

# The Land Register System and the Process of Cartographical Numerical Cadastral Formation in the Province of Trento

by Flavio MARGONARI, Italy

**Key words:** catasto, catasto austriaco, libro fondiario, partita tavolare, diritti di proprietà  
**Key words:** Cadastre, Austrian Cadastre, Land register system, “partita tavolare”, rights of possession

## SUMMARY

In Italy currently operate two different systems of advertising of the real estate: a national one based on “trascrizione” and an operative one existing in the territories of ex Habsburg Empire until the end of First World War known as the “Land Register”.

In areas where the system applies the Land Register, for acquiring or transferring the right of possession and other real rights over immovable property is not sufficient to conclude the contract before the notary, but it is also necessary to carry out their registration.

The Land Register system is organized on “real base”, it means that any inscription is directly reported to real estate object of right of possession open to the public, and the buildings are identified in the mapping of the Land Register.

## RIASSUNTO

In Italia operano attualmente due diversi sistemi di pubblicità immobiliare: quello nazionale della “trascrizione” e quello vigente nei territori dell’ ex impero asburgico fino alla fine del primo conflitto mondiale noto come sistema del “libro fondiario”.

Nei territori ove vige il sistema del libro fondiario, per acquistare o trasferire il diritto di proprietà e gli altri diritti reali sui beni immobili non è sufficiente la stipulazione del contratto davanti al notaio, ma è necessaria anche l’effettuazione della loro iscrizione

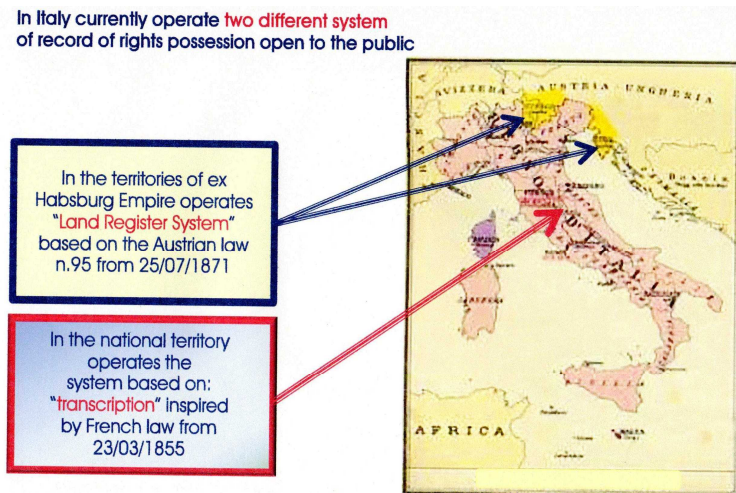
Il sistema tavolare è organizzato su “base reale”: ogni iscrizione in esso effettuabile viene direttamente riferita ai beni immobili oggetto del diritto pubblicizzato, e gli immobili sono quelli individuabili nella rappresentazione cartografica del catasto fondiario.

# The Land Register System and the Process of Cartographical Numerical Cadastral Formation in the Province of Trento

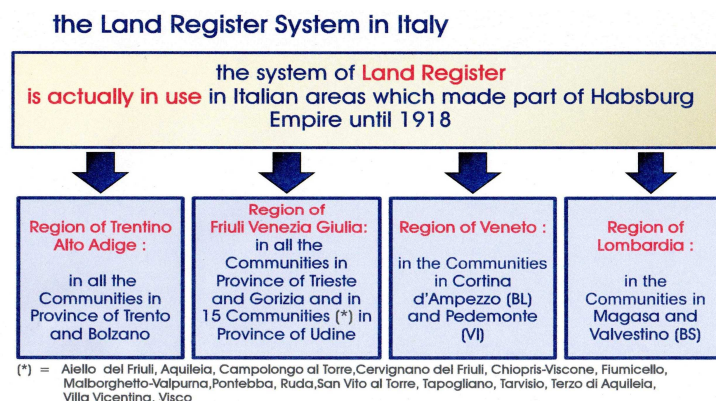
by Flavio MARGONARI, Italy

## INTRODUZIONE

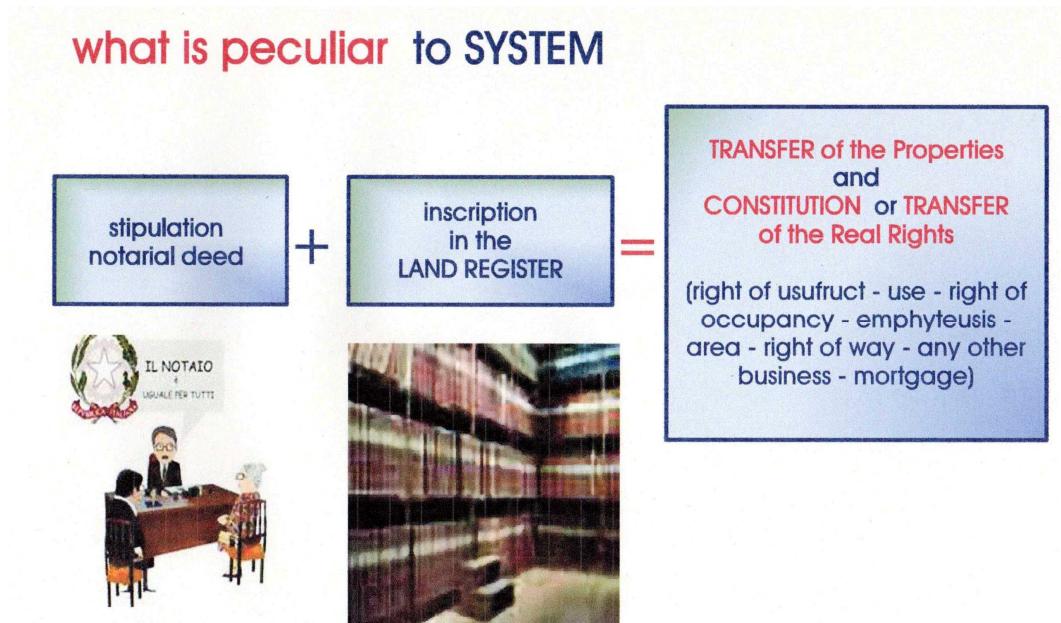
In Italy currently operate two different systems of advertising of the real estate: a national one based on "transcription" and an operative one existing in the territories of ex Habsburg Empire until the year 1918 known as the "Land Register"



The territories where the system of "transcription" is still in use are:  
 The entire territory of Autonomous Region of Trentino Alto Adige, in the Communities in Valvestino in the Province of Brescia (Region of Lombardy), in the Communities in Pedemonte in Province of Vicenza and Cortina d'Ampezzo in Province of Belluno in Region of Veneto, the entire territories in the Province of Trieste and Province of Gorizia and in the some Communities of Province of Udine in the Region of Friuli Venezia Giulia.



In areas where Land Register System of purchase or of transition of the right of possession is to be applied and others real rights on real estates, the stipulation of contract it's not sufficient to be made in front of solicitor, but is necessary that the right is recorded at Land Title Register, accomplishing so a form of right of possession open to the public.



The Land Register System is organized on **real base** : each practicable record is directly reported to real estate object of right of possession open to the public. The system of identification of estate is constituted by representation offered by cartography of Cadastre.



The recordings are made in the fundamental act of Land Register system, consisting by “partita tavolare”.

## the “PARTITA TAVOLARE”

the **inscriptions** in the Land Register are made into “**collection**” called “PARTITA TAVOLARE”



each “PARTITA TAVOLARE” including the parcels lying in the territory of **the same Cadastral Municipalities** and belonging to the **same owner**



The fundamental act of Land Title Register System (“partita tavolare”) is subdivided in four subsections, called “sheets”:

**the sheet A1** contains the list of cadastral parcels included in the territory of the same cadastral Community, which were posed in that parcel because belonging to the same property,

**the sheet A2** where is the confirmation of movements of particles from one ”partita tavolare” to the other and the registration of the rights in favor of the holders,

**the sheet B** is recorded the right of possession in favour of the holder of cadastral particles listed on the sheet A,

**the sheet C** are recorded land charges against to listed particles on the sheet A1 (mortgages, servitude, usage, execution, attachment of properties, etc....).

for example :

**the "PARTITA "TAVOLARE" computerised from 31- 12 - 2008**

**COPIA COMPLETA DEL LIBRO MAESTRO - STATO ATTUALE**

Provincia Autonoma di Trento  
Servizio Ibro Fondario  
Ufficio del Libro Fondario di Trento

COMUNE CATASTALE 406 Trento  
DISTRETTO Trento

**PARTELLA TAVOLARE**  
1214  
Piembi  
Ultimo piombo evaso

**n° Partita Tavolare**

**Cadastral Municipalities**

**Sheet A1 of consistence (number of cadastral parcel)**

Particella	Corpo tavolare	Dati catastali				
		Qualità	Classe	Superficie mq.	R. Dominio Euro	R. Agrario Euro
p.ed. 212		Riliscio		154		
p.f. 424		Aratro			0,35	0,14
p.f. 914/1		Pasato	5	584		1,06

**Sheet A2 the right of possession in favour of the elders**

**Sheet B the holder of particles**

**Sheet C land charges**

**the Cadastre Cartography**

**perfect concordance between recording in the Land Register and act of the Cadastre**

14-11-2006 273 P.T. 1214 Pagina 1 di 2

The high level of reliability of the findings of the Land Register System is direct consequence of tree fundamental principles, on which is based:

#### PRINCIPLE OF REGISTRATION:

The property and the others real rights can't be acquired or can't be transferred by act between alive persons unless with their recording in the Land Register.

#### PRINCIPLE OF LEGALITY:

No registration can be made at Land Register if it wasn't put in order by magistrate, judge or through court order on purpose: the decree.

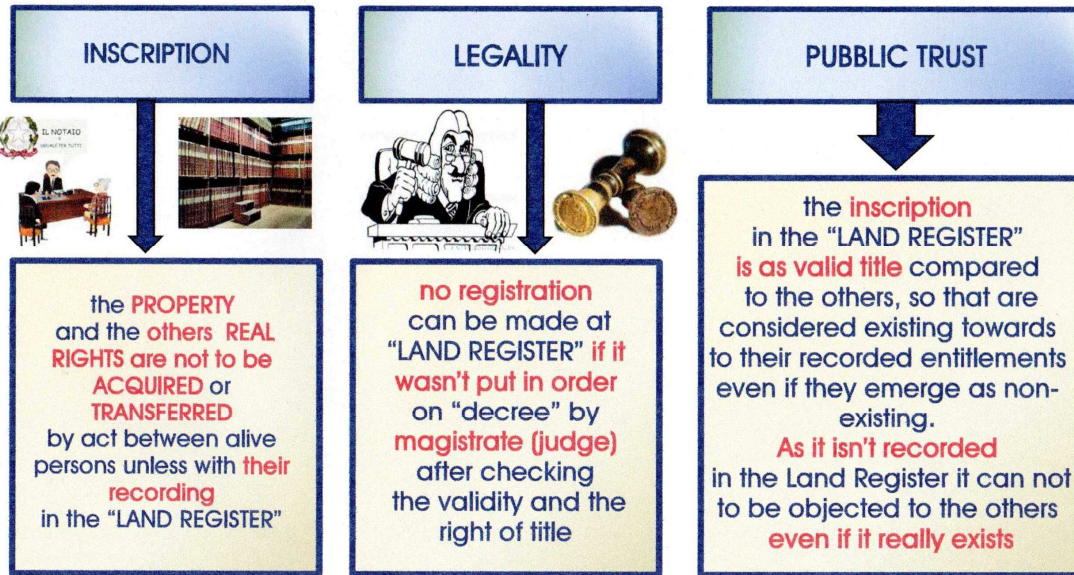
#### THE PRINCIPLE OF PUBLIC TRUST:

The recording into the Land Register is compared as valid title to the others so that are considered existing towards to their recorded entitlements, even if they emerge as non-existing.

As it isn't recorded in the Land Register, it can not be objected to the others, even if it really exists.

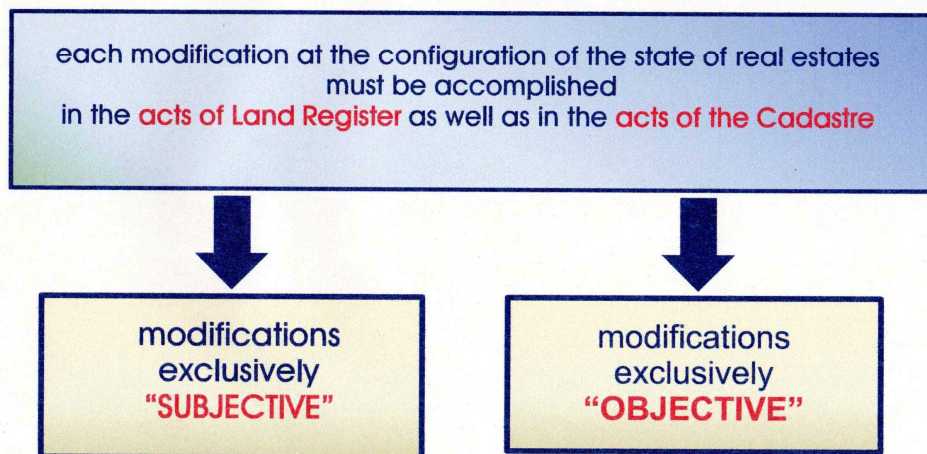
The records in the Land Title Register and in the Cadastre must be held in perfect concordance in all their aspects: geometrically, in the consistency and in the right.

### the fundamental principles of "LAND REGISTER"

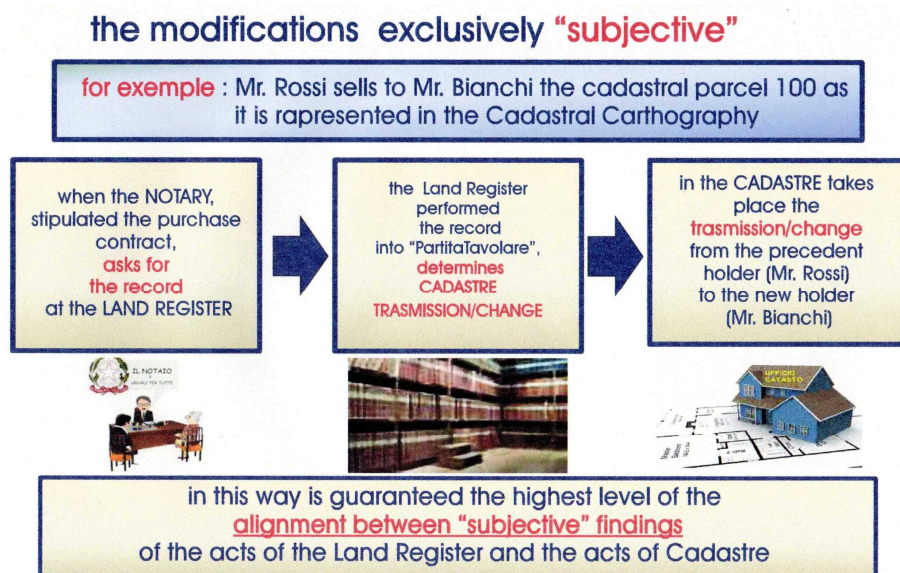


All changes made about the state of estates must be accomplished in acts of Land Register as well as in acts of the Cadastre.

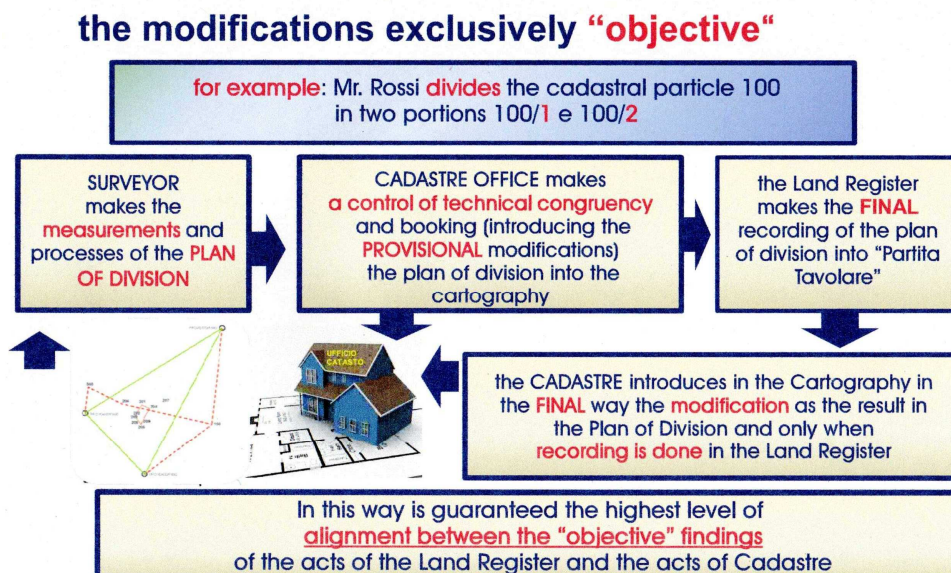
### the concordance Acts of CADASTRE - LAND REGISTER



The merely **”subjective”** type of changes, based only on the right of parcels, even if resulting unchanged in their configuration, are made on the basis of necessary translational title (e.g. contract of sale) followed by the performing relevant trascription in the Land Register, thence communicating the transfer of the property to the Cadastre because of the passage from the old holder to the new one.



The **”objective”** type of changes, consequent to a modifications of the configuration of the cadastral parcels will be instead only reserved at the cartography of the Cadastre as a result of the technical congruity control of fractionation types processed by delegate surveyor, and thus definitively insert in to the Cadastre Cartography as a result of ocured registration to the **”partita tavolare”**.



In these operations of change of the configuration of cadastral parcels which represent the properties, the figure of the **FREELANCER SURVEYOR** plays a role of primary relevance as a linking element between the final users and the Public Administration.

## **REFERENCES**

<http://www.librofondiario.provincia.tn.it/>  
[www.regione.taa.it/museo/sistema\\_tavolare\\_it.htm](http://www.regione.taa.it/museo/sistema_tavolare_it.htm)

## **BIOGRAPHICAL NOTES**

Flavio MARGONARI, Doctor of Law, graduated in the year 1980 from the University of Bologna, Professor of Law (Diritto Tavolare) at the University of Trento.

## **CONTACTS**

Flavio  
MARGONARI  
via Gilli, 4  
38100 TRENTO  
ITALY  
Tel. 39 0461491605  
Fax 39 0461491635  
Email: [flavio.margonari@provincia.tn.it](mailto:flavio.margonari@provincia.tn.it)



# The Land Register System and the Process of Cartographical Numerical Cadastral Formation in the Province of Trento

Walter ISEPPI, Italy

**Key words:** catasto, catasto austriaco, formazione cartografia catastale numerica , mappa, Provincia Trento, geoide, Regione Trentino Alto Adige

**Key words:** Cadastre, Austrian Cadastre, creation of numerical cadastral mapping, map, Province of Trento, geoid, Region of Trentino Alto Adige

## SUMMARY

Until 1918 Trentino Alto Adige was part of the territories of the Austro-Hungarian Empire, and more specifically of the Tyrol. The cadastral maps of the region have been managed independently of the remaining Italian territory by the appropriate Cadastral Services of the Provinces of Trento and Bolzano since 1978. These maps are the original ones created under the Asburgic domain, dating back to the years 1856-1861.

The original accuracy of this mapping, after 150 years of management and conservation, has naturally and gradually declined in quality. Consequently, starting from 1989, the Autonomous Province of Trento - Cadastre Service undertook the necessary initiatives for the rebuilding from scratch of all of the 447 Cadastral Maps Cadastral Municipalities.

The mapping is vectorial in nature - DXF scale 1:1000 format, Universal Transverse Mercator projection (UTM) and framed in the WGS84 geodetic system in the European implementation ETRS89. The choice of this very datum is consistent for any subsequent operations of overlap on other georeferenced media.

## RIASSUNTO

La Regione Trentino Alto Adige faceva parte fino al 1918 ai territori dell'Impero Austro Ungarico e più precisamente al Tirolo. La mappe catastali della Regione dal 1978 sono gestite autonomamente rispetto al restante territorio Italiano dai competenti Servizi del Catasto delle Province di Trento e Bolzano e sono quelle appunto rilevate e formate negli anni 1856-1861 in regime Asburgico.

La originaria precisione di detta cartografia, in 150 anni di gestione e conservazione è naturalmente e gradualmente decaduta di qualità. Conseguentemente la Provincia Autonoma di Trento – Servizio Catasto ha avviato ancora nell'anno 1989 le necessarie iniziative per il rifacimento ex novo della Cartografia Catastale di tutti i 447 Comuni Catastali .

La Cartografia realizzata è di tipo vettoriale - formato DXF scala 1:1000, in proiezione Universale Trasversa di Mercatore UTM ed inquadrata nel sistema geodetico WGS84 nella implementazione Europea ETRS89. La scelta di tale DATUM e' compatibile per le eventuali successive operazioni di sovrapposizione su altri supporti georeferenziati.

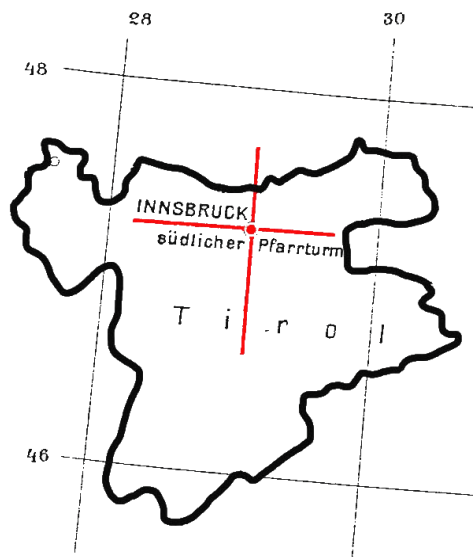
# The Land Register System and the Process of Cartographical Numerical Cadastral Formation in the Province of Trento

Walter ISEPPI, Italy

## INTRODUZIONE

The cadastral cartography in Italy is framed in a myriad of different reference systems and spatial extents. Still at present we can find 23 large systems and a dozen other small systems. Specifically, for the Region of Trentino Alto Adige and in some Provinces of Friuli Venezia Giulia and Veneto, belonging until 1918 to a form Austro-Hungarian Empire, there are two systems of reference of cartography with respective origins in Innsbruck in Austria and in Krimberg (Slovenia).

Origin of the reference system is in the Cassini- Soldner projection.



Subsequently the cadastral mapping in Trentino Alto Adige had been made on the basis of the current law of Habsburg (23.12.1817 Sovereign license) as well as the specifics of a rigorous technical and cartographic rules.

The ex Austrian Cadastre is “**probative**” type and yet at the present the system of Real Estate advertising by the Land Registry is valid.

The map projection adopted was the projection of Cassini-Soldner with extensions of the system height of 300 km and width of 265 km, the original ratio scale of the map of Habsburg was to “1 inch to 40 Vienna’s klafter” (1 klafter = 1 Vienna’s perch = m 1,89), that in the decimal system corresponds to a ratio of 1:2880.

During the year 1851 the operations of triangulation in Tyrol begun and was measured the geodetic base of Hall (A) of the length of m 5675.215 from which grew the resulting network of trigonometric triangulation.

### The triangulations

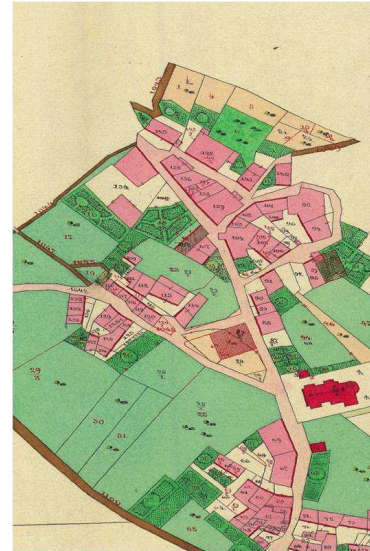


During the years 1856-1861 the detailed survey was implemented with conventional surveying methods for graphics intersections with “Tablet Praetorian” and with direct survey by alignments.

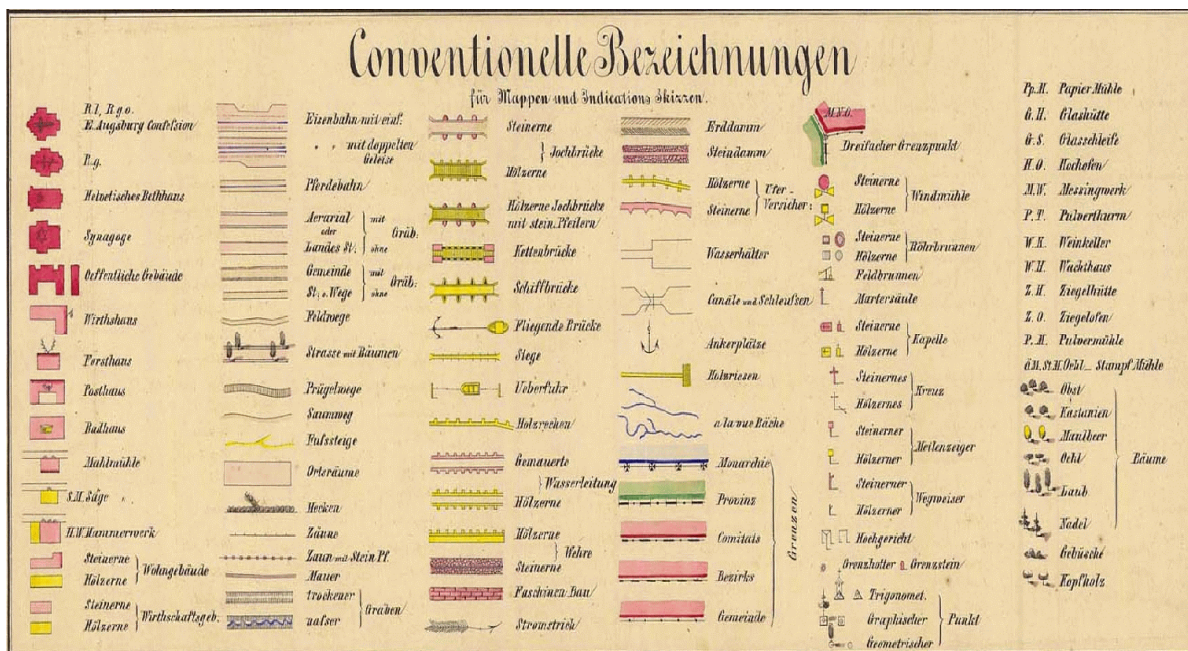
The 13297 Map Sheets were detected covering a total area of 38500 sq. km, in consideration of the topographical instrumentation used, huge work was carried out and implemented in a very short time.... **A praise to our predecessors Surveyors.**

The attention to detail graphics and a wide range of symbols and graphics helped to create these maps as a “talking maps” and understandable to everybody (e.g. color backgrounds, different for various types of crops, the front “entrance” of buildings highlighted in bold, the wealth of typological attributes for buildings, roads, bridges, tree crops, etc..).

Extract of Map 1:2880

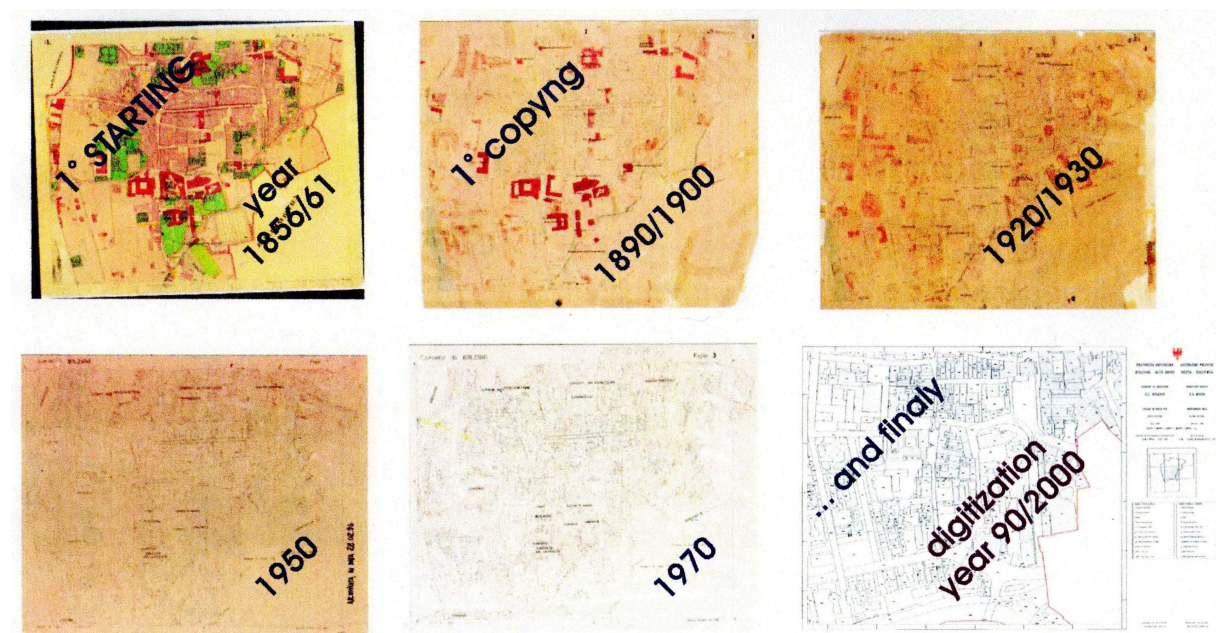


Original legend of used symbols



From 1859 until the present various editions of the map have been carried out and more precisely every 20/30 years the original Map of “evidence” was copied ex novo by the Land Registry making the occurred updates in consistency and configuration of the parcels.  
 From the beginning until now it has been implemented at least with six or seven “issues” arriving to the digitization process in the years 1990/2000 with the edition of last map on a computer file vector CAD/DXF.

#### The various editions of the Cadastral Map



For various reasons such as the same surveying methods (direct measurements for alignments and angles), the introduction of graphic-manual systems of the new lines in map (pre-legislation of “Pregeo”) as well as the last process of digitizing has induced to a progressive decline of the original confidence and precision.

By considering the lack of coherency in current territorial reality, the latest edition of the map doesn't appear to be any more suitable to support the insertion through informatics methodology (Pregeo) to updating the cartographic acts presented by Technical Professionals on behalf of the owners.

For this reason the Service of the Land Registry of the Province of Trento yet in 1989 has undertaken the necessary steps to realize ex novo a project “Creation of Numerical Cadastral Mapping” and after some experimentations of aerophotogrammetric type has adopted the classical method of the surveying on the ground (point to point).

From a legislative point of view in the Region of Trentino Alto Adige that was possible because the administrative functions and cartographic techniques had been delegated by Presidential Decree N°. 569 31/07/78 from the State to the Region, which already was in possession under the Statute Autonomy of the specific competency in the relation to the “Land Registry”.

Finally in 2004 the same responsibilities from the Region were passed directly to the respective Land Services of the Provinces of Trento and Bolzano.

There are various reasons that induce to the creation of new Numerical Cadastral Mapping. In addition to institutional and historical reason for the purpose of “**tax**” has been added a new incentive of cartography order for a gradual approach to the GIS map (e.g. for map overlay of various cartographic supports like IGMI Cartography – Technical Orthophoto Maps – Plan of Zoning – etc..).

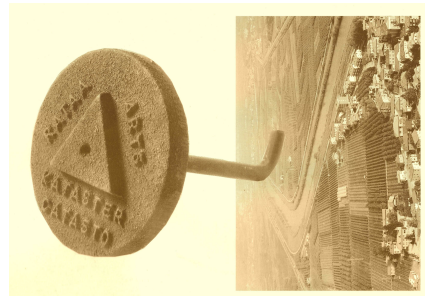
Other very valid reasons are those that realize “**certainty**” of the position of boundary lines with a “centimeter” accuracy rather than current “metric” precision, an analytical determination of the “**real**” surface represented by the various entities, a perfect correspondence between the territorial status and the dates of the Cadastre database and for the specific legal status of Region also the concordance with the database of the Institute of the Land Registry (property including the rights and obligations).

The project of Numerical Cadastral Mapping of Province of Trento was presented for the first time at the Conference SIFET in Merano in September 1989.

The first “spermental” phase of the surveying was implemented in the years 1989 -1999 and took a break from 2000 till 2004, for the necessary reflections and considerations about a new methods of detecting (GPS) as well as for a new instrumentation available (ETS laser and GPS) with the consequent need to adapt the existing Technical Specifications, methods of restitution and graphic of the produced Cartography.

With the entry of PREGEO procedure into force in 1996 in the Region, suitably adapted to the needs of the Cadastre and Land Register system, the two Provincial Services of Trento and Bolzano through their offices as well as with the help of the professionals – in the fase of editing of fractionation – have made in the territory of the Region a strong and “monitored” NETWORK of Fiducial Points, all “**MEASURED**” and of high reliability, which now amounts 27400 vertices.

#### The materialization on the ground - the network of Fiducial Points



All the “Fiducial Points” were measured ex novo with the methodology GPS and provided with monographic card completed with photos and the coordinates list in different reference systems: GAUSS/BOAGA - UTM/ETRF89 - Geocentric WGS84 – Geographic as well as the Orthometric and Ellipsoidal Altitude.

### Fiducial Point - Monograph Card

**monographic card template related to a “Fiducial Point” released by Trento Cadastre Department**

**cartographic references**

**description and access point**

**Coordinates UTM / ETRF89**  
**Coordinates Gauss/Boaga**

**Geocentric Cartesian coordinates**  
**Geographical coordinates**

**Orthometrics heights**  
**Ellipsoidal heights**

**Card Content:**

P.F. 120  
 COMUNE CATASTALE: FOLGARIA  
 COMUNE AMMINISTRATIVO: FOLGARIA  
 ORDINE: 4 RETE REGIONALE  
 LOCALITA': FOLGARIA  
 NOME:  
 PARTICELLA: 6469/2  
 F.M.: 17

**RIFERIMENTI CARTOGRAFICI**  
 GAUSS-BOAGA: FUSO OVEST - UTM: FUSO 32  
 CARTA TECNICA PROVINCIALE Foglio nr.: 081070

**DESCRIZIONE MONOGRAFICA:**  
 Centro di superficie posto sulla cordante che delimita l'inizio del marciapiede a monte della statale.

**ACCESSO:**  
 Lungo la S.S. nr. 350 in prossimità del km. 12,700 a lato dell'ingresso di marciapiede corrispondente.

**PUNTI DI RIFERIMENTO:**  
 R1 - spigolo muretto = 1.30 m.  
 R2 - spigolo muretto = 2.42 m.

**PIANO DI PARAGONE:**  
 Al centro di superficie

**COORDINATE UTM-ETRF89**  
 N = 5086734.24  
 E = 1688586.23

**COORDINATE GAUSS-BOAGA**  
 N = 5086734.24  
 E = 1688586.23

**COORDINATE CARTESIANE GEOCENTRICHE**  
 X = 4261782.95 m  
 Y = 861557.12 m  
 Z = 4559417.77 m

**COORDINATE GEOGRAFICHE (gr. pr. sec.)**  
 LATITUDINE 45° 54' 48.6155"  
 LONGITUDINE 11° 10' 24.4691"

**QUOTA ELLISSOIDICA: 1188.80m**  
**QUOTA ORTOMETRICA: 1139.23m**

**ULTIMA RICOGNIZIONE: 25/05/1999**

During the years 2006-2007 have been realized No. 2 NETWORKS GNSS (Global Navigational Satellite System) to cover the entire area framed in IGb00 reference system and traslated into a positioning system useful to demands of final users, i.e. in the system IGM95/ETRF89.

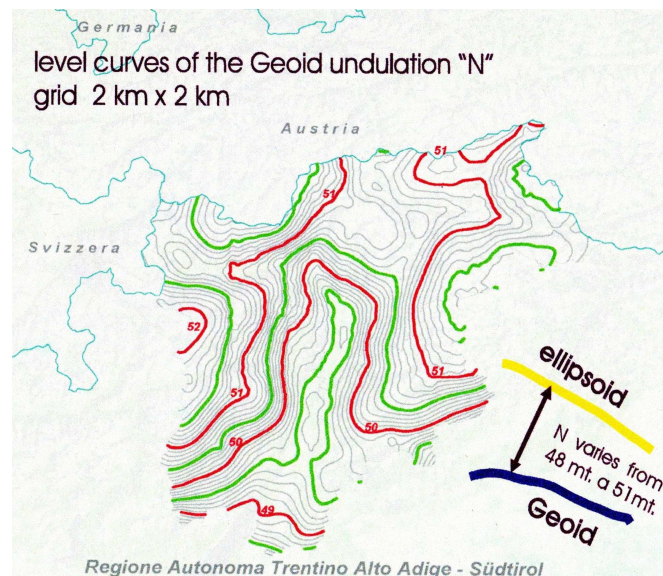
The service is completely free of charge for the final users (both private and professionals) and also for access in Real Time and Post Processing with downloading Rinex files.

## The GNSS TPOS network – Trentino POsitioning Service



For a better understanding of local correlations between the Geoid and Ellipsoid, the Cadastre Service of Bolzano (surveyor Di Girolamo A. – Geodetic Office) has studied and developed a specific local Model of non-gravimetric Geoid of the Region as results from following planimetry with a contour lines showing the geoid undulation “N”.

### Geoid model of Trentino Alto Adige

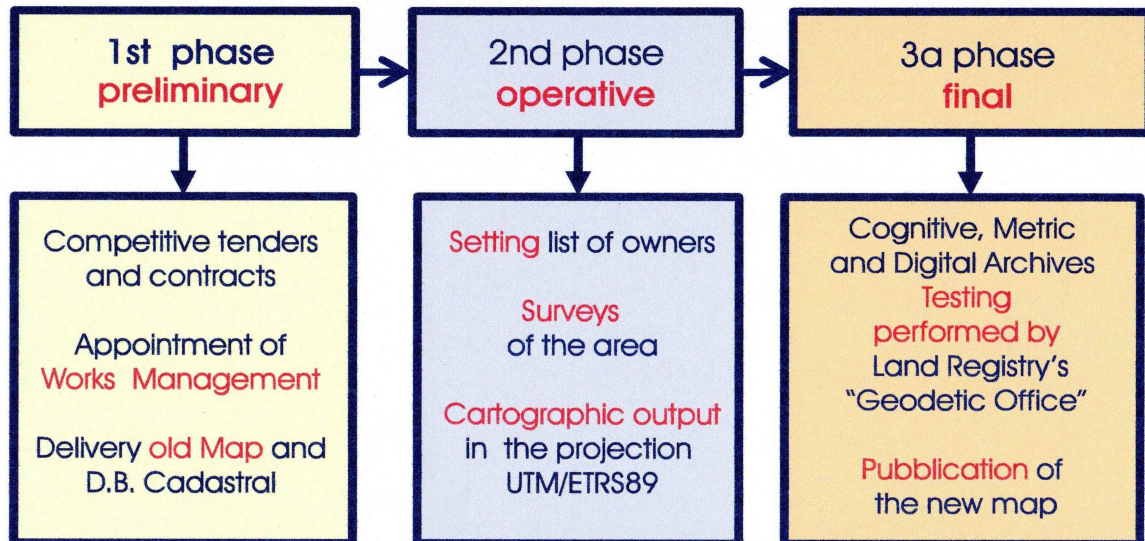




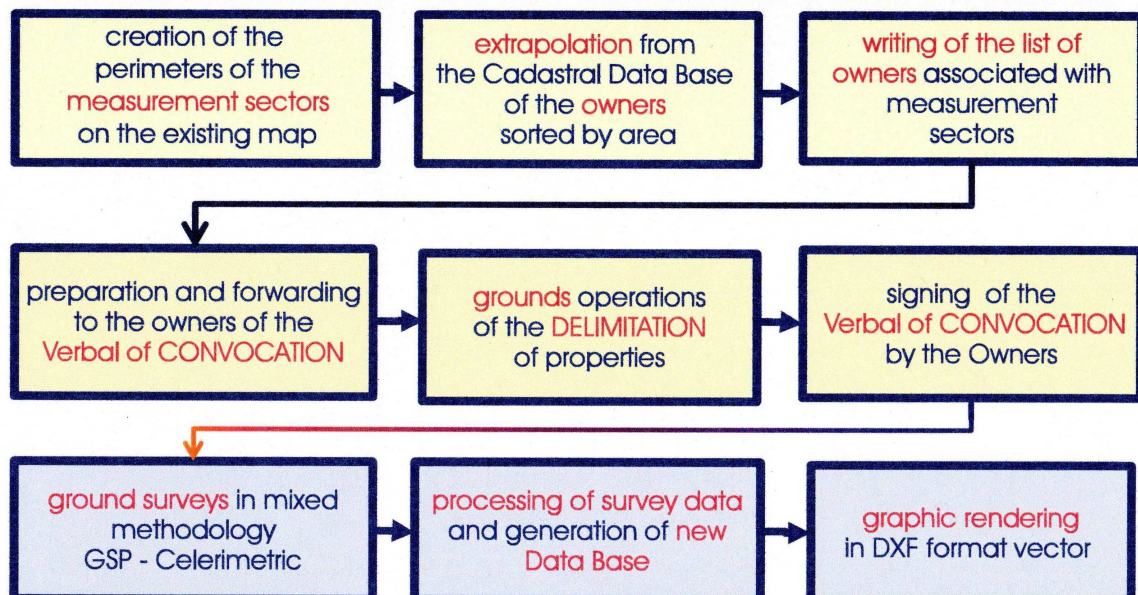
The realised mapping is of vector type – DXF format, in Universal Transverse Mercator projection UTM and framed in the geodetic system WGS84 in the European implementation ETRS89.

The choice of the such DATUM is congruent for the eventual subsequent overlay operations on other georeferenced media (technical maps 1/10000 – orthophoto – Plan of Zoning edited by Provincial and Municipal Authorities, etc.).

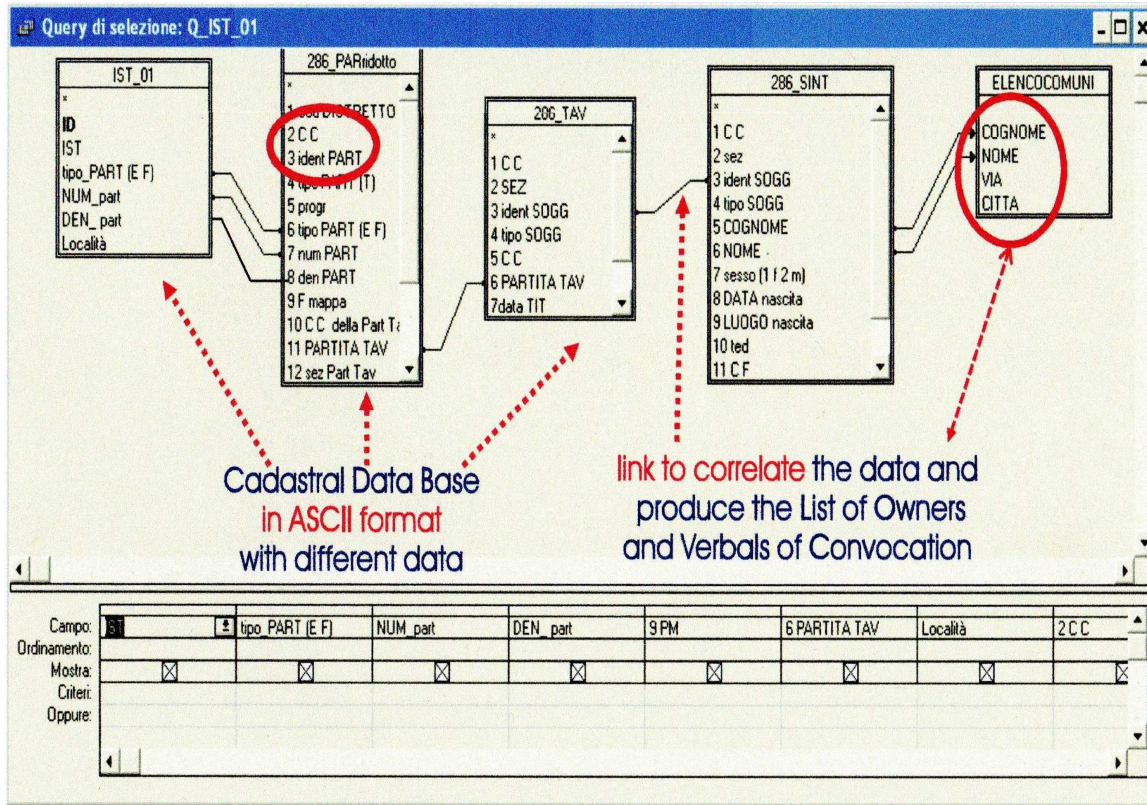
The scheme of the main steps from the **CONTRACT** to the publication of **new MAP**.



The following flow chart shows in details the various processing steps required in the “operative” phase No. 2 for the production of the **CADASTRAL NUMERICAL CARTOGRAPHY**.



The Cadastre Service makes available to the Contractor the Data-Base on the file in TXT format. With the appropriate “relational software” of MS – Access type or similar one, these DB are related with the Anagraphical Municipal Directories and in the end extrapolated the necessary dates for the automatic editing of the Report of Convocation.



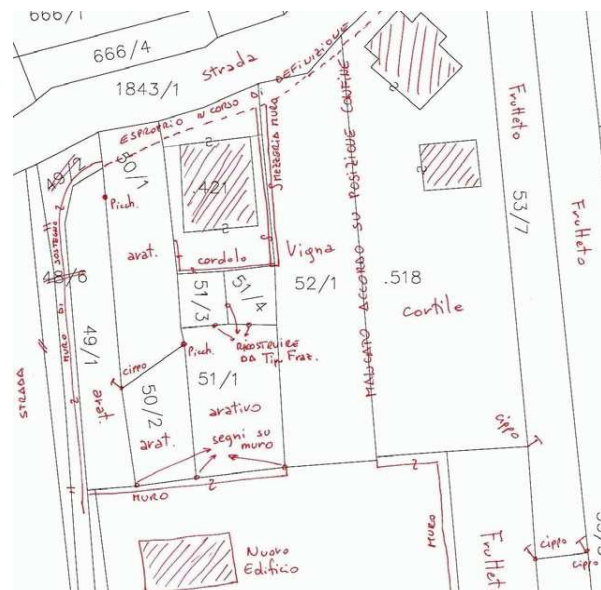
The Reports of Convocation implemented in this way are forwarded directly to the holders by the Delegate from the Municipality Administration (Employee of Administration and/or Urban Police) and/or from the Postal service.

The individuation and management of the surveying areas is made on the old Map in the DXF format proceeding with the identification of “Survey sectors”, i.e. the areas of approximately of 2 hectares of surface and whose perimeter is located along the natural demarcation lines present in the territory (e.g. Roads-railways, rivers, etc..).

The Freelance Technician delegated with surveying works, by expected date in the Report of Convocation, makes in the presence of Owners reconnaissances of the parcels and related identification of the boundaries.



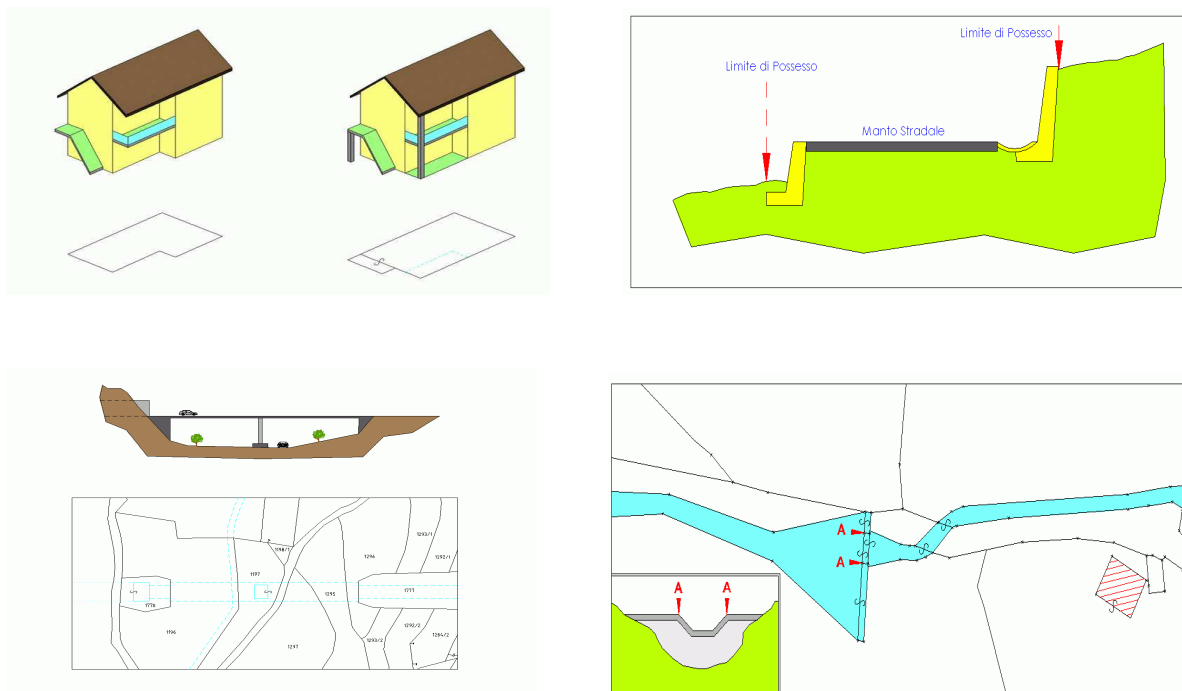
Of these operation is prepared a “Schetch of Boundary”, highlighting the peculiarities detected (eg. boundary demarcation, picket, walls, etc..) and signed a special Report of Acceptance of Boundary).



The works of “Cadastral Cartography with the survey from the ground” were started again intensively in 2005 creating at first the Cadastral Communities which presented the maps with a very degraded accuracy.

The production of Cadastral Cartography 1/1000 for the Province of Trento is implemented on the base on specific contracts and strict Technical Standards of execution and also on the punctual Regulations and Details about “WHAT TO DO” and “HOW TO SURVEY”. The works with the delimitation of the parcels, survey and the cartographic rendering is implemented by public competitive tenders addressed to Freelancers Technicians of the Province of Trento.

Some of the schemes of survey and representation as in the Technical Specifications.

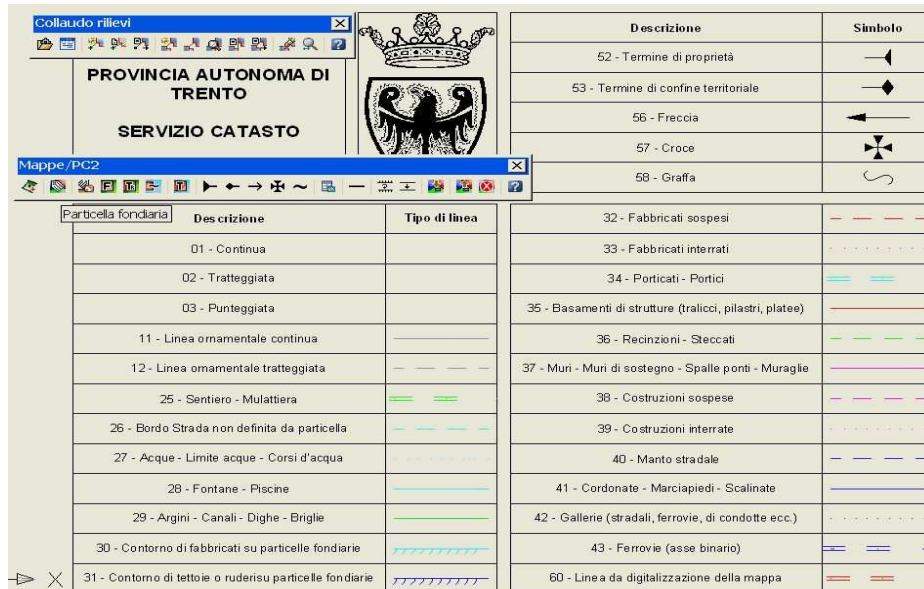


For the purpose of testing the quality and acceptability of Cartography produced, the final steps of testing, both topological and topometric, are conducted by the Cadastre Service by “his own” Geodetic Office.

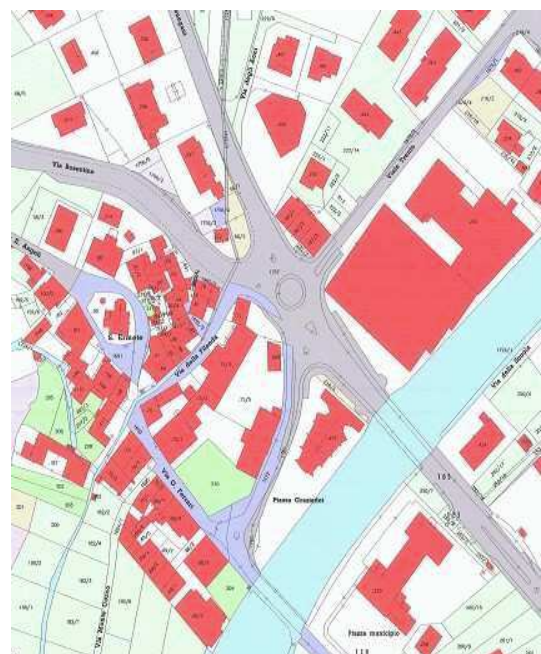
Lately were updated the rules for the operations of the survey agjusting the Technical Specification of the 90’s to the new emerging GPS methodologies and also the processes of storage in the Cadastral Data Base, all according to the informatic standard expected by the computer software “PreGeo”.

Ind.	Stz.	Type REC.	Vertice Stz.	H. str.	N° P.to	Dettagli	H. pr.	Hz.	Hv.	D. incl.	D. oriz.	Descrizione	Cod.	EST utm	NORD utm
Punti con H.pr. = 0 non sono validi in altimetria (punti battuti con Laser o Target retroriflettenti fuori quota)															
Per tipologia codici vedi TABELLA allegata alla RELAZIONE ILLUSTRATIVA															
Type REC. 1 = punto ORI      Type REC. 2 = N° P.to Dettaglio															
1	2	PF121286	1,831	05990001	2,068	306,9116	99,2951	22,001	21,999			CONFINE presunto non materializzato	28	706523,126	5145084,642
2	2	PF121286	1,831	05990002	2,068	399,7858	99,0940	38,187	38,183			CONFINE presunto non materializzato	28	706523,512	5145100,873
3	2	PF121286	1,831	05990003	2,068	5,9139	99,1679	75,948	75,942			CONFINE presunto non materializzato	28	706529,406	5145138,524
4	2	PF121286	1,831	05990004	2,068	17,9351	98,7505	104,077	104,057			TACCA incisa / MARKER colore	17	706550,447	5145163,594
5	2	PF121286	1,831	05990005	2,068	381,6626	100,9159	104,876	104,865			PICCHETTO legno	15	706491,747	5145162,183
6	2	PF121286	1,831	05990006	2,068	380,8477	101,2973	81,150	81,133			PICCHETTO legno	15	706498,276	5145139,339
7	2	PF121286	1,831	05990007	2,068	383,6627	100,6179	80,348	80,345			PICCHETTO legno	15	706501,915	5145139,687
8	2	PF121286	1,831	05990008	2,068	343,6333	109,6751	31,190	30,831			PICCHETTO legno	15	706500,423	5145081,410
9	2	PF121286	1,831	05990009	2,068	340,5681	112,4308	33,310	32,677			PICCHETTO legno	15	706498,032	5145081,255
10	2	PF121286	1,831	05990010	2,068	342,8797	113,1659	66,664	66,244			PICCHETTO legno	15	706472,593	5145101,654
11	2	PF121286	1,831	05990011	2,068	337,6466	113,6290	64,682	63,205			PICCHETTO legno	15	706471,303	5145096,146

The processing of data from both Celerimetric and GPS survey is made with conventional surveying commercial software. The mapping process is performed on AutoCAD platform appropriately implemented with specific computer routine (PC2) for the treatment of the cartographic entities identified with symbols, line types and colors determined by the Technical Specification.



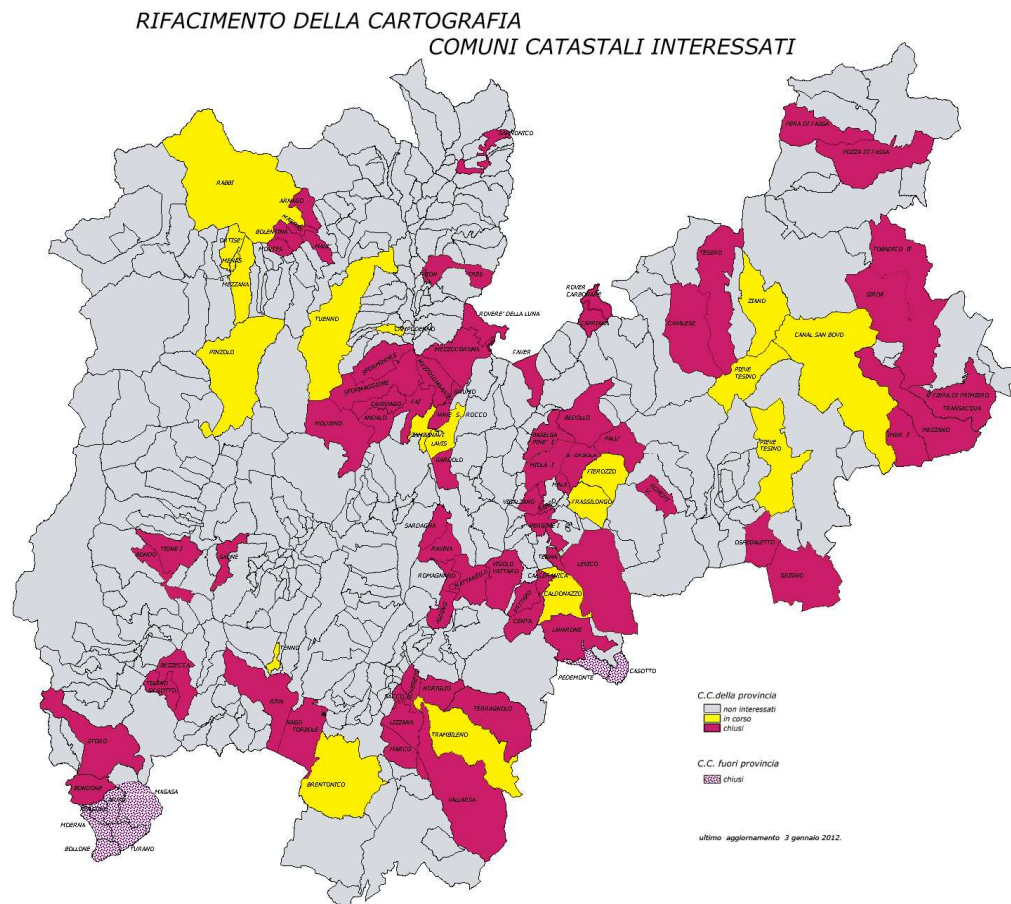
The restitution of Cartography is realized in UTM/ETRF89 projection in geodetic system WGS84 on the vector file DXF in 1: 1000, a few examples - only with dashed line and backgrounds:



In consideration of the form of Real Estates advertising of “**probatory**” type in force in the Region is under legislative approval also a more slim rule for regulating the transcripts of the property collected from ex novo in the Land Register.

Nowdays were collected and tested No. 80 Cadastral Municipalities, others No. 18 are in execution from the total No. 447 Municipalities present in the Province of Trento.

Situation of labour at February 2012



From an analysis of statistical data of Contracts, published by the Cadastre Service of Trento, it is noted that in this type of topo-mapping activities emerges the predominant presence (70%) of the **FREELANCER PROFESSIONAL SURVEYOR**, acting as contractor and executor of **NUMERIC CADASTRAL MAPPING**.

## REFERENCES

D'Eletto T., Di Girolamo A., Gunter P., Russo P., (1998), I punti fiduciali - la rete geodetica e la gestione del Catasto Numerico nel territorio della Regione Trentino Alto Adige, 2a conferenza ASITA BZ 1998, atti 1:555-559

Di Girolamo A., (1998), le coordinate nel sistema cartografico ufficiale e le quote determinate con metodologia GPS, variazioni locali degli scostamenti geoidici in Trentino Alto Adige, 2a conferenza ASITA BZ 1998, atti 1:581-586

[http://www.catasto.provincia.tn.it/attivita\\_cartografica/Formazione\\_cartografia\\_numerica/](http://www.catasto.provincia.tn.it/attivita_cartografica/Formazione_cartografia_numerica/)

[http://www.catasto.provincia.tn.it/TPOS\\_Trentino\\_POsitioning\\_Service/](http://www.catasto.provincia.tn.it/TPOS_Trentino_POsitioning_Service/)

## BIOGRAPHICAL NOTES

Walter ISEPPI, surveyor registred since 1970 in the Register of Surveyors and Graduate Surveyors of the Province of Trento, member of SIFET, Theoretical and Practical Course GPS year 1999 c/o University of Trento – Course Director Professor G.B. Benciolini.

Works professionally in the field of mapping with the execution of works in the specific field of realisation ex novo Numerical Cadastral Mapping and updating of existin maps in the Province of Trento.

## CONTACTS

Walter ISEPPI  
viale Dante Alighieri, 78  
38057 Pergine Valsugana - TN  
ITALY  
Tel. 39 0461532240  
Fax 39 0461534414  
Email: [info@studiowalteriseppi.it](mailto:info@studiowalteriseppi.it)  
Web site: [www.studiowalteriseppi.it](http://www.studiowalteriseppi.it)