



**ITU Symposium on The Future Networked Car**

# **ERA-GLONASS Project: Experience, Challenges, and Prospects**

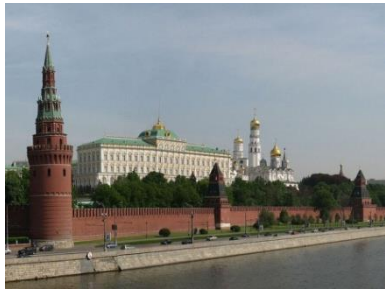
**Evgeni Meilikhov, *PhD***

06 March, 2014

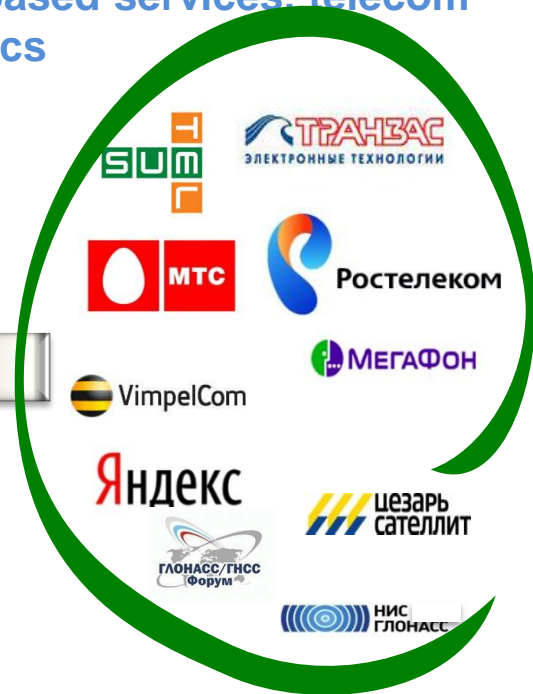
# GLONASS Union is a Non-profit Partnership

## GLONASS Union:

- National navigation service provider
- Responsible for ERA-GLONASS system deployment under government contract



GLONASS Union: Association of market players in the sphere of navigation-based services, telecom and telematics



## GLONASS Union mission:

- ✓ Shaping the environment for competitive technology development and market growth
- ✓ Integration of efforts and resources of government-run entities and market players
- ✓ Improvement of the regulatory and legislative environment
- ✓ Assistance in establishing a unified technical policy

# National Initiative to Improve Safety on Russian Roads

GLONASS/GPS GNSS



**Fully deployed ERA-GLONASS System will save up to 4,000 lives every year \***

\* Estimate assuming 100% penetration of ERA-GLONASS IVS in vehicles



Harmonization with European eCall

ERA-GLONASS In-Vehicle System

Mobile networks

ERA-GLONASS Operator

Regional PSAP (system-112)

Emergency Response Services

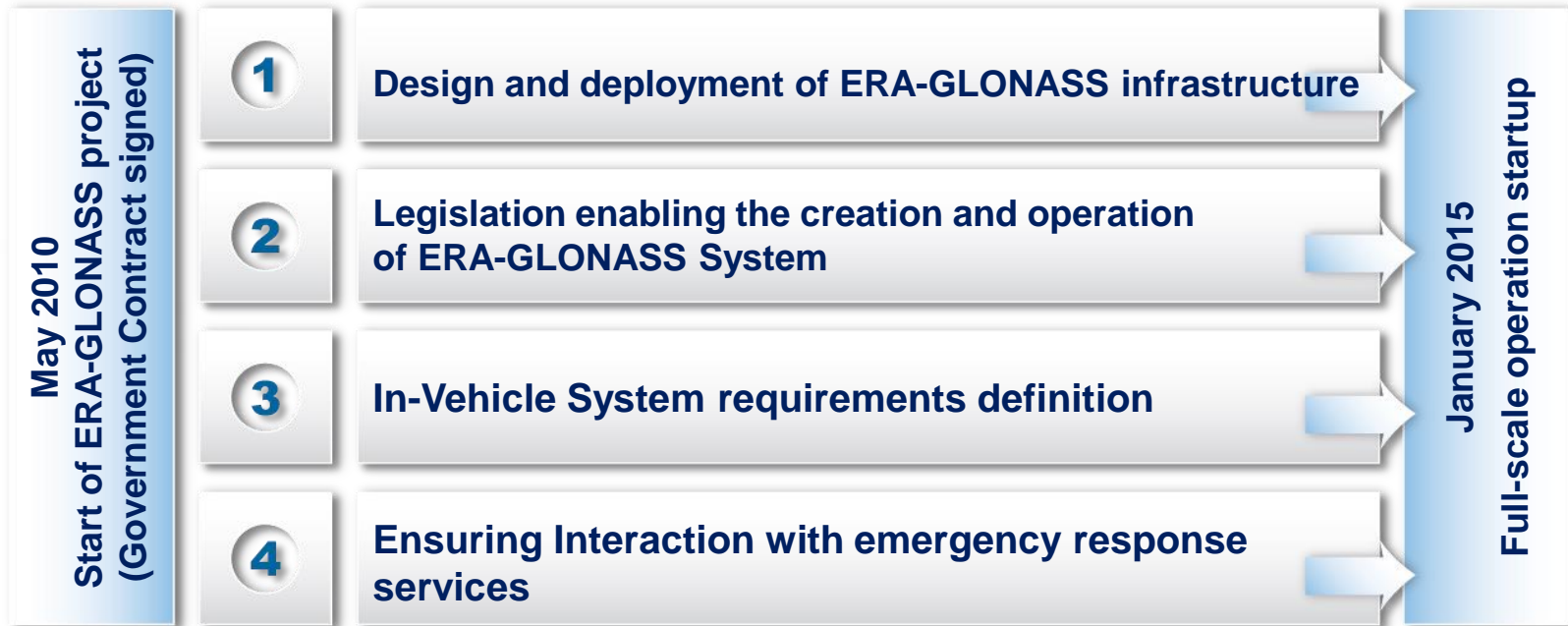


Response to road traffic accidents



Estimated economic effect is up to 8 billion rubles due to reduction of fatalities per annum

# ERA-GLONASS Project Milestones



# Customs Union Technical Regulation On Safety of Wheeled Transportation Vehicles



## Effective dates of the mandatory requirements to installed ERA-GLONASS systems/devices (approved by the Customs Union member states 30 January 2013)

### 1. Category M1 and N1 vehicles with weight of over 2.5 tons, as well as Category M2, M3, N2, and N3 vehicles:

- **Starting 1 January 2015:** transportation vehicles undergoing type-approval procedure **for the first time**
- **Starting 1 January 2016:** transportation vehicles utilized for commercial transportation of children, passengers, as well as hazardous cargo or solid household waste (garbage trucks) released for free circulation in the Customs Union member states
- **Starting 1 January 2017: ALL** transportation vehicles released for free circulation in the Customs Union member states

### 2. Category M1 and N1 vehicles with weight of under 2.5 tons

- **Starting 1 January 2015:** transportation vehicles undergoing type-approval procedure **for the first time**
- **Starting 1 January 2017: ALL** transportation vehicles released for free circulation in the Customs Union member states

# Federal Law On ERA-GLONASS State Automated System

## Federal Law # 395-Φ3

- Approved 28 December 2013
- Effective as of 01 January 2014

## The Law defines

- Legal status and purpose of the ERA-GLONASS system
- Roles and responsibilities of all parties involved in the ERA-GLONASS system operation

## The Law establishes

- Mechanisms for formation and usage of ERA-GLONASS system information resources
- Rights and responsibilities of government bodies, specifically, the requirements to inter-agency data transfer in the course of the system operation

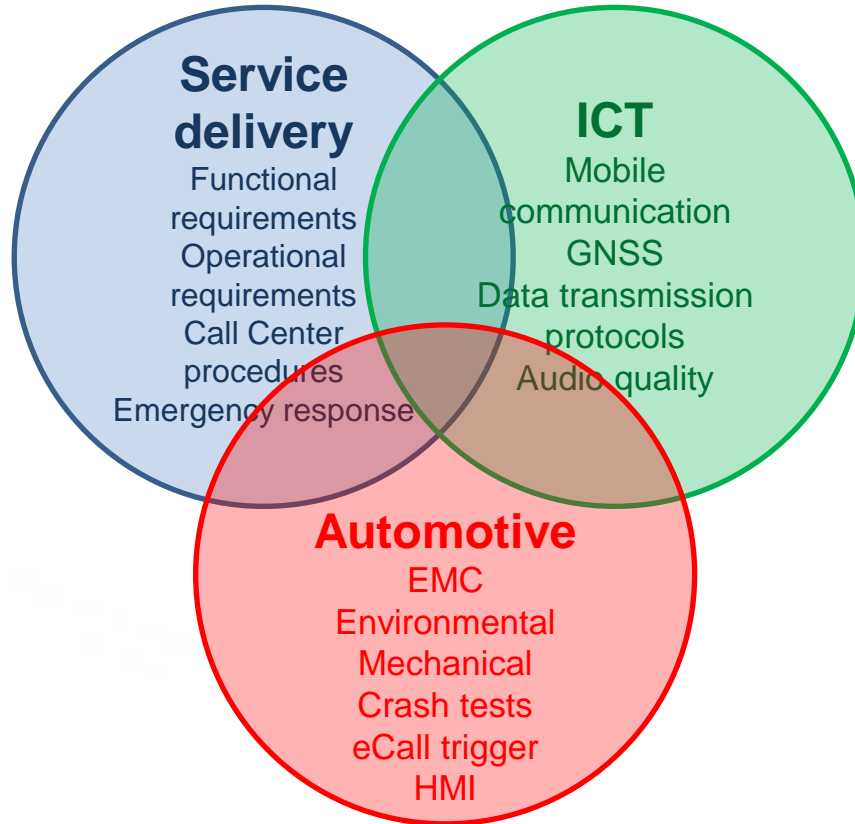
Number	Title
GOST R 54620 – 2011	General technical requirements
GOST R 54619 – 2011	Protocols of data transmission from in-vehicle emergency call system to emergency response system infrastructure
GOST R 54618– 2011	Compliance test methods of in-vehicle emergency call system for electromagnetic compatibility, environmental and mechanical resistance requirements
GOST R 55530-2013	Functional test methods of In-Vehicle Emergency Call System and data transfer protocols
GOST R 55531-2013	In-Vehicle Emergency Call System. Compliance testing for the requirements for hands-free audio quality in a vehicle
GOST R 55534-2013	Test methods for navigation module of in-vehicle emergency call system
GOST R 55532-2013	Test methods for in-vehicle system crash detection feature
GOST R 55533-2013	Test methods for wireless communication module of In-Vehicle Emergency Call System

# Development of the UNECE Regulation for Emergency Call Systems

- **The World Forum for Harmonization of Vehicle Regulations at its 159th session (WP 29), March 2013:** the Russian Federation announced its intent to propose a new UN Regulation governing emergency call systems.
- **The World Forum for Harmonization of Vehicle Regulations on its 160th session (WP 29), June 2013:** an informal working group (IWG) was established under the Working Party on General Safety (GRSG) for developing the new UN Regulation for emergency call systems. IWG on automatic emergency call systems start work on this subject under the chairmanship of the Russian Federation.
- The UN Regulation drafted by the Russian Federation and discussed at IWG meetings:
  - 08 - 10 October 2013 (Geneva)**
  - 05 – 06 December 2013 (Paris)**
  - 26 – 28 February 2014 (Moscow)**
- The next IWG meeting to discuss the UN Regulation scheduled for **28-30 April 2014 (Paris)**



# eCall/ERA-GLONASS Standardization Challenge

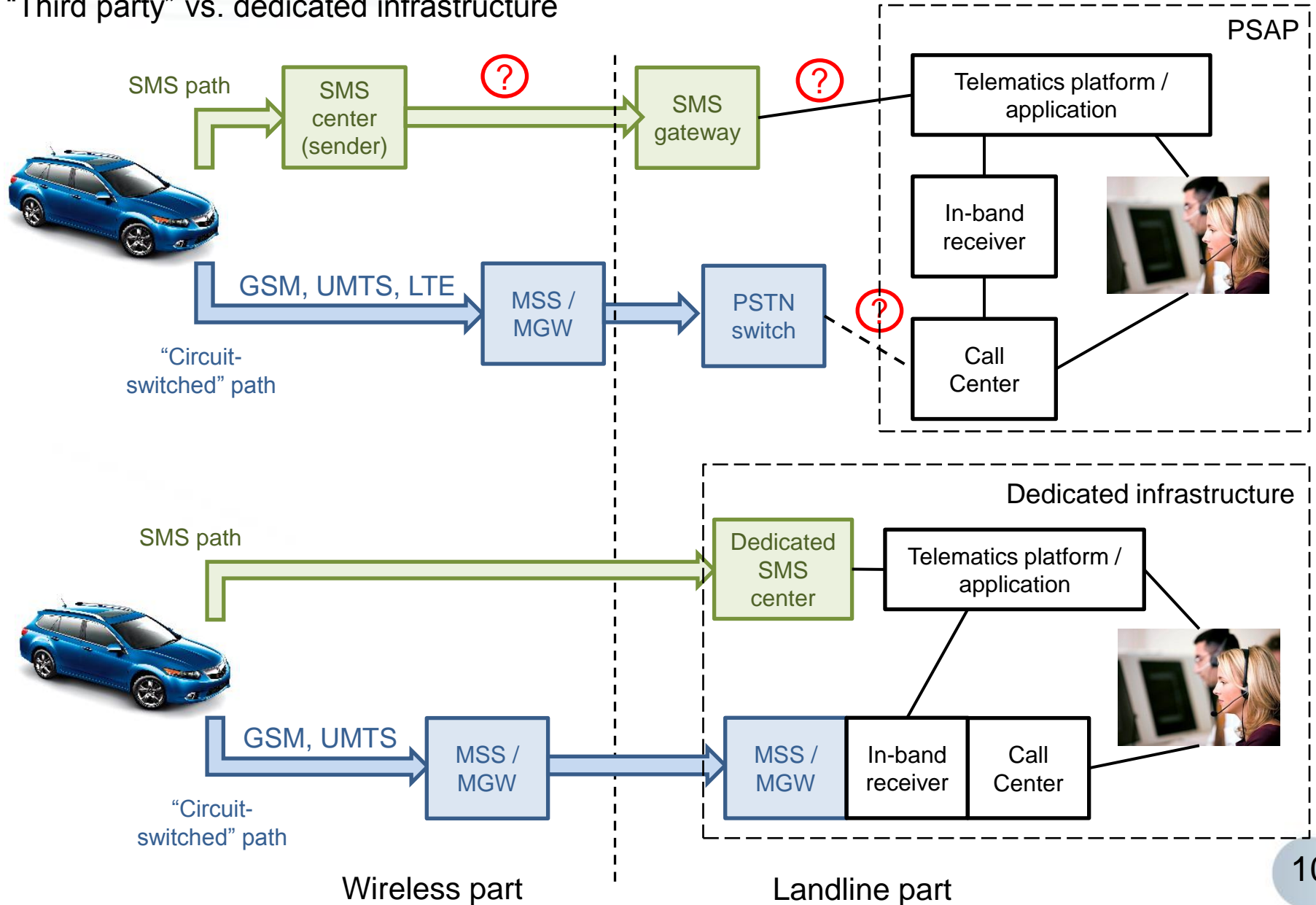


- Cross-disciplinary standardization required
- Competency spread in different industries
- Regulated environment
- International standardization due to global nature of the car industry
- Interoperability requirements (vehicles cross borders)
- Adjacent areas / applications should be taken into account
- Customer perception matters

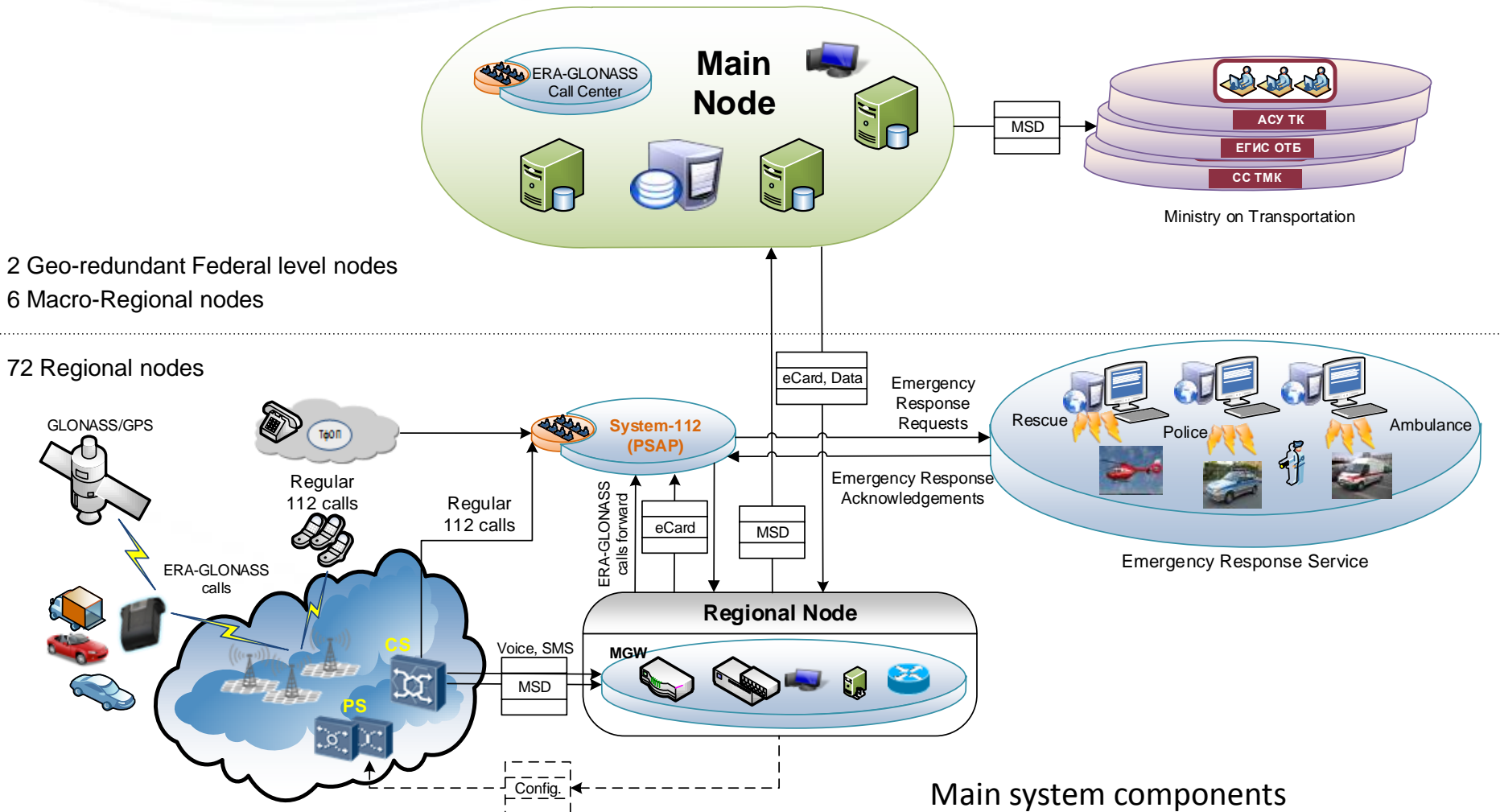
Minimum requirements do not always work due to a complex service chain

# What happens on the infrastructure side?

“Third party” vs. dedicated infrastructure



# ERA-GLONASS System Functional Diagram



## Main system components

- Service delivery platform
- Data transmission network
- MVNO core infrastructure

Ensure road safety

- ✓ 4,000 lives saved each year
- ✓ Mitigation of accident consequences

Technological platform for other public initiatives in ITS

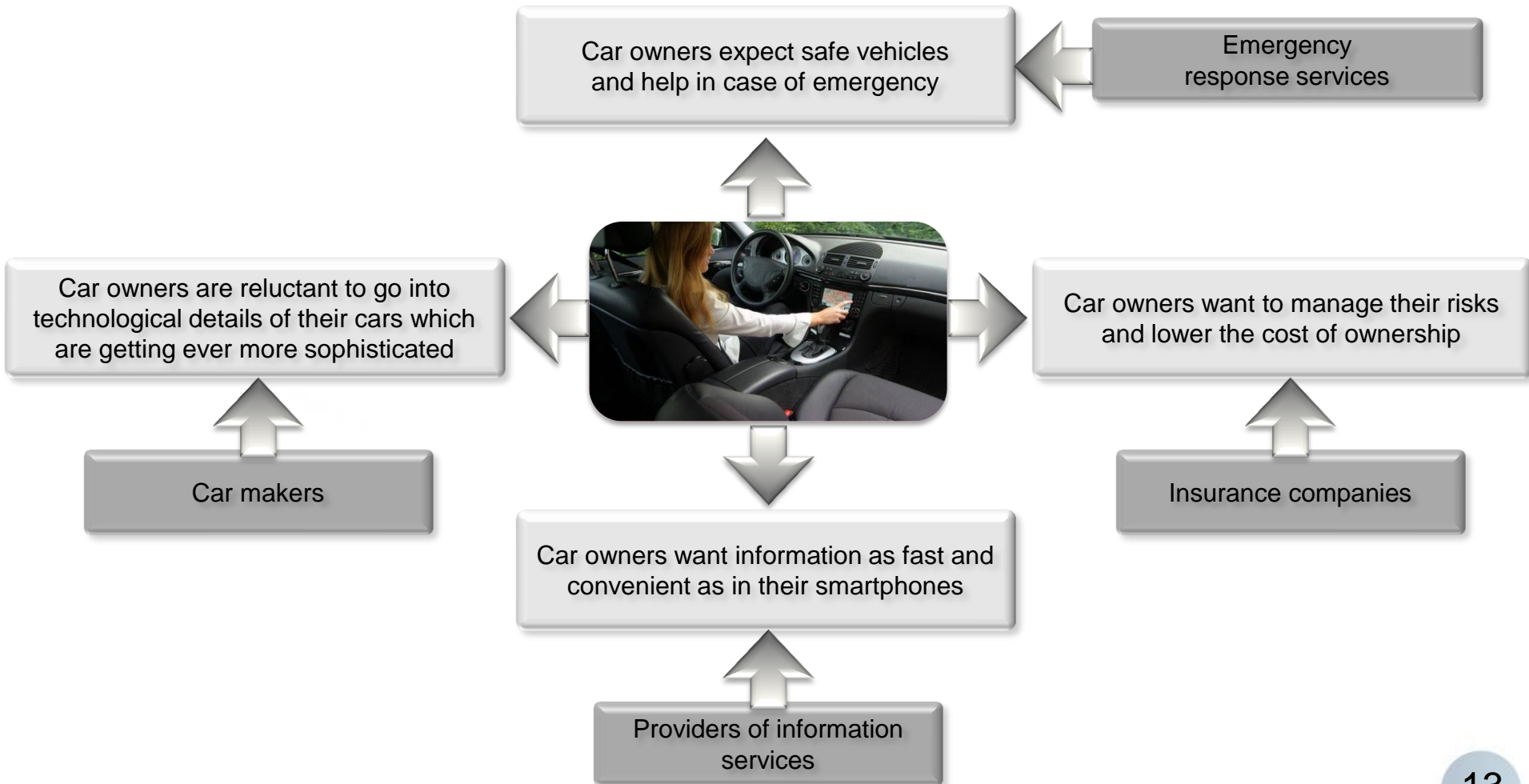
- ✓ Tolling systems
- ✓ Hazardous cargo transportation
- ✓ Public transport
- ✓ Other ITS application



Technological platform for car telematics applications

- ✓ Lowers technological barrier for service providers
- ✓ Creates economy of scale for medium-size market

# Standardization Focus: Enable the Development



# New Technologies Call for Public-Private Partnerships

Cars become smarter every year

Roadside infrastructure must become smarter as well

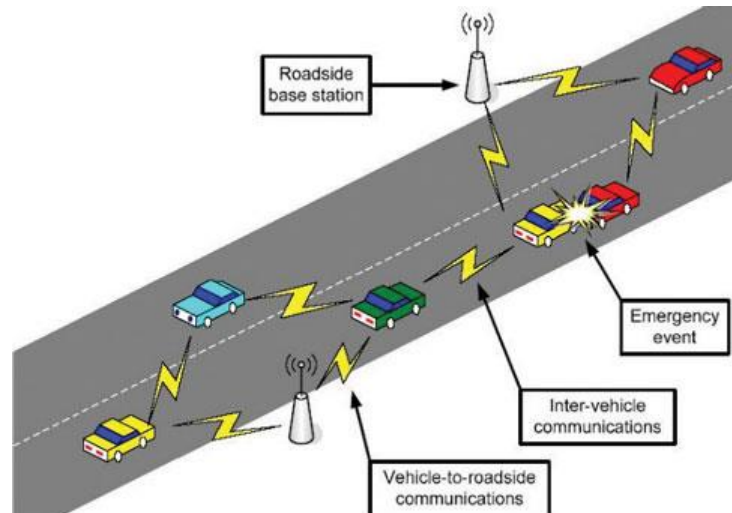
## Business responsibilities

- ❖ New vehicles
- ❖ New technologies on board
- ❖ Connected cars
- ❖ V2V communication technologies



## State responsibilities

- ❖ Infrastructure
- ❖ Legislation
- ❖ Unified technical policy
- ❖ ITS, Smart City
- ❖ V2I communication technologies





**“GLONASS UNION”**

**Thank you**

**eem@glonassunion.ru**