Rural Area Information Technology Broadband Network RAIN

Gediminas Šečkus
Public Establishment "Plačiajuostis internetas "
Head of Legal Unit

Public Establishment
"Plačiajuostis internetas"

Who We Are

Plačiajuostis internetas is a public establishment 100% owned by the Government, established in 2005.

Our main aims:

- Meet public interests by creating broadband access and providing broadband services;
- Prepare projects and implement them;
- Manage information technology infrastructures, organize their exploitation.

Our Mission

- To provide possibilities for use of the latest IT innovations to the **society** in order to minimize the digital divide.

- To be a reliable ICT partner to the **customers**.

- To generate added value by using effectively the State's property and, in cooperation with **stakeholders**, participate in implementation of the information society development policies in the country.

- To create an environment for nurturing highly qualified **experts**, focused towards self-improvement and striving for implementation of the mission and goals of the organization.

Projects RAIN and RAIN-2:
Implementation

Circumstances of the RAIN Project

- In order to induce development of broadband, Lithuanian authorities decided to justify public intervention to construction of broadband infrastructure in rural, or "white", areas.

- It was decided to support the construction of infrastructure in rural areas of Lithuania which are currently not served and where are no plans for coverage in near future. It would be available to all operators on non-discriminatory terms (they will provide broadband services to end users).

- The main goal of the project RAIN is to help eliminate e-divide of broadband infrastructure between cities and rural regions, to increase social cohesion and contribute to economic growth by achieving these goals.

Project Development Stages

- **R**ural **A**rea **I**nformation Technology Broadband **N**etwork (**RAIN-1**)

  - *Implementation period: 2005 – 2008.*

- Development of **R**ural **A**rea **I**nformation Technology Broadband **N**etwork (**RAIN-2**)

  - *Implementation period: 2009 – 2013.*

Project RAIN-1: Facts

- RAIN-1 was implemented by four partners:
  - The Institute of Mathematics and Informatics;
  - Public Establishment "Placiajuostis internetas";
  - The Ministry of Transport and Communications;
  - The Ministry of Education and Science.

- **3357** kilometers of fiber optical lines were built;
- **509** network nodes were installed;
- **467** elderates were connected to **51** municipality;

- Value of the project: **21 million** EUR.

Project RAIN-1: Results

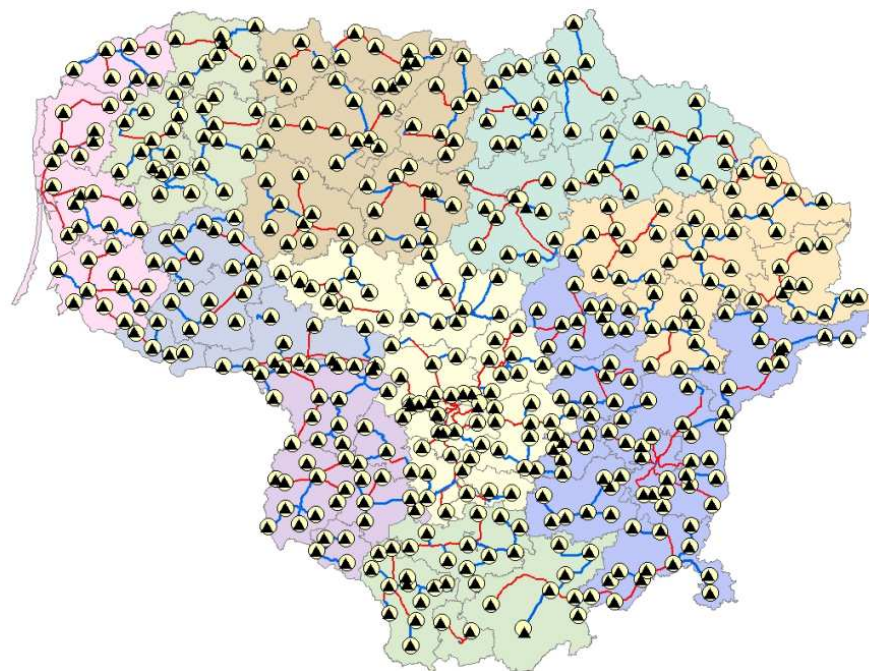Broadband services are available by RAIN network:
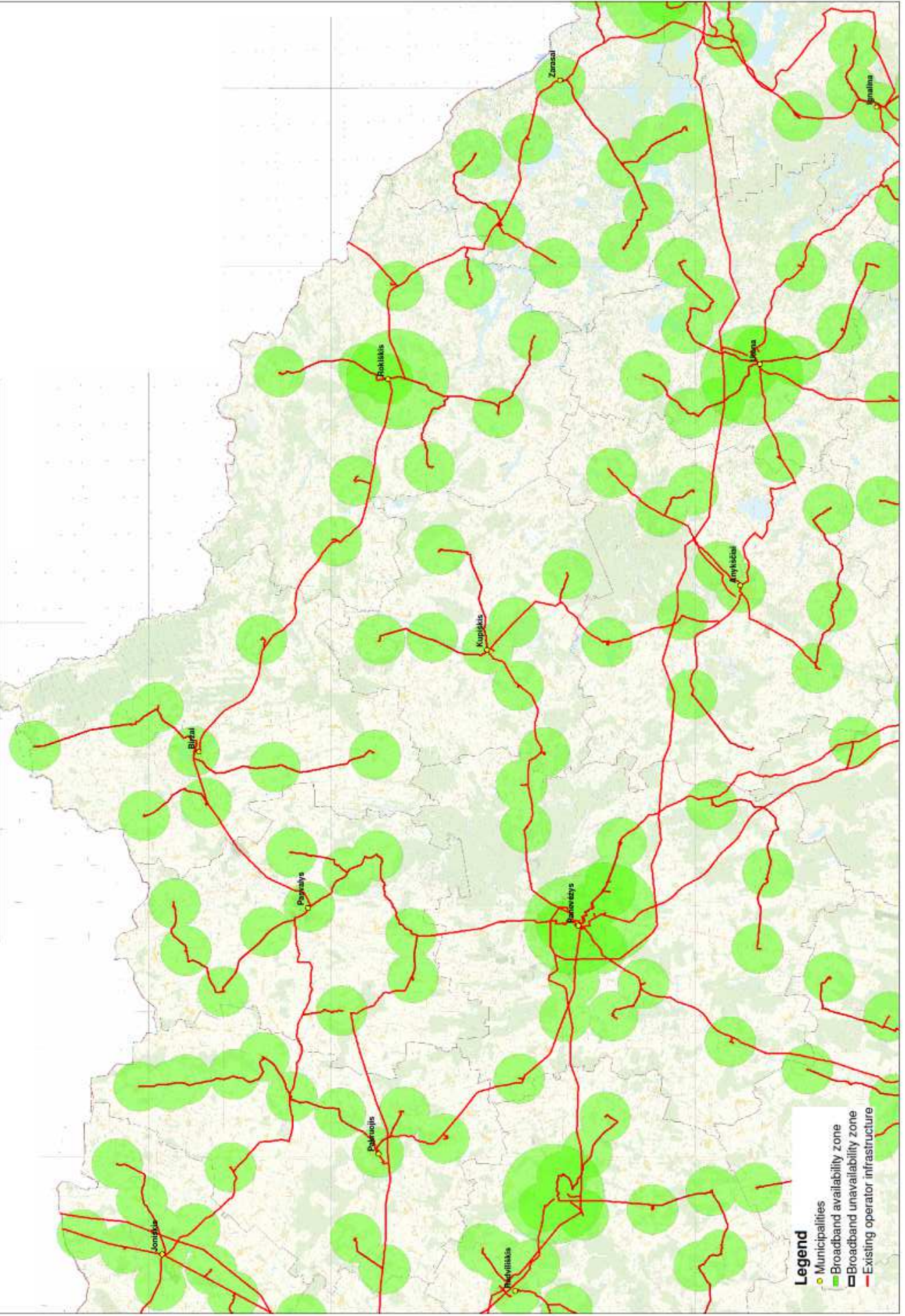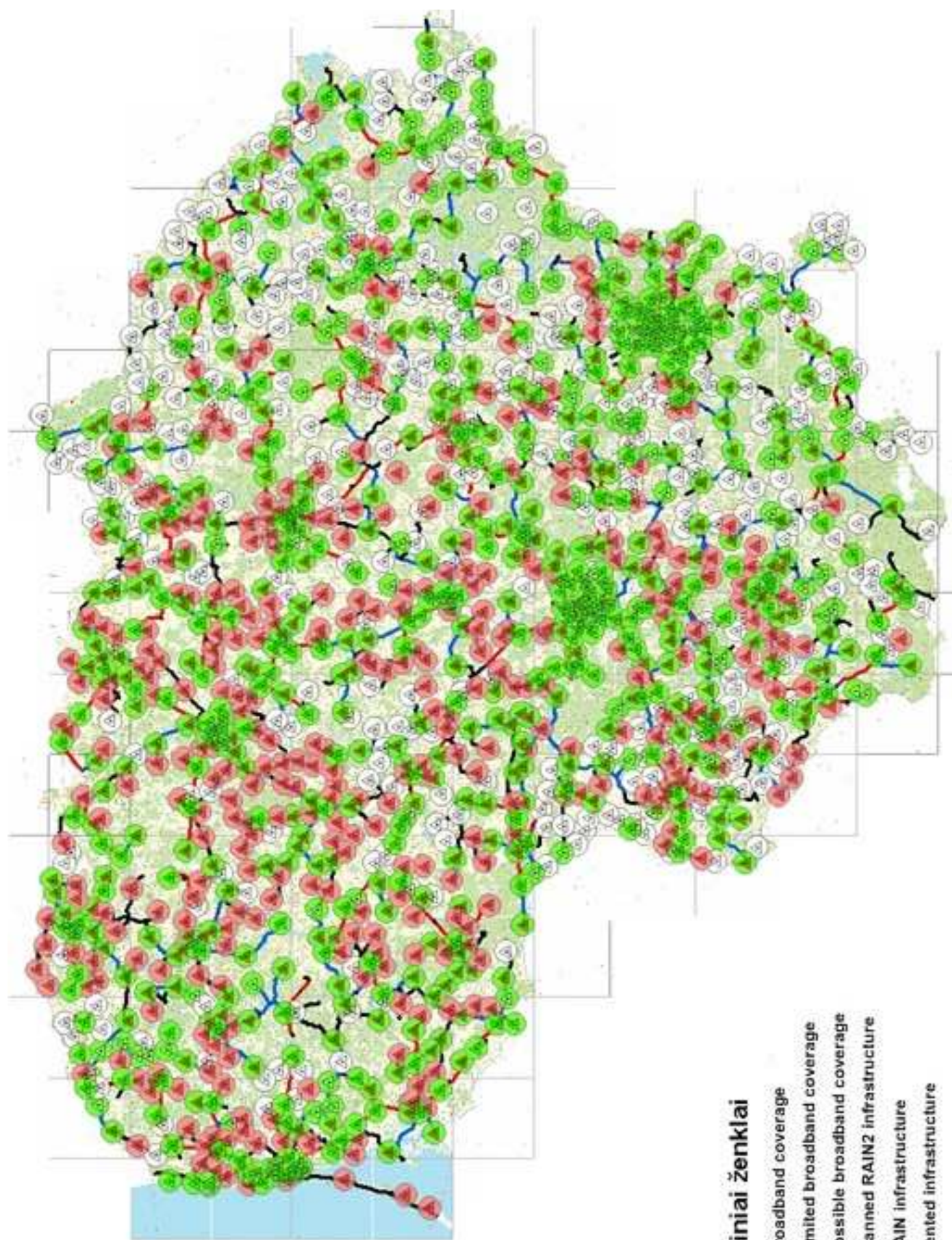

330 schools

467 elderates

More than **300 000** inhabitants
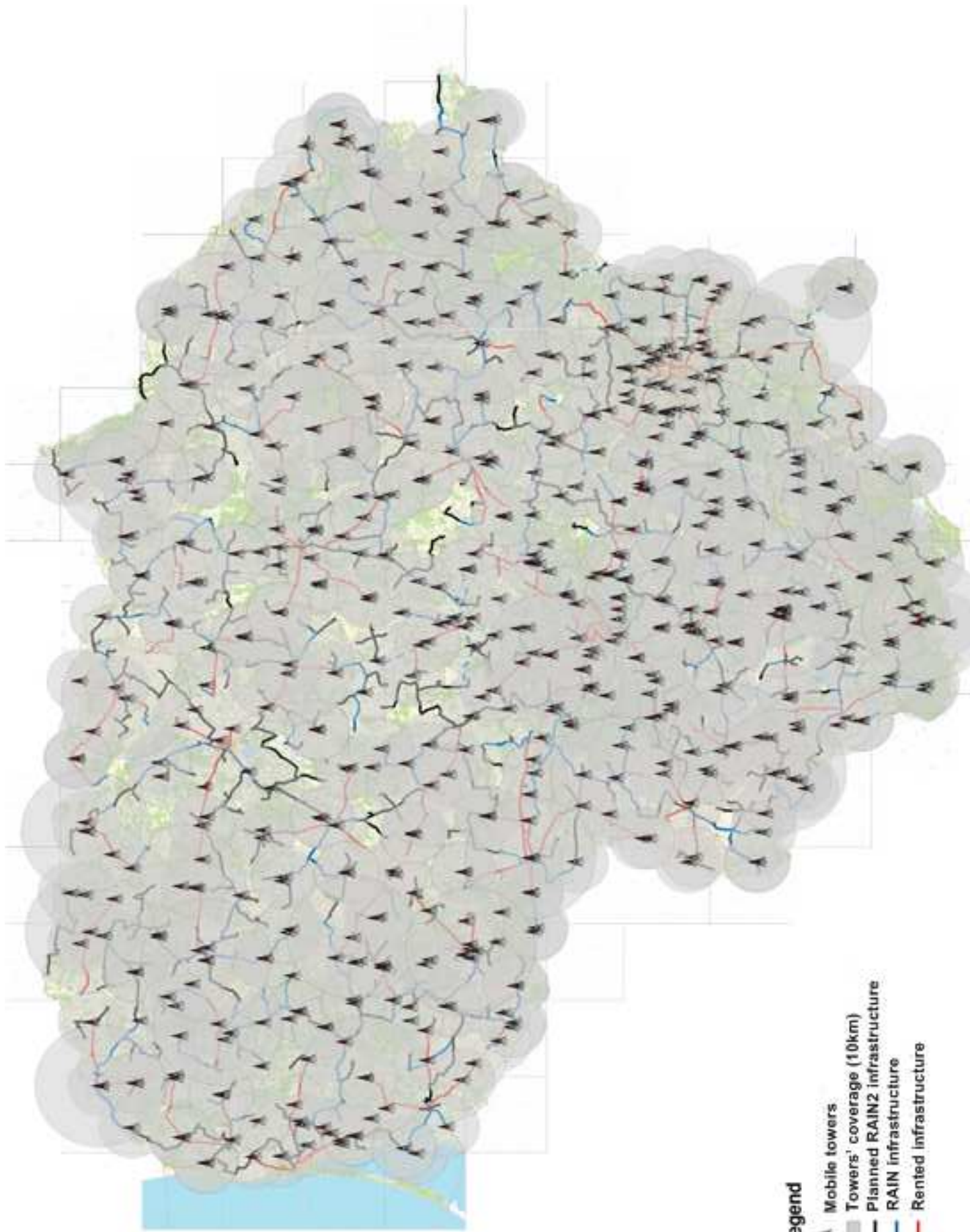
Broadband penetration in Panevėžys district

Legend
- Municipalities
- Broadband availability zone
- Broadband unavailability zone
- Existing operator infrastructure

Sutartiniai Ženklai

- Broadband coverage
- Limited broadband coverage
- Possible broadband coverage
- Planned RAIN2 infrastructure
- RAIN infrastructure
- Rented infrastructure

Legend

- ◤ Mobile towers
- ▨ Towers' coverage (10km)
- — Planned RAIN2 infrastructure
- — RAIN infrastructure
- — Rented infrastructure

Project RAIN-2: Presumptions

- Different operators have developed sufficient "last mile" infrastructure in large part of country's territory. The main reason preventing development of high quality broadband services to all rural residents and organizations – **the missing part of the network infrastructure, sufficient bandwidth aggregation part which combines operators' infrastructure segments.**

- Installation of missing parts requires huge investments. Also installing separate infrastructures they would be unprofitable and inefficiently utilized.

RAIN-2 Timeline and Funding

Date	Stage
2007-04	Feasibility study (version 1)
2009-07	State aid decision
2009-12	Agreement of financing and administration
2009-12	First contracts signed
2011-07	Final EC decision

Assigned funding	*60,265 M EUR*
EU funds	*51,426 M EUR*
State budget funds	*8,839 M EUR*
Applicant funds (The Ministry of Transport and Communications)	*0,236 M EUR*
TOTAL	**60,501 M EUR**

Project RAIN-2: Facts

- RAIN-2 is being implemented by two partners:
  - The Ministry of Transport and Communications;
  - Public Establishment "Plačiajuostis internetas".
- Scope of the project:

|	
Optical fiber lines	5400 km
Residential areas	950
Operators' towers	~ 900
Fixed operators' POPs	~ 500
Education institutions	~ 600
Libraries	~ 600
Public internet centers	~ 350
Other objects	~ 250

- Value of the project: **60,5 million** EUR.

Technologies

- Fiber optical cable lines

- Network equipment:
  - Distribution network level equipment;
  - Access network level equipment.

- Network and services management systems:
  - Network management and auxiliary system centres;
  - Network management and auxiliary systems.

RAIN connection nodes
RAIN access nodes
RAIN-1 fiber optical lines
Rented fiber optical lines
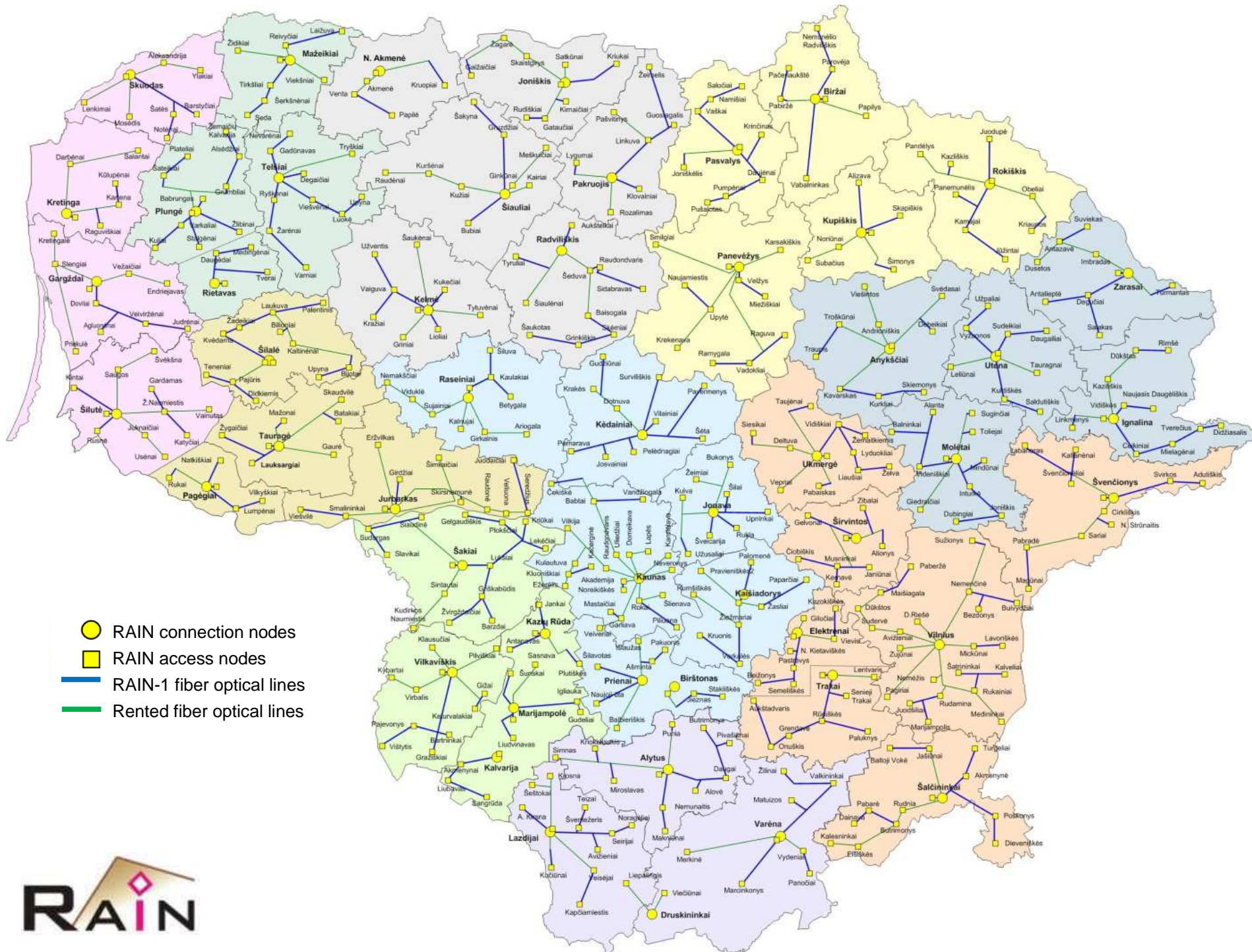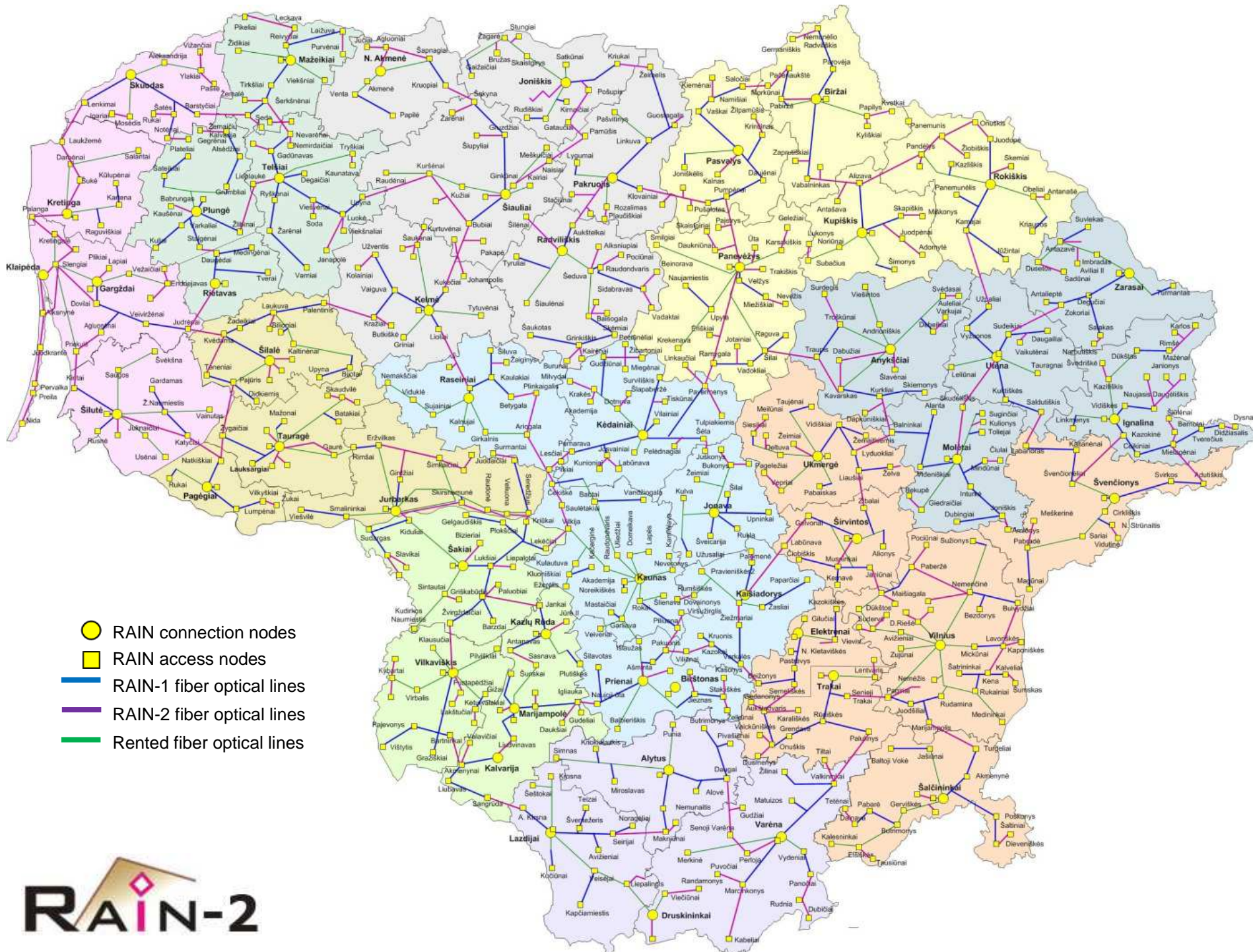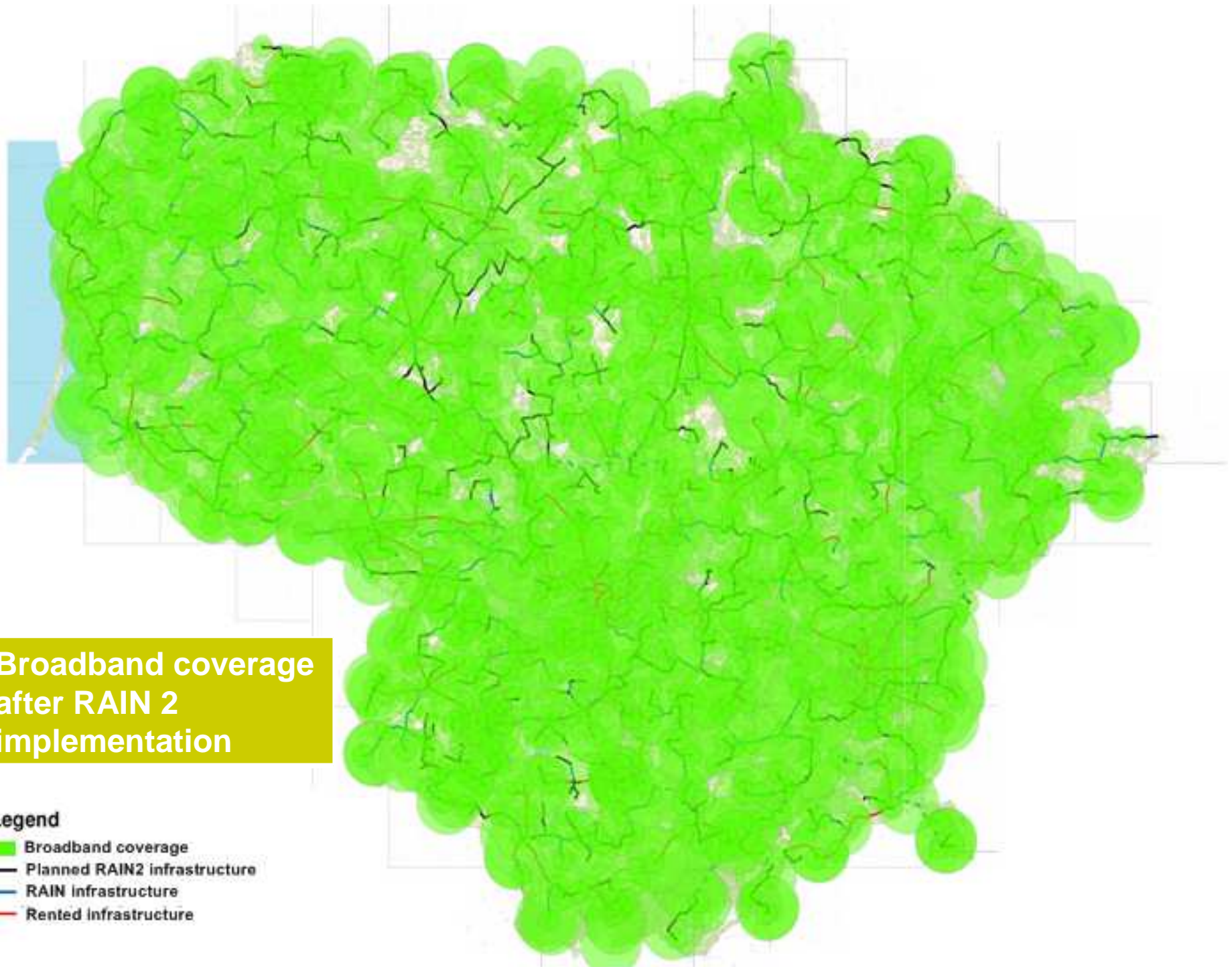
RAIN connection nodes
RAIN access nodes
RAIN-1 fiber optical lines
RAIN-2 fiber optical lines
Rented fiber optical lines

Broadband coverage after RAIN 2 implementation

Legend
- Broadband coverage
- Planned RAIN2 infrastructure
- RAIN infrastructure
- Rented infrastructure

The Key Principles

- **The open access principle:** the built infrastructure may be employed by all service users. Technical solutions must allow ensuring this principle.

- **Technological neutrality:** the selected technologies should allow all potential users of the network to use the resources of the network freely without restrictions to technical solutions.

- The selected solutions must optimally promote **development of a competitive environment**, i.e. the end user should be allowed to freely choose the service provider and services.

- The infrastructure is constructed only in areas **where it does not exist**.

- The selected technical solutions should serve long-term and meet the needs for a period of at least **10 years**.

Project Indicators and Activities: Current Status

Indicator	Planned	Achieved
Towns and villages connected to created broadband network	950	775
Increase of population that have the possibility to use broadband services (compared to indicators of the year 2005; 75%)	23,7	17

Activity	Planned	Achieved
Design and construction of the optical cable lines	5400 km	4916 km
Design and installation of townships level network infrastructure and access points	3000 sets	2461 sets
Design and installation of municipalities level network infrastructure	50 sets	*
Design and installation of network and service management systems	1 set	**

* - contract signed at Q4 2012, equipment is being installed
** - one of two contracts on management systems is already implemented

Public Tenders, Payment Requests

- Public tenders:
  - Purchases made for **48,2 million EUR** *(about 80 percent of total budget)*;

- Payment requests:
  - Payment requests for **45,5 million EUR** submitted to CPMA *(about 75 percent of total budget)*.

Costs and Measures to Reduce (Financial) Risks

- Agreement on financing and administration of the project;

- Public procurement procedures;

- Analysis of the market (before planning);

- Plan of project's procurement;

- All contracts are secured by bank guarantees or insurances of contract performance.
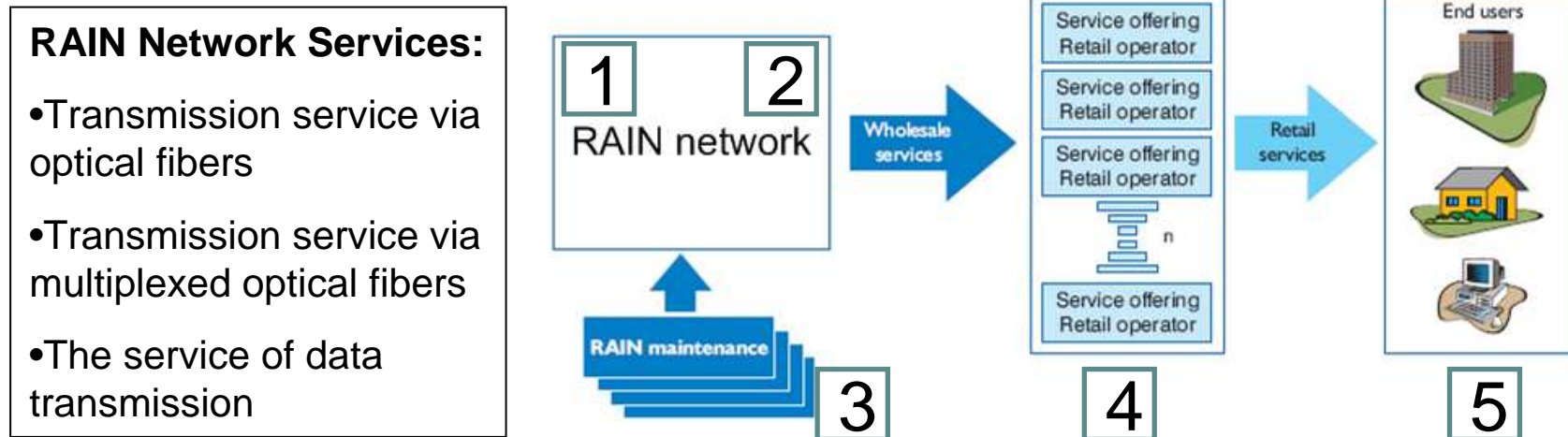
Construction Risks

- Optical cables are being constructed according to conditions set in FIDIC (*Fédération Internationale des Ingénieurs-Conseils*) Yellow Book:
    - Purchaser defines only points (objects) to be connected with fiber optical lines;
    - Contractor's responsibility covers selection and design of line routes and arrangements with land owners.

- Part of optical cable lines is constructed through engineering corridors (road protection areas) or using existing infrastructure of different types (ducts, electrical power lines).

Projects RAIN and RAIN-2:
Use of Network

Infrastructure / Service Management Model

RAIN Network Services:

• Transmission service via optical fibers

• Transmission service via multiplexed optical fibers

• The service of data transmission

1. **RAIN network will be owned by the State**. Ministry of Transport and Communications owns it, sets services and tariffs.
2. **Public Establishment** "Plačiajuostis internetas" – **supervisor of RAIN network**.
3. **Maintenance of RAIN network** is executed by private sector entities selected via public tenders.
4. **Users of RAIN network** – all retail operators (on equal conditions, i.e. without any restrictions, or tenders).
5. **End users** can freely choose retail operator, services and last mile technology according to their needs.

Service Rates (Tariffs)

- The tariffs of provided services are determined by the Ministry of Transport and Communications and are applied for all operators, regardless in which part of Lithuania these operators provide their services.

- Currently the cost calculation model (based on ABC - Activity Based Costing methodology) is being installed and all the tariffs of provided services will be evaluated and changed on demand.
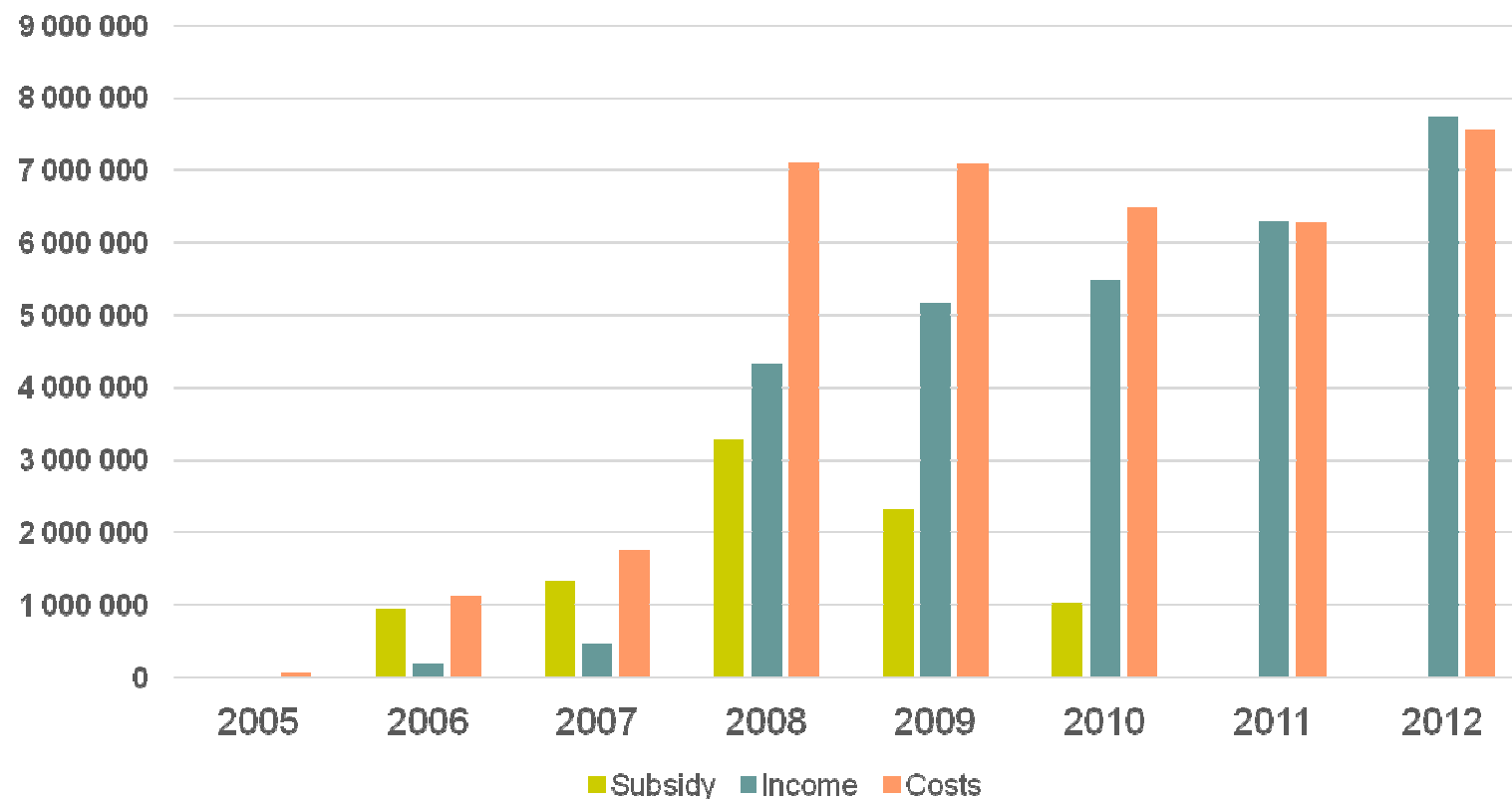
Use of Network: Provided Services
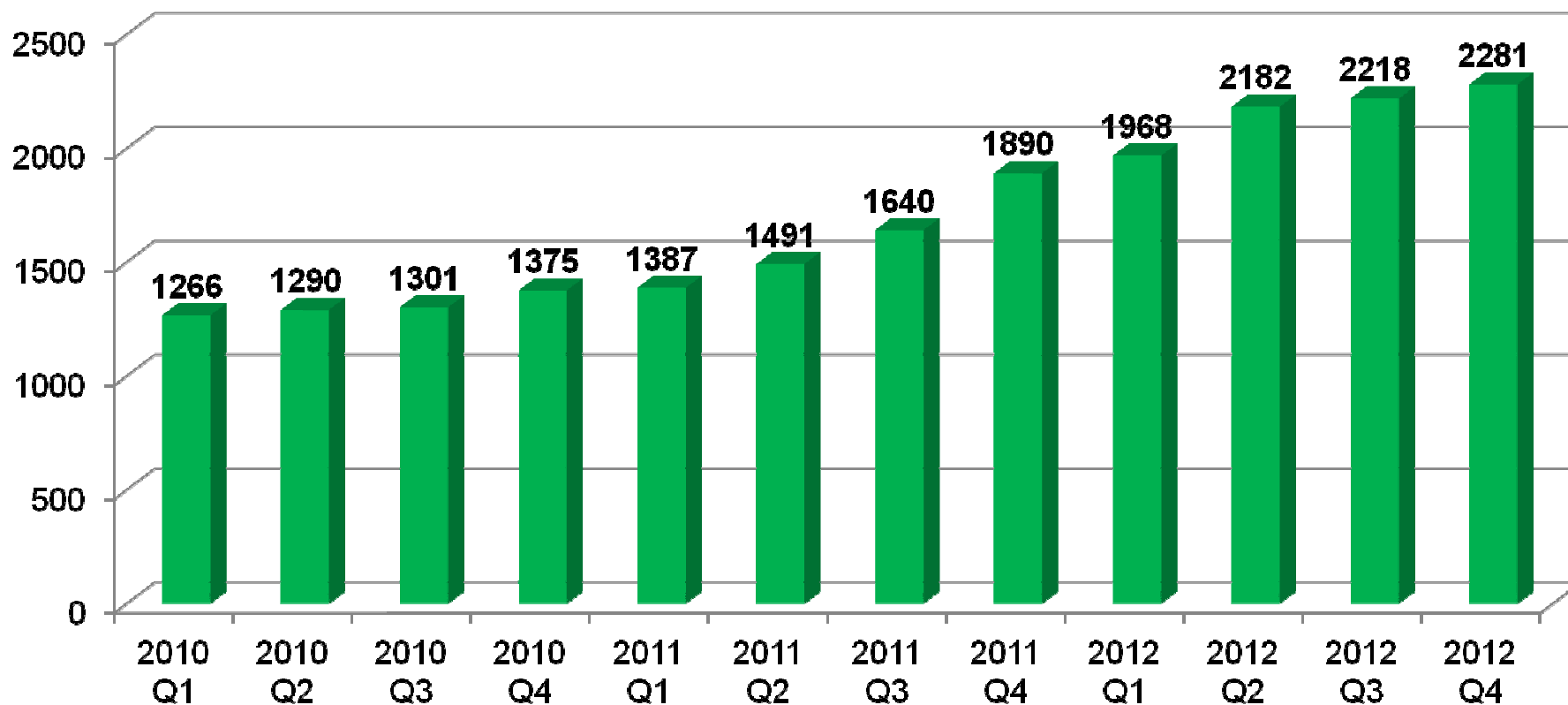
Use of Network: Operators
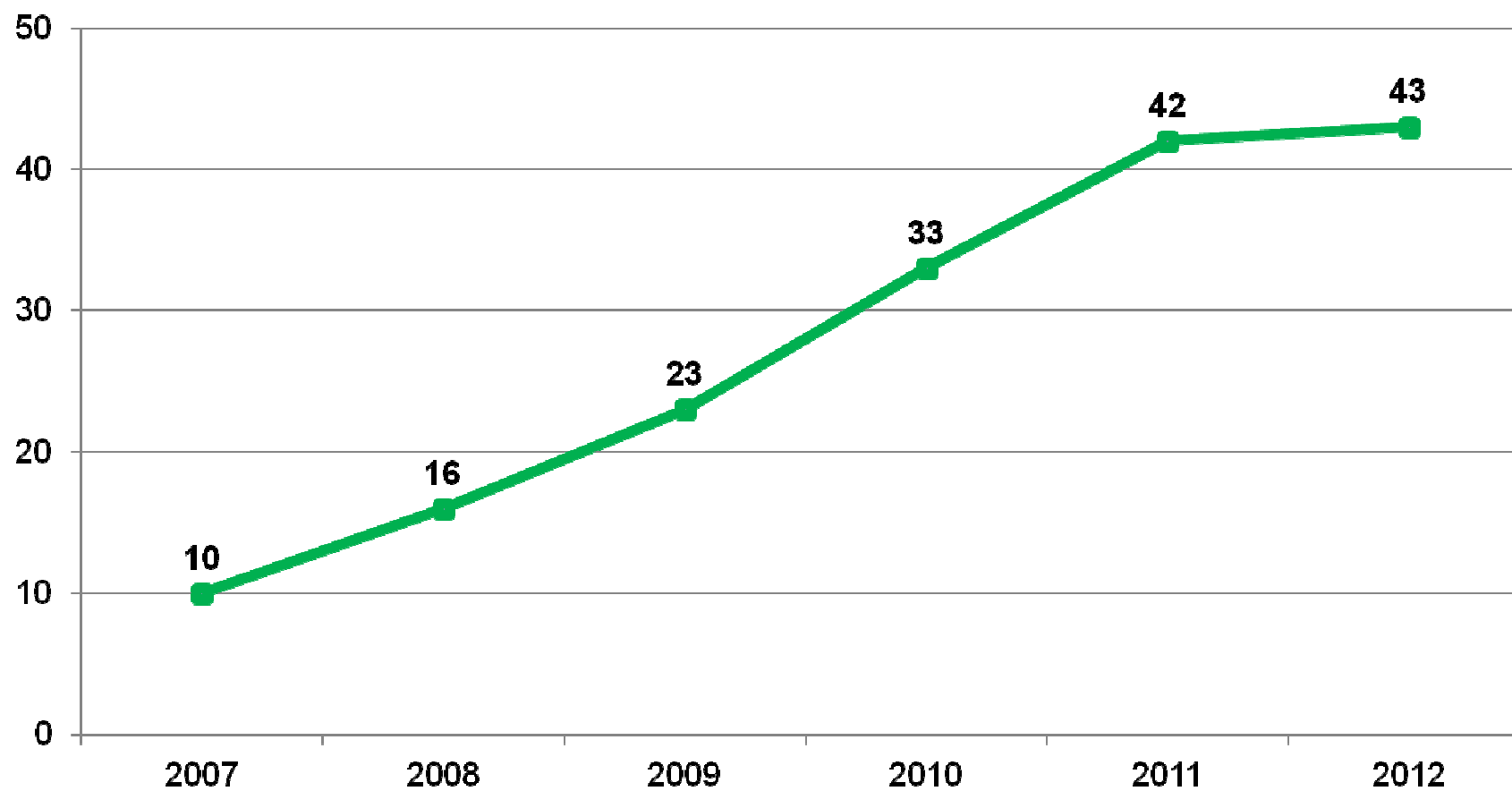
Income and Costs

Use of Network: Infrastructure

- Usage of RAIN-1 network: about **99 per cent** of all interconnected settlements.

- Usage of RAIN-2 network : about **63 per cent** of all interconnected settlements.

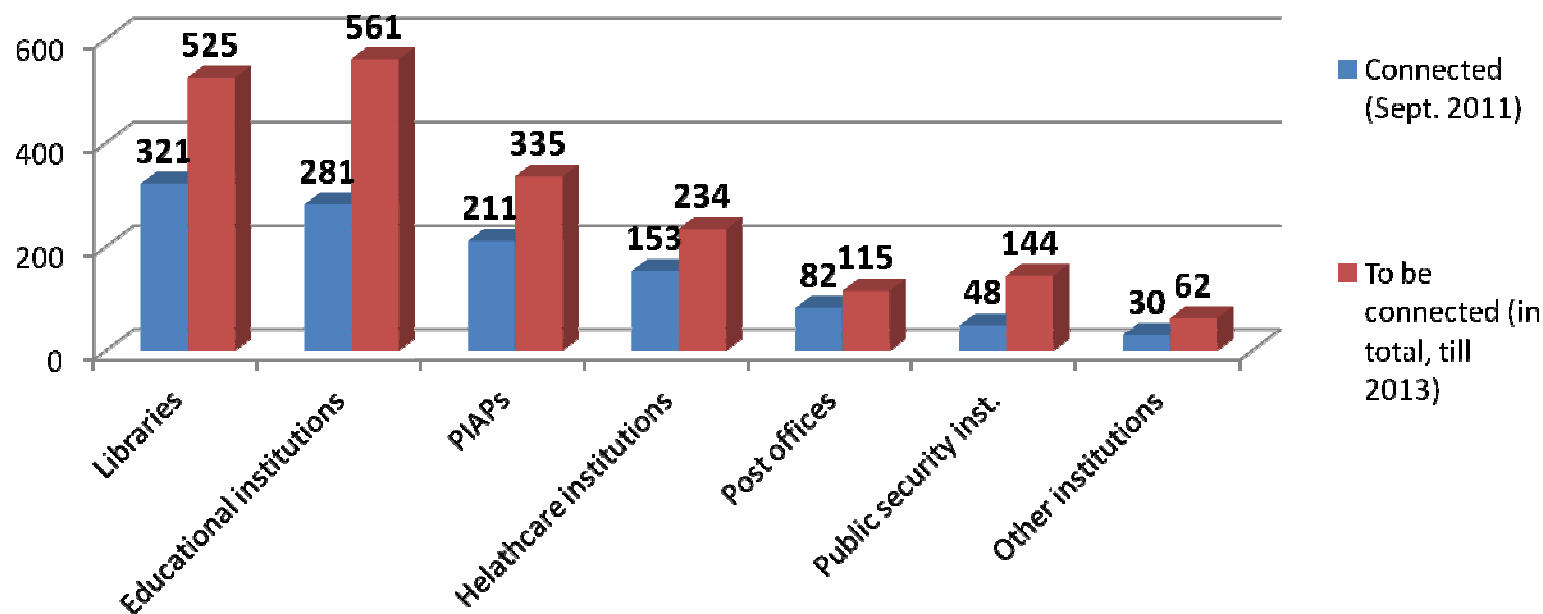- Biggest customers: TEO LT; Infostruktūra; Lithuanian Radio and Television Centre.

Projects RAIN and RAIN-2:
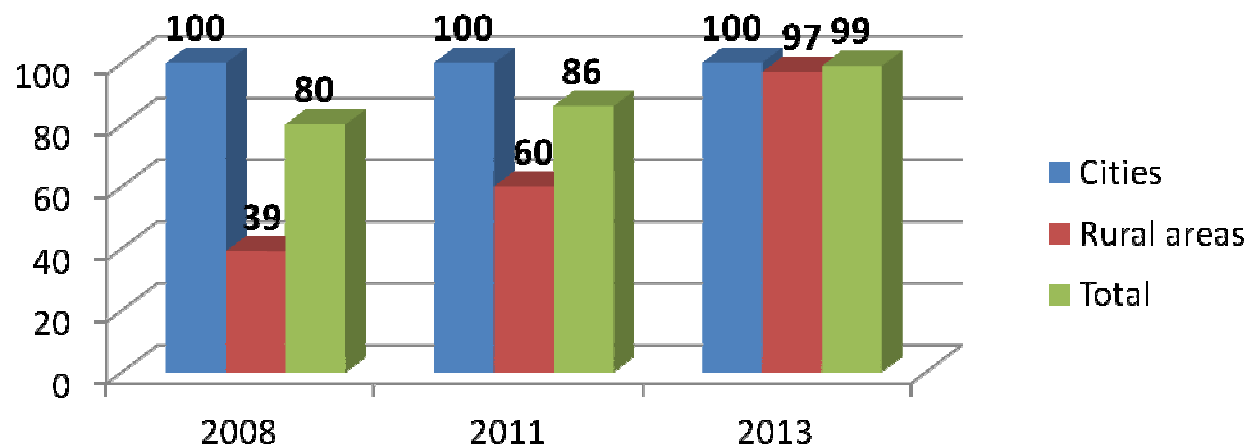# Benefits

Benefits of RAIN: Institutions

Public institutions connected to RAIN infrastructure

Legend:
- Connected (Sept. 2011)
- To be connected (in total, till 2013)

| Institution	Connected (Sept. 2011)	To be connected (in total, till 2013)
Libraries	321	525
Educational institutions	281	561
PIAPs	211	335
Helathcare institutions	153	234
Post offices	82	115
Public security inst.	48	144
Other institutions	30	62

Benefits of RAIN: Population

Percent of population living in areas with access to broadband internet services

Cities
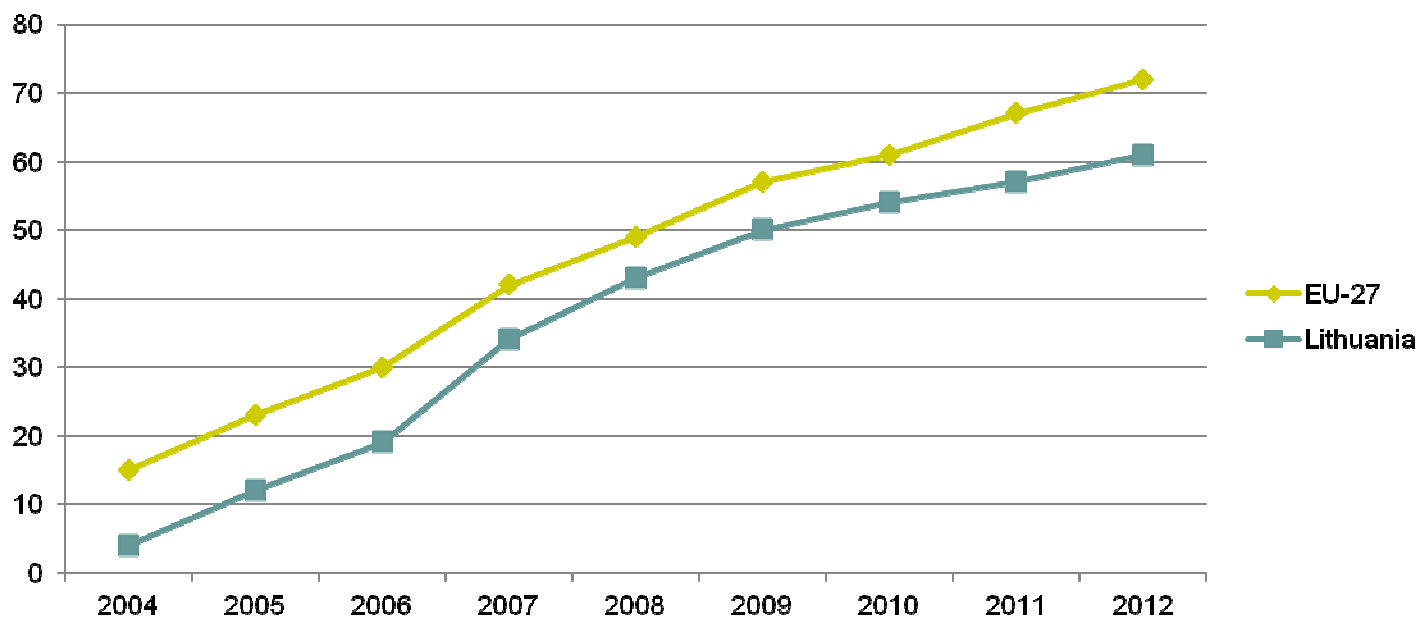Rural areas
Total

Boradband penetration growth in Lithuanian households: 2005-2011

All households
In cities
In rural areas
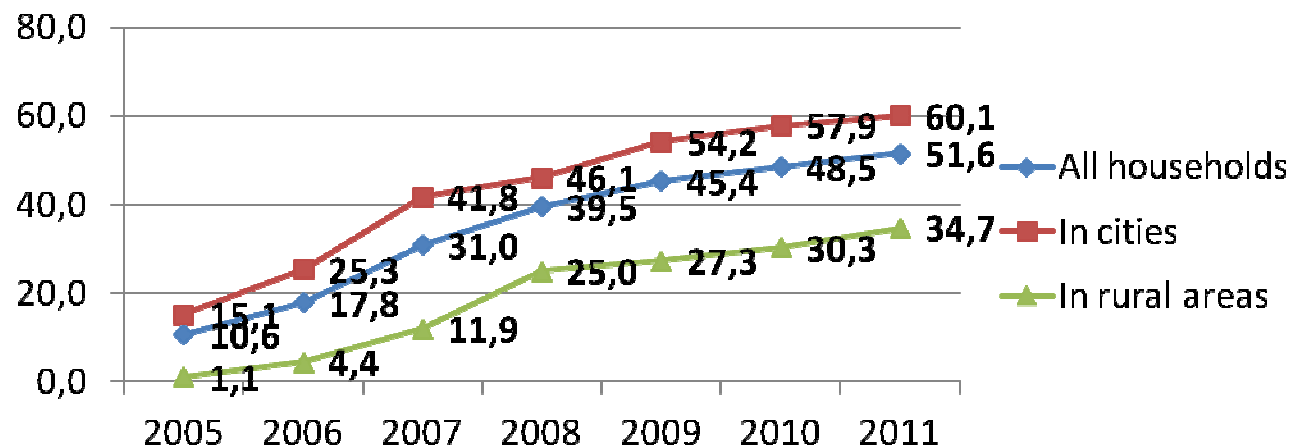
Benefits of RAIN: Population (cont.)

Households with broadband access

Spin-off effect example No. 1:
Broadband access for Lithuanian libraries

- Project "Libraries for Progress":

    - Goal: to use the potential of public libraries in order to provide Lithuanian people – especially in rural areas and social risk groups – improved possibilities to use information technologies for their work and communication;

    - Activities: in all public libraries, public internet access is provided/modernised; librarians are trained in digital literacy skills; training courses for local community members are being organised;

    - Years: 2008-2012; costs – 27 million euros.

- Role of RAIN:

    - It enabled the implementation of such nation-wide project aimed at development of broadband public internet access in all libraries of Lithuania;

    - During 1st stage of RAIN Project, 300 public libraries were connected to broadband access; during 2nd stage – 524 libraries are to be connected (from those 315 are already connected).

Spin-off effect example No. 2: new e. services for Lithuanian farmers

- Electronic public service „Declaration of agricultural land and crops":

  - Obligation for Lithuanian farmers to declare their agricultural land and crops every year – to draw land, crops, other fields data;

  - They can do it individually or in the Townships' Agriculture divisions;

  - From 2009, it is done electronically.

- Role of RAIN:

  - By connecting townships to broadband infrastructure, RAIN created the possibility to provide such service which requires uninterrupted and fast data transmission services.

- Growth of the use of new e-service :

  - 2009: 74 percents of all declared agricultural land, crops, other fields data were submitted electronically (0,9 million fields declared electronically);

  - 2010, 2011: 100 percent (1,1 million fields declared electronically)

Thank you!

Questions, comments:
info@placiajuostis.lt