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# Latvian experience on Broadband Mapping and Mobile Broadband QoS aspects

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# Topics of the presentation

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Infrastructure mapping



Mobile broadband service mapping



Mobile broadband Quality of Service

## Broadband development strategies

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Digital Agenda targets: the aims of the EU being covered nationwide by broadband above **30 Mbps by 2020** and **50%** of the EU to be subscribed to broadband above **100 Mbps by 2020**

## Infrastructure mapping

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- Local Authorities and Ministry of Justice of the Republic of Latvia are responsible for the data collection process and date base of physical infrastructure for all networks operators data support. This database meets the requirements of the Directive 2007/2/EC – establishing an Infrastructure for Spatial Information in the European Community (INSPIRE).
- There are map fragments (geo data vector format) in this data base but it is not possible to have a common map for all the country.

## Infrastructure mapping

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- The Ministry of Transport is responsible for the detailed infrastructure mapping that includes information on the optical network infrastructure, according to the order of the Cabinet about the NGA network development concept from 2013 to 2020.
- Ministry of Transport during 2016 has to prepare amendments to the Electronic Communications Act, which provides requirements for an optical network infrastructure database and mapping.

## Middle-mile project implementation

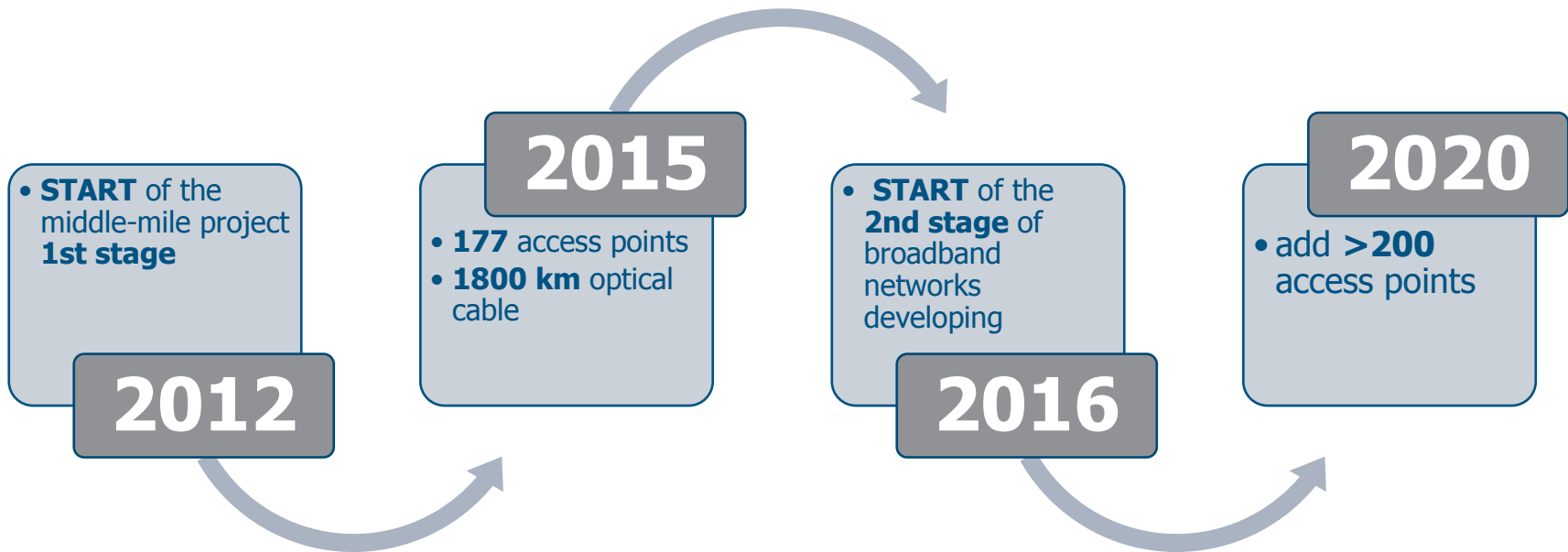
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### **State aid project (Middle-mile) was supported by the EU and Government (since 2012)**

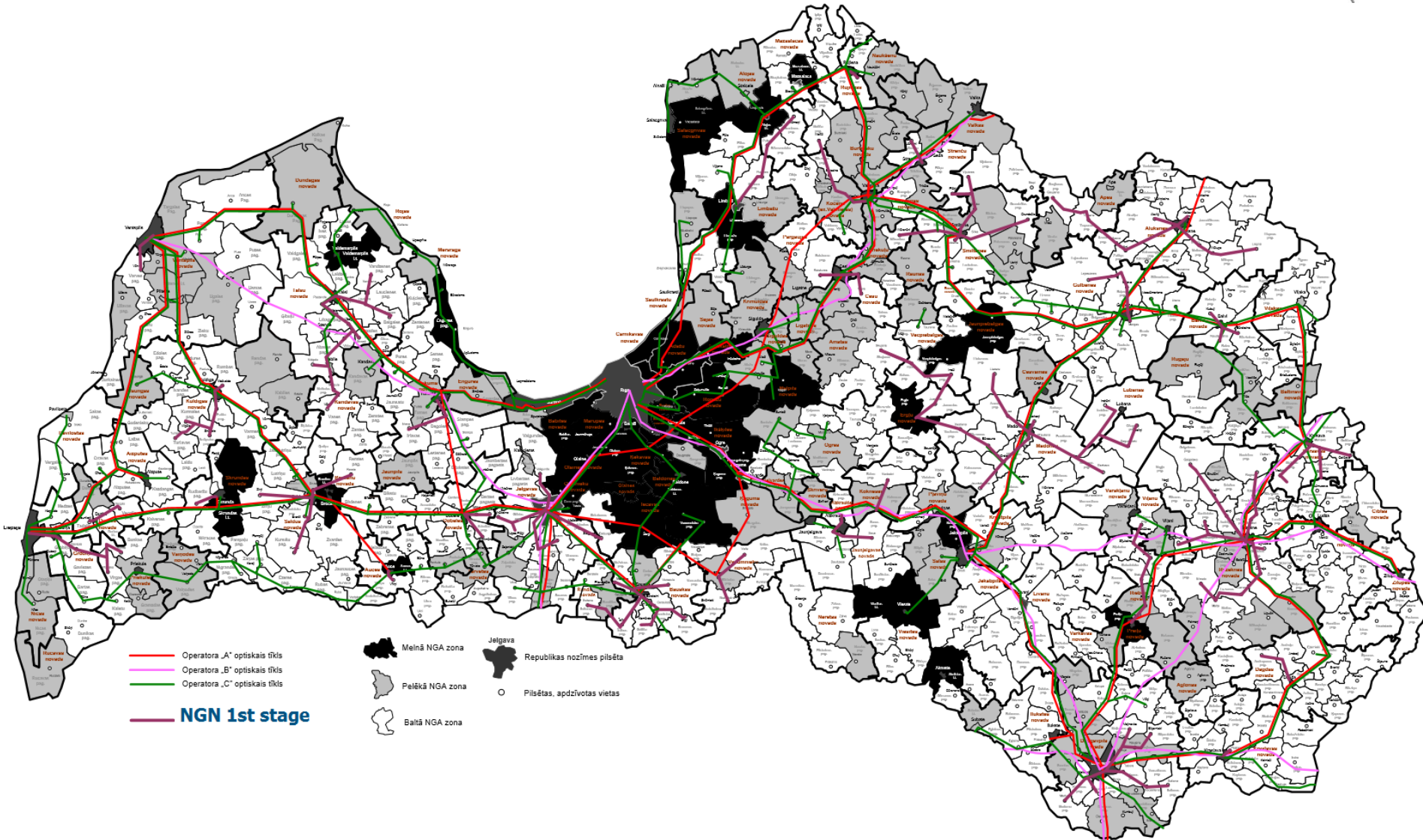
- Main objective – to facilitate provision of high-speed broadband optical networks in rural areas.
- Construction of middle mile in remote areas up to municipalities where is the access point. Infrastructure is offered for local ISPs. Open access enables competition in the last mile which means that the local ISPs should roll-out optical fiber from the access point till subscribers.
- The project is deemed also for mobile operators (to connect base stations).
- Cost-oriented and non-discriminatory access.

# Broadband developing in rural areas

High-speed broadband optical networks developing in rural areas for the NGN services



# Map for broadband network 1st stage development





## Broadband service mapping

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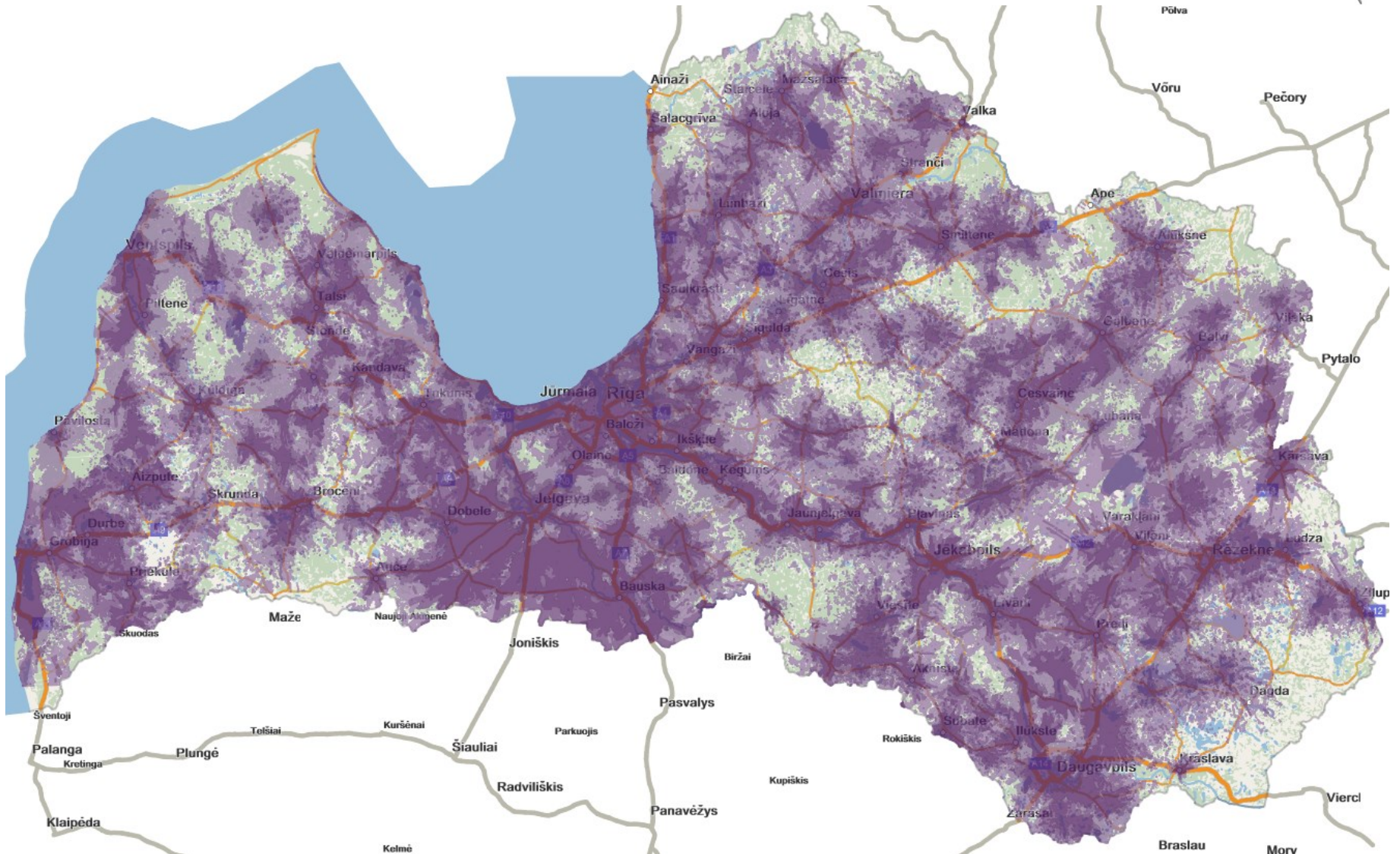
- Fixed network operators mapping takes place individually and the results are not published in common place, but to inform the public are used other methods, for example, operators informs about the availability of infrastructure and services of an interested party by individual request.
- Mobile network operators service coverage maps are available online:

<http://www.bite.lv/parklajuma-karte>

<http://karte.lmt.lv/#4G>

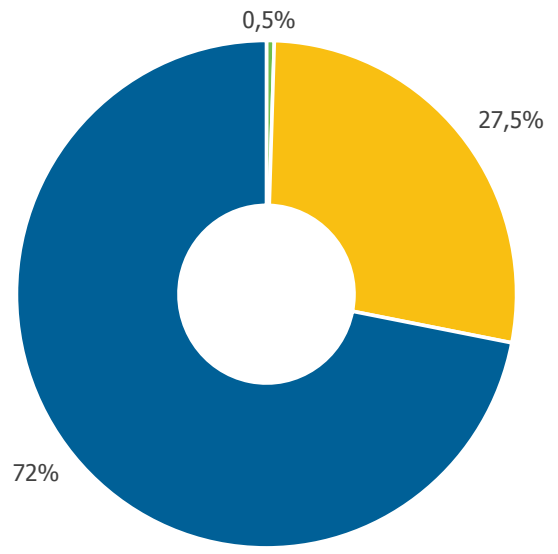
<https://www.tele2.lv/4ginternets/>

# 4G mobile broadband coverage map example

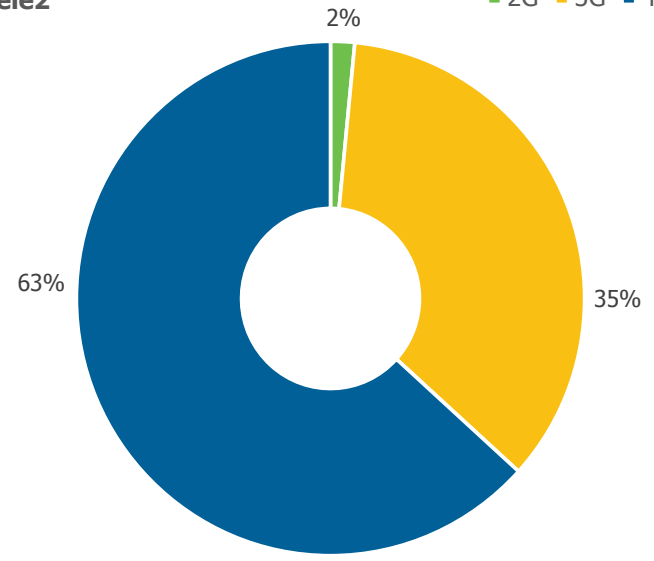


# Internet services coverage by technologies 2015

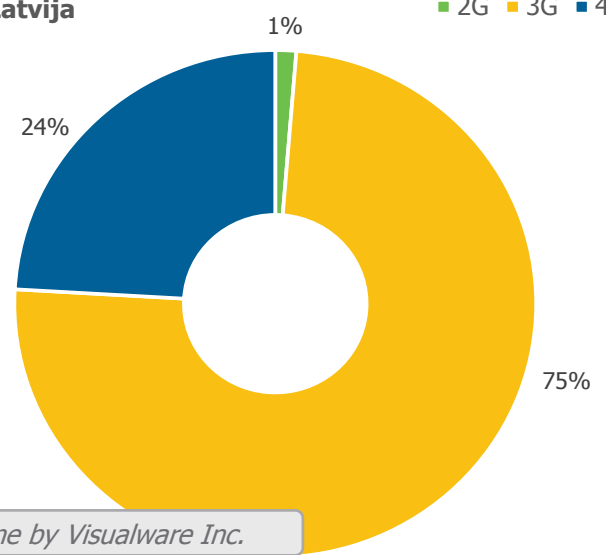
**LMT**      ■ 2G ■ 3G ■ 4G



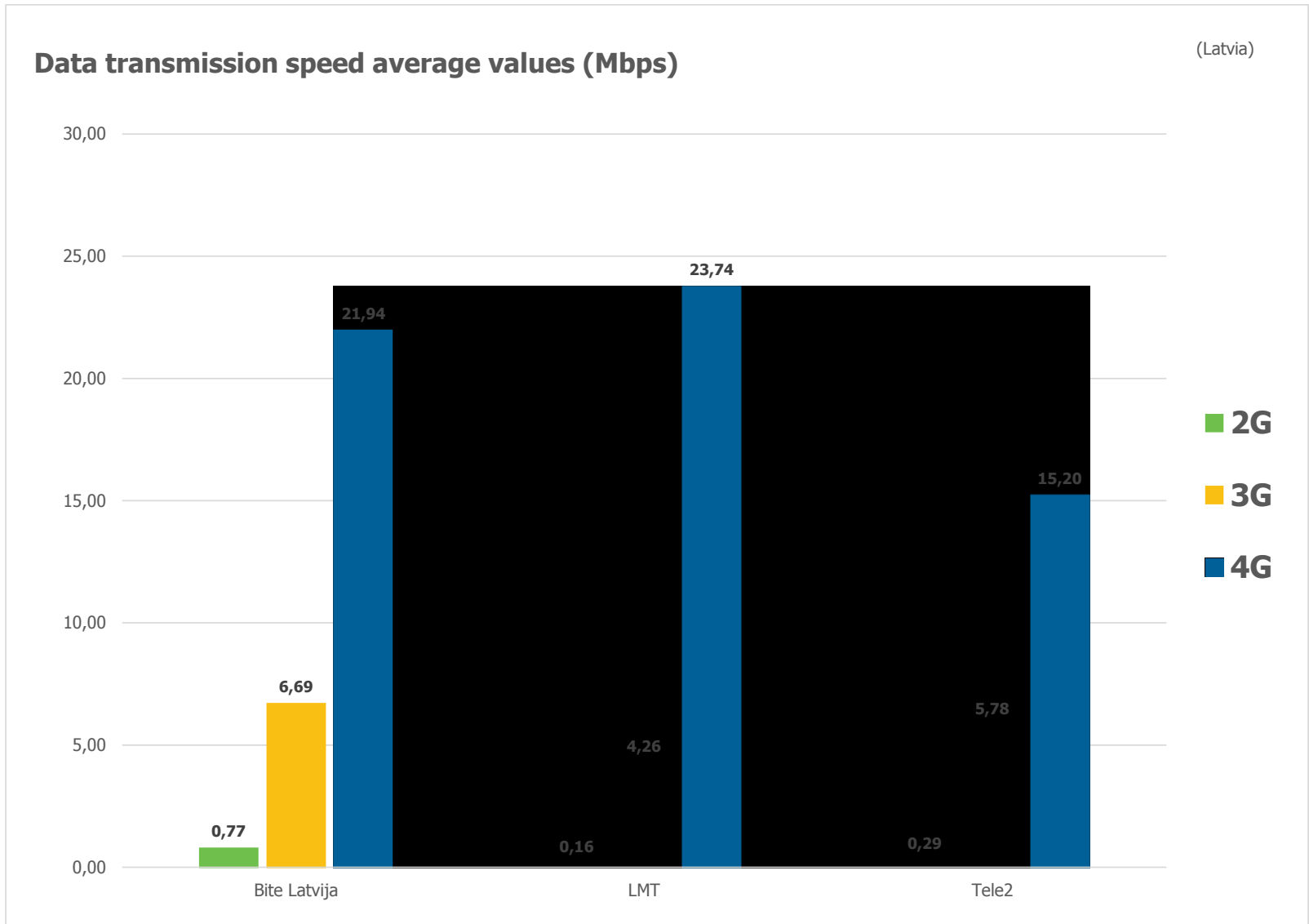
**Tele2**      ■ 2G ■ 3G ■ 4G



**BITE Latvija**      ■ 2G ■ 3G ■ 4G

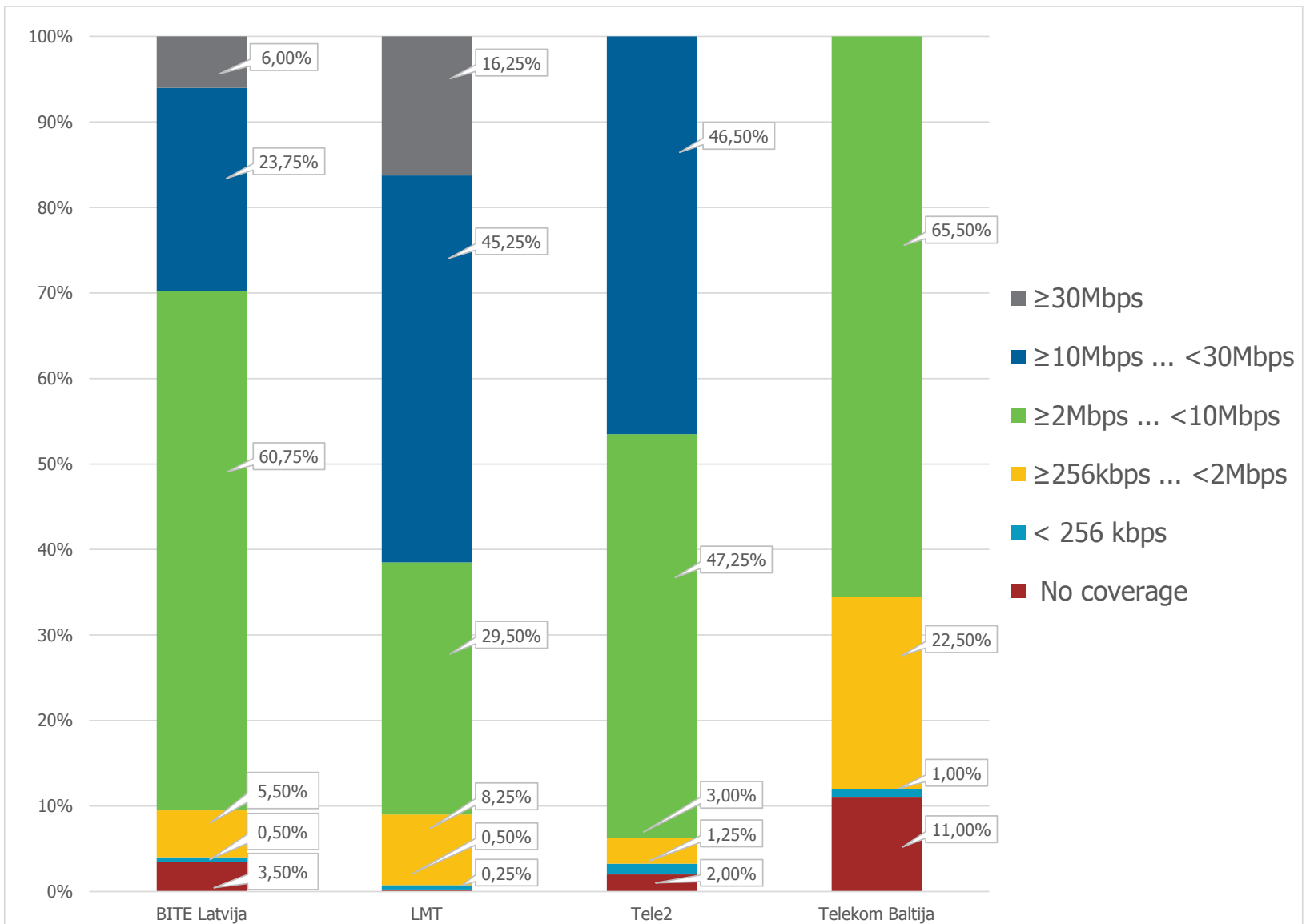


# Data transmission speed actual values 2015



Measurements made by SPRK tool with software engine by Visualware Inc.

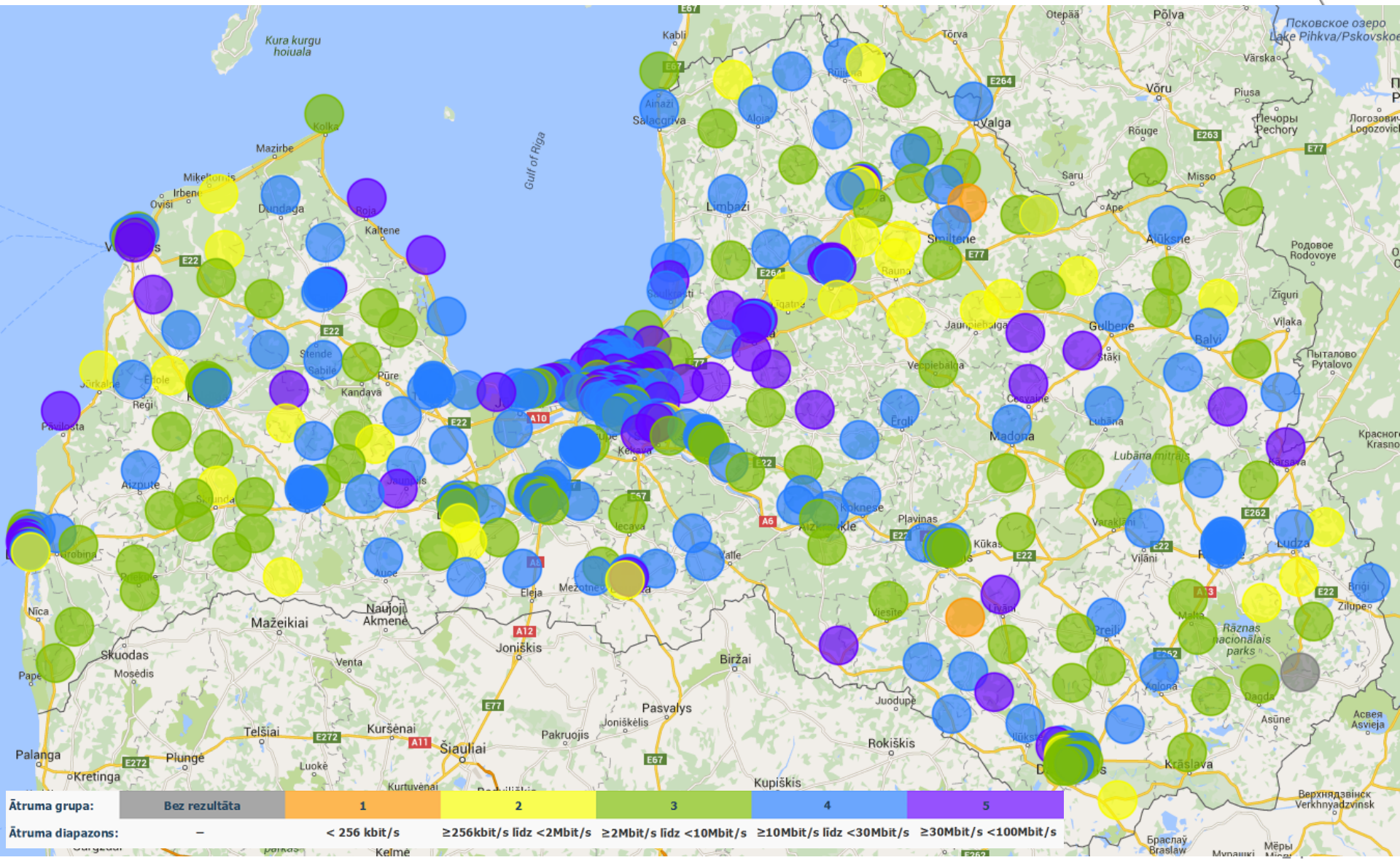
# Data transmission speed ranges 2015



Measurements made by SPRK tool with software engine by Visualware Inc.



# Mobile broadband speed maps 2015





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# **THANK YOU FOR ATTENTION**

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