

Development of ITS plans in Latvia



POLICY LEARNING IN INFORMATION TECHNOLOGIES
FOR PUBLIC TRANSPORT ENHANCEMENT

9 October 2014, Conseza, Italy

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European Union
European Regional Development Fund

This project is co-financed by the ERDF
and made possible by the INTERREG IVC programme.

Strategies and policy planning documents

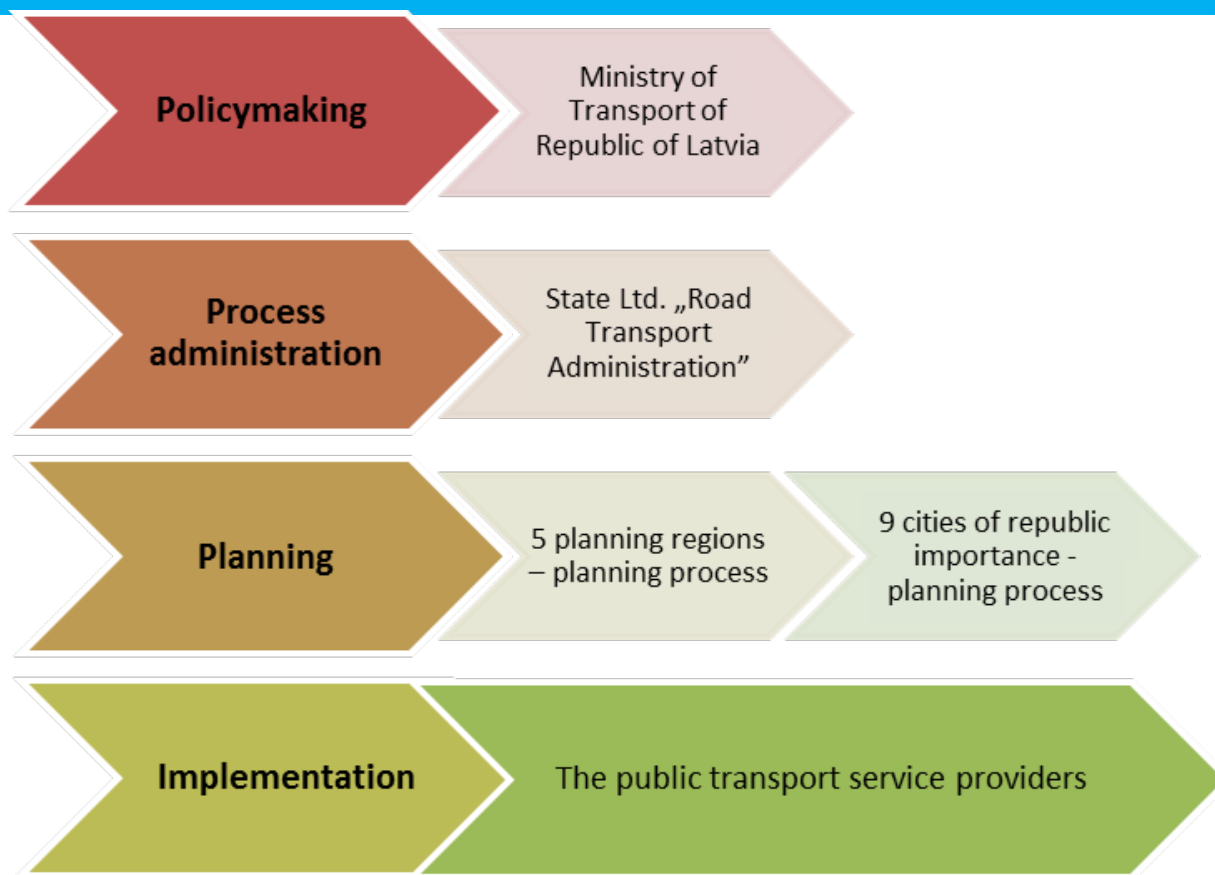
- As the part of EU Latvia shall follow and harmonize national policy with EU directives (directive 2010/40/EU)
- Responsible organizations for implementation of the directives are: **Ministry of Transport and Latvian State Roads**
- Because of the economic crisis in Latvia, execution of this directive goes in a very slow way, mainly by request of government agencies or government institutions
- The initial report on national activities and projects regarding to the priority areas of Directive 2010/40/EU in Latvia says: “On national level there is not a clearly defined ITS scope and architecture and it isn’t represented in legal framework as well”

<http://www.connekt.nl/uploads/2011/11/its-latvia.pdf>

Only two activities were planned:

- ❑ ***Make amendments in Road Traffic Law to introduce basic concept of ITS*** (deadline 27 February 2012). In 2012 the Road Traffic Law was changed in following way (refereeing to ITS): included the definition of ITS, the definition of ITS goals and issues related to use of personal data and some additions required to implement a speed cameras on the road
- ❑ ***Designing the national strategy of ITS***. It is in progress of development. As mentioned in initial report the Ministry of Transport wants to organize a broad expert meeting to strategic national issues of ITS (to provide qualitative discussions among ITS related sectors to outline Latvian national strategy for ITS. This will be a program document, which will outline national priorities, scope and principal performance of ITS services)

Public Transport Management Scheme



The main parties which are involved in ITS from state institutions

- Ministry of Transport
- Latvian State Roads (LCR)
- City Councils (only two cities are active in field of ITS: Riga City Council and Jelgava City Council)
- Planning Regions
- Latvian Council of Science

Ministry of Transport supports ITS by providing planning, management and monitoring of the EU funds and activities.

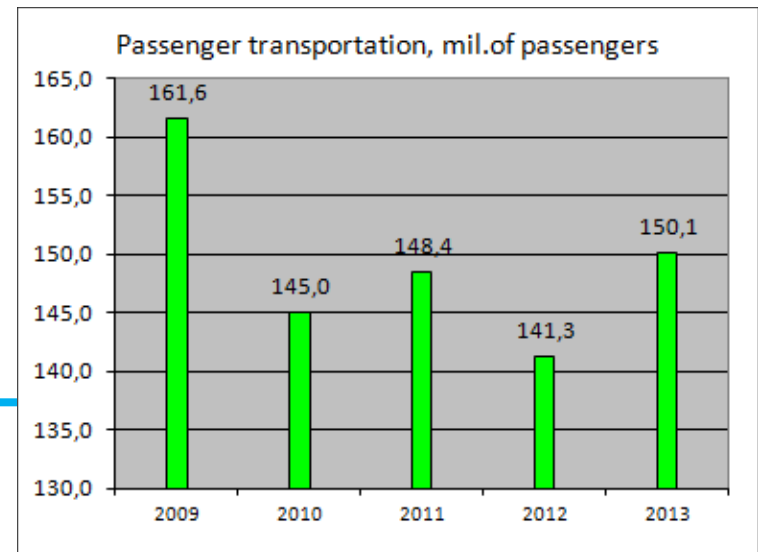
Cities (Riga City Council and Jelgava City Council) and Planning Regions develop their projects in ITS usually in frame of EU funds or by participating in different programmes like INTERREG.

Strategic level planning documents, which have some reference on ITS - 1

- ❑ National Reform Programme of Latvia for the implementation of the “Europe 2020” strategy
- ❑ Sustainable Development Strategy of Latvia until 2030
- ❑ National Development Plan 2014-2020
- ❑ Transport Development Guidelines for 2013-2020

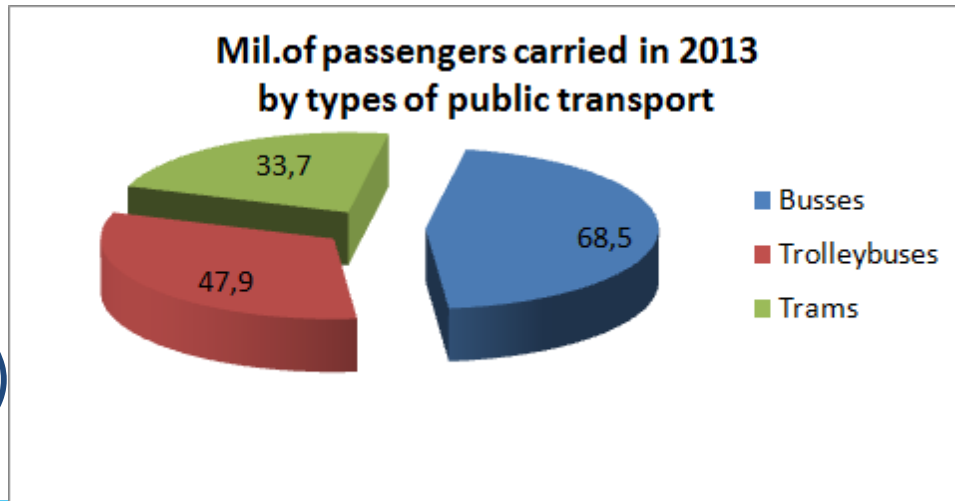
THE GOAL OF LATVIAN TRANSPORTATION DEVELOPMENT GUIDELINES 2013-2020

- Available and affordable public transport which ensures access throughout the whole country by providing of... **convenient and unified public transport system** which can provide good connections between bus and rail services.
- **Implementation of unified public transport planning in intercity and regional routes**
- **Unified policy on tariffs**
- **Unified tickets**



PROMOTION OF ACCESSIBILITY TO PUBLIC TRANSPORT

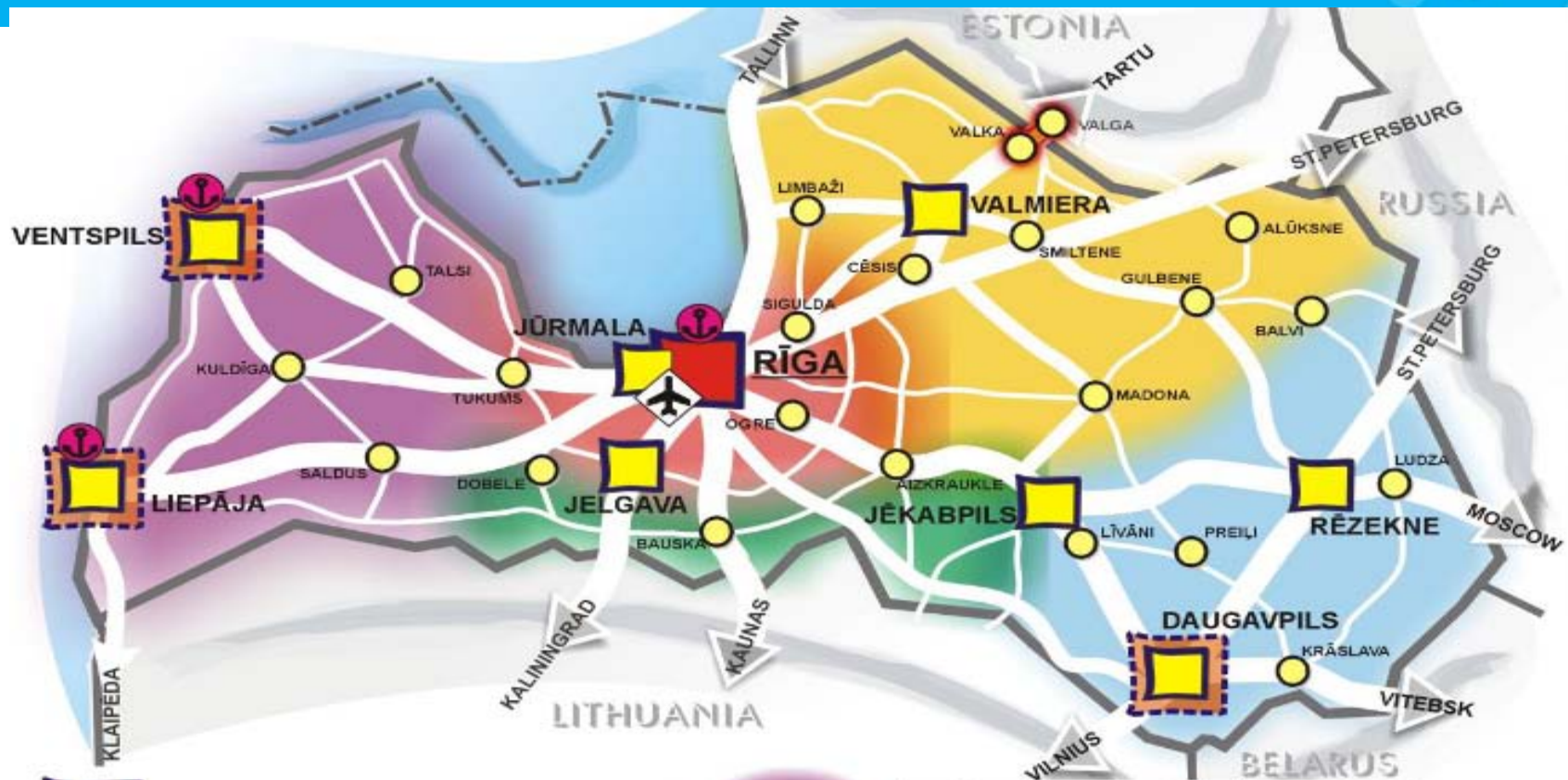
- **Connection of regional routes with Riga city network**
- Application of unified tariffs in regional transport system carried out under principles of state procurement
- **Implementation of unified ticketing in all modes of public transport**
(city transport, rail, bus coaches)



Strategic level planning documents, which have some reference on ITS - 2

- ❑ **Riga** long-term development strategy till 2025 (document refers to development of intelligent traffic management system. But no additional information on this activity is available)
- ❑ **Jelgava** city development strategy. Document refers to the development of ITS in 2013-2016 - a creation of central traffic control central, „clever” traffic lights implementation, emergency system implementation, public transport priority, accident fixing systems, meteorological data collection system.

Development centres and functional networks



Metropolis of European level



Development centres of the Baltic Sea Region level



Development centres of national significance



Development centres of regional significance



Functional network of development centres of Kurzeme



Functional network of development centres of Zemgale



Functional network of development centres of Pierīga



Functional network of development centres of Latgale



Functional network of development centres of Vidzeme

Some initiatives could be mentioned as example

- In 2010 the [Ministry of Transport Republic of Latvia](#) initiated creation of Riga and Pieriga mobility plan
- In 2012 by request of State Department, Latvian Saema proposed changes in law to support speed cameras initiative implementation
- In 2009 by the initiative of Riga City Council the e-ticketing system was implemented in Riga city.
- Data collection, traffic, weather information provided by LSR

- At the moment development of ITS is decentralized process and goes in a stochastic way from bottom to up**

LSR: Data collection on traffic information

- ❑ 188 data collection points all over Latvia
- ❑ Available on-line and historic data about traffic intensity on public webpage
<http://www.lvceli.lv/traffic>
- ❑ Dynamics of intensity and speed are available by hours, days and months
- ❑ Provided and managed by SJSC “Latvian State Roads”

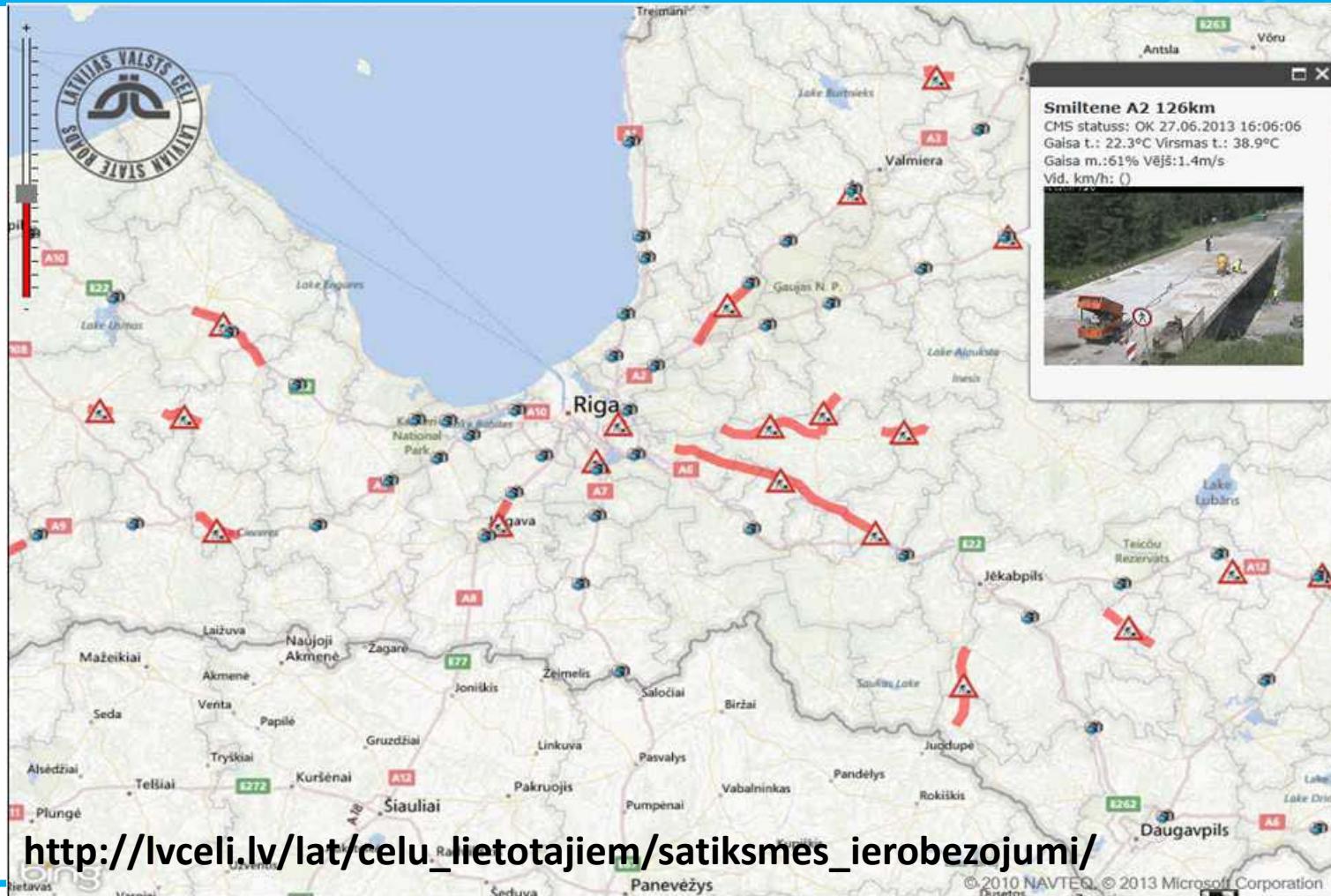
LSR: Road weather information system

- ❑ Presented by 53 stations (some are combined with traffic intensity measurement points) and a central system for data processing
- ❑ RWIS software is in house-developed by the road administration
- ❑ Collected data are available for the Latvian State Roads staff (limited access) and for public access
- ❑ Limited access data – needed for road maintenance: traffic profiles, video surveillance, meteorological data, radar and satellite images
- ❑ Available on www.balticroads.net in 6 languages (English, Russian, Latvian, Estonian, Lithuanian, Finnish)

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LSR: Information about restrictions: accidents, road works etc



SMART TICKETING AND PAYMENT SYSTEM

- The EU Green Paper on Urban Transport “*Towards a new culture for urban mobility*” proposes a more intelligent transport system to improve efficiency and intermodality. There is a number of technologies which help to improve the performance of PT in metropolitan areas



SMART TICKETING AND PAYMENT SYSTEM

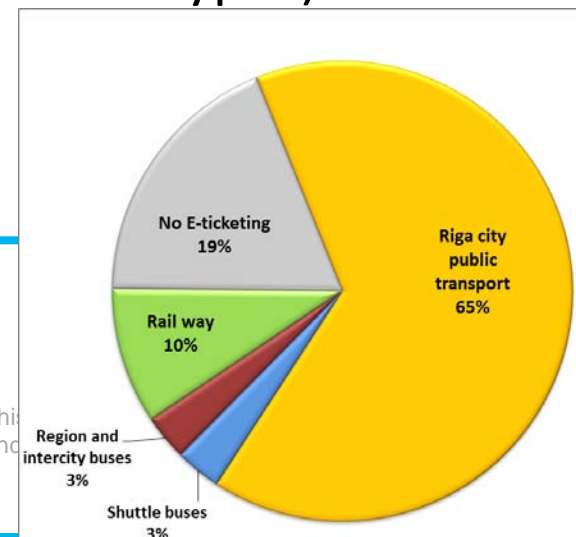


- When Rigas Karte was launched, the ticketing in Riga public transports was

- Old fashioned
- Based on paper tickets
- With limited control on sales
- With no reliable statistics on passengers trips



- Now more than 80% of all Latvian transport is equipped with E-talons ticketing system (all public transport vehicles types)
- On Feb. 2013 - Rigas Karte became an Electronic Money Institution



“E-TALONS” history...



Start as social benefits card (08.2012)
parking (09.2012)

Payment card for on-street parking (12.2012)

Card for Park & Ride system

Payment for trips in trains (10.2013)

City inhabitant card (1.2014)



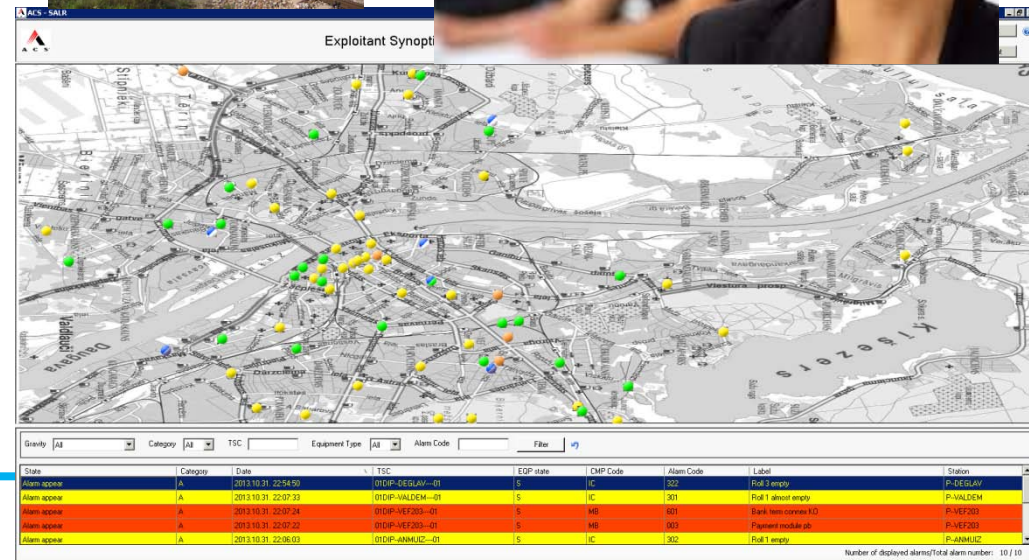
Ticketing system infrastructure

Equipment for all public transport vehicle types



Service and technical support center

- 24h call center
- 24h technical support
- 24h monitoring center
- Installation works
- Equipment maintenance
- Users training



“E-TALONS” Today...



- 60% of Riga inhabitants have a personalized e-talons smartcard
- 90% of Riga inhabitants have used e-talons
- 590 000+ trips registered on peak days
- More than 500 000 smart card are issued
- Most available smart card in Latvia with an e-purse (FKTK licensed)
- The number of issued cards exceeds any of Latvian banks did

Passengers satisfaction: 88% *opinion poll 04.2013 (Marketing and public opinion RC)*

- Important savings on cost of selling tickets compared to previous organization
- Detailed statistics – basis for data mining
- Interoperability and integration (Rails, Intercity buses, Parking, Park&Ride, Access Control, Identification, Loyalty, Social)
- Ready for future technologies (NFC)



This project is co-financed by the ERDF
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E-talons – looking ahead...



- Based on good results achieved in Riga, **there is the plan to develop this ticketing solution to more cities and to intercity transportation**
- The cities and the government of Latvia have all the desire **to better control their subsidies to public transports companies**, and they need such a system as ours so we are in discussions to make our smartcard widely accepted across the country
- The company has the plan for the **introduction of mobile payments**, which is the possibility to purchase bus ticket with mobile phone and validate the trip inside the bus by no longer using any smartcard but only the mobile phone

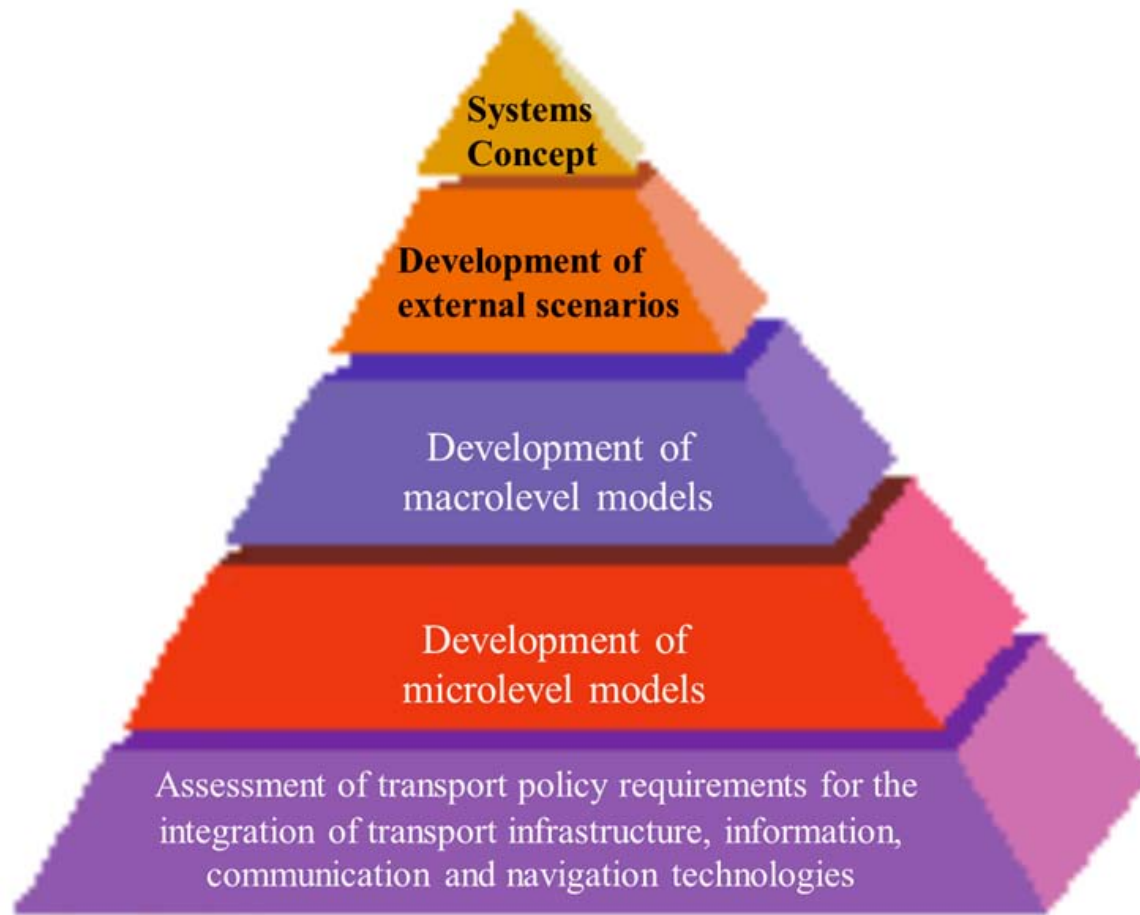
Implementation of Multimodal Journey Planning System (GP21: Multimodal Journey Planner for the Czech Republic, Brno)

The screenshot shows the website's navigation bar with links for 'Rīgas satiksme', 'Routes and schedules', 'Tickets', 'For Riga guests', and 'E-shop'. Below the navigation bar are three main menu items: 'Vehicle timetables', 'Stop schedules', and 'Route planner'. The 'Route planner' section is active, showing a search interface with 'Mēbeļu nams' as the starting point and 'Lomonosova iela' as the destination. It includes options to 'Leave' or 'Arrive' at '10:30' on 'today'. A 'more options' link is visible. Below, 'Option 1' is displayed with a travel time of 0:38, and a bus route '15' from 'Mēbeļu nams' to 'Keramika' is shown.

CURRENT SITUATION. ROUTE PLANNER

1. Not possible to see the map of journey
2. Not possible to find a better route (by time or cost saving)
3. Not possible to find a better route for disabled people
4. Not possible to see the traffic jam and to understand the real time of journey
5. **Not possible to find a route with the other transport mode (railway, mini-busses)**

R&D: Approach for Development of National ITS



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Concept of Intelligent Transport System Development for Riga City

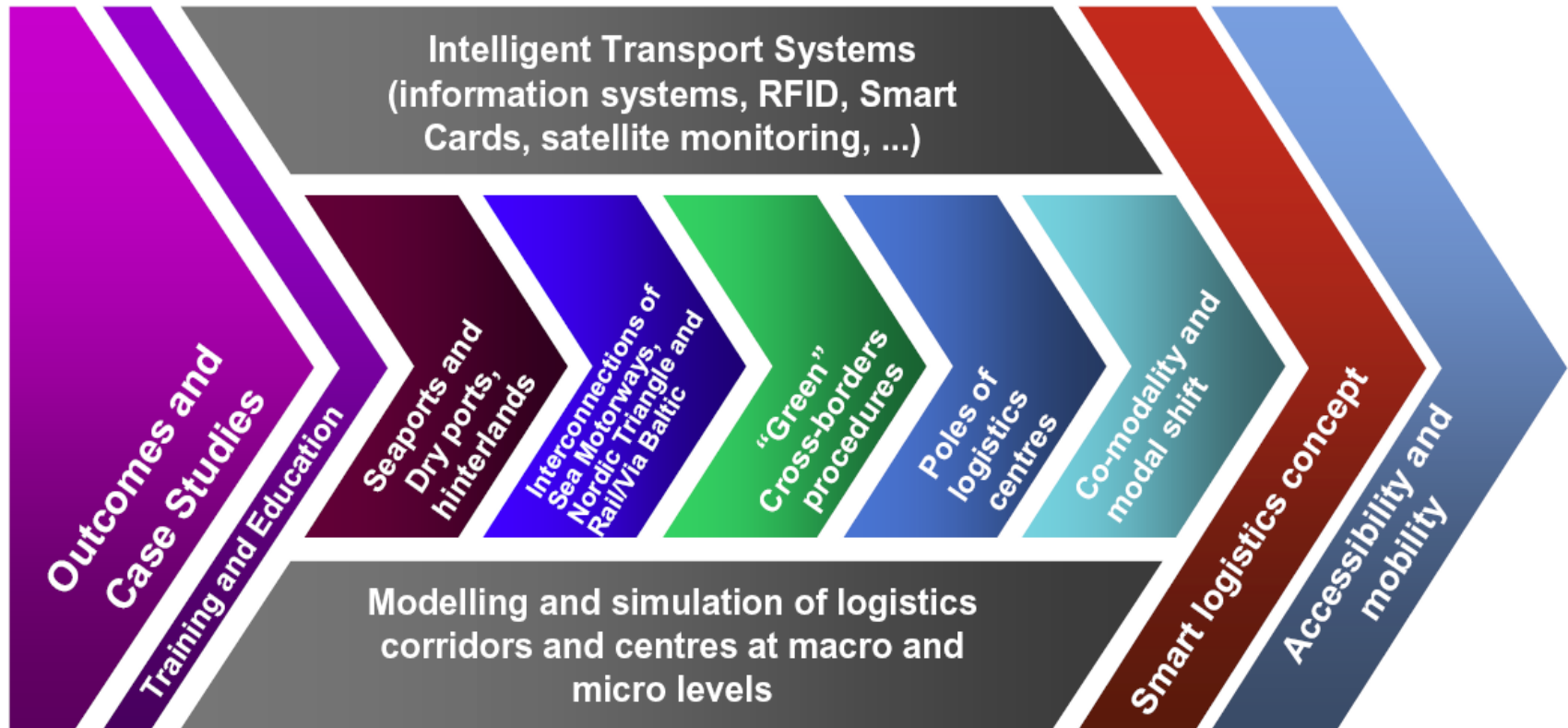
Igors Kabaškins, Ivars Zarumba

**RĪGAS PILSĒTAS INTELEKTUĀLĀS
TRANSPORTA SISTĒMAS
ATTĪSTĪBAS MODELIS**



**RĪGAS PILSĒTAS
AGLOMERĀCIJAS
INTELEKTUĀLĀS
TRANSPORTA
SISTĒMAS ATTĪSTĪBAS
KONCEPCIJA
2002-2005**

ITS as part of Research Activities for Harmonization of Latvian Transport System (project LaTRANS)



Copyright © Kabashkin, 2010

R&D Programme “Transport Intelligent System Development in Latvia” (2010 – 2013)

Technology Policy Goals:

- Strengthen competitiveness of Latvian economy
- Support sustainable socio-economic development
- Improve quality of business location and secure employment

Transport Policy Goals:

- Increase efficiency of transport system
- Improve intermodality between transport modes
- Increase sustainability, safety and security in transport

Intelligent Transport Systems and Services:

user friendly, sustainable, safe and efficient through

- International co-operation
- Active implementation

Main clusters

Mobility and Transport Technology

Telematics for Public Transport

Logistics Latvia

Innovative Mobility Services

Intelligent Infrastructure

Multimodal Transport Data Network

Multimodal Information Services

Integrated Satellite Navigation

Air Traffic Control Systems-CNS/ATM

Innovative Railway System

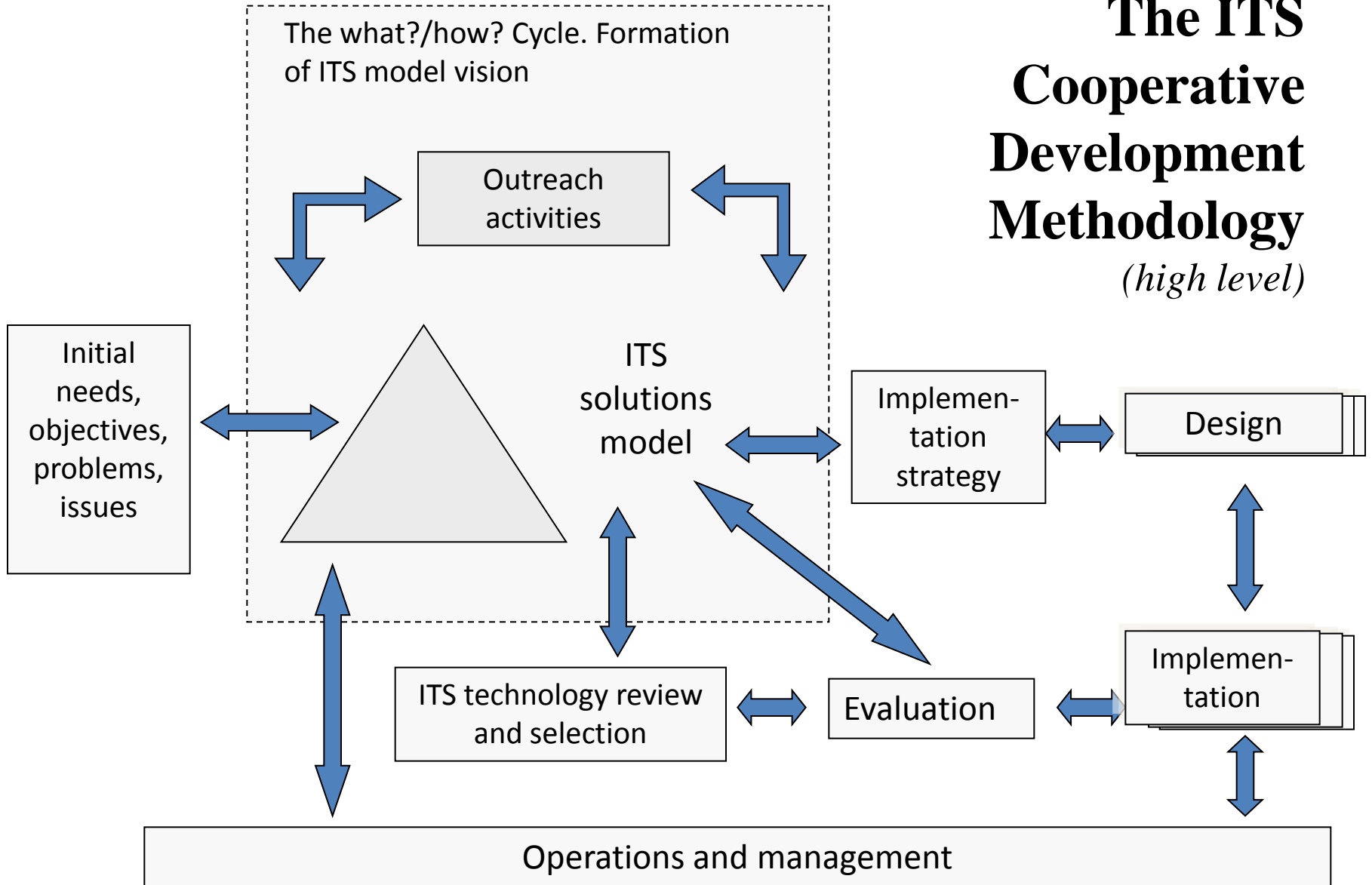
Riga City ITS

Research for sustainable and user friendly mobility

Education and Training

Communication and Public Relations

The ITS Cooperative Development Methodology *(high level)*



ITS technologies for public transport

OVERALL CHARACTERISTICS OF THE CITIES

- SOCIO-ECONOMIC CONTEXT
- MOBILITY

PUBLIC TRANSPORT SYSTEM

- PT TICKETS
- PT NETWORK
- FLEET SIZE
- CAPACITY

ITS APPLICATIONS ON PUBLIC TRANSPORT SYSTEMS

- ITS SERVICES by transport mean
- REGULATORY FRAMEWORK

Regional Passenger Transport System



ITS Regional Passenger Transport Service



Software as a service (SaaS) –
Charge monthly fee per module/per user/per bus

- Mobile Tickets
- TimeTable Planning
- Duty Planning
- Fleet GPS Monitoring
- Operational Control
- Interfaces VDV, etc.
- Others

Services for Public Transport operators



**ITS
Regional Operator**

Services for Passengers

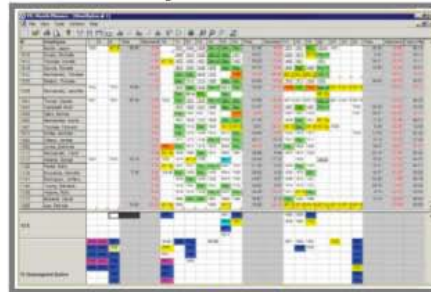
Services for Companies

- Mobile Tickets
- Route/Journey Planning
- Passenger Information


Advertising

Bus Operator Dispatcher Center

Vehicle and Driver Operation



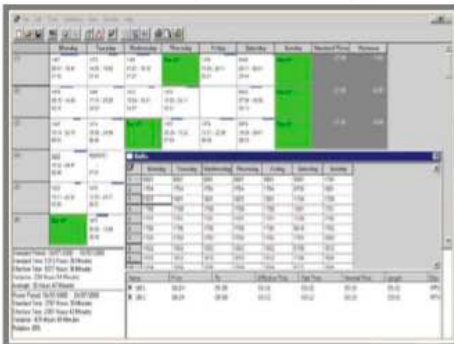
Route and TimeTable Planning



Vehicle and Driver On-line Control



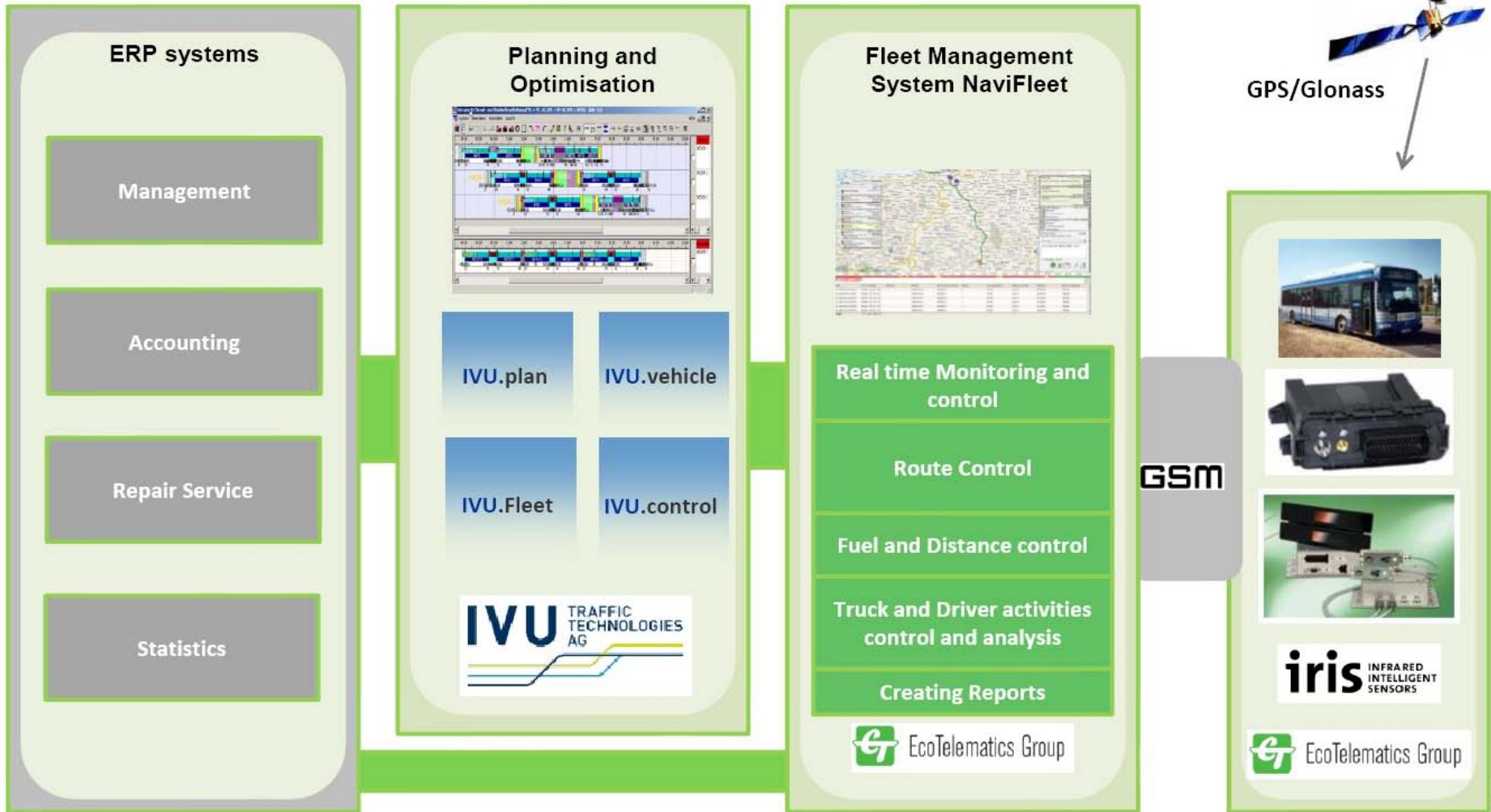
Roster and Duty Planning



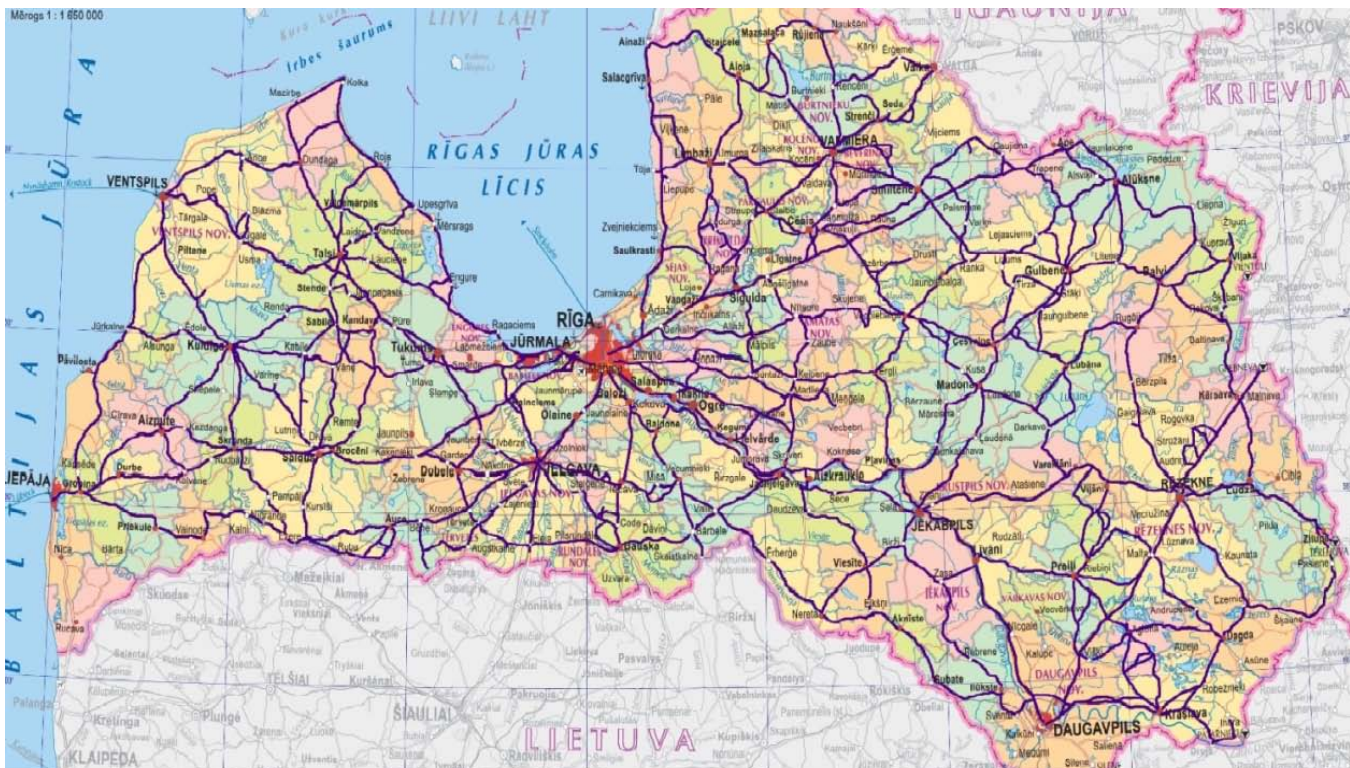
Statistics and Reporting



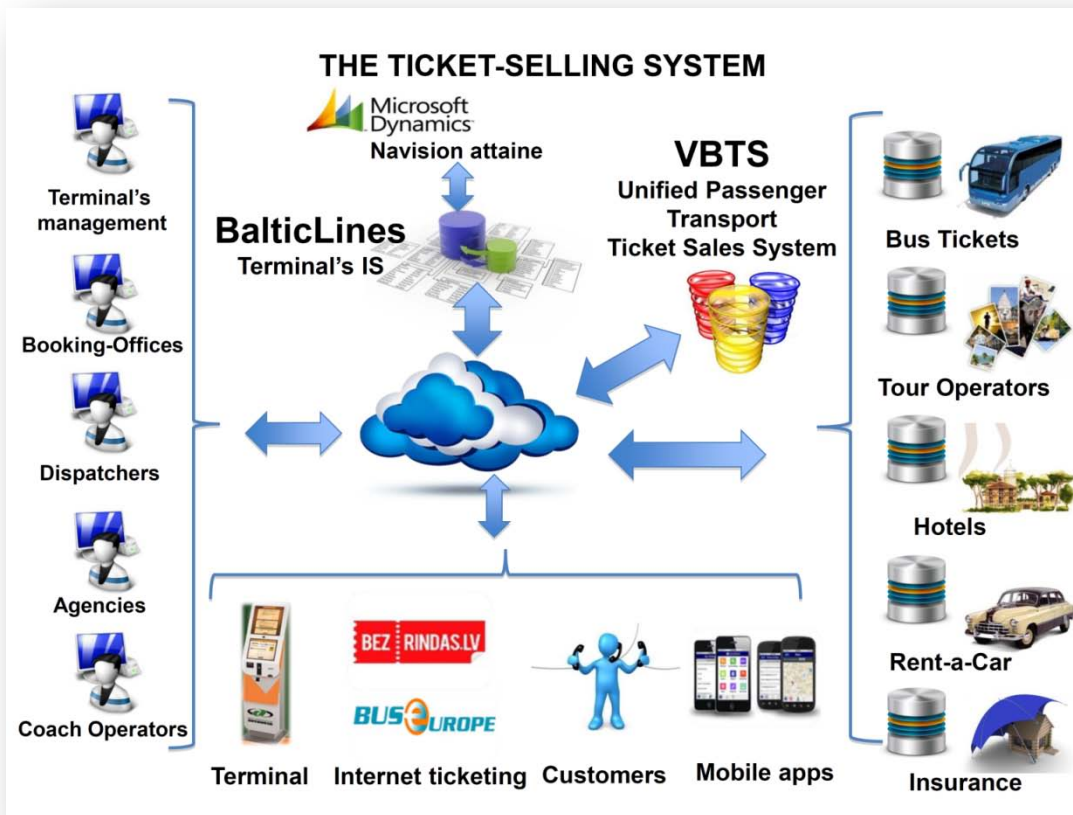
Passenger Counting System IRMA NaviFleet



NETWORK OF INTER-CITY BUS COACH ROUTES IN LATVIA



CURRENT SITUATION. BALTIC LINES



1. Not possible to pay on board with the contactless payment cards (bank cards without cash)???
2. Not easy interface, difficult to use for elder people.
3. No additional functionalities;

Primary Obstacles

- Huge number of regulations to adopt with;
- Mutability of laws;
- Technical execution of IS in accordance to regulation changes.

GOOD PRACTICES' EXAMPLE FOR IMPLEMENTATION PLAN

- SkyCash, Poland (ILIM, 20) based on existing Baltic Lines ticket-selling and registration program.



BalticLines includes:

- Coach route schedule and operational information on changes;
- Coach traffic information;
- System of ticket reservation and sell;
- Different ways of payments and communications;
- Development of control system and coach station services process;
- 24/7/365 service.

TO BE CHANGED

Riga
International
Coach Terminal



Tour operators



Internet ticketing



Internet ticketing



Mobile apps



CLOUD ?

NFC ?

2003

2005

2007

2011

2012

2013

201?



33 Coach
Terminals In
Latvia



Integration with
electronic
information
boards



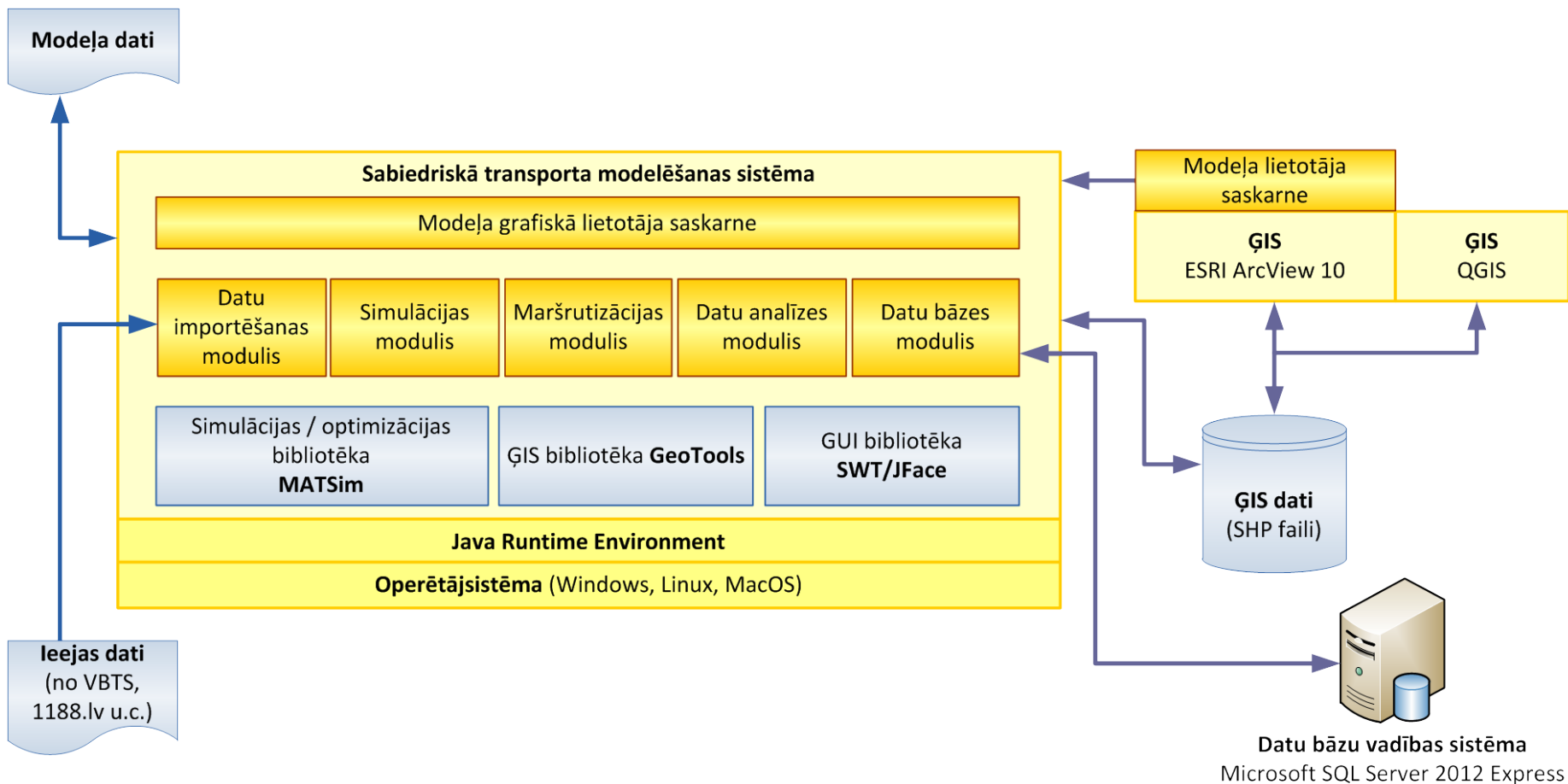
Cross-border coach traffic – options for Berlin

International information
and service platform
for long-distance coach transport

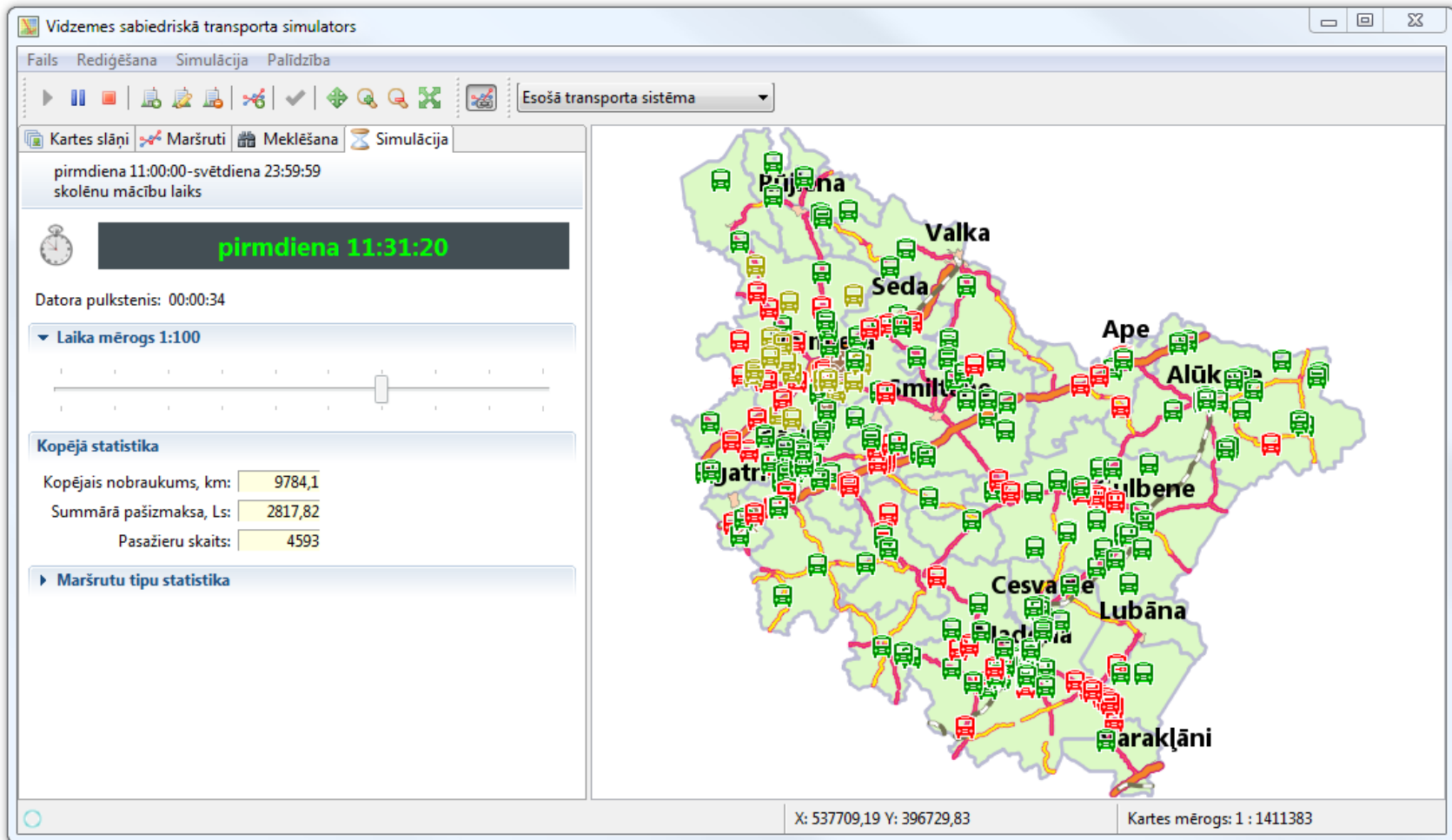
Vidzemes Planning Region

- The ITS related activity is seen in Vidzemes Planning Region (VPR). VPR implements INTERREG project titled “Regions for ITS solutions Network (RITS-Net)”.
- Overall objective – to help regions to develop individual ITS (*Intelligent Transport Systems*) regional plans for integration into the general mobility plan and to establish a joint methodology.

Modelling system's architecture



Modelling system's user interface



Conclusions

- ITS in Latvia is still under development
- Strategy ITS in Latvia is also under development
- Some services and ITS solutions are available

- Latvia is focused on creation of unified ITS solutions
- Different regions are involved as data providers

Conclusions from POLITE

- ✓ New ideas and Good Practices to the transportation companies (Rigas Satiksme & Riga International Coach Terminal & etc) and government bodies
- ✓ To create the platform for collaboration of the different stakeholders
- ✓ To establish the network for all interested in ITS implementation in Latvia
- ✓ There is the plan to establish the Public Transport Cluster in 2015

THANK YOU FOR YOUR ATTENTION!



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