Ericsson Intelligent Traffic Management Solutions

Presented by
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Ericsson intelligent traffic management solutions
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› Challenges of modern transport can only be solved by intelligent systems that integrates situation awareness data in order to provide:
  – Optimised freight and passenger transport services
  – Improved transport system safety and reliability
  – Supports energy efficient transport
  – Reduces pollution and greenhouse gasses emissions

› Ericsson offers an intelligent traffic management solution for land and maritime transport, based on understanding traffic processes, and knowledge and competence in system integration and provision of the most advanced communication systems
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BUSINESS ENVIRONMENT

- Organisation or Information source
- Sensors
- Historical data, Prediction model
- Policy statements, Control strategy
- Automated system, Operator
- Traffic control facilities

Flowchart:
- Knowledge contribution → Revenue
- Data on vehicle movements → Awareness of the current traffic situation
- Trends in the traffic situation → Awareness of the expected traffic situation
- Description of the desired situation, Control tactics → Control plans
- Traffic engineering skills → Control measures
- Application → (Co-ordinated) activated settings, Information distribution

Traffic Domain:
- Vehicle
- Vehicle fleet (FFM, PT)
- Vehicle equipment

Transport Domain:
- Vehicle owner
- Fleet operator

- Driver (Journey purpose, Route choice, etc.)
- Vehicle behaviour
- Cargo status
- Route taken

Collective (Public):
- Infrastructure owner
- Control system owner
- Road infrastructure, furniture etc.
- Traffic management system

- Infrastructure operator
- Traffic controller
- Traffic flows
- Traffic management measures

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› LEGAL ENVIRONMENT (EC legislation)

› EC Action plan for the deployment of Intelligent Transport Systems in Europe
› EC Action plan on urban mobility
› EC Decision on the definition of the European Electronic Toll Service and its technical elements
› EC Green paper on satellite navigation applications
› EC: A sustainable future for transport
› EC Communication eCall: Time for Deployment

› STANDARDISATION
› ETSI
› ERTICO
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› Ericsson intelligent traffic management solutions are based on modern communication technologies and proven products for wireline broadband data communications, command and control, and utilisation of location intelligence embedded in mobile communications networks

› Ericsson solutions in the field of land and maritime transport are innovative, in full accordance with EU regulations and internationally-recognised industrial standards, and can be readily integrated with any other traffic management solutions

› Ericsson solutions in transport allows for innovative utilisation towards optimal traffic management and enhanced situation awareness
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› GENERAL ARCHITECTURE
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- ERICSSON BROADBAND FIBRE OPTICS COMMUNICATIONS
- ETK provides solutions for reliable broadband connectivity (Micronet™ - a cabling system for scalable and cost efficient installation of fiber optic metropolitan and access networks, Ribbonet® - a method to install optical fiber using compressed air, and Redback SmartEdge IP Routers)
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› MOBILE POSITIONING SYSTEM WITH ABLD FUNCTIONALITY
› ABLD = Anonymous Bulk Location Data
› Provision of anonymous network-generated data about mobile users’ movement
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› COORDCOM™ – ERICSSON SOLUTION FOR COMMAND & CONTROL

› Public safety communication centre

› Means of communications: signals, voice, data and multimedia

› Based on real-time traffic information provided by Traffic Information System
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› ANONYMOUS LOCATION INTELLIGENCE FOR TRAFFIC INFORMATION SYSTEM
› Anonymous raw location-related data processed in order to provide real-time road segment traffic status
› Traffic status data presented on various platforms + traffic statistics
› Based on Ericsson products Mobile Positing System (MPS) and ABLD functionality
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› TRAFFIC MANAGEMENT

› Based on real-time traffic information provided by Traffic Information System

› Optimised traffic management
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› CONTROL AND ENFORCEMENT

› Safety
› Critical and incident situation management
› Traffic control
› Congestion control
› eCall
› Asset management
› Parking
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› CASE STUDY 1: MUNICIPAL/NATIONAL TRAFFIC INFORMATION SYSTEM
› Solution aimed to provide the real-time road traffic situation data as the foundation for advanced traffic information and control services
› Based on Ericsson products CoordCom and MPS/ABLD
CASE 2: NATIONAL TRAFFIC MANAGEMENT CENTRE

System aimed for provision of centralised road traffic management on national level, based on integration of the existing traffic management systems, and Ericsson TIS

Solution based on Ericsson products CoordCom and MPS/ABLD
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› CASE STUDY 3: VTMIS (Port of Rijeka Authority)

› Ericsson Solution for Vessel Traffic Management Information System (VTMIS)
› Solution based on Ericsson CoordCom and Ericsson microwave link products
› Ericsson VTMIS solution is open for integration with other maritime safety and traffic management solutions
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› CASE STUDY 4: RAILWAYS TRANSPORT AND TRAFFIC

› Ericsson solutions for railways transport and traffic management
› ICT solutions for both fleet and freight management
› Supports inter-modal transport
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› IMPLEMENTATION BENEFITS OF ERICSSON INTELLIGENT TRAFFIC MANAGEMENT SOLUTIONS (Data: City of Zagreb case estimates)

› Optimised freight and passenger transport services
› Improved transport system safety and reliability
› Supports energy efficient transport
› Reduces pollution and greenhouse gasses emissions

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<td>Travel time reduction</td>
<td>10% - 25%</td>
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<td>Bus delay reduction (per vehicle and intersection)</td>
<td>3 s – 12 s</td>
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<td>Reduction of fuel consumption</td>
<td>5% - 15%</td>
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<tr>
<td>Reduction in emission of pollution and greenhouse gasses</td>
<td>10% - 25%</td>
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<td>Return of investments</td>
<td>1 year – 3 years</td>
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› CONCLUSION

› Challenges of modern transport can be successfully resolved only by utilisation of Intelligent Transport Systems
› Based on successful integration of modern communication technologies, reliable positioning based on location intelligence, geospatial data and advanced navigation algorithms, Ericsson Nikola Tesla and its partners provide modern, efficient, customer-shaped and environmental-friendly solution for traffic management both on national nad on municipal levels.
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THANK YOU FOR YOUR ATTENTION!
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