ASIG

Autoriteti Shtetëror për Informacionin Gjeohapësinor

Geodetic reference system of high accurancy and unified with the European system in funcion of the realization of geodetic and cartographic works, according to contemporary standards.

STATE AUTHORITY FOR GEOSPATIAL INFORMATION

GEOSPATIAL INFORMATION UPDATED WITH STANDARD IN FUNCTION OF THE RIGHT DECISION MAKING FOR THE DEVELOPMENT OF A STABLE COUNTRY AND PROTECTION OF THE ENVIRONMENT

ASIG ACHIEVEMENTS 2014 - 2021

State Authority for Geospatial Information (ASIG) central public institution, built in implementation of law no. 72/2012 "On Organization and Functioning of the National Information Infrastructure Geospatial Zion in the Republic of Albania ", has a mission establishment of the National Geospatial Information Infrastructure (NSDI) in the Republic of Albania, according to the standards of the Directive 2007/2 / EC "INSPIRE" of the E

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eurogeographics Kartverket LANTMÄTERIET INSPIRE: Infrastructure for Spatial Information in Europe

Main achievements of ASIG 2014

ASIG started its institutional activity in March 2014 and its organizational structure approved by Prime Minister's Order no. 104 dated 24.02.2014 had 15 employees, with two directorates and four sectors. As of December 31, 2014 ASIG had 11 recruited employees.

ASIG's objectives for 2014:

1. Promotion of ASIG's coordination role for the creation of NSDI in Albania to the public authorities that owned and used geospatial information.
2. Creation of a temporary platform for the publication of geospatial information possessed by public authorities in Albania.
3. Establishment of an accurate, unified and standardized geodetic support network, geodetic and geodynamic measurements in Albania.
4. Recognition of European Geoinformation Standards (standards of the INSPIRE Directive).
5. Cooperation with European authorities and organizations in the field of geoinformation.

During 2014, a series of activities and events were carried out in order to realize the institutional objectives, at the end of which we can list these key achievements

Creating for the first time the National Geoportal (short solution version) and providing it, for institutions and the public, data and geospatial services online. By the end of 2014, about 35 geospatial data layers and viewing service were published for all users.

- Promotion of ASIG's coordinating role in the field of geoinformation that enabled first-time geospatial information to be made available to the public.
- Collaboration with public institutions that possess geospatial information such as ZVRPP, AKKP, IGJIU, ALUIZNI etc., for obtaining and publishing data in the National Geoportal.
- Start drafting detailed project to put up the components for the Albanian Geodetic Reference Framework (KRGJSH).
- Drafting the terms of reference for the Air Photography Project in the Republic of Albania, which will provide an accurate cartographic mapping with contemporary standards, (Ortophoto and 3D Model) in order to develop all projects related to geospatial data such as: Property Cadastre, Forest Cadastre, Territory Planning, etc.
- Preparation of documentation and application to the Japanese International Cooperation Agency (JICA) for "Creating a Basic Map for the Republic of Albania"

In the field of international cooperation, the following achievements were achieved:

- Cooperation with Norway's Cartography and Cadastre Authority "Statens Kartverk" , and implementation of the project " Support for ASIG as a new institution in the field of geoinformation" signed in December 2013
- ASIG assign to EuroGeographics, an independent non-profit international organization that represents Europe's National Mapping, Cadastral, and Land Registration Authorities, and supports them for better governance, and a society empowered by the use of reliable geospatial services from the official sources of these national institutions. More information can be found at the link: - https://eurogeographics.org/wp-content/uploads/2018/05/EGAR2014-Final3-web.pdf

Construction for the first time of the National Geoportal (Vers 1.0) and provision through it, for institutions and the public, of online geospatial data and services. By the end of 2014, about 35 layers of geospatial data and view services for all users were published.

Main achievements of ASIG 2015

ASIG's objectives for 2015 :

In January 2015 ASIG is accommodated with offices in the premises of the Innovation Building (premises where it is currently operating). ASIG organizational structure approved by the Prime Minister's Order no. 24 dated 20.02.2015, had 29 employees with two directors and seven sectors. As of December 31, 2015 ASIG had 21 recruited employees.

NSDI

INSPIRE

1. Consolidation of ASIG's coordination role for the creation of NSDI in Albania and cooperation with public authorities for the standardization of geospatial information.
2. Drafting the terms of reference for establishing a National Geoportal based on the standards of Law 72/2012 and the INSPIRE EU Directive.
3. Creation and implement KRGJSH projects.
4. Design and implement the European standards of the INSPIRE Directive related to metadata and priority themes of law no. 72/2012.
5. Consolidation of cooperation with European authorities and organizations in the field of geoinformation.

During 2015, a series of activities and events were carried out in order to realize the institutional objectives, at the end of which we can list the following main achievements:

- Collaboration with institutions that possess geospatial information and inventory of this information in order to take measures for its efficient use, updating and standardization.
- Further consolidation of ASIG's coordinating role in the field of geoinformation.
- Drafting and adopting the ASIG 5 - Year Strategic Business Plan as a guide for the realization of the mission for the creation of the National Infrastructure of Geospatial Information in the Republic of Albania.
- Designing detailed projects for the construction of component networks of the Albanian Geodetic Reference Framework (KRGJSH).
- Drafting 4 standards for geoinformation themes as well as 2 technical guidelines related to geodetic measurements and transformation coefficients in different geodetic systems.
- Develop the terms of reference of the new National Geoportal, which will be developed and will have integrated all the standards required by the European Union's INSPIRE 2007/2 / EC Directive.
- Tendering and following up the implementation of the Air Photography Project in the Republic of Albania.
- Drafting, approving and implementing the rules for the "Planning and Realization of Airspace of the Territory in the Republic of Albania".

Main achievements of 2015

Drafting and approval of the 5 - year strategic ASIG's Business Plan

• Drafting, approval and implementation of rules for "Creation, Preservation and Update of Metadata, Cataloging Structure and Deadlines for the Creation of Specific Metadata for each Topic".

• Drafting and approval of the document "State Standards for Technical Specifications of Geospatial Information Infrastructure in Albania-Topic Hydrography".

• Drafting and approval of the document "State Standards for Technical Specifications of Geospatial Information Infrastructure in Albania-Topic Boundaries of Administrative Units".

• Institutionalization of the Geospatial Information Board (BIG), regular development of its meetings and decision-making.

In the field of international cooperation, the following achievements were realized:

• Cooperation with the IMPULS project, participation and organization in Tirana of regional workshops and meetings (Western Balkans) within this project with the aim of building the capacity of the respective agencies in the implementation of European standards in the field of geoinformation.

• Cooperation with the Cartography and Cadastre Authority "Statens Kartverk" of Norway, in the implementation of the planned activities of the project "Support and assistance to ASIG as a new institution in the field of geoinformation" signed in December 2013.

• ASIG participation and contribution with geospatial information in EuroGeographics, more information can be found at the link: https://eurogeographics.org/wp-content/uploads/2018/05/EGAR2015-final-web.pdf

Cooperation with EuroGeogrphics, the IMPULS project and the Norwegian Authority of Cartography and Cadastre "Statens Kartverk"

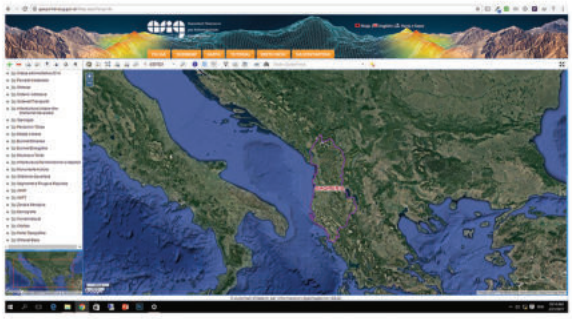
Meeting of the Board for Geospatial Information BIG 2015

ASIG's contribution to EuroGeographics

Main achievements of 2016

ASIG's objectives for 2016 :

Organizational structure of ASIG, for 2016, approved by the order of the Prime Minister no.60 dated 5.04.2016 there were 51 employees with three directorates and 10 sectors. On 31.12.2016 ASIG had 35 employees recruited.



National Geoportal, with unified information and listed according to the INSPIRE Directive.

1. Inter-institutional interoperability for the exchange of geospatial information. The Republic of Albania will have the National Geoportal, with unified and standardized information according to the INSPIRE Directive.
2. Increase control over the quantity and quality of geospatial information. Inter-institutional coordination and consolidation of cooperation with the responsible public authorities to enable the addition of information to the National Geoportal, especially on priority topics.
3. Construction of an accurate, unified and standardized geodetic support network of geodetic and geodynamic measurements in
our country, which will be the basis for the realization of the unified cadastral map of Albania (ALBPOS, Gravimetric Network, Initial Leveling Network, etc.).
4. Drafting and approval of legal drafts for DCM in order to implement the obligations arising from law no. 72/2012.
5. Continuation of cooperation with European authorities and organizations in the field of geoinformation.

During 2016, a series of activities and events were carried out in order to realize the institutional objectives, at the end of which we can list the following main achievements:

• Based on the analysis of geospatial information owned by public institutions and the legal framework that regulates their activity, decisions have been made to determine the public authority responsible for the 14 priority topics of Article 11 of Law 72/2012.
• Further consolidation of the coordinating and supervisory role of ASIG in the construction of NSDI in Albania.
• Two activities have been developed at the national level in order to help increase the capacity of public authorities in the construction, updating and use of geospatial information.
• Publication in the National Geoportal of data of geospatial services and relevant metadata of a number of layers for the topics of article 11 of law 72/2012 bringing to 65 the number of online services in this geoportal.
• In the framework of the creation of geodetic networks, absolute gravimetric measurements have been performed in Albania. These measurements were made for the first time in our country and constitute an important and fundamental step for the

Mledhje BIG 2016

Main achievements of ASIG 2016

• Technical specifications have been drafted and the entire tender procedure for the project "Construction of the Geodetic Reference Framework" with all its elements has been completed.

• Completion of the design and tender of the National Geoportal in full compliance with the standards of the European Union's INSPIRE Directive 2007/2 / EC.

• Follow-up of the implementation of Air Photography Project in the Republic of Albania and control of product quality submitted under the signed contract.

• Drafting and approving the DCM "On some Amendments and Additions to Decision no. 669, dated 7.8.2013, of the Ministers Council" On the Approval of the Rules for the Definition, Creation and Implementation of the Albanian Geodetic Reference Framework (KRGJSH) as a Metadata"

• Drafting and approval of the document "State Standards for Technical Specifications of Infrastructure of Geospatial Information in Albania – Theme, Cadastral Parcels".

• Drafting and approval of the document "State Standards for Technical Specifications of Infrastructure of Geospatial Information in Albania – Theme, Buildings".

• Drafting and approval of the document "State Standards for Technical Specifications of Infrastructure of Geospatial Information in Albania – Theme, Addresses".

• Approval of the document "On the rules of network services", fully aligned with Regulation no. 976/2009 of the European Commission date 19.10.2009 on the implementation of Directive 2007/2 / EC of the European Parliament and of the Council on network services, as amended by Regulation No. 1088/2010 dated 23 November 2010.

• Four meetings of the Geospatial Information Board (BIG) have been held in which a number of standards and initiatives have been adopted in the field of geoinformation

In the field of international cooperation, the following achievements were achieved

IMPULS week

BIG meeting

• Cooperation with the IMPULS project Participation and organization of workshops and meetings within the framework of this regional project aimed at building the capacities of ASIG and implementation of European standards in the field of geoinformation.

• Cooperation with the Cartography and Cadastral Authority of Norway "Statens Kartverk", in the implementation of the planned activities of the project "Support and sustention for ASIG as a new institution in the field of geoinformation" signed in December 2013.

• ASIG's participation and contribution with geospatial information in EuroGeographics, more information can be found at the link: https://eurogeographics.org/wp-content/uploads/2018/05/EURO6180_AnnualReport_Web_Spreads_190517_RH.pdf

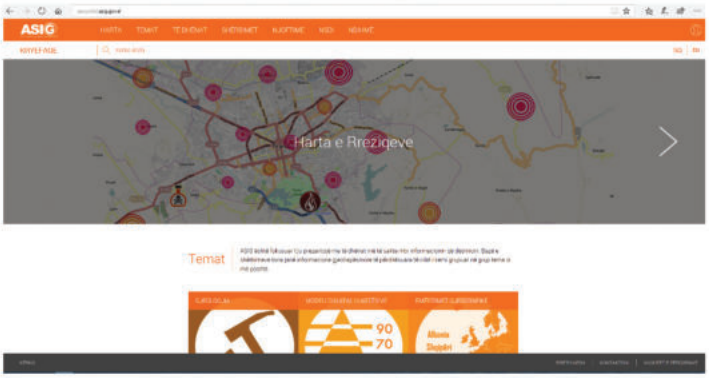
Main achievements of ASIG 2017

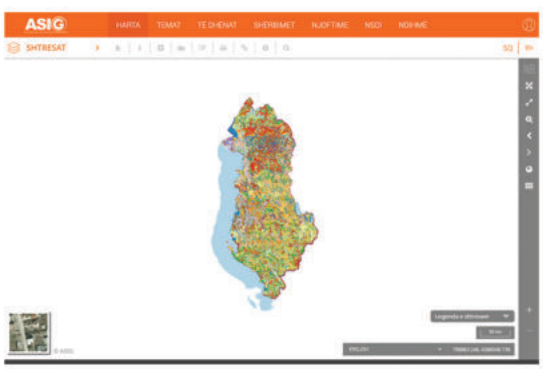
The organizational structure of ASIG for 2017, approved by Prime Minister's order no. 49 dated 12.04.2017 had 49 employees with three directorates and 10 sectors. At 31.12.2017 ASIG had 40 recruited employees.

ASIG's objectives for 2017 :

1. Construction of the new National Geoportal, and provision of geospatial data and services in accordance with the standards of the European Directive INSPIRE.
2. Establishment of an accurate, unified and standardized geodetic and geodynamic support network in our country, which will be the basis for the implementation of the unified cadastral map of Albania (ALBPOS, Gravimetric Network, and the Initial Network Levelling etc.).
3. Inter-institutional coordination and consolidation of cooperation with public authorities responsible for the Themes of Article 11 of Law 72/2012 in the drafting of geoinformation standards and the provision of standardized information provided through the National Geoportal.
4. Drafting and implementation of procedural and technical measures for starting the creation of the Basic Map of the Republic of Albania.

Signing and implementation of the cooperation agreement with JICA (Japan International Cooperation Agency)





Construction of the new National Geoportal, and providing through it compliant geospatial data and services to the standards of the European INSPIRE Directive

Main achievements of ASIG 2017

During 2017, a series of activities and events were carried out in order to realize the institutional objectives, at the end of which we can list the following main achievements:

• A cooperation agreement with JICA (Japan International Cooperation Agency) for the project on "Geospatial Information for the Sustainable Land Development Tirana-Durrës area in Republic of Albania" has been signed and has begun. Within this agreement are realized:

• Permanent attendance and observance of project PIP deadlines, in particular technical specifications related to the requirements of the technology transfer process.

• Training in Japan of two ASIG specialists in order to transfer technology and gain Japanese experience.

• The drafting of the first version of the Draft-Standard for Digital Topographic Maps has been completed (in cooperation with Japanese experts)

• A recognition plan was realised for the implementation of active networks for the creation of an ALBCORS system with 21 points in function of the three-party agreement KFD, IGJEUM and ASIG. Has been done recognition for 15 stations to determine the positions of the ALBCORS system points.

• The entire bidding procedure for the project "Construction of Geodetic Reference Framework" with all its elements was completed (after the failure in 2016)

• Implementation of the project of installing two mareographs is concretized. Durrës Mareograph "Bishti i Pallës" and Saranda Mareograph.

• Coordination and follow-up of the joint project for geodetic networks for our region (Albania, Kosovo, Montenegro) was carried out within the framework of Norwegian Assistance.

• Permanent monitoring of the ALBPOS system has been carried out and regular reports on its functioning have been carried out regularly.

• Delivery of the product (for Lot 2 and 3) for the air photography of the area, which is further made available to users through the National Geoportal.

• Based on the analysis of geospatial information received from public institutions and in the legal framework regulating their activity decisions are made on determining the public authority responsible for 21 Themes of Article 11 of Law 72/2012, thus concluding the decision-making process foreseen by Article 12 of this Law.

Main achievements of ASIG 2017

• During 2017, a series of activities and events were carried out in order to realize the institutional objectives, at the end of which we can list the following main achievements:

• Based on the legal definitions relating to ASIG's coordinating and supervisory role, and within the deadlines set in the relevant decision-making, inspections were carried out at five responsible authorities and drafted reports on the progress of projects in the field of geoinformation.
• Based on the legal obligations for capacity building of actors dealing with the geoinformation field, two trainings have been organized for public authorities responsible for creating and editing metadata and functionalities of the National Geoportal (November 2017).
• Meetings of the Board for Geospatial Information (BIG) have been held, which have adopted a number of standards and initiatives in the field of geoinformation.
• A number of activities have been organized to identify the activity of ASIG and are published on the official website and social networks.
• The drafting and approval of the DCM of the document "On the adoption of the Data Interoperability Rules, Data Groups and Geospatial Services"
• The drafting and approval of the DCM of the document "State Standards for the Technical Specifications of the Infrastructure of Geospatial Information in Albania - Theme - Geographical Names" has been carried out.

BIG meeting 2017

Main achievements of ASIG 2017

A number of acts and standards have been drafted and proposed for adoption, namely:

o State Standards for Technical Specifications of Geospatial Information in Albania - Theme: "Geology"

o State Standards for Technical Specifications of Geospatial Information in Albania - Theme: "Transport Networks"

o Uniform Rules for the Creation and Administration of Geospatial Information

o Rules for Exchange of Geospatial Data Groups and Services between Public Authorities

o State Standards for the Technical Specifications of the Geospatial Information in Albania Theme: "Orthoimagery"

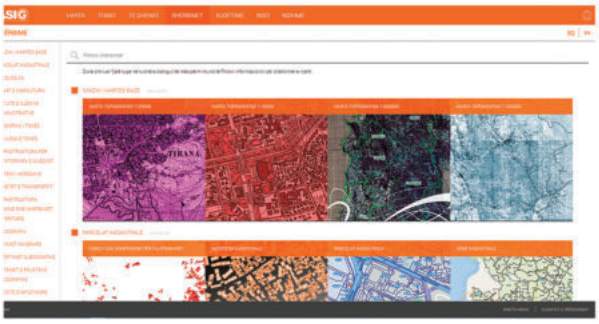
o State Standards for the Technical Specifications of the Geospatial Information in Albania Theme: "Elevation"

o State Standards for the Technical Specifications of Geospatial Information in Albania Theme: "Geographical Grid Systems".

o State Standards for Technical Specifications of Geospatial Information in Albania - Theme: "Protected Sites".

o State Standards for the Technical Specifications of the Geospatial Information in Albania Theme: "Coordinate refe rence systems".

o State Standards for the Technical Specifications of the Geospatial Information in Albania -Theme: "Land Use"



• During 2017, the development of the National Geoportal system was realized and its takeover was made by the ASIG reception group. From September 2017 this Geoportal is accessible at:
https://geoportal.asig.gov.al

• For institutions and the public. This portal was developed in full compliance with the standards of law no. 72/2012 and the European Union's INSPIRE Directive.

• The interaction of the National Geoportal with the other WebGIS systems of public authorities was realized ;
a) Cultural Monuments (http://imk.gov.al);
b) WebGIS and AKEP Systems
(http://broaand.akep.al/akepi/atlasi).

• The relevant regulation on the functioning of the National Geoportal has been drafted and approved.

• The addition of Server and Storage Hardware to the support of the National Geoportal .

• Conversion and publication in the National Geoportal of all layers of geoinformation in the coordinating system KRGJSH in implementation of DCM no. 669, dated 07.08.2013 "On the Approval of Rules for the Construction, Creation and Implementation of the Albanian Geodetic Reference Framework (KRGJSH), as a Metadata" (Amended by DCM No. 322, dated 27.04.2016).

• HW capacities have been increased in ASIG. With the improvement of the existing infrastructure, it has been achieved:
a) Generating weekly reports for the National Geoportal;
b) Maintaining Website ASIG by ASIG staff.

Main achievements of ASIG 2017

• Metadata have been completed and published for all geo-information layers published in the National Geoportal pursuant to the DCM no. 1077, dated 23.12.2015, On Approval of the Regulation "On Creating, Preserving and Updating Metadata, Cataloguing Structure and Deadlines for Creating Specific Maturities for Each Theme".
• The technical specifications documentation for the project "Construction of the National GIS" has been drafted and during the second semester the procurement procedure was developed and concluded by ASIG. Further, the procurement procedure was blocked at the stage of announcing the winner by the Public Procurement Agency pursuant to the DCM no. 673 dated 22.11.2017

Presentation of the new National Geoportal 2017

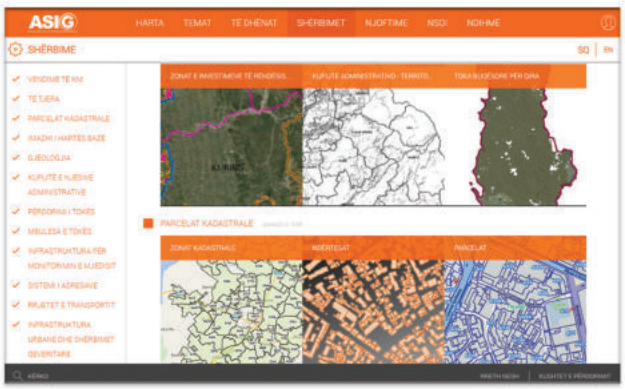
In the field of international cooperation, the following achievements were achieved:

• Continue cooperation with IMPULS project participation and organization of workshops and meetings within the framework of this regional project aimed at building the capacity of responsible public authorities in updating and using geospatial information
• Successful conclusion of the project of cooperation with the Norwegian Cadastre and Cartography Authority, Statens Kartverk regarding the establishment of the National Geospatial Information Infrastructure in the Republic of Albania. Identify the areas of interest for a new cooperation agreement.
• Signing and implementing a cooperation agreement with JICA (Japan International Cooperation Agency) for the project "Project on Geospatial Information for Sustainable Land Development in Tirana-Durrës Area".
• Collaboration with the Netherlands Cadastre and Cartography Agency in the regional project "Geospatial Information in the Western Balkans"
• The continues participation and contribution of ASIG with geospatial information in EuroGeographics, more information can be found at the link:
https://eurogeographics.org/wp-content/uploads/2018/07/EGAR-2017.pdf

Main achievements of ASIG 2018

The objectives of ASIG for 2018 :

The organizational structure of ASIG, for 2018, approved by Prime Minister's Order no. 49 as of 12.04.2017 has 49 employees. At the beginning of 2018 ASIG had 40 employees and 9 vacancies. The new structure of ASIG with 46 employees has been approved by Prime Minister Order No. 121 dated 31.07.2019. During 2018, 2 employees were promoted within the institution, 2 employees were dismissed and 1 employee was recruited.



1. Projection, build, maintain and update the Geodetic Reference Framework.
2. Projection, build, maintain and update Geoportal and National GIS (Build an integrated geoinformation system that implies the definition of functions, structural organization and interacttions between them).
3. Draft uniform standards and rules of geospatial information infrastructure (programming of its work and processes, etablishment and implementation of policies, rules, procedures and work instructions for elements of the geoinformaion system).
4. Provide financial resources to ensure the necessary inputs (human resources, technology and operational capacity), the establishment and operation of the integrated geoinformation system, and the realization of the core geoinformation products, in line with the strategy and the Program National Sec

NSDI

INSPIRE

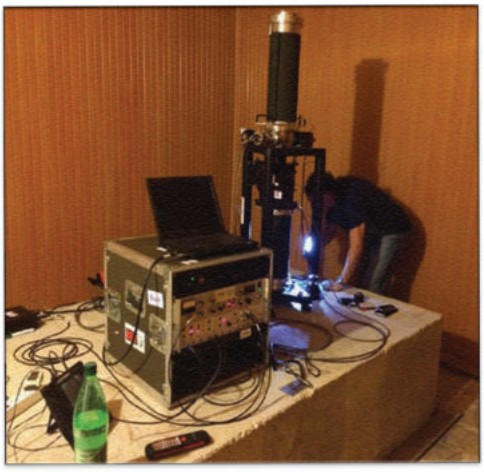
ASIG

2018

Main achievements of ASIG 2018

During the period January-December 2018, a number of activities and events were carried out with the aim of achieving the annual institutional objectives, with the following main achievements:

- The review has been completed and projects for all 5 constituent networks of KRGJSH have been approved.
- The field reconnection process for the constituent networks of the KRGJSH has been completed and points (with appropriate coordinates) have been definite for the positioning of active network ALBCORS.
- The construction of monuments for the active network ALBCORS (State Budget Investment) has been completed.
- Construction of Mareographic stations Shëngjin, Kepi i Palit (Durrës), Orikum and Saranda completed (State budget investment for Shëngjin, Orikum stations and Norwegian donation for Durrës, Saranda stations). The construction of the Mareographic Station Network Monitoring Center at ASIG is under way to enable the completion of this network.
- The absolute gravimetric network of 0 order and the first order gravimetric network are constructed. First order gravimetric measurements for the entire territory of the Republic of Albania as well as the gravimetric measurements of all orders for Tirana Durrës area (State budget investment).
- Magnetic measurements were made for 11 points for the territory of the Republic of Albania (Investment from the state budget).



Main achievements of ASIG 2018

During the period January-December 2018, a number of activities and events were carried out with the aim of achieving the annual institutional objectives, with the following main achievements:

• Coordinated by ASIG, the joint project for the construction of "Geodetic Networks", for our region (Albania, Kosovo, Montenegro, Macedonia), under the Norwegian Government's assistance. In April 2018 a special meeting was organized by representatives of the Norwegian government in the framework of this regional cooperation. Two ASIG specialists participated in this event and presented the achievements and requirements of ASIG in this field. We also submitted the Norwegian Government funding application in the field of Geoid Determination.

• It took over the process of delivery and have been put into operation the photogrammetric stations in order to create cartographic information, from aerial photography processing, to support regional infrastructure development projects.

• Remote Sensing Sector has developed a survey and study plan for defining norms during 3D survey procedures from aerial photography based on previous and international experience.

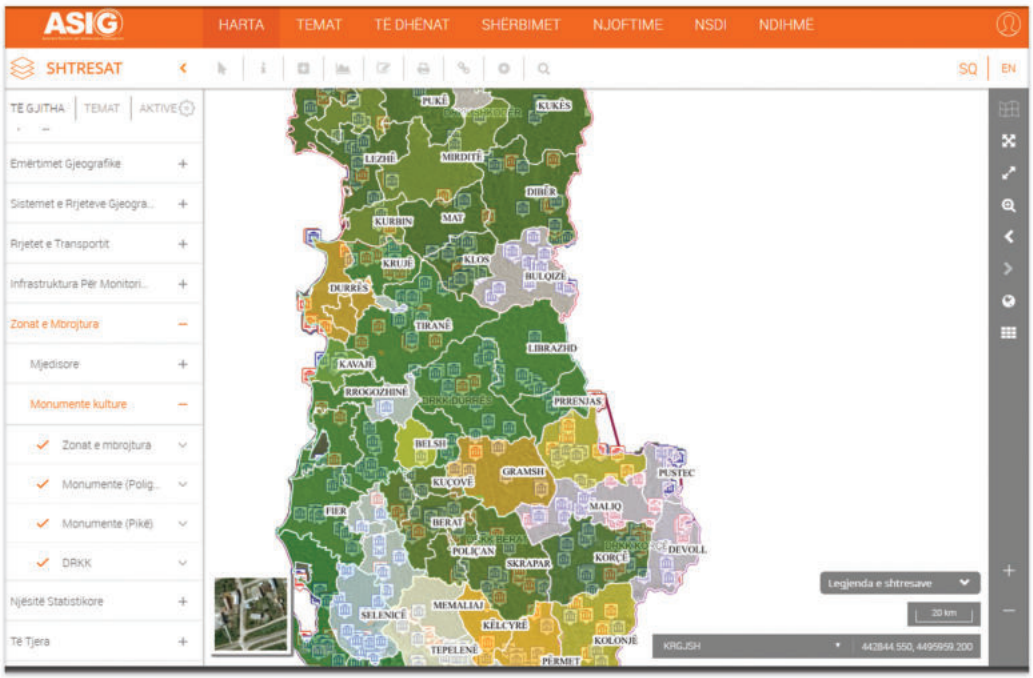
• National Geoportal system has been re-monitored and the report on the "case" for any problems observed (the system is under 1year warranty until October 2018).

• Documentation and procurement procedure for the maintenance of the National Geoportal system has been prepared after the end of the system warranty period (September 2018).

• National Geoportal infrastructure and ICT equipment upgrades were implemented, where optic fibre port cards were installed on both system servers and a fibre optic port "switch" to enable the current infrastructure to be connected to the new infrastructure with the aim of utilization of "storage space" by the National Geoportal system.

• National Geoportal interaction with other WebGIS systems is ensured.

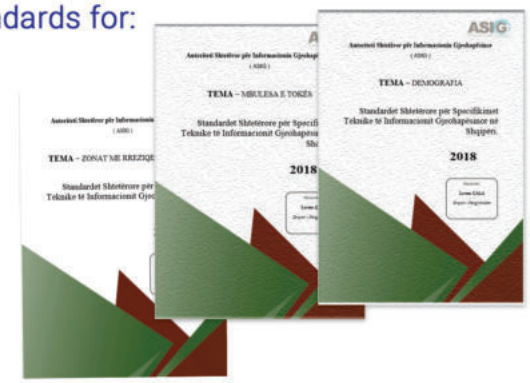
- ZRPP ALBSReP System
- Waste System
- AKPT System
- IMK system



Main achievements of ASIG 2018

- Geospatial data and services have been published in the National Geoportal for:
- 3-dimensional terrain model data 2015-2017
- National, Sectoral and Local Urban Plans.
- Italian historical maps
- Historical AQTN maps for cities: Tirana, Durrës, Kavaja, Rrogozhina, Shijak, Kruja, Vlora, Shkodra, Lezha, Lac, scale 1: 500.
- Geospatial data according to the approved standard, on the theme: "Geographical Names."
- The metadata for geospatial data and services published in the National Geoportal have been corrected and updated.
- The metadata for all layers and services published in the National Geoportal have been corrected and updated, based on information provided by the responsible public authorities.
- It has been possible to create and display metadata for geospatial data (layers) that are accessed with online services by the responsible public authorities that have them available on their portals.
- Assistance was provided to public authorities for the development of geoinformation systems:
- National Food Agency for mapping their objects.
- Ministry of Agriculture and Rural Development for mapping the drainage, irrigation and flood protection infrastructure.
- National Environmental Agency, as part of the project on forest inventory.
- Ministry of Education, on inventorying and analysing the efficiency of primary and secondary schools in rural areas

Have been drafted documents on geoinformation standards for:



o State Standards for Technical Specifications of Geospatial Information in Albania - Theme: " Land Cover."
o National Standards for Technical Specifications of Geospatial Information in Albania - Theme: "Natural risk zones".
o National Standards for Technical Specifications of Geospatial Information in Albania - Theme: "Demography".
o National Standards for Technical Specifications of Geospatial Information in Albania - Theme: "Seas".
o National Standards for Technical Specifications of Geospatial Information in Albania - Theme: "Statistical Units".
o National Standards for Technical Specifications of Geospatial Information in Albania - Theme:"Mineral Rources".
o National Standards for Technical Specifications of Geospatial Information in Albania - Theme: "Energy Resources".
o National Standards for Technical Specifications of Geospatial Information in Albania - Theme: "Utilities and Government Services".

- ASIG Communication Plan for ASIG activities, training, products and coopera tion with in-country geoinformation actors and foreign partners has been developed and followed.
- The legislation on the right to information and protection of personal data is strictly enforced.

Main achievements of ASIG 2018

In the field of international cooperation the following achievements were made:

• Cooperation with the IMPULS project - Swedish Government Assistance through the Swedish International Development Cooperation Agency (SIDA) for the Western Balkan countries to:

o ASIG's commitments to this regional project have been fulfil.

o Under the agreement, the data and services harmonization phase for 4 themes has been completed (Orthoimagery, Administrative units, Elevation and Geographical names).

o Permanent participation in the workshops organized with the coordinators for the approval of the work plans for the activities of the period 2018-2019, as well as review of indicators and preparation of the regional project closing conference.

•Collaboration with the project with JICA (Japan International Cooperation Agency), on "Geospatial Information for Sustainable Land Development in Tirana - Durres Area", which aims to:

o Technology transfer and training for ASIG specialists.

o Drafting standards for the creation of base (digital) map to varying degrees for the territory of the Republic of Albania.

o Realization of the base map in scale 1: 2000 for Tirana-Durres area

• Until December 2018 are done:

o Hardware and software equipment delivering.

o 9 ASIG specialists training in Japan (4 4-month long-term training and 5 2-week short-term training).

o An orthophoto has been developed for the Tirana-Durres area (370 km^2) and work is underway to create a base map.

• Cooperation with the Norwegian Mapping and Cadastre Authority (Statens Karverket) - Norwegian Government Assistance with:

o A new cooperation agreement has been signed with the Norwegian Cartogra -phy and Cadastre Authority "Statens Kartverk" for the period 2018-2020, for assistance and support to ASIG as a national authority in the field of geoinformation in Albania.

o ToRs have been prepared for the purpose of procuring the service for Historic Aerial Photograph Scans. As of December 2018, the geographical positions of approximately 24,400 historical aerial photographs (1957, 1972-1989) currently archived at the Institute of Geography and Military Infrastructure have been scanned and determined.

o ToRs have been prepared for the 1994 Aerial Photography orthophoto preparation.

o ASIG staff training strategy has been developed.

o Seminars, conferences, workshops, official visits, and a number of ASIG technical trainings have been conducted, based on the approved training strategy.

• Collaboration with (TAIEX Program) whose experts have consulted the projects for the construction of the Albanian Geodetic Reference Framework (KRGJSH).

Main achievements of ASIG 2019

The objectives of ASIG for 2019:

1. Construction, operation, maintenance and updating of the Albanian Geodetic Reference Framework (KRGJSH), as a guarantee for accurate geospatial information and based on European standards.
2. Operation, maintenance and updating of Geoportal and National GIS (Building integrated geoinformation systems that provide detailed data information, interact automatically and provide network services according to INSPIRE Directive standards).
3. Development and implementation of uniform standards and rules of geospatial information infrastructure (standards development, harmonization and standardization of data, supervision and control of processes, drafting and following guidelines and working procedures for the constituent elements of the geoinformation system).
4. Securing and managing financial resources (from the state budget and foreign funding) to guarantee the inputs needed to achieve the ASIG objectives, as well as the management of human resources and support services to meet the requirements and needs of the functioning institution decision making and quality services to the public.

The organizational structure of ASIG, for 2019, has 46 employees and has been approved by Prime Minister's Order No. 121 dated 31.07.2019. At the beginning of 2019 ASIG had 39 employees and 7 vacancies. During 2019, 2 employees were promoted to the institution, 1 employee was dismissed and 3 employees were recruited.

During the period January-September 2019 a number of activities and events were carried out with the aim of achieving the annual institutional objectives, with the following main achievements:

• ToRs have been prepared for the active KRGJSH Global Positioning Network, based on DCM amendments no. 669, dated 07.08.2013, "On the approval of the rules for defining, establishing and implementing the Albanian Geodetic Reference Framework (KRGJSH) as Metadata", with DCM no. 359, dated 29.05.2019). Further procurement procedures for the project are underway with a view to finalizing it by 2019.

• The construction of the Mareograph Network Monitoring Center at ASIG has been completed with the installation of mareographic programs and stations (Kepi i Palit-Durrës and Sarandë) commissioned by the Norwegian side and agreed with the Naval Command and Military Hydrographic Service under the project ALNO_HIP.

Main achievements of ASIG 2019

During the period January-September 2019 a number of activities and events were carried out with the aim of achieving the annual institutional objectives, with the following main achievements:

• With the establishment of the Mareograph Network Monitoring Centre in the Republic of Albania (after 30 years of absence), ASIG has continued its continuous sea level monitoring, uninterrupted data management and storage for all four stations: Shengjin, Kepi i Palit (Durres), Orikum and Saranda after agreeing with the Albanian Naval Force Command and Hydrographic Service, on-line data service (Hydras3 and Cloud) and data storage (Rowdata).

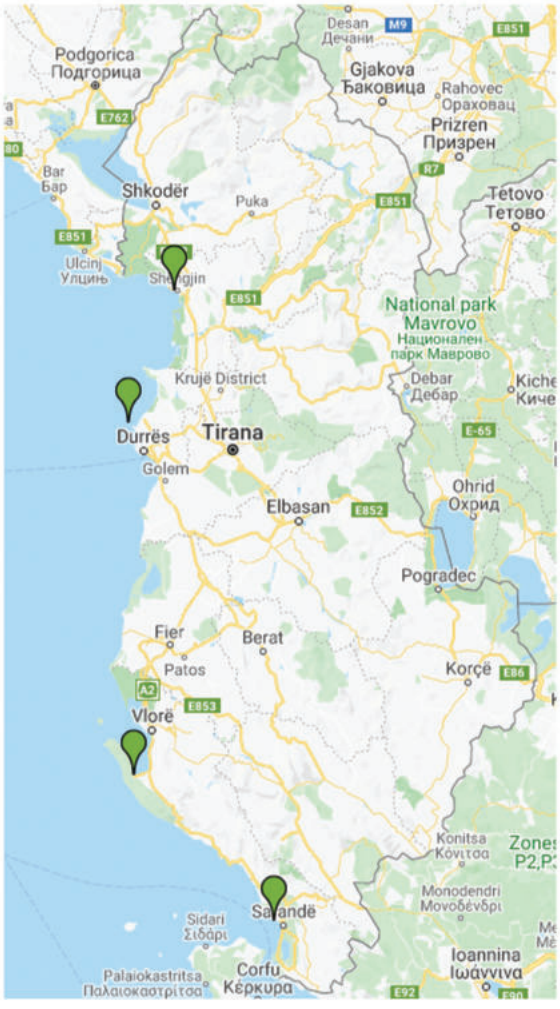
• A draft guideline on the methodology of first-class levelling work has been prepared, based on approved projects, of the networks comprised of the KRGJSH.

• Programs of field levelling process, organization, division of sectoral tasks have been drafted and the procedure of physical field measurements has started for the state levelling network.

• A joint working groups have been set up to transfer the ALBPOS system from the State Cadastre Agency (KAS) to ASIG. We are working on inventory and verification of equipment's that will become capital and their operation. The task is expected to be completed by the end of October 2019.

• The implementation of the project with JICA "Geospatial Information for Sustainable Land Development in Tirana - Durres Area". Work continues on the concretization of the map model (Pilot), and product modeling.

First meeting of the Project Coordination Commitee with JICA



Main achievements of ASIG 2019

In cooperation with the project team, work has been done on the drafting of standards and manuals for the production of digital map of the scale 1: 2000 in the Republic of Albania, as well as on the implementation of standards for the use of symbolism, interpretation of contour phenomena, presentation of contours depending on functionality, shape as well as the use of colors.

• In the framework of the construction of the geospatial data system for the development of the regions through the beginning of the creation of the basic map of the Republic of Albania, the following have been realized:

o About 90% of the project area with the main layers that will contain the basic digital map has been completed. Work continues in the remaining areas without surveying and at the same time the completed areas have been reviewed to make additions and quality control of work in terms of interpretation, of contour phenomena. At the same time, work is being done to identify areas and areas that need field identification.

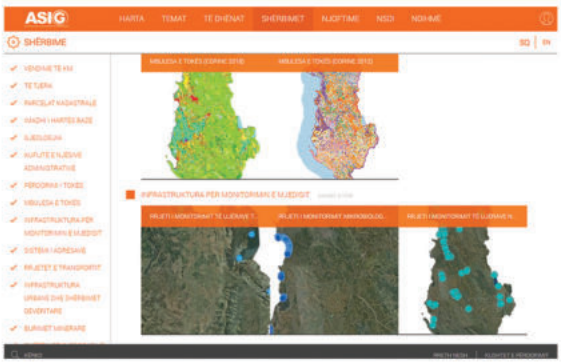
o Urban areas have been updated with cartographic information (orthophoto) through the application of DRONE technology (UAV).

The detailed project for Aerial Photography with UAV technology has been completed, for urban areas (about 544 km2), the drafting of technical specifications has been completed and the procurement procedures are being continued.

ASIG GEOPORTAL

The working group set up to monitor the implementation of the contract "National Geoportal Maintenance", has monitored the implementation of this contract, identifying various problems in the system, followed their resolution and prepared monthly reports on the progress of the service.

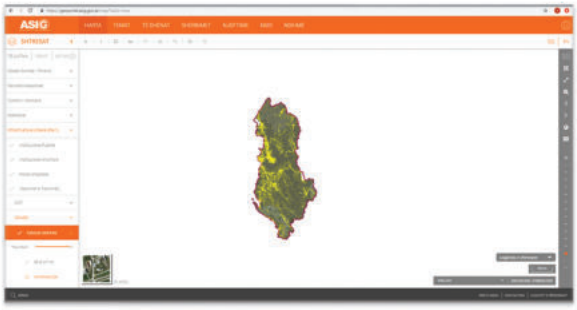
• Based on BOE's suggestions, automatic back-up of the system was performed through Windows Server Backup-ESB, which was successful, even after tests performed by the "restore" procedure of "back-up". To standardize this process, a document was drafted: "Procedure of "back-up" and "restore" of the National Geoportal system through "Windows Server Back-up" by contractors.

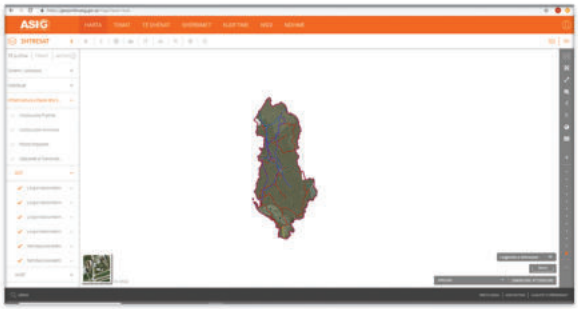


Main achievements of ASIG 2019

During the period January-September 2019 a number of activities and events were carried out with the aim of achieving the annual institutional objectives, with the following main achievements:

- ASIG staff periodically performs a manual Back-up of the system, which is archived on the ASIG infrastructure as well as in a safe and certified place by the National Agency for Information Society - AKSHI.
- Integration of the services provided by the National Geoportal with the GG platform has been completed. Geospatial services hosted by the National Geoportal will be accessible through the interaction platform (GG).
- Has been successfully implemented he space capacity of one of the main modules of the system, within the space allowed, according to ASIG requirements, to successfully improve the service quality of the 3D terrain model.
- As part of the implementation of the recommendations of the National Geoportal Audit Team, as a state database, the document on system security analysis, security measures based on ALCIRT guidance has been updated and specific requirements under Law no. 10325, dated 23.09.2010, "On State Databases".
- Continued interoperability of the National Geoportal system, through network services, with WebGIS Territorial Planning, Cultural Monuments, Urban Waste and ALBSREP systems. Work is underway to interact with AKEP's WebGIS system after standardizing its data.
- Are already prepared for publication, upon submission by the responsible public authorities, and are published on National Geoportal geospatial data on:





- High voltage lines provided by the OST;
- Electric cabins from OSSHE;
- Digital Surface Model and Hillshade;
- Corine Land Cover 2018;
- Order 2 (District Boundary_DCM No. 360 dated 29.05.2019;
- Order 3 (Municipality Boundary _DCM 360 No. 360 dated 29.05.2019;
- Hydropower Sub work;
- Sub work linking;
- Environmental monitoring network;
- Hydrographic network;
- Use and suitability of agricultural land;
- Construction permits by AZHT.
- Harmonization of data according to state standards for geoinformation on the themes: "Hydrography" Geographical Names " and" Geodetic Reference Framework ".

•Based on the implementation of the project plan with the donation of the Norwegian Government.
"360 degree photo preparation "StreetView"" was purchased the 360 degree camera and processing software. During August ASIG staff trainings were conducted and the pilot area was completed. Work is being done on planning areas to be photographed and IT infrastructure (servers) for publishing the online system is being prepared so that information could be accessible to the public.

Main achievements of ASIG 2019

• As part of monitoring the coastal area during August - September 2019, ASIG has performed Aerial Photography via coastal UAV technology. During September, geospatial information on the existing situation was prepared and the required reports were prepared.

o Documents on geo-information standards are designed for:

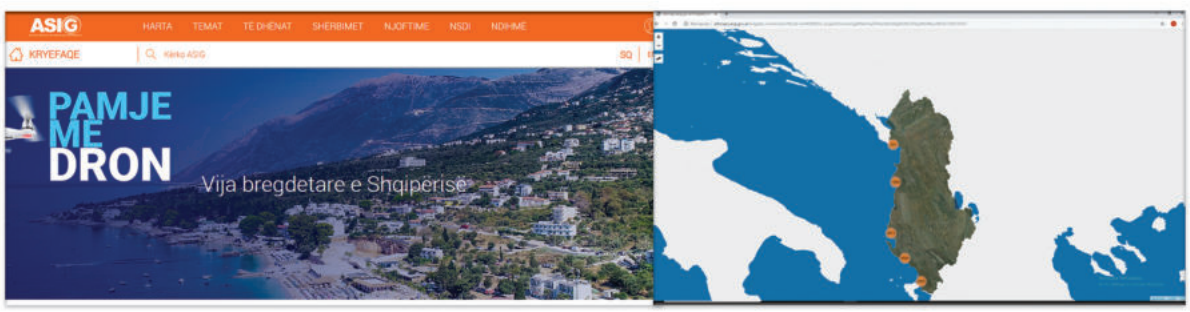
- State Standards for Technical Specifications of Geospatial Information in Albania - Theme: "Utility and Government Services".
- State Standards for Technical Specifications of Geospatial Information in Albania - Theme: "Pedology".
- State Standards for Technical Specifications of Geospatial Information in Albania - Theme: "Base map image".
- State Standards for Technical Specifications of Geospatial Information in Albania - Theme: "Agricultural and Aquaculture facilities".
- State Standards for Technical Specifications of Geospatial Information in Albania - Theme: "Human Health and its Safety".

o Draft have been prepared and submitted to the Secretary General and the Cabinet of the Deputy Prime Minister for approval:

- "State Standards for Technical Specifications of Geospatial Information in Albania - Theme: " Transport networks ". Adopted with DCM no. 133, dated 20.03.2019.
- "State Standards for Technical Specifications of Geospatial Information in Albania - Theme:" Geology "". Adopted with DCM no. 134, dated 20.03.2019.

o "On some additions and changes to the Decision:" On the Adoption of the Rules for the Determination, Creation and Implementation of the Albanian Geodetic Reference Framework (KRGJSH-2010) as Metadata "", as amended by Decision no. 322, dated 27.04.2016, of the Council of Ministers. Adopted with DCM no. 359, dated 29.05.2019.

- "State Standards for Technical Specifications of Geospatial Information in Albania - Theme: "Orthoimagery". Adopted with DCM no. 397, dated 19.06.2019.
- "State Standards for Technical Specifications of Geospatial Information in Albania - Theme: "Elevation". Adopted with DCM no. 398, dated 19.06.2019.
- "Rules for the exchange of geospatial data sets and services between public authorities". Adopted with DCM no. 399, dated 19.06.2019.
- "On uniform rules for geospatial information infrastructure" Adopted with DCM no. 451, dated 3.07.2019.
- "Geospatial Information Sector Policy Paper".
- "On the composition and operation of the Geospatial Information Board (BIG)"



Main achievements of ASIG 2019

ASIG achievements during 2019

• In the framework of coordination and cooperation with the public authorities responsible for geoinformation themes in order to improve the geoinformation infrastructure in the Republic of Albania, the following have been achieved:

• Meetings were held in the institutions that are in the role of the responsible public authority, on the priority themes of this law, such as: Address; Transport networks; Hydrography; Protected areas; Geology; Demography; Land use; Land cover; Seas; Utilities and government services.

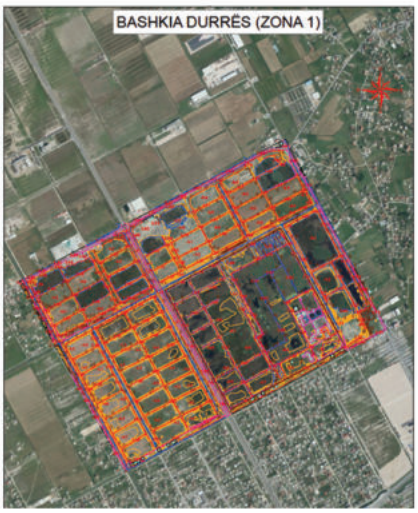
• In cooperation with the IMPULS Project, a workshop on "Standardization and harmonization of geospatial data", with specialists from the responsible public authorities, on the themes of Article 11 of Law no. 72/2012, "For the Organization and Operation of the National Infrastructure of Geospatial Information in the Republic of Albania".

• With the specialists of local selfgovernment units were developed, organized in districts, training seminars on the use of National Geoportal services and the role of local self-government units in the creation of geospatial information.

ASIG's Communication Plan for ASIG activities, training, products and cooperation with in-country geoinformation actors and foreign partners is strictly implemented.

• The legislation on the right to information and protection of personal data is strictly enforced.

Main achievements of ASIG 2019



In support of the Albanian Government Program for the reconstruction and recovery of houses that were damaged by the earthquake of November 26, 2019, as well as the request of the National Agency for Territorial Planning, the Remote Sensing sector of ASIG, in fulfillment of its functional duties and by order of the General Director, carried out photogrammetric surveys of the defined areas for the feasibility study. More concert:

1- The digital material made available by the requesting subject has been administered and processed.

2- Has been done the division in three working positions, each of them being charged with the defined surface as well as being acquainted with the technical standard by the head of the sector for the photogrammetric survey.

3- The relevant aerial photos and orthophotos for each required area have been determined and extracted. To conduct the photogrammetric survey of defined areas, aerial photographs taken in Albania in 2015 and 2018 were used.

4- The surface has been modeled by DTM and the relevant adjustments (updates) have been made for the cases when it has been ascertained that the quality control requirements have not been achieved.

5- Photogrammetric (3D) survey of the areas was performed, according to the following layers:

a) Agribuilding
b) AsigAreaBuildingFeature
c) AquacultureInstallation
d) AsigAreaTransportFeature
e) AsigLinearFenceFeature
f) AsigLinearTopographicFeature
g) AsigLinearTransportFeature
h) Countourlinei) Building
j) BuildingPartk) Crossing_A
l) CrossingL
k) Crossing_A
l) CrossingL
m) Ground_point
n) ProductionBuilding
o) RailwayArea
p) RailwayLink
q) RailwayStationArea
r) RoadLine
s) Spotelevation
t) Stairs
u) Standingwater
v) VehicleTrafficLine
w) WatercourseA
x) WatercourseL

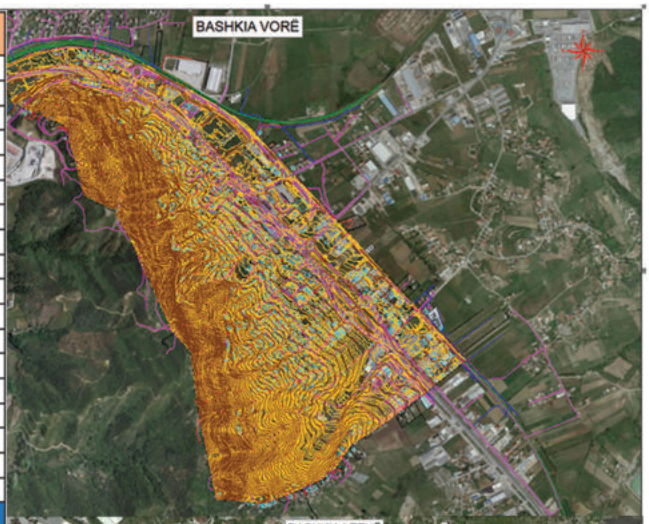
Main achievements of ASIG 2019

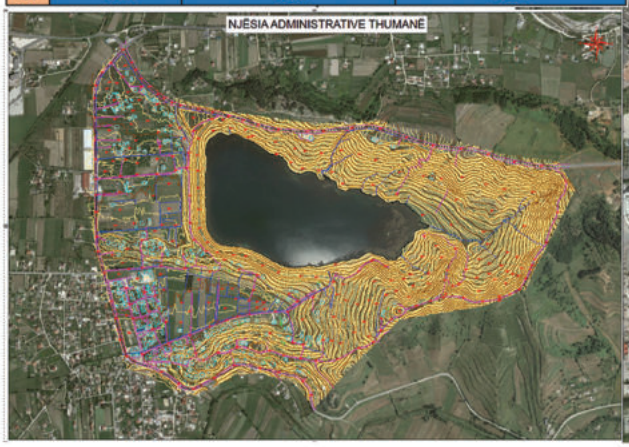
Following the work for the reconstruction and recovery of the houses that were damaged by the earthquake of November 26, 2019, the following were carried out:

1- Photogrammetric surveys, making them available to the relevant subject in DWG format.
2- Surface modeling has been performed for each area and a PDF has been compiled with the corresponding image.
3- The orthophotos of the required areas, referred to in the KRGJSH State Coordinating Referral System, have been exported and made available to the subject.

In total, an area of 822.7 hectares has been surveyed. Below is a summary table of the areas surveyed by ASIG.

Nr	Emërtimi i zonës	Nr. i objekteve të rilevuara	Sipërfaqja e rilevimit (ha)
1	Bubq	20	7.8
3	Durrës 1	74	193.7
4	Durrës 2	93	5.9
5	Durrës 3	161	6.4
6	Fushë-Krujë	10	11.3
7	Golem	39	1.9
8	Kavajë	257	24.4
9	Krujë 1	156	4.9
10	Krujë 2	179	4.3
11	Kruja Total	448	13.8
12	Laçi	630	43.5
13	Lezhë 1	157	8.8
14	Lezhë 2	280	17.7
15	Marikaj	145	6.7
16	Shijak	2516	141.9
17	Shkozet	250	17.8
18	Thumanë	475	130.3
19	Vorë	1458	181.6
20	Total	7348	822.7



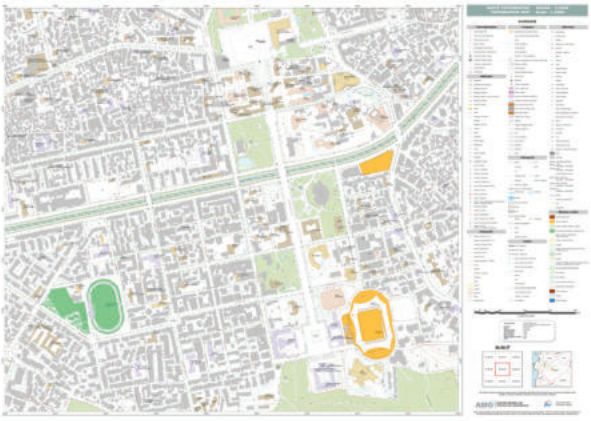


Main achievements of ASIG 2019

In the field of international cooperation, the the following achievements were realized:

ASIG's ongoing engagement process with the IMPULS regional project continues. During this period an important meeting of the Steering Committee and the National Project Coordinators was held in which they discussed:

o Presentation of the periodic draft report for SIDA.
o Discussion and decision regarding the IMPULS book.
o Information on SIDA review of the IMPULS project.
o Discussions on the continuation of regional cooperation in the Western Balkans.



NSDI
INSPIRE

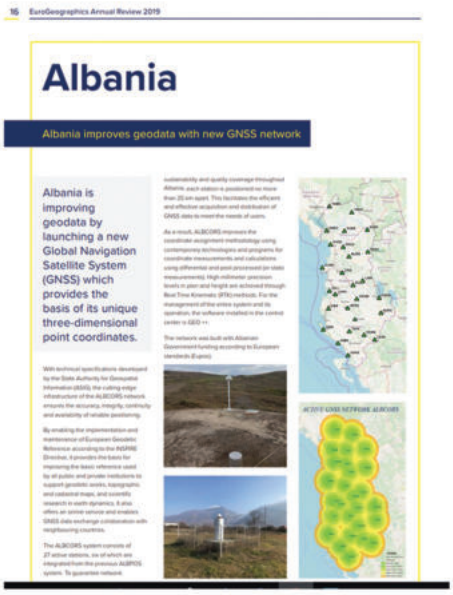
JICA (Japan International Cooperation Agency) cooperation project continues under the project "Spatial Information for Suainable Land Development in the Tirana - Durres Area". A number of seminars and workshops have been conducted to enable its implementation. As part of this, for the technology transfer project, one of ASIG specialist has been sent to Japan for a two-month training. Technical manuals provided for the project have been prepared.

• Implementation of the project under the cooperation agrement with the Norwegian Cartography and Cadastre Authority "Statens Kartverk" for the period 2018-2020, for assistance and support to ASIG as a national authority in the field of geoinformation in Albania.

Main achievements of ASIG 2019

The main products during 2019 are:

ASIG participation and contribution with geospatial information in EuroGeographics, more information can be found at the link: https://eurogeographics.org/wp-content/uploads/2020/05/EuroGeographics_Annual_Review_2019-1.pdf



• Prepare 360 degree "StreetView" photos. Purchase of 360-degree camera and processing software. During August, the trainings of ASIG staff were conducted and the pilot area was completed.

• Detailed project for Aerial Photography with UAV technology, for urban areas (about 544 km2). The drafting of technical specifications has been completed and the implementing company has been selected by the Norwegian partner.

• Design and construction of National GIS. For this purpose, under the direction of the Norwegian partner "Statens Kartverket", from 5 to 6 June 2019 was held a workshop at the premises of ASIG in which participated a number of public authorities responsible for some of the most important topics of geoinformation in order to integrate of their geographic information systems in the National GIS.

• A number of activities in the framework of the implementation of the project for geospatial information in the coastal and marine areas of the Republic of Albania.

• Workshops and seminars have been developed in cooperation with the project with JICA and the Norwegian project, with the Department of Geography of the Faculty of History and Philology as well as Depart ment of Geodesy at the Faculty of Civil Engineering provided with the use of geoinformation and vocational training of students to prepare, to enter the labor market.

Main achievements of ASIG 2020

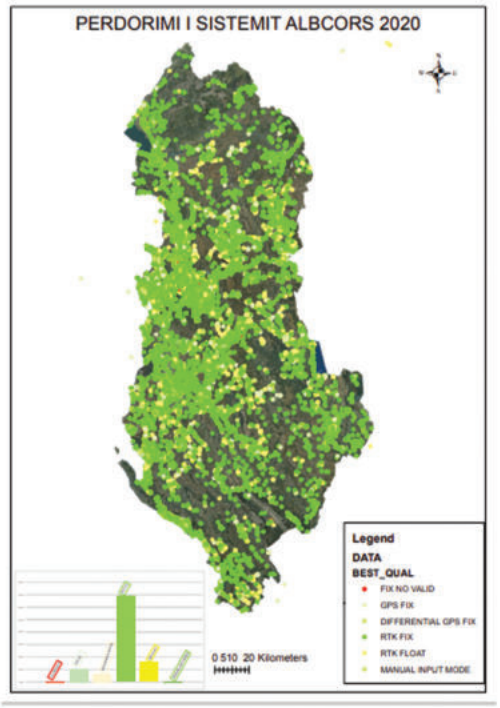
The organizational structure of ASIG, for 2020, has been approved by the order of the Prime Minister no. 121, dated 31.07.2019 and has in its composition a number of 46 employees, of which 43 positions of civil servants and 3 positions of administrative employees. During 2020, 2 new employees were appointed by the Department of Public Administration and until December 2020 the number of vacancies in ASIG was 11.

ASIG's objectives for 2020:

1. Design, construction, maintenance and updating of the Geodetic Reference Framework.
2. Design, construction, maintenance and updating of the National Geoportal and GIS (Construction of an integrated geoinformation system, which means the definition of functions, structural organization and interactions between them).
3. Drafting of uniform standards and rules of geospatial information infrastructure (Work programming and its processes, establishment and implementation of policies, rules, procedures and work instructions for the elements of the geoinformation system).
4. Providing financial resources to guarantee the necessary inputs (human resources, technology and operational capacities), for the establishment and operation of the integrated geoinformation system, and the realization of basic geoinformation products, in line with the National Strategy and Program of the Sector (SCP).

During the period January-December 2020, a series of activities were carried out in order to achieve the annual institutional objectives, with the following main achievements:

- Relevant Sectors of Cartography and Remote Sensing, have permanently followed the implementation of the project for the creation of digital map according to the PIP of the Japanese project for 300 km^2.
- The Cartography and Remote Sensing sectors have contributed to the creation of standards for the digital base map at various scales in the Republic of Albania, in accordance with the forecasts and the PIP product of the Japanese Project (guides, manuals, standards), for all modules of work for creating the base map.
- The Cartography and Remote Sensing Sectors have performed the field verification of the cartographic information obtained from the Aerial Photography 2018 for the area of 280 Km^2 (from JPT).
- Relevant sectors of KRGJSH and CORS, have performed monitoring and verification of the operation of ALBCORS stations (27 stations), have simultaneously managed the Monitoring Center of the Mareographic Network in the Republic of Albania, and have drafted regulations for the maintenance and interpretation of data obtained from mareographers.



Main achievements of ASIG 2020

➢CORS Systems Infrastructure Sector, has followed and supervised the maintenance contract of the ALBCORS system as well as the mareographic network of the Republic of Albania (Saranda, Orikum, Durres, Shengjin).

➢The CORS Systems Infrastructure Sector has coordinated activities based on the tripartite agreement KFD, IGJEUM and ASIG, regarding the exchange of data of the Active Global Positioning Network - ALBCORS.

➢The first grade leveling manual has been prepared.

➢Control and monitoring was performed in order to operate 24 hours a day without interruption of the 27 active stations of the ALBCORS network with all their components: receivers, antennas and connection through the network in real time. CORS Systems Infrastructure Sector, has followed and supervised the maintenance contract of the ALBCORS system as well as the mareographic network of the Republic of Albania (Saranda, Orikum, Durrës, Shengjin).

➢The CORS Systems Infrastructure Sector has coordinated activities based on the tripartite agreement KFD, IGJEUM and ASIG, regarding the exchange of data of the Active Global Positioning Network - ALBCORS

➢The first grade leveling manual has been prepared.

➢Control and monitoring was performed in order to operate 24 hours a day without interruption of the 27 active stations of the ALBCORS network with all their components: receivers, antennas and connection through the network in real time.

➢The measurement of datum points (micro network), mareographic stations and the geodetic datum network of the Republic of Albania (R I and R II) was performed.

➢Pursuant to DCM no. 669, dated 7.8.2013 "On the Approval of the Rules for the Definition, Creation and Implementation of the Albanian Geodetic Reference Framework (KRGJSH), as Metadata", as amended, the transfer of the ALBPOS system from ASHK (former ZQRPP) to ASIG has taken place and is integrated into the new ALBCORS system.

➢3D survey for 20 km^2 was carried out by Aerial Photography 2018 for the Sauk area, Tirana, the final phase. (JICA Project)

➢Digital base map has been created, in support of the project for the reconstruction of earthquake-affected areas (over 823 ha containing 19 areas)

➢Urban areas (24 areas) have been updated with cartographic information (orthophoto) with an area of about 172.9 km^2, through the application of DRONE technology (UAV).

➢3D map is constantly edited and updated with the information updated by the field verification process, depending on the requirements of the users.

➢The structuring, symbolism and standardization of the collected graphic digital data (DB Topography), the final phase has been realized.

➢During 2020, the maintenance of the National Geoportal system continued by the contractor based on the contract concluded on 22.11.2018: "Expenses for the maintenance of the National Geoportal".

Main achievements of ASIG 2020

➢Based on the BOE proposals during June 2020, the capacity increase for both virtual machines was realized, for the database servers as it was impossible to perform the database replication process.

➢During June 2020, the document for the procedure for performing the "back-up" and "restore" of the Geoportal system through "Windows Server Back-up" by the contractors, in the selection of the essential components that will to be tested for the "restore" process due to lack of space. Meanwhile, the Geoportal Sector has periodically performed the Back-up manual of the system, which is archived in the infrastructure of ASIG as well as in a safe place and certified by the National Agency for Information Society, AKSHI.

➢Based on DCM no. 553, dated 15.07.2020, "On the approval of the List of Critical Information Infrastructures and the List of Important Information Infrastructures" by the National Authority for Electronic Certification and Cyber Security (AKCESK), the National Geoportal system is classified as an important infrastructure of information and has started to be integrated in the Firewall of AKSHI Imperva, for a more secure access.

➢During August 2020 BOE, has installed additional agents (nginx) on the monitoring platform Prometheus / Grafana to have information on the requests coming against the system.

➢Source The source code was submitted by BOE with any changes made during the two-year maintenance period and "delploy" was performed in the premises of ASIG in the presence of representatives of ASIG and representatives of NAIS appointed as followers of this contract.

➢The National Geoportal system already interacts through network services with the WebGIS Monuments of Culture and ALBSREP systems.

➢While with AKEP WebGIS systems, AKPT, Urban Waste services from a long period are not accessible. Due to this problem, meetings were organized with the technical staff of relevant institutions.

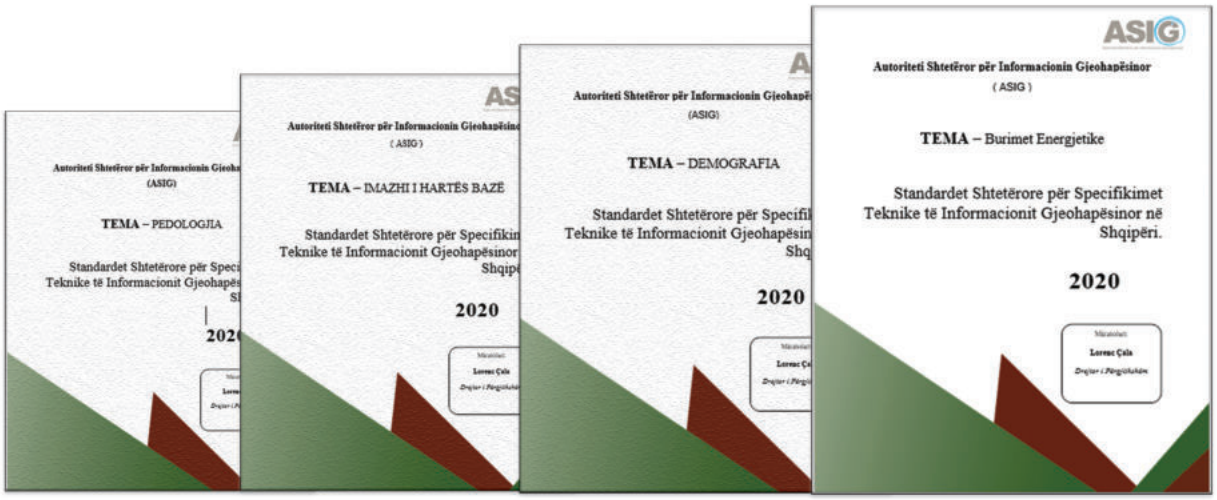
➢Working group set up in ASIG, by order no. prot. 35, dated 16.06.2020, has prepared the document of technical specifications for the Maintenance of the National Geoportal 2021-2023. The document was sent to NAIS, with letter no. prot. 182/2, dt. 02.09.2020, as the authority which should carry out the procurement procedure of the service. To date this procedure has not been developed by them, and the National Geoportal system is being maintained by ASIG staff. We have insisted, officially, in writing, on the implementation of procurement procedures in order for the maintenance to be performed by Economic Operators specialized in this field.

➢Approved by Prime Minister's Order no. 40 dated 20.02.2020 regulation "On the composition, organization and functioning of the Board for Geospatial Information"

➢Approved with DCM no. 402, dated 20.05.2020, the policy document "On the Governance of the Geospatial Information Sector in Albania, 2020-2030".

Main achievements of ASIG 2020

- Geoinformation standards have been approved by decision of the Council of Ministers on the topics:
  - "State Standards for Technical Specifications of Geospatial Information in Albania - Topic: Land cover". Approved by DCM no. 809, dated 21.10.2020.
  - "State Standards for Technical Specifications of Geospatial Information in Albania - Topic: Natural risk zones". Approved by DCM no. 810, dated 21.10.2020.
  - "State Standards for Technical Specifications of Geospatial Information in Albania - Topic: Coordinate reference systems". Approved by DCM no. 812, dated 21.10.2020.
  - "State Standards for Technical Specifications of Geospatial Information in Albania - Topic: Geographical grid systems". Approved by DCM no. 813 dated 21.10.2020.
  - "State Standards for Technical Specifications of Geospatial Information in Albania - Topic: Protected Sites". Approved by DCM no. 891, dated 18.11.2020.
  - "State Standards for Technical Specifications of Geospatial Information in Albania - Topic: Energy Resources". Approved by DCM no. 950, dated 02.12.2020.
  - "State Standards for Technical Specifications of Geospatial Information in Albania - Topic: Soil." Approved by DCM no. 951, dated 02.12.2020.
  - "State Standards for Technical Specifications of Geospatial Information in Albania - Topic: Base map image". Approved by DCM no. 952, dated 02.12.2020.
  - "State Standards for Technical Specifications of Geospatial Information in Albania - Topic: Demography" - Approved by DCM no. 996, dated 9.12.2020.
  - "State Standards for Technical Specifications of Geospatial Information in Albania - Topic: Mineral resources." Approved by DCM no. 997, dated 9.12.2020.
  - "State Standards for Technical Specifications of Geospatial Information in Albania - Topic: Utility and governmental services". Approved by DCM no. 998, dated 9.12.2020.
  - "State Standards for Technical Specifications of Geospatial Information in Albania - Topic: Statistical Units". Approved by DCM no. 999, dated 9.12.2020.
  - "State Standards for Technical Specifications of Geospatial Information in Albania - Topic: Seas". Approved by DCM no. 1018, dated 16.12.2020.



Main achievements of ASIG 2020

➢Projekt Draft acts have been drafted and sent to the Cabinet of the Deputy Prime Minister for approval by the Council of Ministers;

- o “On some changes and additions to law no. 72/2012 "On the organization and functioning of the national infrastructure of geospatial information in the Republic of Albania".
- o "On some changes in the Decision no. 147, dated 20.2.2013, of the Council of Ministers, On the approval of the regulation" On the organization and functioning of the State Authority for Geospatial Information "".

➢Dokument Documents of State Standards for Technical Specifications of Geospatial Information in Albania have been prepared on the topics;

- o Bio-geographical regions
- o Species distribution
- o Meteorological geographical features
- o Area management / restriction / regulation zones & reporting units
- o Hydrology

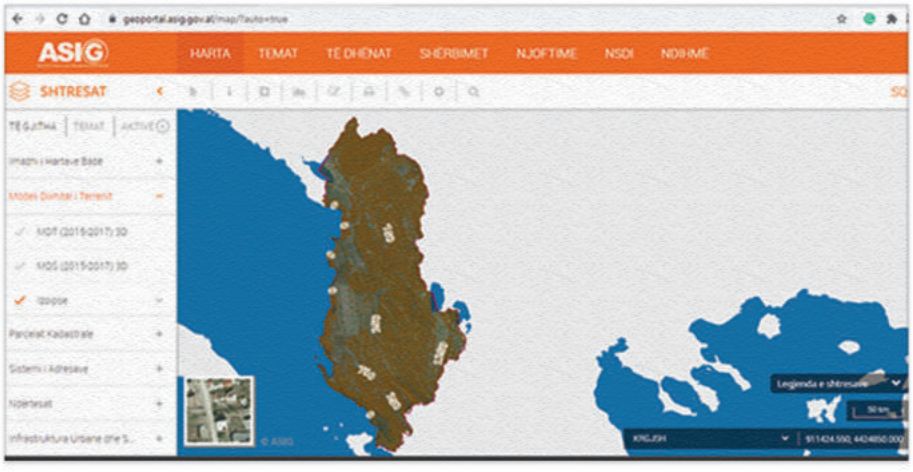
➢In the framework of the publication of geospatial data, on the topics of law no. 72/2012 the following data were published in the National Geoportal:

- o Aerial Photography of 1994
- o KRGJSH networks
- o Elevation (Izoipse)
- o Geographic Network Systems
- o Base Map Image-Publish data for base map indexes

➢Cooperated with the public authorities responsible for updating geospatial data in the National Geoportal.

➢The geospatial data of the ALBTOPO project have been processed by the National GIS and Cartography sectors, according to the approved standard, in order to be published in the National Geoportal through the Esri Enterprise platform.

➢The processing of data for the topic “Base Map Image” has been completed and the data have been harmonized according to the approved standard.



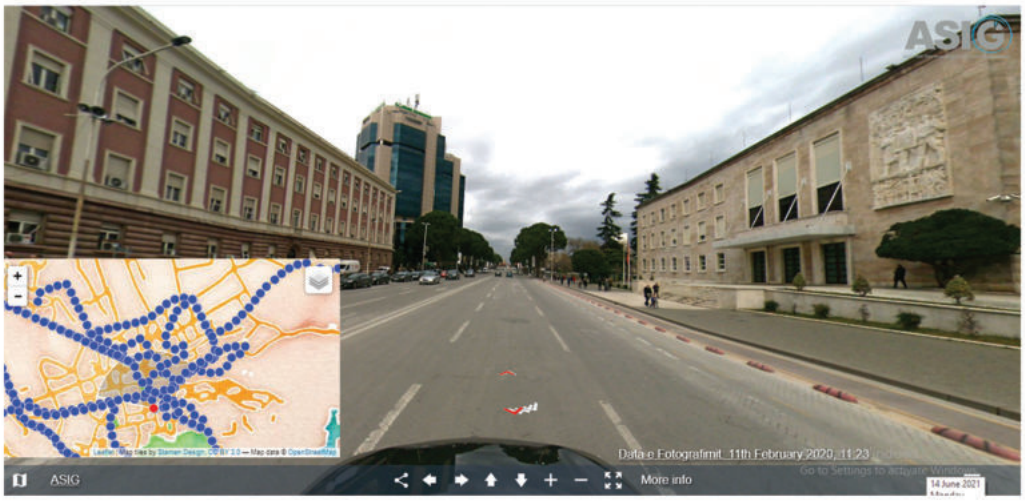
Main achievements of ASIG 2020

➢Harmonization of data on the topic: "Land Use" is not completed yet, we are waiting for the data from AKPT as it is in the process of processing by them.

➢For the topic: "Address ", the process of harmonization with the standard has not started for the datamodel due to inaccuracies that the data had. DPGJC has been notified with an official letter on the issue.

➢The digitalization and harmonization of geospatial data on the topic "Transport Networks" - National Road Transport Network has been completed.

➢Following the project with the donation of the Norwegian Government for the purchase of 360 degree camera and processing software, the photography of the main national axes (1910 linear km) was realized and were published online in the National Geoportal (link http: //360.asig .gov.al / Tirane_Kruje_Durres360grade05 / player /).

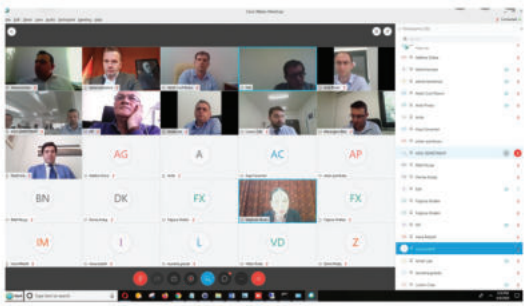


➢In the framework of coordination and cooperation with public authorities responsible for geoinformation topics in order to improve the geoinformation infrastructure in the Republic of Albania are realized:

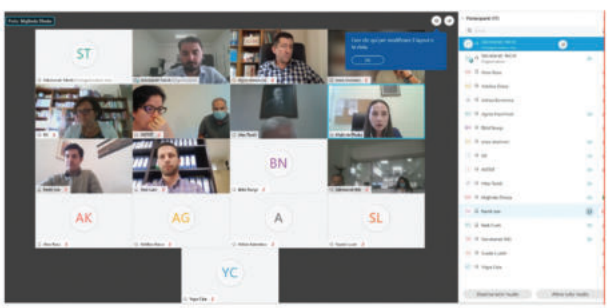
o Completion of the project funded by the Norwegian Donation "Reform of the geoinformation sector". The document was approved by Decision of the Council of Ministers no. 402, dated 20.05.2020 "On the approval of the policy document, for the governance of the geospatial information sector in Albania, 2020-2030"

o Conducting two online meetings of the BIG Geospatial Information Board, respectively on 8.06.2020 and 15.09.2020, in which the geoinformation standards for 14 topics of law no. 72/2012 and other acts in view of the establishment of NSDI in Albania.

o Has cooperated periodically, remotely, in the conditions created by the COVID-19 pandemic, with the public authorities responsible for geospatial information topics and has administered the information collected through online questionnaires.



BIG online meeting, June 2020

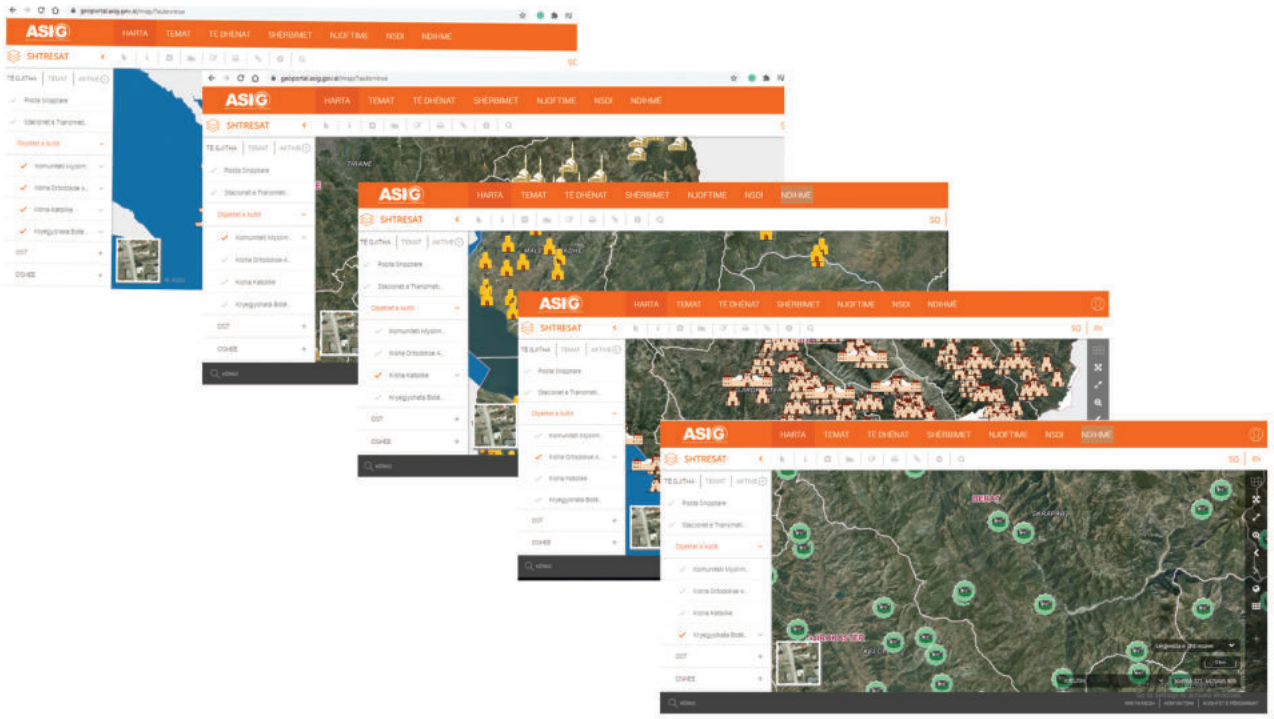


BIG online meeting, September 2020

Main achievements of ASIG 2020

- The Communication Plan for ASIG activities, trainings, products and cooperation with geoinformation actors within the country and with foreign partners has been followed and implemented.
- Legislation on the right to information and personal data protection has been strictly enforced.
- All obligations of ASIG as the coordinating authority of NSDI within the European Integration process have been fulfilled and periodic reports have been made for this process.

➢ In the framework of the performance evaluation activity, the State Committee of Cults was technically assisted for the construction of the map of the cult objects and their publication in the National Geoportal. Also ASIG, in terms of technical assistance has completed a comprehensive training plan with 61 municipalities of the country and is currently fully available for each municipality that has begun to work with the administrative-territorial division of administrative units and villages.



➢ "Regulations on ASIG ICT Infrastructure hosted by the Government DataCenter " have been drafted and administered by ASIG. The National Geoportal Sector is carrying out periodic maintenance of the IT Hardware and Software infrastructure of the National Geoportal systems, ALBCORS and ALBTOPO (JICA Project).

Main achievements of ASIG 2020

In the field of international cooperation, the following achievements

➢ IG ASIG in cooperation with the Norwegian assistance SK, has prepared the program and Technical Specifications for the Department of Geodesy at the Faculty of Civil Engineering, according to the conditions improvement programs and teaching defined in the permanent meetings.

➢ IG ASIG participated in the webinar developed by EuroGeographics, where he presented the topic: "Albania improves geodata with new GNSS network".

➢ The follow-up and coordination of the joint project for geodetic networks for our region (Albania, Kosovo, Montenegro, Macedonia) has been realized within the Norwegian assistance. (Relevant joint application for this project)

➢ Training of ASIG staff with SK was carried out, according to the approved program.

➢ ASIG staff was trained with the JICA (Japanese Government) Cartography / RS Project, according to the training program

➢ Program The regional cooperation program was supported with the support of the Dutch Government, within the project "Strengthened Professional Access To Information About Land II (SPATIAL II) in the Western Balkan region. MATRA pre-accession program ".

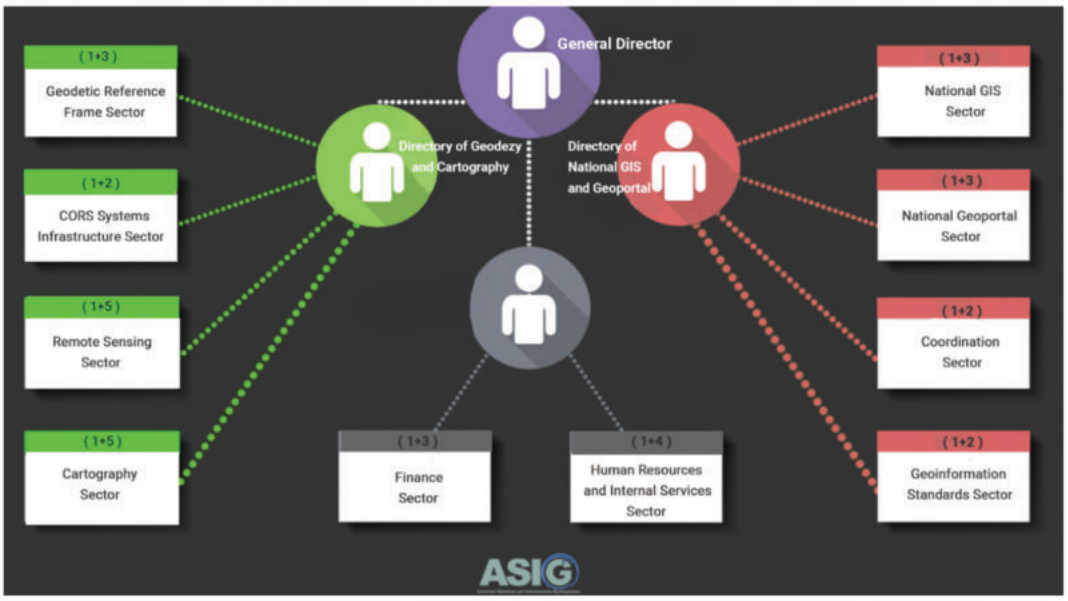
➢ Tow cooperation agreements were signed with the Kosovo Cadastral Agency as follows;

-Cooperation agreement in the field of Geospatial Information Infrastructure which includes, geoinformation standards, exchange of experiences in professional fields, harmonization of geospatial data and their exchange.

-Cooperation agreement for the exchange of data from the geodetic networks ALBCORS and KOPOS for the use of points of the Active State Network of Global Positioning of the Republic of Albania (ALBCORS), from the Republic of Kosovo and the use of points of the permanent network of the Republic of Kosovo (KOPOS) from the Republic of Albania.

Main achievements of ASIG 2021

The organizational structure of ASIG, for 2021, has been approved by the order of the Prime Minister no. 121, dated 31.07.2019 and has in its composition a number of 46 employees, of which 43 positions of civil servants and 3 positions of administrative employees. In December 2021 ASIG has 40 employees, of which 37 are civil servants and 3 are administrative employees, and 6 positions are vacant.
ASIG has actively participated in the employment process with a 1-year contract of young professionals who have completed at least the first cycle of Bachelor studies and of students of excellence. For the year 2021, 4 intern students and 1 excellent student are employed. Through this process, 2 students of excellence have become part of the ASIG structure.



ASIG's objectives for 2021:

1. Design, construction, maintenance and updating of the Geodetic Reference Framework.
2. Design, construction, maintenance and updating of the National Geoportal and GIS, (Construction of an integrated geoinformation system that means the definition of functions, structural organization and interactions between them).
3. Harmonization of existing data and creation of new data on geoinformation topics in accordance with the approved standards for each topic.
4. Providing financial resources to guarantee the necessary inputs (human resources, technology and operational capacities), for the establishment and operation of the integrated geoinformation system and the realization of basic geoinformation products, in line with the strategy and policies of the geoinformation sector.

Main achievements of ASIG 2021

During the period January-December 2021, a series of activities were carried out in order to achieve the annual institutional objectives, with the following main achievements:

➢In fulfilment of the activity 'Improvement of IT Hardware and Software infrastructure' in ASIG, as well as based on the order no. 22, dated 18.02.2021 "On the reconception of the official website of the State Authority for Geospatial Information".

- o The ASIG website has been redesigned according to the specifications of the Commissioner for the Right to Information and Personal Data Protection for the section of the Transparency Program.
- o Materials on ASIG activity are also published and periodically updated on the website asig.gov.al.
- o Periodic inspections and reports were performed regarding the hardware infrastructure in the data centre and servers of the JICA Project.
- o For the project: "Investment in computer equipment", the procedure is completed and the equipment is taken over by ASIG.

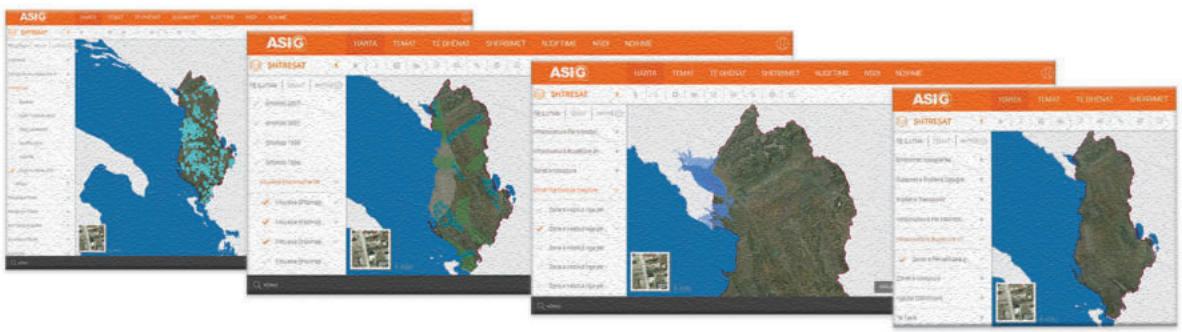
➢The implementation of legal and sub-legal acts planned according to the matrix of acts for 2021 has been completed. The draft acts on "State Standards for Technical Specifications of Geospatial Information in Albania - Topics: have been drafted and sent for approval to the Cabinet of the Deputy Prime Minister.

1. Environmental monitoring facilities
2. Production and industrial facilities
3. Human health and its safety
4. Area management / restriction / regulation zones & reporting units
5. Habitats and biotopes
6. Bio-geographical regions
7. Species distribution

➢In the framework of the preparation of Regulations for the implementation of State Standards for Geoinformation:
o Instruction has been prepared on how the Quality Assessment of Geospatial Data will be realized, where a part of the draft has been realized and will be as an objective for the first 6 months of the following year.

➢The following data have been published in the National Geoportal:

- o Geospatial data for the declaration of cultural assets of some historical centres according to the relevant DCMs.
- o Geospatial data for the layers of the topic: "Orthoimagery"
- o Geospatial data for the layers of the topic: "Environmental monitoring facilities"
- o Geospatial data for the layers of the topic: "Agricultural and aquaculture facilities"
- o Geospatial data for the topic layers: " Natural risk zones"
- o Geospatial data for the topic layers: "Hydrography"



Main achievements of ASIG 2021

The following geospatial data have also been updated on the National Geoportal:

- o Geospatial data for the layers of the topic: "Base map"
- o Geospatial data for the layers of the topic: "Environmental monitoring facilities"
- o Geospatial data for the layers of the topic: "Utility and governmental services"

Geospatial data have been processed according to the approved standard of the ALBTOPO project by the National GIS and Cartography sectors for the purpose of publication in the National Geoportal through the Esri Enterprise platform. The data are published in the National Geoportal.

➢ In the framework of improving the quality of geospatial data in the National Geoportal, cooperation has been made with the public authorities responsible for their updating:

- o The processing of data for the topic "Base map" has been completed and the data have been harmonized according to the approved standard.
- o The digitalization of the national and local road network according to the state standards of geoinformation has been completed, and ASIG has requested from ARRSH the geospatial data that this institution has on this topic.

- o Data processing has been completed and for the topic "Infrastructure for Environmental Monitoring" the data have been harmonized and published according to the approved standard.
- o Data processing has been completed and for the topic "Orthoimagery" the data have been harmonized and published according to the approved standard.

➢ The project for photographing national roads with 360-degree technology "StreetView" has continued, where already in total 2704 km of linear roads have been photographed with about 312,020 360 degree panoramic photos.

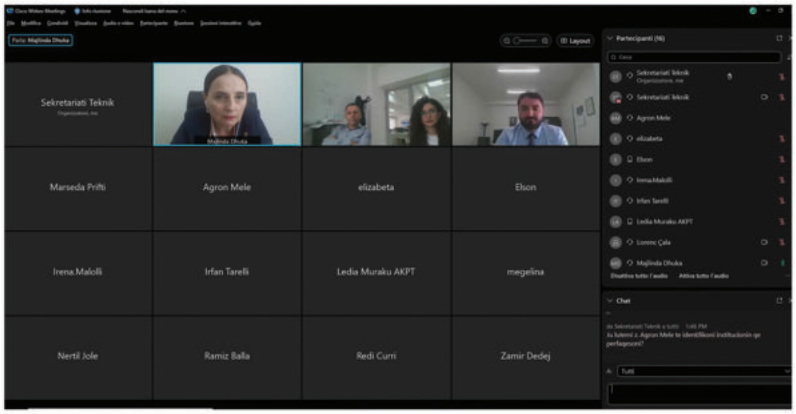
➢ In the framework of assistance to public institutions, for the development of geoinformation infrastructure, in accordance with the tasks defined by law no. 72/2012, "For the organization and operation of the National Infrastructure of Geospatial Information in the Republic of Albania ", on the coordinating role of ASIG, for the construction of NSDI, a series of activities have been carried out to fulfil this mission, as follows:

- o Management map of beach stations for the tourist season 2021 in cooperation with the Ministry of Tourism and Environment and coastal and lake municipalities.
- o Mapping and publishing on the National Geoportal of the "National Register of Large Hydro Dams" in cooperation with the National Committee of Large Dams (KKDM) with its executive structure at the Ministry of Infrastructure and Energy (MIE).
- o Cooperation with the DPGJC in order to technically control the geospatial data for the Order 4 (Administrative Units) and Order 5 (Villages).

Main achievements of ASIG 2021

o The Geospatial Information Board (BIG) has approved the geoinformation standards for the following topics:

- ✔ Environmental monitoring facilities
- ✔ Production and industrial facilities
- ✔ Agricultural and aquaculture facilities
- ✔ Human health and safety
- ✔ Area management / restriction / regulation zones & reporting units
- ✔ Habitats and biotopes
- ✔ Bio-geographical regions
- ✔ Species distribution
- ✔ Atmospheric conditions
- ✔ Hydrology



o Has cooperated periodically, with the responsible public authorities, for the updating and standardization of geospatial data.

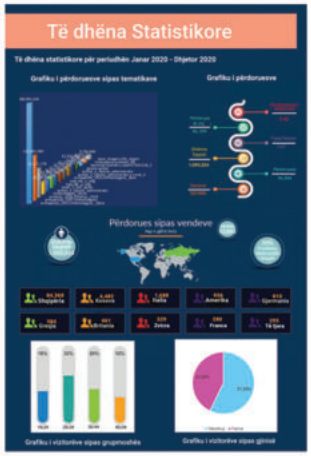
o A working group has been set up, by order of the General Director, for inspection in 14 responsible public authorities, in the period May - June 2021, regarding the standardization of geospatial data and the interconnection of geographic information systems with the National Geoportal. At the end of the inspection, a complete report was drafted with the relevant conclusions.

o The Communication Plan for ASIG activities, training, products and cooperation with geoinformation actors within the country and with foreign partners has been followed and implemented.

o Promotional materials on the achievements of ASIG for 2021 have been drafted and published, in Albanian and English.

o Legislation on the right to information and personal data protection has been strictly enforced.

o All obligations of ASIG as the coordinating authority of .



NSDI in Albania in the framework of the European Integration process have been realized and periodic reports have been made for the implementation of the INSPIRE Directive

➢ In the framework of the construction of the basic map through the contract with JICA (Japanese Government) for the Project "Geospatial Information for a Sustainable Land Development in the area Tirana - Durres", the State Authority for Geospatial Information (ASIG), has realized:

o Permanent monitoring of the implementation of the project for the creation of a digital map according to the PIP of the Japanese project for 300 km^2 and the final phase of this project by the relevant sectors of Cartography and Remote Sensing, of the Directorate of Cartography and Geodesy.

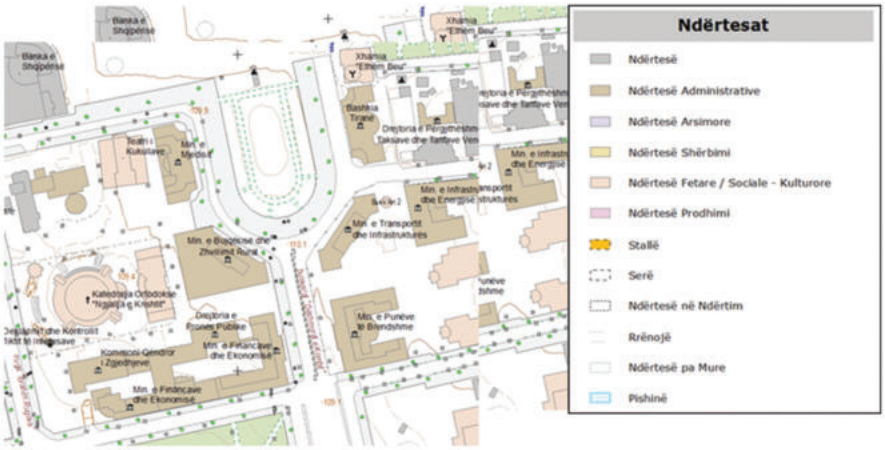
Main achievements of ASIG 2021

o Field verification of cartographic information obtained from Aerial Photography 2018 for the Durrës area, by JPT and in cooperation with them has made the necessary technical corrections.

o 3D survey control for 20 km^2 from Aerial Photography 2018 for Sauk area, Tirana, the final phase, (JICA Project).

➢The State Authority for Geospatial Information (ASIG), has assisted in the creation of standards for the digital base map at various scales in the Republic of Albania, as well as their improvement in function of the product provided in the PIP of the Japanese Project (guides, manuals, standards), for all work modules for creating the basic map.

ASIG has continuously supplemented and edited the 3D map with the updated information from the field verification process, in function of the requests of the users, from the respective sectors.



o The mapping of about 10 km^2 for the city of Kruja has been performed, which is in the process of field verification, as well as the 3D survey for 45 km^2, outside the project area through aerial photography 2018.

o The Remote Sensing and Cartography sector has made many corrections and additions to the vector created by JPT for many layers which relate to the cadastral boundaries throughout the project area.

o The structuring, symbolism and standardization of the collected graphic digital data (DB Topography), the final phase has been realized.

Main achievements of ASIG 2021

➢ In fulfillment of the objective for the design, construction, maintenance of the Geodetic Reference Framework of Albania (KRGJSH) the relevant sectors have achieved:

o Monitoring and verification of the operation of ALBCORS stations (27 stations), as well as have simultaneously managed the monitoring center of the Mareographic Network in the Republic of Albania on an ongoing basis.

o Follow-up and implementation of the contract plan for the maintenance of the ALBCORS system (Active Network).

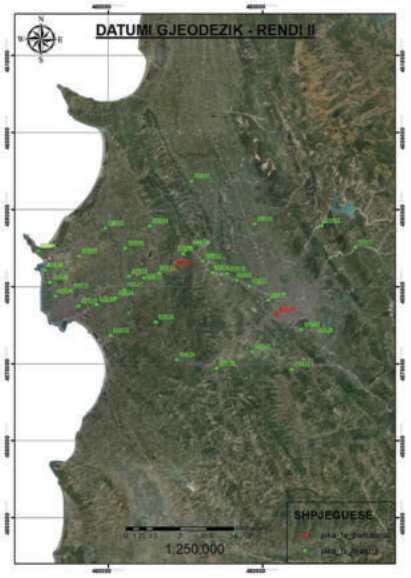
o Commitment to coordinate activities in order to access and maintain mareographic stations administered by KFD, based on the agreement KFD, IGJEUM and ASIG.

o The KRGJSH Sector has published the geodetic data of the KRGJSH on a dedicated online website (www.krgjsh.asig.gov.al).

o Carried out the control and monitoring in order to operate 24 hours without interruption, of the 27 active stations of the ALBCORS network with all their components: receivers, antennas and connection through the network in real time.

o The CORS Systems Infrastructure Sector, in order to fulfill the recommendation left by KLSH and the order of the General Director of ASIG, has drafted the document for "ALBCORS System Risk Management".

o Has measured the points of geodetic dates of the Republic of Albania R. II (100%) and a part of R. I (50%). Also, based on the request for cooperation from the IGJIU and the Department of Border and Immigration in the General Directorate of Police, specialists of the KRGJSH sector were engaged in conducting measurements of border signs between the border Albania and Greece in the area Prespa - Three Bridges. For a period of two months, GNSS measurements were performed with the static method and coordinate calculations for 106 border signs, mainly in deep mountainous border areas.



Main achievements of ASIG 2020

In the field of international cooperation, the following achievements

o Continuation of participation in the project funded by the Dutch Government "Spatial", which is led by the Cadastral and Cartographic Agency of the Netherlands - Cadastre. During 2021, bilateral workshops were held between agencies on the following topics:

- Improving the IT infrastructure in ASIG;
- Geospatial services hosting on the Cloud platform;
- Improving the process of harmonization of geospatial data according to geoinformation standards.

o Cooperation with the Norwegian Cartographic Authority "Kartverket" within the donation of the Norwegian Government, an increase of storage capacity with NAS storage with a net capacity of 76.37 TB has been achieved.

o ASIG has coordinated and followed the workshops in the joint project (Albania, Kosovo, Montenegro, Macedonia) in the framework of Norwegian assistance, for the calculation of the regional geoid.

o Purchase of the program "Bernese" and "TBC" in order to process the GNSS measurements and the training program of ASIG staff with SK.

o Training "On the development and use of modern techniques of GNSS measurements, their processing and supplementation with knowledge on European geodetic references", in the framework of the summer school, with the support of SK.

o Following the training program of ASIG staff with the JICA Project (Japanese Government) for Cartography and Remote Sensing according to PIP (cartographic generalization).

o Permanent meetings of the online working group with EuroGeographics for the publication of data and participation in various webinars, (there are over 10 meetings and webinars organized and attended by a special group with specific topics of geospatial information and in the interest of ASIG).

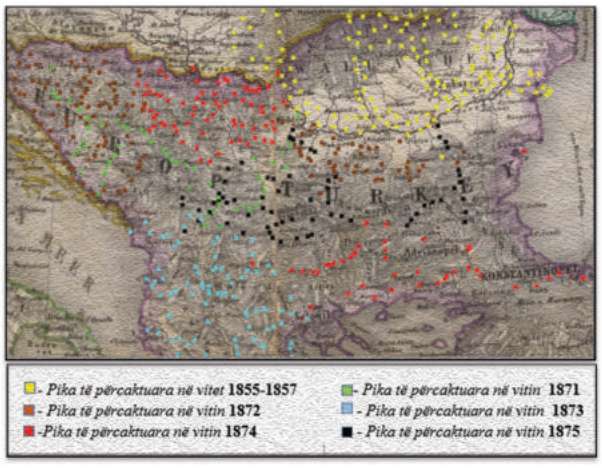
KRGJSH-Albanian Geodetic Reference Framework

Historical about geodetic references used in Albania

In the territory of Albania, the first geodetic measurements related to the construction of a coordinative reference are the measurements carried out by the Austro-Hungarian Empire during the years 1853 - 1875 throughout the territory of the Balkan Peninsula, which was at that time under the rule of the Ottoman Empire. Geodetic works have been carried out in the framework of the international measurement of Habsburgs "International Arc Measurements-International Gradmessung" with the aim of creating a suitable geodetic base for the creation of maps at the scale of 1:75 000 and 1: 200 000.

During the years 1871-1875, the Austrian geodetic teams joined the Ottoman teams for the measurements carried out in the territories where Bosnia and Herzegovina, Serbia, Kosovo, Romania, Montenegro, Albania, Macedonia, Bulgaria and Greece lie today. As a result of these measurements we have geodetic coverage of the Balkans as shown in picture down here.

During the years 1913 - 1918, the Military Geographical Institute of Vienna, has carried out geodetic measurements in Albania with the aim of creating a geodetic base, suitable for mapping the territory at a scale of 1:50 000. (Graphic representation of the position of points of this base is shown in Fig 1



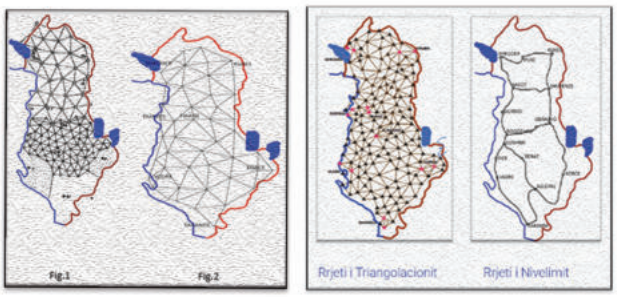
Geodetic measurements of Habzburgs in the Balkans

KORNIZA REFERUESE GJEODEZIKE SHQIPTARE

During the years 1927 - 1934 "Military Geographic Institute of Florence" was engaged in works related to monumentalization, necessary geodetic measurements and compensation of a new triangulation network, consisting of three orders, to enable the mapping of the territory of Albania in scale 1:50 000. The graphical representation of the first order of this net work is given in Fig 2. In parallel with the works for the triangulation network, this institute was engaged, during the years 1930 - 1932, with works related to the creation of a vertical reference for the territory of Albania which would refer to the average level of the Adriatic Sea, measured in the port of Durres.

During the years 1970 - 1987 it was the Army Topographic Institute that was engaged in works related to monumentalization, necessary geodetic measurements and compensation of a new triangulation and leveling network with more advanced technical parameters than the previous networks, built by foreigners.These works consisted in the construction of trian gulation networks and state leveling with three orders each, which constitute the geodetic reference that we today call ALB86. The graphical representation of the first orders of these networks is given in picture on the right down.

ALB86 closes the series of geodetic references built and used in Albania in order to map the territory and support engineering projects with significant geographical scope such as hydropower works, drainage and irrigation systems, roads, railways, etc.

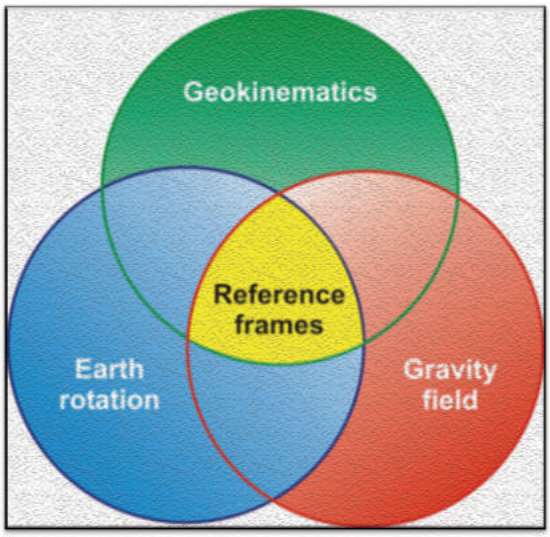


KRGJSH-Albanian Geodetic Reference Framework

Historical about geodetic references used in Albania

Efforts on modernizing the geodetic reference

By the late twentieth century, revolutionary new technologies such as the (VLBI) Very Long Baseline Interferometry, LLR (Lunar Laser Ranging), SLR (Satellite Laser Ranging) and GPS (Global Positioning Systems) revolutionized the concepts of geodetic reference. The combination of these achievements as shown in picture below. makes it possible for the Earth's metering centre, its rotation axis , and other parameters necessary for the creation of a global framework on which lean geographic width "φ" calculations, and geographic length "λ", to be made with a precision many times higher than the accuracy afforded by rigorous geodetic classical references, and moreover at a much lower cost. It was precisely these achievements that are ultimately eliminating the use of "classical" geodetic reference frameworks all over the world. In Albania during 2007 - 2008, the first steps were taken in order to realize a geodetic reference based on satellite technologies.



KORNIZA REFERUESE GJEODEZIKE SHQIPTARE

"Military Geographic Institute of Florence" in collaboration with the Army Topographic Institute organized a GNSS measurement campaign with the aim of calculating the parameters that would allow a more accurate transformation of point coordinates from the global geodetic reference ETRF2000 to the classical geodesic reference ALB86 and calculation of altitude transformation parameters from the ALB86 reference, to an orthometric elevation system, which would have the reference surface EGM08.To achieve this objective, two networks were measured:

1. Dynamic network compound by 14 stations, whose coordinates are calculated in ITRF2005
2. The static network compound by 150 points of ALB86. Configuration of these networks is shown in the map below.

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KRGJSH-Albanian Geodetic Reference Framework

Historical about geodetic references used in Albania

The processing of the measurements was done with Bernese Software taking into account to the maximum the recommendations of EUREF.The measurement results were used to calculate the 7 Helmert parameters for transforming the coordinates in the plan, evidenced in the table below

The following parameters enable a plan transformation accuracy of less than 12 cm for the coordinates of the points used in the calculation of the transformation coefficients.

The geoid altitudes required for direct passage from φ and λ pecified in ETRF2000 are obtained from the ALBAGEO3 software.

The product of this collaboration was the development of two very important software:

1. ALBAGEO03
2. Albaco.

Elipsoidi:	Rezja e Ekuatorit	Shtypja në pole
I Nisjes GRS80	a = 6 378 137m	f = 0.003352811
I Mbritjes Krasovski 1940	a = 6 378 245m	f = 0.00335233
Parametrat e llogaritura të Helmertit		
Tx = 44.183m		
Ty = 0.58m		
Tz = 38.489m		
Rx = 0⁰ 00' 02.3867"		
Ry = 0⁰ 00' 02.7072"		
Rx = 0⁰ 00' 03.5196"		
S = 8.2703PPM		

KORNIZA REFERUESE GJEODEZIKE SHQIPTARE

In 2008 it was the Delegation of the European Union in Tirana, which tendered and financed the design and construction of a global positioning network, based on GNSS systems, for Albania, which was called ALBPOS. The configuration of its base stations is given in the map below.The measurements were processed in 2010 using Bernese GNSS Software, Vision 5.0, in accordance with the EPN Analysis Center recommendations. The final coordinates obtained in IGS05, Epoka 2009.9 were transformed into ETRF2000, Epoka 2008.0, and ETRF2000, Epoka 1989.0.

KRGJSH-Albanian Geodetic Reference Framework

The basic features of the ALBPOS

1. GNSS data collection from 16 reference stations.
2. Connecting stations to a control center (the netWork "hub").
3. Real-time calculation of correction parameters.
4. Real-time distribution of correction parameters and RINEX data to users.
5. Determine the position, in real time, with accuracy ± 2 cm.
6. System monitoring and user support.
7. 100% service during working hours.
8. Exchange with neighboring countries, GNSS data, of base stations, in real time.

The construction works of ALBPOS were supervised by the Military Geographical Institute, the Immovable Property Registration Office and the Department of Geodesy at the Faculty of Civil Engineering, which became part of a joint memorandum, for a transitional period. The role of the leader, until the complete construction and handover of the system, would have the IGJU.

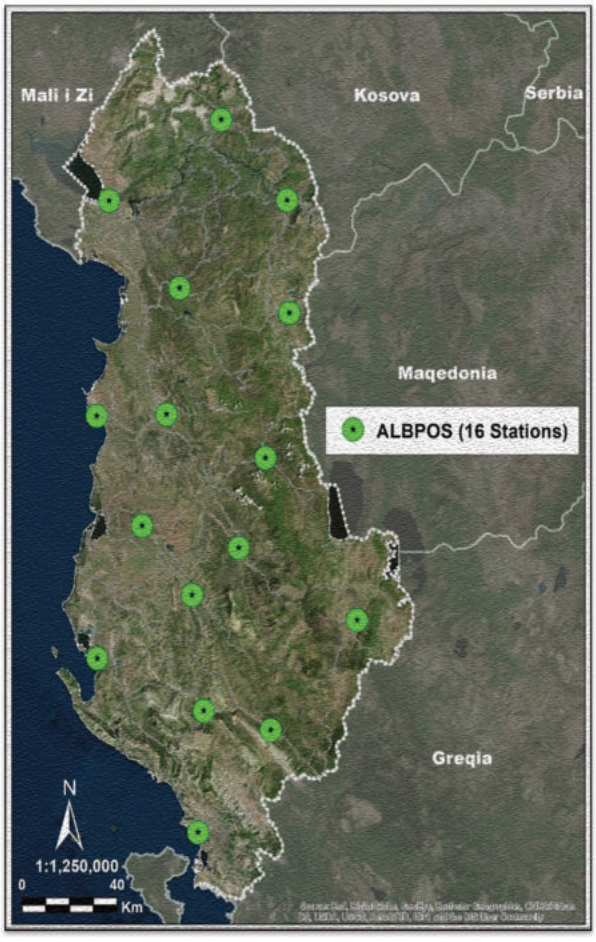
KORNIZA REFERUESE GJEODEZIKE SHQIPTARE

ALBPOS ALBANIA

After construction, the further administration of ALBPOS would be entrusted to a civilian institution designated by the government.

In 2013 the ALBPOS system was taken over by ZQRPP, which for various reasons moved several base stations, which led to a reconfiguration of the ALBPOS system, as shown in the map below.

Swedish specialists of "Lantmateries" performed the processing of measurements in IGb08, era 2014.177 using Bernese GNSS Software, Vision 5.2 and then the calculated coordinates were trans-formed into ETRF2000, era 2014.177.



Albanian Geodetic Reference Framework (KRGJSH)

Designing and building a modern Albanian Geodetic Reference Framework (KRGJSH)

Approval of law no. 72.2012, dated 28.06.2012, "On the Organization and Functioning of the National Geospatial Information Infrastructure in the Republic of Albania" which approximates the Directive 2007 / 2EC "INSPIRE" of the European Parliament and the Council, as well as the establishment of the State Authority for Geospatial Information (ASIG), as the institution responsible for the implementation of this law, laid the necessary legal and institutional foundations regarding the design, construction, maintenance and updating of the Albanian Geodetic Reference Framework (KRGJSH).

The requirements set by the INSPIRE Directive for the definition of geoinformation, in a pan-European spatial reference, a reference which plays a key role in enabling harmonization and interoperability related to information positioning, addressed in the other 33 geoinformation topics, of defined by the Directive, became one of the main commitments of ASIG.

One of the first bylaws, initiated by ASIG and approved by the Albanian government, in order to realize a modern geodetic reference, with European standards, for all users of geodetic coordinates in Albania was, DCM no. 669, dated 7.8.2013 "On the Approval of the Rules for the Definition, Creation and Implementation of the Albanian Geodetic Reference Framework (KRGJSH), as Metadata". (Amended by DCM no. 322, dated 27.04.2016 and DCM no. 359, dated 29.05.2019).

This decision was followed by the approval of the Guide line, No. 3, dated 06.09.2013 "On the determination of geodetic points with the help of Global Satellite Navigation Systems (GNSS)", by the Minister of State for Innovation and Public Administration, and the preparation of a detailed standard on the topic “Defining the geodetic reference framework and geodetic control”.

Based on these acts, the sector responsible for KRGJSH, part of the structure of ASIG, was engaged in drafting detailed technical projects, necessary for the construction of networks within KRGJSH, combined between them, which should have points joint, with the existing geodetic networks in Albania and with the existing networks that currently cover the territory of the European continent, to enable the Republic of Albania to create a unique geodetic base, which relies entirely on GNSS technology, to efficiently determine the exact horizontal position and vertical of various points on the surface of the earth, above the surface and below its surface. The unique geodetic base of the Republic of Albania includes the following networks:

a) The State Network of Global Positioning.

b) State Leveling Network;

c) Gravimetric State Network;

d) Network of Mareographic Stations;

e) Network of Magnetometric Stations;

Horizontal Positioning
State Network of Global Positioning

The State Global Positioning Network is an essential network to enable geodetic control in Albania.The State Global Positioning Network consists of two components:

1. Active State Global Positioning Network.

2. Passive State Network of Global Positioning.

KRGJSH-Albanian Geodetic Reference Framework

State Network of Global Positioning

Active State Network of Global Positioning

The new active global position network configuration, based on GNSS systems, which will now be called ALBCORS, is set out in picture.

The new active global position network will enable a new realization of the European Land Reference System ETRS89 in the territory of Albania and will serve at the same time to maintain this reference in Albania.

Within this network we will have 27 CORS reference stations and a control centre located at the ASIG premises.

Coordinates of these points will be specified with precision:

1. In plan <1mm;
2. In height <3mm;

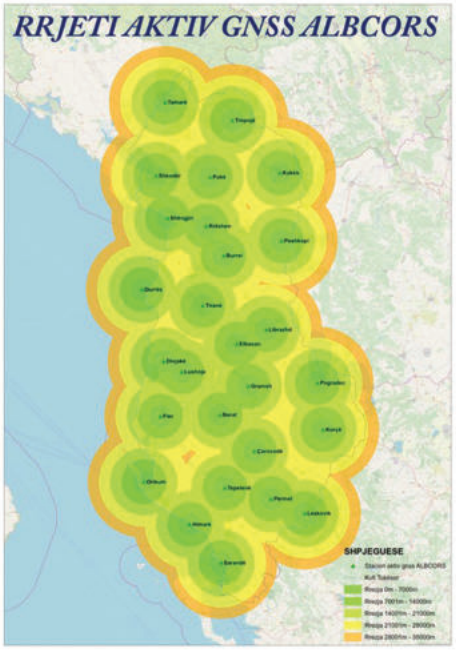
The construction of this system would be in accordance with the requirements of Guideline No.1, dated 06.09.2013 "On the determination of geodesic points with the assistance of Global Navigation Satellite Systems (GNSS)".

Depending on the metering method, the new system will guarantee to its users the following accuracy:

1. For the method RTK ≥ 2 - 3 cm;
2. For the method PP ≥ 1 cm;

The control centre will be equipped with computers, communication equipment, and software that enable the following functions:

1. Communication and Online Command of Base Station;
2. Measurement processing that base stations make and generating expected results from the real-time network (RT) but beyond this time, after measurements (PP);
3. Provide user service in real time but and out of this time;
4. Keeping an archive with the completed measurements;
5. Base Station Sustainability Monitoring (CORS);



Base Station of Positioning, based on the GNSS systems of neighbouring countries are set out in this map in order to highlight the potential for ALBCORS performance enhancement using their data. Currently, these points have been monumentalized with state budget funding.

Base Station of Positioning, based on the GNSS systems of neighbouring countries are set out in this map in order to highlight the potential for ALBCORS performance enhancement using their data.

KRGJSH-Albanian Geodetic Reference Framework

State Network of Global Position

KORNIZA REFERUESE GJEODEZIKE SHQIPTARE

Passive State Network of Global Position

Passive State Network of Global Position will be built in two orders

1. Global Passive Position Network of First Order;
2. Global Passive Position Network of Second Order;

1. The Passive Network Global Position of First Order

The Passive Network of Global Positioning Network, First Order, consists of 21 points located in order to ensure a uniform distribution throughout the territory of Albania.
The configuration of this network is shown in the figure.
This network serves as a support for determining the coordinates, to enable the geodetic control in the country, the control of the stability of the ALBCORS system, as well as the maintenance of the Albanian geodetic reference for the territory of our country.

2. Passive Network of Global Positioning Second Order

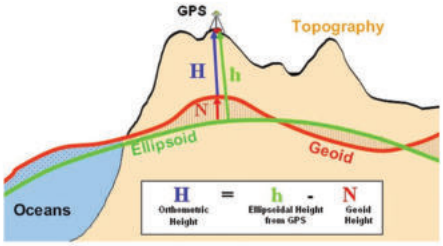
The points of this network will enable the access with geodetic reference of Albania for:
- Users of classical techniques,
- For various engineering purposes
- Cartographic and cadastral works

The Passive Network will consist of about 494 monumentalized points, distributed in the territory of the country, in order to meet the following requirements:
1. Mountainous areas of the country, to be covered by a network of points with a density of 10 X 10 km.
2. Areas with intensive economic development will be covered by a network of points with a density of 5 X 5 km.
3. Part of this network will be all points of basic local geodetic networks, which will be built in residential centers.
4. The accuracy in determining the position of the point will be ± 2cm.

The configuration of this network is shown in the figure on the bottom right.

KRGJSH-Albanian Geodetic Reference Framework

State Levelling Network



VERTICAL DATUM

State Leveling Network

The State Leveling Network is a network, which materializes the classical vertical reference for all engineering works in the territory of the Republic of Albania.

In recent years, the evolution of GNSS positioning systems and the techniques used to measure the Earth's gravity has enabled the modernization of Vertical Reference Systems globally and locally, and many countries have already embarked on the path of this modernization. This modernization consists in obtaining the Orthometric Heights by combining the Ellipsoidal Heights obtained from the receivers of the CORS network with an exact model of the local gravimetric geoid, according to the model shown in the figure above.

The gravimetric geoid is accepted as the Vertical Reference Area, in contrast to the classical leveling grids, which referred to the average sea level, at a certain point. This new altitude reference will replace the old vertical reference, which was part of ALB86. The altitude system in the Republic of Albania will be a system which will be based on the measurement of ellipsoidal elevations, by CORS network receivers, and on the high-precision local gravimetric geoid. To create an alternative, for estimating the accuracy of the determined orthometric heights, using CORS network receivers and local gravimetric geoid, ASIG has also considered the use of the correct leveling method, in accordance with the requirements set in the state network project. of leveling, for a limited number of leveling lines, starting with the connection between the Mareographers.

ASIG has prepared the general principles and a detailed technical project related to the design, construction, maintenance and construction of the State Network of First Order Leveling, extending throughout the country.

The State Leveling Network will consist of two networks:

1. First Order Leveling Network;
2. GPS leveling network (Second Order Leveling Network);

1. First Order Leveling Network;

This grid will enable the calculation of the orthometric heights required in construction of engineering works that have a significant extent in the teritor of the site as well as other studies related to the vertical displacements of Earth's crust. The configuration of this network is shown in the figure on the right.

The main considerations to be taken into account in the design and construction of this network will be:

1. Leveling lines will follow the axes of the main roads of the country.
2. The lines will extend to the main border points of Albania.
3. The lines will extend to the Mareographers to be built in Albania.
4. The leveling lines will follow the leveling network lines of the ALB86 system, to enable networking of all existing benchmarks.

The starting point for the network will be considered the point of the Global Active Positioning Network, of the First Order, built next to the mareograph at the Cape of the Tail of Pallas. Referring to the average sea level recorded in the four Mareographers of Albania.

KRGJSH-Albanian Geodetic Reference Framework

State Gravimetric Network

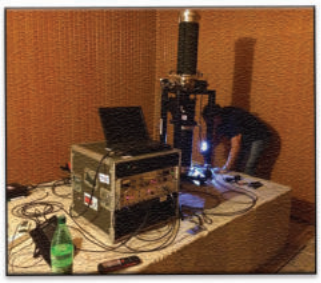
State Gravimetric Network

The construction of the Gravimetric State Grid will provide the basis for enabling vertical geodetic reference for solving problems related to geodesy, the determination of the national gravimetric geoid of high accuracy, the quantitative determination of sea level change as well as the sciences studying the dynamics of Earth's movements.

The Gravimetric State Network will consist of 4 networks:

1. Zero Order Gravimetric Network;
2. First Order Gravimetric Network ;
3. Second Order Gravimetric Network;
4. Third Order Gravimetric Network;

Zero Order of Gravimetric Network



State Gravimetric Network of the Zero Order will serve as the basis on which other lower-order networks will be supported. The Zero Order Gravimetric Network consists of the construction of three Absolute Gravimetric Points in Shkodra, Tirana and Saranda. The measured gravity value refers to the height of 1.22 m above the mark placed on the concrete block. The measurements were performed with the absolute gravimeter FG5 / 242. The vertical gradient is measured with the relative gravimeter, Scintrex CG5, at three different altitudes 25, 70 and 125cm. The configuration of this network is set out in picture on the right up. During the works, for the absolute points, concrete plinth built in the 1960s for seismic studies of IGJEUM were chosen. The works were carried out by Austrian BEV specialists.

First Order of Gravimetric Network

The Construction of State Gravimetric Network of First Order in the Republic of Albania is a densely of the Gravimetric Grid of Zero Order, with relative gravimetric methods. The First Order Gravimetric Grid consists of a 42-point network, distributed uniformly in the territory of Albania, which are also common points for other networks, in composition of KRGJSH, for the first-order. The configuration of this network is set out in the picture right down. The design density of the points of this network reaches 1 point for 650 km², a density that is in line with European standards. For the determination of the gravitational acceleration value, the relative star methods, profiles or combinations of these methods were used at the points of this network as well as the relation between them. The relative gravimetric measurements are performed with the relative gravimeter, the Scintrex CG5.

The standard deviation, in determining the gravitational acceleration value, of the gravitational force at the points of this network, does not exceed 10 μGal. Construction of the First Order Gravimetric Network was designed by ASIG and funded by the state budget for 2018. The final results are provided in the Final Metering Report.

KRGJSH-Albanian Geodetic Reference Framework

State Gravimetric Network

Second Order of Gravimetric Network

The Second Order of Gravimetric Network is a densely of the First Order Gravimetric Network The points of this network will be the materialized points on the ground, the GPS of the second order (494 points). The relative gravimetric measurements were performed partially (Tirana Durrës area) with relative gravimeter, Scintrex CG5.

The configuration of this network is set out in Pic. 18.

Standard deviation, in determining the gravitational acceleration value, of gravity, at the points of this network, does not exceed 30 µGal.

Third Order of Gravimetric Network

The Third Order of Gravimetric Network is configured in the form of a grid, with the aim of collecting enough data, with the goal of calculating the National Geoid with 2cm precision.

The density of the points of this network will be different for different parts of the territory as set out in the map on the picture. The intensively developed areas of the territory will have 1 point in every 2 km², whereas in mountain areas the density of the measured points will be 1 point for every 5 km².The points of this network will not materialize physically. The measured gravitational value will be the point counting the coordinates in the KRGJSH, based on the measurements, through GNSS systems, performed simultaneously with the relative gravimetric measurements.

The standard deviation, in determining gravitational acceleration, of gravity, at the points of this network, will not exceed 50 µGal.

For the calculation of National Geoid will be taken into account:

1. A Global Geopotential Model (EGM 2008);
2. A high resolution digital terrain model (DTM) for field correction and external effects;
3. Earth gravimetric data, obtained from field measurements.

KRGJSH-Albanian Geodetic Reference Framework

Tide Gauges Network

The Mareographic Network Station consists of the construction of four mareographs located in Shengjin, Kepi Bishti i Pallës (Durres), Orikum and Saranda and a Control Center at ASIG premises.

The Mareographic Network will enable the collection of essential data related to sea level, change monitoring and will also serve for studies and monitoring that address the environmental issues.
For subsequent study purposes, the mareographers will also be connected to each other with a First Order Levelling Line. Configuration of this network is set out in the map on the picture. Mareographers in Saranda and Cape Bishti i Pallës were built and funded under the Norwegian-Norwegian funded project "ALNO-HIP (Albanian-Norwegian Hydrographic Information Project)".Mareographers, in Orikum and Shengjin, were designed and built by ASIG, with funding from the state budget during 2018.
Currently, information generated by mareographic stations in Orikum, Shëngjin, Bishti i Pallës (Durrës) and Saranda is managed by ASIG.
The information generated by this network will be accessed through the National Geoportal for different uses.

Configuration of a station is set out in the map on the picture.

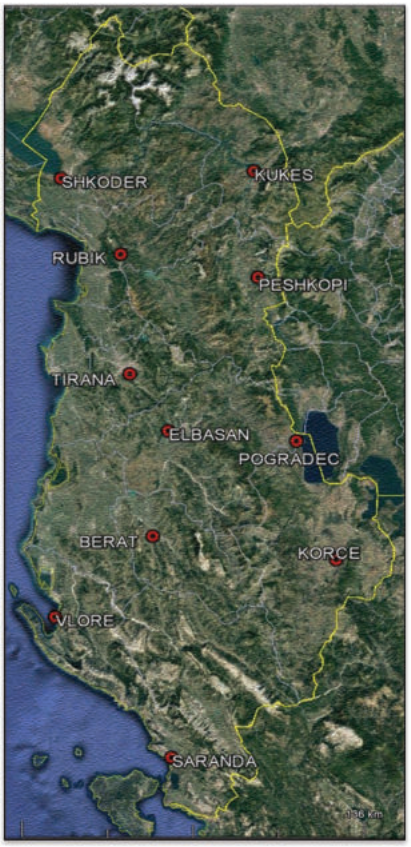
Mareographic Stations, Bishti i Pallës (Durrës), Orikum and Shengjin

KRGJSH-Albanian Geodetic Reference Framework

Magnetometric Stations Network

The first magnetic observations in the territory of Albania date back to 1942, in the framework of the "Magnetic Declination Atlas of Europe".

In the material of "Atlas of Magnetic Declination for the Epoch 1944.5", by R.Bock, it results that 65 unpublished measurements of declination, horizontal intensity field and inclination that were carried out in Albania during 1942.



In 1994, the Albanian Magnetic Network was constructed, consisting of periodic monitoring stations of its geomagnetic field and its components, in collaboration with the Institute of Geophysics and Volcanology, Rome, Italy.

In 2018, the State Authority for Geospatial Information (ASIG) as the responsible authority for the Magnetometric Stations Network was engaged in conducting magnetic field measurements and its components based on European standards.

Configuration of the built-in network is set out on the map in the picture.

Themes according to INSPIRE EU

GEODESIC REFERENCE FRAMEWORK OF ALBANIA

Determination of geodetic reference frame and geodetic control (Unique geodetic reference system for determining coordinates (x, y, z) and / or width, length and height, based on a horizontal and vertical geodetic data.)

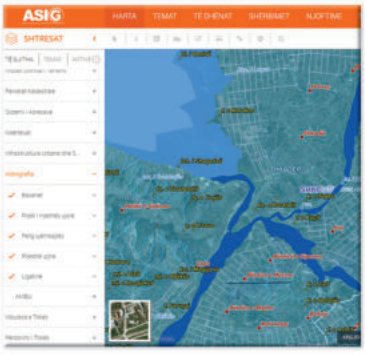
The Albanian Geodetic Reference Framework (KRGJSH) is defined as a geodetic reference system for the Republic of Albania with Decision no. 669 dated 7.8.2013 "On the approval of the rules for the definition, creation and implementation of the Albanian Geodetic Reference Framework (KRGJSH), as Metadata", amended by decision no. 322 dated 27.04.2016

KRGJSH has in its composition 5 networks respectively:

a) State Global Position Network;
b) State Leveling Network;
c) Gravimetric State Network;
d) Network of Mareographic Stations;
e) Magnetometric Station Network.

Currently ASIG is building the constituent networks of KRGJSH in accordance with the standard approved for this purpose and to achieve the necessary accuracy for geodetic and cartographic works, with modern tools and methods.

HYDROGRAPHY



(Hydrographic elements, including marine areas and all other water bodies and related items, including basins and sub-river basins.)

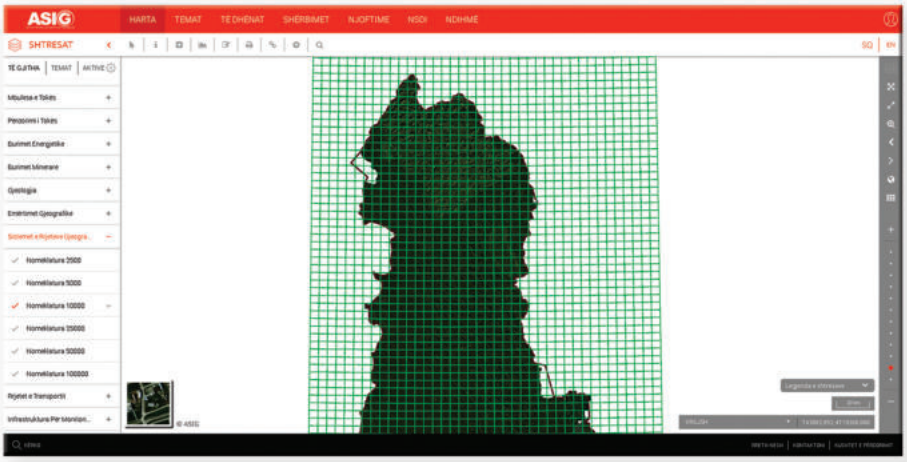
The theme "Hydrography" covers the network of rivers, lakes and sea surfaces. This theme also includes basins and sub-river basins. All this data, only in terms of "static" characteristics. "Dynamic" characteristics such as water level, inflows, etc. are defined in the topic "Hydrology". Groundwater, which is another important part of the hydrological water cycle, is treated in the topic "Geology"

With the DCM no. 829 dated 7.10.2015 was approved the document "State Standards for Technical Specifications of Geospatial Information in Albania - Topic: Hydrography". ASIG has taken the initiative to digitize the country's water network and has collaborated with the Water Resources Management Agency as the public authority responsible for this topic for the data population.

Several layers of geospatial information on the topic "Hydrography" have been published on the National Geoportal, in accordance with the approved standard.

Themes according to INSPIRE EU

GEOGRAPHICAL GRID SYSTEMS



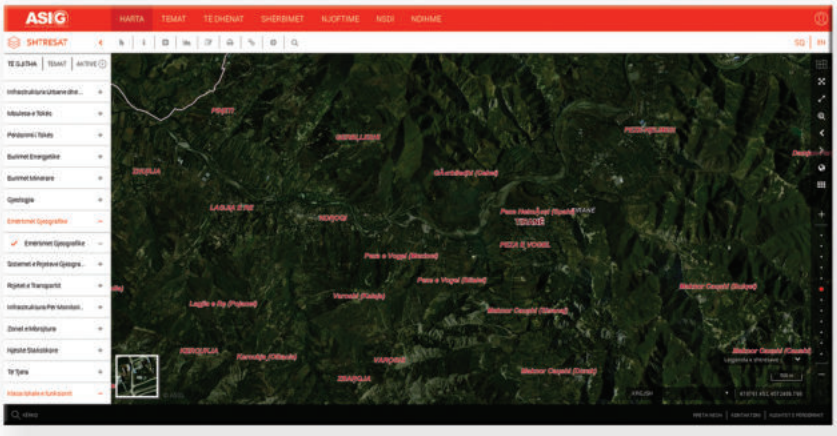
(Harmonized multi solutions grid with a common origin point, standardized location and size of grid cells)

Geographical grid systems are grids defined and compatible with the Pan-European agreement grid system, with a standard position and standard cell size.

In the National Geoportal are published layers for the nomenclature of scale ; from 1: 2500 to 1: 1 000 000 based on KRGJSH (DCM no. 699 dated 07.08.2013 as amended), in accordance with the European standard which is based on the ETRS 89 Reference Coordinating System

GEOGRAPHICAL NAMES

(Names of areas, regions, localities, cities, suburbs, towns or settlements, or any geographical or topographical feature of public or historical interest.) Geographical names describe a feature on the surface of the earth - a position or landscape on the ground or in the sea surface. Often the term "Topographical name" is used to emphasize dependence or geospatial connection with the topographic feature.

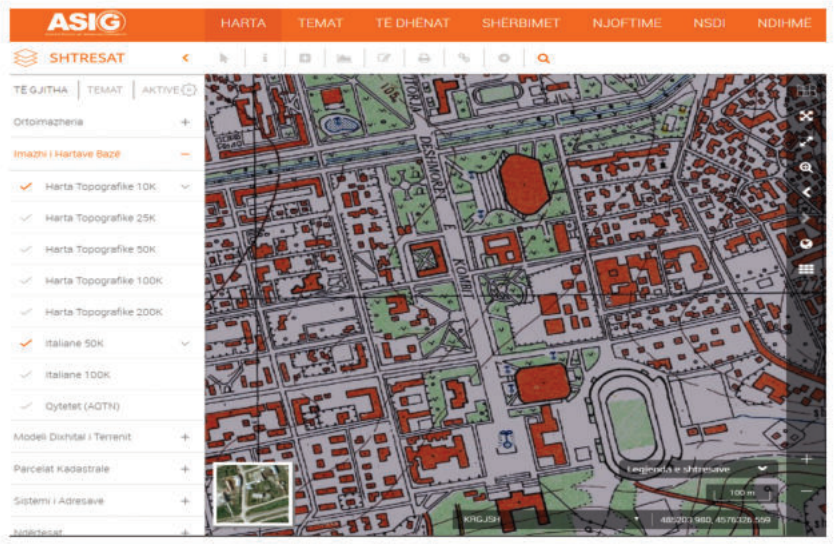


Geographical name for a geospatial object may be different in different languages. By DCM no. 142, dated 22.02.2017, the "State Standards for the Technical Specifications of the Geospatial Information in Albania - Theme: Geographical Names" has been approved.

ASIG in the role of public authority responsible for collection processing and updating geospatial information on this theme has published geospatial data and services for theme "Geographical names" in accordance with the approved standard.

Themes according to INSPIRE EU

BASE MAP

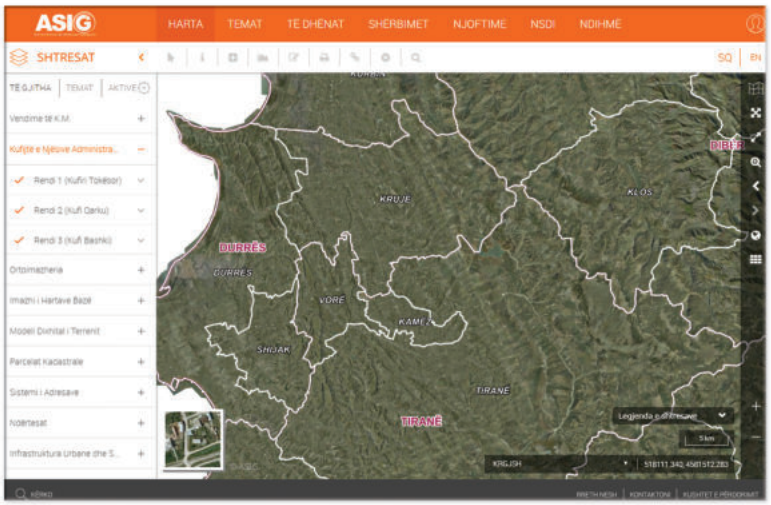


(Maps obtained from the process of georeferencing and digitalization of topographic, thematic, geodetic, geological, cadastral maps or orthophoto maps).

ASIG has published a series of maps created over the years, derived from the process of georeferencing and digitalization, which are of different scales, created by different institutions and agencies, starting with Italian and Austrian maps to topographic maps of IGJIU or The Geology-Geodesy Establishment, for the territories where the cities and major engineering works lie. Some of these maps have been digitized and used as a core material in the activity of several state institutions (ZRPP, ALUIZNI, etc). ASIG has published them to identified the history of cartographic works and to assist in the process of analysis and scientific work without undertake to guarantee the accu racy of the used materials. Normally, these materials, depending on the conditions in which they are stored, as well as the digitalization process itself, charge additional errors over those errors that were considered allowed at the time the material was produced. Orthophoto is georeferenced and precisely defined and verified is the common reference of these cartographic materials.

Themes according to INSPIRE EU

ADMINISTRATIVE UNITS



(State borders, boundaries of local government units, (districts, municipalities) as well as administrative units and villages in their composition)

ASIG has published in the National Geoportal, the territorial administrative-territorial borders based on the law no. 115/2014 "On the Administrative-Territorial Division of Local Government Units in the Republic of Albania" that include state borders, districts boundaries and municipal boundaries.The geospatial information published on this theme is in line with the standard adopted by the DCM no. 1078 dated 23.12.2015 "State Standards for the Technical Specifications of the Geospatial Information in Albania - Theme: Administrative Units" It is currently expected the Decision of Ministers Council on the updated map of territorial-boundaries of the units of local self-government and approval from the municipal councils of the updated borders of the administrative units and the villages in their composition, in order to publish the full information on this Theme in the National Geoportal.

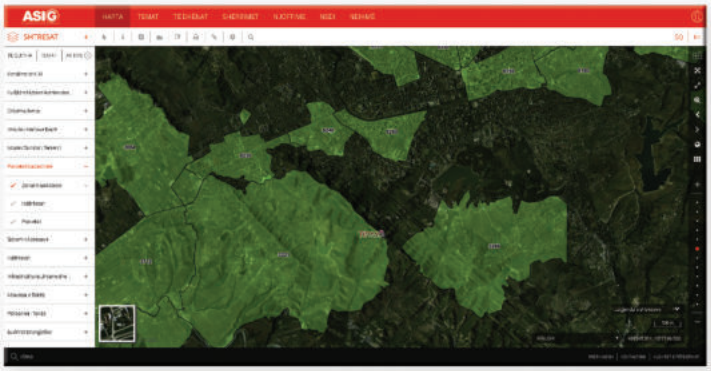
ADDRESSES

(Location of properties based on address identifiers, usually by street name, house number, postal code, etc.)

An address is an abstract identifying concept that expresses a fixed position and access path to a home, business, building or parcel (immovable property). Full address identification is a hierarchy consisting of components such as geographical names, increasing detail levels, city, street names, postal code building, address numbers, and so on. Currently, three layers have been published in the National Geoportal for the "Addresses" theme, the information of which is out of date and not in line with the standard approved by DCM no. 859 date 712.2016 "State Standards for Technical Specifications of Geospatial Information in Albania - Theme: Addresses". The General Directorate of Civil Status (DPGJC) as the public authority responsible for this theme has initiated and is developing a project for the new address system in accordance with the approved standard. The deadlines for the implementation of this project have been exceeded and ASIG is looking forward to receiving and publishing geospatial information, updated and according to the approved standard, on this theme.

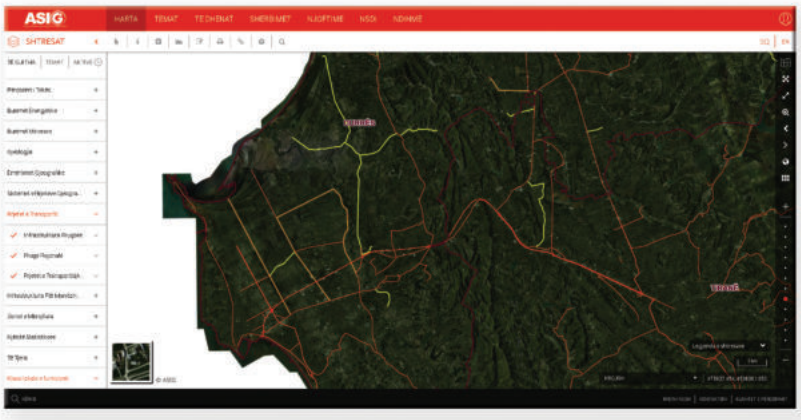
Themes according to INSPIRE EU

CADASTRAL PARCELS



(Areas defined by cadastral registers or equivalent)The cadastre is defined as a register under the responsibility of the government. For the very problematic ownership of Albania "Cadastral parcels" is one of the most important and sensitive themes of law no. 72/2012. The public authority responsible for this theme is the Central Immovable Property Registration Office (ZQRPP). Currently, three layers are published in the National Geoportal on this theme, but the information on them is not complete and updated. DCM no. 321, dated 27.04.2016, the document "State Standards for the Technical Specifications of the Geospatial Information in Albania - Theme: Cadastral Parcels "ASIG in cooperation with ZQRPP, currently the State Cadastre Agency, has made possible the publication in the National Geoportal, through online services, of updated geospatial information for a number of cadastral zones included in the ALBSReP system. Geospatial information for these areas is in line with the approved standard.

TRANSPORT NETWORKS



(Transports network road, rail, air, waterways and their related infrastructure, including links between different networks, also including Trans-European Transport networks).

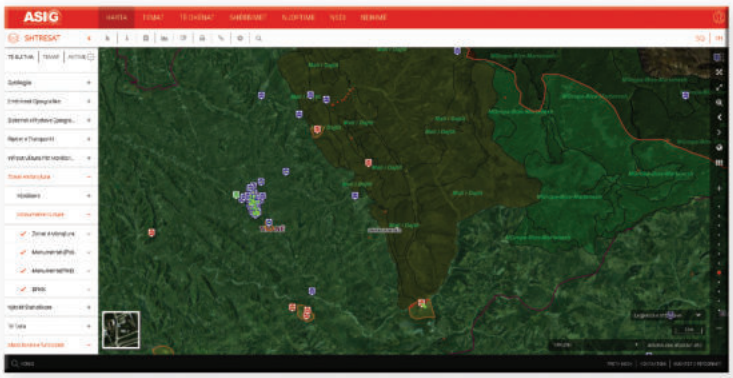
The transport component should comprise an integrated transport network, and related features, that are seamless within each national border. The transport network should reflect the flow of transport to enable the navigation service.

In accordance with the INSPIRE Directive, the national transport network should be compatible with the European level for example related to national borders. Transportation data includes topographic features related to transport by road, rail, water and air transport.

Three layers of geospatial information, road transport have been published in the National Geoportal, but the information about them is not updated and in accordance with the standards for this topic. Recently, ASIG has taken the initiative for the digitalization of the road network, but cooperation is needed with the Albanian Road Authority and the Transport Institute, as public authorities responsible for this topic, to enable the standardization of geospatial information for all transport networks.

Themes according to INSPIRE EU

PROTECTED SITES



(Areas designed or managed in accordance with an international, community and member states' legislation to achieve specific conservation objectives)

Protected areas are divided into two main categories, Protected Natural Areas and Protected Areas of Cultural Heritage. The definition as a protected area is managed through legal and sub legal acts.

ASIG has decided by decision the responsible public authorities for each of the categories of protected areas and in cooperation with them has drafted the standard for technical specifications of geospatial information on the subject. A number of layers have been published in the National Geoportal for protected environmental and cultural heritage areas. Information on protected sites of cultural heritage is handled online by the public authority responsible for this subject, the Institute of Cultural Monuments.

ELEVATION

The digital model of heights for the earth, the ice and the surface of the ocean, which includes earth uplift, bathymetry and the coast.)

The digital terrain model includes:

1. Digital Terrain Models (DTM) describing the three-dimensional shape of the Earth's surface (ground surface topography).
2. Digital Surface Models (DSM) specifying the three dimensional geometry of every feature on the ground, for example (vegetation, buildings and bridges).
3. Bathymetry, height (depth), below the surface of the water.

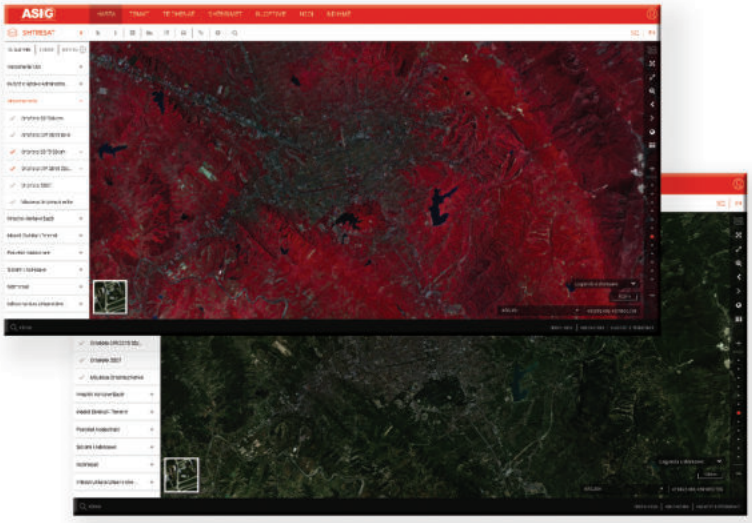
ASIG in the role of the public authority responsible for this theme, has published three layers of geospatial information on the "Elevation" in the National Geoportal. The published information is in accordance with the standard designed for this subject.

Themes according to INSPIRE EU

LAND COVER

(Physical and biological cover of the earth's surface including artificial surfaces, agricultural areas, forests, (semi-)natural areas, wetlands, water bodies)
Land cover information has to be homogenous and comparable between different locations in Europe. The multi-year land cover (Corine) database within the framework of Global Monitoring for Environment and Security (GMES) has been funded and implemented by European structures for 37
European countries including our country. The National Geoportal has published the geospatial information made available by the responsible public authority, the National Environmental Agency for two layers Corine 2012, Corine 2018.

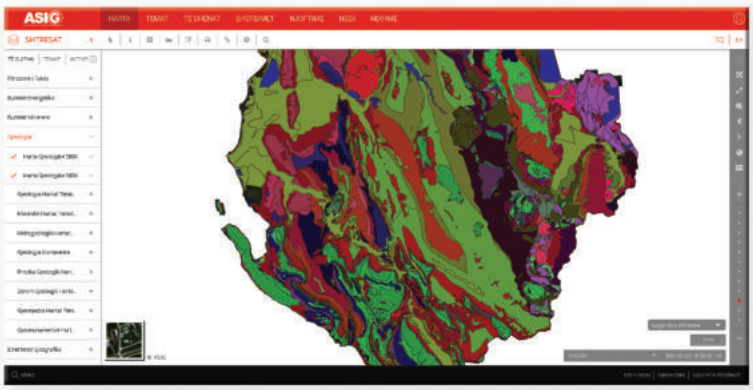
ORTHOIMAGERY



(Georeferenced image data of the earth's surface, from either satellite or airborne sensors) An orthoimage is a raster image that has been geometrically corrected ("orthorectified") to remove distortion caused by optic camera, level of camera and differences in elevation. The source of the images can be satellite or airborne sensors. The data are orthorectified to achieve a precision comparable to an equivalent topographic map.
The geospatial information on this theme has been published in the National Geoportal about Orthophoto Year 1994, Orthophoto Year 2007, Orthophoto Year 2015, LIDAR Scanning 2015, Orthophoto Year 2018. The geospatial information published by ASIG, in the role of public authority responsible for this topic, is in accordance with the approved standard.

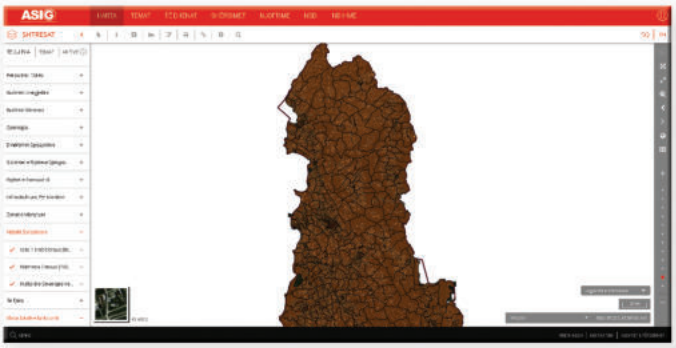
Themes according to INSPIRE EU

GEOLOGY



(Geology provides basic knowledge about the physical properties and composition of geologic materials, it include alluvium, water in the subsurface and Geomorphology.)
Geological information provides basic knowledge about the physical properties and composition of the geologic materials (rocks and sediments) outcropping at the land's surface and forming the underground, and about their structure and their age. (Age, petrography, genesis, tectonic elements). Geospatial information on the theme "Geology" has been published at the National Geoportal, which is made available by the responsible public authority, the Albanian Geological Service. Currently it is collaborating on matching this information with the standard adopted on this theme.

STATISTICAL UNITS



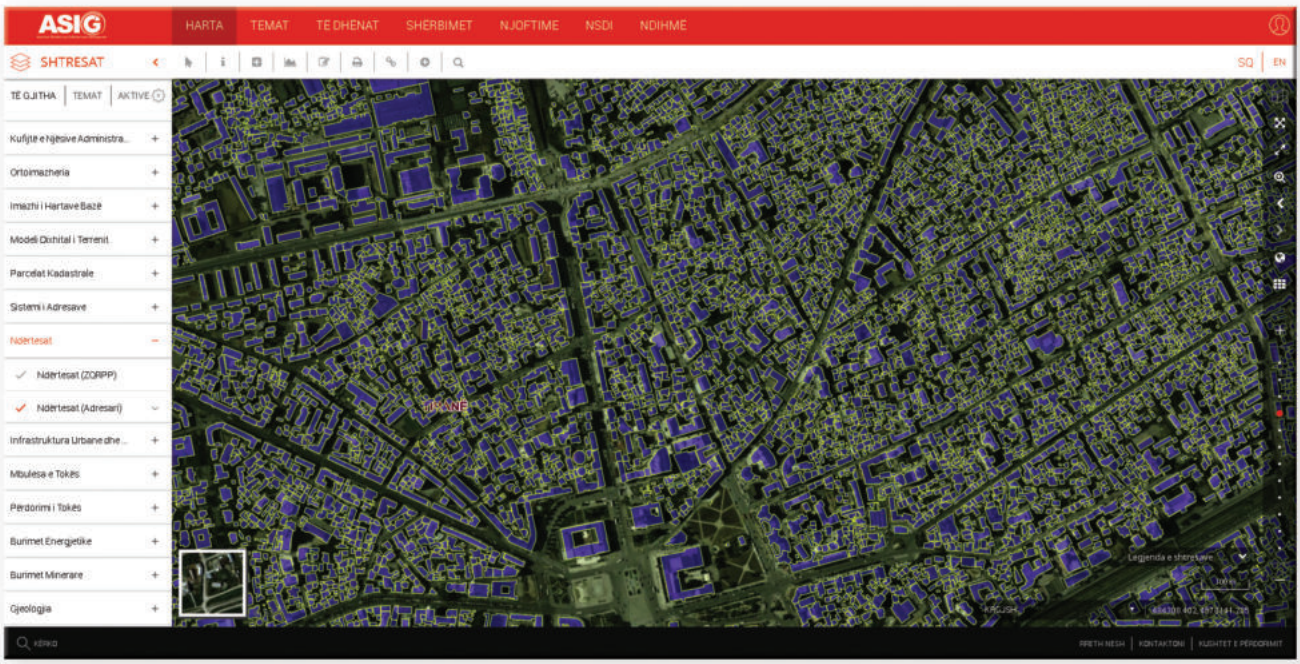
(Units for the dissemination or use of statistical information.)
Statistical Unit (SU) is a spatial feature (Polygon, Line, Point or Network) that can be used to attach or submit statistical information. Statistical information can be defined as "any numerical representation of a phenomenon" such as. The human population, should have to do with the information for a certain population not limited to the human population. The theme "Statistical Units" addresses units that are not addressed by other topics and are usually used only for the dissemination of statistical data. Important features of statistical units are:

1. They may have a hierarchical structure (such as NUTS1, 2, and 3).
2. Their geospatial extent can go from sub-local (communities (village / administrative unit) smaller than the municipalities to the national level.
3. Their temporal extent can change for every country. They can change in time, which makes time comparisons difficult.
4. In many cases they are derived from administrative units, but other sources are also possible

Several layers of geospatial information on this topic have been published on the National Geoportal, but the information they contain is out of date and non-standardized.

Themes according to INSPIRE EU

BUILDINGS



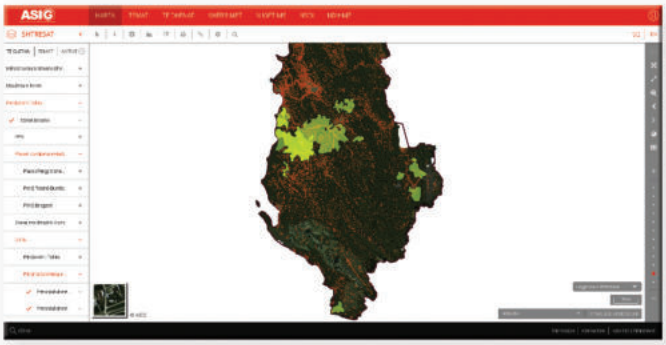
(Geographical location of buildings).

A building is a covered object that can be used for housing, keeping animals or producing or storing goods. The term building refers to any structure permanently constructed in its location. Information on the location of buildings can be provided as a point or base current form. Usually buildings are part of the cadastre. The public authority responsible for this theme as well as for "Cadastral parcels" is the ASHK. The widespread phenomenon of informal constructions in Albania has caused a considerable number of buildings not to be registered in public registers. Geospatial information for buildings, published in the National Geoportal, as well as the parcel plot is incomplete and unmanaged. Completion of the legalization process and termination of the informal construction phenomenon will provide complete information on the buildings. VKM no. 359 dated 11.05.2016, the document "State Standards for the Technical Specifications of the Geospatial Information in Albania - Theme: “Buildings" was approved.

ASIG in cooperation with ZQRPP, currently the State Cadastre Agency, has made possible the publication in the National Geoportal, through online services, of geospatial information about buildings, for a number of cadastral zones included in the ALBSReP system. Geospatial information for these areas is in line with the approved standard.

Themes according to INSPIRE EU

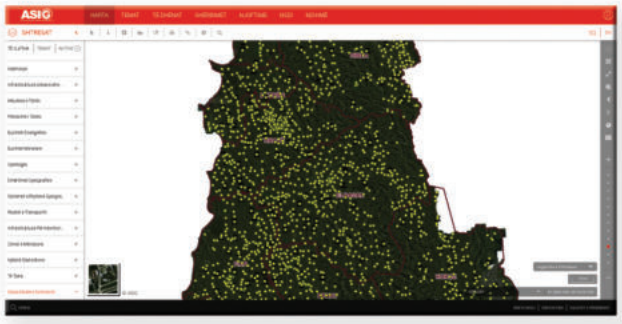
LAND USE



(Territory characterised according to its current and future planned functional dimension or socio–economic purpose residential, industrial, commercial, and agricultural, forestry, recreational)
The theme "Land Use" is defined as the use and operation of a territory in terms of socio-economic and ecological purpose. It contains information of two different types:
1.Existing land use, which objectively depicts the use and functions of a territory as it has been and effectively still is in real life.

2. Planned land use that corresponds to the development plans set by the territorial planning authorities which describe the potential use of land in the future.
The National Geoportal has published a number of layers on the topic "Land use", made available by the public authorities responsible for this topic AKPT, QTTB and AZHT.

UTILITY AND GOVERNMENTAL SERVICES

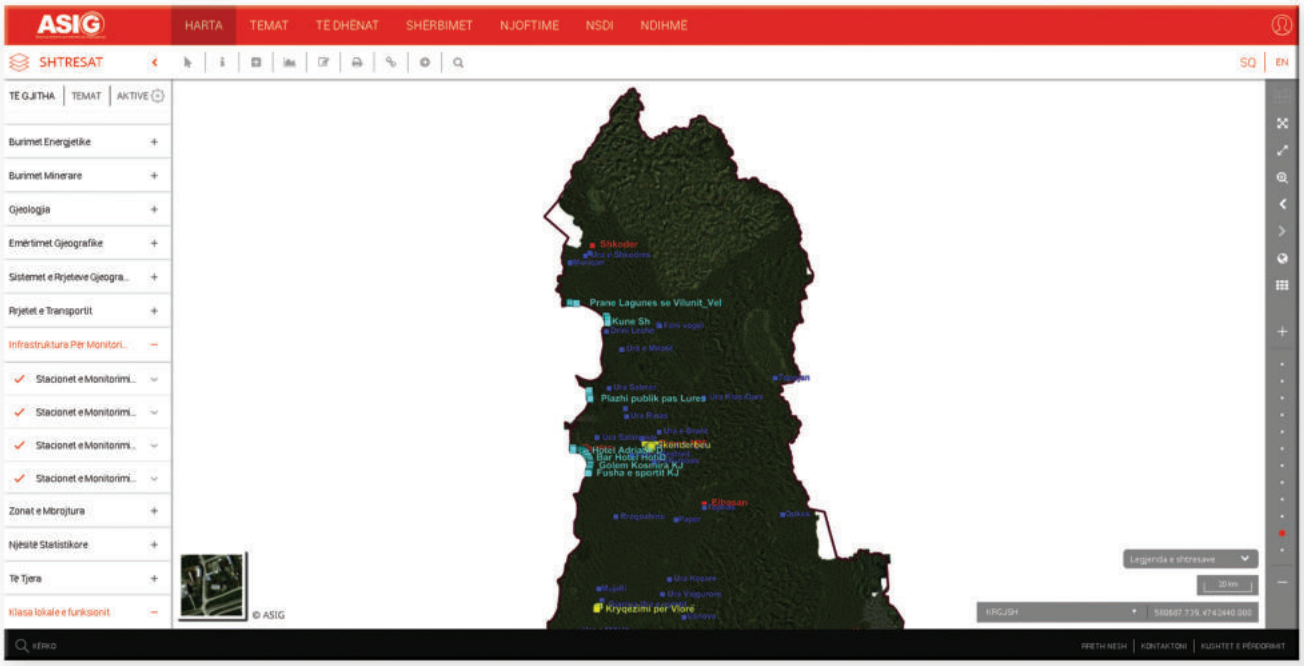


(Includes utility facilities such as sewage, waste management, energy supply and water supply, administrative and social governmental services such as public administrations, civil protection sites, schools and hospitals).
Theme: "Utility and Governmental Services" provides basic information and basic technical features of facilities or services as well as involved, public entities for a wide range of administrative and social services of public interest. The theme is divided into the following subsections:

1. Utility Networks: Node link of structured networks for collection, transmission and distribution, including electricity, water, gas and chemicals, and not mandatory services such as telecommunications networks.
2. Administrative and social governmental services: Local governmental services, social infrastructures involved in the action field of INSPIRE, scope focusing on environmental conservation.
3. Environmental management objects: General facility descriptions for waste management sites, water treatment plants and legal or illegal areas for dumping.
For the theme "Utility and Governmental Services" in the National Geoportal are published several layers of geospatial information related to government administrative services, but the information they contain is out of date and non-standardized.

Themes according to INSPIRE EU

ENVIRONMENTAL MONITORING FACILITIES

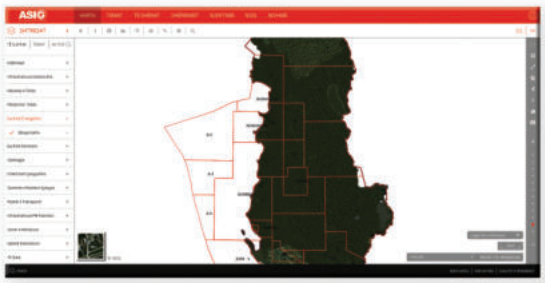


(Location and operation of environmental monitoring facilities includes observation and measurement of emissions, of the state of environmental media and of other ecosystem parameters (biodiversity, ecological conditions of vegetation, etc.) by or on behalf of public authorities)

The theme includes two main aspects: The theme scope includes two main aspects; the first is the environmental monitoring facility as a spatial object. The second is the data obtained through observations and measurements taken at this facility, encoded using the ISO 19156 standard. This information is complemented by further administrative information pertaining to the facility and activities undertaken there such as networks the facility is part of or programmes the facility provides data to. The Environmental Monitoring Facilities theme is crosscutting to environmental domains; thus, the generic model allows the necessary freedom to bring in thematic specific needs while keeping a shared data structure.
Several layers of geospatial information on this topic have been published on the National Geoportal and made available by the responsible public authority, the National Environment Agency.

Themes according to INSPIRE EU

ENERGY RESOURCES

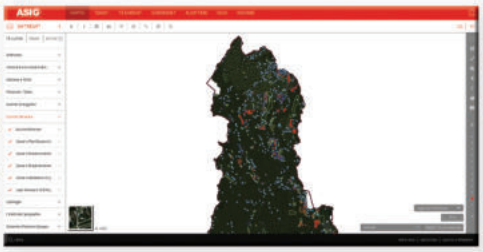


(Energy resources including hydrocarbons, hydropower, bio-energy, solar, etc, where relevant including depth/height information on the extent of the resource). The ENSPIRE "Energy resources" covers historic, current and future energy resources and the entire lifecycle of energy resources, irrespective of its viability in terms of economic, social and technological aspects. It addresses sources that are closed or conserved due to their use in the past and the resources currently not sustainable. They should be evidenced since in the future information about the location and resource potential has a significant impact on the environment. This impact can have both positive and negative implications, therefore appropriate knowledge about the extent, distribution and volumes of the resources is of great value. There is a main distinction between fossil fuels and renewable energy resources. The concept of energy resources provides focus to the resource aspect and the extent/distribution of the resources. Fossil fuel stocks include accumulations of oil, coal lignite or peat deposits and uranium ore deposits. Renewable energy sources include:

1. Hydropower in which water resources are defined according to the energy potential.
2. The energy sources of the biomass that they contain forest cereals or agricultural residues which can be used for energy purposes.
3. Energy wind evaluated by wind measurement together with topographic information.
4. Geothermal energy, the natural flow of heat, which is of high interest as a replenishable and clean energy source.

Several layers of geospatial information on theme "Energy resources" have been published on the National Geoportal .

MINERAL RESOURCES



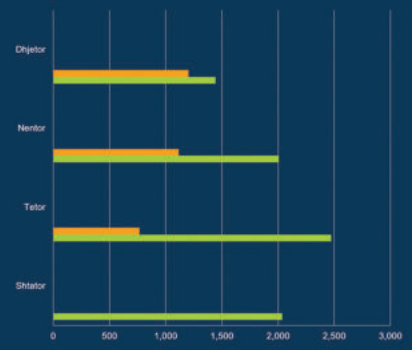
(Mineral resources including metal ores, industrial minerals, etc, where relevant should including depth/height information on the source mass) Theme "Mineral resources" refers to the description of natural concentrations of very diverse mineral resources of potential or proven economic interest. The important attributes such as the nature, genesis, location, extent, mining and distribution of resources reflect the two main identified categories of potential use, which are:

1. Management of resources and their exploitation and exploration activities, provision of information on inventoried mineral resources as well as on the quantitative assessment of undiscovered mineral resources and the modelling of mineral deposits. Environmental impact assessments: mapping and measuring environmental geological parameters for assessing geological material to be used for construction and rehabilitation at the mine site.
2. The Mineral resources data model is organised around two major categories of information: description and location of mines and mining activities; the description and location of —earth resources including their classification, estimates of amount, as well as a description of the main market commodities.

Several layers of geospatial information on theme "Mineral resources" have been published on the National Geoportal

Statistical Data

Number of new visitors and those returning for 2015



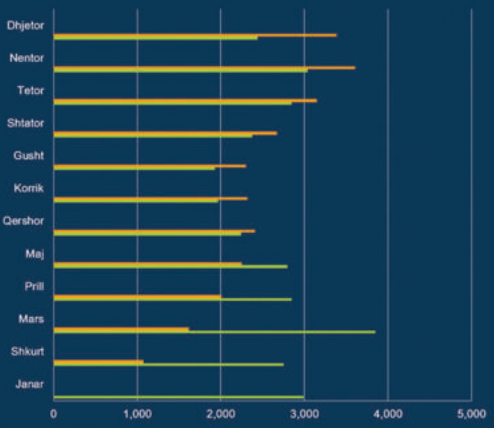
New visitors

The number of new visitors reaches a total of 7963 for the year 2015

Returning visitors

The number of returning visitors reaches a total of 3085 for the year 2015

Number of new visitors and those returning for 2016



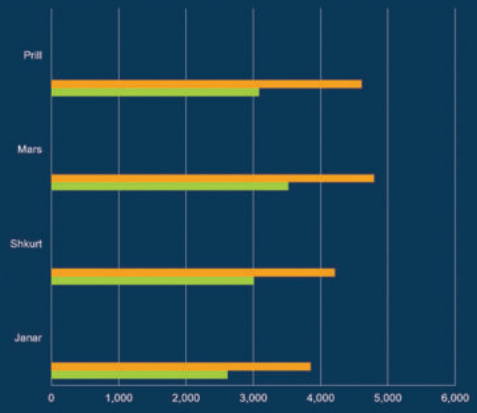
New visitors

The number of new visitors reaches a total of 32 006 for the year 2016

Returning visitors

The number of returning visitors reaches a total of 26 779 for the year 2016

Number of new visitors and those returning for 2017



New visitors

The number of new visitors reaches a total of 12 243 for the year 2017

Returning visitors

The number of returning visitors reaches a total of 17 472 for the year 2017

Statistical Data

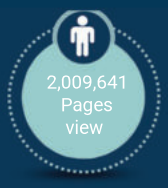
Statistical data for the period January 2017 - December 2017

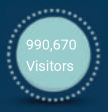
Weekly graph of users 2017

Graph of users 2017

Active users in 1 day	Active users in 7 days	Active users in 14 days	Active users in 30 day
327	2,729	4,669	7,908

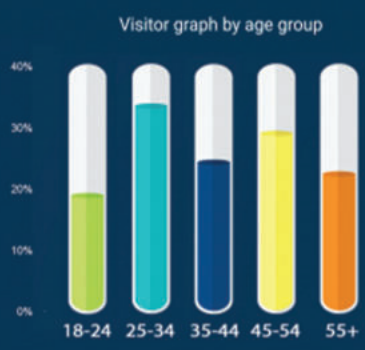
Graph of users during the year





Visitors by unique IP

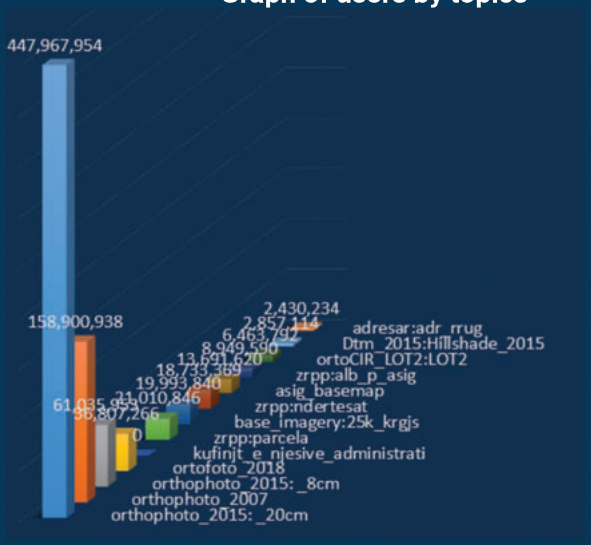
24,870 Albania	4,493 USA	2,387 Italy	1,745 Germany	632 Grecee
1,042 Russia	240 Netherland	225 Zwitzerland	225 Serbia	11,988 Others



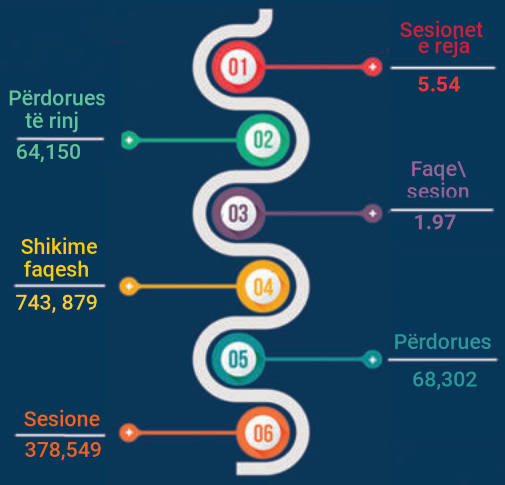
Statistical Data

Statistical data for the period January 2018 - December 2018

Graph of users by topics



Graph of users



Users by countries from all over the world

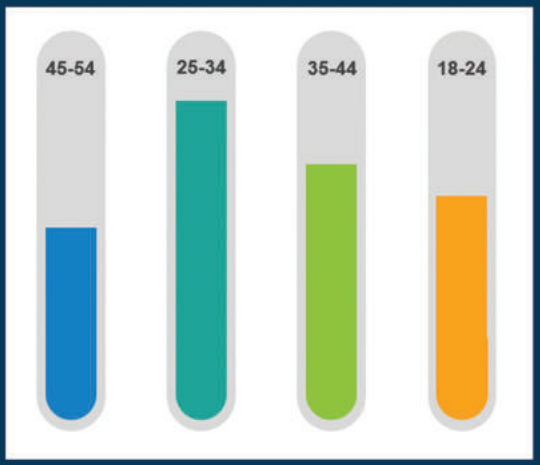
Visitors 668229

Pages views 743,879

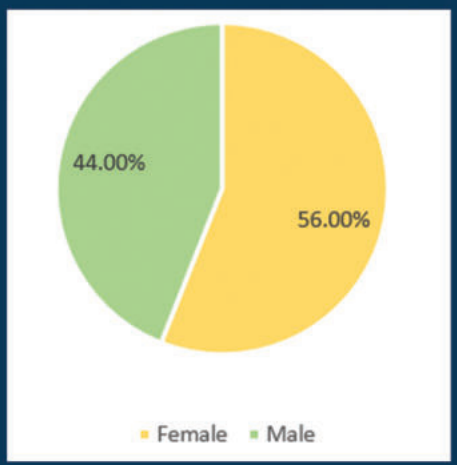
94% Visitors from Europe

Visitors by unique IP

59,829 Albania	2,533 Kosovo	1,462 Italy	830 USA	450 Germany
390 Greece	292 Great Britain	343 Serbia	337 Croatia	357 France



Visitor graph by age group

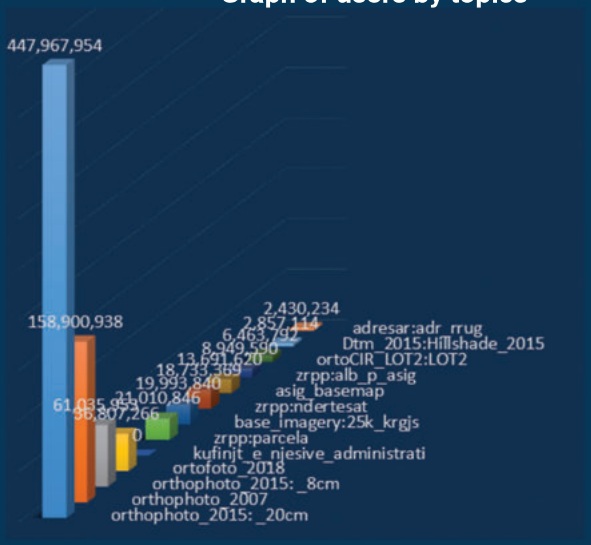


Visitor graph by gender

Statistical Data

Statistical data for the period January 2019 - December 2019

Graph of users by topics



Graph of users

Users by countries from all over the world

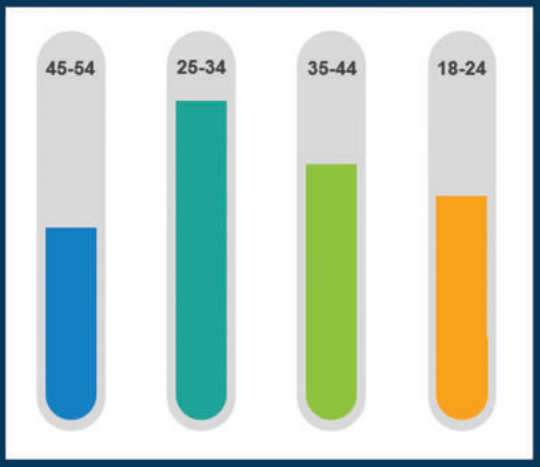
Visitors 668229

Pages views 743,879

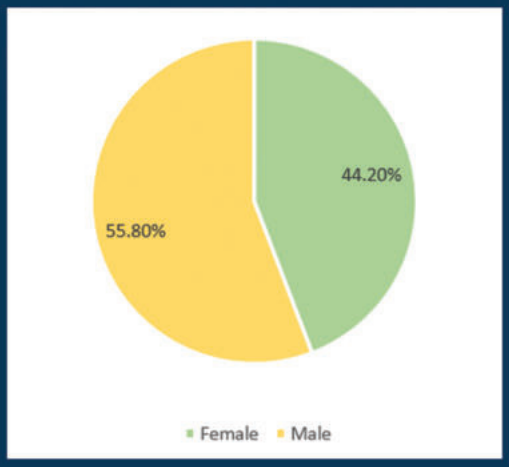
94% Visitors from Europe

Visitors by unique IP

67,968 Albania	3,311 Kosovo	2780 Italy	1295 USA	621 Germany
501 Greece	395 Great Britain	246 Ukraina	227 Croatia	357 France



Visitor graph by age group

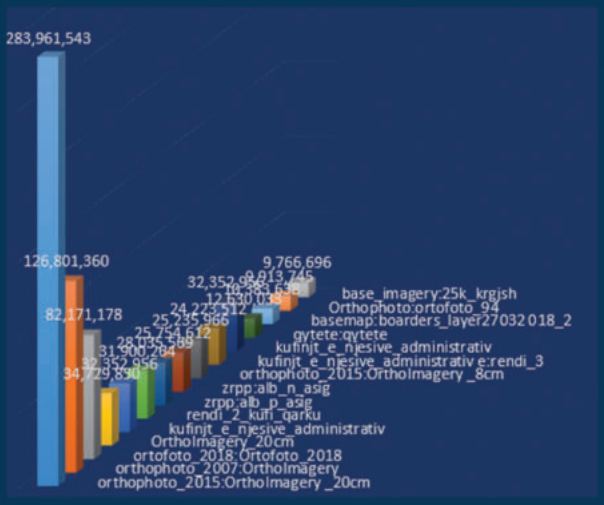


Visitor graph by gender

Statistical Data

Statistical data for the period January 2020 - December 2020

Graph of users by topics



Graph of users

Pages views 1,093,324

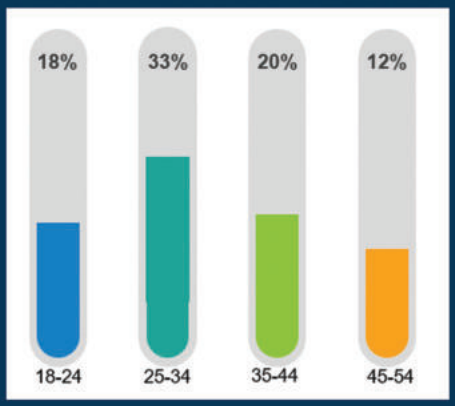
Users by countries from all over the world

Visitors 93,893

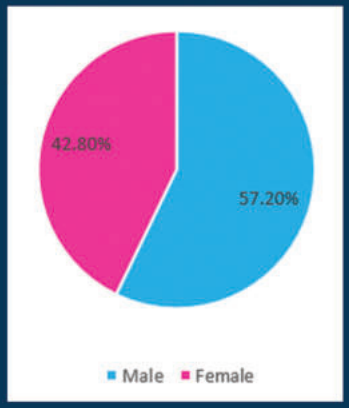
95% Visitors from Europe

Visitors by unique IP

84,368 Albania	4,482 Kosovo	1,688 Italy	956 USA	810 Germany
584 Greece	461 Great britain	329 Switzerland	280 France	295 Others



Visitor chart by age group

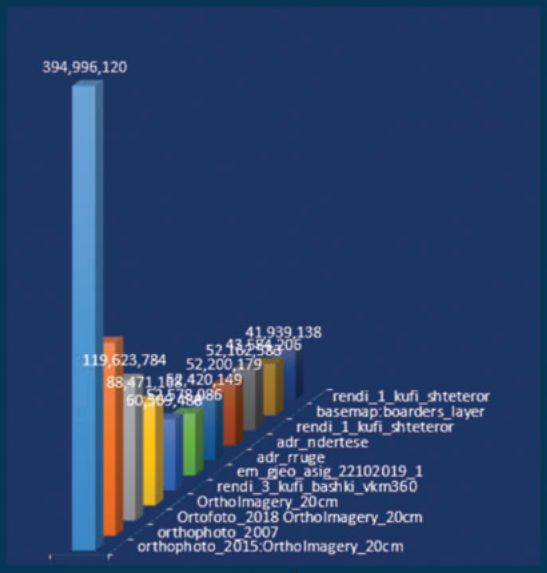


Visitor graph by gender

Statistical Data

Statistical data for the period January 2021 - December 2021

Graph of users by topics



Graph of users

Users by countries from all over the world

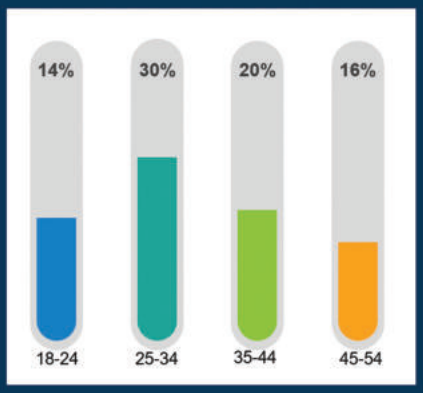
Pages views 1,093,324

Visitors 93,893

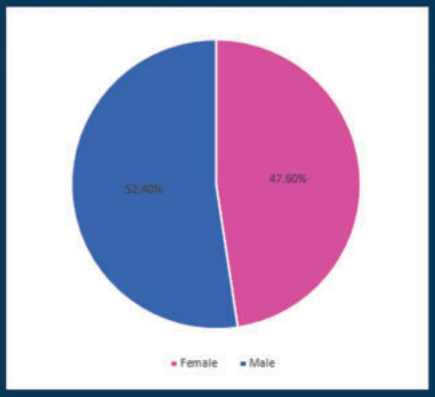
95% Visitors from Europe

Visitors by unique IP

93,198 Albania	4,241 Kosovo	2,548 Turkey	2,210 USA	1,288 Germany
635 Greece	533 Great Britain	499 Turkey	559 Bulgaria	5,076 Indonesia



Visitor chart by age group



Visitor graph by gender