

“ Mapping of broadband infrastructure in Albania ”



A K E P
**AUTORITETI I KOMUNIKIMEVE
ELEKTRONIKE DHE POSTARE**

11-12 April 2016, Warsaw, Poland

Market overview

- ❑ During 2015, the electronic communications market has increased regarding the use of mobile networks services and broadband Internet access.

- ❑ The broadband access has grown in both its segments: Fixed and Mobile networks.

Background

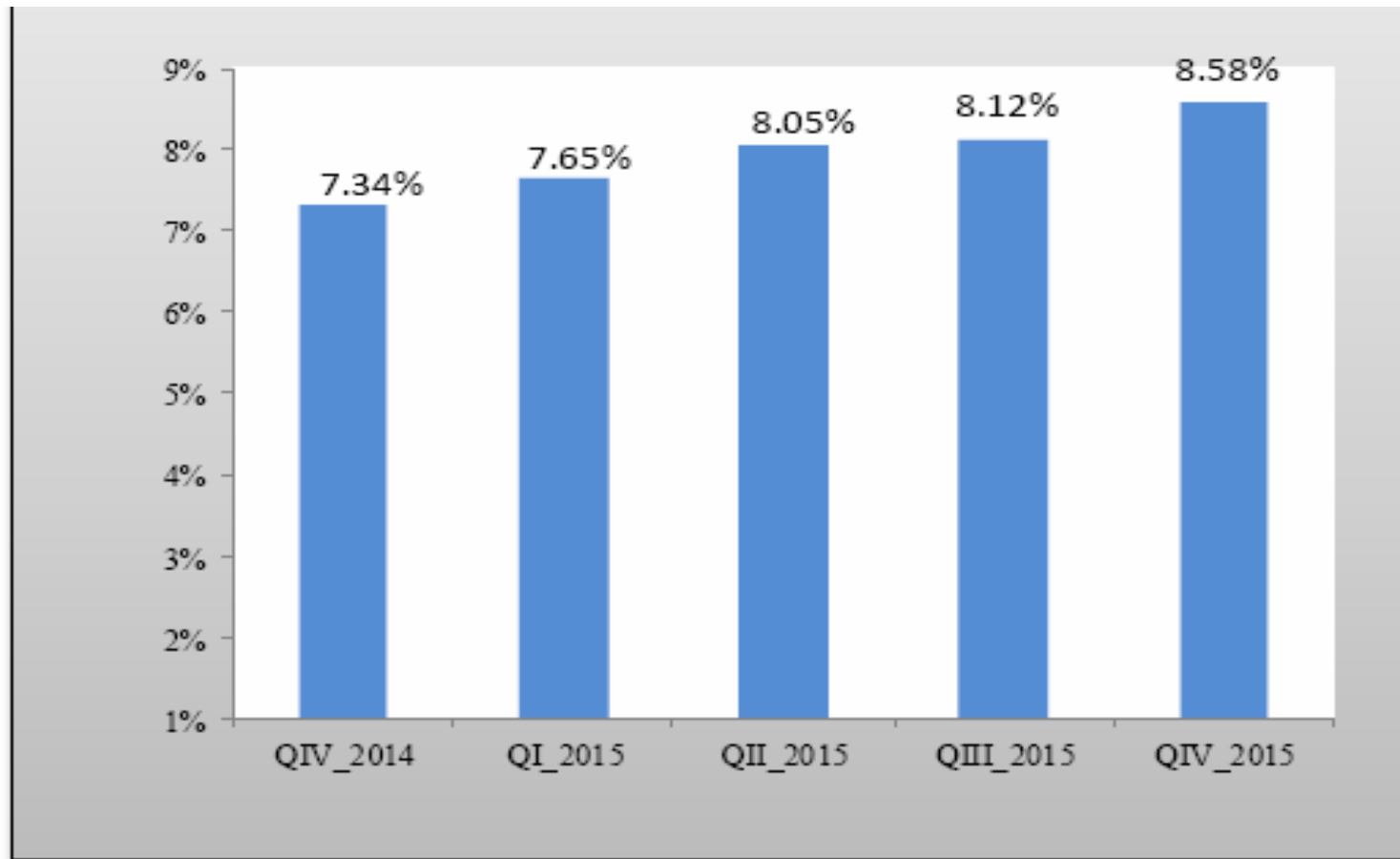
- ❑ Mobile operators, significant investment in 3G and 4G networks:
- ❑ Coverage: 85% of territory / 92% of population
- ❑ Albtelecom significant investment in NGN/NGA: 100% of subscribers connected to NGA (MSAN)
- ❑ Mobile broadband subscribers and data traffic are growing.
- ❑ More effective use of spectrum; focus on the provision of quality services and competitive prices for consumers

Broadband Access (2015)

	Number of users with fixed acces broadband	Penetration/ Population	Penetration/ Families
QIV_2014	207,754	7.3%	28.8%
QI_2015	216,614	7.6%	30.0%
QII_2015	227,905	8.0%	31.5%
QIII_2015	229,859	8.1%	31.8%
QIV_2015	242,870	8.6%	33.6%
Change QIV_2015/QIII_2015	5.7%		

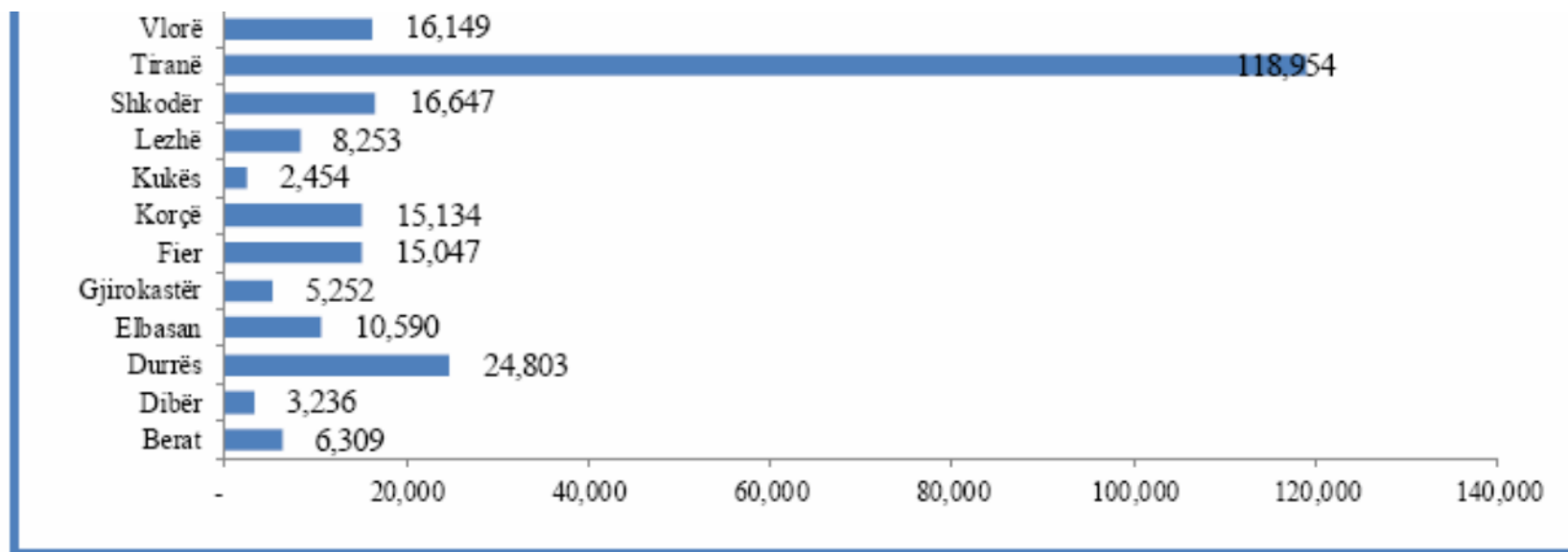
Penetration rate per capita

□ Penetration rate for population with fixed broadband access



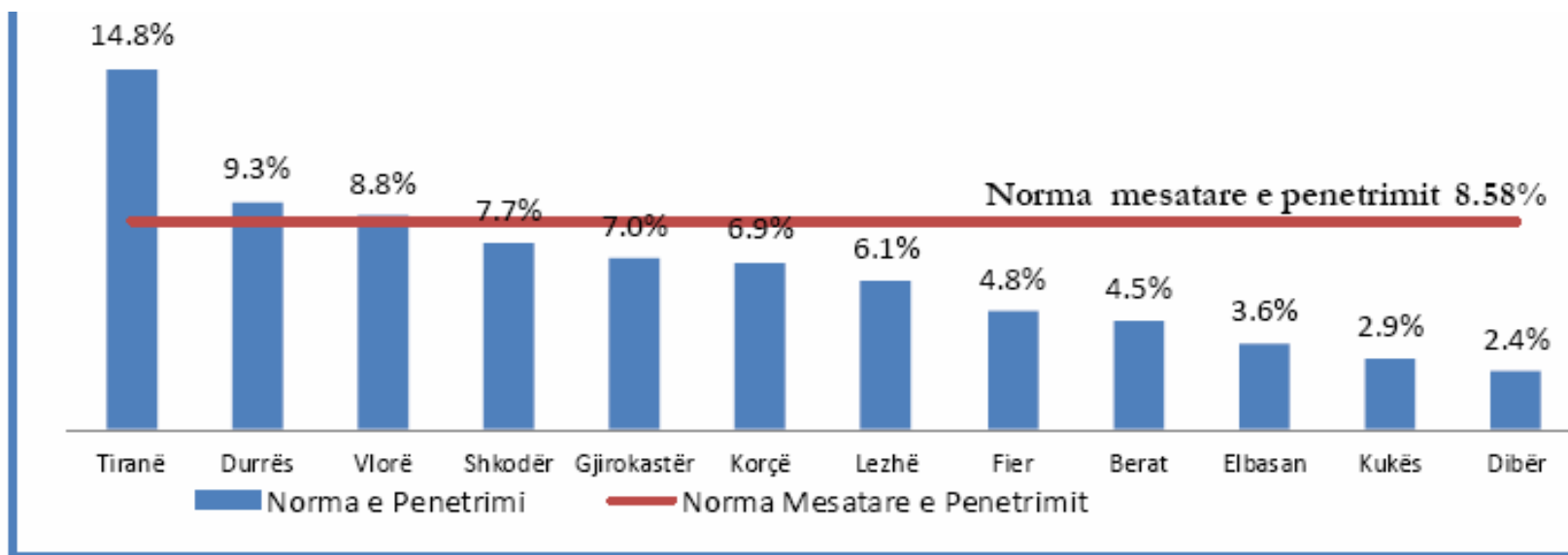
Number of lines

- Number of lines for users with fixed broadband access referring districts QIV_2015



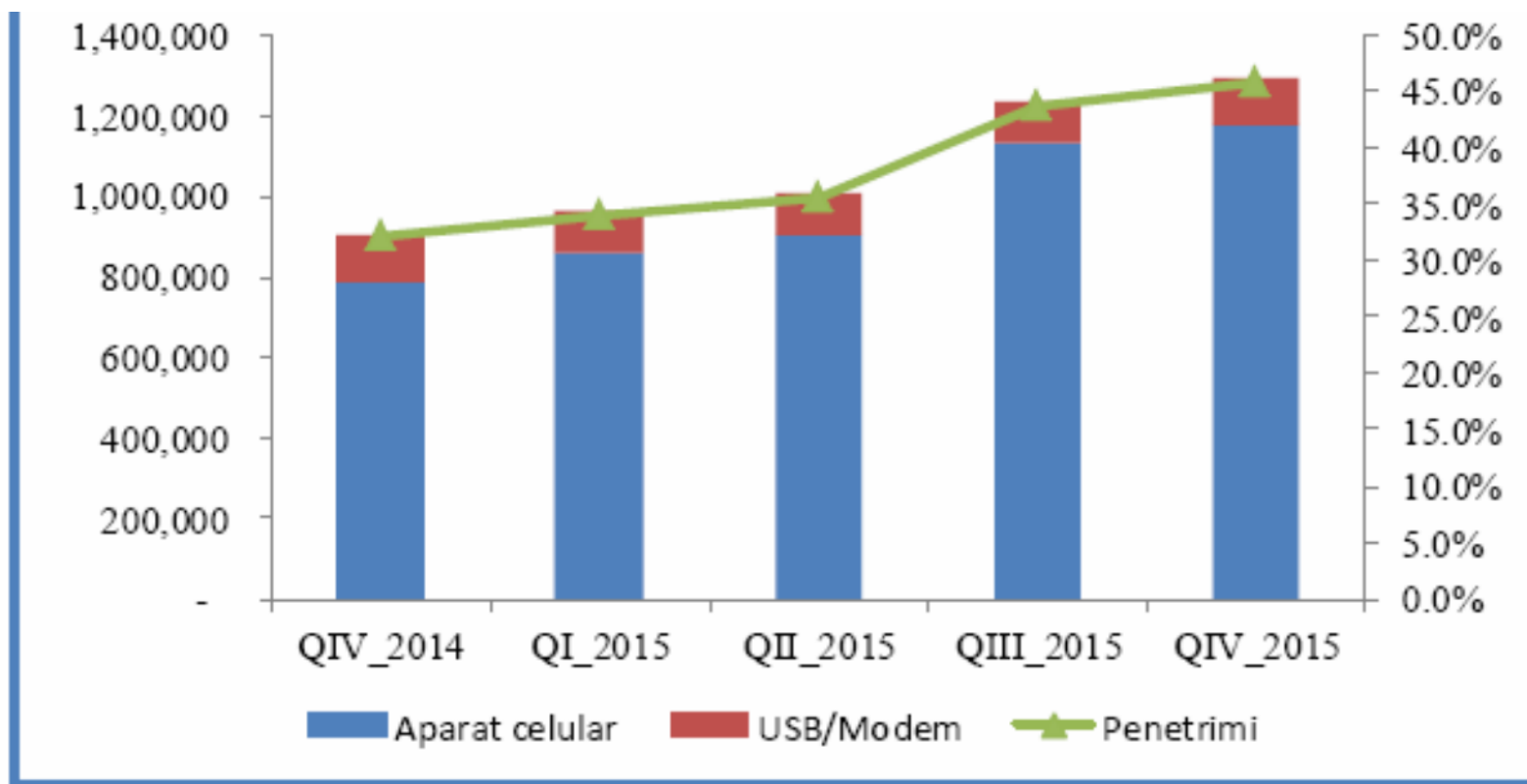
Penetration rate

- **Penetration rate of Access in Broadband Fixed Networks referring districts QIV_ 2015**



Number of Subscribers

Number of Subscribers with mobile broadband access (3G-4G)



Internet/Broadband Infrastructure

- Broadband access services are provided through a variety of electronic communications networks:
 - Cable networks:
 - xDSL - networks based on copper cables
 - FTTx - networks based on optical fiber cables
 - Networks based on coaxial cables
 - HFC (Hybrid optical-coaxial networks).
 - Wireless networks:
 - GSM/GPRS/EDGE
 - UMTS / HSDPA / HSPA
 - Wi-Fi - wireless local area networks,
 - LTE

Broadband access in rural areas

- ❑ AKEP with decisions dated in 2015 has approved areas with low population density for covering them with broadband services and other areas for QoS improving.
- ❑ Stakeholders have deposited in AKEP a cooperation agreement for co-investing in low population density zones. Covering them with broadband services and QoS improvement.
- ❑ Decisions to offer broadband services in such areas have been taken in pursuance of the decision No. 300 of Council of Ministers (removing restrictions on technology and services) and in the framework of actions under “Plan for Universal Service in the field of electronic communications 2013-2016”

Regulatory measures

- ❑ Regulation No. 22 dated 24.06.2011 “On Technical Requirements for Construction of Urban Infrastructure and cable networks, fiber optics, suburban networks of Electronic Communications” (amended)

- ❑ Regulation No. 26 dated 16.08.2012 for “Content, form and functioning of Electronic Registry of public electronic communications networks in the Republic of Albania ”
 - Twice a year reports

 - Within 30 days to reflect new installations

About the Project

- ❑ Objective of the project has been integration in a Web-GIS platform and establishing following systems:
 - Radio frequency transmission systems
 - Communication infrastructure mapping systems
 - 180 Services Providers
 - 4 Mobile Operators
 - 6 months to collect the data.

- ❑ Integration of all information and establishing Mapping Infrastructure for electronic communications systems in Web-GIS enables AKEP a fast decision in: managing politics, monitoring, control, reporting etc.

- ❑ System is built as a multiuser system which offers the possibility to manage different roles for every user.
- ❑ Mapping system offer the possibility to the operators and Administrative Unit to easily update and create their own communication maps.

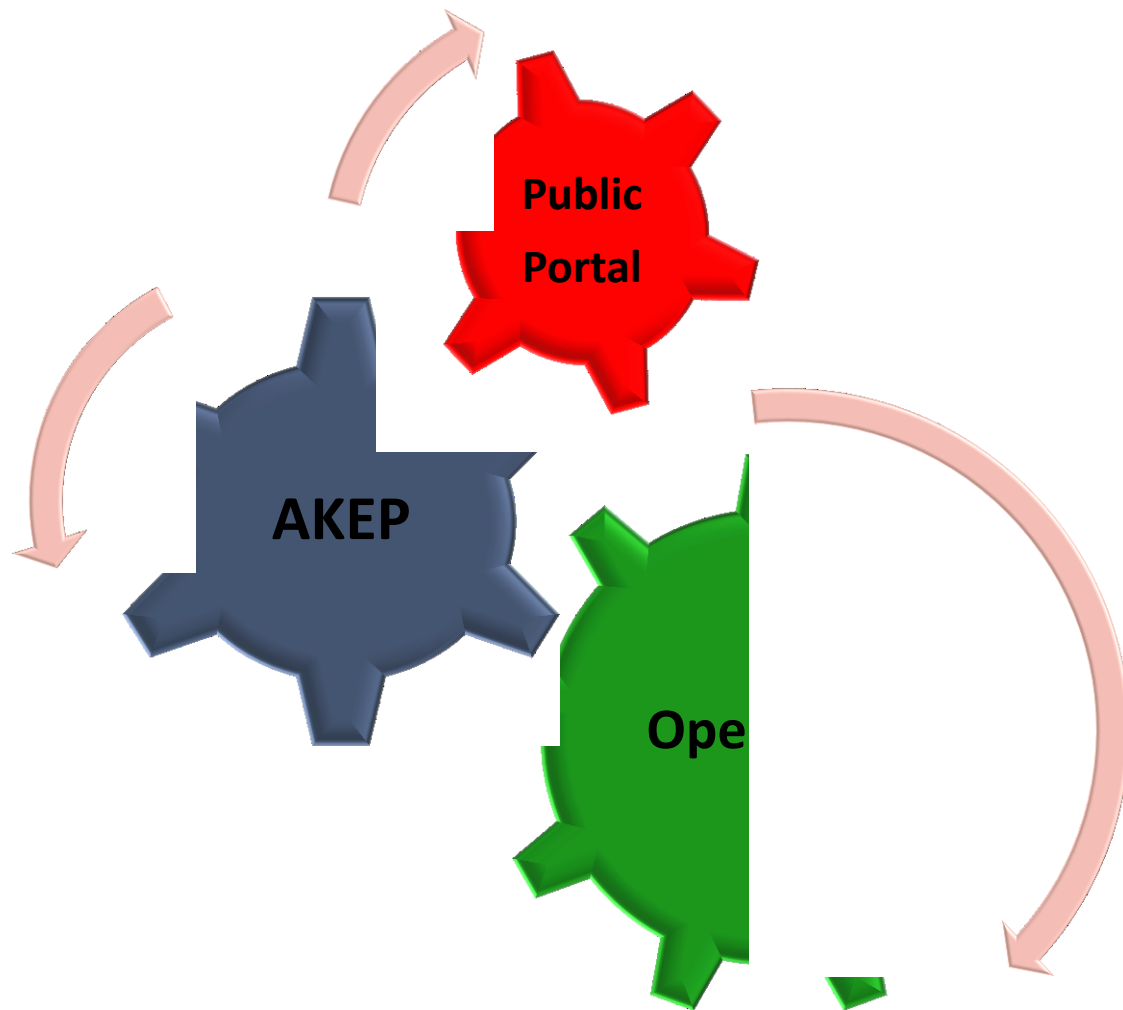
System characteristics

- GeoServer as Map Server,
- OpenLayers, Geoxt, Geoexplorer ect as Map client
- PostgreSQL/PostGis as a databaze



User Roles

- AKEP
- Operators
- Municipalities
- Public



Mapping System

E - AUTORITETI

- e - Operator
- e - Aplikime
- e - Portabiliteti
- e - Numeracioni
- e - P.P.F.
- e - Konsumatori
- e - Ankime
- e - Njohje Konformiteti

AKTUALITET

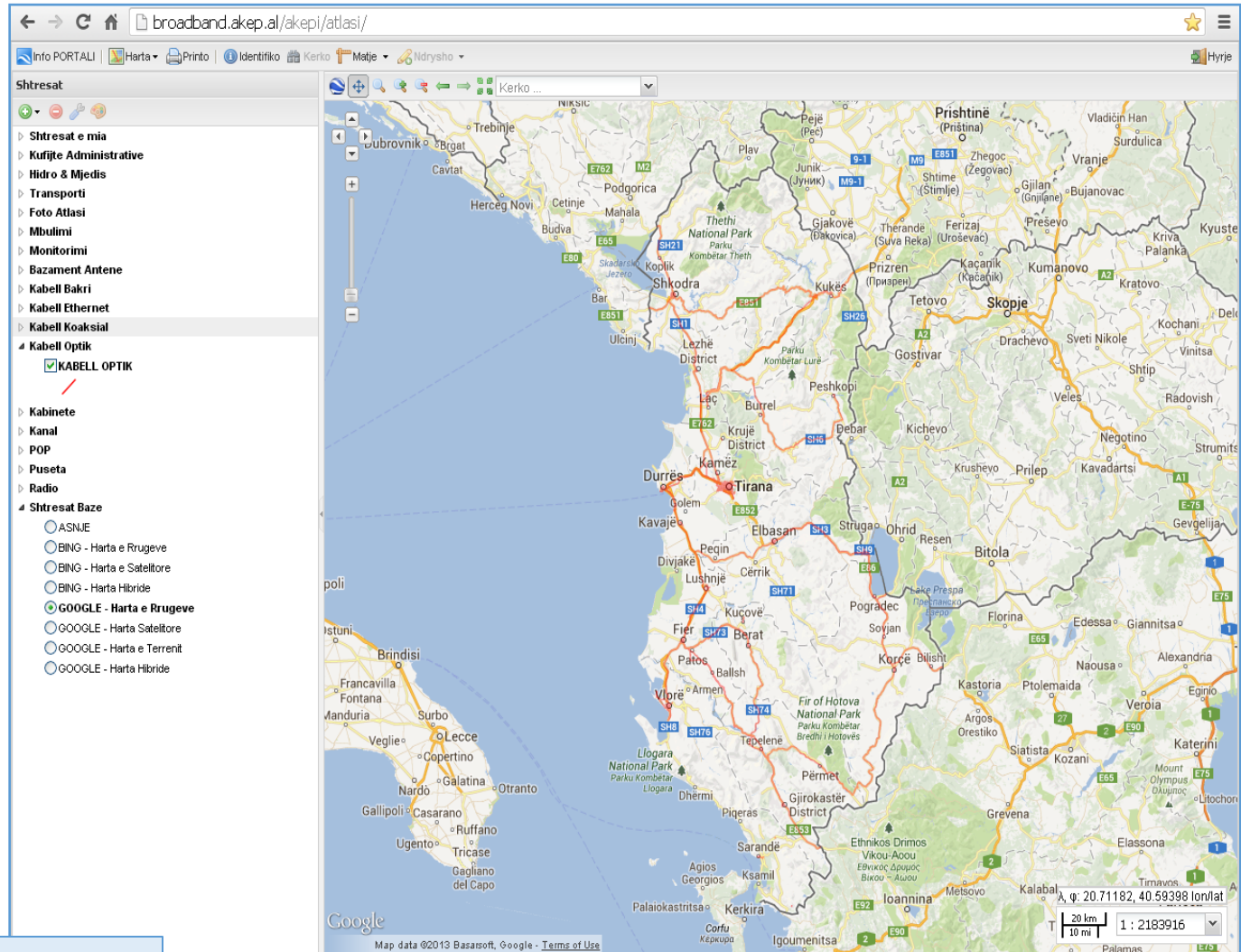
PUBLIKOHEH TREGUESIT STATISTIKORE TË TREGUT TË KOMUNIKIMEVE ELEKTRONIKE PËR 3 MUJORIN IV TË VITIT 2014

Viti 2014 u karakterizua nga një rritje e numrit të pajtimtarëve të internetit. Të dy segmentet e aksesit broadband dhe fiks dhe 3G (karta USB/modem), kanë pasur rritje me rreth 13.3 % dhe 10.5 % krahasuar me 2013, respektivisht. Norma e pentrimit për këtë segment tregu në fund të 2014 ka arritur rreth 11.66% ...

Lexo ma...



BROADBAND



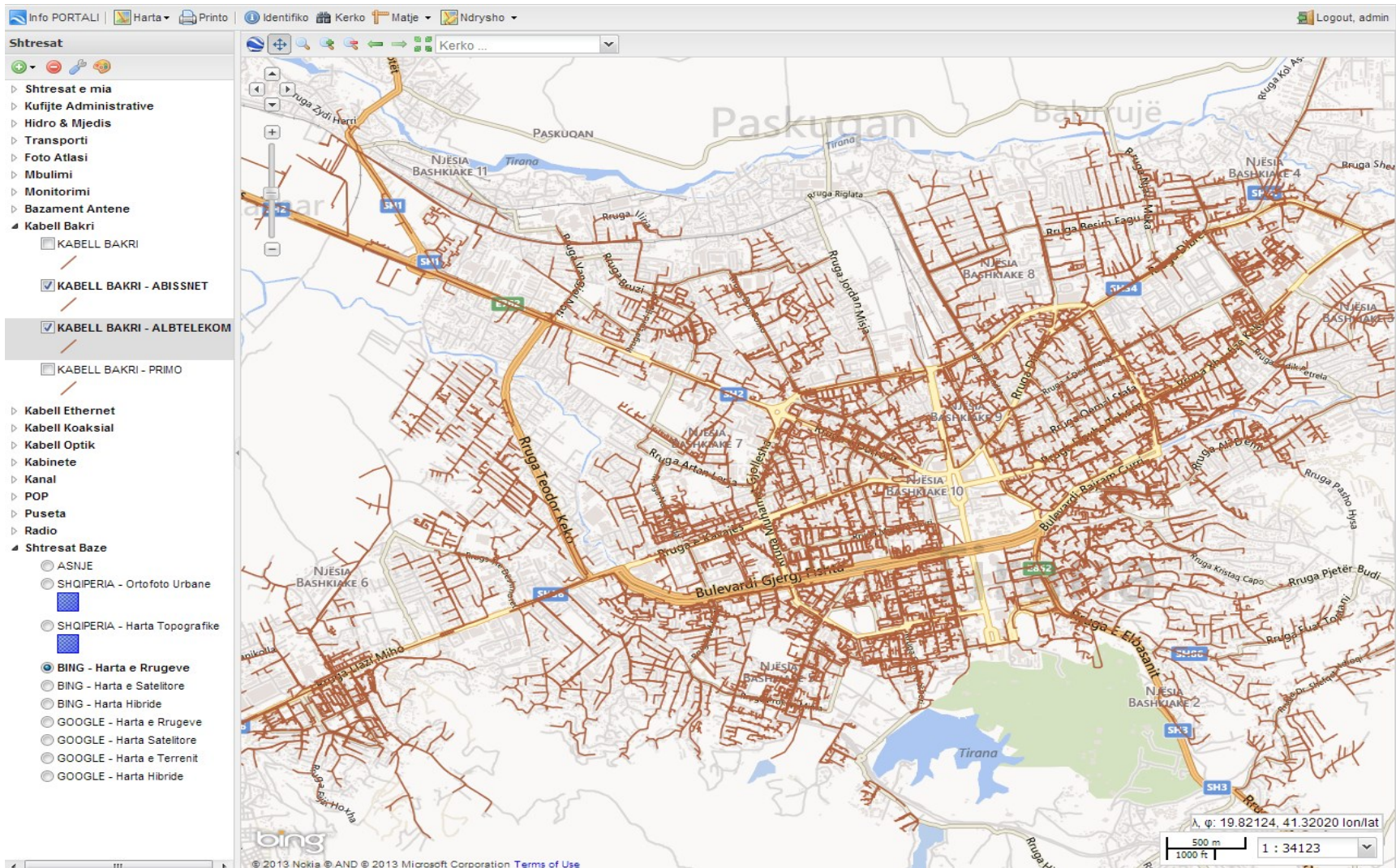
The screenshot shows a web browser interface for the broadband.akep.al website. The address bar displays "broadband.akep.al/akepi/atlasi/". The page features a sidebar menu on the left with categories like "Shtresat", "Kufite Administrative", "Hidro & Mjedis", "Transporti", "Foto Atlasi", "Mbulimi", "Monitorimi", "Bazament Antene", "Kabell Bakri", "Kabell Ethernet", "Kabell Koaksial", and "Kabell Optik". Under "Kabell Optik", there is a checked option for "KABELL OPTIK" and a list of radio options including ASINIE, BING - Harta e Rrugeve, BING - Harta e Satelitore, BING - Harta Hibride, GOOGLE - Harta e Rrugeve, GOOGLE - Harta Satelitore, GOOGLE - Harta e Terrenit, and GOOGLE - Harta Hibride. The main content area displays a map of Albania with various network overlays, including roads, rivers, and city names. The map is centered on Tirana. The bottom of the map shows a scale bar and coordinates: "φ: 20.71182, 40.59398 lonlat".

broadband.akep.al

www.akep.al/broadband

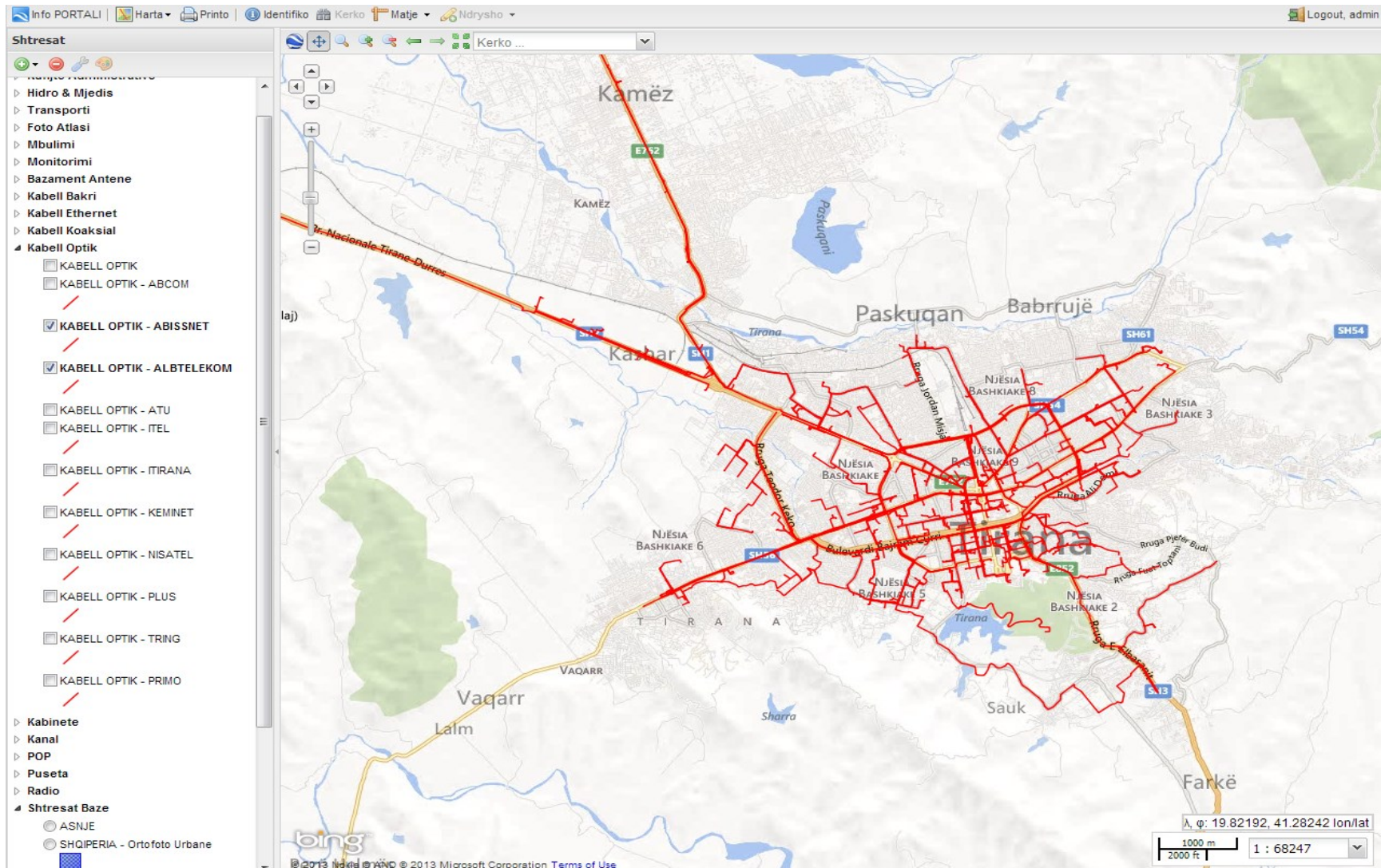
Public interface view

Mapping System



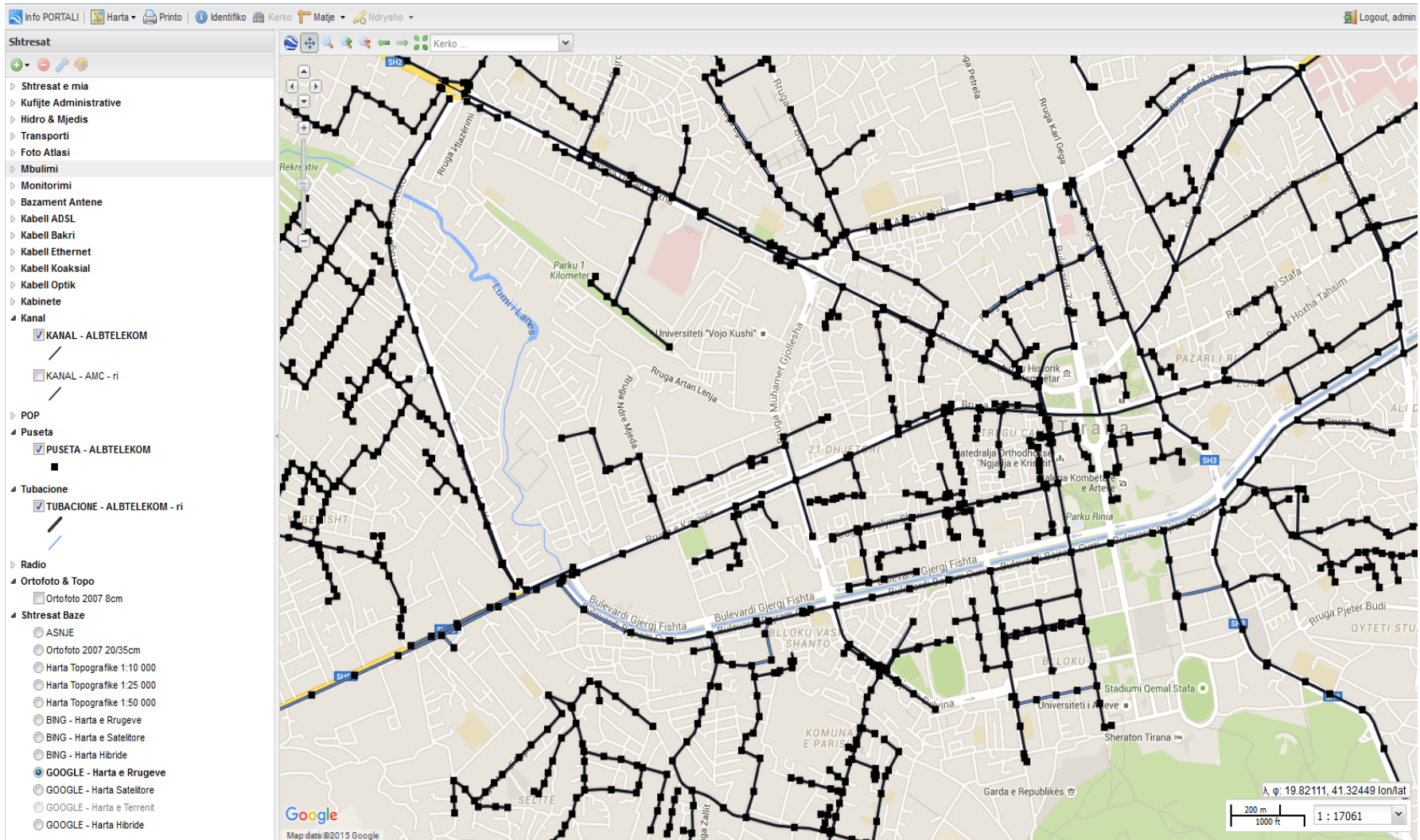
Network infrastructure map : Cooper Cable (by operators)

Mapping System



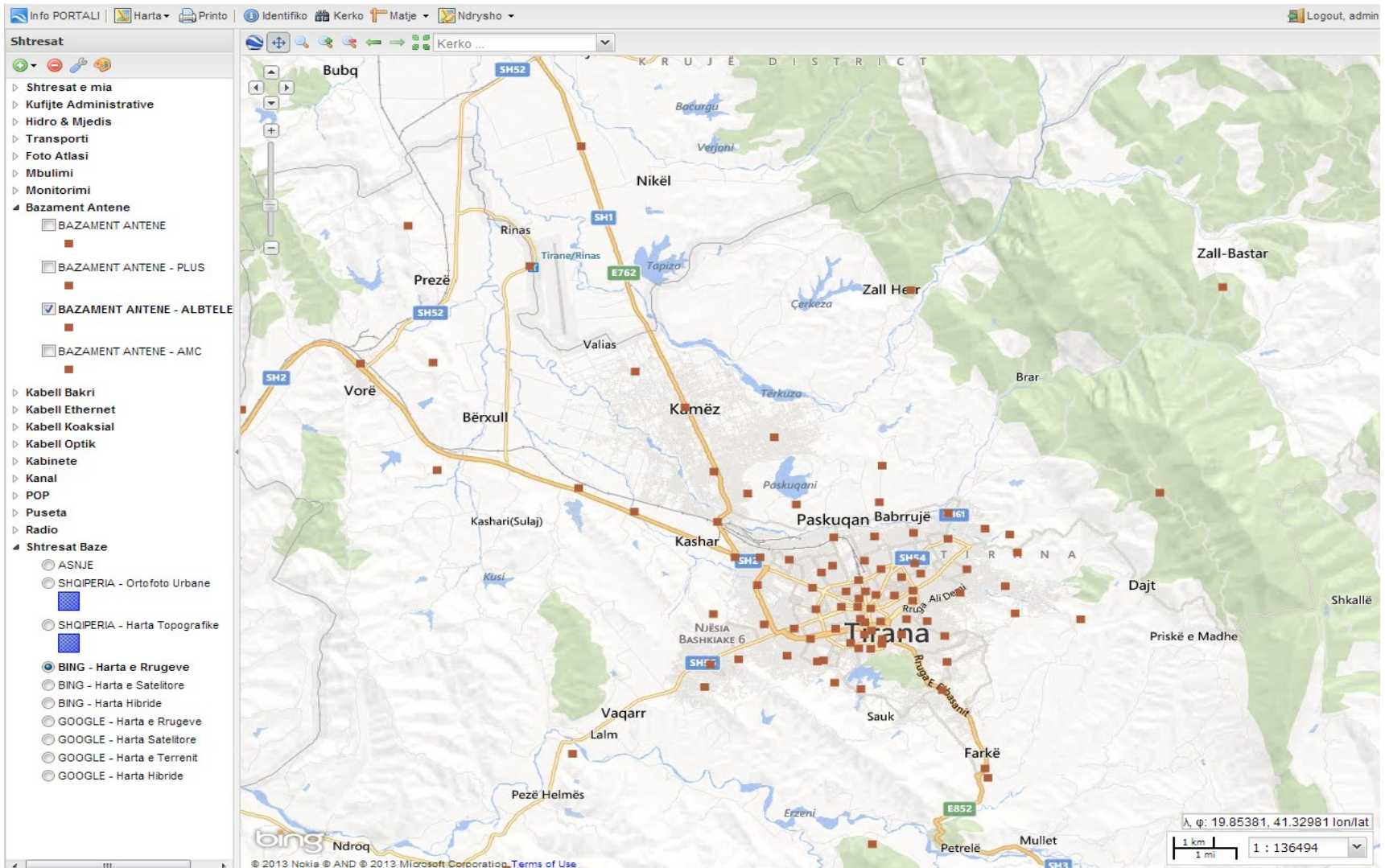
Network infrastructure map : Optical Fiber

Mapping System



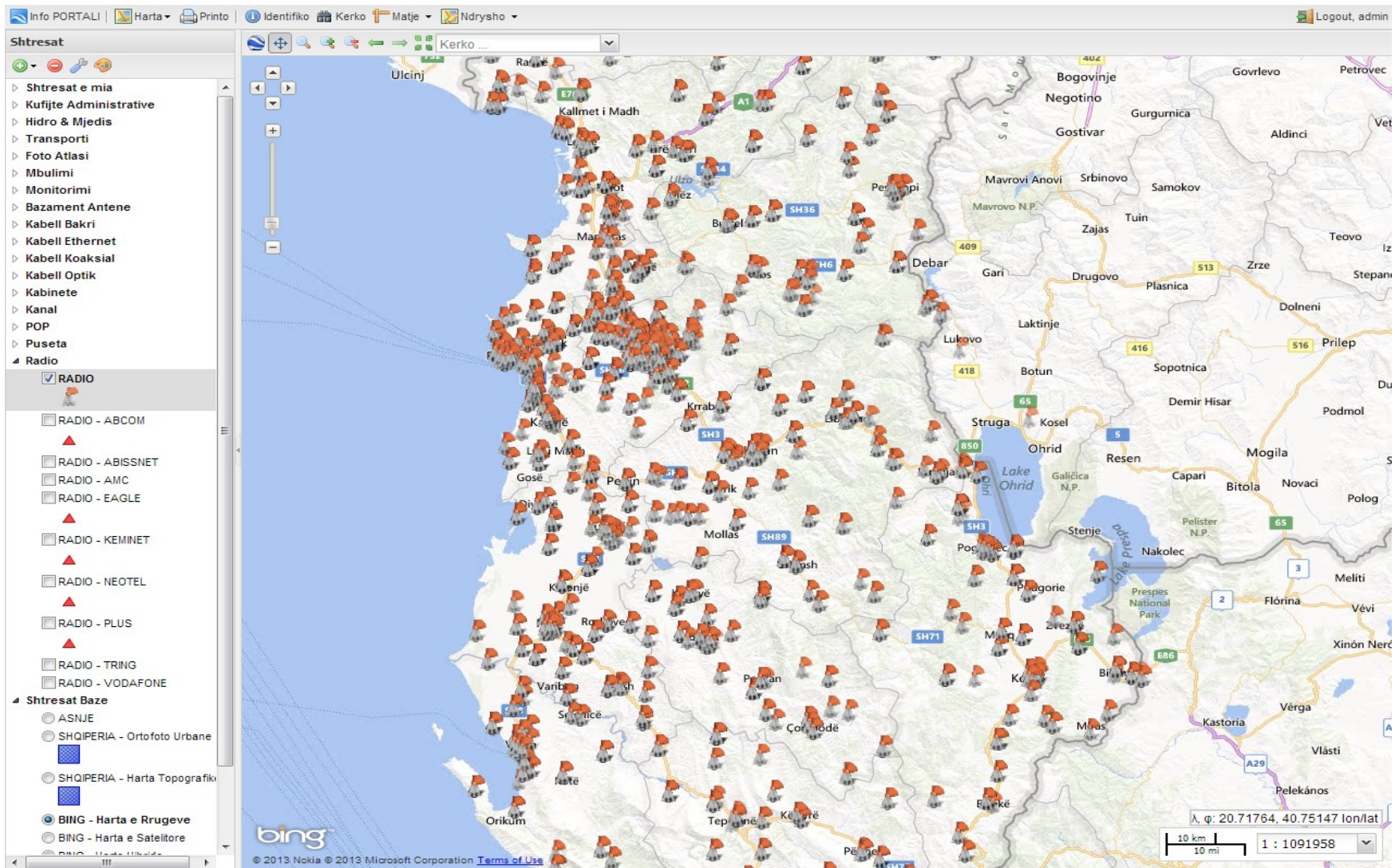
Network infrastructure map: Passive infrastructure

Mapping System



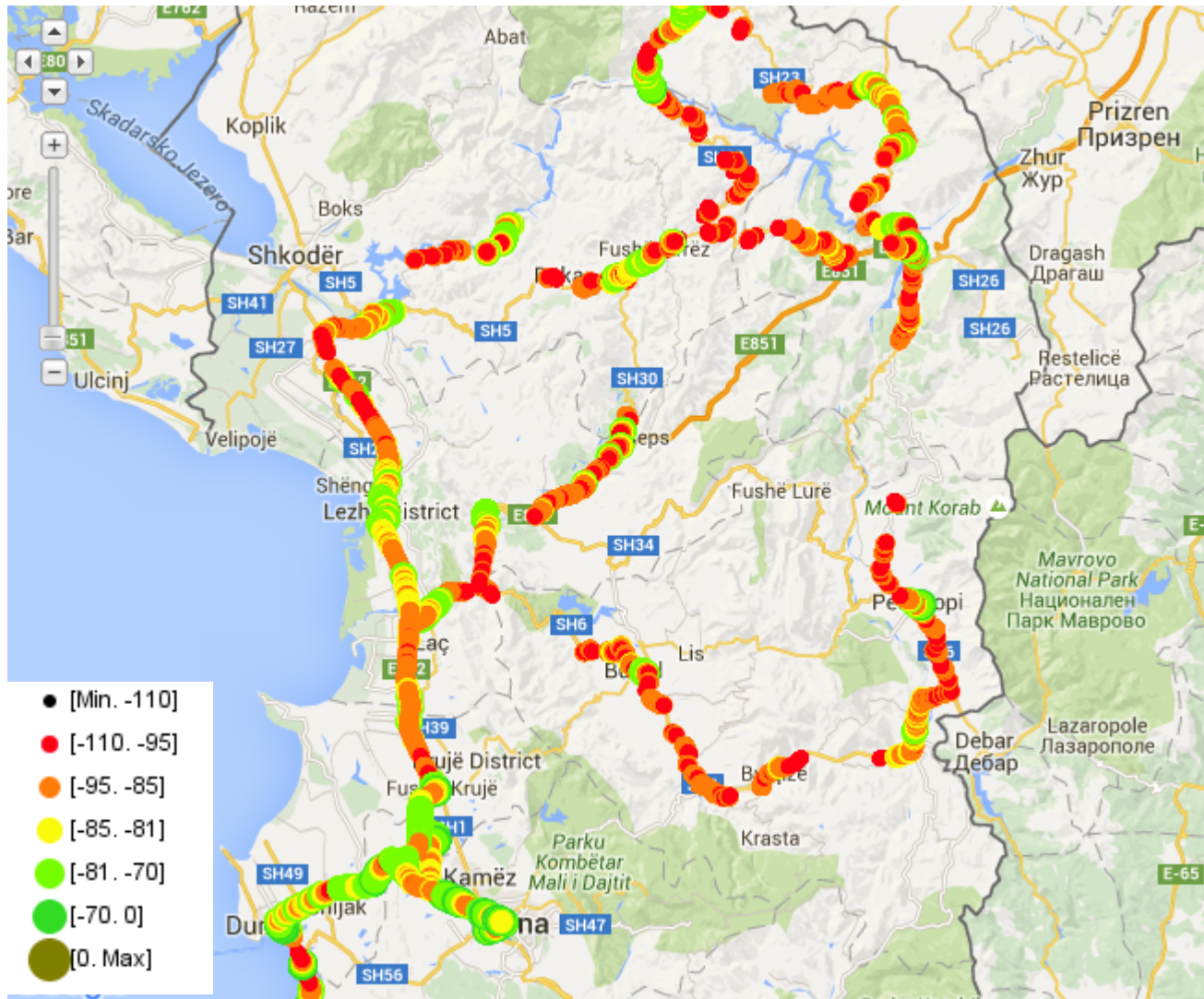
Network infrastructure map : Antenna basement

Mapping System



Network infrastructure map : Radio Transmitters

Mapping System





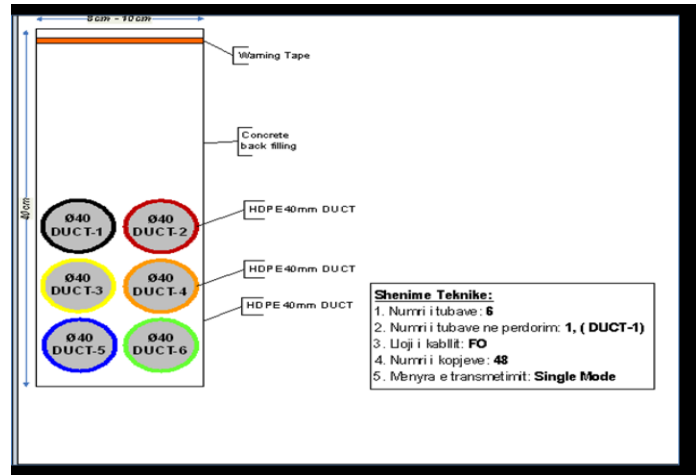
Mobile QoS Monitoring.

Mapping System



Rezultatet e Kerkimit

Emri	Tipi	Linku
Seksion Kanali ...	Kabell Optik ATU	
Antena Llogara	Radio	
Antena Shiroke	Radio	



Population of the lawyer with antenna photos and other objects with a detailed information .

Mapping System

admin
Logout

PAGE LIST

- Radio Vodafone
- Radio Plus
- Radio Eagle
- Radio Amc
- Nr Antenat Vodafone
- Nr Antenat Amc
- Gjat Kab Optik Albtelem
- Gjat Kab Optik Itel
- Amc-Distribution
- Vodafone Distribution
- Eagle-Distribution
- Plus-Distribution
- Abcom-Distribution
- Abissnet-Distribution
- Tring-Distribution
- Radio Operators Distribution
- Optical Fiber Distribution
- Copper Cable Distribution

Optical Fiber Distribution

Export
Print all pages
Print current page

1 2 3 4 11 51 101 > Last >> Define page size

Refresh Quick search

#	Actions	Gid	Operatori	Gjatesia	Tip Kabell	Men Transm	Vendosja	Nr Fije	Shfrytezim	District	Prefekt
01		1121	Itel	24.7492	NULL	NULL	NULL	0	0.0000	TIRANË	TIRAN
02		978	Albtelem	3,764.0000	14	42	46	48	96.0000	LIBRAZHD	ELBAS.
03		30	Keminet	800.0000	DPTTV	NULL	0	0	0.0000	TIRANË	TIRAN
04		861	Albtelem	2,191.0000	14	42	46	48	96.0000	BERAT	BERA
05		443	Itel	4.0103	NULL	NULL	NULL	0	0.0000	TIRANË	TIRAN
06		1275	Itel	4.7521	NULL	NULL	NULL	0	0.0000	TIRANË	TIRAN
07		28	Albtelem	385.0000	4	43	46	48	12.0000	TIRANË	TIRAN
08		945	Itel	7.2768	NULL	NULL	NULL	0	0.0000	TIRANË	TIRAN
09		346	Albtelem	437.0000	6	43	46	48	24.0000	SHKODËR	SHKOD
10		646	Albtelem	521.0000	14	42	46	48	96.0000	TIRANË	TIRAN
11		927	Albtelem	2,937.0000	14	42	46	48	96.0000	LIBRAZHD	ELBAS.
12		98	Albtelem	690.0000	4	43	46	48	12.0000	TIRANË	TIRAN
13		787	Itel	10.6520	NULL	NULL	NULL	0	0.0000	TIRANË	TIRAN
14		329	Albtelem	342.0000	4	43	46	48	12.0000	TIRANË	TIRAN
15		1811	Itel	141.2244	NULL	NULL	NULL	0	0.0000	TIRANË	TIRAN
16		2348	Itel	15.3648	NULL	NULL	NULL	0	0.0000	TIRANË	TIRAN
17		259	Albtelem	1,790.0000	9	42	46	48	48.0000	TIRANË	TIRAN
18		1956	Itel	43.2631	NULL	NULL	NULL	0	0.0000	TIRANË	TIRAN
19		387	Albtelem	271.0000	4	43	46	48	12.0000	KORÇË	KORÇ
20		230	Albtelem	74.0000	9	42	46	48	48.0000	TIRANË	TIRAN

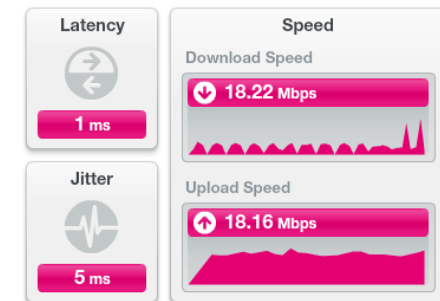
Create filter

Reports module.

- **Mapping the services. Cooperation with ITU and AKOS (Agency for communication networks and services of the Republic of Slovenia)**
 - Team from AKEP visited the AKOS premises
 - Learning from the slovenian experience
 - Optimization the mapping system. Improvement of technical parameters
 - Single platform, service mapping, demand mapping
 - Usefull reports from the huge amount of data.
 - Integration of postal services information within the GIS platform

- **Using a single coordinative system standart in collecting information for mapping network infrastructure. (INSPIRE Standard).**

- 2012: AKEP approved broadband access general terms and conditions for 90 ISP focusing in the QoS.
- From 1.01.2013 all ISP have to:
 - Provide '**broadband speedtester**' for their subscribers on their webpage;
 - Include in the subscribers contracts broadband QoS:



- Cooperation with ITU and UKE – Office of Electronic Communications, Republic of Poland

- QoS measurement tool
 - User-friendly solution, Service and QoS mapping
 - Centralized, Flexible and compatible, different OS
 - Increase transparency and knowledge
 - Improve the QoS
 - Reports and Statistics

Thank You !