas.



Slika 8: Primer razdelitve na liste, ki so bili označeni z rimskimi številkami v okviru katastrske občine – katastrska občina Breginj.
(Vir: Geodetska uprava RS)

Figure 8: Example of a grid with each square having its own Roman numeral in Breginj cadastral municipality.
(Source: Surveying Authority)



Slika 9: Na teh načrtih okvirji listov in izrisi parcel niso orientirani na sever.
(Vir: Geodetska uprava RS)

Figure 9: The sheets and plot mappings are not aligned with the north.
(Source: Surveying Authority)

3.5 Italijanski načrti na območju Primorske med obema vojnama

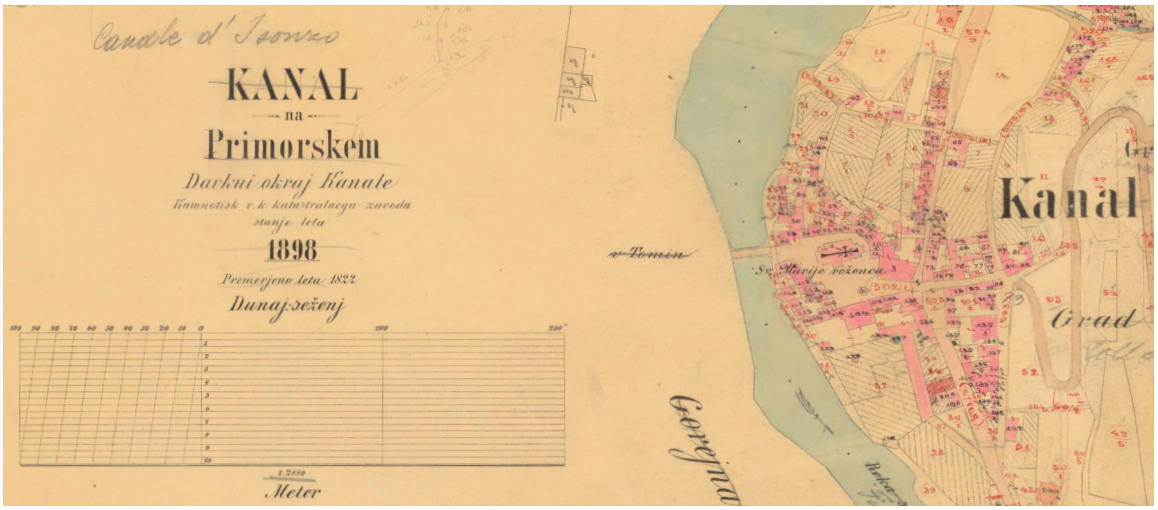
Italian plans in the Slovenian Littoral between the wars

> *Življenje je risanje brez radiranja.*
>
> – Oskar Kokoschka

Na območju, ki je po Rapalski pogodbi leta 1920 pripadlo Italiji, so bila še leta 1898 na katastrskih načrtih izpisana slovenska imena, a operat zemljiškega katastra in njegovo vzdrževanje sta bila del načrta asimilacije območja. Italijanska država je spremenila imena lastnikov, obenem pa delala katastrske izmere in prerisovala katastrske načrte ter jih pri tem opremila z italijanskimi zemljepisnimi imeni in opisi listov.

> *Life is the art of drawing without an eraser.*
>
> – Oskar Kokoschka

Cadastral plans for the area which was awarded to Italy by the 1920 Treaty of Rapallo, used Slovenian names as late as in 1898. But Italians intended to use the cadastral records and their maintenance as part of their assimilation plans for the area. The Italian state changed the names of the owners, carried out cadastral surveys and redrew cadastral plans, substituting Slovenian with Italian geographical names and sheet descriptions.



Slika 10: Katastrski načrt iz leta 1898 – katastrska občina Kanal.
(Vir: Geodetska uprava RS)

Figure 10: Cadastral plan from 1898 – Kanal cadastral municipality.
(Source: Surveying Authority)

Slika 11: Katastrski načrt iz leta 1927, kjer so vsa dotedanja slovenska imena zamenjana z italijanskim poimenovanjem.
(Vir: Geodetska uprava RS)

Figure 11: Cadastral plan from 1927, with former Slovenian names replaced with Italianised versions.
(Source: Surveying Authority)

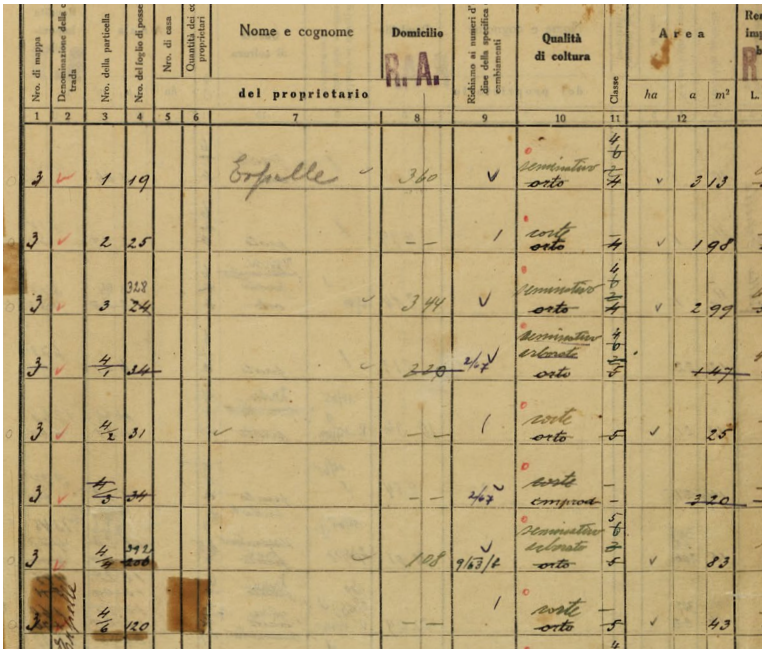
Erpelle

Protocollo delle Particelle

del Comune censuario di

Erpelle

aggiunta 1928



Nro. di mappa	Denominazione della strada	Nro. della particella	Nro. del foglio di possesso	Nro. di casa	Qualità dei comproprietari	Nome e cognome del proprietario	Domicilio	Richiamo ai numeri d'ordine della specifica e emblemanti	Qualità di coltura	Classe	Area ha	Area a	Area m²
1	2	3	4	5	6	7	8	9	10	11	12		
3	✓	1	19			Erpelle	340	✓	seminativo orto	4/b 1/4	✓	3	13
3	✓	2	25				— —	1	corte orto	— 4	✓	1	98
3	✓	3	328 24				344	✓	seminativo orto	4/b 1/4	✓	2	99
3	✓	4/1	34				220	2/4 ✓	seminativo irrigato orto	4/b 1/2		4	47
3	✓	4/2	31				— —	1	corte orto	— 5	✓		25
3	✓	4/3	34				— —	2/4 ✓	corte compresa	— —		3	20
3	✓	4/4	342 206				108	✓ 2/63/2	seminativo irrigato orto	5/b 1/2	✓		83
3	✓	4/5	120				— —	1	corte orto	— 5	✓		43

Slika 12: Enako kot z načrti se je v času fašizma zgodilo tudi z drugimi dokumenti. Takratna oblast je vodila imena za vse kulture dosledno v italijanskem jeziku, preimenovala je celo ledinska (domača) imena, čeprav se jim v vseh primerih ni ravno posrečilo. Parcelnik izkazuje tudi katastrski prihodek v lirah in stotinih (centesimi).
(Vir: Parcelnik 2560_00000_001 Hrpelje)

Figure 12: Under fascism, other documents met with the same fate as cadastral plans. The authorities at the time kept the names of all areas consistently in Italian and even replaced the original names of fallows, though this was not completely successful. The list of land plots also includes cadastral income in lire and centesimi.
(Source: List of land plots 2560_00000_001 Hrpelje)

3.6 Izmere med obema vojnama (1918–1941)

> *Sedanjost je rezultat preteklosti in vzrok prihodnosti.*
>
> – Robert Green Ingersoll

Po koncu prve svetovne vojne je z razpadom avstro-ogrske monarhije nastala Kraljevina SHS in leta 1919 je bila ustanovljena Generalna direkcija katastra Kraljevine SHS. V prvem desetletju po prvi svetovni vojni so geodeti na Slovenskem do uveljavitve novih predpisov o zemljiškem katastru in zemljiški knjigi uporabljali predpise in pravila, ki so veljali v prejšnji monarhiji. Nova kraljevina se z redkimi izjemami za stanje zemljiškega katastra na Slovenskem ni utegnila posebej zanimati, ker je bilo treba v južnejših predelih države sodobni zemljiški kataster šele vzpostaviti. Večina geodetskih zmogljivosti je bila tedaj vključena v izmere Slavonije in Bosne.

Leta 1924 je bila v Kraljevini SHS uradno sprejeta Gauß-Krügerjeva kartografska projekcija s tremi projekcijskimi conami 5, 6 in 7, katerih središčni poldnevniki so potekali po 15˚, 18˚ in 21˚ vzhodno od Greenwicha. Območje današnje Slovenije je bilo pokrito s 5. cono in delček na skrajnem vzhodu s 6. cono. V letih od 1929 do 1930 pa je bil sprejet sveženj geodetsko-katastrskih predpisov, ki so navedeni v preglednici 1.

Surveying and mapping between the wars (1918-1941)

> *The present is the necessary product of all the past, the necessary cause of all the future.*
>
> – Robert Green Ingersoll

The end of World War I saw the collapse of the Austro-Hungarian Monarchy and the creation of new countries in the region. One of them was the Kingdom of Serbs, Croats and Slovenes, which in 1919 established the Directorate General for the Cadastre of the Kingdom of Serbs, Croats and Slovenes. In the first decade after World War I, land surveyors in Slovenia used the rules and regulations created by the Austro-Hungarian Monarchy until the new regulations regarding the land cadastre and land registry entered into force. The newly-created kingdom, barring few exceptions, was not interested in the state of the land cadastre in Slovenia, as an up-to-date land cadastre had not even been created for its southern parts. The majority of surveying and mapping capacities was involved in surveying the regions of Slavonia and Bosnia.

In 1924, the Gauß-Krüger projection was officially adopted in the Kingdom. It involved three projection zones, namely 5, 6 and 7, whose central meridians ran 15°, 18° and 21° east of Greenwich. The area of Slovenia was covered by zone 5 with the exception of a small eastern part, which belonged to zone 6. The collection of surveying, mapping and cadastral rules and regulations adopted in 1929 and 1930, is listed in table 1.

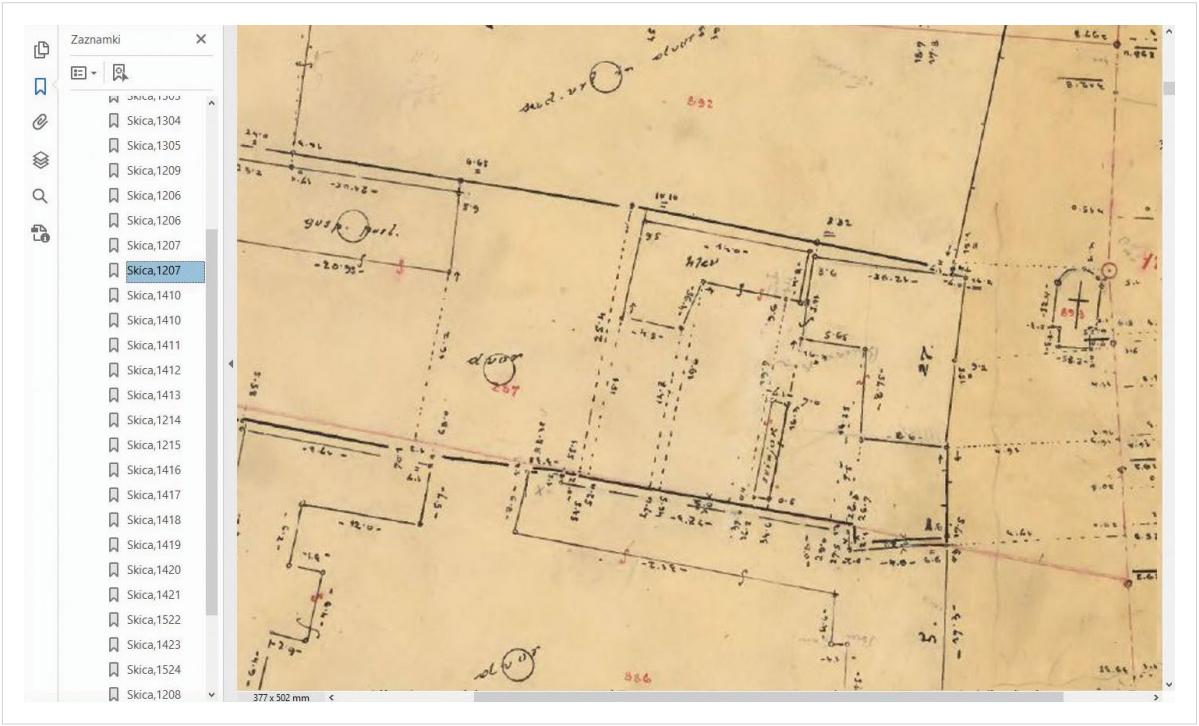
Leto izdaje Year of publication	Ime predpisa Name of regulation
1929	Zakon o katastru zemljišč Land Cadastre Act
1929	Uredba o izdelavi katastra zemljišč s privatnimi podjetji Decree on creating a land cadastre by using private companies
1930	Pravilnik o sestavi in delokrogu Odbora za državno izmero Regulations on the composition and scope of activities of the Committee for National Surveying
1929	Pravilnik I. del, Triangulacija Regulations part I – Triangulation
1930	Pravilnik II. del, Poligonska in linijska mreža Regulations part II – Polygonal and line grid (lattice)
1930	Pravilnik III. del, Zamejničenje in snemanje detajla Regulations part III – Marking out the border lines and recording details
1930	Pravilnik IV. del, Nivelman Regulations part IV – Levelling
1930	Pravilnik V. del, Izdelava katastrskih načrtov in računanje površin Regulations part V – Creating cadastral plans and calculating areas
1930	Pravilnik VI. del, Klasiranje zemljišč, izdelava katastrskega operata in njegova razgrnitev Regulations part VI – Classification of land, creating cadastral records and making them public
1929	Pravilnik VII. del, I. oddelek za vzdrževanje katastra v krajih, kjer katastrska izmera še ni izvedena Regulations part VII – 1st Department for maintaining the cadastre for areas where cadastral surveying has not yet been carried out
1930	Pravilnik VII. del, II. oddelek za vzdrževanje katastra v občinah, v katerih je kataster izdelan na osnovi izmere Regulations part VII – 2nd Department for maintaining the cadastre for areas where cadastral surveying has already been carried out
1930	Zakon o zemljiških knjigah Land Registry Act

Preglednica 1: Temeljni geodetsko-katastrski predpisi v obdobju 1918–1941.

Table 1: Basic surveying, mapping and cadastral legislation in the period between 1918 and 1941.

Nova zakonodaja je postopoma preoblikovala način dela in poslovanja geodetske službe, kar je razvidno iz vsebine in oblike geodetskih elaboratov iz tistega časa. V zemljiškem katastru so v praksi začeli uporabljati Gauß-Krügerjevo kartografsko projekcijo šele po drugi svetovni vojni za vse nove zemljiškokatastrske izmere (na primer v Prekmurju za nove izmere od leta 1948 naprej itd.).

The new legislation gradually transformed the work of the land surveying service, which is evident from the content and form of surveying reports from that time. The use of the Gauß-Krüger projection for the land cadastre was implemented after World War II for all new land cadastral surveying (e.g. in the Prekmurje region for new surveys from 1948 onwards etc.).



Slika 13: Skica izmere iz vsebine elaborata ortogonalne izmere katastrske občine 126 Satahovci iz leta 1925. Na levi strani so vidni zaznamki številk vseh detajlnih listov skic izmere katastrske občine. (Vir: Elaborat 0126_00000_002 Satahovci)[1]

Figure 13: A survey sketch from the orthogonal surveying report for the 126 Satahovci cadastral municipality from 1925. The left side shows the bookmarks of all detailed sheets of survey sketches for the cadastral municipality. (Source: Report 0126_00000_002 Satahovci)[1]

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

4 Geodetske izmere in postopki po letu 1945

> *Visoko číslam učenjaka, ki nam preganja temo zmot, a še bolj cenim poštenjaka, ki ve in hodi pravo pot.*
>
> – Simon Gregorčič

Po drugi svetovni vojni bi v revolucionarnem zanosu prvih povojnih let evidence, službo zemljiškega katastra in zemljiške knjige skorajda ukinili, ker teh vrst evidenc v brezrazredni družbi naj ne bi potrebovali. Na srečo naša tedanja oblast ni sledila vzorom drugih socialističnih držav, ki so vestno poskrbele za popolno zanemarjenje lastnine in vsega, kar se nanjo navezuje. Tako je bila v petdesetih, povojnih letih na novo, z različnimi geodetskimi merskimi metodami izmerjena dobra desetina Slovenije, predvsem mestna in krajevna središča ter večji del Prekmurja in Kočevskega Roga.

Glavne značilnosti geodetske službe po drugi svetovni vojni lahko v grobem razdelimo na tri obdobja, ki so tesno povezana s širšim družbeno-političnim razvojem v Jugoslaviji in Sloveniji:

- obdobje 1945–1974,
- obdobje 1974–1999,
- obdobje po letu 2000.

V vsakem od naštetih obdobij je vsakokratna organiziranost geodetske službe skupaj z vsakokratno veljavno zakonodajo pomembno in značilno vplivala tudi na obliko in vsebino elaboratov geodetskih postopkov. Geodetske postopke je bilo treba voditi skladno z zakonodajo, geodetski elaborati teh postopkov pa so morali biti izdelani v skladu z različnimi podzakonskimi predpisi, pravilniki in navodili, ki so določali tudi oblike obrazcev za evidentiranje meritev in sprememb katastrskih podatkov v geodetskih elaboratih.

Mapping and surveying after 1945

> *I respect the scholar who brings light to the dark, though even more an honest man who stays true to his mark.*
>
> – Simon Gregorčič

The revolutionary fervour immediately following World War II almost resulted in the abolishment of the land cadastre records and service alongside land registries, because a classless society supposedly did not require such records. Fortunately, the authorities did not follow in the footsteps of other socialist countries, which completely neglected property and everything related to it. Over a tenth of the country was thus surveyed and mapped anew in 1950s by various surveying and mapping methods, especially city and town centres and almost the entire Prekmurje and Kočevski Rog regions.

After World War II, the functioning of the land surveying service can roughly be divided into three periods, all closely linked to socio-political developments in Yugoslavia and Slovenia:

- 1945-1974
- 1974-1999
- After 2000

In each of these periods, the organization of the land surveying service and the applicable legislation significantly influenced the form and content of surveying reports. Surveying procedures had to be carried out in accordance with the legislation, and the resulting surveying reports were drafted in accordance with various implementing regulations, rules and instructions, which also prescribed the forms for recording surveys and changes in cadastral data in surveying reports.

4.1 Obdobje 1945–1974

> *Kadar je volja velika, so težave majhne.*
>
> – Niccolo Machiavelli

Po drugi svetovni vojni je geodetska služba delovala v sklopu dveh ministrstev: Oddelek za kataster, ki je sodeloval pri agrarni reformi, je bil del ministrstva za finance, geodetski oddelek, ki je bil odgovoren predvsem za inženirsko-geodetska dela pri gradbeni obnovi, pa je bil del ministrstva za gradnje. Z uredbo leta 1947 je bila geodetska dejavnost v Sloveniji združena v Geodetsko upravo pri Vladi LRS. Leta 1947 je bil za izvajanje geodetskih del po Sloveniji ustanovljen Geodetski zavod LR Slovenije z direkcijo v Ljubljani ter sekcijama v Celju in Mariboru, ki sta se pozneje preoblikovali v samostojna geodetska zavoda.

Geodetska služba v Sloveniji je do leta 1974 delovala še pod skupnim strokovnim okriljem Zvezne geodetske uprave v Beogradu. V letih od 1945 do 1974 so bili sprejeti temeljni geodetsko-katastrski predpisi, ki so navedeni v preglednici 2.

1945-1974

> *Where the willingness is great, the difficulties cannot be great.*
>
> – Niccolo Machiavelli

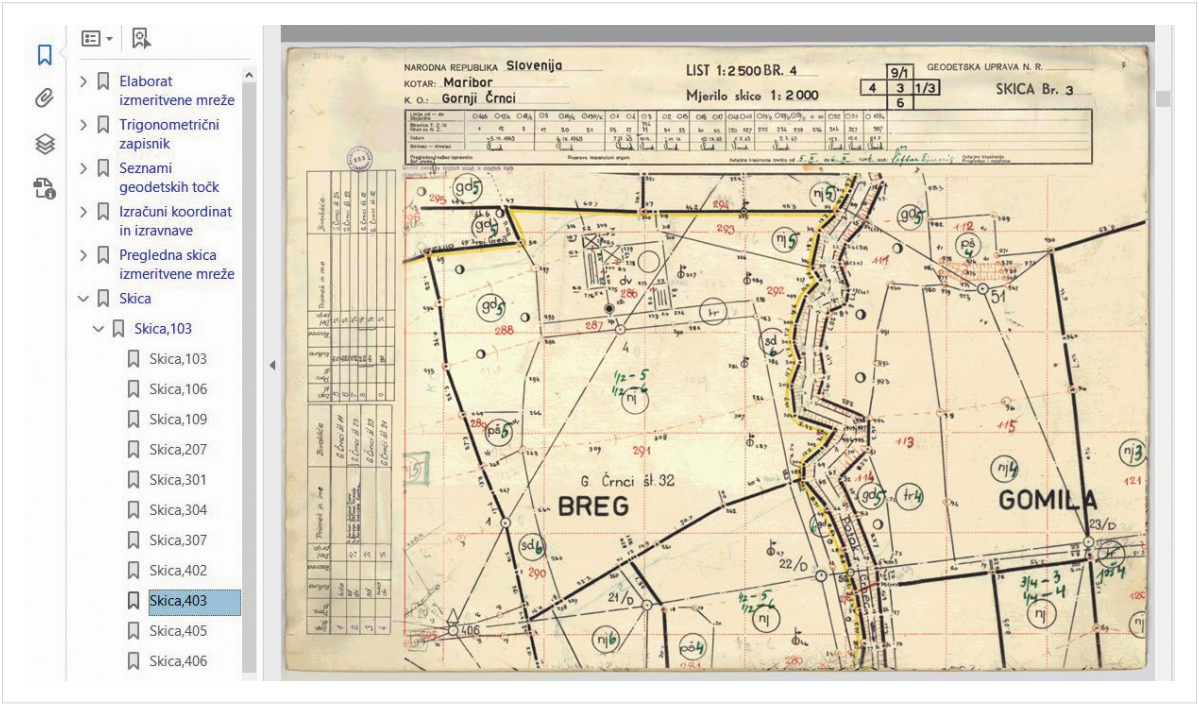
After World War II, the land surveying service initially operated within two ministries: the Cadastral Department took part in the agrarian reform and was under the Ministry of Finance, while the Surveying and Mapping Department was primarily responsible for engineering and surveying during the reconstruction and was part of the Ministry of Construction. A 1947 decree merged the surveying and mapping activities under the Surveying and Mapping Authority at the Government of the People's Republic of Slovenia. In 1947, the Surveying and Mapping Authority of the People's Republic of Slovenia was established for surveying and mapping in Slovenia with a directorate in Ljubljana and departments in Celje and Maribor, which later became independent surveying institutions.

Until 1974, the land surveying service in Slovenia was still under the joint expert supervision of the Federal Surveying and Mapping Administration in Belgrade. The basic surveying, mapping and cadastral rules and regulations adopted between 1945 and 1974 is listed in table 2.

Leto izdaje Year of publication	Ime predpisa Name of regulation
1947, LRS	Uredba o ustanovitvi in pristojnosti Geodetske uprave pri Vladi LRS Decree on the establishment and competencies of the Surveying and Mapping Authority of the People's Republic of Slovenia
1948, FLRJ	Uredba o organizaciji katastrske službe Decree on organising the cadastral service
1948, FLRJ	Odredba o reviziji katastra in o uskladitvi katastrskih operatov z dejanskim stanjem na terenu Decree on revising the cadastre and on aligning the cadastral records with the actual situation on the ground
1953, FLRJ	Uredba o zemljiškem katastru Decree on the land cadastre
1951–1959, ZGU	Pravilniki za državno izmero I. del, II-a. del, II. del, III. del Regulations for state-wide surveying, parts I, II-a, II, and III
1956, ZGU	Odločitev o uporabi topografskega in kartografskega ključa … Decision on the use of topographical and cartographical legend…
1965, SFRJ	Osnovni zakon o izmeri in katastru Underlying act on surveying and cadastre
1967, SFRJ	Uredba o izdelavi izmeritve in zemljiškega katastra in njunem vzdrževanju Decree on performing the surveying and the land cadastre and their maintenance
1969, ZGU	Pravilnik o katastrskem klasiranju in bonitiranju zemljišč Regulations on cadastral land classification and land valuation
1969, ZGU	Pravilnik o javni razgrnitvi podatkov izmer in katastrskega klasiranja zemljišč Regulations on the public unveiling of data from surveys and cadastral land classification
1970, ZGU	Pravilnik o tehničnih predpisih za izdelavo originalov načrtov … Regulations on technical rules for drafting originals of plans…
1970, ZGU	Pravilnik o izdelavi in vzdrževanju katastrskega operata Regulations on establishing and maintaining the cadastral records

Preglednica 2: Temeljni geodetsko-katastrski predpisi v obdobju 1945–1974.
[Pomen kratic: LRS – Ljudska republika Slovenija, FLRJ – Federativna ljudska republika Jugoslavija, SFRJ – Socialistična federativna republika Jugoslavija, ZGU – Zvezna geodetska uprava]

Table 2: Core surveying and cadastral regulations in the period between 1945 and 1974.
[Abbreviations: LRS - People's Republic of Slovenia, FLRJ - Federal People's Republic of Yugoslavia, SFRJ - Socialist Federal Republic of Yugoslavia, ZGU - Federal Surveying and Mapping Authority]



Slika 14: Skica izmere iz vsebine elaborata tahimetrične izmere katastrske občine 67 Gornji Črnci iz leta 1963. Na levi strani so vidni glavni zaznamki skupin dokumentov in zaznamki skic izmere. Imena zaznamkov so skladna s številkami detajlnih listov načrtov in skic izmere, kar geodetom omogoča enostavno ciljno iskanje.
(Vir: Elaborat 0067_00000_001 Gornji Črnci)[1]

Figure 14: Example of a survey sketch from the tacheometric surveying report for 67 Gornji Črnci cadastral municipality from 1963. On the left are the bookmarks for access to the groups of documents and sketches of the survey. The names of the bookmarks are in accordance with the numbers of detailed sheets of plans and survey sketches, allowing surveyors to perform an easy targeted search.
(Source: Report 0067_00000_001 Gornji Črnci)[1]

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

4.2 Obdobje 1974–1999

1974-1999

> *Napredka ne moremo ustaviti. Lahko pa ga naženemo, da gre mimo nas.*
>
> – Neznan avtor

V letu 1974 in naslednjih letih je bila v skladu z ustavnimi spremembami in posledičnim formalnim širjenjem pristojnosti zveznih republik ter zaradi rastočih potreb po strokovni samostojnosti geodetske službe v Sloveniji sprejeta nova republiška geodetska zakonodaja, ki je močno spremenila delovanje geodetske službe, tudi na področju zemljiškega katastra. Poleg uvajanja novih merskih tehnologij z elektronsko geodetsko mersko opremo, cikličnega aerosnemanja na območju celotne Slovenije in drugih temeljitih sprememb na geodetskem strokovnem področju je opazno tudi povečanje pomena pravil upravnega postopka. V prvem desetletju tega obdobja je bil v Sloveniji izveden prehod v digitalno obdelavo in vodenje pisnega dela zemljiškega katastra, ki sta mu v zadnjem desetletju tega obdobja sledila poenotenje digitalne obdelave in vodenja pisnega dela zemljiškega katastra na vsem območju Slovenije ter začetek izdelave digitalnih katastrskih načrtov s skeniranjem analognih katastrskih načrtov in vektorizacijo.

Leta 1995 smo v Sloveniji z reorganizacijo lokalne samouprave reorganizirali tudi geodetsko službo, pri čemer so dotedanje občinske geodetske uprave postale krajevno pristojni upravni organi Geodetske uprave RS. Posledično so tudi geodeti množično prešli iz dotedanjih občinskih geodetskih uprav v zasebna geodetska podjetja, kjer so začeli izvajati katastrske meritve po pooblastilu geodetske uprave. Vse te zakonodajne, organizacijske, tehnološke in vsebinske spremembe so zelo vplivale na vsebino elaboratov geodetskih postopkov, kar se seveda odraža tudi v vsebini in obsegu arhiviranih elaboratov, ki so bili predmet digitalizacije arhiva. Temeljni geodetsko-katastrski predpisi, sprejeti v letih od 1974 do 1999, so navedeni v preglednici 3.

> *We cannot stop progress. But we can make it pass us by.*
>
> – Author unknown

In 1974 and the following years, the constitutional changes and consequent formal expansion of competences of the federal republics, the constituent parts of Yugoslavia, as well as the growing demand for professional autonomy of the mapping and surveying service in Slovenia, brought with them new surveying legislation on the republic's level, which significantly changed how the mapping and surveying service operates, including as regards the land cadastre. In addition to introducing new surveying technologies and electronic surveying equipment, cyclical aerial photo-surveying of all of Slovenia and other fundamental changes in the field of surveying, the importance of the rules regarding the administrative procedure also gained ground. In the first decade of this period, the transition to digital processing and management of the descriptive part of the land cadastre was carried out in Slovenia. This was followed in the last decade of the period by the consolidation of digital processing and management of the descriptive part of the land cadastre on all of Slovenia's territory and the start of transitioning to digital cadastral maps by scanning and vectorization of their analogue originals.

The 1995 reorganization of local self-government also brought with it the reorganization of the land surveying service, with the previous municipal surveying authorities becoming the territorially competent administrative bodies of the Surveying Authority. Another consequence of this reorganization was also a mass exodus of surveyors from the former municipal mapping and land surveying offices to private surveying companies, where they started to carry out cadastral surveying under the authorization of the Authority. These legislative, organizational, technological and substantive changes have had a significant impact on the content of the surveying reports procedures, which is also reflected in the content and scope of archived reports that were the subject of digitization. The basic surveying, mapping and cadastral legislation adopted between 1974 and 1999 is listed in table 3.

Leto izdaje Year of publication	Ime predpisa Name of regulation
1974	Zakon o temeljni geodetski izmeri Act on Basic Surveying and Mapping
1974	Zakon o zemljiškem katastru Land Cadastre Act
1974	Zakon o katastru komunalnih naprav Communal Devices Cadastre Act
1976	Zakon o geodetski službi Land Surveying Service Act
1980	Zakon o imenovanju in evidentiranju naselij, ulic in stavb Naming and Recording of Settlements, Streets and Buildings Act
Pravilniki, navodila Regulations, instructions	
1976	Navodilo za ugotavljanje in zamejničenje posestnih meja parcel Instructions for identifying and marking out the borders between land plots
1979	Pravilnik za katastrsko klasifikacijo zemljišč Regulations on cadastral land classification
1981	Pravilnik o tehničnih normativih za mreže temeljnih geodetskih točk Regulations on technical norms for the fundamental surveying points networks
1982	Pravilnik o vodenju vrst rabe zemljišč v zemljiškem katastru Regulations on managing types of land cover in the land cadastre
1998	Pravilnik o uporabi Gauß-Krügerjeve projekcije ... (širina cone $\Delta\lambda = 3°15'$) Regulations on using the Gauß-Krüger projection... (zone width $\Delta\lambda = 3°15'$)
1999	Navodilo o začetku uradne uporabe digitalnega katastrskega načrta Instruction on the start of official use of the digital cadastral plan

Preglednica 3: Temeljni geodetsko-katastrski predpisi v obdobju 1974–1999.

Table 3: Core surveying and cadastral legislation in the period between 1974 and 1999.

Slika 15: Skica izmere iz vsebine elaborata fotogrametrične izmere katastrske občine 52 Vadarci iz leta 1979. Na levi strani so vidni zaznamki v slikovni obliki.
(Vir: Elaborat 0052_00000_002 Vadarci)

Figure 15: Pictured above is a sketch from the photogrammetric surveying report of the 52 Vadarci cadastral municipality (1979). Bookmarks in thumbnail form can be seen on the left.
(Source: Report 0052_00000_002 Vadarci)

4.3 Obdobje po letu 2000

> *Včerajšnja napaka naj ti bo današnja učiteljica.*
>
> – Latinska modrost

Obdobje po letu 2000 je značilno najprej po sprejemu novih zakonov o geodetski dejavnosti in o evidentiranju nepremičnin, ki sta postavila nove organizacijske in vsebinske temelje geodetske službe v Sloveniji. Po Zakonu o geodetski dejavnosti geodetske postopke na terenu vodi geodet z geodetsko izkaznico, elaborate geodetskih storitev potrjuje odgovorni geodet. Zakonodaja o evidentiranju nepremičnin skupaj s podzakonskimi akti določa vsebino in obliko elaboratov geodetskih storitev v analogni in digitalni obliki. Od leta 2015 geodetska podjetja poleg elaborata geodetske storitve v analogni obliki predajo geodetski upravi tudi digitalni elaborat z enako vsebino v zapisu PDF, ki ga izdelajo s standardnim orodjem geodetske uprave in oddajo na geodetsko upravo po predpisanem postopku. Geodetska uprava tak digitalni elaborat ob zaključku upravnega postopka le digitalno dopolni z lastnimi dokumenti, ki so nastali v upravnem postopku, in nato združeno vsebino shrani v arhivsko datoteko PDF/A s predpisanim imenom datoteke, določenim s štirimestno šifro katastrske občine, petmestnim identifikatorjem postopka in trimestno številko morebitnega podpostopka, na primer 1234_07541_000.pdf. Za en elaborat se praviloma izdela ena datoteka PDF, obsežnejši elaborati (na primer komasacije) pa se praviloma shranijo v več datotek z rastočo številko podpostopka v imenih datotek. Poleg ožje geodetske zakonodaje na delo geodetov in na vsebino geodetskih elaboratov vplivajo tudi drugi za geodetsko službo pomembni predpisi. Temeljni geodetsko-katastrski in drugi za geodetsko službo pomembni predpisi, ki so stopili v veljavo po letu 2000, so navedeni v preglednici 4.

Celovitejši prikaz geodetsko-katastrske zakonodaje in drugih za geodetsko službo pomembnih materialnih predpisov je dostopen na **spletnem naslovu Inženirske zbornice Slovenije – MSGeo**.

Zakonodaja je urejena v obliki seznama s povezavami neposredno na vsebino predpisov v **Uradnem listu RS** in **Pravno-informacijskem sistemu RS**.

After 2000

> *Let your past mistakes be your teachers in the present.*
>
> – Roman saying

The period after 2000 is characterised by the adoption of new laws on land surveying activities and on the recording of real estate, which created new organizational and substantive foundations of land surveying service in Slovenia. According to the Land Survey Activities Act, land surveying procedures on the ground are conducted by a surveyor with a geodetic card, and surveying reports are approved by the responsible surveyor. The Real Estate Records Act and its by-laws determine the content and form of the surveying reports in analogue and digital form. As of 2015, land surveying companies are, in addition to the surveying report on paper, required to submit a digital report with the same content in PDF format to the Surveying Authority. The PDF file must be created using the standard tool of the Surveying Authority and submitted to it by using a prescribed procedure. The Surveying Authority only complements the digital report with its own data as the final part of the administrative procedure, and then stores the aggregated content into an archival PDF/A file with a prescribed file name, created by using a four-digit cadastral municipality code, five-digit process identifier and three-digit number of a potentially applicable sub-procedure – for example 1234_07541_000.pdf. One report usually requires a single PDF file, while more extensive reports (for example, land consolidation) are normally saved in several files with an increasing sub-procedure number in file names. In addition to the specific land surveying legislation, the work of surveyors and the contents of surveying reports is also regulated by other applicable regulations. The basic land surveying-cadastral regulations and other applicable legislation which entered into force after 2000, are listed in Table 4.

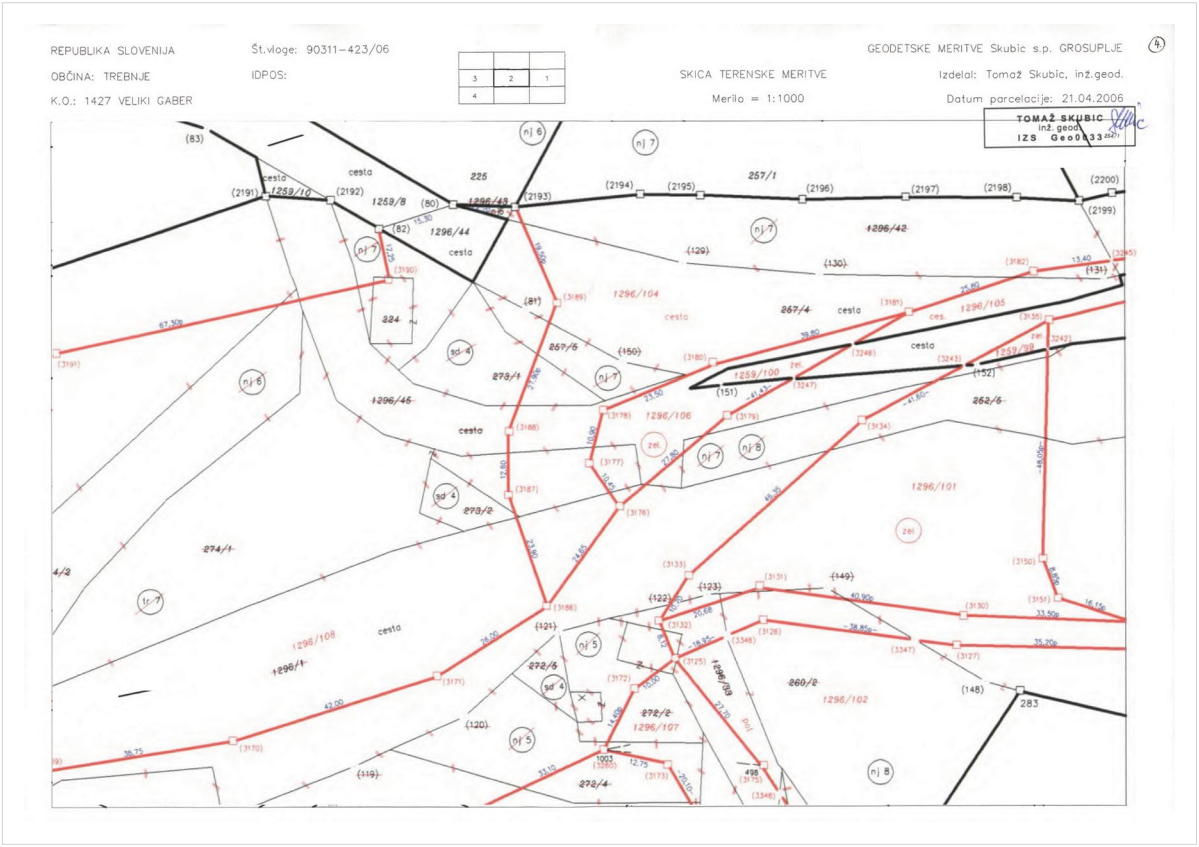
A more complete overview of the land surveying-cadastral legislation and other materially important regulations for the land surveying service can be accessed at **the Slovenian Chamber of Engineers' website – MSGeo**.

The applicable legislation can also be accessed as a list with links in the **Official Gazette of the Republic of Slovenia** and **the Slovenian Legal information system**.

Leto izdaje Year of publication	Ime predpisa Name of regulation
2000	ZGeoD > 2010 – ZGeoD-1: geodetska dejavnost Land Survey Activities Act > 2010 – Land Survey Activities Act-1
2000	ZENDMPE > 2006 – ZEN > 2018 – ZEN-A: evidentiranje nepremičnin Recording of Real Estate, State Border and Spatial Units Act > 2006 – Real Estate Records Act > 2018 – Amended Real Estate Records Act-A
2006	ZMVN > 2018 – ZMVN-1: množično vrednotenje Real Estate Mass Valuation Act > 2018 – Amended Real Estate Mass Valuation Act-1
2008	ZDOIONUS: določanje naselij, ulic, stavb Act Regulating Designation of Areas and Naming and Marking Settlements, Streets and Buildings
2010	ZIPI: infrastruktura za prostorske informacije (2007: INSPIRE) Infrastructure for Spatial Information Act (2007: INSPIRE)
2014	ZDGRS: državni geodetski referenčni sistem National Land Survey Reference System Act
2002	SPZ : Stvarnopravni zakonik Law of Property Code
2003	ZZK-1 > 2011 – ZZK-1C: Zakon o zemljiški knjigi Amended Land Registry Act-1 > 2011 – Amended Land Registry Act-1C
2002	ZUreP-1 > 2017 – ZUreP-2: urejanje prostora Amended Spatial Management Act-1 > 2017 – Amended Spatial Management Act-2
2002	ZGO-1 > 2017 – GZ: Gradbeni zakon Amended Construction Act-1 > 2017 – Building Act
2003	SZ-1 > 2017 – SZ-1C: Stanovanjski zakon Amended Housing Act-1 > 2017 – Amended Housing Act-1C
2007	ZPNačrt > 2017 – ZUreP-2: prostorsko načrtovanje Spatial Planning Act > 2017 – Amended Spatial Management Act-2
2008	ZVEtL > 2017 – ZVEtL-1: vpis etažne lastnine Act on the Acquisition of the Strata Title of a Part of a Building on the Proposal of the Owner and on Determining the Land Belonging Thereto > 2017 – Amended Act on the Acquisition of the Strata Title of a Part of a Building on the Proposal of the Owner and on Determining the Land Belonging Thereto-1
2011	ZKZ > 2016 – ZKZ-E: kmetijska zemljišča Agricultural Land Act > 2016 – Amended Agricultural Land Act-E
2017	ZAID: arhitekturna in inženirska dejavnost Architecture and Civil Engineering Act

Preglednica 4: Geodetsko-katastrski in drugi za geodetsko službo pomembni predpisi po letu 1999.

Table 4: Land surveying-cadastral and other legislation, relevant for the land surveying service, adopted after 1999.



Slika 16: Skica parcelacije po umestitvi oziroma izgradnji AC Ljubljana–Novo mesto v katastrski občini Veliki Gaber.
(Vir: Elaborat 1427-06244-000, stran 59)[1]

Figure 16: Sketch of the plot allocation after the geographical positioning/construction of the Ljubljana-Novo mesto motorway in the Veliki Gaber cadastral municipality.
(Source: Report 1427-06244-000, page 59)[1]

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

4.4 Kataster stavb

> *Lastnina je past: tisto, za kar mislimo, da imamo, ima nas.*
>
> – Alphonse Karr

Kataster stavb je temeljna evidenca podatkov o stavbah in delih stavb, ki povezuje stvarne pravice na stavbah, ki jih vodi zemljiška knjiga, z lokacijo v prostoru – umesti stavbo ali del stavbe v prostor oziroma stavbo ali del stavbe poveže z lastnikom. Podatki o stavbah in delih stavb se vodijo v centralni bazi katastra stavb, ki je povezana z registrom prostorskih enot, zemljiškim katastrom in registrom nepremičnin.

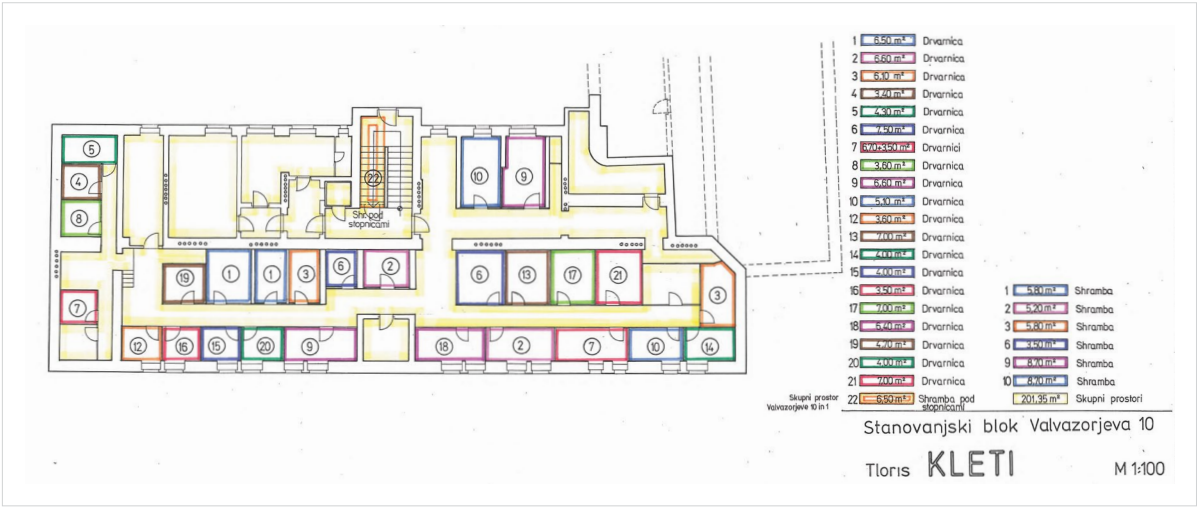
Kataster stavb je sorazmerno nova evidenca, njeni začetki segajo v leto 2000. Geodetska uprava od tedaj vodi in vzdržuje to evidenco ter trajno arhivira elaborate katastra stavb. Postopek digitalnega arhiviranja elaboratov je praktično enak opisanemu v prejšnjem poglavju. Digitalni elaborati katastra stavb se po imenih ločijo od elaboratov zemljiškega katastra tako, da imajo na koncu imena datoteke PDF dodano oznako S, na primer 1234_07541_000_S.pdf.

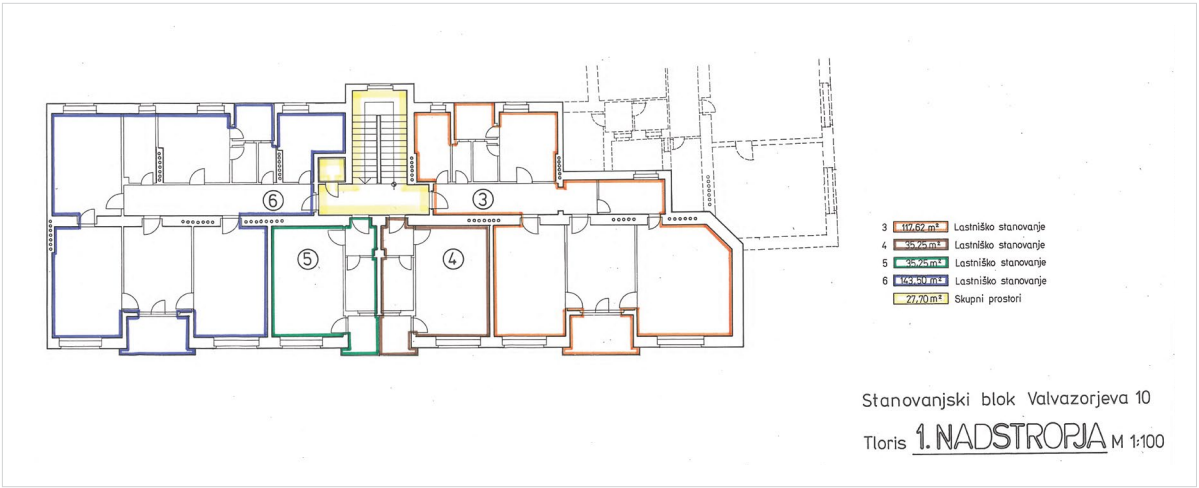
Building cadastre

> *Property is a trap: the thing that we believe we have, has us.*
>
> – Alphonse Karr

Building cadastre is the basic registry of buildings and parts thereof. It connects the rights in rem on buildings recorded in the land registry with their location – places a building or part thereof in space and connects it with its owner. Data on buildings and parts thereof is maintained in the central database of the building cadastre, linked to the register of spatial units, the land cadastre and the real estate register.

The building cadastre is a relatively new register. Its origins stem from the year 2000, when the Surveying Authority began to manage and maintain it as well as archive the building cadastre surveying reports. The procedure of digital archiving of surveying reports is fundamentally the same as described in the previous chapter. The digital surveying reports of the building cadastre are distinguished from the land cadastre surveying reports by having the letter S added to the names of the PDF files, for example 1234_07541_000_S.pdf.





Slika 17: Del elaborata etažnega načrta, prevzetega iz zemljiške knjige v evidenco katastra stavb v katastrski občini Ljubljana Ajdovščina.
(Vir: Elaborat 1725_00006_000_S Ljubljana-Ajdovščina)

Figure 17: Part of the floor plan surveying report, transferred from the land registry into the building cadastre register in the Ljubljana-Ajdovščina cadastral municipality.
(Source: Report 1725_00006_000_S Ljubljana-Ajdovščina)

REPUBLIKA SLOVENIJA
MINISTRSTVO ZA OKOLJE, PROSTOR IN ENERGIJO
GEODETSKA UPRAVA REPUBLIKE SLOVENIJE

Številka : 90332-00151/2003 Ime katastrske občine : AJDOVŠČINA
Številka postopka : 1725-00006/000 Šifra katastrske občine : 1725
Datum : 09.07.2004 Številka stavbe : 1439

Geodetska uprava RS, Območna geodetska uprava Ljubljana izdaja na podlagi 21. člena Zakona o geodetski dejavnosti (Ur.l. RS, št.8/2000), 9. člena Uredbe o določitvi območnih geodetskih uprav Geodetske uprave Republike Slovenije, njihovih območij in sedežev (Ur.l. RS, št.49/2000) in 90. ter 97. člena Zakona o evidenci nepremičnin, državne meje in prostorskih enot (Ur.l. RS, št.52/2000 - ZENDMPE), v **postopku prevzema vpisa stavb po uradni dolžnosti**, naslednje

OBVESTILO

Stavbi z naslovom **LJUBLJANA, VALVASORJEVA ULICA 10,** ki stoji na parceli št. **3064,** v katastrski občini AJDOVŠČINA je bila na podlagi etažnega načrta, ki ga je geodetska uprava prevzela od pristojnega zemljiškoknjižnega sodišča, določena identifikacijska številka stavbe in identifikacijske številke delov stavbe in ugotovljene njihove površine ter dejanska raba , kot je razvidno iz spodnje tabele:

Identifikacijska številka dela stavbe			Površina dela stavbe (v m^2)	Dejanska raba dela stavbe
Šifra katastrske občine	Številka stavbe	Številka dela stavbe		
1725	1439	1	132,68	1122-stanovanjske stavbe
1725	1439	2	149,53	1122-stanovanjske stavbe
1725	1439	3	129,52	1122-stanovanjske stavbe
1725	1439	4	38,65	1122-stanovanjske stavbe
1725	1439	5	39,55	1122-stanovanjske stavbe
1725	1439	6	154,50	1122-stanovanjske stavbe
1725	1439	7	167,37	1122-stanovanjske stavbe
1725	1439	8	38,85	1122-stanovanjske stavbe
1725	1439	9	162,76	1122-stanovanjske stavbe
1725	1439	10	131,42	1122-stanovanjske stavbe
1725	1439	11	41,55	1122-stanovanjske stavbe
1725	1439	12	38,85	1122-stanovanjske stavbe
1725	1439	13	156,80	1122-stanovanjske stavbe
1725	1439	14	125,92	1122-stanovanjske stavbe
1725	1439	15	39,25	1122-stanovanjske stavbe
1725	1439	16	38,75	1122-stanovanjske stavbe
1725	1439	17	154,78	1122-stanovanjske stavbe
1725	1439	18	129,42	1122-stanovanjske stavbe
1725	1439	19	45,45	1122-stanovanjske stavbe
1725	1439	20	40,45	1122-stanovanjske stavbe
1725	1439	21	158,80	1122-stanovanjske stavbe
1725	1439	22	79,64	1122-stanovanjske stavbe
1725	1439	23	713,81	13-skupni deli stavbe
Površina stavbe : 2908,30 m^2				

Obvestilo pripravil(-a): Saša Mulc, dipl.upr.org.

Direktor
Območne geodetske uprave LJUBLJANA:
mag.Dušan MITROVIĆ, univ.dipl.inž.geod.

Slika 18: Obvestilo Geodetske uprave RS kot del uradnega postopka iz elaborata, ki prikazuje pretvorbo etažnega načrta, prevzetega iz zemljiške knjige, v evidenco katastra stavb – geodetska uprava je določila identifikacijske oznake v katastrski občini Ljubljana Ajdovščina.
(Vir: Elaborat 1725_00006_000_S Ljubljana-Ajdovščina)

Figure 18: Notice of the Surveying Authority, issued as part of the official procedure from the surveying report, which shows the conversion of the floor plan, transferred from the land registry to the building cadastre – the Surveying Authority set the identification markers in the Ljubljana-Ajdovščina cadastral municipality.
(Source: Report 1725_00006_000_S Ljubljana-Ajdovščina)

5 Digitalizacija podatkov katastrskih arhivov

Digitization of cadastral archives data

5.1 Začetki digitalizacije

Beginnings of digitization

> *Vse stvari so težke, preden postanejo lahke.*
>
> – Arabska modrost

Prve želje in potrebe po digitalnih podatkih elaboratov katastrskih meritev so se pojavile okoli leta 2000. Na podlagi testiranj in pilotnih študij so bila izdelana osnovna vsebinska in tehnična izhodišča za digitalni arhiv. Gradivo elaboratov je nastajalo več kot 200 let in v tem obdobju se je spreminjala zakonodaja, ki je vplivala na strukturo, vsebino in obliko gradiva, na tehnologijo meritev in izdelke pa je vplival tudi tehnični razvoj.

Digitalizacija se je začela z digitalizacijo elaboratov zemljiškega katastra. Arhiv je zložen na izpostavah geodetskih uprav v omarah, po oznakah katastrskih občin. Za vsako katastrsko občino so pripravljene mape, v katerih je praviloma zložen en elaborat. V njem so združeni vsi dokumenti, ki obravnavajo en tehnični postopek – geodetsko meritev. Tehnični postopek lahko vključuje več upravnih postopkov. Elaborat je tako celota več dokumentov ali zadev, ki zadevajo isto osebo ali tvarino oziroma isto vrsto dokumentov ali zadev z različno vsebino. Tako elaborat ni samo dokumentacija o tehničnih postopkih v zvezi s posamezno spremembo, ampak ga sestavljajo vsi razpoložljivi dokumenti, ki dokumentirajo postopek pri spremembi podatkov, za katere je pristojna geodetska služba. Za enotno vodenje evidence elaboratov je oblikovan enoten način oštevilčevanja – IDPOS (identifikator postopka), ki omogoča sistematično vodenje evidence. Enoten način vodenja evidence zahteva, da so podatki smiselno urejeni. Vse razpoložljive listine so združene v en ovitek (mapo). Za vsako katastrsko občino so elaborati razvrščeni po letih. Dostop do podatkov v posamezni mapi je mogoč s poznavanjem oznake katastrske občine in številke posameznega postopka. Natančneje lahko arhiv elaboratov spremljamo od leta 1991 naprej, ko je bila nastavljena elektronska evidenca elaboratov (EVELA). Evidenca elaboratov omogoča povezovanje parcel, ki so v elaboratu (parcela se lahko nahaja v več postopkih), z oznako postopka – IDPOS.

> *Everything is hard before it becomes easy.*
>
> – Arab saying

The first notions of and calls for digital versions of land registries in Slovenia appeared around 2000. Following preliminary research and pilot studies, basic guidelines for contents and technical issues for a digital archive were drafted. The materials in the reports were over 200 years in the making, and the changing legislation in the period influenced their structure, contents and form, while technological developments altered the surveying technology and its products.

The first documents to be digitized were cadastral reports. These were archived at Surveying Authority's offices in closets, sorted by the labels of cadastral municipalities. Every cadastral municipality archive contains folders which as a rule contain a single surveying report. The report contains all the documents that deal with a single technical procedure – a survey. The technical procedure can include several administrative procedures. Reports thus contain several documents or issues which deal with the same person or subject matter or the same type of documents with different contents. The cadastral reports thus do not only include documents on technical procedures linked to individual changes, but all available documents, which document the procedure regarding the changes to the data which is under the jurisdiction of the Surveying Authority. In order to maintain a single registry of reports, a numbering system IDPOS (procedure identifier) was designed so as to enable systematic keeping of records. The single manner of managing the records required data to be logically ordered. All available documents are part of one record (folder). The reports are sorted by cadastral municipalities and within every cadastral municipality the reports are sorted by year. In order to access data in individual folders, it is necessary

Elaborat je danes strokovna podlaga za sprejemanje odločitev v upravnih postopkih, ki jih vodi geodetska uprava in so podlaga za evidentiranje sprememb podatkov v evidenci zemljiškega katastra in katastra stavb, ter pri drugih nalogah pri evidentiranju nepremičnin. Elaborat je dokumentacija, ki jo po naročilu stranke izdela geodetsko podjetje pri izvedbi geodetske storitve (elaborate v zvezi z vpisi stavbe in delov stavbe v kataster stavb lahko izdela tudi projektant).

Dokumenti v elaboratih so bili pripravljeni v različnih časovnih obdobjih, z različnimi tehnikami in prikazani na različnih medijih. Prevladujejo dokumenti na papirju in prosojnih folijah. Gradivo ima veliko barvnih odtenkov, predvsem pri skicah in načrtih, različni pa so tudi formati, od okvirno B5 do A3 in večjih. Ena od zahtevnejših nalog pred digitalizacijo je bila oblikovati smiselne skupine istovrstnih dokumentov (skica, zapisnik, odločba, zapisniki tahimetričnih meritev ipd.). Pri digitalnem elaboratu so te skupine dokumentov dosegljive na zaznamkih, ki omogočajo hiter dostop do posameznega sklopa, uporabljajo pa se tudi pri elaboratih z več kot 100 stranmi.

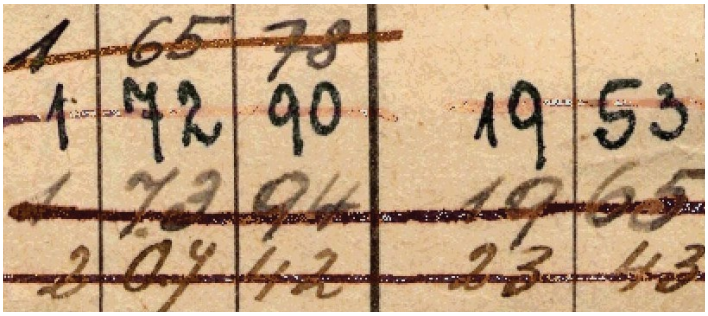
Poleg vsebinske urejenosti digitalnih elaboratov so zelo pomembne tudi njihove tehnične lastnosti. Te lastnosti niso pomembne samo zaradi procesa skeniranja, temveč tudi za poznejšo uporabo, obdelavo, način hranjenja, prikaza na zaslonu ali papirju. Na obliko skeniranih dokumentov so vplivali tudi razni dejavniki: svetloba, vlaga, temperatura, ravnanje, hramba, obraba, starost, oksidiranje barve ipd. Pred digitalizacijo je bilo treba analizirati ločljivost rastrske slike, barvno globino, velikost datoteke in format zapisa. Osnovni elementi, ki vplivajo na velikost datoteke, so: dimenzije dokumenta, ločljivost (dpi) in bitna globina. Po izvedenih testih je bila sprejeta odločitev, da bodo imele vse rastrske slike dokumentov (tudi zemljiškokatastrskih načrtov) ločljivost 300 dpi in 24 bitov (prikaz 16,7 milijona barv). Na dveh slikah, prikazanih v nadaljevanju, je najprej prikazan primer skeniranja v 256 barvah, nato pa primer skeniranja v 16,7 milijona barv.

to know the cadastral municipality code and the individual procedure's number. The archive of the reports can be managed in more detail from 1991 onwards, when the electronic registry of the reports (EVELA) was set up. The registry of reports allows for land plots inside the reports (a plot can be involved in more than one procedure) to be linked with the procedure identifier (IDPOS).

The surveying reports form the basis for making decisions in administrative procedures managed by the Surveying Authority, the basis for documenting the changes to data in the land and building registers as well as other tasks regarding the recording and management of real estate. The reports are documents created on a client's request by a land surveying company as part of its service (reports on entering a building and parts thereof in the building cadastre can also be made by the contractor).

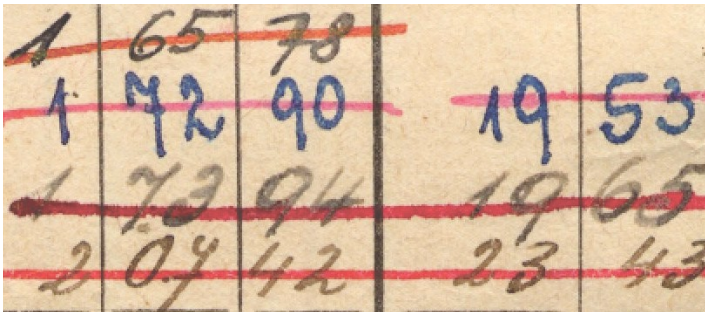
Documents inside cadastral reports were made in various time periods, used different techniques and were recorded on diverse media. Regarding the latter, paper and transparent films prevail. The materials contain numerous colour shades, especially the sketches and plans, with the formats also displaying a great variety (from B5 to A3 and larger). One of the more demanding tasks prior to digitization was to create meaningful groups of similar documents (sketches, notes, decisions, records of tacheometric surveying etc.). Digital reports enable access through bookmarks to these groups of documents, thus allowing for speedy access to individual sets. Bookmarks are also used for reports with more than 100 pages.

Apart from being ordered according to contents, the technical characteristics of digital reports are also very important, not solely in order to choose the correct scanning process but also for subsequent use, editing, storage, display on screen or on paper. Numerous factors affect the form of scanned documents: light, moisture, temperature, handling, storage, wear and tear, age, colour oxidation and so on. Prior to digitization, it was necessary to analyse the resolution of the raster image, colour depth, file size and format. The main elements that determine the file size are: document dimensions, resolution (dpi) and bit depth. Based on sample scans, it was decided that all raster images of documents (including land cadastre plans) will be scanned with a resolution of 300 dpi and 24-bit colour depth (allowing for 16.7 million colours). The two figures below show the results of scanning, done in 256 colours first and then in 16.7 million colours.



Slika 19: Del parcelnika, skeniran v 256 barvah (300 dpi, 8 bit).
(Vir: Geodetska uprava RS)

Figure 19: Part of the list of land plots scanned in 256 colours (300 dpi, 8 bit).
(Source: Surveying Authority)

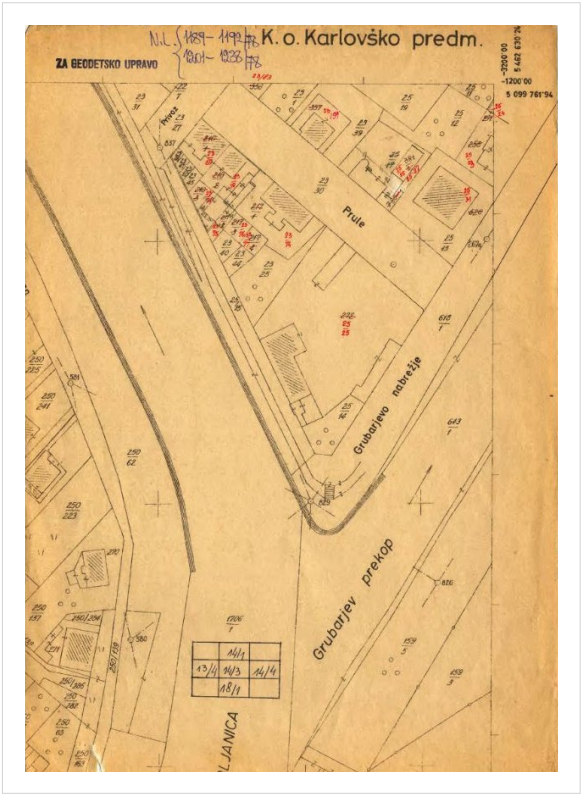


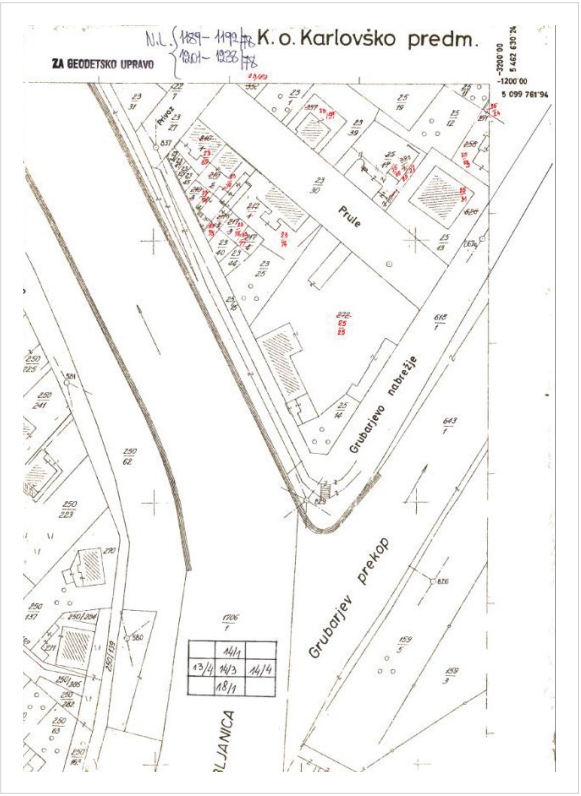
Slika 20: Del parcelnika, skeniran v 16,7 milijona barv (300 dpi, 24 bit).
(Vir: Geodetska uprava RS)

Figure 20: Part of the list of land plots scanned in 16.7 million colours (300 dpi, 24 bit).
(Source: Surveying Authority)

Digitalizacija je izhajala iz izhodišča, da morajo biti digitalne slike verna reprodukcija klasičnega gradiva, ko se natisnejo na običajen tiskalnik. Velikost datoteke je vedno sorazmerna z njeno ločljivostjo, in če je ločljivost previsoka, je v sliki preveč podatkov, kot jih je potrebnih za normalno uporabo, po nepotrebnem pa se podaljša tudi čas prenosa podatkov na spletu. Preučitev in primerjava različnih metod in formatov stiskanja sta omogočili izbiro primernega formata za shranjevanje podatkov. Sprejeta je bila odločitev, da bodo vsi dokumenti obdelani z ustrezno stopnjo stiskanja. Izbran je bil format oziroma algoritem stiskanja DjVu. Pri stiskanju je algoritem zelo učinkovit zaradi razslojevanja slike v štiri sloje. Primeri slojev formata DjVu so prikazani na slikah 21 in 22. Čeprav je algoritem DjVu z izgubami, je te izgube pri digitalnih dokumentih zelo težko ugotoviti.
V prvih letih digitalizacije je bilo na podlagi študij ocenjeno število strani dokumentov, ki jih je treba digitalizirati. Ta ocena se je gibala okoli 15 milijonov strani, danes je teh strani bistveno več.

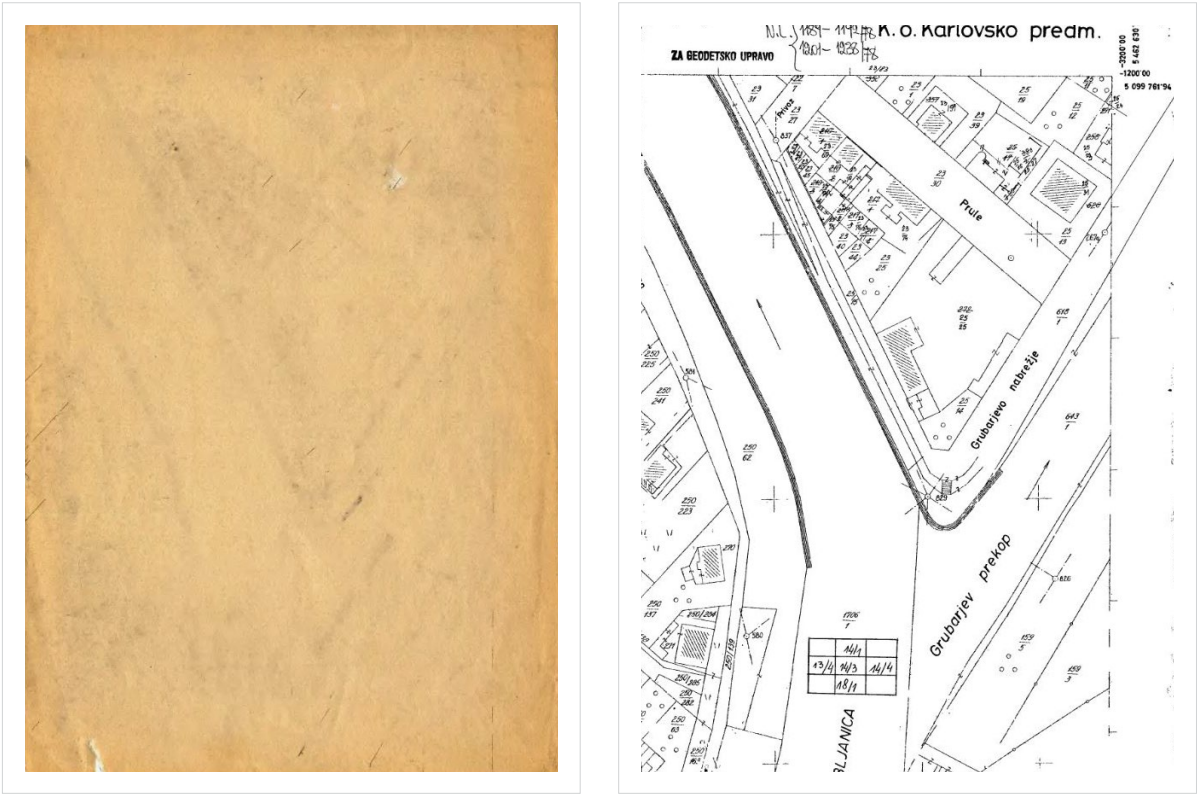
One of the requirements for digitization was to create digital images that are a faithful reproduction of their paper originals when printed on a normal printer. The file size is always commensurate with its resolution and if the latter is set too high, the image contains more data than is required for normal use, while also needlessly increasing the amount of time required for downloading. Studying and comparing different compression methods and formats enabled the selection of a suitable format for file storage. It was decided that all documents will be processed with a suitable degree of compression. The selected format/compression algorithm was DjVu. This algorithm is very efficient for compressing images, as it separates them into four layers. Examples of layers used by the DjVu format are shown on figures 21 and 22. Furthermore, despite the format being lossy, it is very difficult to notice the losses on the digital documents. In the first years of digitization, the number of documents that need to be scanned was assessed by studies. The original assessment was about 15 million pages – a number vastly exceeded today.





Slika 21: DjVu – celotna slika in barvno ospredje.
(Vir: Geodetska uprava RS)

Figure 21: DjVu, the complete image and the colour foreground.
(Source: Surveying Authority)



Slika 22: DjVu – črno-belo ospredje in barvno ozadje. (Vir: Geodetska uprava RS)

Figure 22: DjVu, the black and white foreground and the colour background. (Source: Surveying Authority)

V prvih desetih letih so bili podatki, poleg formata DjVu, shranjeni tudi v formatu TIFF, v obliki brez izgub. Primerjava velikosti datotek med formatoma TIFF in DjVu za rastrsko sliko dokumenta v velikosti formata A3 pokaže značilno velikostno razmerje: zapis TIFF (51,3 MB) je bistveno večji od zapisa DjVu, ki znaša 153 kB.

Med digitalizacijo elaboratov geodetskih meritev je potekala tudi digitalizacija zemljiškokatastrskih načrtov (ZKN). Do leta 2006 so bili v digitalno obliko pretvorjeni vsi klasični katastrski načrti – okoli 75.000. Tehnična navodila za digitalizacijo zemljiškokatastrskih načrtov so smiselno upoštevala navodila za digitalizacijo elaboratov.

In the first ten years, data was also stored in the lossless TIFF format. A comparison of file sizes between the TIFF and DjVu formats for a raster image in A3 format shows that TIFF at 51.3 MB is substantially larger than DjVu at 153 KB.

The digitization of surveying reports was carried out alongside the digitization of land cadastre plans. By 2006, digitization was complete for the classical cadastral plans, kept by the Surveying Authority, totalling some 75,000 documents. Technical instructions for the digitization of land cadastral plans followed the guidelines for digitizing the reports.

5.2 Prenova sistema

Vse, kar lahko dosežeš brez truda in dela, nima prave vrednosti.

– Joseph Addison

Večja prenova sistema digitalizacije – organizacije, upravljanja in uporabe podatkov – je bila izvedena v letu 2013. Pri prenovi tehnoloških standardov so bili upoštevani dokumenti »Enotne tehnološke zahteve za zajem in hrambo gradiva v digitalni obliki« Arhiva Republike Slovenije in standardi ISO za formate za dolgoročno hrambo: ISO 19005-2 in ISO 32000-1 (PDF 1.7), Level B Conformance (PDF/A-2b).

Nove razvite informacijske rešitve so omogočile, da so se v procese digitalizacije vključili tudi referenti na geodetskih upravah in geodetski izvajalci. Aplikacija za urejanje digitalnih elaboratov UDE je brezplačno na voljo geodetskim izvajalcem, ki morajo od leta 2015 poleg papirnate oblike na geodetsko upravo oddati tudi digitalni zapis elaboratov. Do leta 2015 so celoten letni proces digitalizacije izvajali zunanji pogodbeni partnerji, s tem letom pa se je začela izvajati množična digitalizacija elaboratov katastra stavb, ki se je hkrati z digitalizacijo elaboratov zemljiškega katastra zaključila leta 2019. Danes je v digitalni obliki že več kot 23 milijonov strani dokumentov geodetskih meritev (številka se z novimi elaborati vsak dan povečuje), kar je več kot 5 TB podatkov (preglednica 5). Podatki so shranjeni na strežnikih Ministrstva za javno upravo.

System overhaul

Everything that can be achieved without effort and work, does not have real value.

– Joseph Addison

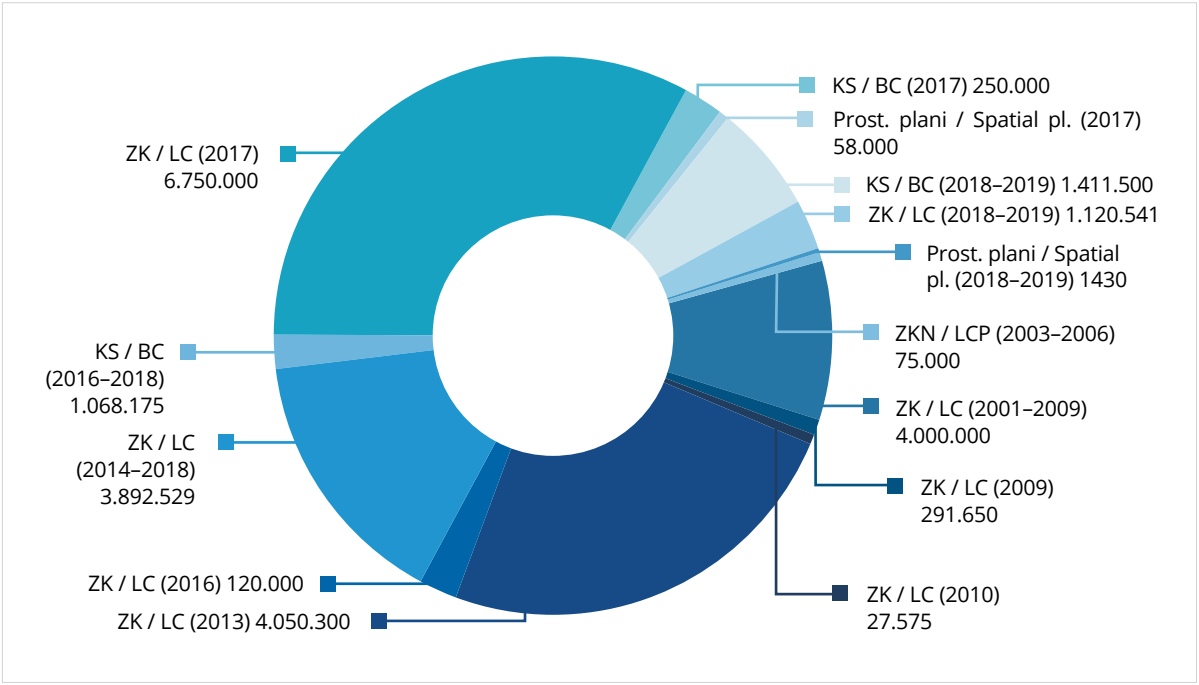
A major upgrade of the digitization system – organisation, management and use of data – was carried out in 2013. The changes to technological standards were made in conformance with the "Single technological requirements for recording and storing materials in digital form" published by the national Archives and the following ISO standards for long-term storage formats: ISO 19005-2 in ISO 32000-1 (PDF 1.7), Level B Conformance (PDF/A-2b).

The newly developed IT solutions allowed clerks at the Surveying Authority's branch offices and land surveyors to be included in the digitization process. The Application for editing digital reports (UDE) is available for free to land surveying contractors, who have since 2015 been required to submit the report in both digital and paper formats. The entire annual process of digitization was carried out by contractual partners until 2015, when a mass digitization of building cadastre began. Both, the digitization of building cadastre and the cadastral reports were completed in 2019. Over 23 million pages of land surveying reports are available in digital form today and their number keeps increasing as new reports are made. This means over 5 TB of data (table 5), which are stored on the servers of the Ministry of Public Administration.

Obdobje Period	Vsebina Contents	Število dokumentov Number of documents	Viri financiranja Financing sources
2003–2006	Zemljiškokatastrski načrti Land cadastre plans	75.000	Integralna sredstva Own funds
2001–2009	Zemljiški kataster Land cadastre	4.000.000	Integralna sredstva Own funds
2009	Zemljiški kataster in GJI Land cadastre and public infrastructure cadastre	291.650	Integralna sredstva Own funds
2010	Zemljiški kataster Land cadastre	27.575	Integralna sredstva Own funds
2013	Zemljiški kataster Land cadastre	4.050.300	Integralna sredstva Own funds
2016	Zemljiški kataster Land cadastre	120.000	Integralna sredstva Own funds
2014–2018	Zemljiški kataster Land cadastre	3.892.529	Ob tekočem vzdrževanju Part of running maintenance
2016–2018	Kataster stavb Building cadastre	1.068.175	Ob tekočem vzdrževanju Part of running maintenance
2017	Zemljiški kataster Land cadastre	6.750.000	eProstor eProstor
2017	Kataster stavb Building cadastre	250.000	eProstor eProstor
2017	Prostorski plani Spatial plans	58.000	eProstor eProstor
2018–2019	Kataster stavb Building cadastre	1.411.500	eProstor eProstor
2018–2019	Zemljiški kataster Land cadastre	1.120.541	eProstor eProstor
2018–2019	Prostorski plani Spatial plans	1430	eProstor eProstor
		23.116.700	

Preglednica 5: Obdobja in obseg digitaliziranih dokumentov.

Table 5: Periods and number of digitized documents.



Slika 23: Grafični prikaz obsega digitalizacije na podlagi podatkov iz preglednice 5.

Figure 23: Graphical chart showing the scope of digitization based on data from table 5.

Zaradi varovanja osebnih podatkov mora biti dostop do digitalnih podatkov elaboratov geodetskih meritev nadzorovan. Z ustreznimi informacijskimi rešitvami je dostop omogočen zaposlenim na geodetski upravi in upravnih enotah. Pri izvajanju svojih storitev te podatke dnevno uporabljajo pooblaščeni geodetski izvajalci in projektivna podjetja ter drugi uporabniki (na primer sodni izvedenci), ki morajo za dostop uporabiti digitalno potrdilo.

Gradivo zemljiškega katastra in katastra stavb v analogni obliki je po opravljeni digitalizaciji skrbno urejeno in hranjeno kot stalna zbirka.

In order to safeguard personal data, access to digital data of surveying reports must be restricted. Implemented IT solutions allow data to be viewed by Surveying Authority and employees of administrative units. While carrying out their services, data is accessed daily by authorised contractual land surveyors and design companies as well as by other users (such as court experts), who are given such access after presenting the required digital certificate.

Having been digitized, the paper forms of the land cadastre and the building cadastre documents are now carefully managed and stored as a permanent collection.

Slika 24: Arhivski dokumenti pred pristopom k digitalizaciji in urejene police po digitalizaciji.
(Foto: Damjan Kvas)

Figure 24: Archival documents before digitization and ordered on shelves after digitization.
(Photo: Damjan Kvas)

5.3 Zemljiškokatastrski načrti

> *Če smo obrnjeni v pravo smer, moramo v tej smeri samo naprej.*
>
> – Budistična modrost

Poleg elaboratov arhiv zemljiškega katastra vsebuje tudi zemljiškokatastrske načrte in indikacijske skice, ki prikazujejo spremembe zemljiškega katastra skozi zgodovino. S postopnim uveljavljanjem digitalnih katastrskih načrtov v uradni uporabi je geodetska uprava od leta 2000 do leta 2009 prenehala vzdrževati klasične katastrske načrte, ki se sedaj uporabljajo le kot arhivsko gradivo.

Zemljiškokatastrske načrte informacijsko obravnavamo z lokacijske in časovne ravni. Lokacijsko raven obravnavamo posredno s pomočjo sistema matematično pravilnih vektorskih mrež za koordinatne sisteme in merila. Načrti nimajo lokacijske informacije in niso umerjeni in transformirani v ustrezen koordinatni sistem, ampak je prostorska lokacija določena posredno preko nomenklature oznake, ki povezuje lokacijo posameznega matematičnega okvirja lista z njegovo rastrsko sliko. Izdelan je sistem vektorskih mrež listov za vse koordinatne sisteme in merila, v katerih so načrti prikazani. Vsak pravokotnik v določeni mreži ima informacijo o obstoju načrta. Slednji prikazujejo parcelno stanje v nekem obdobju – od nastavitve lista do zaključka vzdrževanja, zato je vsak digitalni načrt opisan tudi z informacijo o času. Na primer, vsi načrti, ki so bili uporabljeni za vzpostavitev digitalnih katastrskih načrtov (DKN), imajo stanje 0, starejši načrti imajo stanja od 1 naprej.

Želje lastnikov po analizi stanja nepremičnin v preteklosti, potrebe geodetskih izvajalcev po arhivskih podatkih grafičnega stanja nepremičnin in tudi zakonska določila o brezplačnih javnih zbirkah podatkov so narekovali razvoj aplikacije, ki omogoča vpogled v arhivske zemljiškokatastrske načrte, ki jih hranita geodetska uprava in Arhiv Republike Slovenije.

Arhiv Republike Slovenije hrani večino gradiva originalnega franciscejskega in reambulančnega katastra. Franciscejski kataster ni popolnoma ohranjen, stanje se po posameznih deželah razlikuje. Največ gradiva je ohranjenega za nekdanjo Kranjsko, za preostale pokrajine (Štajerska, Koroška in Primorska) pa

Land cadastre plans

> *If we are facing in the right direction, all we need to do is keep on walking.*
>
> – Buddhist saying

Apart from the surveying reports, the land cadastre archive also includes land cadastre plans and field cadastral maps, which show the changes to the land cadastre throughout history. The gradual introduction of digital cadastre plans into official use meant that the Surveying Authority between 2000 and 2009 ceased to maintain classical paper cadastral plans, which are now used as archival materials.

Land cadastre plans are managed both from a spatial and time viewpoints. The spatial viewpoint is managed indirectly by using a system of mathematically correct vector meshes for reference grids and scales. The plans do not contain location information and are not calibrated and transformed onto a suitable reference grid. Their location in space is rather determined indirectly through a label that links the location of an individual mathematical framework of a sheet with its raster image. A system of vector mesh sheets was created for all reference grids systems and the scale in which the plans are displayed. Each rectangle in a given network contains information about the plan. The plans show a plot's state in a given period – from the setting of the sheet to the completion of maintenance, so every digital plan also contains a timestamp. For example, all the plans that have been used to set up the digital cadastral plans (DKN) have the state of 0, while older plans have states of 1 and higher.

The owners' desire to analyse the condition of real estate in the past, the needs of surveyors for archival data on how real estate looked before, as well as legal provisions regarding free public databases, dictated the development of an application that allows access to the archived cadastral maps kept by the Surveying Authority and the national Archives.

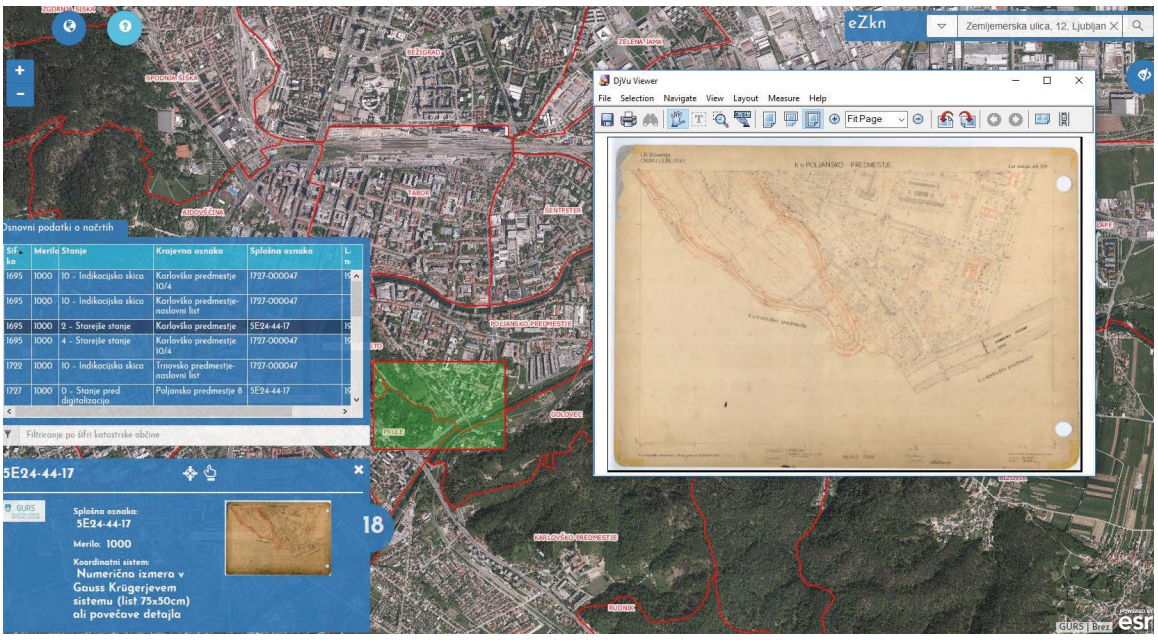
The national Archives keep most of the original Franciscan and revised cadastre. The Franciscan cadastre is not completely preserved and its completeness varies by region. The best preserved materials are for the former Carniola, while material is incomplete for the remaining provinces of Lower Styria, Carinthia and the Slovenian Littoral. The revised cadastre meanwhile contains

je gradivo manj popolno. Pri reambulančnem katastru je gradivo ohranjeno za Kranjsko, Koroško in Prekmurje. Nekaj gradiva hranijo tudi arhivi zunaj slovenskih meja (na primer del arhiva za Primorsko hrani arhiv v Trstu).

Na podlagi meril in stanj načrtov je bila vzpostavljena **informacijska rešitev – aplikacija eZKN**, ki omogoča pregled in uporabo digitalnih podatkov. Celoten sistem – aplikacija in podatki – deluje na sistemski infrastrukturi državnega računalniškega oblaka na Ministrstvu za javno upravo. Aplikacija je javno dostopna in omogoča brezplačen dostop do omenjenih načrtov. Za dostop do podatkov Arhiva Republike Slovenije je vzpostavljena informacijska povezava za več kot 2400 od 2689 katastrskih občin. Povezava omogoča neposreden dostop do podatkov arhiva s pomočjo aplikacije »Pregled in iskanja po podatkovni zbirki ARS«. Digitalne slike zemljiškokatastrskih načrtov, ki jih hrani geodetska uprava, so zapisane v formatu DjVu, ki potrebuje ustrezen vmesnik za prikaz na zaslonu. Podatki Arhiva Republike Slovenije so dostopni v formatu JPG, ki vmesnika ne potrebuje, vendar so brezplačni podatki slabše ločljivosti.

material for Carniola, Carinthia and Prekmurje. Some materials are also stored by archives outside of Slovenia (e.g. a part of the archive for the Slovenian Littoral is kept by the Archive in Trieste).

Based on the scale and condition of the plans, an IT **application was created – the eZKN**, which allows for inspection and use of digital data. The entire system – application and data – is hosted on the national cloud servers at the Ministry of Public Administration. The application is publicly available and allows free access to these plans. In order to access the data in the national Archives, an information connection has been established for more than 2400 out of the 2689 cadastral municipalities. The connection allows for direct access to data in the national Archives through the "ARS Database viewing and searching" application. The digital images of the land cadastre plans, kept by the Surveying Authority, are recorded in the DjVu format, which requires a suitable interface to be displayed on a screen. National Archives data is also available in JPG format that does not require the interface, but is of inferior quality.



Slika 25: Zaslonska slika aplikacije eZKN.
(Vir: https://gis.gov.si/ezkn/)

Figure 25: Screen capture of the eZKN application.
(Source: https://gis.gov.si/ezkn/)

5.4 Uporaba digitalnih podatkov

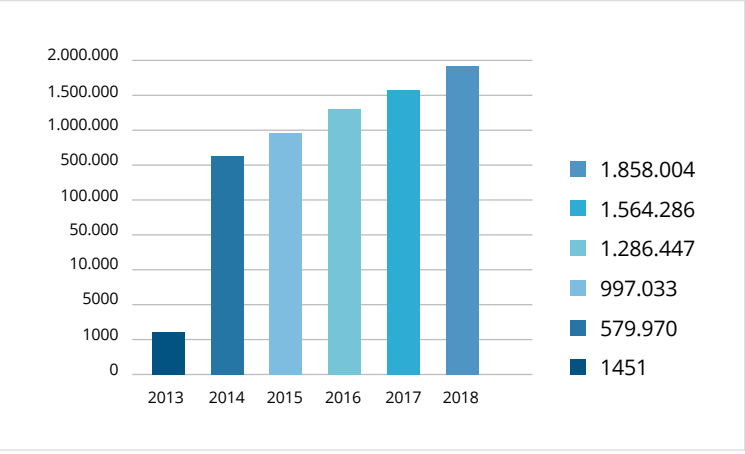
Ne bojte se napredovati počasi, bojte se le tega, da bi se ustavili.

– Kitajska modrost

Zaradi velikega povpraševanja in nenehne uporabe so bili nekateri arhivski dokumenti že zelo poškodovani, zato je bila njihova digitalizacija nujna za preprečitev nadaljnjega propadanja. Rast števila uporabnikov kaže, da so izdelane informacijske rešitve ustrezne. Digitalna oblika arhiva ima pred klasično vrsto prednosti:

- 24-urna dostopnost za izvajalce geodetskih storitev,
- dokumentarno gradivo ostaja nepoškodovano,
- digitalizirani so vsi dokumenti trajnega značaja,
- digitalizirani so vsi formati.

Vedno več poizvedb po podatkih tudi dokazuje, da so dostopnost 24/7, hiter dostop do obsežnega gradiva, možnost prikazovanja, pretvarjanja, različnih načinov uporabe, tiskanja itd. pospešili učinkovitost delovanja geodetske stroke na eni strani in nestrokovni javnosti olajšali vpogled v našo kulturno dediščino na drugi. Na slikah 26 in 27 je prikazana rast uporabe digitalnih podatkov.



Slika 26: Prikaz števila poizvedb po letih. (Vir: Geodetska uprava RS)

Use of digital data

Be not afraid of growing slowly, be afraid only of standing still.

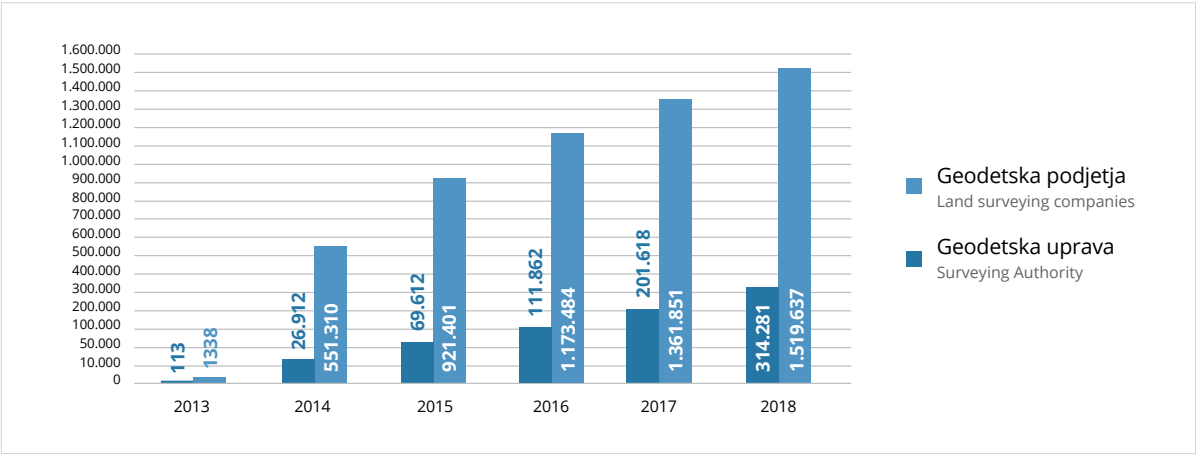
– Chinese saying

Due to high demand and constant use, some archival documents were already badly damaged, making their digitization a must in order to save them from further wear and tear. The growth in the number of users proves that the implemented IT solutions are suitable. A digital archive has numerous advantages over its paper counterpart:

- 24-hour access for land surveying service providers
- Documentary materials remain undamaged
- All documents of a permanent nature have been digitized
- All formats have been digitized

The increase in the number of queries also shows that the 24/7 accessibility, speedy access to an extensive list of materials, the ability to display, convert, use in various ways, print etc. accelerated the efficiency of the land surveying profession as well as made it easier for the public to gain insight into our cultural heritage. Figures 26 and 27 show an increase in the use of digital data.

Figure 26: Number of queries by year. (Source: Surveying Authority)



Slika 27: Prikaz poizvedb geodetske uprave in geodetskih podjetij.
(Vir: Geodetska uprava RS)

Figure 27: Queries by the Surveying Authority and land surveying companies.
(Source: Surveying Authority)

6 Arhiv državnih prostorskih aktov

Archive of national spatial planning documents

> *S tega sveta ne bomo odnesli ničesar, ostala pa bodo naša dejanja.*
>
> – Francois la Rochefoucauld

Državni prostorski akti (DPA) so izvedbeni splošni pravni akti, s katerimi država načrtuje prostorske ureditve državnega pomena. Danes jih poznamo pod različnimi imeni (lokacijski načrt – LN, državni lokacijski načrt – DLN, državni prostorski načrt – DPN). Z državnim prostorskim aktom se določijo območje načrtovanih prostorskih ureditev in prostorski izvedbeni pogoji za njihovo izvedbo.

Hierarhično so nadrejeni občinskim prostorskim aktom (občinskim prostorskim načrtom – OPN in občinskim podrobnim prostorskim načrtom – OPPN).

> *We shall take nothing with us from this world, but our deeds will remain.*
>
> – Francois la Rochefoucauld

National spatial planning documents include general legal implementing instruments used by the state for spatial planning of projects of national importance. They are known under different names (location plan, national location plan, national spatial plan). National spatial planning documents determine the area of planned projects and the spatial conditions for their implementation. They are ranked above municipal spatial planning documents (municipal spatial plans and municipal detailed spatial plans).

National spatial planning documents contain descriptive and graphical parts and accompanying material. The descriptive part of an applicable national spatial planning

Državni prostorski akt vsebuje tekstualni in grafični del ter spremljajoče gradivo. Tekstualni del veljavnega državnega prostorskega akta se nanaša na uredbo o lokacijskem načrtu, državnem lokacijskem načrtu oziroma državnem prostorskem načrtu, grafični del pa navadno vsebuje:

- prikaz prostorske ureditve v širšem prostoru s prikazom povezav s sosednjimi območji,
- prikaz umestitve prostorske ureditve v prostor in
- prikaz območja načrta z načrtom parcel.

Prikaz območja državnega prostorskega načrta z načrtom parcel se izdela na geodetskem načrtu, ki vsebuje samo podatke o zemljiških parcelah. Osnovna tehnična pravila, ki določajo obveznost priprave dokumentacije v digitalni obliki, so bila sprejeta v letu 2009 na podlagi Zakona o prostorskem načrtovanju. Arhiv dokumentacije državnih prostorskih aktov je bil pred izvedbo projekta digitalizacije zagotovljen v celoti v analogni obliki, v digitalni obliki pa zgolj za dobro polovico celotne dokumentacije.

Projekt digitalizacije državnih prostorskih aktov je bil razdeljen na dva sklopa. Cilj prvega sklopa je bil vzpostaviti celoten arhiv dokumentacije državnih prostorskih aktov v digitalni obliki in zagotoviti poenoteno obliko dokumentov grafičnega dela vseh veljavnih, cilj drugega sklopa pa prostorsko umestiti dokumente grafičnega dela arhiva državnih prostorskih aktov v državni koordinatni sistem D96/TM.

Gradivo za posamezen državni prostorski akt v analogni obliki je bilo vezano v različno število fasciklov, večji del gradiva se je nanašal na dokumente tekstualnega dela v standardnem enostranskem formatu A4. Posamezni fascikli so vsebovali od 10 do 60 dokumentov grafičnega dela v razponu formatov od A3 do A0, del v formatu, večjem od A0 (najvišji zaveden format: 1100 mm x 2060 mm, najdaljši zaveden format: 750 mm x 5530 mm). Celotno analogno gradivo je bilo digitalizirano posamično po fasciklih v obliko PDF/A-2b. Posamezen državni prostorski akt v digitalni obliki je bil tako zagotovljen v najmanj eni datoteki PDF.

V letu 2018, kmalu po zaključku projekta, je bila na spletnem mestu prostorskega informacijskega sistema prvič objavljena in javnosti dostopna celotna dokumentacija grafičnega dela vseh veljavnih državnih prostorskih aktov. Preostala podrobna dokumentacija, ki je bila izdelana v okviru projekta digitalizacije, bo javnosti na voljo po dokončni vzpostavitvi prostorskega informacijskega sistema v letu 2021.

document refers to the decree on the location plan, national location plan or a national spatial plan, while the graphical part usually includes:

- Spatial arrangement in a wider area by displaying connections with adjacent areas,
- Spatial arrangement's geographical positioning
- Area of the plan, including a plan of land plots

The national spatial plan with a map of land plots is drawn upon an existing land survey plan, containing only data on land plots. The underlying technical regulations, which set the obligation to draft documentation in digital form, were adopted in 2009 on the basis of the Spatial Planning Act. The national spatial planning documents archive was provided in full in paper form prior to the implementation of the digitization project, while just over half of it had already been digitized.

The project to digitize national spatial planning documents was divided into two parts. The aim of the first was to establish the entire archive of national spatial planning documents in digital form and to provide a uniform format for the graphical part of all valid documents; the aim of the second was to geographically position the graphical part of the archival national spatial planning documents into the national coordinate system D96/TM.

The material for individual national spatial planning documents in paper format was located in various folders, with most of the material referring to the descriptive part of the documents in single-page A4 format. Individual folders contained between 10 and 60 graphical documents, ranging in size from A3 to A0, while some formats even exceeded A0 (the tallest recorded format: 1,100 mm x 2,060 mm, the longest recorded format: 750 mm x 5,530 mm). The entire material in analogue form was digitized individually by folders into PDF/A-2b format. Individual national spatial planning documents in digital form were thus guaranteed to be found in at least one PDF file.

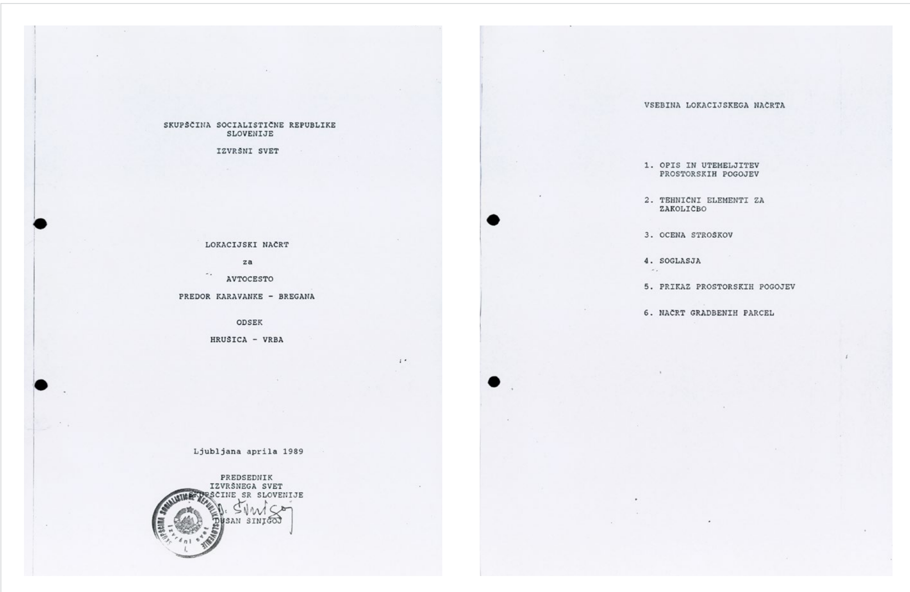
Shortly after the completion of the project in 2018, the entire documentation of the graphical part of all applicable national spatial planning documents was published and made publicly available for the first time through the spatial information system website. The remaining detailed documentation, digitized during this project, will meanwhile become available to the public in 2021, after the spatial information system comes online in full.

Primer digitaliziranega dokumenta

V nadaljevanju je prikazan del grafičnih podlag iz digitaliziranega dokumenta, ki se nanaša na vsebino Odloka o lokacijskem načrtu za avtocesto predor Karavanke–Bregana, odsek Hrušica–Vrba (Uradni list SRS, št. 20/89).

Digitized document example

Shown below is a part of the graphical documentation from a digitized document that relates to the Decree on the spatial plan for the motorway Karavanke Tunnel-Bregana, section between Hrušica and Vrba (Official Gazette SRS, No 20/89).



SKUPŠČINA SOCIALISTIČNE REPUBLIKE SLOVENIJE

IZVRŠNI SVET

LOKACIJSKI NAČRT

za

AVTOCESTO

PREDOR KARAVANKE - BREGANA

ODSEK

HRUŠICA - VRBA

Ljubljana aprila 1989

PREDSEDNIK IZVRŠNEGA SVETA SKUPŠČINE SR SLOVENIJE

DUŠAN ŠINIGOJ

VSEBINA LOKACIJSKEGA NAČRTA

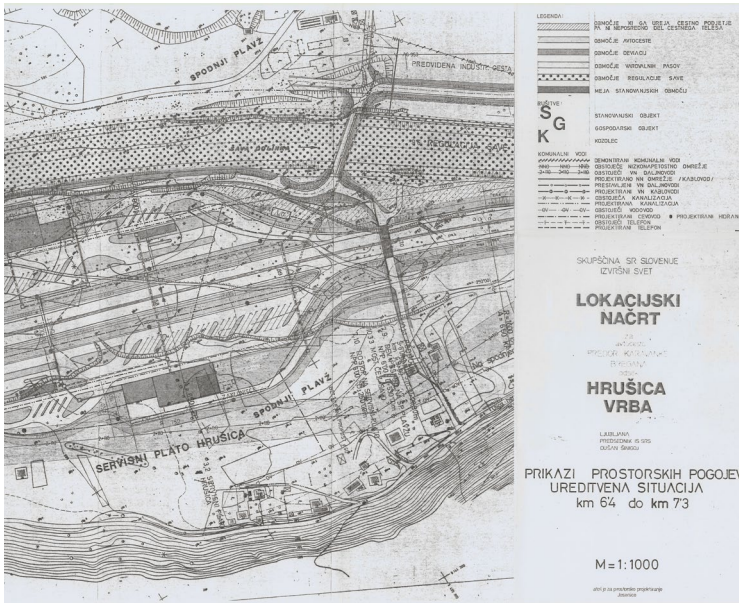
1. OPIS IN UTEMELJITEV PROSTORSKIH POGOJEV
2. TEHNIČNI ELEMENTI ZA ZAKOLIČBO
3. OCENA STROŠKOV
4. SOGLASJA
5. PRIKAZ PROSTORSKIH POGOJEV
6. NAČRT GRADBENIH PARCEL

Slika 28: Naslovni list in vsebina lokacijskega načrta.
(Vir: Ministrstvo za okolje in prostor)

Figure 28: Spatial plan title page and contents.
(Source: Ministry of Enviroment and Spatial Planning)

Slika 29: Pregledna situacija z mejo območja.
(Vir: Ministrstvo za okolje in prostor)

Figure 29: Overview of the situation with area borders.
(Source: Ministry of Enviroment and Spatial Planning)

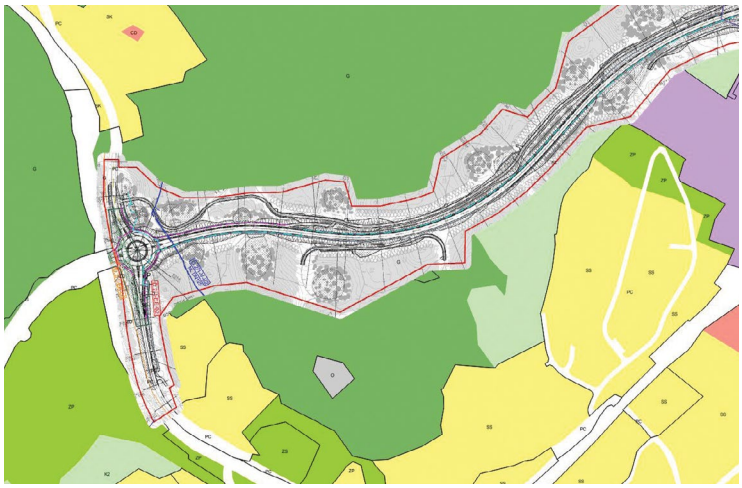


Slika 30: Del ureditvene situacije.
(Vir: Ministrstvo za okolje in prostor)

Figure 30: Detail of the planned section.
(Source: Ministry of Enviroment and Spatial Planning)

Uporabnost digitaliziranih prostorskih aktov se poveča s prostorskim umeščanjem.

The applicability of digitized spatial plans is increased by spatial positioning.



Slika 31: Prikaz ureditvene situacije iz Uredbe o državnem prostorskem načrtu za državno cesto od priključka Maline do MMP Metlika in do priključka Črnomelj jug (Uradni list RS, št. 70/17) z namensko rabo prostora iz Odloka o Občinskem prostorskem načrtu Občine Črnomelj (Uradni list RS, št. 82/11 in 49/16).
(Vir: Ministrstvo za okolje in prostor)

Figure 31: The situational plan from the Decree on the national spatial plan for the state road from the Malina intersection to MMP Metlika and to the Črnomelj South intersection (Official Gazette RS, No 70/17) overlaid on the Decree on the municipal spatial plan of the Municipality of Črnomelj showing the use of land (Official Gazette RS, Nos 82/11, 49/16).
(Source: Ministry of Enviroment and Spatial Planning)

Slika 32: Analogni arhiv dokumentacije državnih prostorskih aktov (DPA) Ministrstva za okolje in prostor.
(Vir: Ministrstvo za okolje in prostor)

Figure 32: Paper archive of the documentation of national spatial plans of the Ministry of the Environment and Spatial Planning.
(Source: Ministry of Enviroment and Spatial Planning)

7 Slikovni prikazi dokumentov in splošne zanimivosti

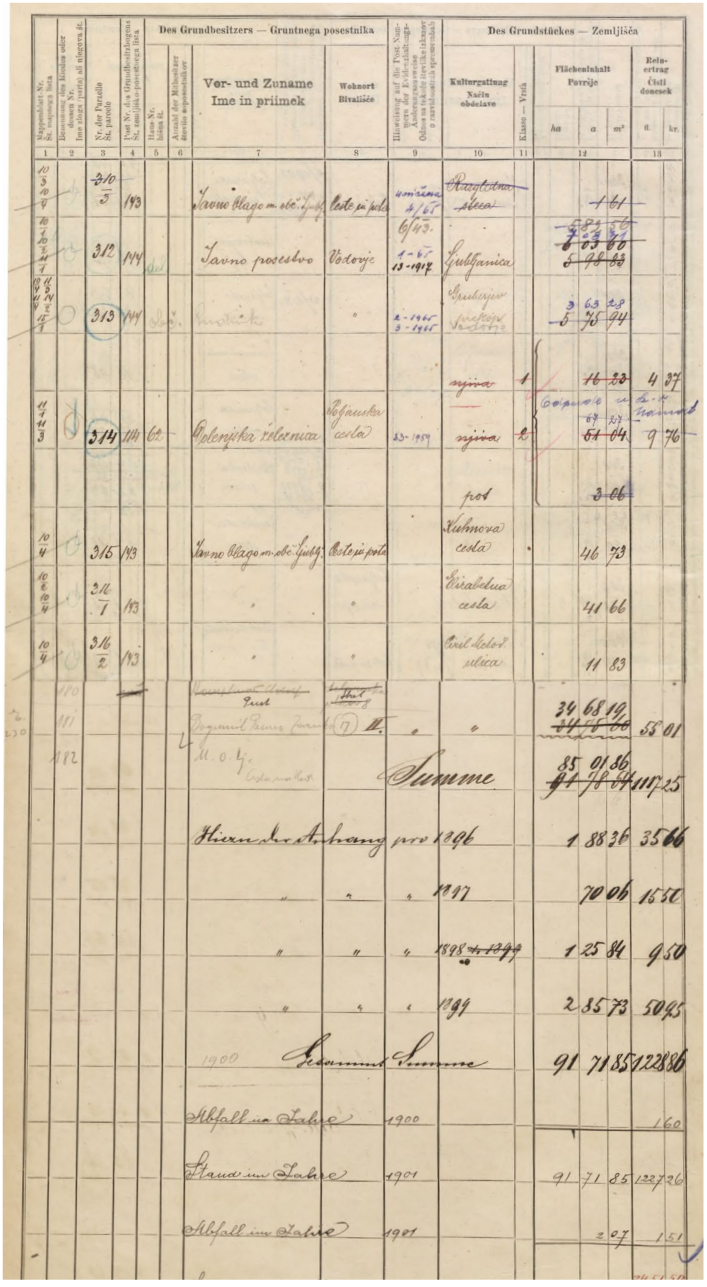
Documents in pictures and general interesting facts

> *Zgodovina dela ljudi modre, poezija duhovite, matematika ostroumne, naravna filozofija globokoumne.*
>
> – Francis Bacon

> *Histories make men wise; poets, witty; the mathematics, subtle; natural philosophy, deep.*
>
> – Francis Bacon

Slika 33: Del elaborata o vrisu današnje Zemljemerske ulice v Ljubljani. Grafični prikaz parcelne številke 315 v katastrski občini Poljansko predmestje leta 1897, leto dni po tistem, ko je občinski svet Ljubljana pod županovanjem Ivana Hribarja prvič poimenoval to ulico po znanem avstrijskem vojskovodji baronu Kuhnu (1817–1896), ki je bil nekaj časa tudi poveljnik 17. pešpolka, nastanjenega v vojašnici na Roški.
(Vir: Elaborat 1727-03004_000 Poljansko predmestje)

Figure 33: Part of the report on plotting what is today Zemljemerska ulica street in Ljubljana. Graphical presentation of parcel number 315 as it was included in the Poljansko predmestje cadastral municipality in 1897, one year after the Ljubljana City Council under mayor Ivan Hribar, named this street after the famous Austrian army chief Baron Kuhn (1817-1896), who was for some time the commander of the 17th infantry regiment, stationed at the Roška barracks.
(Source: Report 1727-03004_000 Poljansko predmestje)



Slika 34: Parcelnik iz leta 1898, iz katerega je razviden prvi vpis parcelne številke 315 v katastrski občini Poljansko predmestje kot javno blago Mestne občine Ljubljana (Kuhnova cesta – danes Zemljemerska ulica).
(Vir: Parcelnik 1727_0000_002 Poljansko predmestje)

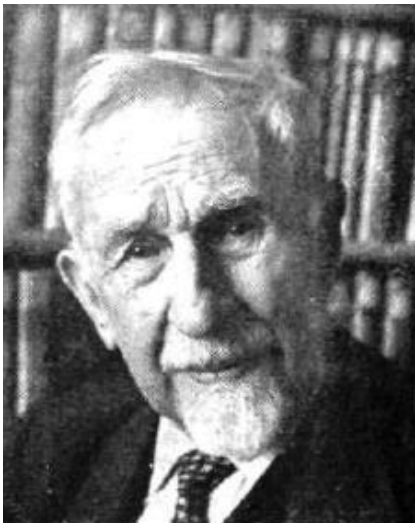
Figure 34: The list of land plots from 1898, which shows the first entry of plot number 315 in the Poljansko predmestje cadastral municipality as a public good of the Ljubljana City Municipality (Kuhnova cesta road – today Zemljemerska ulica street).
(Source: List of land plots 1727_0000_002 Poljansko predmestje)

Alfonz vitez pl. Gspan

> *Drobni detajli, dodani potem, ko bi povprečen človek odnehal, gradijo mojstrovo slavo.*
>
> – Orison Swett Marden

Maturiral je na ljubljanski realki, nato pa študiral geodezijo na Tehniški visoki šoli v Gradcu. Od leta 1902 je delal kot geometer v Krškem. Leta 1908 je bil prestavljen na finančno direkcijo v Ljubljano kot geometer v evidenčnem uradu zemljiškega katastra. Tukaj je ostal do upokojitve leta 1936. Po prvi svetovni vojni je kot geometer sodeloval v razmejitvenih komisijah za novo nastale meje med Kraljevino SHS, Italijo, Avstrijo in Madžarsko. Od leta 1920 je predaval geodezijo na Tehnični fakulteti Univerze v Ljubljani.

Gspan je ljubiteljsko zbiral rastline in hroščke. Odkril je več novih vrst in podvrst hroščev, nekateri nosijo tudi njegovo ime. V Prirodoslovnem muzeju Slovenije je uredil veliko študijsko zbirko hroščev, ki je največja tovrstna zbirka v Sloveniji.



Slika 35: Alfonz vitez pl. Gspan, slovenski entomolog, botanik in geometer, rojen 20. marca 1878 v Kostanjevici, umrl 31. marca 1963 v Ljubljani.
(Vir: Wikipedia)

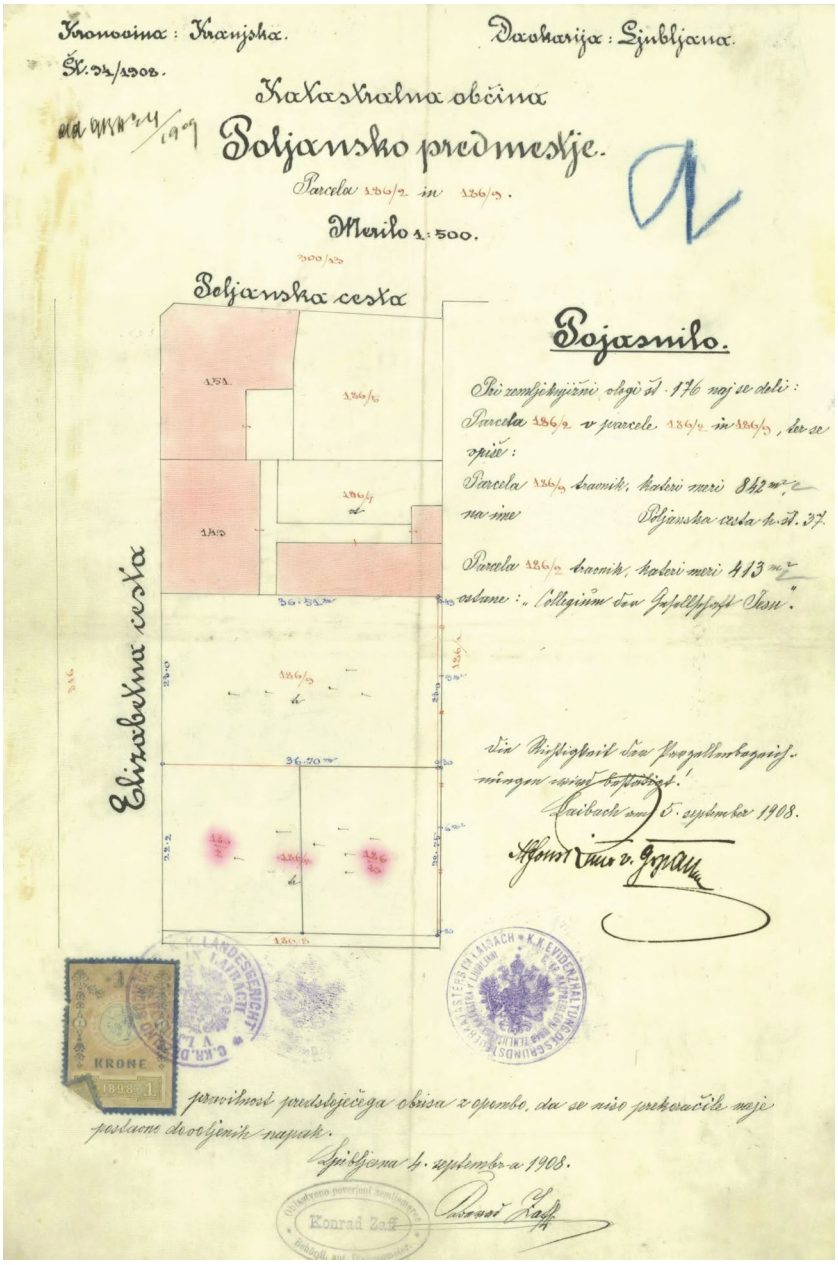
Figure 35: Alfonz knight noble Gspan, a Slovenian entomologist, botanist and land surveyor, was born on the 20th of March 1878 in Kostanjevica and died on the 31st of March 1963 in Ljubljana.
(Source: Wikipedia)

Alfonz knight noble Gspan

> *It's just the little touches after the average man would quit that makes the master's fame.*
>
> – Orison Swett Marden

After graduating from the technical secondary school in Ljubljana, he went on to study geodesy at the Technical College in Graz. From 1902 he worked as a land surveyor in Krško. In 1908 he was transferred to the finance directorate in Ljubljana as a land surveyor at the land cadastral records office, where he remained until retiring in 1936. After World War I, he worked as a land surveyor in the demarcation commissions for the newly created borders between the Kingdom of Serbs, Croats and Slovenes, Italy, Austria and Hungary. From 1920 on he taught geodesy at the Faculty of Technical Sciences of the University of Ljubljana.

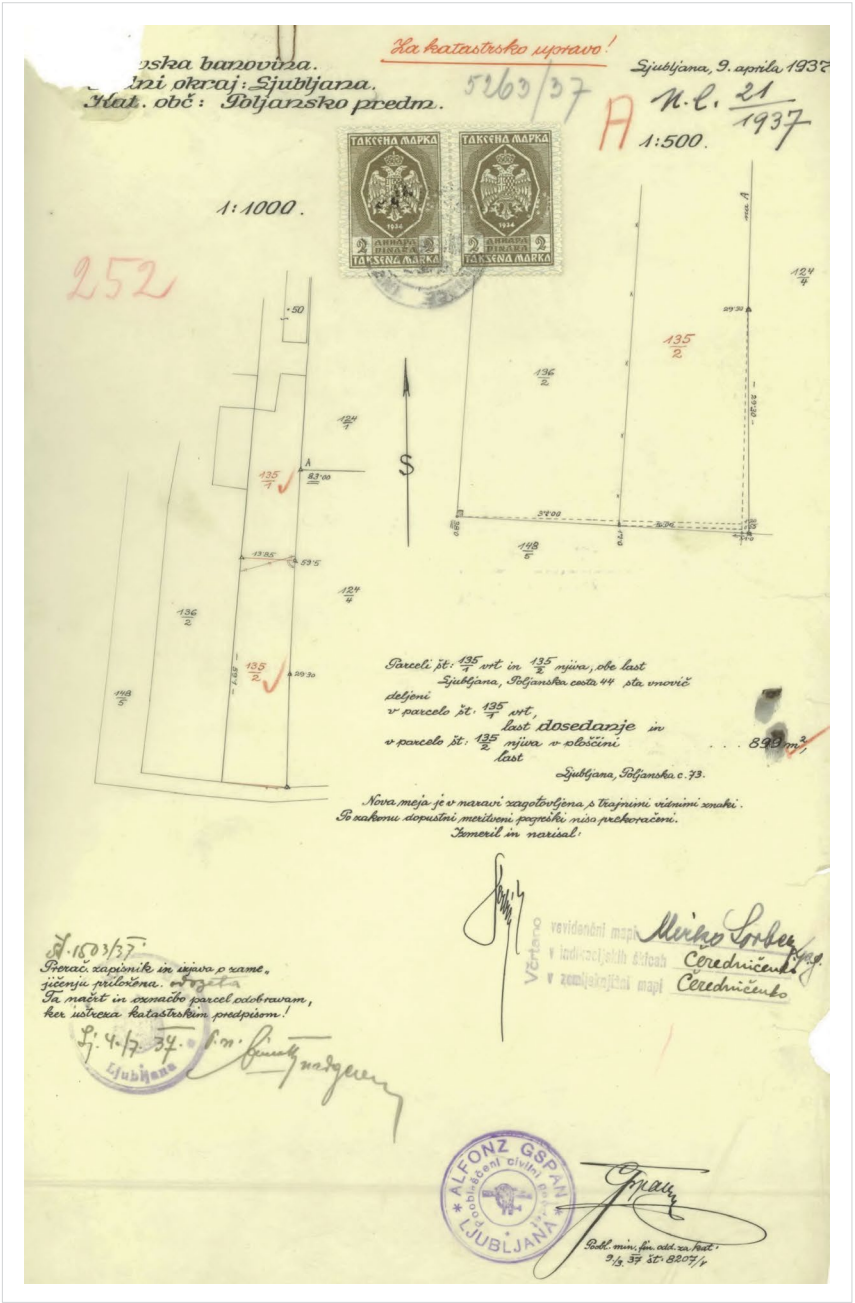
Gspan's hobbies were collecting plants and beetles. He discovered several new species and subspecies of beetles, with some of them bearing his name. He was the driving force behind setting up a large beetle research collection at the Natural History Museum of Slovenia, the largest such collection in the country.



Slika 36: Prikaz meritve iz leta 1908, kjer se Alfonz Gspan naslavlja z Alfons Plemeniti v. (vitez) Gspan in kot uslužbenec C. Kr. razpreglednega urada zemljiškega katastra v Ljubljani. (Vir: Elaborat 1727-03013-002 Poljansko predmestje)[1]

Figure 36: A 1908 survey on which Alfonz Gspan signs his name as Alfonz knight noble Gspan, an employee of k. k. Office of the Land Cadastre in Ljubljana. (Source: Report 1727-03013-002 Poljansko predmestje)[1]

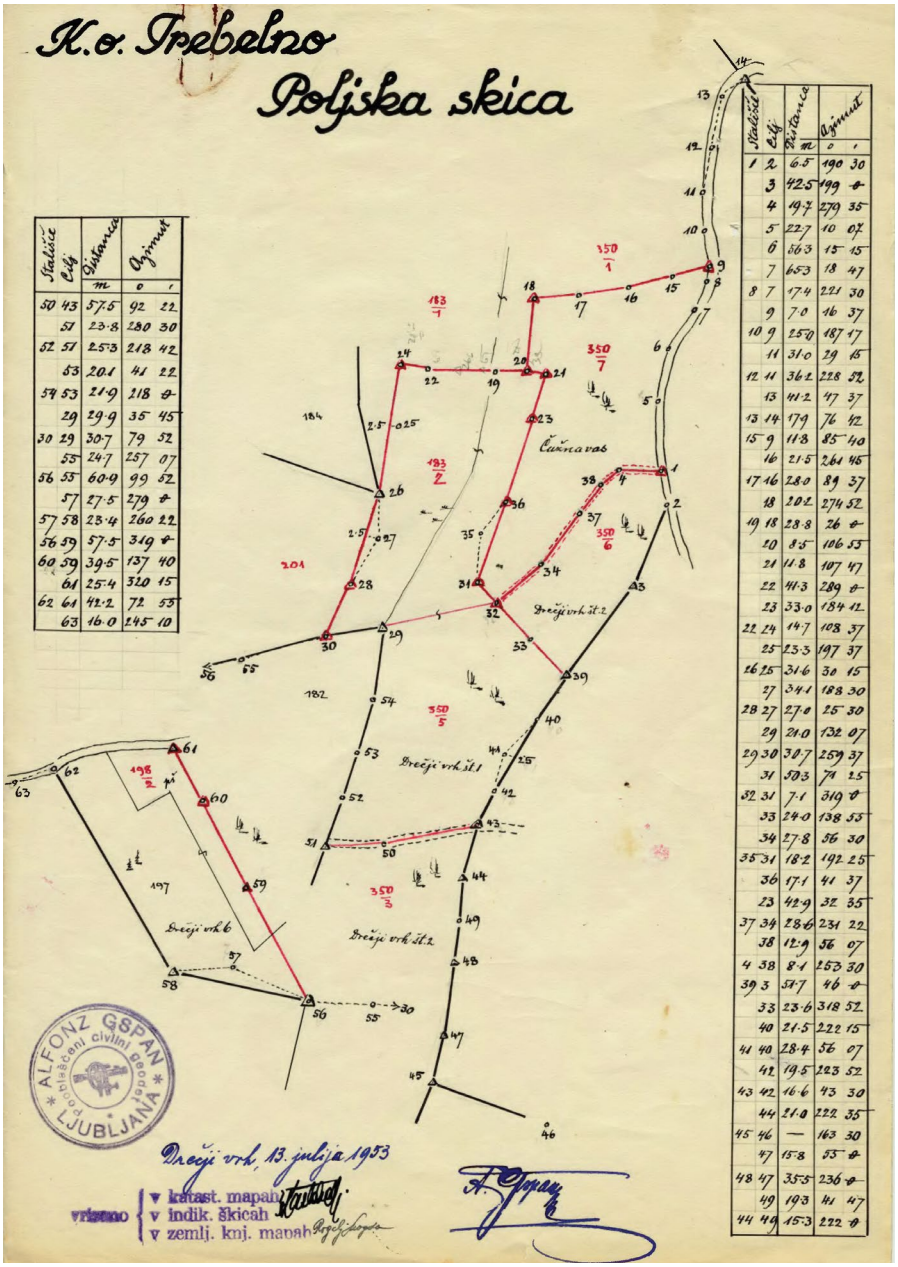
[1] Opomba: V dokumentih iz zbirke listin Zemljiškega katastra so varovani osebni podatki zakriti.
[1] Note: Protected personal data is hidden in the land cadastre documents.



Slika 37: Elaborat iz leta 1937, ko se je Alfonz Gspan prvič pojavil kot civilni geodet. (Vir: Elaborat 1727-03121-000 Poljansko predmestje)[1]

Figure 37: Report from 1937, when Alfonz Gspan first appears as a civilian land surveyor.
(Source: Report 1727-03121-000 Poljansko predmestje)[1]

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



Slika 38: Elaborat iz leta 1953 z žigom »Alfonz Gspan, pooblaščeni civilni geodet«, ki je pri svojih 75 letih na terenu izdelal skico brez kakršnihkoli digitalnih pripomočkov.
(Vir: Elaborat 1415 – Trebelno 2251 – poljska skica)[1]

Figure 38: Report from 1953 with the stamp "Alfonz Gspan civilian land surveyor". The sketch was made without any digital tools when Alfonz was 75 years old.
(Source: Report 1415 – Trebelno 2251 – field sketch)[1]

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

Merilo 1:2880

Največja nevarnost v času turbulentnih sprememb ni turbulenca, temveč odločanje z včerajšnjo logiko.

– Peter Drucker

Merilo 1:2880 s svojim nenavadnim razmerjem izhaja iz seženjskega merskega sistema, ki se je uporabljal v času nastavitve zemljiškega katastra v prvi polovici 19. stoletja. Osnovno merilo pri izvedbi katastrske izmere je bilo določeno tako, da pomeni 1 palec na načrtu 40 sežnjev v naravi. Metrski sistem je bil uveden v našo deželo leta 1871.

Ker imata v seženjskem merskem sistemu seženj 6 čevljev in čevelj 12 palcev, velja, da je 1 palec na načrtu 40 x 6 x 12 = 2880 palcev v naravi. Merilo so na kratko označevali v obliki 1' = 40°. Površina kvadrata 40 sežnjev znaša torej 1600 sežnjev ali 1 oral.

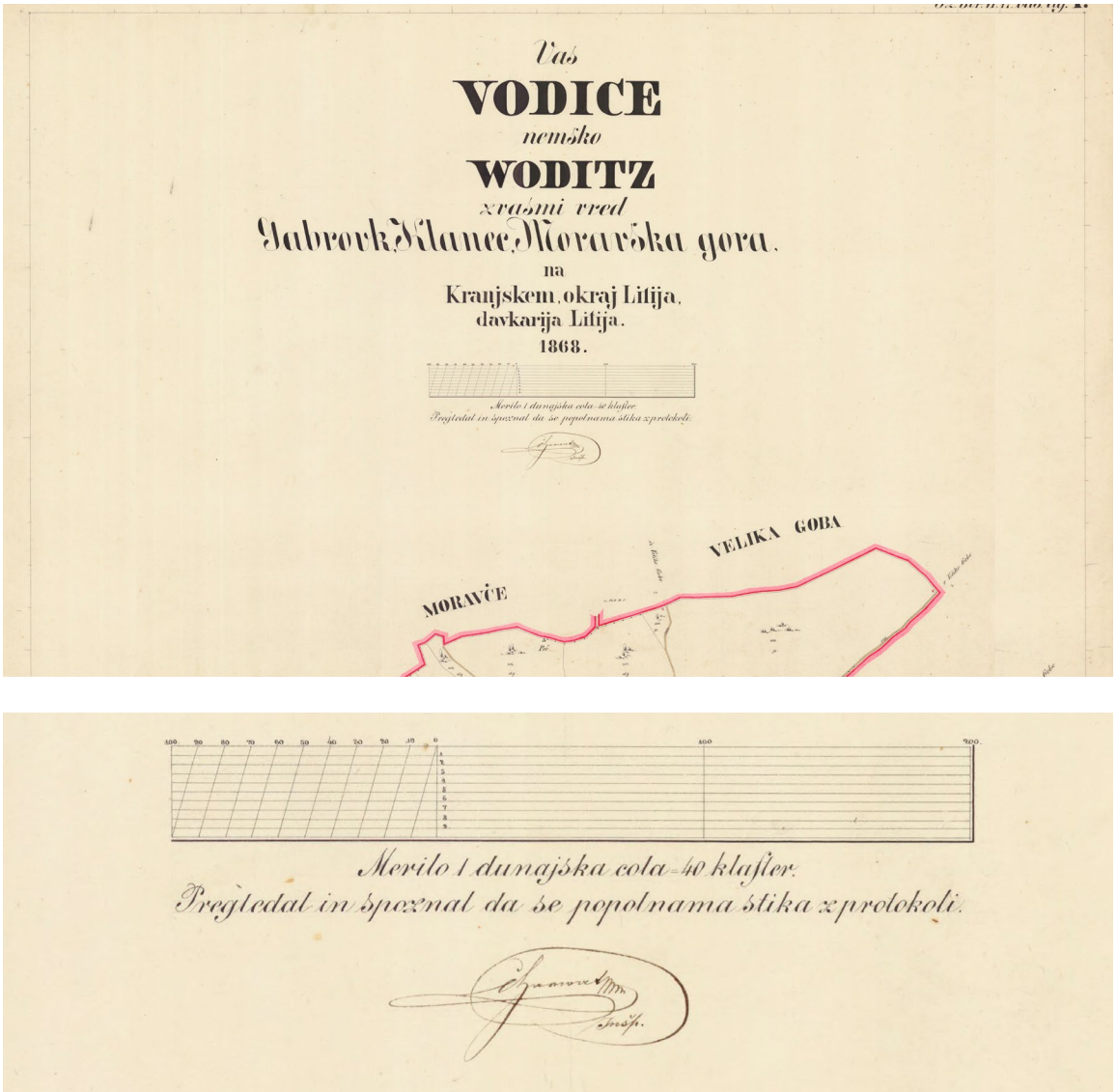
Scale 1:2,880

The greatest danger in times of turbulence is not the turbulence; it is to act with yesterday's logic.

– Peter Drucker

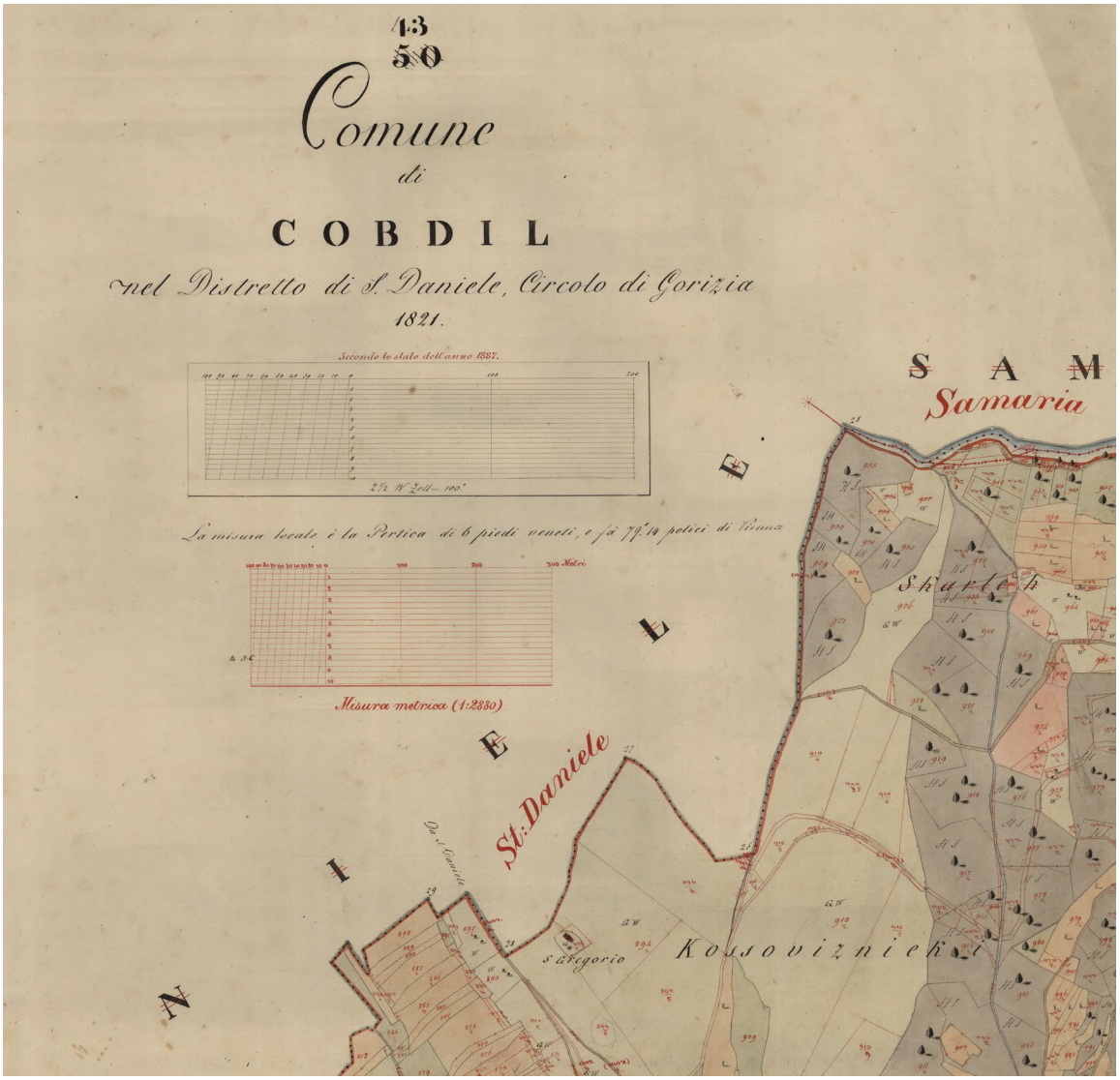
The 1:2,880 scale with its unusual ratio derives from the measurement system that used fathoms and was in use during the creation of the land cadastre in the first half of the 19th century. The basic scale for the cadastral surveying was set so that 1 inch on the plan represented 40 fathoms in nature. The metric system was introduced to Slovenian lands in 1871.

Because the measurement system using fathoms has 6 feet per one fathom and 12 inches per foot, 1 inch on the map equals 40 x 6 x 12 = 2,880 inches in nature. The scale was marked in short as 1' = 40°. The area of a square with a 40 fathom side thus comes to 1,600 square fathoms or one yoke.



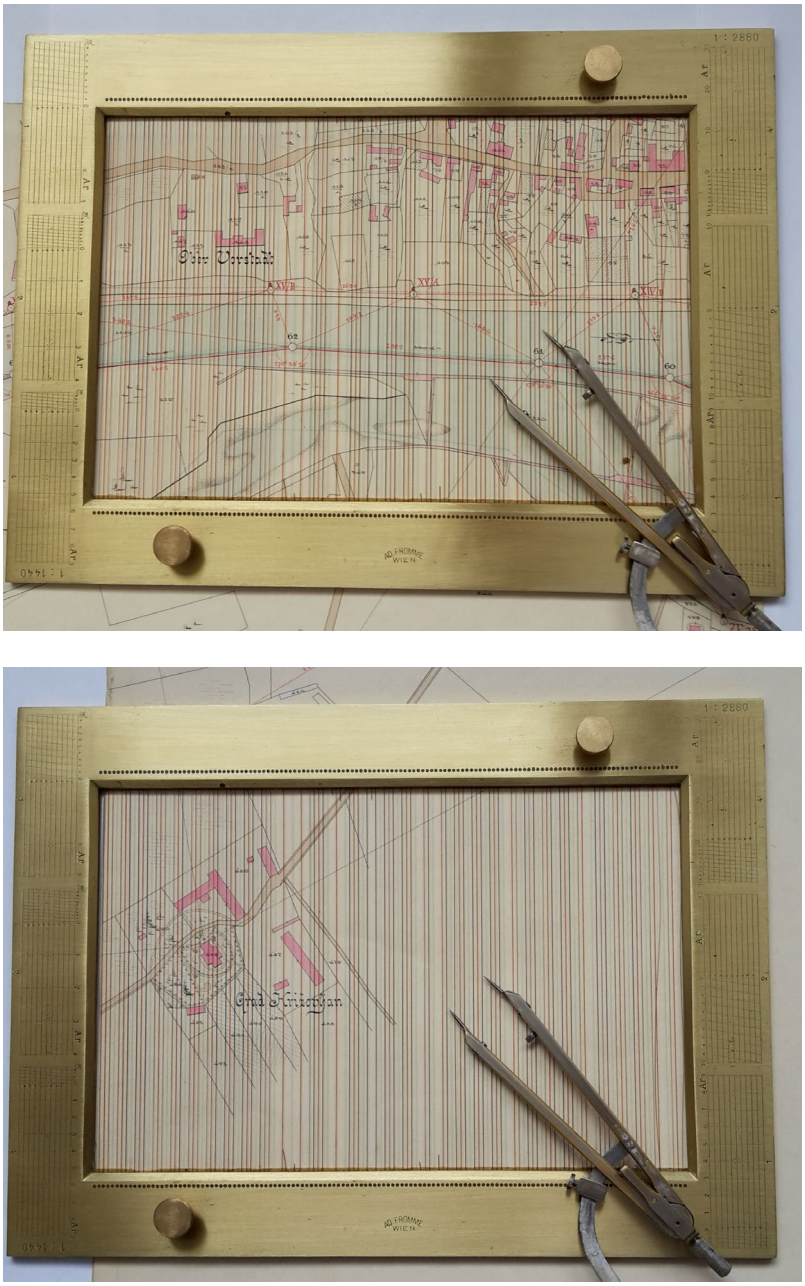
Slika 39: Katastrski načrt in izsek merske razdelbe, kjer je prikazana merska razdelba za izračun površin (1 dunajska cola je enako 40 klafter); cola = palec, klafter = seženj.
(Vir: Geodetska uprava RS)

Figure 39: Cadastral plan with the measurement graduation for calculating the areas (1 Viennese inch on the plan is equal to 40 fathoms on the ground); cola = inch, klafter = fathom.
(Source: Surveying Authority)



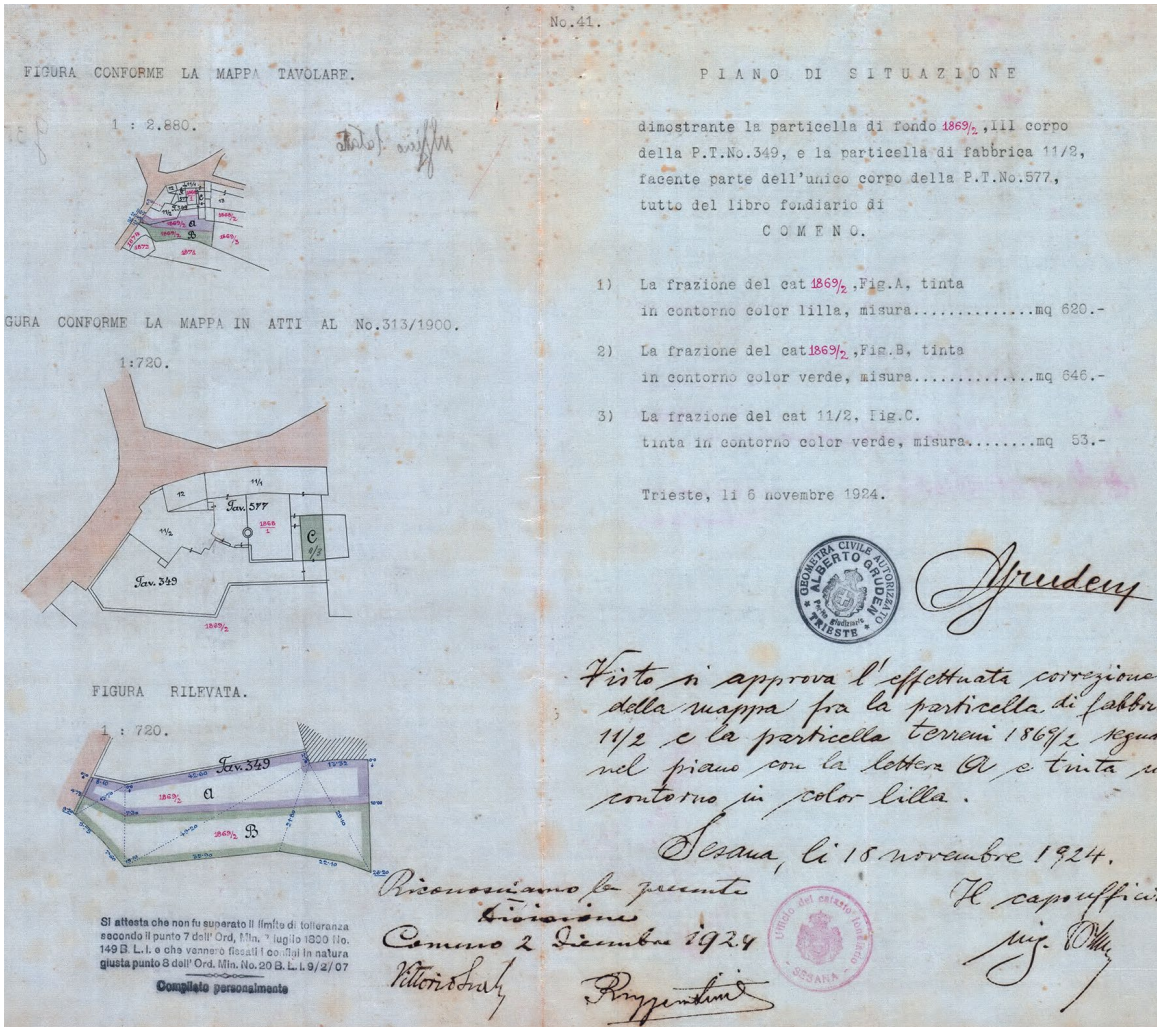
Slika 40: Primer katastrskega načrta z dorisano razdelbo merila za metrski sistem; ker je na načrtih prikazano območje po prvi svetovni vojni pripadalo Italiji, so popravki – dopolnitve v italijanskem jeziku.
(Vir: Geodetska uprava RS)

Figure 40: Example of a cadastral plan with added graduation for the metric system: because the area shown on the plan was appropriated by Italy after World War I, the corrections and amendments are written in Italian.
(Source: Surveying Authority)



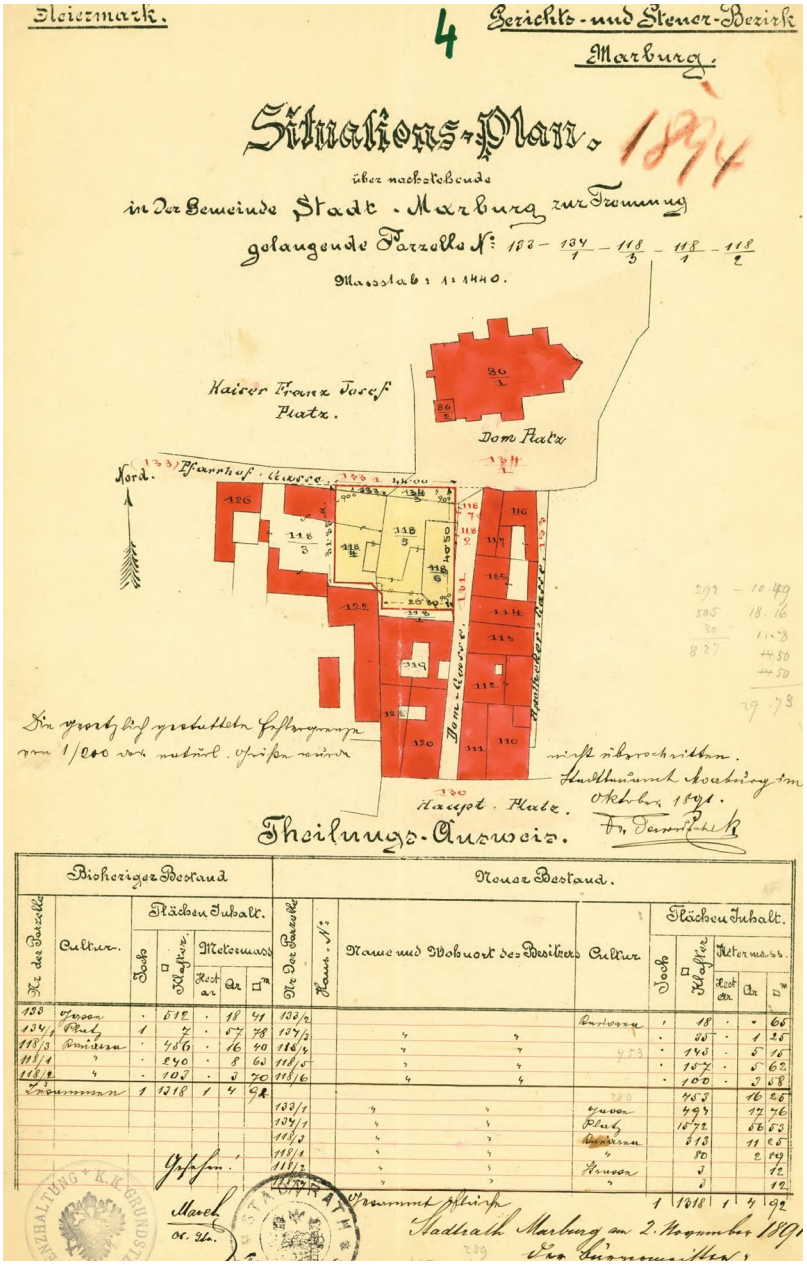
Slika 41: Površino parcele so določili tako, da so grafično izmerili ploskovni lik na načrtu. Za določitev površin so uporabljali nitne planimetre z natančnimi šestili za planimetriranje.
(Vir: Osebni arhiv, mag. Janez Slak)

Figure 41: The area of the land plot was determined by graphically measuring the plane shape on the map. To determine the areas, thread planimeters with precise pairs of compasses were used.
(Source: Personal archive, mag. Janez Slak)



Slika 42: Prikaz izmere zemljišča v katastrski občini Komen iz leta 1924, kjer je prikazan detajl v dveh različnih merilih, besedilo pa je dosledno v italijanskem jeziku.
(Vir: Elaborat 2412_01002_000 Komen)

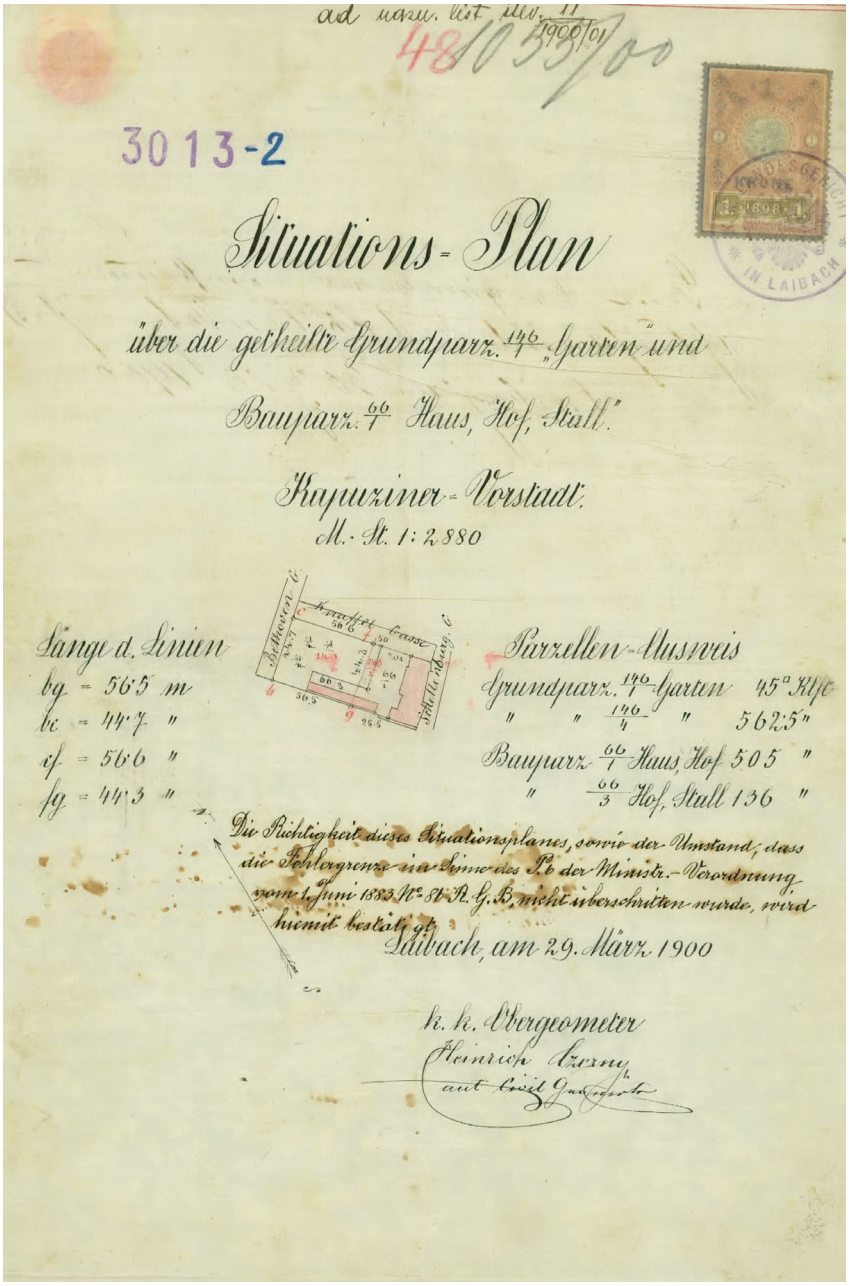
Figure 42: Example of a land plot survey in the Komen cadastral municipality from 1924, with the detail being shown in two different scales, all in Italian.
(Source: Report 2412_01002_000 Komen)



Slika 43: »Navada je železna srajca« je star pregovor, ki se odraža tudi v prikazanem dokumentu. V elaboratu sta prikazana geodetska izmera v katastrski občini Maribor mesto iz leta 1891 in izračun površin, ki so prikazane tako v metrskem kot v seženjskem sistemu, čeprav je od leta 1871 veljal avstro-ogrski metrski sistem.
□m (zapis kvadrat je prikazan z likom in ne kot danes, ko uporabljamo številko 2 kot eksponent) in □klafter (kvadratni klafter – dunajska klaftra oziroma seženj). Če so nam oznake za hektar in ar domače, pa je 1 joch oziroma 1 oral enako 57,55 ara.
(Vir: Elaborat 4004_00004_000 Maribor mesto)[1]

Figure 43: "Old habits die hard", a saying that is also reflected in the document above. The report shows a survey in the Maribor mesto cadastral municipality from 1891 and the calculation of areas both in metric system and in fathoms, despite the metric system becoming official in the Austro-Hungarian monarchy in 1871.
□m (the square is actually drawn as a shape unlike today when we use the number 2 as an exponent) and □fathoms (square fathom or Vienna fathom). If you are more at home with hectares and ares, 1 joch equals 1 yoke or 57.55 ares.
(Source: Report 4004_00004_000 Maribor mesto)[1]

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



Slika 44: Situacijski načrt v katastrski občini Kapucinsko predmestje v merilu 1:2880, ki ga je potrdil cesarsko kraljevi nadgeometer in civilni zemljemerec Heinrich Szerny 29. marca 1900. Posebnost te meritve je v tem, da je bila izmera zemljišča opravljena v metrskem sistemu, površine novo nastalih parcel pa so izračunane v seženjskem sistemu, torej v □klaftrah. (Vir: Elaborat 6002_03013_000 Kapucinsko predmestje)

Figure 44: Situation plan in the Kapucinsko predmestje cadastral municipality in the 1:2,880 scale, confirmed by the royal and Imperial head geometer and civilian land surveyor Heinrich Szerny on 29th March 1900. This survey is peculiar in the sense that the land was measured by using the metric system, while the areas of the newly created plots were written down in □fathoms. (Source: Report 6002_03013_000 Kapucinsko predmestje)

Denarne enote

> *Denar je jezik, ki ga razumejo vsi narodi.*
>
> – Aphra Behn

Vse do poznih šestdesetih let 20. stoletja so obrazci v operatu zemljiškega katastra prikazovali katastrski dohodek v goldinarjih in krajcarjih.

Od leta 1524 so bili po predpisu cesarja Ferdinanda v vseh avstrijskih deželah, torej tudi na našem ozemlju, v obtoku tolarji, srebrni polgoldinarji, šestice in krajcarji ter zlati dukati in guldni. Za osnovo so uporabljali krajcar. Za srebrni goldinar je bilo na primer treba odšteti 60 krajcarjev (od leta 1857 pa 100). Pol tolarja je štel en goldinar, cel tolar je imel 120 krajcarjev.

Avstro-ogrska monarhija je z valutno reformo leta 1892 uvedla krono, ki se je delila na 100 vinarjev. Kljub spremembam pa je denarni sistem ostajal enoten za vse avstrijske dežele, ki so imele za denarno osnovo krajcar.

V parcelnikih iz različnih obdobij so razvidne oznake za goldinarje fl. (forint – uradna okrajšava), gl. (gulden – slovenska okrajšava) in krajcarje kr. (kreuzer).

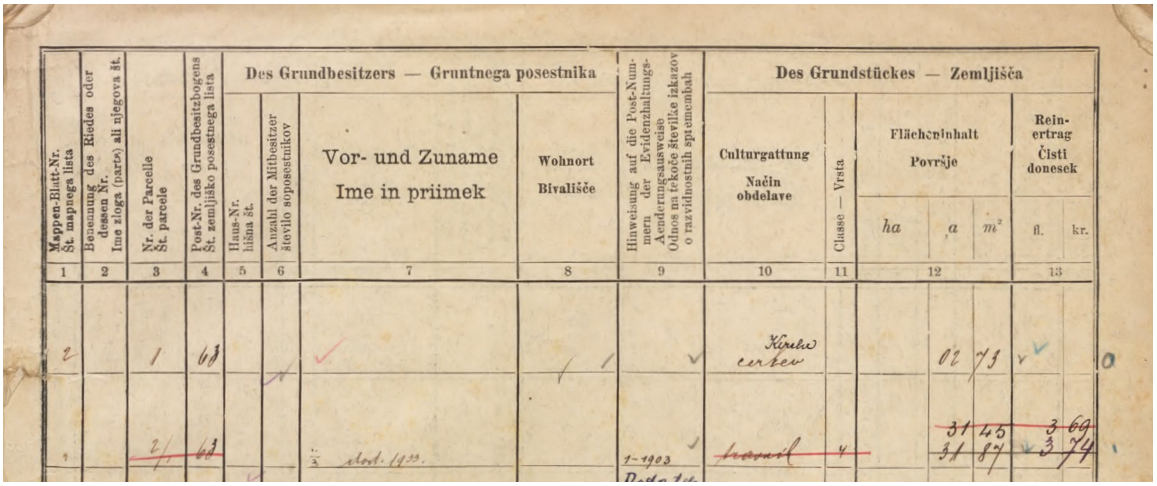
Monetary units

> *Money speaks sense in a language all nations understand.*
>
> – Aphra Behn

Up until the 1960s, forms in the land cadastre reports showed cadastral income in guldens and kreuzers. A 1524 decision by Emperor Ferdinand decreed that talers, silver half-guldens, kreuzers, golden ducats and guldens were to be the monetary units in circulation in all Austrian lands, including the territory of today's Slovenia. Kreuzers were used as the basic unit. A silver gulden was thus worth 60 kreuzers (100 kreuzers from 1857 onwards). A gulden was half of a taler, which was in turn worth 120 kreuzers.

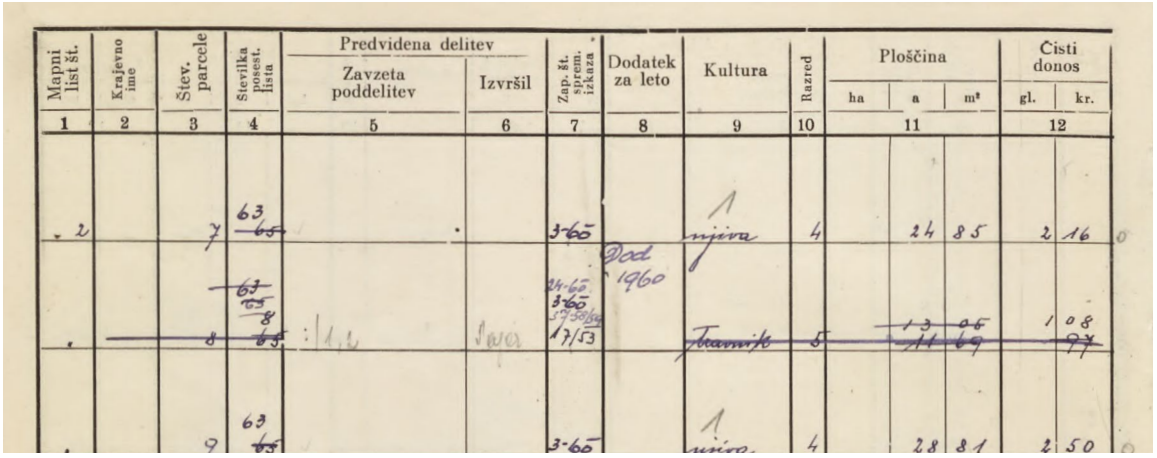
The Austro-Hungarian Monarchy's currency reforms of 1892 introduced the krone, itself divided into 100 hellers. Despite the changes, the monetary system was still single for all Austrian provinces, which had the kreuzer at its basis.

The list of land plots from different periods showcase the following abbreviations for the guldens: fl. (forint – official abbreviation), gl. (gulden – Slovene abbreviation) and kreuzer kr. (Kreuzer).



Slika 45: Prva stran parcelnika katastrske občine Kresnice v uporabi do leta 1914, kjer so razvidne oznake v fl. in kr.
(Vir: Elaborat 1836_00000_000 Kresnice)

Figure 45: The first page of the list of land plots in the Kresnica cadastral municipality, used until 1914 and showing the abbreviations fl. and kr.
(Source: Report 1836_00000_000 Kresnice)



Slika 46: Prva stran parcelnika katastrske občine Kresnice v uporabi po letu 1914, kjer so razvidne oznake v gl. in kr.
(Vir: Elaborat 1836_00000_001 Kresnice)

Figure 46: The first page of the list of land plots in the Kresnica cadastral municipality, used after 1914 and showing the abbreviations gl. and kr.
(Source: Report 1836_00000_001 Kresnice)

> *Nič ni na svetu tako dobro razporejeno kot pamet: vsakdo misli, da je ima dovolj.*
>
> – Rene Descartes

Jakob Aljaž je leta 1895 za en goldinar kupil vrh Triglava. Za en goldinar se je takrat dalo kupiti približno štiri steklenice kisle vode, malo manj kot tri bokale vina ali pa približno osem hlebov kruha. Čeprav je bil vrh odkupljen za simbolični znesek, pa je njegova današnja vrednost neprecenljiva.

Primer indikacijske skice

Na indikacijski skici so vpisani priimki in imena posestnikov in ploskovno obarvane parcele po kartografskem ključu glede na vrsto rabe oziroma kulturo – glej kartografski ključ franciscejske katastrske izmere v nadaljevanju in v prilogi 1. Z rdečo barvo so označene meje ledin, ledinska imena so izpisana poševno s črno barvo, njihove enočrkovne oznake pa z velikimi rdečimi tiskanimi črkami. Parcelne številke so oštevilčene tekoče, in sicer za zemljiške parcele v rdeči barvi, za stavbne parcele ločeno s črno barvo. Vhod v stavbo je označen z debelejšo črto tiste stranice tlorisa stavbe, kjer je bil vhod v objekt.

> *Of all things, good sense is the most fairly distributed: everyone thinks he is so well supplied with it.*
>
> – Rene Descartes

Jakob Aljaž purchased the top of Mt Triglav in 1895 for one gulden. A single gulden could at that time also buy about 4 bottles of mineral water, a bit under three glasses of wine or some 8 loaves of bread. Although the summit was purchased for a symbolic sum, its present value is priceless.

Field cadastral map example

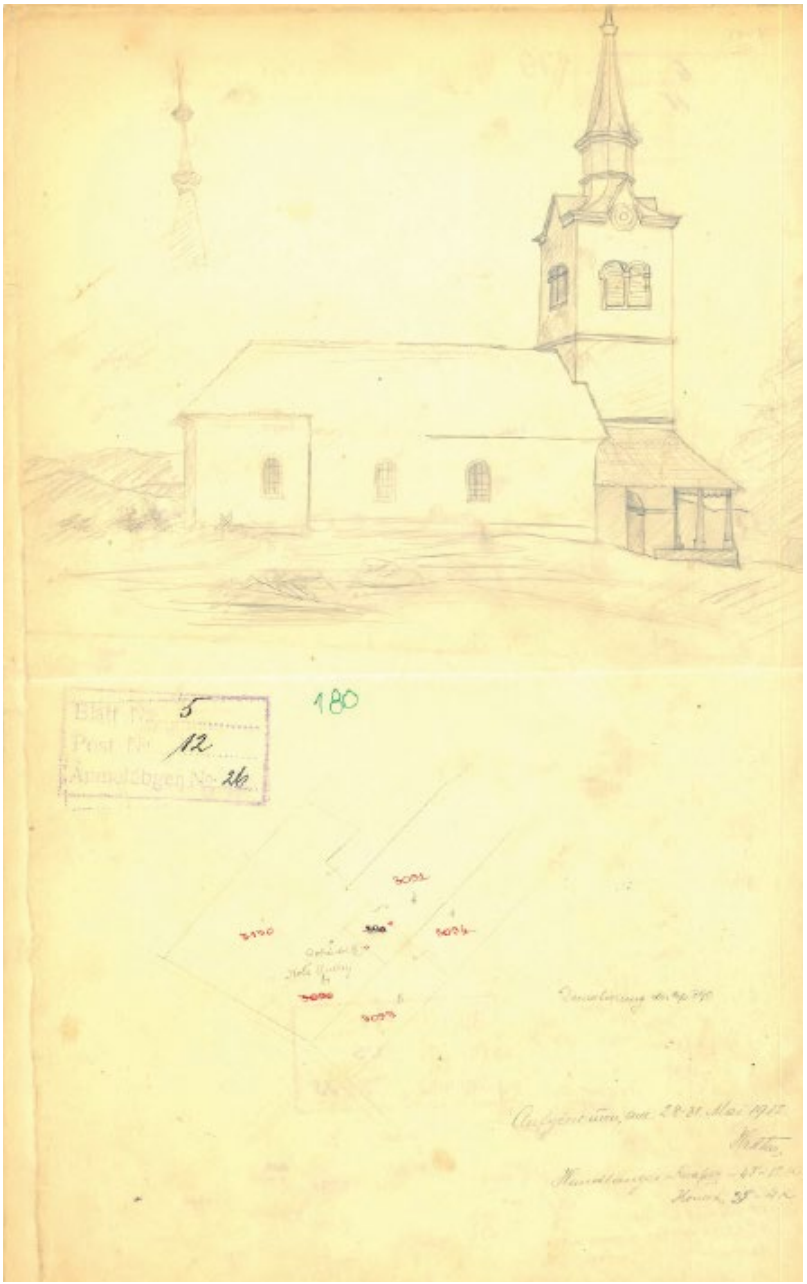
The field cadastral map contains the surnames and names of land plot owners and shaded land plots according to the map's legend based on their use or crop – for explanation see the legend for the Franciscan cadastre below and in Appendix 1 at the end. Red colour indicates the boundaries of fallow ground, the names of which are written in cursive in black, while their abbreviated single-letter labels are written in large red printed letters. Plot numbers are numbered in order with land plots marked in red and building plots in black. Entrances to buildings are marked with the thicker line at the side where the entrance is located.

Slika 47: Primer indikacijske skice iz leta 1859 – katastrska občina Gederovci. (Vir: Geodetska uprava RS)

Figure 47: Field cadastral map example from 1859 – Gederovci cadastral municipality. (Source: Surveying Authority)

Slika 48: Kartografski ključ iz leta 1824. Kartografski ključ pravilnika je natančno predpisoval znake ter barve za posamezne vrste rabe zemljišč, stavb, značilne topografske vsebine in opise. S tem je bil zagotovljen enoten videz katastrskih načrtov po vsej monarhiji – glej podroben prikaz s prevodi v prilogi 1.
(Vir: Instruktion zur ausführung der Vermessungen mit anwendung des Mesztisches, Wien 1905)

Figure 48: Map legend from 1824. The legend was set in the regulations and specifically prescribed the symbols and colours for individual types of land usage, buildings, topographic contents and descriptions. This allowed for uniform cadastral maps throughout the monarchy – a more detailed description with translations can be found in Appendix 1.
(Source: Instruktion zur ausführung der Vermessungen mit anwendung des Mesztisches, Wien 1905)



Slika 49: Primer iz leta 1912 prikazuje terensko skico geodetske storitve v katastrski občini Dobindol, dokument je obogaten še z risbo vedute cerkvenega objekta.
(Vir: Elaborat 1500_00180_000)

Figure 49: This 1912 image contains a field sketch for a land surveying service in the Dobindol cadastral municipality. The document is embellished with a sketch of a church.
(Source: Report 1500_00180_000)

8 Zanimivosti, povezane z zgodovino katastra

> *Vsaka napaka, ki jo zagrešijo drugi, se nam zdi neverjetno bedasta.*
>
> – Georg Lichtenberg

V zgodovinskem zapisu o prvih raziskovalcih slovenskih gora in prvih dokumentiranih pristopih nanje (Mikša, 2013) najdemo v preglednici s časovnim zaporedjem vzponov na vrh Triglava pod zaporednima številkama trinajst in štirinajst naslednji navedbi o geodetski odpravi na vrh Triglava za potrebe triangulacije Kranjske v letu 1822:

- »Trinajsti pristop: 1822, zgodaj poleti prinesejo na vrh material za triangulacijsko piramido Anton Kos, Matija Korošec in Simon Stare, po domače Orjakov Šimen iz Podjelja, z drugimi vodniki.
- Štirinajsti pristop: 1822, 5. julija se vzpnejo na vrh stotnik von Bosio, korporal Rothemmel, Anton Kos, Anton Korošec, Orjakov iz Podjelja in pet po imenu neznanih nosačev. Antona Korošca je ponoči na vrhu ubila strela.«

Dogodke tistega julijskega dne je France Malešič, zdravnik, alpinist in gorski reševalec, opisal v knjigi, ki jo je pripravil po dolgoletnem zbiranju gradiva:
»5. julija 1822 se je stotnik Antonio von Bosio z vodniki in težkim zemljemerskim merilnim orodjem povzpel na vrh Triglava. Poverjena mu je bila naloga, naj sestavi trigonometrično omrežje Kranjske. Zato je bil dal na vrhu že pred vzponom postaviti triangulacijsko piramido. Priprave in merjenje so bili zamudni. Že tako slabo vreme se je pred večerom še poslabšalo.

Bližala se je nevihta in vodniki so Bosiu svetovali, naj gredo nazaj. Odločil pa se je, da bo prespal na vrhu, ker ni hotel pustiti merilnega aparata brez varstva, ali pa se mu je zdel sestop še nevarnejši in si je želel prihraniti ponoven težaven vzpon. Vodniki in nosači so odšli; z njim in njegovim slugo, korporalom Johannom Rothemmelom, je ostal le 35-letni vodnik Anton Korošec, po domače Cerkovnikov Tonej s Koprivnika.

Veter se je spremenil v orkan s številnimi bliski. Ko se je Bosio končno odločil za vrnitev, je Korošec presodil, da je v takem vetru sestop po grebenu nemogoč in je morda bolje počakati, da se neurje umiri. Občepeli so ob piramidi, kjer

Interesting facts related to cadastre's history

> *Every mistake seems to be incredibly stupid if somebody else stumbles.*
>
> – Georg Lichtenberg

Located in the historical records about the first explorers of Slovenian mountains and their first documented exploits (Mikša, 2013), a table shows the sequence of ascents of Mt Triglav and, under numbers 13 and 14, the following notes on a land surveying expedition to the mountain's summit in order to carry out triangulation in Carniola in 1822:

- "13th ascent: 1822, early in the summer, Anton Kos, Matija Korošec and Orjakov from Podjelje alongside other guides deliver the material for the triangulation pyramid to the top of the mountain.
- 14th ascent: 1822, Captain von Bosio, corporal Rothemmel, Anton Kos, Anton Korošec, Orjakov from Podjelje and five unnamed porters ascend the mountain. Anton Korošec is killed by lightning at the summit during the night."

The events of that July day were described by France Malešič, doctor, climber and mountain rescuer in a book prepared after many years of collecting material:
"On the 5th of July 1822, captain Antonio von Bosio, accompanied by guides carrying heavy land surveying and mapping equipment, climbed to the top of Mt Triglav. The captain was tasked with creating a triangulation network for Carniola, so he had the triangulation pyramid set up on the mountain's top before the ascent. The preparations and surveys took more time than planned and the already poor weather worsened before the evening.

A storm was approaching and the guides advised Bosio to descend. But the captain decided to spend the night at the summit, either because he did not want to leave the precious surveying apparatus unguarded or because he thought descending would be even more dangerous and would also necessitate making the difficult climb again. The guides and the

jih je večkrat oplazila strela, dokler niso omotični poiskali skalno kotanjo nekoliko nižje in se spet pokrili s šotorskim platnom. Tudi tam niso bili varni pred strelo, zato je vodnik začel priganjati, naj bi vseeno poskusili sestopiti. Druga dva ga nista poslušala, zato se je vrnil k piramidi. Sključenega pod njo je okrog 11. ure zvečer ubila strela.

Naslednji dan so prišli na vrh vodniki Anton Kos iz Jereke, Simon Stare, po domače Orjakov Šimen iz Podjelja, in še pet po imenih neznanih nosačev. Truplo Antona Korošca so z velikimi težavami prinesli v dolino. To je bilo prvo znano gorsko reševalno delo vodnikov in nosačev.

Bosio je med njihovim prihodom še vedno opravljal meritve in posledica je bil sprejem, ki ga je doživel ob povratku na Velo polje. Med planšarji in planšaricami je nastal cel kraval in za prestrašenim zemljemercem so se ženske pognale s pomivalniki in žehtarji in ga podile vse do Malega polja, kjer so se jim, ne vedoč za vzrok, pri tem pogonu pridružile še tamkajšnje majarice in ga zasledovale še globoko proti Bohinju.«

Tradicijo geodetov preteklih rodov, ki so po vsem svetu na izpostavljenih vrhovih planin v smrtno nevarnih razmerah vzpostavljali triangulacijske mreže kot temelje geodetskih sistemov, moramo geodeti vsestransko spoštovati, ceniti in ohranjati tudi v sodobnem času.

porters descended, with only the 35-year-old guide Anton Korošec, known locally as Cerkovnikov Tonej from Koprivnik remaining with the captain and his batman, corporal Johann Rothemel.

The wind grew into to a gale with frequent lightning. After Bosio finally decided to descend, Korošec adjudged that the strong winds made walking on top of the ridge impossible and advised to wait until the storm blew over. The trio squatted down by the pyramid, where they were several times grazed by lightning, so they moved to a rock hollow located slightly below and covered themselves with a tent canvas. But they were still not safe from lightning, so the guide began urging them to try descending after all. His words were not heeded, so he returned to the pyramid, where he was killed by lightning at around 11 p.m.

The following day, guides Anton Kos from Jereka, Simon Stare, known locally as Orjakov Šimen from Podjelje, and five unnamed porters arrived at the top. With much difficulty, they carried the body of Anton Korošec off the mountain. This is the first known mountain rescue by guides and porters.

As they arrived, Bosio was still carrying out surveying, which is what caused the reception he got after returning to Velo polje. A ruckus erupted with the local population beginning to chase after the frightened land surveyor, the women carrying washing bowls and buckets and hounding the unfortunate captain all the way to Malo polje, where they were joined, without knowing of the cause, by the local shepherdesses who continued the pursuit quite a way towards Bohinj."

The tradition of land surveyors of previous generations, who set up triangulation networks on exposed mountain tops in deadly environments all over the world, must be wholeheartedly respected by land surveyors and maintained in the present as well.

Slika 50: Ilustracija iz koledarja »Gore in ljudje na starih razglednicah« prikazuje nevihto, ki je zajela geodetsko ekipo na vrhu Triglava.
(Vir: Koledar, 2018)

Figure 50: Illustration from the calendar "Mountains and people on old postcards" showing a thunderstorm catching a land survey team on top of Mt Triglav.
(Source: Calendar, 2018)

Na ravninskem področju je bilo treba za opazovanja trigonometrične mreže postaviti dovolj visoke piramide, ki so omogočala odprte vizure na druge trigonometrične točke ter tudi vidnost takih točk iz drugih trigonometričnih točk.

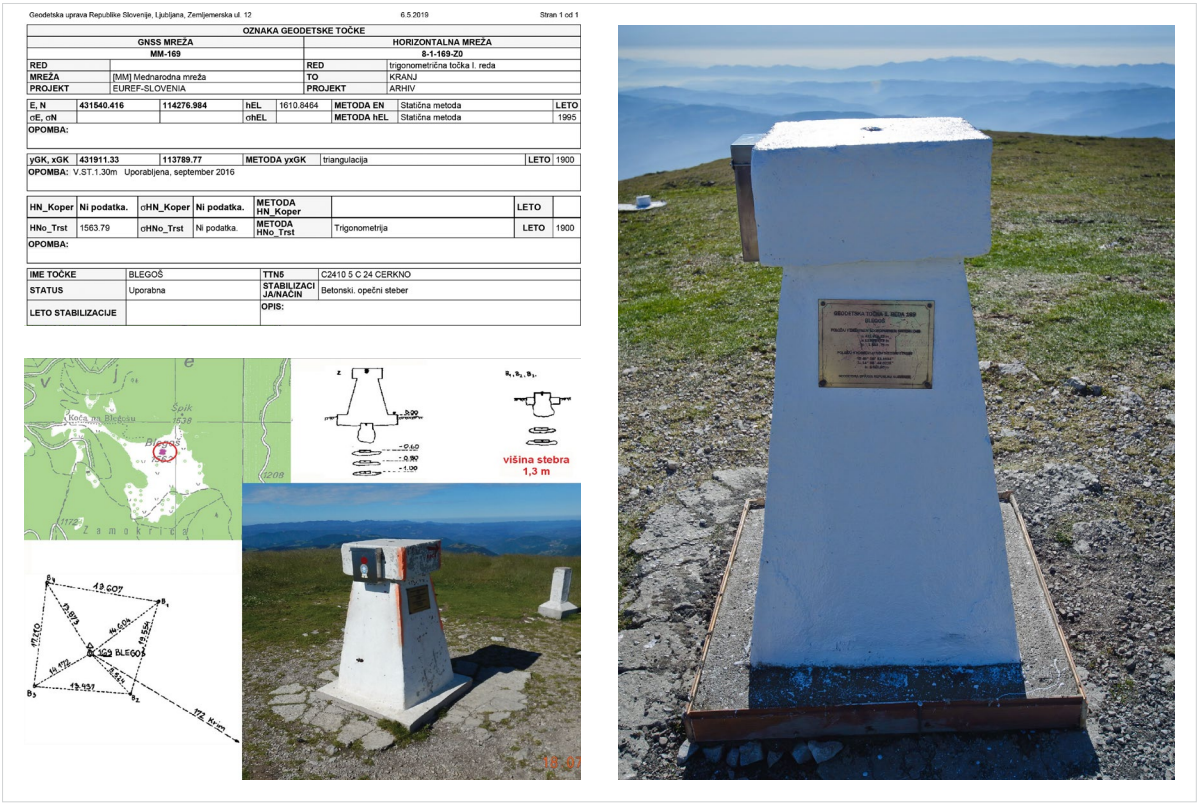
In the plains, sufficiently tall pyramids had to be erected in order to create a triangulation network. These had to have open vistas to other trigonometric points as well as had to be seen from such points.

Slika 51: Piramida nad trigonometrično točko v Prekmurju.
(Vir: Geodetski zavod LRS, 1957)

Figure 51: A pyramid above a trigonometric point in Prekmurje.
(Source: Land Surveying Authority of LRS, 1957)

Geodetska stroka je tesno povezana s planinstvom. V zadnjih dveh stoletjih so tako med geodeti na Slovenskem delovali številni specialisti, ki so po službeni dolžnosti in z gorniškim navdušenjem osvajali visoke vrhove in na njih v težkih razmerah postavljali triangulacijske točke ter izvajali najzahtevnejše geodetske meritve. Zadnji tovrstni obsežen in uspešen geodetski podvig nacionalnega pomena so geodetski strokovnjaki Urada za geodezijo Geodetske uprave RS, ob pomoči sodelavcev z območnih geodetskih uprav, izvedli v okviru kampanje EUREF 2016.

Land surveying is closely linked to mountaineering. In the past two centuries, land surveyors on Slovenian territory included numerous specialists, which performed their official duties by enthusiastically ascending high summits, setting up triangulation points and performing the most demanding land surveying. The last such extensive and successful surveying adventure of national importance was performed by the land survey experts of the Office for Geodesy at the Surveying Authority with the help of colleagues from regional land survey administrations as part of the EUREF 2016 campaign.

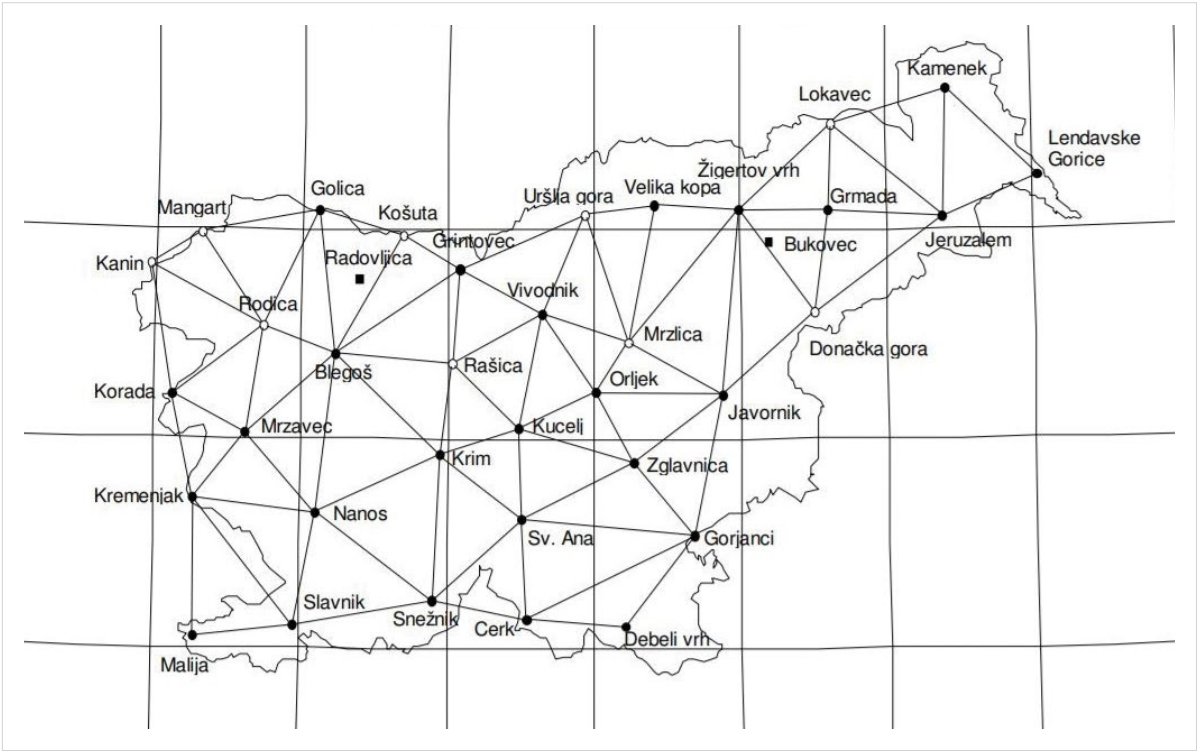


Geodetska uprava Republike Slovenije, Ljubljana, Zemljemerska ul. 12 6.5.2019 Stran 1 od 1

OZNAKA GEODETSKE TOČKE							
GNSS MREŽA				HORIZONTALNA MREŽA			
MM-169				8-1-169-Z0			
RED				RED	trigonometrična točka I. reda		
MREŽA	[MM] Mednarodna mreža			TO	KRANJ		
PROJEKT	EUREF-SLOVENIA			PROJEKT	ARHIV		
E, N	431540.416	114276.984	hEL	1610.8464	METODA EN	Statična metoda	LETO
σE, σN			σhEL		METODA hEL	Statična metoda	1995
OPOMBA:							
yGK, xGK	431911.33	113789.77	METODA yxGK	triangulacija		LETO	1900
OPOMBA: V.ST.1.30m Uporabljena, september 2016							
HN_Koper	Ni podatka.	σHN_Koper	Ni podatka.	METODA HN_Koper		LETO	
HNo_Trst	1563.79	σHNo_Trst	Ni podatka.	METODA HNo_Trst	Trigonometrija	LETO	1900
OPOMBA:							
IME TOČKE	BLEGOŠ		TTN5	C2410 5 C 24 CERKNO			
STATUS	Uporabna		STABILIZACIJA/NAČIN	Betonski, opečni steber			
LETO STABILIZACIJE			OPIS:				

Slika 52: Topografija točke I. reda št. 169 na Blegošu in obnovljena piramida, ki predstavlja točko fizično v prostoru.
(Vir: Geodetska uprava RS)

Figure 52: Topography of the first order point No 169 on Blegoš and a renovated pyramid that represents the point in space.
(Source: Surveying Authority)



Slika 53: Astrogeodetska mreža Slovenije je po svoji obliki klasična trigonometrična mreža. Zaradi zahtev klasične terestrične geodezije se trigonometrične točke nahajajo na izpostavljenih mestih, kot so vrhovi gora in vrhovi višjih ali nižjih hribov in gričev. (Vir: Geodetska uprava RS)

Figure 53: Slovenia's astrogeodetic network is a classical trigonometric network. Due to requirements of classical terrestrial land surveying, trigonometric points are located on exposed locations such as mountain or hill tops. (Source: Surveying Authority)

Na številnih vrhovih slovenskih gora lahko najdemo trigonometrične točke 1. reda. Deset od teh točk bo geodetska uprava v naslednjih letih obnovila in ohranjala kot nacionalno kulturno-tehnično dediščino (Miklič, 2015). Vse ostale točke na gornji sliki in tudi množica drugih točk geodetske mreže vseh redov in zvrsti pa nam bodo geodetom omogočale trajno obojestransko matematično povezavo med obstoječim in novim koordinatnim sistemom, v katerega smo geodeti v Sloveniji v začetku leta 2019 že »prestopili«, vsi ostali uporabniki prostorskih podatkov pa nam bodo v kratkem sledili.

Numerous summits of Slovenian mountains contain trigonometric points of the first order. Ten of these points will be restored by the Surveying Authority in the coming years and maintained as national cultural-technical heritage (Miklič, 2015). All other points on the figure above as well as numerous other points of all orders and types of the land survey network will enable land surveyors a sustainable and two-sided mathematical link between the existing and the new coordinate system, to which Slovenian land surveyors have already switched to in 2019 with other spatial data users expected to follow shortly.

Meje in mejniki

Borders and border stones

> *Meje? Nikoli jih nisem videl od blizu. Slišal pa sem, da obstajajo – v glavah nekaterih ljudi …*
>
> – Thor Heyerdahl

Da imajo lastniki nepremičnin določeno premoženje, iz katerega izhajajo obveznosti in tudi bremena, je v pesmi Mejnik opisal Anton Aškerc (1856–1912), po Prešernu največji mojster balad in romanc.

> *Borders? I have never seen one. But I have heard they exist in the minds of some people.*
>
> – Thor Heyerdahl

Real estate owners own assets which bring with them both duties and obligations, as described in the poem »Mejnik« by Anton Aškerc (1856-1912), Slovenia's best master of ballads and romances after France Prešeren.

Mejnik

Sejm bil je živ. Prodal i on je Lahom
tam par volóv.
Zakasnil se je. V pozni, temni noči
sam gre domov.
»Hm, pravijo, da ni baš varno iti
tod obsorej!
Popotnike da včasi rado straši
ob cesti tej.

Pa bil je Martin svoje dni vojak vam,
na straži stal,
ponoči čul tam uro bíti vsako –
pa bi se bal?
Še pri Custozzi bal se nisem smrti,
zrl ji v oči –
pa tukaj mar ko dete bi trepêtal,
če list šušti?!« …
Dospe do svoje hoste … Čuj, iz teme:
»Joj! kam bi dél?«
»Kaj? – Kdo si božji? – Kam naj deneš, vprašaš?
– I, kjer si vzel!«

»Vzel sem med svojoj bil in tvojoj lastjo,
mejnik le-tá,
presádil ga skrivaj na last sem tvojo
za sežnja dva!

Oh, in sedáj, odkar moj duh odplaval
na óni svet,
nazaj ga nosim, kamen ta prekleti,
pač sto že let!

Oh, to težì!« Zabliska se: Po cesti
pred njim sopeč
pripognjen stopa sosed Vid, na rami
mejnik noseč! …

Pa bil je Martin svoje dni vojak vam,
in ni se bal …
Kako nocoj domov je prišel s sejma,
pa le ni znal!
A čudno prinesó mu vsi novico,
ko sine svit:
»Sinoč umrl je nagle smrti sosed,
mejaš naš – Vid!«

Če na načrtih mejo med nepremičninami različnih lastnikov predstavlja narisana linija, so v naravi za razmejitev med posestniki (in tudi med državami) postavljena mejna znamenja – mejniki.

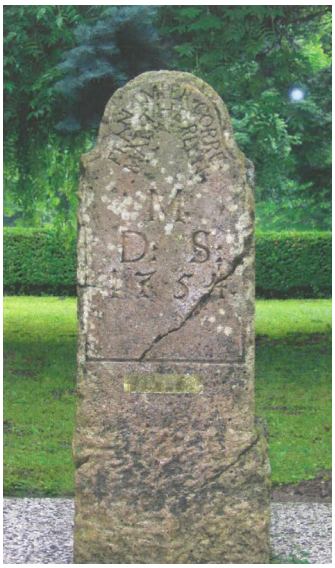
While borders between real estate owned by different owners exist as lines on maps, their counterparts (also between countries) in nature are represented by border stones.

Slika 54: Rapalski mejnik 42/XXVI stoji ob rečici Sori pod Zavratcem.
(Foto: Tomaž Pavšič)

Figure 54: Rapallo border stone 42/XXVI, located by Sora stream under Zavratec.
(Photo: Tomaž Pavšič)

Slika 55: Mejni kamen na Kladju med deželama Kranjska in Primorska.
(Foto: Tomaž Pavšič)

Figure 55: Border stone on Kladje between the lands of Carniola and Slovenian Littoral.
(Photo: Tomaž Pavšič)



Slika 56: Mejo med Spodnjo Štajersko in Ogrsko državo so določali kamniti mejniki, ki so jih po izročilu postavljali od 20. maja do 1. decembra 1755. Mejnik na sliki iz leta 1754 nosi latinski napis s kraticami in krajšavami: M.D.S.,M. Reg. Hung., Fran. Imper. Corre. Mar. Teh. Regn. in omenja Marijo Terezijo kot vladarico (vojvodinjo Štajerske in kraljico Ogrske) in moža Franca kot sovladarja. Mejnik je bil postavljen na polju na Moti in leta 2002 prestavljen pred sodno stavbo v Ljutomeru.
(Zapis in foto: Srečko Pavličič)

Figure 56: The border between Lower Styria and the Hungarian state was delineated by stone border markers, which were, according to tradition, placed between 20th of May and 1st of December 1755. The marker pictured carries the following Latin inscription with abbreviations: M.D.S., M. Reg. Hung., Fran. Imper. Corre. Mar. Teh. Regn. and mentions Maria Theresa as the ruler (Duchess of Styria and Queen of Hungary) with husband Franz as co-ruler. The marker was placed on a field at Mota and was in 2002 moved in front of the court building in Ljutomer.
(Description and photo: Srečko Pavličič)

9 Zaključek ene zgodbe in začetek druge

> *Ta poročila sem zbral in zapisal, da ne bi s časom zamrl spomin na to, kar se je zgodilo po svetu, zlasti pa, da se ne bi pozabile velike, občudovanja vredne storitve …*
>
> – Herodot, 5. stol. pr. n. š.

Ogromno delo digitalizacije arhivov podatkov in elaboratov geodetske uprave je zaključeno in pri koncu je tudi ta kratek zapis o delu, ki mu je geodetska uprava v tem in prejšnjem desetletju namenjala veliko pozornosti, predvsem pa časa in truda svojih uslužbencev na glavnem uradu in na vseh koncih Slovenije, kjer poslujejo območne geodetske uprave in njihove pisarne. V skrbno urejanje analognih gradiv in pripravo za skeniranje je bilo vloženega ogromno napornega umskega in fizičnega dela številnih sodelavk in sodelavcev.

Tudi samo skeniranje je bilo izjemno obsežna naloga – predvsem v organizacijskem, logističnem, tehnološkem in informacijskem pogledu. V publikaciji lahko med drugim preberemo podatek, da je geodetska uprava v obdobju med letoma 2003 in 2019 v digitalno obliko pretvorila več kot 23 milijonov dokumentov, od tega več kot 20 milijonov dokumentov zemljiškega katastra in nekaj manj kot tri milijone dokumentov katastra stavb. Vsi ti dokumenti so geodetom in drugim pooblaščenim uporabnikom na voljo za neposreden spletni dostop in uporabo 24 ur na dan, 7 dni v tednu in 365 dni v letu. Vsem uporabnikom pa sta prosto dostopna digitalni arhiv približno 75.000 zemljiškokatastrskih načrtov geodetske uprave in tudi neposredna povezava na digitalni arhiv zemljiškokatastrskih načrtov Arhiva Republike Slovenije.

To pa je bil kljub impresivnemu obsegu vendarle le droben zaključni del celotnega procesa. Vse te geodetske podatke, ki so bili predmet digitalizacije arhivov, je bilo namreč treba najprej zarisati v skice in načrte ter zapisati v merske in postopkovne zapisnike, še prej pa seveda skrbno in natančno izmeriti z geodetskimi meritvami na terenu. Ali si sploh lahko vsaj približno predstavljamo, koliko znanja, dela, naporov, časa, sredstev in vsega ostalega so geodeti na Slovenskem v zadnjih dveh stoletjih vložili v te geodetske meritve? Ne, to je v vseh pogledih preprosto nepredstavljivo.

Finishing one story and starting on another

> *I here display my inquiry, so that human achievements may not be forgotten in time, and great and marvellous deeds…may not be without their glory…*
>
> – Herodotus, 5th century BCE

The Herculean task of digitizing data archives and reports by the Surveying Authority has been completed and we will conclude this brief insight into it with a short description of the project, which in the past 20 years required a lot of attention from the Surveying Authority, but even more so of time and efforts by its employees at the main office as well as all in places around Slovenia where regional surveying authorities and their offices are located. The careful sorting of materials in paper format and the preparations for the scanning involved a lot of strenuous mental and physical work by numerous employees.

Just the scanning itself proved to be an immensely large task – mainly as regards its organisation, logistics, technology and IT. As an example, the Surveying Authority converted over 23 million documents from paper into digital format between 2003 and 2019, with over 20 million being land cadastre documents and just under 3 million belonging to the building cadastre. All these documents are now available to land surveyors and other authorised users for direct web access and use 24 hours a day, 7 days a week, 365 days a year. Meanwhile, access to the digital archive of some 75,000 land cadastre plans by the Surveying Authority and a direct link to the digital archive of land cadastre plans of the national Archives is available to all.

But despite the impressive scope, this represented but a tiny part of the entire process. All the land surveying data, subject to digitization, had to first be drawn in sketches and plans as well as written down in surveying and procedural records, but only after careful terrain surveys were carried out. Is it even possible to imagine how much knowledge, work, efforts, time, money and everything else was

Geodetski arhivi brez kančka dvoma predstavljajo izjemno narodno bogastvo in tehnično kulturno dediščino neprecenljive vrednosti, tako za slovensko družbo kot za vsakega njenega posameznika. Vsi mi namreč nekje v prostoru živimo in delamo, in ta »nekje« je nedvomno na eni od milijonov parcel ali stavb na Slovenskem, ki so skozi leta, desetletja in stoletja bile predmet geodetskih izmer in postopkov evidentiranja v geodetskih evidencah, ki so zdaj zapisane in dostopne za uporabo tudi v digitalnem arhivu. Ključno je tudi dejstvo, da je digitalni arhiv organizirana dinamična zbirka podatkov, saj geodetska uprava digitalni arhiv dokumentov nepremičninskih evidenc dnevno sproti dopolnjuje s stotinami digitalnih zapisov elaboratov novih geodetskih meritev in postopkov.

Prava vrednost digitalnega arhiva dokumentov nepremičninskih evidenc in vse njegove prednosti pa se bodo uporabnikom potrdile in vedno znova potrjevale z dnevnim uporabniškim dostopanjem v digitalni arhiv in uporabo digitalnih podatkov.

A to je že druga zgodba, ki pa smo jo geodeti, zase in za vse uporabnike naših storitev in podatkov, že začeli pisati z novim elanom in optimizmom.

invested by Slovenian surveyors in their activities in the past two centuries? No, such an effort is simply unimaginable.

Land surveying archives are without a shadow of a doubt an exceptional national heritage and priceless technical-cultural heritage for Slovenian society and its individual members. We all live and work somewhere in space and that "somewhere" is undoubtedly on one of the millions of land plots or buildings in Slovenia which were, throughout the years and decades, subject to land surveying and procedures to record them in land surveying registers, now also digitized and available for use in the digital archive. Another key factor was that the digital archive is an organized dynamic collection of data, because the Surveying Authority daily adds to it hundreds of digital reports regarding new land surveys and procedures.

The real value of the digital archive of documents of real estate records and all of its advantages will be of utmost usefulness for the users through their daily access to the digital archive and the use of digital data.

But this would be a different story, one which land surveyors already began to write with new energy and optimism for us and for all users of our services and data.

Priloga 1

Appendix 1

Priloga Pravilnika za katastrsko izmero iz leta 1824

Appendix to the Regulation for cadastral surveying from 1824

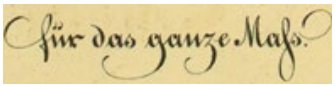
Navodilo za risanje katastrskih načrtov
Instructions for drawing cadastral plans

Vrste rabe zemljišč
Types of land cover

Pisave
Script

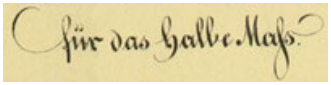
Stavbe
Buildings

za merilo 1:2880
for the 1:2,880 scale



Predpisane oznake
Prescribed labels

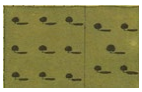
za merilo 1:5760
for the 1:5,760 scale



Vrste rabe zemljišč

Types of land cover

okrasni vrtovi
ornamental gardens



sadovnjaki
orchards

zelenjavni vrtovi
vegetable gardens

vinogradi
vineyards

hmeljišča
hops fields

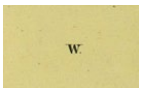
pridelava žafrana
saffron cultivation

pridelava citrusov
citrus cultivation

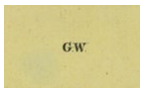
pridelava tobaka
tobacco cultivation

suhi travniki
dry meadows

mokri travniki
wet meadows



pašniki
pastures



vaški pašniki
village pastures

močvirja
marsh

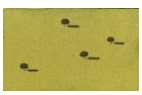
močvirja s trstičjem
marsh with reeds

njive
fields

njive z vinsko trto
fields with grapevine

njive z oljkami
fields with olive trees

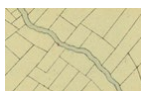
njive z veliko železa
high iron content fields



travniki s sadnim drevjem
meadows with fruit trees

njive z drevjem in trto
trees and grapevine fields

njive s sadnim drevjem
fields with fruit trees



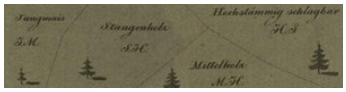
riževa polja
rice fields

grmičevje
brushwood

angleški vrtovi
English gardens

plantažni nasadi
plantations

listnati gozdovi
deciduous forests

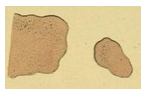


iglasti gozdovi
coniferous forests

mešani gozdovi
mixed forests

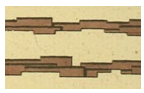
kostanjevi gozdovi
chestnut forests

oljčni gozdovi
olive tree groves



peskokopi, gramozi
sand and gravel pits

glinokopi
clay pits

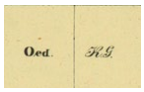


šotišča
peat bogs

morske soline
saltpans

kamnolomi
quarries

jezera, jezovi, reke in potoki
lakes, dams, rivers and streams



neplodno in gole skale
barren land and rocks

Vrste rabe zemljišč

Types of land cover

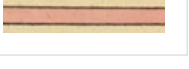
deželne meje
county border

kresijske (okrožne) meje
state border

okrajne meje
district border

občinske meje
municipality border

ceste z jarki
highway with ditches



ceste brez jarkov
highway without ditches

pešpoti
footpath

povezovalne poti z jarki
district road with ditch

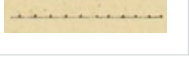
povezovalne poti brez jarkov
district road without ditch

poti, utrjene s hlodi
log-reinforced dirt route

ozke tovorne poti
bridle path

kamnita zaščitna pregrada
stone weir

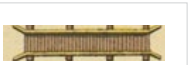
žive meje
hedge



ograje
fence

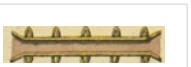
ograja s kamnitimi stebri
fence with stone pillars

kamniti mostovi na travejah
stone pile bridge



leseni mostovi na travejah
wooden pile bridge

leseni mostovi s kamnitimi travejami
wood bridge with stone piles



pontonski mostovi
pontoon bridge

kamniti jez
stone dam

zemeljski jez
embankment dams

suh jarek
dry ditch

moker jarek
wet ditch

lesena zaščitna pregrada
wooden weir

vrvni most, brod
reaction ferry

zidan vodovod
brick aqueduct

lesen vodovod
woden aqueduct

lesena obrežna zaščita
wooden dike

kamnita obrežna zaščita
stone dike

smer vodnega toka
direction of water flow

lesene rake
wooden flotsam screening

splavilo lesa, flosarstvo
logs on river

drče za spravilo lesa
log flume

sidrišča
anchorage

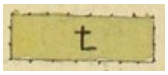
vodni zbiralnik
water tank

kanali in zapornice
canal with sluice

utrditve terena, fascine
fascine

vislice
gallows

pokopališče z zidom
cemetery with wall



pokopališče z ograjo
cemetery with fence

judovsko pokopališče
Jewish cemetery

cisterna
cistern

kamniti cevast vodnjak
stone well

lesen cevast vodnjak
wooden well

mučeniški steber
column shrine

kamnita kapelica
stone wayside shrine

grafična točka
graphical point

mejni kamni
border stone

lesena kapelica
wooden wayside shrine

kamniti križ
stone wayside cross

leseni križ
wooden wayside cross

kamnita miljna oznaka
stone mile marker

lesena miljna oznaka
wooden mile marker

kamniti kažipot
stone signpost

leseni kažipot
wooden signpost

kamniti mlini na veter
stone windmill

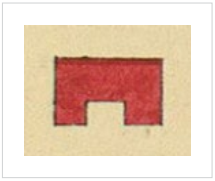
leseni mlini na veter
wooden windmill

trigonometrična točka
trigonometric point

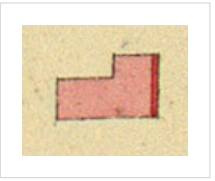
mejne oznake, gomile
border marker, mound

Stavbe
Buildings

cerkve
church



javne stavbe
public building



kamnite stavbe
stone building

gospodarske (lesene) stavbe
industry (wooden) building

ruševine
ruins

poštne hiše
post office

lovske hiše
hunter cabin

gostinske stavbe
inn

Pisave za merilo 1:2880
Scripts for the 1:2,880 scale

Pisave za merilo 1:5760
Scripts for the 1:5,760 scale

Priloga 2

Geodetsko-katastrska zakonodaja iz obdobja 1720–1918

Digitalne posodobitve katastrskih predpisov v nemščini in/ali slovenščini

V nadaljevanju so v preglednici 6 prikazani ključni stari geodetsko-katastrski predpisi iz obdobja habsburške monarhije med letoma 1720 in 1918. V zadnji koloni preglednice je označeno stanje izvedbe njihove digitalne posodobitve v sodobni besedilni zapis. V koloni Jezik pa je razvidno, kateri stari predpisi so že digitalno posodobljeni v slovenščini, kateri pa so le v nemščini in jih je treba še prevesti v slovenščino.

Digitalno posodobljena vsebina večjega števila spodaj navedenih predpisov je objavljena na **spletni strani Geodetskega vestnika** kot digitalni dodatek k članku »Rjava, rdeča in zelena – barve naše stare geodetsko-katastrske tradicije«. Celovit seznam geodetsko-katastrskih predpisov iz obdobja habsburške monarhije med letoma 1785 in 1918 pa je objavljen na spletni strani **Inženirske zbornice Slovenije – MSGeo**.

Appendix 2

Surveying and cadastral legislation between 1720 and 1918

Digital updates of cadastral regulations in German and/or Slovenian

Table 6 below shows the key old land surveying-cadastral regulations from the time of the Habsburg monarchy between 1720 and 1918. The final column of the table shows whether or not they have been digitized. The language column shows which old regulations have already been digitized in Slovenian and which are in German only and have yet to be translated into Slovenian.

The contents in digital form of the large number of regulations listed below is published on **the website of the Geodetski vestnik magazine** as a digital appendix to the article "Brown, Red and Green – Colours of Our Land Surveying-Cadastral Traditions". The complete list of land surveying-cadastral regulations from the time of the Habsburg Monarchy between 1785 and 1918 is published on the website of **the Slovenian Chamber of Engineering – MSGeo**.

Leto izdaje Year of publication	Predpis Regulation	Št. strani No. of pages	Jezik Language	Pisava Script	Digitalno posodobljeno Digitally updated
1720	Vermessungs-Instruction unter maßgeblicher Mitwirkung von J.J. Marinoni, »Ordini Stabiliti dalla Cesarea Real Giunta del nuovo Censimento per la Misura Generale dello Stato di Milano a 10. Ottobre 1720«	?	nemščina/ italijanščina German/Italian	gotica Gothic	✗
1748	Theresianischen Steuerrektifikation Patent 26. 7. 1748	?	nemščina German	gotica Gothic	✗
1785	Grundsteuerregulirung Patent jožefinskega katastra 20. 4. 1785 Grundsteuerregulirung Patent of the Josephine cadastre 20. 4. 1785	4	nemščina German	latinica Latin	✓
1817	Grundsteuerpatent	6	nemščina German	gotica in latinica Gothic and Latin	✓
1817	Zakon o zemljiškem davku Land Tax Act	4	slovenščina Slovenian	latinica Latin	✓
1824	Instruction zur Ausführung der zum Behufte des allgemeinen Katasters in Folge des 8ten und 9ten Paragraphes des Allerhöchsten Patentes vom 23. December 1817 angeordneten Landes-Vermessung	157	nemščina German	gotica Gothic	✗
1824	Instrukcija za izvršitev deželne izmere za namen splošnega katastra – delni prevod Instructions how to carry out land surveying for the general cadastre – partially translated	54	slovenščina Slovenian	latinica Latin	✓
1824	Kartografski ključ instrukcije (slo-nem) Legend to the maps	5	slovenščina/ nemščina Slovenian/German	latinica Latin	✓

Leto izdaje Year of publication	Predpis Regulation	Št. strani No. of pages	Jezik Language	Pisava Script	Digitalno posodobljeno Digitally updated
1856	Instruction zur Ausführung der zum Behufe des allgemeinen Katasters in Folge der Allerhöchsten Patente vom 23. December 1817 und vom 20. October 1849 angeordneten Landes-Vermessung	187	nemščina German	gotica Gothic	✕
1856	Instruction zur Ausführung der in Folge des Allerhöchsten Patentes vom 23. December 1817 und vom 20. October 1849 angeordneten Katastral-Vermessung	285	nemščina German	gotica Gothic	✓ do strani 103 v latinico up to page 103 in Latin script
1869	XXXVIII.88 Gesetz vom 24. Mai 1869, über die Regelung der Grundsteuer	24	nemščina German	gotica Gothic	✕
1871	XXXVII.95_96 Občni zemljeknjižni zakon XXXVII.95_96 General Land Registry Act	31	slovenščina Slovenian	latinica Latin	✓
1883	XXVIII.82 Sprememba zakona o zemljiški knjigi XXVIII.82 Amendments to the Land Registry Act	2	slovenščina Slovenian	latinica Latin	✓
1883	XXVIII.83 Zakon o vzdrževanju zemljiškega katastra XXVIII.83 Act on Maintaining the Land Cadastre	18	slovenščina Slovenian	latinica Latin	✓
1883	XXVIII.84 Uradniki zemljiškega katastra XXVIII.84 Land cadastre officials	2	slovenščina Slovenian	latinica Latin	✓
1883	XXVIII.86 Zakon o vzdrževanju zemljiškega katastra – dopolnilo zasebne meritve XXVIII.86 Act on Maintaining the Land Cadastre – amended by private surveying	1	slovenščina Slovenian	latinica Latin	✓

1883	XXXI.91 Zakon o vzdrževanju zemljiškega katastra – Uredba XXXI.91 Act on Maintaining the Land Cadastre – Decree	54	slovenščina Slovenian	latinica Latin	✓
1883	XXXII.92 Zakon o komasaciji XXXII.92 Land Consolidation Act	12	slovenščina Slovenian	latinica Latin	✓
1883	XXXII.93 Zakon o zaokroževanju gozdov XXXII.93 Forest Rounding Act	2	slovenščina Slovenian	latinica Latin	✓
1896	XLVIII.121 Zakon o vzdrževanju zemljiškega katastra XLVIII.121 Act on Maintaining the Land Cadastre	7	slovenščina Slovenian	latinica Latin	✓
1896	XLVIII.153 Ukaz o izvajanju 11. člena Zakona o vzdrževanju zemljiškega katastra XLVIII.153 Order on carrying out article 11 of the Act on Maintaining the Land Cadastre	2	slovenščina Slovenian	latinica Latin	✓
1904	Instruction zur Ausführung der trigonometrischen und polygometrischen Vermessungen behufs Herstellung neuer Pläne für die Zwecke des Grundsteuer-Katasters.	233	nemščina German	latinica Latin	✗
1907	Instruktion zur Ausführung der Vermessungen mit Anwendung des Mesztisches behufs Herstellung neuer Pläne für die Zwecke des Grundsteuerkatasters	294	nemščina German	latinica Latin	✗
1907	Anleitung für das Verfahren bei Ausführung der Vermessungsarbeiten ... ... des Grundsteuerkatasters ... ... Evidenzhaltung ...	77	nemščina German	latinica Latin	✗
1912	Zusammenstellung der Gesetze und Vorschriften betreffend den Grundsteuerkataster und dessen Evidenzhaltung	765	nemščina German	gotica Gothic	✗

Preglednica 6: Pregled stanja digitalne posodobitve katastrskih predpisov starega katastra iz obdobja 1720–1918 (stanje: april 2019).

Table 6: Overview of digitization of cadastral regulations of the old cadastre from the 1720-1918 period (situation as of: April 2019).

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To ni čast, da jo vzamete s seboj, to je dediščina, ki jo puščamo za sabo.

It is not the honor that you take with you,
but the heritage you leave behind.

– Branch Rickey

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