

E-Terra – the implementation stages of the new cadastral system in Romania

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SUMMARY

Since 2007, Romania has implemented a filing system called E-TERRA real estate. Thus, each administrative territorial unit and all properties subjected to land operations (first entry, split, merge, change of use category) will be entered into the computer system E-TERRA by converting analog data into digital format.

Each property is assigned a new cadastral number called parcel identifier which will be enrolled in a New Land Registry.

All data relating to real estate (administrative territory, area name owners, acquiring property mode, category of use) are included in the three parts of the book converted land. Land book also includes the buildings and the construction sketch on this, as well as the coordinate inventory points that define property boundaries in the stereographic projection system 1970.

Implementation was done in 2 stages, so that at the end of 2012, the E-TERRA became operational and binding in all counties of Romania.

This paper aims to present the particularities of the e-Terra system and how to convert analog data into digital format and the advantages the system brings to the real estate in Romania.

1. INSTITUTIONAL FRAME

Making the general cadaster is of interest to all the building owners in a territorial administrative unit. This implies their effective participation to the process, by involving themselves not only in the field activities but also in the stage of the publication of results.

In the process of general cadaster works juridical information will be used, i.e.: the ones which envisage the identification of all the owners, the transcript of the property right in the land registry, as well as the transcript of other real and possession rights. This will be done according to transfer acts, constitutive or declarative rights, as well as on the grounds of possession documents which prove the possession exert rights.

The general cadastre represents:

- Identification, description and recording of constructions in cadastral documents, the measuring and the representation of constructions on cadaster plans and the storage of data on informatic supports;
- Identification and recording of all owners of buildings and individual units of the condominium in order to record them in the land registry.

The general cadaster ends up by recording all the buildings of an administrative territory in the land registry.

Therefore, the citizens have to collaborate with the teams that gather field data by providing information regarding the identification of buildings they own, by showing the limits of the properties and by showing the legal acts that indicate the owner property rights on the respective buildings.

In the stage of the result publication, it is important that all the owners to consult and analyse the published documents and to confirm the accuracy of the data. The authorities, due to their official attributions, are also involved in the process of general cadaster works, as far as the implementation and accomplishment of the process are concerned.

The institutions in charge with organizing and conducting the general cadaster works are the following:

- The National Agency for Cadastre and Land Registration (ANCPI) is the only official authority and is in charge of the organisation, coordination, monitoring and control of the activities connected with doing the general cadaster;
- The Office for Cadastre and Land Management (OCPI) organizes, at local level, the activities connected with doing the general cadaster. Thus it observes and accepts the field works; designates representatives to represent it in case of disputes after the publication of technical documents. The territorial offices open the land registry for the particular administrative-territorial unit, and facilitate the communication of the information regarding building registration.

The authorities involved in the general cadaster works are:

- The Prefecture in the area in which administrative-territorial units develop their general cadaster works. As the Government representative, the prefect has to ensure the implementation of all the objectives of national interest as well as of all the provisions of the government program. Consequently, this institution is involved in the organisation of the activities developed along the process in the administrative-territorial unit.
- The City Hall, in the area in which the buildings of interest are placed and are envisaged for the general cadaster works. The City Hall has to provide all the data regarding the buildings and their owners within its competence area, designates representatives to represent it during field works and at the organisation of the publication of results. More than this, it summonses the owners to identify the buildings on the ground.
- The Police, within the area of the building location, have to reconcile conflicting states, solve social cases, analyse and solve the cases.

2. PROPERTY REGISTRATION

The recording in the cadaster and in the land registry of the buildings identified is done free of charge by the authorities in charge. During the process of general cadaster works, OCPI

provides, free of charge, the possibility to make legal copies of the juridical deeds subject to cadaster registration. The guiding principles are:

- The principle of registering all the buildings of an administrative-territorial unit, with the identification of all the owners.
- The principle of mass registration in compliance with the field reality, in a short time and with low costs.
- The principle the general cadaster is an official act. This process takes place in compliance with the law provisions and is made by OCPI without the need for a special request.
- The principle of opposability effect of the recordings in the land registry. According to this principle, from the time of starting the land registry it is assumed that the third party is aware of the recordings made in the land registry.

The general objective of the project, at the national level, is to develop the general cadaster works in administrative-territorial units like this:

The main objectives envisaged are the following:

- To do all the technical documents for the general cadastre (cadastre register of buildings and owners, alphabetic index of the owners, cadaster plan);
- To start up the land registries after the identification of the building owners and after recording the real correlative real estate rights.

The identification of the buildings and the owners is to be made by processing the data obtained from OCPI, city halls, other institutions and by integrating them with other data obtained as a result of the field works.

The main technical documents of the general cadastre, at the level of the administrative-territorial units (UAT), are the following:

- cadaster register of the buildings and of the owners;
- alphabetic index of the owners;
- cadastre plan.



Figure 1 – The Implementation stage of the cadastral system for property systematic recording

It can be seen that the Timis County is included in Group 1, and the administrative-territorial unit for which the general cadaster project started is: the commune Orțișoara. Data and information will be provided to the contractor only for this particular objective, i.e.: only with the purpose to do this particular work.



Figure 2 – Pilot Project to be implemented in various counties

3. THE USE OF CADGEN APPLICATION TO CHECK THE CADASTRAL DATA USED BY ANCP

The DESKTOP CADGEN application is part of the informatic instrument package used to transfer data from the General Cadastre into the integrated system of Cadastre and Land Register **e-Terra**.

The main objectives of the DESKTOP CADGEN application are:

- ↳ to make efficient and to automate the process to validation/check files .cgxml, with cadastral data and land registry data, following the General Cadastre works;
- ↳ to standardize the working documents: standard forms of information sheets with cadastral data (extracted from e-Terra and sent to e-Terra);
- ↳ to secure information;
- ↳ to follow the events in the system;

„Data validation CAD” is the functionality to check data in the reception stratum by the technical Validator ANCP.

The User has to authenticate himself in the system, to select the function *technical Validator ANCPI* he wants to act/process in application, then select from the available list of action *Validate CAD data* and then press *OK* to start the action.

The GIS medium is uploaded automatically with the following graphic layers:

- Lands (Reception Cad Gen)
- Constructions (Reception Cad Gen)
- Lands (e-Terra)
- Constructions (e-Terra)
- Lands from other lots
- Constructions from other lots
- Administrative Territory
- County

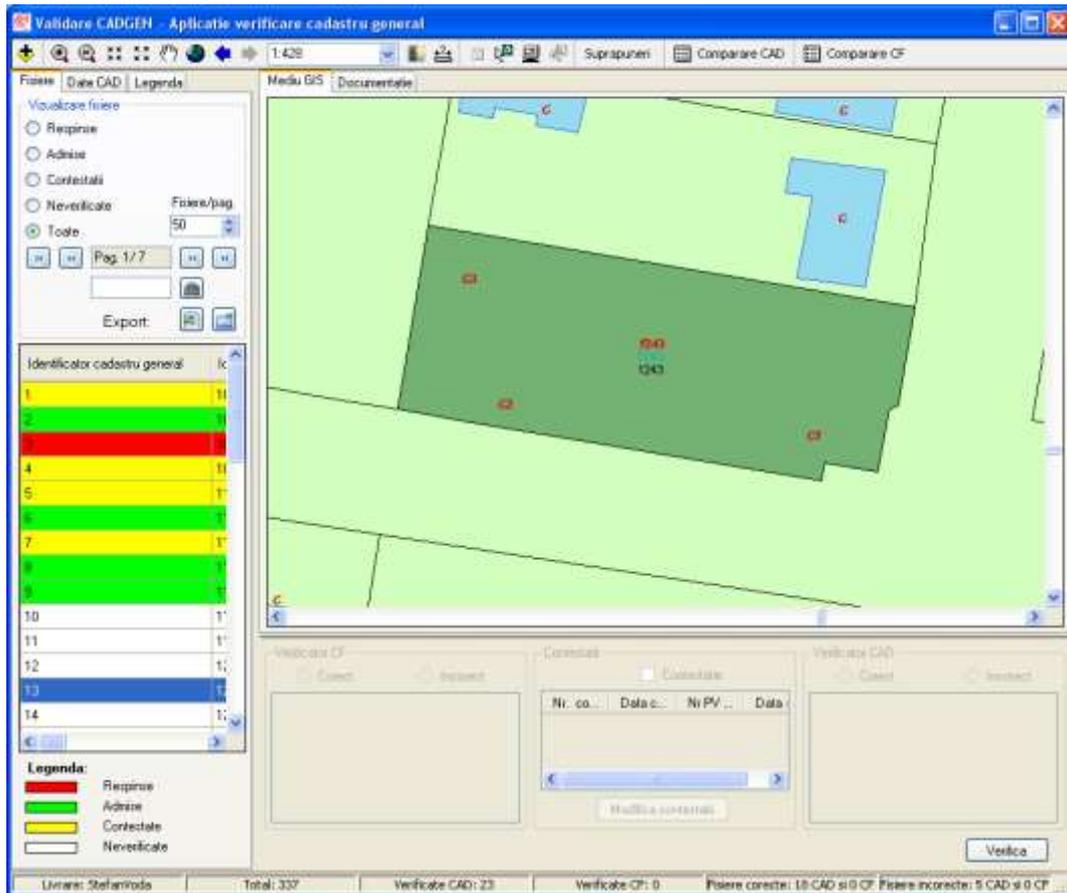


Figure 3 – Verification of data specific to general cadastre

The main window to verify cadastral data offers the following functionalities:

- a list with the buildings existent in the reception medium with the following attributes:
 1. lot number
 2. general cadaster indicator (indication made by the provider)

3. electronic identification (e-Terra sporadic)
 4. sporadic cadastral number
 5. sporadic topographic number
 6. sporadic land registry number
 7. number of parcels
 8. number of constructions
 9. number of parcels
 10. number of individual units
 11. data of uploading in the reception stratum;
 12. technical reception state (Accepted / Rejected / Non-validated);
 13. name and surname of the technical receptionist;
 14. legal validation state (Accepted / Rejected / Non-validated);
 15. reason for rejection;
 16. name and surname of the legal receptionist;
 17. uploaded in the production stratum.
- a function to filter list (look for building) according to: lot number, general cadaster indicator, sporadic electronic indicator, paper cadaster number, topographic number, land registry number on paper, validated, non-validated;
 - a function to filter list according to: files rejected, files accepted, files contested, files non-checked, all files;
 - a section in the window to visualize textual information of a certain building hierarchically organized, which observes the relations between the building components of the building assembly;
 - specific instruments to GIS medium: zoom, pan, etc.;



Figure 4 – Specific instruments to GIS medium

- tool for raster uploading: the user selects the raster desired from a list of available rasters in the area;
- command to generate a rapport with topological errors belonging to the building geometries of a lot;
- command to highlight, on the map, a building selected from the list;
- command to eliminate a building from the reception stratum;
- command to eliminate a LOT from the reception stratum;
- command to validate a building from the technical point of view;
- command to validate a building from the legal point of view.

3.1. Comparison between General Cadastre data with the production stratum

The user activates command *compare CAD* (command active only when the electronic identifier is filled in).

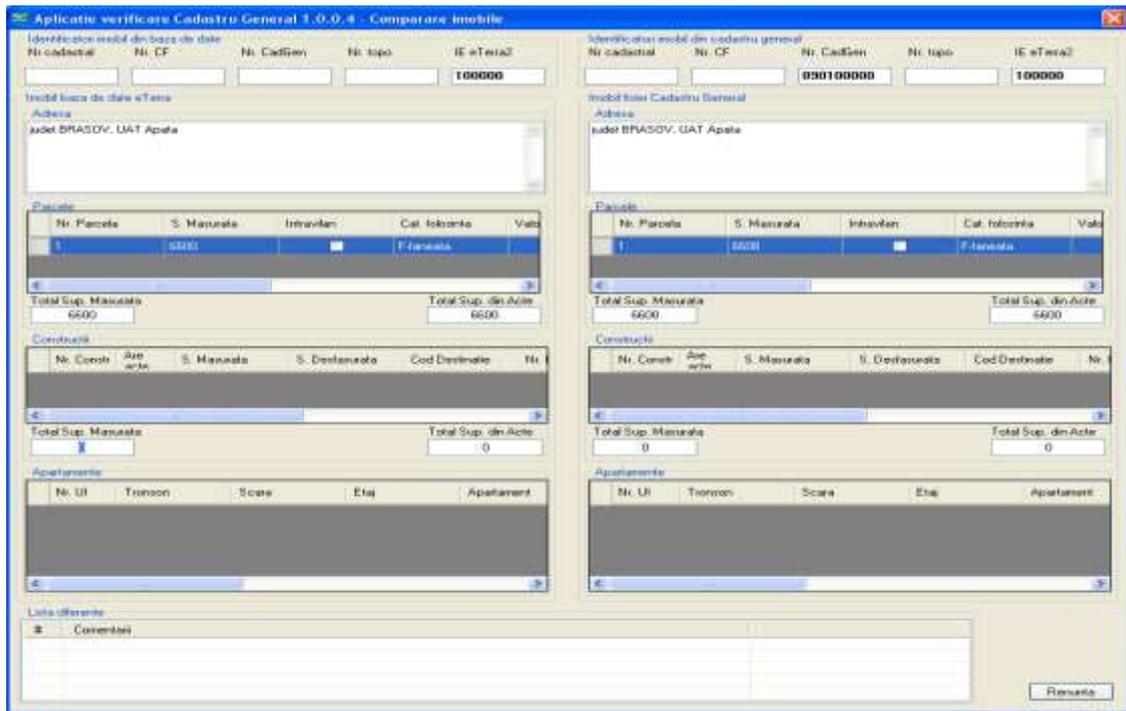


Figure 5 – Comparison of buildings for data transfer in e-Terra

The below window is displayed and it contains the following information:

- Comparison of indicators from the data base (production stratum) with the ones from the general cadaster;
- Comparison of addresses;
- Comparison of the number of parcels as well as of their data;
- Comparison of the number of constructions as well as of their data;
- Comparison of number of apartments as well as of their data.

3.2.Data reception and migration into the informatic system e-Terra

After the validation of a transfer the production medium can be uploaded. This operation can be done by the administrator only. In the log in window the administrator choses *migrate transfer to e-Terra*.



Figure 6 –System user authentication

The window displays *import data* from the files from the Suppliers of the cxml General Cadastre Works.

To continue the action to import data press the button *forward*.



Figure 7 – Data import into the informatic system e-Terra

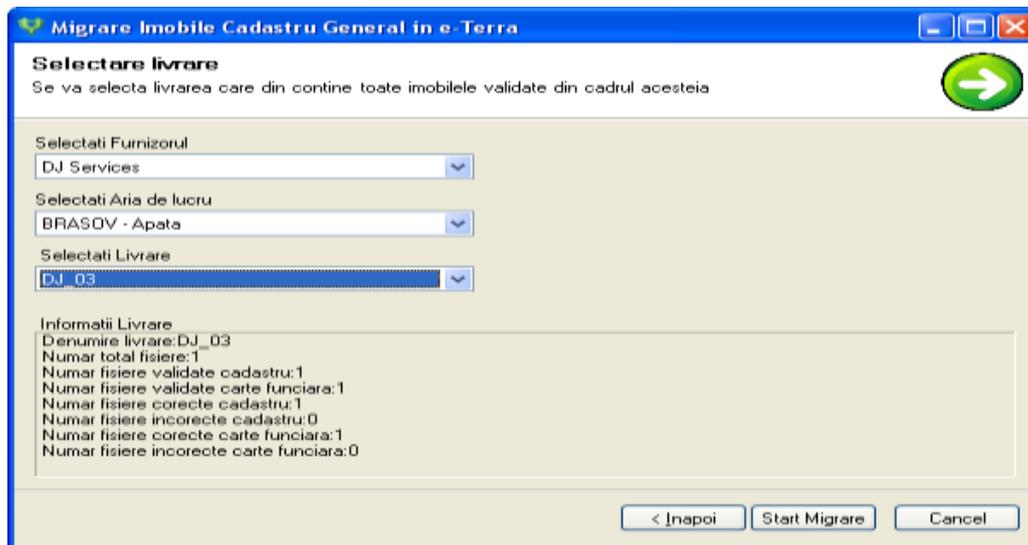


Figure 8 – Import data into the informatics system e-Terra

Select the Supplier, from a list of suppliers displayed, for which data is to be uploaded.

Select *work area* for the above Supplier and the transfer, too.

Press button *Start Migration*.

At the end of migration a window displays a message to inform the users the transfer was successful.

4.CONCLUSIONS

Making the general cadastre is of interest to all the owners of buildings from an administrative territorial unit. This implies their effective involvement in the process both in the field activities and in the stage in which results are published.

Several general principles can be drawn from the general cadaster activity, which contribute to the successful and systematic recording of the properties:

-The principle of free recording of the buildings. The recording in the cadaster and in the land registry of the buildings identified is done free of charge by the authorities in charge with this activity. During the process of general cadastre works, OCPI provides, free of charge, the possibility to make legal copies of the juridical deeds subject to cadaster registration.

- The principle of registering all the buildings of an administrative-territorial unit, with the identification of all the owners.
- The principle of mass registration in compliance with the field reality, in a short time and with low costs.

-The principle of the official character of the general cadaster. This process takes place in compliance with the law provisions and is made by OCPI without the need for a special request.

-The principle of opposability effect of the recordings in the land registry. According to this principle from the time of starting the land registry it is assumed that the third party is aware of the recordings made in the land registry.

ANCPI estimates that by the year 2020, the action to record systematically the buildings, totaling a number of 6 million, will be completed in Romania, so that e-Terra can provide, in real time, all the information connected to each building in an administrative territory.

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