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***PRESENT EXPERIENCES IN ROMANIAN CADASTRAL  
ENGINEERING***

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**"POLITEHNICA" UNIVERSITY OF TIMISOARA**  
**Faculty of Civil Engineering**  
**Department of Surveying and Cadastre**

← ROMANIAN CADASTRE – 1990

- **Political changes** : new understanding of

LAND

PROPERTY

OWNER

← ROMANIAN CADASTRE – 2007

- **EU** : new rules and standards to adopt

← ROMANIAN SOCIETY

AGRICULTURAL

INDUSTRIAL

INFORMATION

**NEW CADASTRAL POLICY:**

- to assure the informatization of the activity related to general and multipurpose cadastre;
- to provide a complete evidence of lands and buildings in order to design the territory in a convenient way with environmental protection.

## CONTEXT

← **BEGINNING OF 20-TH CENTURY:** neither the people nor technology had the power to determine radically, modifications in the planetary systems.

← **BEGINNING OF 21-ST CENTURY:**

*huge increasing of population  
increasing of human activities  
changes in atmosphere, soils, waters  
changes among plants, animals and human species  
changes in the relationship among these*

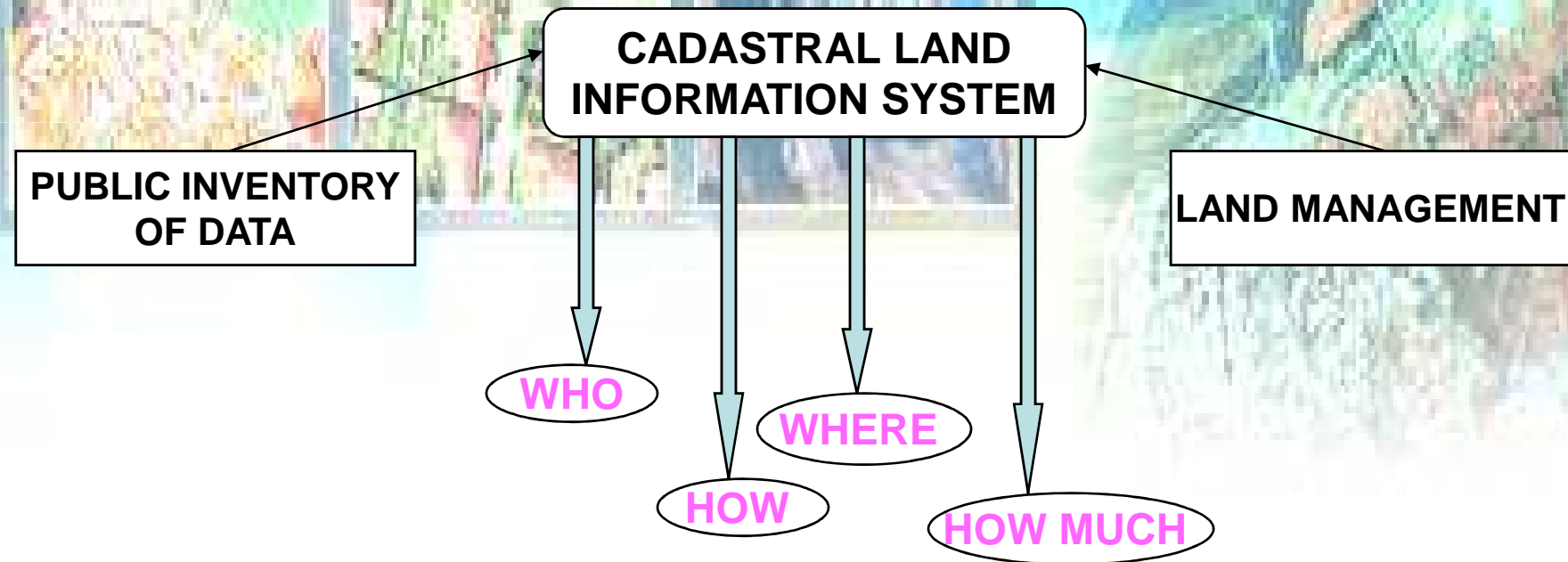


All these are related in one way or another, to **LAND**.  
That's why all land management activities must be strongly interrelated,  
developed and improved.

# GENERAL CONCEPTS OF ACTUAL CADASTRE

An extended definition of Cadastre implies 2 components:

1. One of public inventory of data regarding all properties
2. One of land management



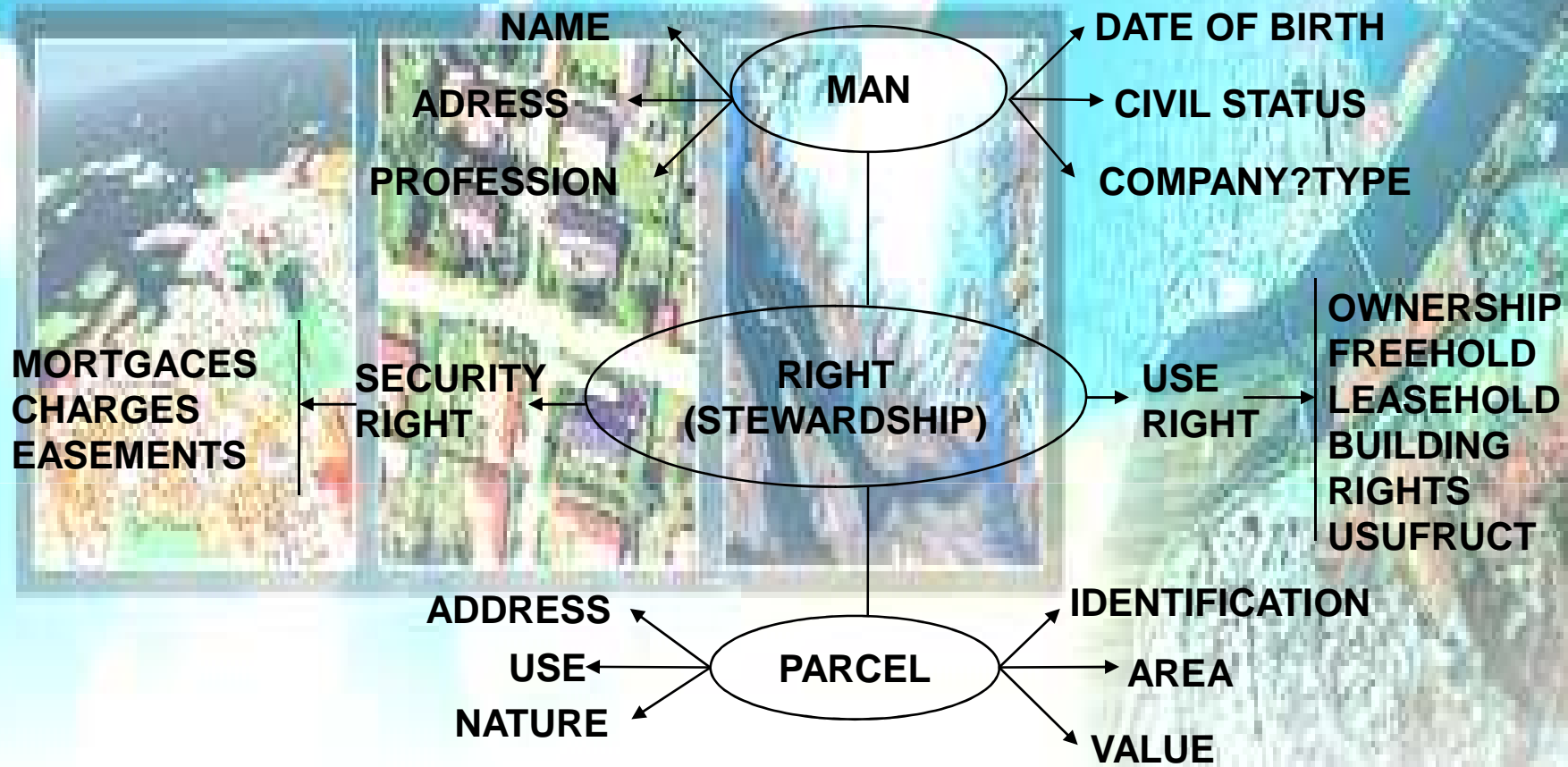


Fig.1. The basic cadastre

☞ **The main quality of a modern cadastre is represented by the use of digital data at any level of the process**

☞ **digital data can be collected and processed in an unitary automatic system as follows:**

- ✓ **GPS information**
- ✓ **total stations**
- ✓ **aerial photography, orthophotography**
- ✓ **digital data.**



***elaboration of special, modern methods for data processing inside the local agencies of cadastre:***

- **collecting the primary information using the electronic equipment which provides a convenient processing in addition;**
- **collecting data by graphical tools which can be obtained by digitizing the parcels directly on the cadastral plans (this aspect implies the use of the existing data);**
- **drawing up the new cadastral plans or updating the old ones;**
- **creating the database of the general cadastre;**

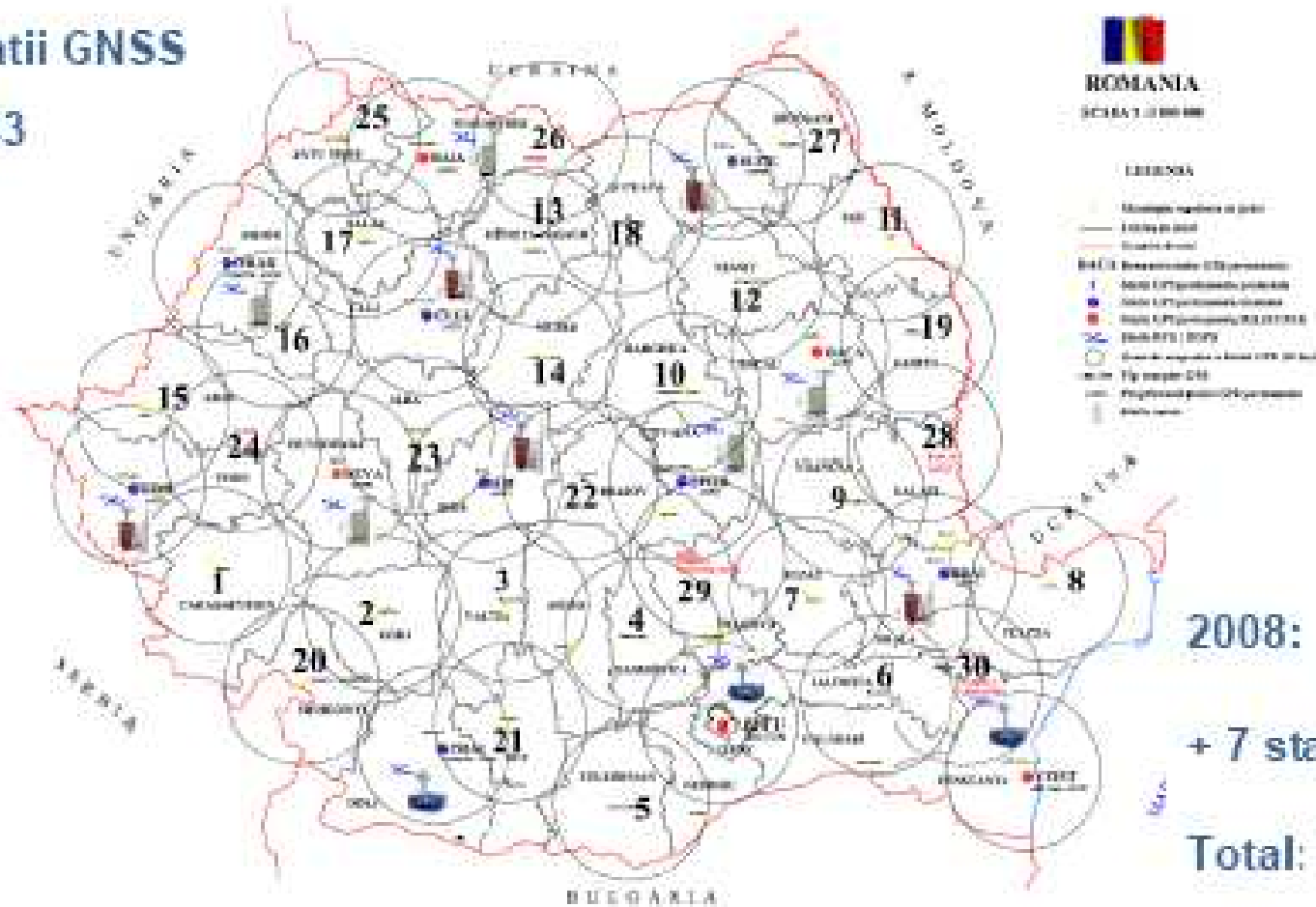
☞ **Today, the Cadastral GIS offers specialized functionality for each stage of processing including the digital map creation, plotting cadastral and topographical plans, generating and combining geo-referenced data in order to obtain a validated relational geo-database.**

# THE REFERENCE STATIONS IN ROMANIA

## RETEAUA NATIONALA DE STATII GNSS PERMANENTE 2007

+ 15 statii GNSS

Total: 43



2008:

+ 7 statii GNSS

Total: 50

Fig.2 The National Network of Permanent GNSS Stations in Romania



- **According to these trends in Geodetic Engineering, Timisoara represents an example in the process of automation of land registration.**



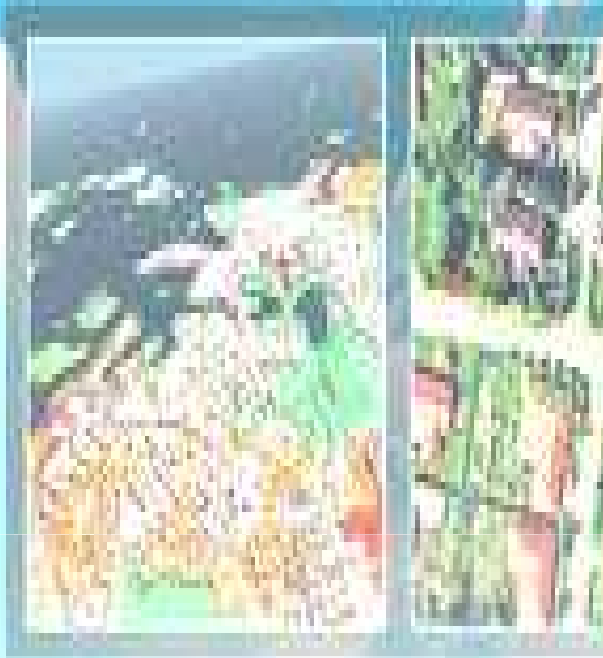
**The Town Hall of Timisoara is the first institution from Romania starting the GIS for urban purposes, at present, being the most advanced city in this domain.**

**educational process**

**A useful connection between the State Agencies, Local Administration Departments, Private companies and School must provide a deep and realistic understanding of the situation by the students.**



- Here is such an example, for the updating the database for urban cadastre in Timisoara.



DISPUNEREA SECTOARELOR CADASTRALE DIN TIMISOARA

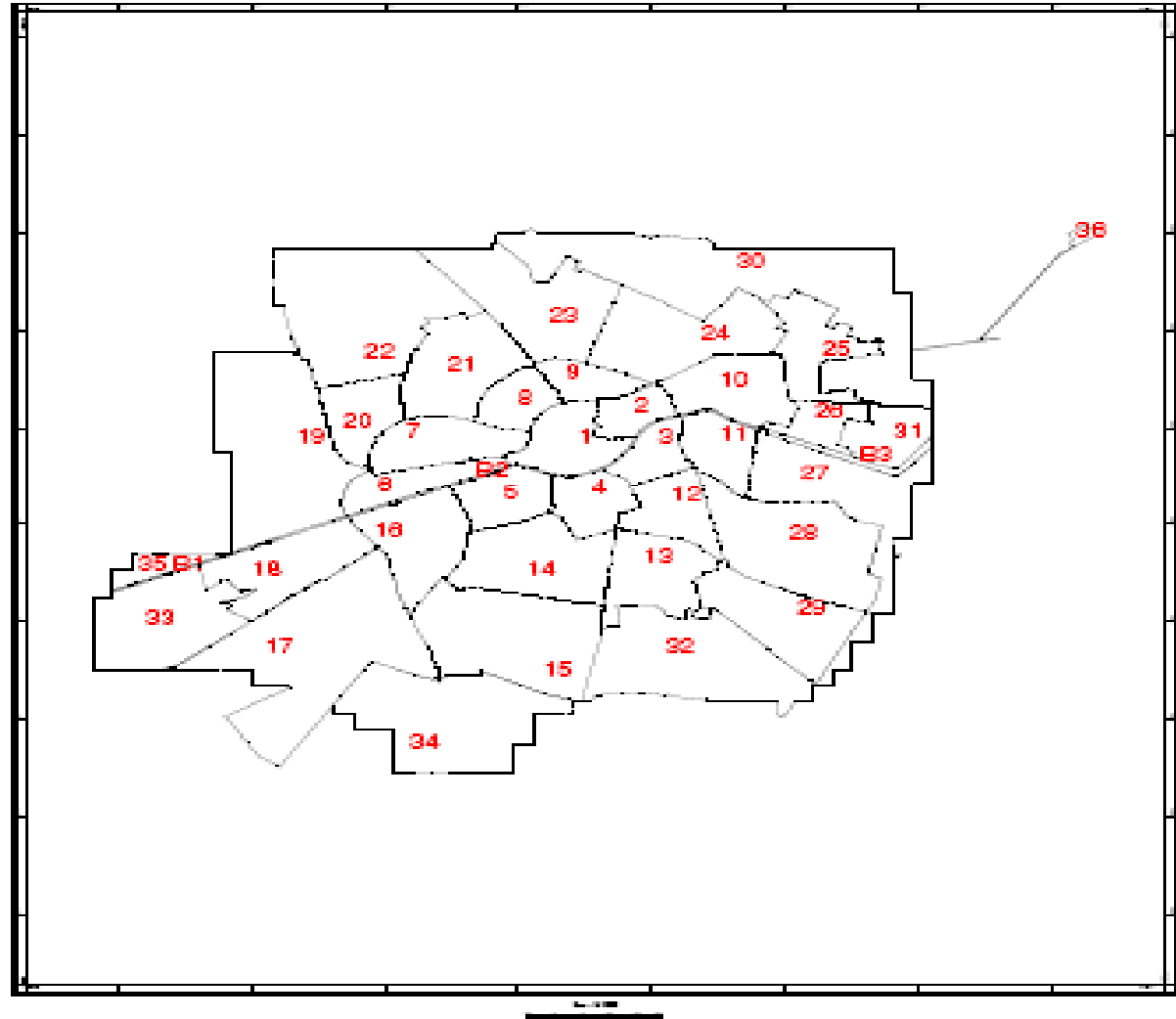


Fig.3 Disposal of the Cadastral Sectors in Timisoara

# SECTOR CADASTRAL NR. 21

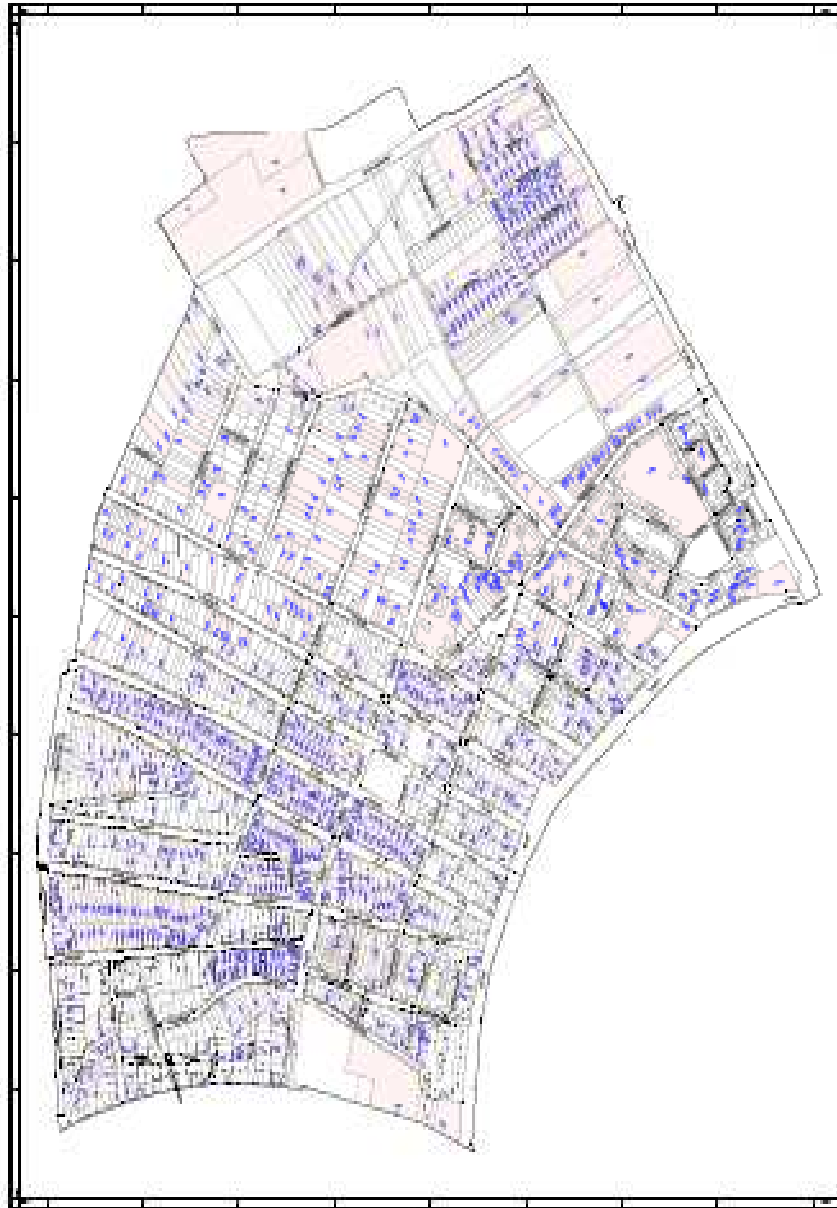


Fig.4 Example for Cadastral Sector no.21

JUDEȚUL Timiș LOCALITATEA TIMIȘOARA COD BIRJUTA 55524 COD POSTAL 550000

FIȘA BUNULUI IMOBIL  
în STR. CLOSCA NR.79

Secțiune plan: 275  
Nr. plan cadastral: 79  
Nr. cadastrelor: 79-4  
Nr. plan funciar: 79-4  
Cod zona urbană: 79-4  
Cod zona rurală: 79-4  
Cod zona forestieră: 79-4

Clasificare: a  b  c  d  e  f  g  h  i  j  k  l  m  n  o  p  q  r  s  t  u  v  w  x  y  z  AA  AB  AC  AD  AE  AF  AG  AH  AI  AJ  AK  AL  AM  AN  AO  AP  AQ  AR  AS  AT  AU  AV  AW  AX  AY  AZ  BA  BB  BC  BD  BE  BF  BG  BH  BI  BJ  BK  BL  BM  BN  BO  BP  BQ  BR  BS  BT  BU  BV  BW  BX  BY  BZ  CA  CB  CC  CD  CE  CF  CG  CH  CI  CJ  CK  CL  CM  CN  CO  CP  CQ  CR  CS  CT  CU  CV  CW  CX  CY  CZ  DA  DB  DC  DD  DE  DF  DG  DH  DI  DJ  DK  DL  DM  DN  DO  DP  DQ  DR  DS  DT  DU  DV  DW  DX  DY  DZ  EA  EB  EC  ED  EE  EF  EG  EH  EI  EJ  EK  EL  EM  EN  EO  EP  EQ  ER  ES  ET  EU  EV  EW  EX  EY  EZ  FA  FB  FC  FD  FE  FF  FG  FH  FI  FJ  FK  FL  FM  FN  FO  FP  FQ  FR  FS  FT  FU  FV  FW  FX  FY  FZ  GA  GB  GC  GD  GE  GF  GG  GH  GI  GJ  GK  GL  GM  GN  GO  GP  GQ  GR  GS  GT  GU  GV  GW  GX  GY  GZ  HA  HB  HC  HD  HE  HF  HG  HH  HI  HJ  HK  HL  HM  HN  HO  HP  HQ  HR  HS  HT  HU  HV  HW  HX  HY  HZ  IA  IB  IC  ID  IE  IF  IG  IH  II  IJ  IK  IL  IM  IN  IO  IP  IQ  IR  IS  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## CONCLUSIONS

- The large use of the automatically tools of measurement and processing, the elaboration of digital plans and maps lead to a modern cadastre which can face the present request from this field of activity.
- **THE APPLICABILITY OF THE INFORMATIONAL SYSTEMS WILL LAST A LONG PERIOD OF TIME, WHILE BOTH CATEGORIES OF CLASSIC AND DIGITAL CADASTRAL MATERIALS WILL OPERATE.**
- During all this period, the technical equipment for data collection, processing, storage and overview will continue developing, in order to accelerate the complex project of informational systems achievement.