



“GLONASS UNION”

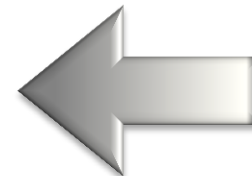
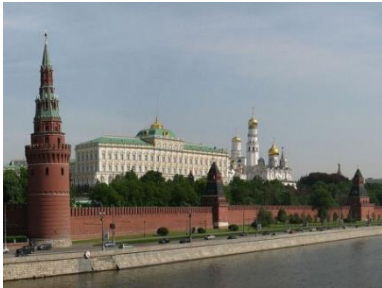
ERA-GLONASS Project Status

**Seminar on ERA GLONASS
Accident Emergency Call System (AECS)
Moscow
February 25th 2014**

GLONASS Union is a Non-profit Partnership



ERA-GLONASS



- ✓ National navigation services provider
- ✓ Government contractor for building the ERA-GLONASS System
- ✓ Partnership of Navigation-based Services market leaders

National Initiative to Increase Safety on Russian Roads

GLONASS/GPS



- Saving up 4 000 lives annually
- Decrease of disabilities and fatalities
- Mitigation of road accident consequences severity and liquidation costs
- Economical effect is expected to reach 22 billion Rubles by 2020

* Estimations done assuming 100% vehicles are equipped with ERA-GLONASS IVSs



Harmonization with European eCall

ERA-GLONASS In-Vehicle System



Mobile networks



ERA-GLONASS Operator



Regional PSAP (System-112)



Emergency Response Services



Emergency Response to a road traffic accident

Project Key Points

**October
2009**

Project approved by the Commission for Modernization and Technological Development of Russia's Economy

**May
2010**

First State Contract for ERA-GLONASS design and deployment is signed

2012

Ministry of Transport takes over a role of State Customer from Roscosmos
GLONASS Union appointed as sole Contractor

**30 January
2013**

Amendments to Technical Regulation of Vehicle Safety are adopted

**December
2013**

The Federation Council approved the Federal Law on ERA-GLONASS System

2014

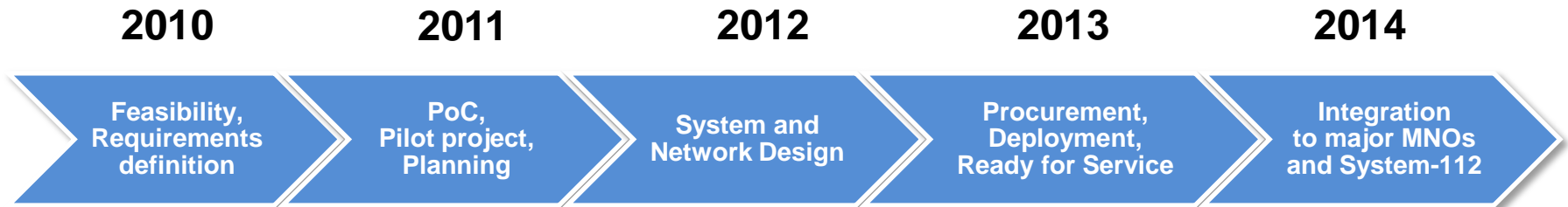
ERA-GLONASS System is put into pre-production operation

2015

Service is available for the vehicles with ERA-GLONASS OBU

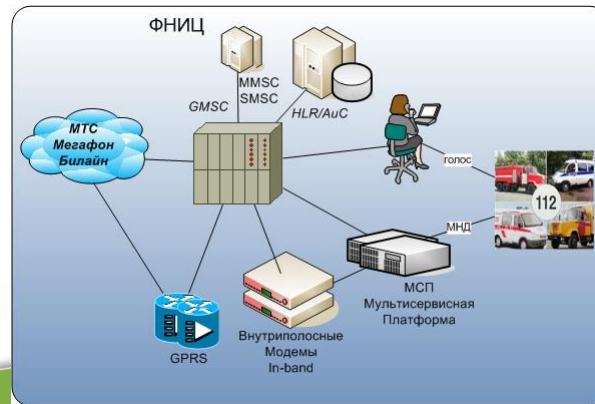
4 years from the idea to realization!

ERA-GLONASS development



ERA-GLONASS footprint

Service available in each region of Russia ✓

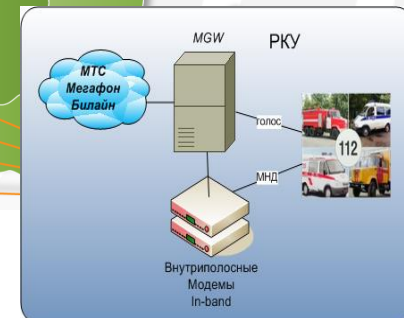


Federal roads coverage*

- MTC 91%
- Megafon 94%
- Beeline 85%

→ **ERA-GLONASS 99%**

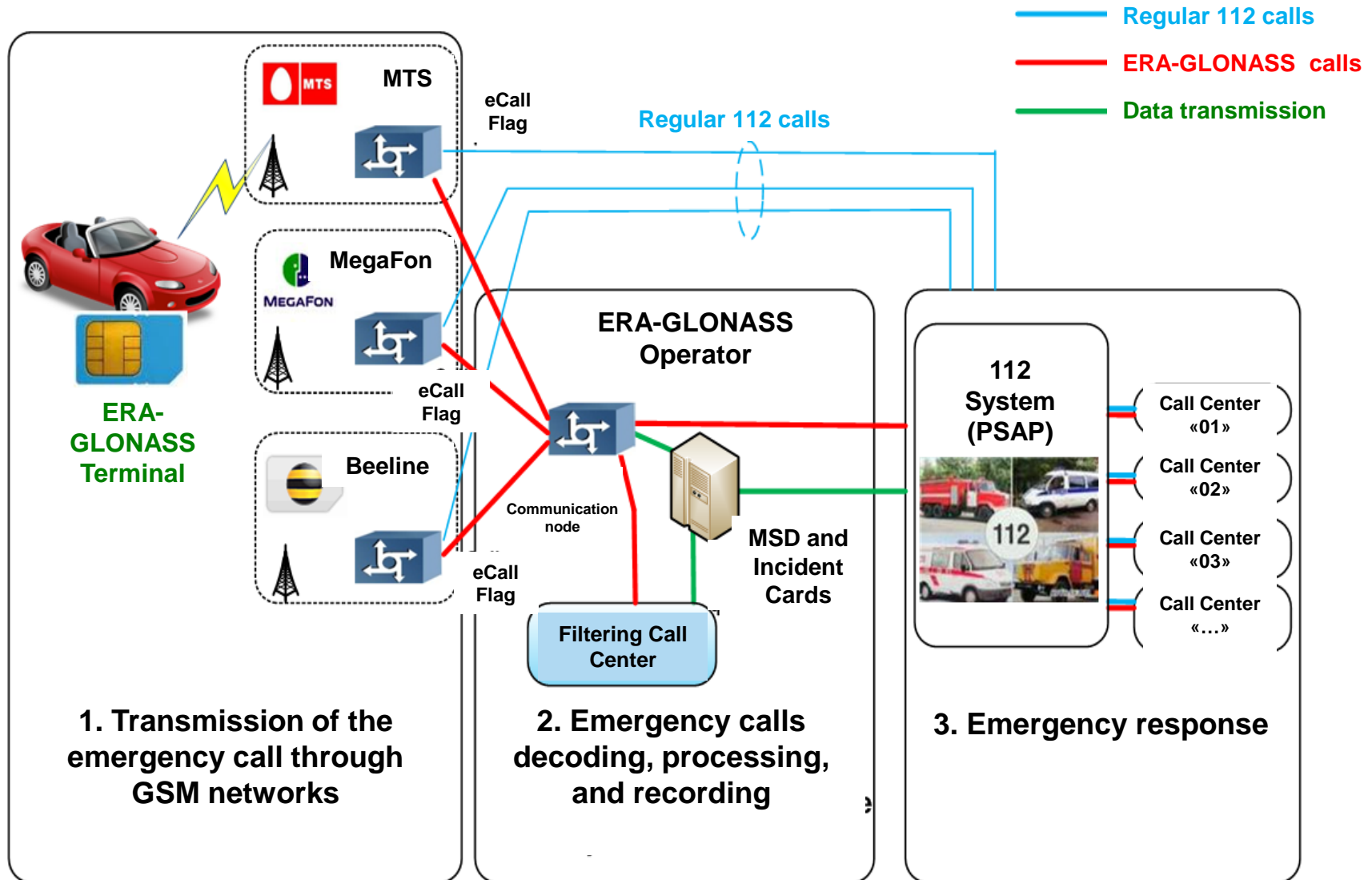
* Official data, as of Dec 2013



MVNO Infrastructure - 80 Nodes

- 2011 • 2 Central nodes + 1 Regional node (MSK, SPB, Kursk)
- 2012 • 15 Regional nodes (3 NIC + 12 RKU)
- 2013 • 62 Regional nodes (3 NIC + 59 RKU)

ERA-GLONASS mode of operations



Major differences of ERA-GLONASS and eCall

Mandatory requirements

- GLONASS GNSS support - a MUST
 - Combined GNSS receivers (e.g. GLONASS/GPS/Galileo) - welcome
- MSD transmission
 - In-band (primary method – standardized by 3GPP)
 - SMS (backup mechanism)
- Extended Echo Cancellation and Noise Reduction requirements for IVS
- Test requirements:
 - Test call to be initiated from a vehicle, results to be transmitted to back-end
- UMTS 900/2100 support
- Standardized I/O port and standardized protocol for external sensors
- Multi-profile eUICC with ERA-GLNOASS MVNO profile

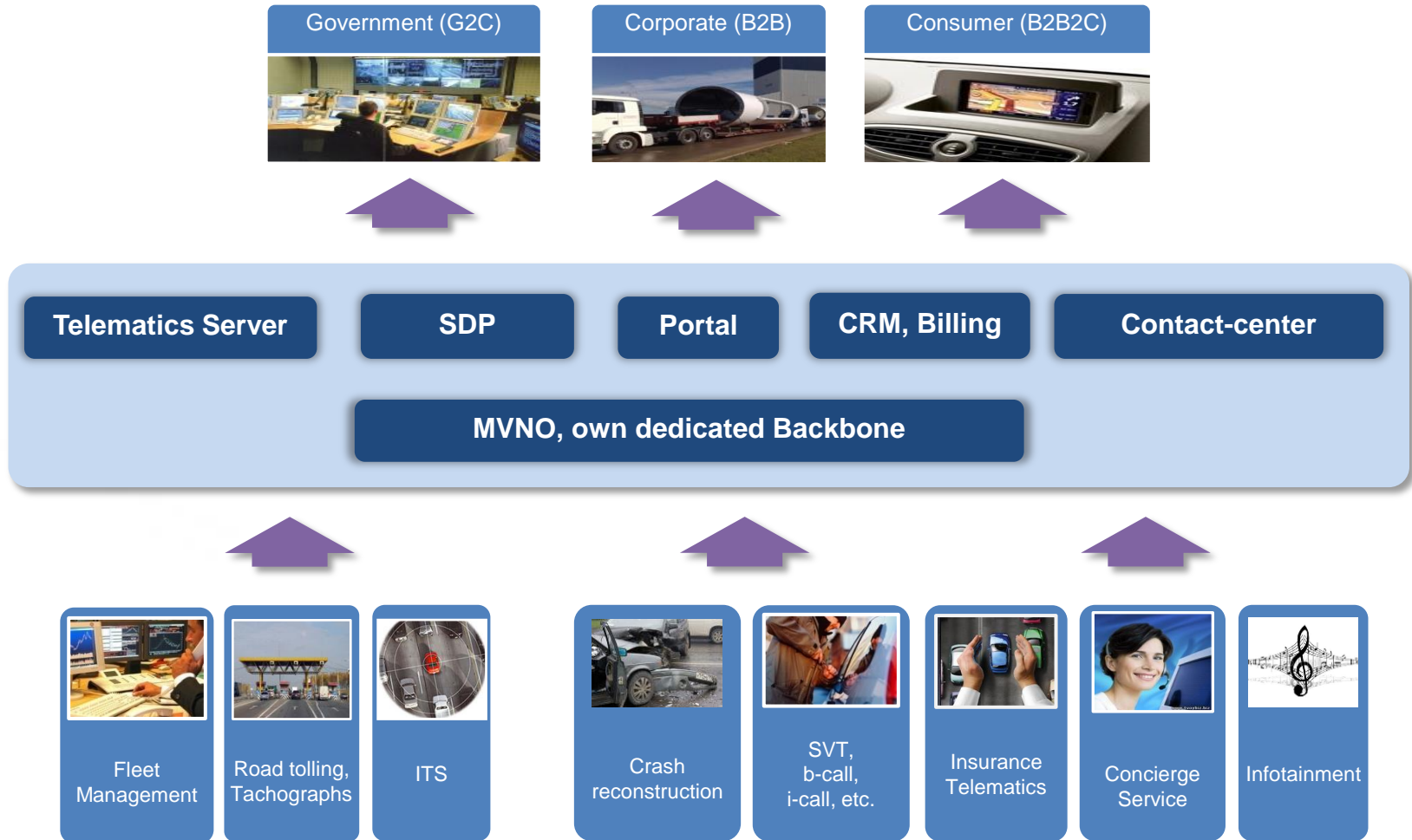
Optional requirements

- Remote IVS management (mandated for Retrofit IVS only)
- Remote IVS software upgrade (mandated for Retrofit IVS only)
- Crash Acceleration Profile recording for crash severity estimation in the back-end system
- “Black box” function (raw data storage)

Major differences of ERA-GLONASS and eCall

- Single point of responsibility for operations and maintenance of emergency infrastructure
- Cumulative cellular coverage though all Federal roads of Russia. IVS registers in available PLMN
- Dedicated SMSC as MSD backup bearer
- Carrier grade PLMN breakouts with major Russian mobile networks
- Redundancy of hierarchal architecture (three levels network: Federal, Macro-regional, Regional)
- Filtering Call Center of few agents to qualify emergency calls countrywide (83 regions)
- IVS testing subsystem used for vehicle periodic technical inspection
- Base for public Services (road accident prevention, insurance telematics, digital tachygraphy, road tolling, ...) and variety of consumer Value Added Services

Potential for Value Added Services





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Thank you