Established in 1994, with a 29-years experience on the Romanian and international market, TOPOEXIM is currently one of the main providers of integrated solutions in the spatial data management services industry. Topoexim offers solutions in the spatial data management industry. Depending on the needs of the beneficiary, our company proposes complete and integrated solutions to existing workflows. Our products differ and adapt to the wishes and specialties of our customers.

The company is committed to implementing top-quality spatial data management services, while also aiming at streamlining costs for the beneficiary. Our company is constantly developing and expanding by attracting highly qualified staff and by continually spreading to markets and areas of new expertise. The beneficiaries of our services include: Government agencies, ministries, companies in the fields of oil, rail, roads and highways, aeronautics, local administrations, energy companies or international corporations.
TEAM TOPOEXIM

General Director: Prof. univ. dr. ing. Cornel Păunescu

Technical Director: Ing. Dragoș Necula

Administrative Director: Ec. Alexandru Cuculescu

100+ Specialists

4 Economists

1 IT Specialist

2 Lawyers

1 QA Specialist

7 Drivers

3+ Auxiliary Personnel
Mission & Vision

Providing the most qualitative, reliable and valuable spatial data for the benefit of our clients.

Becoming a benchmark for quality in the spatial data collection market.

VALUES

Innovation
Continuous training
Tenacity
Loyalty
Trust

VALUES

Friendliness
Mutual respect
Trust
TOPOEXIM has been among the first contractors of these systematic recordings, gaining a vast experience in over 40 localities where it has executed cadastral works.

The registration process is participatory. Our company carries out information campaigns in localities where works are being carried out. Romanian technical norms require that the identification of real estate boundaries be done with high precision. Getting high precision requires the use of state-of-the-art technologies. For this, besides measurements using classical methods and GNSS, photogrammetric flights for the production of orthophoto maps with high accuracy are achieved.
TOPOEXIM is involved in numerous projects of expropriation for public utility purposes, necessary to achieve objectives of national, county and local interest. The specialists of our company have carried out the following public utility works:

- Expropriations for construction, rehabilitation and modernization of roads of national, county and local interest;
- Expropriations for construction, rehabilitation and extension of public railway infrastructure;
- Expropriations for airport infrastructure development works.

Our beneficiaries are both the Ministry of Transport, through the National Company for Road Infrastructure Administration - S.A. / National Railway Company "C.F.R." - S.A., / C.N. BUCHAREST AIRPORTS.
Romania has been confronted in recent years, especially between 2005 and 2010, with large floods, which have affected large areas of land, causing major infrastructure damage and loss of lives. Their destructive intensity has again highlighted the need for an integrated and sustainable approach to flood risk management in Romania.

The specific objectives of the project are:
Elaboration of flood hazard maps with delineation of flood limitations and floodplains and indication of maximum flows, water depth, flow rate;
Elaboration of the Plan for the Prevention, Protection and Mitigation of Flood Effects in the river basins;
Establishment of a program for information and public participation in the decision-making process;
Improvement of the effectiveness of the flood defense system by proposing structural and non-structural measures to reduce the risk of flooding;
Proposals on the upgrading of surveillance, warning and alarm systems during high flood-generating waters;
The most spectacular product is the digital terrain model. The precision of a digital terrain model can reach up to 5-10 centimeters when the flight is done by helicopter and there are enough control points. The digital model results in topographic profiles of the terrain. The project is complemented by hydraulic studies:
Statistical models with flood flows;
Deterministic models: of conceptual or empirical basis;
Statistical models with flood flows were made;
Hydraulic one-dimensional, two-dimensional and three-dimensional hydraulic modeling.
The local register of green spaces is a project in which our consortium has executed complex works:

- Obtaining an orthophotoplan of Bucharest Municipality and a Digital Surface Model (DSM)
- Obtaining multispectral records and processing them in order to obtain the information necessary to assess the health and vegetation status of the trees and the type of land pollution
- Identification and registration of owners or managers of green areas, as well as the determination and registration of buildings and developments located on green spaces,
- The GIS digital map, the green spaces data bank, the list of specific nomenclatures and the IT tools required for the operation and maintenance of the related data collections.
The application contains a number of automations such as:

Automatic generation of alarms and reports when, due to the development of crown circumference and height, the trees are colliding with other urban targets (utility and telecom networks, road signs, traffic lights, etc.) based on algorithms that take into account the annual growth rate of each tree species.

Automatic generation of protection zones around the trees species protected by law (California cypress, plane tree, red chestnut tree, the tree of life, etc.).

Tree monitoring throughout the life cycle, from planting to cutting, including preserving the history of tree trimming and maintenance activities.

Interconnection between institutions for the exchange of data for maintenance activities.

System automated generation of alerts on the start of tree trimming campaigns.
The monitoring of the hydrotechnical constructions' behavior takes place throughout the life of the hydrotechnical construction and has as a main role the maintenance of their safety and functionality in order to avoid the potential danger that these constructions represent for the settlements downstream (human but also significant material losses).

Periodic monitoring of the constructions is carried out continuously assessing the safety status of the hydrotechnical objective by conducting geometric mean levelling measurements for observing possible vertical displacements, as well as microtriangulation measurements to determine the horizontal displacements undergone. These methods allow detection of safety deficiencies and the intervention by structural and/or non-structural measures to prevent the development of atypical phenomena or behaviors.

In the period 2016-2017 the monitoring of 85 hydrotechnical constructions' behavior took place and between 2017-2018 the surveys were realized for 55 objectives.
Parcel Mapping G.I.S. represents a modern technology for the management and analysis of spatial data, based on electronic computation. It enables us to acquire, store, analyze, and present geographic data in both graphical and numerical forms and to organize information based on spatial and attribute criteria, creating thematic maps for a better understanding of the world around us.

• Rapid access to real-time data for precise report generation.
• Recording births, deaths, and changes of residence to maintain up-to-date resident records.
• Efficient issuance of urban planning certificates with precise and updated data.
• Access to thematic maps for various applications, such as utility networks, soil information, and natural risk areas.
• Generation of reports on the surface area of each land use category.
• Recording systematic cadastre data for accurate tax calculations and error avoidance in tax collection.
• Constant updates of cadastral data, considering the dynamism in the cadastral field (transactions, inheritances, mergers, divisions, etc.).
• Up-to-date records of UAT residents with updated data on births, deaths, and changes of residence.
• Automatic generation of urban planning certificates based on cadastral and cadastral utility data.
• Access to detailed geospatial data for efficient urban planning and resource management.
• Benefits for Local Administration:
  • Quick access to real data for generating accurate reports.
  • Recording births, deaths, and changes of residence to keep the residents’ records up-to-date.
  • Efficient issuance of urbanism certificates.
  • Access to thematic maps with various applications, such as utility networks, pedological information, natural disaster risk areas, etc.

• Benefits for Citizens:
  • Access to useful data through a user-friendly interface.
  • Information about urban restrictions, soil suitability for properties in rural areas, areas at risk of natural disasters, and the possibility of connecting to utility networks, etc.

• GIS for Investors:
  • Provides detailed information for investors regarding land characteristics.
  • Enhances the attractiveness of the locality for prospective investors.

• Data Maintenance:
  • The importance of keeping the data up-to-date through constant database updates.

• GIS Modules:
  • Cadastre: Information about properties and constructions.
  • Photogrammetry: Orthophoto plans, digital terrain models, contour lines, aerial images from drones.
  • Natural Framework: Slope maps, soil maps, geological maps, identification of risk areas.
  • Edilitar Cadastre: Lighting networks, sewage, drinking water, gas, internet, telephony, and other utility networks.
  • Taxes and Levies: Fiscal zoning, displaying the value of taxes, and their collection for each property.
Providing digital maps orthophoto mosaic type and vector topographic plan

The orthophotoplán is used as a primary source of information for producing digital plans or updating the existing ones. The orthophotoplán, together with the Digital Terrain Model, presents full georeferenced planimetric and altimetric information. For documentation purposes, it can easily be integrated into the geographic information systems.

Updating of orthophoto plans can be applied for urgent planning, while the elaboration of plans by other methods is a lasting operation.

The digital terrain model is a modern and efficient land representation method, facilitating a series of statistical calculations, profiling and field analyzes by means of Geographic Information Systems, as well as process automation in various fields of activity that use land data.

The project consists in the realization of the digital orthophotoplán for a surface of 3000 Km2, of which 1500 Km2 will be digitized and integrated into a GIS database.
TOPOEXIM is authorized by the Civil Aeronautical Authority to carry out airport works on the territory of Romania. Our works are realized in accordance with ICAO requirements and regulations.
Since the 90's we have had as beneficiaries all the international airports in Romania, as well as numerous heliports. Among the products made were: obstacle charting works, airport GIS, engineering drawing works, rescue-evacuation maps.
Topoexim has been using laser survey systems, either terrestrial or airborne, using helicopter or airplanes, for different purposes in various projects. The following applications stand out:

Survey of already existing Power Lines with the aim of determining the condition of catenaries and of identifying possible obstacles;

Survey of cross sections for road projects;

Survey of railway lines with the aim of taking the inventory of all infrastructure components;

Survey of roads with the aim of improving serviceability;

As built production for road and railway infrastructure;

Monitoring trees growth;

Monitoring excavations;

Digital Surface Model (DSM);

Digital Terrain Model (DTM);

Survey of facades;

Survey of industrial installations;
Thank you!