

## TOPO-CADASTRAL WORKS REGARDING THE REGISTRATION OF THE "TRANSYLVANIA MOTOR RING" RACING CIRCUIT IN THE LAND REGISTRY

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**ABSTRACT:** *The purpose of this work is to carry out two data update documentation in order to reposition, note the administrative address and register the built constructions in the existing land registers, namely CF50084/Ungheni and CF50025/Sânpaul from Mureş County.*

**Keywords:** *registration in the land register; cadastral documentation;*

### Introduction

Ungheni is a city that is located at a distance of 10.63 km from the municipality of Târgu Mureş.

The town of Sânpaul lies west of the municipality of Târgu-Mureş, crossed by the national road DN 15 (E60) Cluj - Târgu-Mureş and the A3 highway.

The object in question is called "TRANSYLVANIA MOTOR RING", which is a racing circuit of approximately 3.7km located in the inner city on two different UATs (Ungheni city and Sânpaul commune).

The properties are tangent and are registered in different land registers, the owner being the MURE COUNTY. Since this circuit is located on two different UATs, we have compiled two different update documentation.

### Material and methods

For the measurements we used a GPS device - STONEX S10 and a total station Sokkia Set630RK3. To download the data from the devices, we used two specific programs, namely: Windows Mobile Device Center and Prolink 1.15.

To obtain the situation plans, we used the software: Toposys 5.0 and Autocad 2008.

### Data processing

The work of registering a new construction in the land register is a work of updating a building that is already registered, by which the newly built construction is added.

The necessary documents for the registration of the new construction are: building permit – in legalized form; attestation certificate of building construction – in legalized form; report of reception at the end of the works - in legalized form; tax certificate – original; property documents - copy; ownership documents on the property – copy; energy certificate – copy; extract from the land register (recent); street nomenclature certificate – with street name and postal code; location and delimitation plan (PAD) - land cadastral plan - copy, proof of tax payment from the Cadastre Office.

In a first stage, the terrain was studied, in the second stage we measured with the GPS the speed circuit, the connecting roads in the area and other details in the terrain (power poles, fences, etc.). At the same time, the points on which the location of the total station followed in order to measure the constructions were materialized and signaled. The points that were measured were stored in the GPS console.

Finally, the last stage consisted in measuring the constructions with the total station. Downloading the measured data was done with the help of two applications, namely: Windows mobile device manager (GPS) and Pro link 1.15 (Total station).

Downloading the data from the GPS was done with a cable that connects between the device and the computer. When the devices are linked together, the connection is made instantly. Thus the window appears where we select "Set up your device" then select "File Management" and "Browse the contents of your" device, from where the data will be downloaded using the "Copy-Paste" command. The data exported from the device will be in the form of a .txt file, which will contain: the point number, the code and the XYZ coordinates of the respective points (fig.1).

GPS measurements are processed with a special software from the device console called TransDat, which compensates the

measurements at the time they are recorded. So when the data is exported, it is already compensated and ready to be imported into AutoCad. The download of the total station was possible with the help of Pro link 1.15. The device was connected with a download cable, Pro link was accessed and the "Connect" command was selected, "File type" was set - SDR format, and in "Device type" also SDR format. The downloaded data will be in the form of a file with the extension .txt (fig. 2).

The realization of the cadastral plan was possible after the data were processed in Toposys, and the use of the Autocad 2008 program, to import the compensated points and draw up the graphic part of the project. The first stage consisted of importing the points (that is, reporting the points downloaded from the GPS, and those processed in Toposys) into the AutoCad program in the form of files with the extension .txt, using the command: "Lin+insxy+insxy"(fig.3).

Point No.	Code	X	Y	Z
1	2	559061.59	484531.66	344.77
2	2	559058.22	484527.53	344.90
3	2	559042.34	484537.90	344.92
4	2	559040.30	484546.01	344.75
5	2	559028.71	484554.28	344.79
6	2	559022.39	484551.59	344.77
7	2	559016.91	484554.23	344.72
8	2	559013.14	484555.70	344.66
9	2	559013.32	484560.50	344.65
10	2	559020.36	484559.23	344.67
11	5	559017.24	484560.88	344.61
12	5	559016.00	484557.77	344.68
13	5	559015.86	484557.01	344.71
14	5	559017.32	484557.98	344.72
15	5	559016.25	484558.60	344.72
16	2	559005.41	484561.68	344.67
17	2	559000.37	484557.37	344.67
18	2	558983.59	484557.41	344.58
19	2	558981.24	484562.31	344.51
20	2	558975.98	484562.88	344.43
21	5	558977.03	484562.10	344.41
22	2	558971.90	484563.96	344.47
23	2	558969.55	484559.35	344.54
24	2	558960.51	484558.13	344.50
25	2	558959.17	484556.90	344.55
26	2	558958.57	484555.86	344.61
27	2	558955.66	484556.75	344.62
28	2	558957.12	484564.27	344.51
29	2	558957.11	484568.10	344.52
30	2	558963.65	484568.98	344.46
31	2	558958.91	484575.36	344.56
32	3	558953.27	484577.53	344.71
33	2	558952.35	484581.37	344.51
34	2	558955.57	484583.18	344.43
35	2	558953.94	484593.41	344.32
36	2	558949.29	484596.00	344.31

Fig. 1. The field book in a .txt format \*

Point No.	Code	X	Y	Z
1	2	559061.59	484531.66	344.77
2	2	559058.22	484527.53	344.90
3	2	559042.34	484537.90	344.92
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15	5	559016.25	484558.60	344.72
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17	2	559000.37	484557.37	344.67
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19	2	558981.24	484562.31	344.51
20	2	558975.98	484562.88	344.43
21	5	558977.03	484562.10	344.41
22	2	558971.90	484563.96	344.47
23	2	558969.55	484559.35	344.54
24	2	558960.51	484558.13	344.50
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34	2	558955.57	484583.18	344.43
35	2	558953.94	484593.41	344.32
36	2	558949.29	484596.00	344.31

Fig. 2. Notepad \*

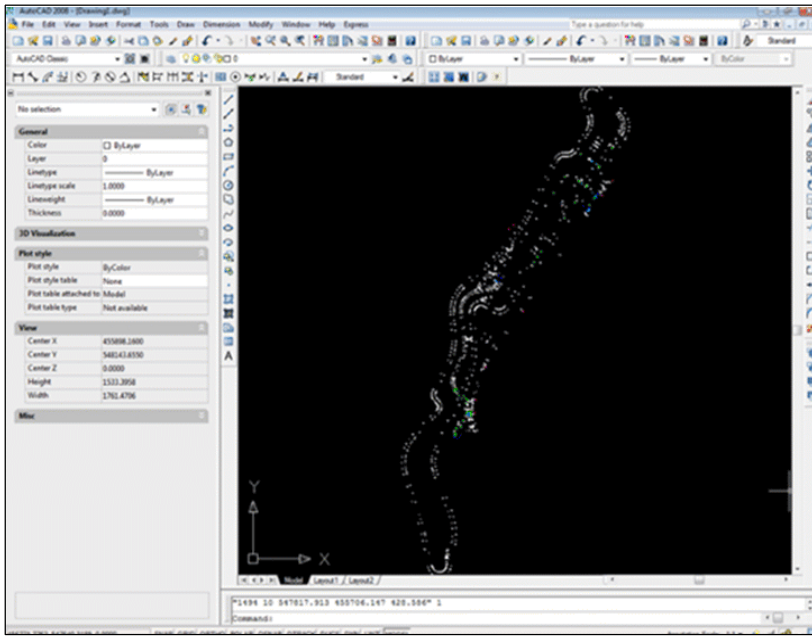


Fig. 3. Point reporting \*

The second stage was to join the points according to the reality in the field, using the "Polyline" command (fig. 4).

And finally, the third step consisted in the realization of location and delimitation plans (PAD) (fig. 5).

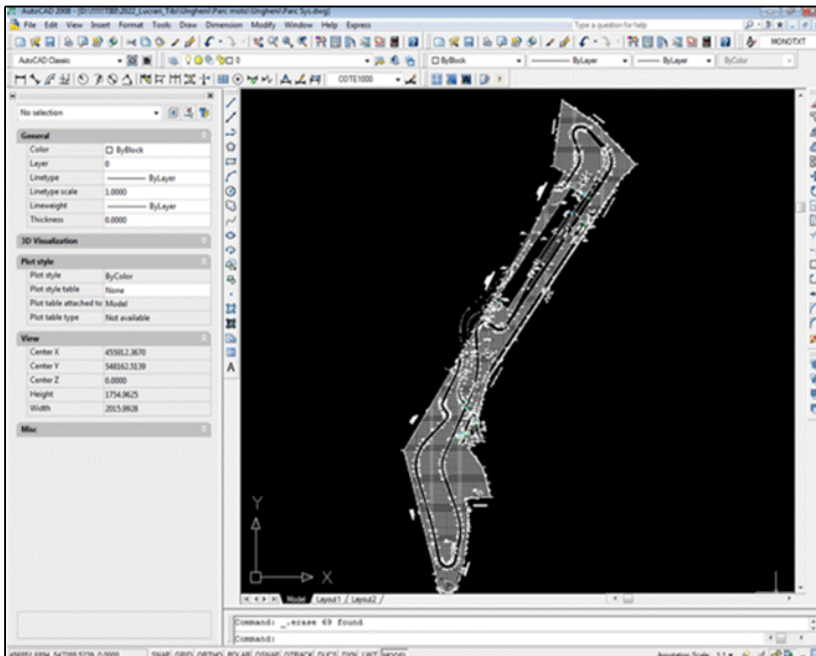


Fig. 4. Graphical processing of points \*

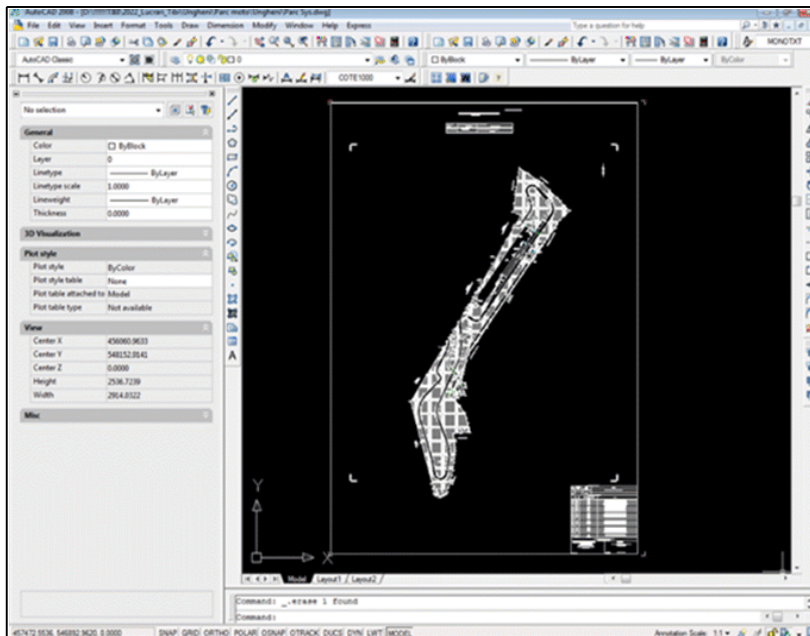


Fig. 5 PAD \*

## Conclusions

The cadastral documentation was registered in the E-terra 3 electronic system, on the "Update data" flow, and the area of the building was calculated using the AutoCad program by typing the command: "lin+tb+tb".

The realization of the cadastral documentation for the "TRANSYLVANIA MOTOR RING" racing circuit was made in two documents because it is located on the UAT of two localities and for this reason it was a more complex work.

## Notes

\* Căndea, Tiberiu (2022), *Realizarea lucrărilor topo-cadastrale privind înscrierea circuitului de curse "TRANSILVANIA MOTOR RING" din localitățile Ungheni și Sânpaul în cartea funciară*, Dissertation Thesis, Universitatea "1 Decembrie 1918" din Alba Iulia, scientific coordinator: Assoc. Prof. Eng.D. Magdolna Eva Koncsag

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