Supported by the
Connecting Europe Facility &
Horizon 2020

ITS projects
Making implementation happen

INEA is an executive agency established by the European Commission to implement EU funding programmes for transport, energy and telecommunications.

The Agency’s mission is to provide its stakeholders with expertise and high-level programme management, whilst promoting synergies among programmes, in order to benefit economic growth and EU citizens.

Managing programmes worth €34 billion

INEA manages the following programmes:

- **Connecting Europe Facility (CEF)**, a key EU funding instrument that supports the development of high-performing, sustainable and interconnected Trans-European Networks in the fields of transport, energy and telecommunications
- Parts of **Horizon 2020**, the EU’s €80 billion research and innovation programme for 2014-2020, in the fields of transport and energy
- A number of legacy projects from the 2007-2013 funding period under the **TEN-T** and **Marco Polo** programmes
Intelligent Transport Systems (ITS) are vital to increase safety and tackle Europe's growing emission and congestion problems. They can make transport safer, more efficient and more sustainable by applying various information and communication technologies to all modes of passenger and freight transport.

The European Commission fosters the development and use of ITS solutions to achieve a more efficient transport network management. EU-funded projects are working on improved journeys and operations on road and combined modes of transport. They are also developing the next generation of ITS solutions, through the deployment of Cooperative ITS (C-ITS), paving the way for automation in the transport sector.

This publication shows ITS projects that have received support and co-funding from the Connecting Europe Facility (CEF) and Horizon 2020 (H2020) programmes since 2014. The Innovation and Networks Executive Agency (INEA) has already invested nearly €400 million in the development and implementation of ITS through competitive calls for project proposals.

CEF for ITS

The 2014 and 2015 calls provided €318 million funding to 29 projects triggering investments of more than €730 million for the deployment of ITS across the EU. These include €71 million of funding in the field of C-ITS.

The CEF funded projects featured in this publication cover:

- **Implementing and upgrading ITS services along nine Core Network Corridors**: thousands of additional kilometres will be connected with ITS technologies (e.g. real-time travel information, intelligent truck parking), leading to more efficient, safer and less polluting road transport. The EU ITS Platform is ensuring that the deployment of ITS services is harmonised at pan-European level.
- **The C-Roads Platform**, funded by eight EU Member States attracts a growing number of participants, working towards interoperable C-ITS services for European travellers. The Platform is making cross-border C-ITS services a reality and building the foundations for connected and automated vehicles. This work is key for making European roads safer and traffic more efficient.
- **I_HeERO and eCall.at projects** are preparing the European public emergency services (Public Safety Answering Points) to handle eCall, the automatic dialling of the Europe’s single emergency number 112 in the event of a serious road accident, in view of the forthcoming mandatory introduction of eCall.

Additional EU funding of about €140 million is being awarded to new ITS projects under the 2016 CEF call.
H2020 for ITS

The 2014, 2015 and 2016 calls provided some €80 million funding to 17 research and innovation projects developing and testing new automated driving, ITS, C-ITS, as well as multimodal travel and payment solutions:

• Automated and progressively autonomous driving projects focus on developing applications that enhance road safety and increase the efficiency of transport operations.

• C-ITS projects work on specific collaborative ITS deployment aspects, either for a particular type of vehicle or their network.

• Multimodal travel and transport projects advance door-to-door information systems for passengers, as well as improved mobility solutions for airports.

• ITS services projects develop real-time multimodal mobility solutions for people and goods.

Additional EU funding of over €60 million is being awarded to 7 new projects under the Automated Road Transport theme of the 2017 H2020 call. One of them - L3Pilot - brings together all the major vehicle manufacturers to develop a key Europe-wide demonstrator all of automated vehicles.
CEF ITS projects

Since 2014, CEF has been supporting the harmonised and pan-European deployment of ITS and C-ITS. In the following pages, you will find the details of the ITS projects.

‘Intelligent Transport Systems’ or ‘ITS’ means systems in which information and communication technologies (ICT) are applied to transport, including infrastructure and vehicles, (road) traffic management, mobility services, as well as interfaces between road and other modes of transport.

ITS have the capacity to do more with less, compared to physical network building or expansion. More use of ITS solutions brings a more efficient management of the transport network for passengers and businesses, allowing making traffic flexible and dynamic, adjusted to circumstances.

CEF Actions in the field of ITS are mainly dedicated to the installation of ITS services in line with the ITS Directive 2010/40/EU. ITS services are deployed along cross-border corridors with seamless interoperability, for the benefits of both road users and road authorities. ITS technologies are also installed or upgraded in numerous Traffic Management Centres to improve their efficiency and in many rest areas for the implementation of “safe and secure parking”.

The ultimate goal of these Actions is to contribute to a safe, sustainable and inclusive transport and to address growing mobility needs using optimised transport services. The projects involve Member States, Road Authorities, as well as industry and other private entities.
Connecting Europe Facility
TRANSPORT

**Member States involved:**
Austria

**Implementation schedule**
*Start date:* January 2015  
*End date:* December 2017

**Budget:**
*Estimated total cost of the action:* €8,001,440  
*Maximum EU contribution:* €3,212,032  
*Percentage of EU support:* 40.14%

**Beneficiaries:**
- Bundesministerium für Verkehr, Innovation und Technologie  
  [www.bmvit.gv.at](http://www.bmvit.gv.at)
- Bundesministerium für Inneres  
  [www.bmi.gv.at](http://www.bmi.gv.at)

**Implementing body:**
- AustriaTech  
  [www.austriatech.at](http://www.austriatech.at)

**Additional information:**
- Coordinator's Report on the Corridor:  
- European Commission  
  [http://ec.europa.eu/transport](http://ec.europa.eu/transport)
- Innovation and Networks Executive Agency (INEA)  
  [http://ec.europa.eu/inea](http://ec.europa.eu/inea)

---

**eCall.at**

*2014-AT-TA-0259-M*

---

**eCall.at** focusses on the implementation of eCall in Austria. The key element of the proposed Action is the piloting and subsequent implementation and certification phase of 9 Public Safety Answering Points (PSAPs), in line with the requirements defined by the EU regulations and specifications on eCall.

Additionally, a set of training measures for PSAP operators will be defined and prepared to ensure the correct handling of eCalls. Dissemination activities will be defined and conducted to ensure close cooperation with rescue services as well as road operators and OEMs (Original Equipment Manufacturers) in Austria.

eCall.at will also pilot cross-border cooperation to enable proper handling of eCalls in the border regions, via contacts and agreements with neighbouring Member States.
Safe and secure infrastructure in Flanders

2014-BE-TM-0694-S
North Sea-Mediterranean Corridor

The Action includes two sub-projects, both aiming at improving the safety on the Flemish highways. The first sub-project aims at making the Flemish TEN-T tunnels compliant with Directive 2004/54, more specifically on the E19 (Craeybeckxtunnel), R1 (Kennedytunnel), R0 (Vierarmentunnel, Leonardtunnels) and R2 (Beverentunnel, Tijsmanstunnel).

The tunnels are part of main roads for long distance and international traffic, but also used for local traffic due to the vicinity of the urban nodes of Brussels and Antwerp. The aim of the Action is to conduct inspections, assessment of the safety performance and compliance with the directive, and to derive plans for adapting the tunnels and for implementing remedial measures.

The second sub-project focusses on increasing safety and security in highway truck parking areas, for which demand exceeds the available spaces. Truck drivers at the end of their driving shift do not know where there is parking capacity available and this creates an unbalanced distribution of parking occupancy. Data on capacity and occupancy of parking areas will be provided to truck drivers to allow them to make an informed decision on where and when to park.

It is expected that this Action will increase safety in the Belgian Flanders highways, providing socio economic benefits in terms of increased safety in tunnels, more efficient traffic flow, reduced emission and time lost in congestion.
Connecting Europe Facility
TRANSPORT

**Member States involved:**
Spain

**Implementation schedule**
*Start date:* January 2014
*End date:* December 2017

**Budget:**
*Estimated total cost of the action:* €1,500,000
*Maximum EU contribution:* €750,000
*Percentage of EU support:* 50%

**Beneficiary & implementing body:**
Repsol Comercial de Productos Petrolíferos S.A.
[www.repsol.com](http://www.repsol.com)

**Additional information:**
Coordinator’s Report on the Corridor

European Commission
[http://ec.europa.eu/transport](http://ec.europa.eu/transport)

Innovation and Networks Executive Agency (INEA)
[http://ec.europa.eu/inea](http://ec.europa.eu/inea)

---

**Repsol Security Parking**

**2014-ES-TM-0358-S**
Mediterranean & Atlantic Corridors

Secure parking areas are an important element of the logistics network and provide vital rest areas for drivers, helping to ensure safety for all road users and provide a higher security for goods, vehicles and drivers. The objective of the Action is to develop a study aiming at upgrading safety and security in six parking areas for trucks and commercial vehicles in the vicinity of petrol stations in Spain.

The parking areas are located on the Mediterranean and Atlantic corridors and will become part of an interconnected network through an online management platform specifically designed for the project. The Action will contribute to optimising the use of the parking places through provision of static and dynamic parking information, including collection and processing of data. It will implement innovative safety technologies for the acquisition of information and provide reservation services in real time.
Connecting Europe Facility
TRANSPORT

Member States involved:
Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Finland, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Romania, Slovenia, Spain, United Kingdom

Implementation schedule
Start date: January 2015
End date: December 2017

Budget:
Estimated total cost of the action: €30,987,469
Maximum EU contribution: €15,493,734

Percentage of EU support: 50%

Beneficiaries & implementing bodies:
Project website
http://iheero.eu

Additional information:
European Commission
http://ec.europa.eu/transport
Innovation and Networks Executive Agency (INEA)
http://ec.europa.eu/inea

I_HeERO
2014-EU-TA-0582-S

eCall (based on the European emergency number 112) is the emergency call system that automatically alerts rescue services in case of vehicle crashes.

The device will have to be fitted into all new models of cars and light vans by 31 March 2018. Similarly, EU Member States must put in place by 1 October 2017 the necessary Public Safety Answering Points (PSAP) infrastructure to process eCalls.

I_HeERO is addressing the need for Member States to upgrade their PSAPs in compliance with the ITS Directive (2010/40/EU), thus enabling eCall to be correctly implemented across all EU Member States.

The Action will also undertake studies on the extension of eCall to other types of vehicles not included in the EU legislation on eCall, i.e.: powered two wheelers, trucks and dangerous goods carriers. Furthermore, it will also examine the requirement for data integration and define conformity assessment for all PSAPs as required by the legislation.
NEXT-ITS 2

2014-EU-TM-0310-W

NEXT-ITS 2 aims at improving the efficiency, safety and security of the Northern part of the Scandinavian-Mediterranean CEF corridor from Oslo and the Finnish-Russian border via Copenhagen, Hamburg and Bremen to Hanover in Germany.

Continuity of ITS services will be achieved through coordinated deployment of Traffic Management Services, upgrade of Traffic Management Centres, development and implementation of Traffic Management Plans and harmonisation of control and management strategies. NEXT-ITS 2 also addresses the provision of EU-wide traffic and travel information services, including cross border services for seamless door-to-door mobility.

The action will further deploy ITS services that enhance road safety and efficiency (e.g. hard shoulder running, real-time traffic and weather monitoring, variable speed limits), in particular on urban-interurban intersections where long-distance traffic merges with local commuter traffic.
Connecting Europe Facility
TRANSPORT

Member States involved:
Italy, Sweden, Finland, Romania, Spain, France, Denmark, Ireland, UK, Germany, the Netherlands, Portugal, Lithuania, Belgium, Poland

Implementation schedule
Start date: July 2015
End date: December 2020

Budget:
Estimated total cost of the action: €12,949,750
Maximum EU contribution: €6,474,875
Percentage of EU support: 50%

Beneficiaries & implementing bodies:
SINA (project coordinator)
www.gruppo-sina.it

Additional information:
European Commission http://ec.europa.eu/transport
Innovation and Networks Executive Agency (INEA) http://ec.europa.eu/inea

ITS for Road has been applied by EU Member States with great success since decades as a necessary mean to alleviate problems caused by an increasing demand for road transport while using the existing infrastructures. Ensuring continuity of high quality ITS services across Europe requires harmonisation of existing and future ITS services.

The EU ITS Platform (EU EIP) is a forum where partners from the private and public sectors of almost all EU Member States will cooperate in order to foster current and future ITS deployments in Europe in a harmonised way.

The EU EIP will also provide valid contribution for the future strategy, roll-out of services and policy recommendations on ITS. By monitoring, evaluating and disseminating results from the ITS Road Corridor projects (works within the CEF MAP ITS Call 2014), the EU ITS Platform can be considered as the technical European ITS “Knowledge Management Centre”.

EU ITS Platform

2014-EU-TM-0317-S
Connecting Europe Facility
TRANSPORT

Member States involved:
Austria, Germany, Italy, The Netherlands

Implementation schedule
Start date: January 2014
End date: December 2018

Budget:
Estimated total cost of the action: €92,280,600
Maximum EU contribution: €18,456,120
Percentage of EU support: 20%

Beneficiaries & implementing bodies:
Landesbetrieb Mobilität (project coordinator)
www.lbm.rlp.de

Additional information:
Coordinator’s Report on the Corridor
http://ec.europa.eu/transport/themes/infrastructure/ten-t-guidelines/corridors

European Commission
http://ec.europa.eu/transport

Innovation and Networks Executive Agency (INEA)
http://ec.europa.eu/inea

URSA MAJOR 2
2014-EU-TM-0365-W
Rhine-Alpine Corridor

UM2 targets the deployment of Intelligent Transport Systems (ITS) services to improve safety and efficiency of freight traffic mainly along the Rhine-Alpine CEF core corridor, linking North-Sea Ports, the Rhine and Ruhr area, metropolitan areas in southern Germany and in Italy. UM2 objectives include the enhancement of truck parking services and support for truck navigation services in line with the Commission Delegated Regulation (EU) 885/2013.

The main European added value of Ursa Major 2 (UM2) is the improvement of services for international freight traffic.

UM2 will provide direct benefits to international truck drivers and hauliers with valuable and reliable information about travel conditions as well as route recommendations. UM2 will generate better truck parking, better navigation, less delays and less uncertainties.
CROCODILE 2 involves public authorities, road administrations and traffic information service providers to ensure coordinated traffic management and control resulting in high quality traveller information services. Partners from Austria, Bulgaria, Croatia, Cyprus, Czech Republic, Germany, Greece, Hungary, Italy, Poland, Romania, Slovakia and Slovenia are working together to improve cross-border traffic and transport through implementing harmonised and synchronised ITS applications.

The Action will directly contribute to Commission Delegated Regulation (EU) No 886/2013 on the provision of road safety-related minimum universal traffic information free of charge to users as well as the provision of information services for safe and secure parking places for trucks and commercial vehicles. In addition, CROCODILE 2 will contribute to the provision of EU-wide real-time traffic information services in line with EU regulation and policy.
Connecting Europe Facility
TRANSPORT

**Member States involved:**
Spain, France, Italy, Portugal

**Implementation schedule**
*Start date:* January 2014  
*End date:* December 2018

**Budget:**
*Estimated total cost of the action:* €53,251,168  
*Maximum EU contribution:* €10,650,234  
*Percentage of EU support:* 20%

**Beneficiaries & implementing bodies:**
French Motorway companies association – ASFA (project coordinator)  
www.autoroutes.fr

**Additional information:**
Coordinator’s Report on the Corridor  
http://ec.europa.eu/transport/themes/infrastructure/ten-t-guidelines/corridors

European Commission  
http://ec.europa.eu/transport

Innovation and Networks Executive Agency (INEA)  
http://ec.europa.eu/inea

---

**MedTIS 2**

2014-EU-TM-0588-W

MedTIS II will implement ITS on the TEN-T Mediterranean corridor on a continuous stretch of 8,600 km motorways embedding various typologies of traffic (daily recurrent, seasonal peak migrations, heavy goods vehicle long distance routes), 13 TEN-T Urban Nodes, 5 cross-border areas and more than 40 bottlenecks.

MedTIS II will deliver Traffic Management Services (TMS) and travel information across the Corridor. Deployment of TMS provides road operators with tools to optimise the use of the TEN-T network infrastructure when saturation or events are occurring.

Deployment activities focus on road data collection and monitoring, upgrade of traffic control centres, enhancement of alert services and related traveller information. MedTIS II will generate leverage effects such as cross-border coordination, road operators’ collaboration, harmonisation and acceleration of ITS deployments.
Connecting Europe Facility
TRANSPORT

Member States involved:
Belgium, Spain, France, Ireland, The Netherlands, United Kingdom

Implementation schedule
Start date: January 2014
End date: December 2017

Budget:
Estimated total cost of the action: €115,159,310
Maximum EU contribution: €23,031,862
Percentage of EU support: 20%

Beneficiaries & implementing bodies:
British Department for Transport
(Project Coordinator)
www.gov.uk/government/organisations/department-for-transport

Additional information:
Coordinator’s Report on the Corridor
http://ec.europa.eu/transport/themes/infrastructure/ten-t-guidelines/corridors

European Commission
http://ec.europa.eu/transport

Innovation and Networks Executive Agency (INEA)
http://ec.europa.eu/inea

Arc Atlantique corridor phase 2

2014-EU-TM-0597-W

The Action focuses on the deployment of road ITS Services on the Arc Atlantique Corridor which incorporates the North Sea-Mediterranean and Atlantic CEF Core Network Corridors. It will positively impact efficiency, safety and environment through removal of bottlenecks, improving the reliability of the corridor network and reducing congestion.

The majority of ITS services will be traffic management and traffic information services. The technical deployments will consist of ITS technologies and services (e.g. provision of real time traffic and travel information) which have a proven impact on efficiency and safety on the corridor network as well as improving interoperability and enhancing harmonised and continuous services.

The services implemented will support all road users including freight, and they will positively impact cross border connectivity and efficiency.
Timely inter-networks traffic management on Lyon metropolitan area

2014-FR-TA-0566-W
Mediterranean Corridor

Lyon is the second French metropolitan area and a major European road node hosting flows from north to south of Europe. The proposed Action aims to ensure accessibility to Grand Lyon metropolitan’s area in a context of traffic growth. It is focused on the inter-connections between highway networks and metropolitan radial roads which constitute last mile itineraries towards city centre.

It will provide a better interconnected management of TEN-T network corridors and metropolitan networks and enhance networks management and end-user information. The urban node of Lyon is located on two Core Network corridors (Mediterranean and North Sea-Mediterranean corridors). The Action consists of deployment of Systems and Services, project management and evaluation and knowledge management. It will enforce Grand Lyon Métropole sustainable urban mobility policy and support modal shift on the last mile, leading to more efficient co-modality.

Connecting Europe Facility
TRANSPORT

Member States involved:
France

Implementation schedule
Start date: June 2015
End date: May 2018

Budget:
Estimated total cost of the action: €12,140,000
Maximum EU contribution: €2,428,000
Percentage of EU support: 20%

Beneficiary & implementing body:
Metropole de Lyon
www.grandlyon.com

Additional information:
Coordinator’s Report on the Corridor
http://ec.europa.eu/transport/themes/infrastructure/ten-t-guidelines/corridors

European Commission
http://ec.europa.eu/transport

Innovation and Networks Executive Agency (INEA)
http://ec.europa.eu/inea
Expansion of safe & secure truck parking spaces and truck parking information systems on the TEN-T core network in Austria and Germany (Bavaria)

2015-EU-TM-0261-M

The Action covers work and study that aim at improving traffic safety, security and reliability by reducing Heavy goods vehicles (HGV) parking deficits on major routes along the 4 Corridors of the core TEN-T network passing through Austria and Germany. It will provide information about available parking spaces, build new HGV parking spaces and study possible future extensions of parking places.

Furthermore, it will provide the basis for a dynamic truck parking occupancy information system on several motorways in Germany. The Action will contribute to improved road safety and cargo security.
CROCODILE II is an ongoing CEF action involving 9 Member States to implement Intelligent Transport Systems (ITS). The action ensures coordinated traffic management and control resulting in the provision of high quality traveller information services.

CROCODILE II Croatia represents an additional extension in the integration of European cross-border ITS. The project covers part of the Mediterranean Corridor including urban nodes of Zagreb and Rijeka, thus ensuring the continuity of the ITS services between Croatia and neighbouring countries.

The main objective of the project is the implementation of ITS services in line with Directive 2010/40/EU, in particular: the provision of real-time traffic information and the provision of information on safe and secure parking places for trucks.

In addition, the action will introduce DATEX II protocols to enable the automatic exchange of information with other Member States.

As a consequence, the project will produce benefits for the general public by increasing road safety and the efficiency of road transports. For example, a decrease of traffic congestion will lead to a decrease in travel time for all road users.
**Connecting Europe Facility**

**TRANSPORT**

**Member State(s) involved:** Hungary

**Implementation schedule**
- **Start date:** February 2016
- **End date:** December 2018

**Budget:**
- **Estimated total cost of the action:** €5,935,475
- **Maximum EU contribution:** €5,045,154
- **Percentage of EU support:** 85%

**Beneficiary:**
Ministry of National Development
[www.kormany.hu](http://www.kormany.hu)

**Additional information:**
- Coordinator’s Report on the Corridor:
- European Commission
  [http://ec.europa.eu/transport](http://ec.europa.eu/transport)
- Innovation and Networks Executive Agency (INEA)
  [http://ec.europa.eu/inea](http://ec.europa.eu/inea)

---

**Crocodile 2.0 Hungary**

**2015-HU-TM-0358-W**

**Mediterranean and Orient/East-Med Corridors**

The Action builds upon the on-going CEF Crocodile II project to ensure coordinated traffic management via exchange of accurate and reliable data between road operators, private stakeholders and public administrations.

The Action will set up all the necessary steps to allow the exchange of information with other Member States via standard data exchange format (DATEXII), which is in line with the ITS Directive 2010/40/EU.

More specifically, in the frame of the Action, real-time information about the availability of parking places along the corridor will be provided to truck drivers, thus allowing them to plan their journey and park safely in a secured area.

Moreover, at least 70 fixed road monitoring stations will be installed. These will allow the traffic management centre to effectively monitor the traffic, automatically detect incident and estimate travel time, thus improving safety and reducing congestion along the corridors.
Connecting Europe Facility
TRANSPORT

Member States involved:
Poland

Implementation schedule
Start date: November 2016
End date: December 2020

Budget:
Estimated total cost of the action: €144,954,797
Maximum EU contribution: €123,211,577
Percentage of EU support: 85%

Beneficiary:
General Directorate for National Roads and Motorways
www.gddkia.gov.pl

Additional information:
Coordinator’s Report on the Corridor
http://ec.europa.eu/transport/themes/infrastructure/ten-t-guidelines/corridors

European Commission
http://ec.europa.eu/transport

Innovation and Networks Executive Agency (INEA)
http://ec.europa.eu/inea

National road traffic management system on the TEN-T network

2015-PL-TM-0093-W
Baltic–Adriatic and North Sea–Baltic Corridors

The Polish road network lacks a single, integrated and coherent traffic management system in terms of operational and geographic organization.

The Action is the first and most important phase of a Global Project aiming at implementing a single integrated Traffic Management (TM) system that allows the use of Intelligent Transport Systems (ITS) services in approximately 3,100 km of roads. This specific Action will implement ITS services on approximately 1,100 km located along two Core Network Corridors (Baltic - Adriatic and North Sea - Baltic) in Poland. It includes the technical definition, supply and deployment of ICT, telematic components and infrastructure to be deployed along the road side and in dedicated traffic management centers. The main ITS services deployed include information about traffic conditions and travel times, incidents, weather conditions, dynamic designation of detours and smart and safe parking.

This will contribute to the elimination of bottlenecks, provision of sustainable and effective transport systems, reduction of the number of casualties on the road network, and integration between transport modes. By 2021, it is expected that approximately 52.1 million of road users benefit directly from the implementation of the Action and traffic accidents rate is expected to be reduced considerably by the same date.
Setup and ITS connectivity of safe and secure truck parking areas in Romania

**2015-RO-TM-0137-M**

**Orient/East-Med & Rhine-Danube Corridors**

The objective of the Action is to contribute to a network of certified safe and secure parking areas in Romania and optimize its use by designing and delivering an Intelligent Transport System (ITS) tool.

The Action will upgrade one safety and secure parking area and construct three new ones on a key section of the Orient-East Med Corridor in Romania. These parking areas will be certified with a security and service level 4 by the European Secure Parking Organisation (ESPORG).

Moreover, the necessary studies for the construction of two additional safe and secure parking areas along the Rhine-Danube Core Network Corridor will also be completed.

Finally, with the aim of providing European truck drivers with appropriate information on the availability of safe and secure parking places, a specific ITS software programme and a mobile application will be delivered.
Traffic management integration in the National Traffic Management Centre

2015-SI-TM-0303-W

Preliminary Activities for the implementation of the new National Traffic Management Centre (NTMC) in Slovenia have already started and the Action is the next step in setting up the NTMC. It aims at improving mobility, accessibility and traffic safety as well as improving the environmental performance of the Slovenian state road networks composed by the primary (motorways) and secondary road networks of the country.

The NTMC will serve as a data warehouse and provide the necessary ITS services and information for monitoring and management of traffic. Real time information on traffic will be obtained from ITS equipped vehicles and used for road traffic management. As a result, information such as the real-time traffic situation of roads will be provided in the standardised data exchange format (DATEX II).
CEF C-ITS projects

Cooperative Intelligent Transport Systems (C-ITS) use technologies that allow road vehicles to communicate with other vehicles, traffic signals and roadside infrastructure, as well as other road users. The systems are also known as vehicle-to-vehicle communications, or vehicle-to-infrastructure communications.

As the available road information is constantly increasing, C-ITS have a high potential to improve road safety and transport efficiency. Because of the expected benefits and relatively low deployment costs, there is a strong interest in enabling fast C-ITS uptake on a European scale.

Communication between vehicles, infrastructure and other road users is also crucial to increase the safety of future automated vehicles and their full integration in the overall transport system. Cooperation, connectivity, and automation are not only complementary technologies; they reinforce each other and will over time merge completely.

European industry has traditionally held a competitive position on a global scale in the field of intelligent transport systems. Maintaining leadership also in the area of cooperative systems is crucial: new business cases are arising, and more actors at international level are challenging Europe’s competitive edge.
The proposed action, NordicWay, is a pre-deployment pilot of Cooperative ITS (CITS) services in four countries (Finland, Sweden, Norway and Denmark) which will be followed by wide-scale deployment and potentially to be scaled up to Europe.

NordicWay has the potential to improve safety, efficiency and comfort of mobility and connect road transport with other modes. NordicWay is the first large-scale pilot using cellular communication (3G and LTE/4G) for C-ITS. It offers continuous interoperable services to the users with roaming between different mobile networks and cross-border, offering C-ITS services across all participating countries.

NordicWay puts emphasis on building a sustainable business model on the large investment of the public sector on the priority services of the ITS Directive.

NordicWay is fully based on European standards and will act as the last mile between C-ITS research and development and wide-scale deployment.
Connecting Europe Facility
TRANSPORT

Member States involved:
France, Spain, Portugal, Austria

Implementation schedule
Start date: January 2016
End date: December 2018

Budget:
Estimated total cost of the action: €20,036,598
Maximum EU contribution: €10,018,299
Percentage of EU support: 50%

Beneficiaries & implementing bodies:
Ministère de l’écologie, du développement durable et de l’énergie (project coordinator)
www.developpement-durable.gouv.fr

Additional information:
Coordinator’s Report on the Corridor
http://ec.europa.eu/transport/themes/infrastructure/ten-t-guidelines/corridors
European Commission
http://ec.europa.eu/transport
Innovation and Networks Executive Agency (INEA)
http://ec.europa.eu/inea

SCOOP@F Part 2
2014-EU-TA-0669-S

SCOOP@F is a Cooperative ITS pilot deployment project that intends to connect approximately 3000 vehicles with 2000 kilometres of roads. It consists of 5 specific sites with different types of roads: Ile-de-France, “East Corridor” between Paris and Strasbourg, Brittany, Bordeaux and Isère. SCOOP@F is composed of SCOOP@F Part 1 from 2014 to 2015 (ongoing) and SCOOP@F Part 2 from 2016 to 2018. Its main objective is to improve the safety of road transport and of road operating staff during road works or maintenance.

SCOOP@F Part 2 includes the validations of C-ITS services in open roads, cross border tests with other EU Member States (Spain, Portugal and Austria) and development of a hybrid communication solution (3G-4G/ITS G5). SCOOP@F Part 2 will cooperate with ongoing European pilot projects and the EU C-ITS platform. The project aims at reaching a critical mass in the number of tested vehicles, roads and services, in order to provide a representative evaluation of C-ITS. It also stimulates collaboration between automotive manufacturers and road operators, the exchange of best practice and innovation in solving common problems.
**C-Roads Austria**

**2015-AT-TM-0291-S**  
Rhine–Danube Corridor

The action is part of the C-Roads Platform and takes place in Austria. C-Roads is a platform of Member States working on the deployment of C-ITS services. C-ITS pilot sites will be installed across the EU for testing and later operation of "Day-1" applications as recommended by EC "C-ITS platform". Member States will invest in their infrastructure, while the industry will test components and services. Technical and organisational issues will be tackled by the C-Roads platform to ensure interoperability and harmonisation of C-ITS between pilots. Austria will act as coordinator of the overall C-Roads platform.

The Austrian C-ITS pilot includes test sites in the Vienna area, the motorway section from Vienna to Salzburg, as well as around Innsbruck and the greater Graz area. Cross-border tests will also be conducted with other C-Roads Member States. The Austrian C-ITS pilots will implement several C-ITS applications, including "Traffic jam ahead warning", "Road works warning", "Weather conditions" and "In-vehicle signage".
C-ITS for Trucks (CITRUS)

2015-BE-TM-0391-S
Rhine-Alpine, North Sea–Mediterranean Corridor

The Action takes place in Belgium and studies the technical and economic viability of a companion mobile app for truck drivers. It envisages the development of the app as well as a pilot deployment and testing involving around 300 truck drivers. The app will provide some services relating to "Day 1 services" as identified by the C-ITS platform, like giving safety-related warnings or advice as regards speed, routing and other information. Services deployed will be based on a cellular C-ITS approach in combination with geographical messaging technologies.

It will contribute to improve road safety and reduces CO2 emissions of truck traffic.
C-Roads Czech Republic

2015-CZ-TM-0188-M
Baltic-Adriatic, Orient/East-Med and Rhine–Danube Corridors

The action is part of the C-Roads Platform and takes place in the Czech Republic. C-Roads is a platform of Member States working on the deployment of C-ITS services. C-ITS pilot sites will be installed across the EU for testing and later operation of "Day-1" applications as recommended by EC "C-ITS platform". Among other things, C-ITS services will include Traffic jam ahead warning, Road works warning and Emergency vehicle approaching.

Member States will invest in their infrastructure, while the industry will test components and services. Technical and organisational issues will be tackled by the C-Roads platform to ensure interoperability and harmonisation of C-ITS between pilots.

The Czech Pilots will take place on motorways, urban nodes, and on two railway crossings. ITS-G5 and 4G mobile networks will be used to provide C-ITS services, like Hazardous location notification or Road works warning to all road users, thus fostering widespread deployment of C-ITS.
C-Roads is a platform of Member States working on the deployment of C-ITS services. C-ITS pilot sites will be installed across the EU for testing and later operation of "Day 1" applications as recommended by EC "C-ITS platform". Member States will invest in their infrastructure, while the industry will test components and services. Technical and organisational issues will be tackled by the C-Roads platform to ensure interoperability and harmonisation of C-ITS between pilots.

Germany will deploy C-ITS services like warnings as regards traffic jam ahead, road works and slow or stationary vehicle at two different sites: in Hesse and Lower Saxony. In Hesse, the C-ITS-infrastructure will be improved by extending the existing C-ITS services by implementing four completely new ones. In Lower Saxony, three new C-ITS services will be introduced. Key players regarding the C-ITS technology/infrastructure are committed and involved in the project. Cross-border tests will also be conducted with other C-Roads Member States.
Connecting Europe Facility
TRANSPORT

Member State(s) involved:
Spain

Implementation schedule
Start date: March 2016
End date: June 2019

Budget:
Estimated total cost of the action: €1,811,000
Maximum EU contribution: €905,500
Percentage of EU support: 50%

Beneficiary:
SOLRED S.A.

Additional information:
Coordinator’s Report on the Corridor
http://ec.europa.eu/transport/themes/infrastructure/ten-t-guidelines/corridors

European Commission
http://ec.europa.eu/transport

Innovation and Networks Executive Agency (INEA)
http://ec.europa.eu/inea

The overall objective of the Action is to test a new Integrated Fuel and Fleet Management System, the so-called C-ITS Telemat, which enables the automatic real time calculation of the smartest route plan and the automatic estimation, authorisation and payment of the refueling needed to complete a planned route. Moreover, the system provides the heavy duty vehicles (HDV) drivers and fleet managers with useful notifications concerning maintenance scheduling, eco/safety driving, traffic issues as well as information on the estimated fuel consumption vis-a-vis the real one.

The testing of this system will be done through a monitoring network which will involve approximately 53 Repsol service stations along the Spanish part of the Atlantic and Mediterranean core network Corridors.

This C-ITS Telemat is expected to contribute to road safety by avoiding accidents and fuel thefts and fraud, but also will assist in improving traffic flows, and reducing fuel consumption, congestion and environmental impacts. In particular, this new technology is expected to reduce fuel fraud by 5% and fuel consumption by 3% as compared with the previous ITS Telemat technology used by Repsol service stations.
Connecting Europe Facility
TRANSPORT

Member States involved:
Belgium, France, The Netherlands, United Kingdom

Implementation schedule
Start date: September 2016
End date: August 2019

Budget:
Estimated total cost of the action: €29,999,999
Maximum EU contribution: €15,000,000
Percentage of EU support: 50%

Coordinator:
Netherlands Ministry of Infrastructure and the Environment

Additional information:
Coordinator’s Report on the Corridor
http://ec.europa.eu/transport/themes/infrastructure/ten-t-guidelines/corridors

European Commission
http://ec.europa.eu/transport

Innovation and Networks Executive Agency (INEA)
http://ec.europa.eu/inea

InterCor

2015-EU-TM-0159-S
North Sea–Mediterranean Corridor

The Action aims to streamline C-ITS implementation in 4 member states linking the different national initiatives towards a harmonized strategic rollout and common specification. C-ITS pilot sites to communicate data through cellular and/or ITS G5 networks will be installed in approximately 968 km along the Netherlands, Belgium, UK and France, for operation and evaluation of C-ITS services.

InterCor will focus on the deployment of “Day-1” services as recommended by EC “C-ITS platform” such as Road works warning, Green Light Optimized Speed Advisory, In vehicle signage and Probe vehicle data.

The action is part of the C-Roads platform which is a platform of Member States working on the deployment of C-ITS services. Cross-border tests will also be conducted with other C-Roads Member States.
The aim of the Study is to contribute to the deployment of C-ITS in Europe by enhancing interoperability for autonomous vehicles as well as to boost the role of C-ITS as catalyst for the implementation of autonomous driving. Pilots will be implemented in 3 major Core Urban nodes (Paris, Madrid, Lisbon) located along the Core network Atlantic Corridor in 3 different Member States. The Action consists of Analysis and design, Pilots deployment and assessment, Dissemination and communication as well as Project Management and Coordination. The three pilots will test and evaluate C-ITS services for autonomous vehicles under the applicable traffic regulation, study its extension to other European countries and contribute to the C-Roads and C-ITS platform as well as to other European standards organizations.
C-Roads Belgium/Flanders

2015-EU-TM-0380-S
North Sea-Baltic and North Sea-Mediterranean Corridors

The Action is part of the C-Roads platform and takes place in Belgium. C-Roads is a platform of Member States working on the deployment of C-ITS services. C-ITS pilot sites will be installed across the EU for testing and later operation of "Day 1" applications as recommended by EC "C-ITS platform". Member States will invest in their infrastructure, while the industry will test components and services. Technical and organisational issues will be tackled by the C-Roads platform to ensure interoperability and harmonisation of C-ITS between pilots.

The pilot in Belgium consists of a cloud-based solution which will allow the real-time exchange of information between the Traffic Management Centre and the drivers via a dedicated smartphone application. This technology will allow dispatching information customised to the location of the drivers.

Information received from the drivers would be mainly safety warnings related to road works, traffic jams, slow or stationary vehicles along the road.

The pilot involves around 1,000 drivers and it tests the performance and suitability of 4G/LTE network for C-ITS safety services.
C-Roads France

Member State(s) involved:
France

Implementation schedule
Start date: February 2016
End date: December 2020

Budget:
Estimated total cost of the action: €14,413,213
Maximum EU contribution: €7,206,607
Percentage of EU support: 50%

Project Coordinator:
Ministère de l'Environnement, de l'Energie et de la Mer (MEEM)
www.developpement-durable.gouv.fr

Additional information:
Coordinator’s Report on the Corridor
http://ec.europa.eu/transport/themes/infrastructur/ten-t-guidelines/corridors
European Commission
http://ec.europa.eu/transport
Innovation and Networks Executive Agency (INEA)
http://ec.europa.eu/inea

The action is part of the C-Roads platform and takes place in France. C-Roads is a platform of Member States working on the deployment of C-ITS services. C-ITS pilot sites will be installed across the EU for testing and later operation of "Day 1" applications as recommended by EC "C-ITS platform".

Member States will invest in their infrastructure, while the industry will test components and services. Technical and organisational issues will be tackled by the C-Roads platform to ensure interoperability and harmonisation of C-ITS between pilots.

Adding to SCOOP@F (CEF action 2014-EU-TA-0669-S currently piloting C-ITS services), C-Roads France provides two types of services: urban/interurban interface (such as "traffic light information and optimisation"), and information on transit stretches (such as "information on alternative routes to avoid main road works" and "information on available truck parking"). Services are based on hybrid communication technology. Cross-border tests will also be conducted with other C-Roads Member States.
C-Roads Slovenia

2015-SI-TM-0286-S

The Action is part of the C-Roads platform and takes place in Slovenia. C-Roads is a platform of Member States working on the deployment of C-ITS services. C-ITS pilot sites will be installed across the EU for testing and later operation of "Day 1" applications as recommended by EC "C-ITS platform". Member States will invest in their infrastructure, while the industry will test components and services. Technical and organisational issues will be tackled by the C-Roads platform to ensure interoperability and harmonisation of C-ITS between pilots. Cross-border tests will also be conducted with other C-Roads Member States.

The Slovenian pilot will take place on 100 km of Core Network, equipped with C-ITS. Both G5 and cellular communications will be tested and C-ITS services will include warnings about traffic jam, road works and weather conditions.
H2020 ITS projects

H2020, the EU’s €80 billion research and innovation programme for 2014-2020, will invest €6.3 billion to address the societal challenge ‘Smart, Green and Integrated Transport’. The challenge is designed to boost competitiveness of the European transport industry as well as achieve a safe, efficient, secure and green European transport system.

In this context ITS represents the backbone of the two ‘Mobility for Growth’ and ‘Automated Road Transport’ priorities of the programme, as they foster innovation in transport to yield improved mobility solutions. Under these priorities, a number grants for research and innovation have been awarded. This acknowledges the importance of role ITS systems and services continue to play in the delivery of safe and sustainable mobility of goods and people.

The projects involve leading European research organisations often complemented by industry and public authorities.
ADASANDME
Adaptive ADAS to support incapacitated drivers Mitigate Effectively risks through tailor made HMI under automation

The ADASANDME project develops adapted advanced driver assistance systems that take into account the driver’s state and the situational and environmental context to automatically transfer control between the vehicle and the driver for safer and more efficient road usage.

Seven provisionally identified use cases for cars, trucks, buses and motorcycles covering a large proportion of driving on European roads will be carried out along with experimental research on algorithms for driver state monitoring as well as HMI and automation transitions. The project will develop robust detection and prediction algorithms that monitor different driver states, such as fatigue, sleepiness, stress, inattention and impairing emotions, employing existing and novel sensing technologies. It will also take into account traffic and weather conditions via V2X and personalise them to individual driver’s physiology and driving behaviour. In addition, the core development includes multimodal and adaptive warning and intervention strategies based on current driver state and severity of scenarios.

The project targets successful fusion of the developed elements into an integrated driver state monitoring system that is supported by vehicle automation of levels 1 to 4. The system will be validated by a wide pool of drivers/riders in simulated and real road conditions and with

**Project reference:**
688900

**Topic:**
MG-3.6a-2015

**Call for proposals:**
H2020-MG-2015_TwoStages

**Duration:**
01/09/2016 to 29/02/2020

**Funding scheme:**
RIA

**Total cost:**
€9,609,700.00

**EU contribution:**
€8,998,950.00

**Coordinator:**
STATENS VAG- OCH TRANSPORTFORSKNINGSINSTITUT
different driver states. The pilot vehicles will be two cars (conventional and electric), a truck, two PTWs and a bus. This challenging task has been undertaken by a multidisciplinary consortium of 30 partners, including an OEM per vehicle type and seven Tier 1 suppliers.

**Project website:**
http://www.adasandme.com

**Project description on CORDIS:**
http://cordis.europa.eu/project/rcn/204764_en.html
AutoMate

Automation as accepted and trustful teamMate to enhance traffic safety and efficiency

The design of the human-machine interaction in highly automated passenger cars is crucial to fully exploit the automation's potential, improve traffic safety and bring these cars to the market.

The AutoMate project is working a novel driver-automation interaction and cooperation concept based on viewing and designing the automation as the driver's transparent and comprehensible cooperative companion or teammate. Driver and automation are seen as members of one team that understand and support each other in pursuing cooperatively the goal of driving safely, efficiently and comfortably from one point to another. Only such kind of systems can enhance safety by using the strength of both the automation and human driver in a dynamic way, and thus gain consumers' trust and acceptance.

The top-level objective of AutoMate is to develop, demonstrate and evaluate the TeamMate Car concept as a major enabler of highly automated vehicles. The project's team will develop seven technical enablers:

- Sensor and communication platform
- Probabilistic driver modelling and learning
- Probabilistic vehicle and situation modelling
- Adaptive driving manoeuvre planning, execution and learning
- Online risk assessment

Project reference: 690705

Topic: MG-3.6a-2015

Call for proposals: H2020-MG-2015_TwoStages

Duration: 01/09/2016 to 31/08/2019

Funding scheme: RIA

Total cost: €4,921,301.25

EU contribution: €4,921,301.25

Coordinator: OFFIS EV

Project website: http://www.automate-project.eu
- TeamMate HMI
- TeamMate System Architecture

These innovations will be implemented on several car simulators and real vehicles to evaluate and demonstrate the project progress and results in real-life traffic conditions.

Project description on CORDIS:
http://cordis.europa.eu/project/rcn/204767_en.html
BONVOYAGE
From Bilbao to Oslo, intermodal mobility solutions and interfaces for people and goods, supported by an innovative communication network

The aim of BONVOYAGE is to find the best way to go from a place to another, door to door, by using any combination of any transport means. BONVOYAGE optimises multi-modal trips by taking into account real time conditions, such as traffic reports, weather forecasts, data from smartphones and wearable sensors, data from vehicles and other road sensors. It also considers user preferences and offers time geo-located services at the same.

All gathered data are processed by a distributed journey planner that identifies the best route and service providers in real time. Our distributed approach enables the necessary scalability to handle continent-wide travel networks, combined with personalized travel preferences and fast response to real-time events. Hence, the resulting solutions are truly intermodal, handling combinations of any private and public modality in the same journey.

A mobile application provides the user with real-time route information and collects relevant user feedback, by using participatory sensing while traveling. During the trip, the application guides the user with required information and reacts on dynamic, real-time conditions that interrupt and affect the ongoing trip.

Project reference: 635867

Topic: MG-7.2a-2014

Call for proposals: H2020-MG-2014_TwoStages

Duration: 01/05/2015 to 30/04/2018

Funding scheme: RIA

Total cost: € 4,000,000

EU contribution: € 4,000,000
Coordinator:
CONSORZIO NAZIONALE INTERUNIVERSITARIO PER LE TELECOMUNICAZIONI

Project website:
http://www.bonvoyage2020.eu

Project description on CORDIS:
http://cordis.europa.eu/project/reference/6358
CODECS
COoperative ITS DEployment Coordination Support

As coordination and support action, CODECS networks stakeholders engaged in the deployment of cooperative Intelligent Transport Systems and Services (C-ITS), with the objective of consolidating stakeholder interests, preferences and requirements for a concerted C-ITS roll-out across Europe.

C-ITS provide a wide array of information and warning services for a safe, sustainable and comfortable future mobility. Deployment of vehicles wirelessly communicating among each other and with road infrastructure lies ahead and is initially progressed in corridor projects and pilots all over Europe. Coordination between these front runners and aligning roll-out plans is inevitable to let traffic participants experience the benefits of C-ITS seamlessly. With this goal setting, CODECS (COoperative ITS DEployment Coordination Support) acts as a nodal point pooling stakeholders in C-ITS deployment. Through workshops, webinars and meetings, CODECS takes inventory and consolidates the status of early deployment activities, stakeholder roles and responsibilities, preferred use cases as well as issues for strategic decision making. For ensuring the interoperability of systems and service, CODECS develops a V2I/I2V standards profile, white papers closing gaps in standardisation, and a blueprint for deployment. To give guidance to research, testing and standardisation also for later innovation phases, CODECS transforms the fused stakeholder preferences in an aligned use case road map and recommendations for strategic decision making.
Project website:

http://www.codecs-project.eu

Project description on CORDIS:
http://cordis.europa.eu/project/reference/6533
DORA
Door to Door Information for Airports and Airlines

The DORA project aims to design and establish an integrated information system that helps passengers to optimise travel time from an origin of the travel to the airplane at the departing airport, to the arrival airport, to the final destination. With it, the DORA integrated information system, which will be created within the project together with necessary software platforms and end user applications, is aiming at reduction of overall time needed for a typical European air travel, including necessary time needed for transport to and from the airports. To ensure this, the DORA system will provide mobile, seamless, and time-optimised route recommendations for the travels to the airport and time optimised routing within the airports, leading the passengers through terminals to the right security and departure gates.

The DORA will integrate all necessary real time information on disruptions in the land transport environments and on incidents in the airport terminals to provide the fastest route alternatives, ensuring the accessibility of airport and airplane at any time in accordance with individual passengers’ requirements. The DORA system will be designed in a generic way, to ensure that it can be widely adopted independently on passengers and airports locations. In the project, the DORA system will be implemented and tested in realistic environments involving the cities of Berlin and
Palma de Mallorca, as well as their corresponding airports in both cities with involvement of approximately 500 real end users - passengers - in the trials.

To support the passengers' route optimisation, the DORA project will investigate and design technologies for recognition of waiting queues and indoor location services in airports, which will be integrated into the DORA system and tested within the project trials. Furthermore, the project will analyse usability of the provided solution from the perspective of the end users and other relevant stakeholders, by considering potential benefits for various stakeholder groups and related impacts, perform a technical evaluation of the overall solution, including performance evaluation of the system, and investigate business perspectives of the DORA system.

Coordinator:
EURESCOM-EUROPEAN INSTITUTE FOR RESEARCH AND STRATEGIC STUDIES INTELECOMMUNICATIONS GMBH

Project website:
https://dora-project.eu

Project description on CORDIS:
http://cordis.europa.eu/project/reference/635885
ETC
The European Travellers Club: Account-Based Travelling across the European Union

The European Travellers Club will create seamless account-based traveling across the EU with the help of European transport ticketing schemes or operators, travellers and technology providers. The concept is built around the traveller, meaning that the travellers will be in control of their preferences and privacy.

Whilst the project includes innovative technological concepts, it is expressly designed to work with existing e-ticketing infrastructures in Member States (e.g. Calypso, VDV, ITSO etc.) as well as new systems (such as EMV-contactless, smart tokens, etc.).

The "eco-system" will be open for all potential suppliers through an open architecture with clear interfaces and standardised protocols. The architecture allows for a smooth integration with travel planning and booking tools, journey information and integration with other uses of e-identity, e-payment and e-ticketing.

Project reference: 636126
Topic: MG-7.2a-2014
Call for proposals: H2020-MG-2014_TwoStages
Duration: 01/05/2015 to 30/04/2017
Funding scheme: RIA
Total cost: € 4,500,000
EU contribution: € 4,500,000
Coordinator: STICHTING OPEN TICKETING
Project website:
http://www.europeantravellersclub.eu

Project description on CORDIS:
http://cordis.europa.eu/project/reference/6361
26
EuTravel
Optimodal European Travel Ecosystem

EuTravel sets the foundations (Optimodality Framework) for developing a collaborative ecosystem, where all transport and travel providers’ systems communicate and seamlessly interoperate, enabling travellers to organise composite door-to-door intermodal trips according to their own set of criteria.

EuTravel contributes towards the realisation of a sustainable and open single European market for multimodal travel services by:

- Giving travel and transport service providers an easy and cost effective way to deliver multimodal customised services for travellers and develop value added services for their operations
- Facilitating optimodal itinerary planning and improving travel and transport services visibility
- Enabling the development of optimised services (e.g. multimodal travel planners) that allow travel users to easily organise a door-to-door pan-European multimodal trip in accordance with their own set of criteria, including environmental performance
- Addressing key interoperability challenges and the integration of different data sources across air, rail, ferry, coach and public transportation modes

The project demonstrates an ecosystem populated

Project reference:
636148

Topic:
MG-7.2a-2014

Call for proposals:
H2020-MG-2014_TwoStages

Duration:
01/05/2015 to 31/10/2017

Funding scheme:
RIA

Total cost:
€ 3,873,993

EU contribution:
€ 3,873,993

Coordinator:
INLECOM SYSTEMS LTD

Project website:
http://www.eutravelproject.eu

Project description on CORDIS:
http://cordis.europa.eu/project/reference/636148
with tools that tap into existing mainstream IT reservation systems and sources of travel data. Seamless and secure services and data exchange is realised through a single point of communication for transport and travel stakeholders' application program interface (API).
The HIGHTS project is developing Cooperative Intelligent Transport System (C-ITS) to enable the localisation of any vehicle on the road with a positioning precision of 0.25 metres. This will improve the safety levels considerably for drivers and vulnerable road users (VRUs), as well as open the way to highly automated driving (HAD) applications.

C-ITS applications rely on knowledge of the geographical positions of vehicles. Unfortunately, satellite-based positioning systems (e.g., GPS and Galileo) are unable to provide sufficiently accurate position information for many important applications and in certain challenging but common environments (e.g., urban canyons and tunnels).

The HIGHTS platform aims to increase the safety level of vulnerable road users (motorcycles, scooters, pedestrians) through bi-directional danger detection and by detecting slight deviations from driving courses, thus detecting danger before it occurs. Safety is a huge challenge for today's road scenario and it will be even more challenging in the future, with the progressive introduction of HAD applications such as C-ACC (Automatic Cruise Control that interacts with infrastructure). HIGHTS platform is going to be a key enabler to C-ACC and Platooning.

**Project reference:**
636537

**Topic:**
MG-3.5a-2014

**Call for proposals:**
H2020-MG-2014_TwoStages

**Duration:**
01/05/2015 to 30/04/2018

**Funding scheme:**
RIA

**Total cost:**
€ 5,999,616

**EU contribution:**
€ 5,999,616

**Coordinator:**
JACOBS UNIVERSITY BREMEN GGMBH

**Project website:**
http://www.hights.eu

**Project description on CORDIS:**
http://cordis.europa.eu/project/reference/636537
In particular C-ACC and Platooning will provide smoother driving conditions, optimization of traffic flows and high precision lane detection for more efficient guidance in urban and highway environments.

HIGHTS results are integrated into the facilities layer of European Telecommunications Standards Institute (ETSI) C-ITS architecture and are thereby available for all C-ITS applications.
ITS OBSERVATORY
ITS Observatory

The ITS Observatory project is developing a one-stop shop for information and insight about ITS deployment in Europe. This easy-to-use online platform will collect and offer comprehensive information and insight on deployment of Intelligent Transport Systems and Services.

ITS Observatory is an open online data-base for the ITS Community. Content providers (e.g. ITS owners, managers & suppliers) will enter information through a simple input interface about their ITS implementations, describing the location and type of ITS, whom to contact for more information and summarising any evaluation results. Users will be able to search the knowledgebase using popular keywords.

The ITS Observatory will offer decision makers, businesses and stakeholders access to timely and reliable facts on existing and ongoing ITS implementation in Europe, as well as the best available information on deployment outcomes (e.g. impacts & benefits) to help them develop and apply ITS policy objectives and strategies.

Project reference: 653828
Topic: MG-7.2b-2014
Call for proposals: H2020-MG-2014_SingleStage_B
Duration: 01/05/2015 to 30/04/2017
Funding scheme: CSA
Total cost: € 1,337,260
EU contribution: € 1,337,260
Coordinator:
EUROPEAN ROAD TRANSPORT
TELEMATICS IMPLEMENTATION
COORDINATION ORGANISATION -
INTELLIGENT TRANSPORT SYSTEMS &
SERVICES EUROPE

Project website:
http://www.its-observatory.eu

Project description on CORDIS:
http://cordis.europa.eu/project/reference/6538
28
MASAI MOBILITY BASED ON AGGREGATION OF SERVICES AND APPLICATIONS INTEGRATION

MASAI is developing intelligent and aggregated mobility services based on the traveller preferences and profiles. The project defines, standardises and validates architecture, user attributes and APIs from discovery to fulfilment of services respecting the guidelines on privacy.

The project enables seamless door-to-door experience through direct discovery and contracting between users and service providers.

The project's solutions address long distance as well as local services (e.g. transportation, accommodation, business, tourism) avoiding any lock-in of pre-bundled services and facilitating all steps from discovery to active travel management of the journey by the mobile citizen according to their expressed requirements or constraints.

MASAI provides additional visibility and functionalities to the service providers who can control such facilities.

**Project reference:**
636281

**Topic:**
MG-7.2a-2014

**Call for proposals:**
H2020-MG-2014_TwoStages

**Duration:**
01/06/2015 to 31/05/2018

**Funding scheme:**
RIA

**Total cost:**
€ 3,309,969

**EU contribution:**
€ 3,309,969
Coordinator:
MTA-MOBILITY, TICKETING & APPLICATIONS SPRL

Project website:
http://masai.solutions

Project description on CORDIS:
http://cordis.europa.eu/project/reference/636281
MAVEN
Managing Automated Vehicles Enhances Network

Combining highly automated vehicles with cooperative ITS technology will considerably improve their guidance in groups, especially in urban areas.

The MAVEN project is developing infrastructure-assisted platoon organisation and negotiation algorithms for such vehicle management at signalised intersections and corridors. It will help to extend and connect vehicle systems for trajectory and manoeuvre planning, as well as optimise traffic lights by adapting their signal timing. This will facilitate the movement of organised platoons and make a better use of infrastructure capacity, thus reducing the vehicle delay and emissions.

The project will build a system prototype for both field tests and extensive modelling for impact assessment, contribute to the development of enabling technologies, such as communication standards and high-precision maps, as well as develop ADAS techniques for inclusion of vulnerable road users. Additionally, MAVEN will carry out a user assessment and develop a roadmap for the introduction of vehicle-road automation to support road authorities in understanding changes in their role and the tasks of traffic management systems.

Lastly, MAVEN will come up with a white paper

Project reference: 690727

Topic: MG-3.6a-2015

Call for proposals: H2020-MG-2015_TwoStages

Duration: 01/09/2016 to 31/08/2019

Funding scheme: RIA

Total cost: €3,149,661.25

EU contribution: €3,149,661.25

Coordinator: DEUTSCHES ZENTRUM FUER LUFT - UND RAUMFAHRT EV

Project website: http://www.maven-its.eu

on management of automated vehicles in a smart city environment to position the project results in the broader perspective of passenger transport in smart future cities, and to embed them with smart city principles and technologies, as well as service delivery.
The OPTIMUM project looks beyond state-of-the-art IT solutions to improve transit, freight transportation and traffic connectivity throughout Europe. The project brings proactive and problem-free mobility to modern Intelligent Transport Systems (ITS) by introducing and promoting interoperability, adaptability and dynamicity through its tailor-made applications, aiming to contribute to the mitigation of problems that emerge from complex mobility environments and their intensive use, such as CO2 emissions, high congestion levels and diminished quality of life, as well as to the prevention of relevant problems before they emerge.

Solutions to these problems require collected, processed and broadcasted data from various sensors, systems, service providers and crowdsourcing. OPTIMUM is building a largely scalable architecture which manages and processes those multi-source big data in an environment of ubiquitous connectivity.

OPTIMUM will apply its concept across four different countries, in three pilot cases: one for multi-modal travelling, one for smart motorhomes optimal routing and one for dynamic toll charging. The goal is to enable the continuous monitoring of transportation system needs while facilitating proactive decisions in a semi-automated way.

<table>
<thead>
<tr>
<th>Project reference:</th>
<th>636160</th>
</tr>
</thead>
<tbody>
<tr>
<td>Topic:</td>
<td>MG-7.1-2014</td>
</tr>
<tr>
<td>Call for proposals:</td>
<td>H2020-MG-2014_TwoStages</td>
</tr>
<tr>
<td>Duration:</td>
<td>01/05/2015 to 30/04/2018</td>
</tr>
<tr>
<td>Funding scheme:</td>
<td>RIA</td>
</tr>
<tr>
<td>Total cost:</td>
<td>€ 5,966,186</td>
</tr>
<tr>
<td>EU contribution:</td>
<td>€ 5,966,186</td>
</tr>
<tr>
<td>Coordinator:</td>
<td>INTRASOFT INTERNATIONAL SA</td>
</tr>
<tr>
<td>Project website:</td>
<td><a href="http://www.optimumproject.eu">http://www.optimumproject.eu</a></td>
</tr>
</tbody>
</table>
The project's team involves enthusiastic ITS experts representing 18 organisations from all over Europe.

Project description on CORDIS:
http://cordis.europa.eu/project/reference/636160
PASSME
Personalised Airport Systems for Seamless Mobility and Experience

People traffic through European airports is rising year-on-year. PASSME aims to reduce door-to-door airport travel time by one hour and improve the travel experience for passengers despite busy airport environments. The project’s researchers investigate critical bottlenecks in the airport experience - including luggage, security, boarding and passenger flow - to develop time-saving solutions that suit passenger’s needs.

Some of the project’s time-cutting innovations will include improving luggage drop-off and collection; reducing queues at key airport locations; improving communications between airports/airlines and passengers; and developing a PASSME app to make passenger’s airport experience seamless and less stressful. The airport environment will also improve for passengers through modern interior design.

The PASSME consortium is composed of partners from seven European countries across the fields of aviation, transport, academia, design, technology and communications. The project’s coordinator is the Department of Industrial Design at the Delft University of Technology.

Project reference: 636308

Topic: MG-1.3-2014

Call for proposals: H2020-MG-2014_TwoStages

Duration: 01/06/2015 to 31/05/2018

Funding scheme: RIA

Total cost: €4,639,086

EU contribution: €4,631,212

Coordinator: TECHNISCHE UNIVERSITEIT DELFT

Project website: http://www.passme.eu

Project description on CORDIS: http://cordis.europa.eu/project/reference/636308
ROADART
Research On Alternative Diversity Aspects foR Trucks

ROADART is optimising the integration of Intelligent Transport Systems (ITS) communication units into trucks to boost their safety on the road. Due to the size of a truck-trailer combination the architecture as applied to passenger cars is not possible. New architecture concepts have to be developed and evaluated in order to ensure a sufficient quality of service for trucks and heavy duty vehicles.

The project aims to demonstrate the road safety applications for truck-to-truck (T2T) and truck-to-infrastructure (T2I) systems under critical conditions in a real environment, such as tunnels and platooning of several trucks driving close behind each other. The demonstration use case will be a cooperative adaptive cruise control (C-ACC) allowing the trucks driving close behind each other. In order to reach this goal, the control units implementing the C-ACC will be developed and integrated into the trucks together with the communication units. All the proposed techniques will be extensively evaluated through simulation using the realistic, measurement-based ROADARD computer models.

ROADART focusses in particular on developing novel localization and detection techniques for conditions where satellite global navigation systems are not available (e.g. in tunnels). These techniques use cooperative and adaptive

Project reference:
636565

Topic:
MG-3.5a-2014

Call for proposals:
H2020-MG-2014_TwoStages

Duration:
01/05/2015 to 30/04/2018

Funding scheme:
RIA

Total cost:
€ 3,906,870

EU contribution:
€ 3,906,870

Coordinator:
IMST GMBH

Project website:
http://www.roadart.eu
communication, as well as sensor measurements and information from infrastructure.

The project will contribute to improved safety, better traffic flow and reduced greenhouse gas emissions.

Project description on CORDIS: http://cordis.europa.eu/project/reference/636565
SocialCar
Open social transport network for urban approach to carpooling

SocialCar develops a user-oriented platform for planning, booking and integrated payment combining carpooling and other on-demand services with regular collective transport, in an effort to mainstream the concept of a public-private co-modal urban transport.

The project enhances the public transport network by a wider variety of services including carpooling/sharing, bike sharing, taxi and other on-demand services. Citizens can gain access to a unique service that optimises the use of all available mobility resources in the sharing economy. SocialCar reduces travel times and costs, increases comfort and convenience and contributes to a better environmental performance of urban transport networks. The project solutions will be subjected to a three-level trial in ten European test sites. The most advanced trial level will examine the potential for early adoption by end-users in in Canton Ticino (Switzerland), Edinburg (United Kingdom) and Brussels (Belgium).

SocialCar develops an IT platform providing planning, booking and payment services for multimodal and multi-service trips, and deploys its features via web and a mobile app. By developing data processing flows and algorithms, the project responds to the challenge of matching travel requests with the integrated public-private transport supply.

Project reference:
636427

Topic:
MG-7.1-2014

Call for proposals:
H2020-MG-2014_TwoStages

Duration:
01/06/2015 to 31/05/2018

Funding scheme:
RIA

Total cost:
€ 5,953,083

EU contribution:
€ 5,384,646

Coordinator:
FIT CONSULTING SRL

Project website:
http://socialcar-project.eu

Project description on CORDIS:
http://cordis.europa.eu/project/reference/636427
TIMON
Enhanced real time services for an optimized multimodal mobility relying on cooperative networks and open data

The TIMON project is developing a cooperative open web-based platform and mobile application, which form a framework of services, in order to deliver real-time information and services to all users of the transport ecosystem – drivers, vulnerable road users, and businesses.

The project connects all the road agents, people, vehicles, infrastructure and businesses, into a single cooperative ecosystem. It is gathering data from all these agents and connecting them with cooperative networks and open data. TIMON will also implement different real-time services, leading to increased safety, sustainability, flexibility and efficiency of road transport systems.

Information from relevant open data sources, infrastructure sensors and TIMON users is stored and harmonised. Using innovative application of existing and emerging technologies in cooperative vehicular networks, artificial intelligence and cooperative positioning, all this data is processed and enhanced. Finally, new knowledge is generated to provide real time services through a mobile app or a website.

The project has also planned two practical testing pilots in real environment:

Project reference:
636220

Topic:
MG-3.5a-2014

Call for proposals:
H2020-MG-2014_TwoStages

Duration:
01/06/2015 to 30/11/2018

Funding scheme:
RIA

Total cost:
€ 5,605,213

EU contribution:
€ 5,605,213

Coordinator:
UNIVERSIDAD DE LA IGLESIA DE DEUSTO

Project website:
http://www.timon-project.eu
• Validating the system’s technical performance in a testbed site in Helmond (the Netherlands)
• Testing the TIMON services with real end-users in Ljubljana (Slovenia)

TIMON plans to decrease the number of crashes by 15-20%, reduce congestion by 12-20%, and decrease GHG emissions by 6-10%.

Project description on CORDIS: http://cordis.europa.eu/project/reference/63620
Vision Inspired Driver Assistance Systems

Road accidents caused by human error continue to be a major public safety concern. Intelligent driver systems that can monitor the driver’s state and behaviour show promise for our collective safety.

The VI-DAS project will progress the design of next generation 720° connected advanced driver assistance systems (ADAS) on scene analysis and driver status. The project will use advances in sensors, data fusion, machine learning and user feedback to better understand driver, vehicle and scene context, thus making a step towards truly semi-autonomous vehicles.

On this path there is a need to design vehicle automation that can gracefully hand-over and back to the driver. VI-DAS advances in computer vision and machine learning will introduce non-invasive, vision-based sensing capabilities to vehicles and enable contextual driver behaviour modelling. The technologies will be based on inexpensive and ubiquitous sensors, primarily cameras. Predictions on outcomes in a scene will be created to determine the best reaction to feed to a personalised HMI component that proposes optimal behaviour for safety, efficiency and comfort.

VI-DAS will use a cloud platform to improve ADAS sensor and algorithm design and to store and

Project reference:
690772

Topic:
MG-3.6a-2015

Call for proposals:
H2020-MG-2015_TwoStages

Duration:
01/09/2016 to 31/08/2019

Funding scheme:
RIA

Total cost:
€6,225,246

EU contribution:
€6,225,246

Coordinator:
FUNDACION CENTRO DE TECNOLOGIAS DE INTERACCION VISUAL Y COMUNICACIONES
analyse data at a large scale, thus enabling the exploitation of vehicle connectivity and cooperative systems.

The project will address human error analysis in a real accidents study in order to understand patterns and consequences as an input to the technologies. VI-DAS will also address legal, liability and emerging ethical aspects because with such technology comes new risks, and justifiable public concern.

The insurance industry will be key in the adoption of next generation ADAS and autonomous vehicles.

VI-DAS stands in the automotive value chain where Europe is both dominant and in which value can be added. The project will contribute to reducing accidents, economic growth and continued innovation.
Upcoming H2020 automated road transport (ART) projects

**BRAVE - BRidging gaps for the adoption of Automated Vehicles**

The project focusses on five main objectives:

1. Multidisciplinary (human, social, economic, security, legal and ethical considerations) study of the requirements and expectations of the drivers, VRUs, and stakeholders to assure safety and adoption of automated vehicles

2. Turning requirements into innovative interaction and monitoring concepts for driver-vehicle interaction in order to bridge the gap between users and automation technologies while assuring safe vehicles handling with reduced driver attention

3. Turning requirements into innovative monitoring concepts for vehicle-environment interaction, enhancing current Advanced Driving Assistance Systems (ADAS) through the inclusion of predictive capabilities for better and faster ADAS reactions (nominal and emergency)

4. Validating requirements, user acceptance and impact assessment through realistic user-centric testing exercises under different scenario conditions

5. Paving the way for the further adoption of the technology by the automation industry, by evolving on testing and pre-validation protocols, proposing advancements on the regulation and consumer assessment

**Topic:** ART-04-2016  
**EU contribution:** €3 million  
**Duration:** 36 months
CoEXist - ‘AV-Ready’ transport models and road infrastructure for the coexistence of automated and conventional vehicles

The project addresses three key steps in transport and infrastructure development:

1. AV-ready transport modelling: validated extension of existing microscopic and macroscopic transport models to include different types of AVs (passenger car/ light-freight vehicle, automation levels)
2. AV-ready road infrastructure: tool to assess the impact of AVs on safety, traffic efficiency and space demand and development of design guidance for hybrid (AV-/CV-shared) infrastructure
3. AV-ready road authorities: eight use cases for four road authorities (Gothenburg, Helmond, Milton Keynes and Stuttgart), used to evaluate AV impacts on safety, traffic efficiency and road space requirements (with CoEXist tools) and making detailed hybrid infrastructure design recommendations

Topic: ART-05-2016
EU contribution: €3.5 million
Duration: 36 months
**INFRAMIX - Road Infrastructure ready for mixed vehicle traffic flows**

The project is preparing road infrastructure to support the transition period and the coexistence of conventional and automated vehicles. Its main target is to design, upgrade, adapt and test both physical and digital elements of the road infrastructure, ensuring an uninterrupted, predictable, safe and efficient traffic.

To meet this high level objective INFRAMIX is working on different technologies. The project starts with the use of mature simulation tools adapted to automated vehicles and develops new methods for traffic flow modelling, to study the traffic influence of different levels of automated vehicles in different penetration rates. It also implements relevant traffic estimation and control algorithms dynamically adapted to the current situation. Later on, the project proposes minimum, targeted and affordable adaptations on physical or digital, or a combination of both road infrastructure elements. This work includes informing all types of vehicles about the control commands issued by the road operator and the suggesting a new kind of visual and electronic signals for the needs of mixed scenarios.

The project’s outcomes will be assessed via simulation and in real stretches of advanced highways. Key aspects considered throughout the project will be to ensure that the proposed adaptations will not jeopardise safety, quality of service, efficiency, as well as will be appreciated by the users. To achieve its objectives INFRAMIX selects a bottom-up approach. It builds on three specific high value (in terms of importance for traffic efficiency and safety) traffic scenarios, namely ‘dynamic lane assignment’, ‘roadwork zones’ and ‘bottlenecks’.

Although INFRAMIX is targeting mainly highways (expected to be the initial hosts of such mixed traffic) its key results can be easily transferred to urban roads.

**Topic:** ART-05-2016  
**EU contribution:** €5 million  
**Duration:** 36 months
interACT - Designing cooperative interaction of automated vehicles with other road users in mixed traffic environments

The main objective of interACT is to substantially improve the communication and cooperation strategy for the interaction between automated vehicles and their environment. The project will provide an overview of current human-machine interactions in mixed traffic, and increase chances of safe deployment of AVs by developing novel software and HMI hardware components for reliable and user-centric communication between an AV with its users.

In particular, the project will:

1. Use social-psychological models to compile a catalogue of interactions, identifying the main communication needs of road users in current and future traffic scenarios
2. Improve software algorithms and sensor capabilities for assessing intention recognition and behaviour prediction of surrounding road users
3. Use a Cooperation and Communication Planning Unit to integrate planning algorithms, providing synchronized and integrated communication protocols
4. Ensure safety of road users by developing easy-to-verify software for a safety layer, and novel methods for fail-safe trajectory planning

The project’s team will develop and evaluate prototypes in multi-actor simulators and two test vehicles, assessing their ease-of-use, acceptance, safety and reliability.

The expected interACT’s impacts cover reduction of crashes, improvement of traffic flow and acceptance of AVs by society.

**Topic:** ART-04-2016

**EU contribution:** €5.5 million

**Duration:** 36 months
L3Pilot - Piloting Automated Driving on European Roads

In order to remain competitive in the global market, key players of the European automotive sector must join forces in pilot testing and evaluation of automated driving systems. The objective of L3Pilot is to test the viability of automated driving as a safe and efficient means of transportation, as well as explore and promote new service concepts of inclusive mobility. Four major technical goals support this objective:

1. Create a standardised Europe-wide piloting environment for automated driving
2. Coordinate activities across the piloting community to acquire data
3. Pilot, test and evaluate automated driving functions and connected automation
4. Promote automated driving to bring it closer to the market

The project will focus on large scale piloting of SAE level 3 functions, with additional assessment of some level 4 functions. The functionality of the systems used will get exposed to variable conditions in 11 European countries, 100 vehicles and 1000 test drivers.

L3Pilot will adapt the FESTA methodology for testing automated driving needs. The tested functions cover a wide range from parking to overtaking, and urban intersection driving. Due to its large coverage of driving situations, L3Pilot is unique, and will demonstrate and test a comprehensive menu of automated driving functions. The data collected will also be shared with third parties outside the consortium. The evaluation of the data will focus on technical, user acceptance, driving and travel behaviour, impact on traffic and society. The project promotion will include user outreach campaigns with four showcases, and the creation of a comprehensive guideline - a Code of Practice - with best practices for the development of automated driving functions.

**Topic:** ART-02-2016  
**EU contribution:** €36 million  
**Duration:** 48 months
**TransAID - Transition Areas for Infrastructure-Assisted Driving**

As automated vehicles come closer to the market, even in urban areas, it will be necessary to investigate their impacts on traffic safety and efficiency. This is particularly true during the early stages of market introduction, where automated vehicles of all SAE levels, connected vehicles (able to communicate via V2X) and conventional vehicles will share the same roads with varying penetration rates. There will be areas and situations on the roads where high automation can be granted, and others where it is not allowed or not possible due to missing sensor inputs, high complexity situations and other factors. Many automated vehicles will change their level of automation in these transition areas.

The TransAID project will develop and demonstrate traffic management procedures and protocols to enable smooth coexistence of automated, connected and conventional vehicles especially in transition areas.

The project will follow a hierarchical approach by implementing control actions at different layers, including centralised traffic management, infrastructure and vehicles. First, the project will carry out simulations to find optimal infrastructure-assisted management solutions for controlling connected, automated and conventional vehicles in transition areas, taking into account traffic safety and efficiency metrics. Then, it will develop communication protocols for the cooperation between connected/automated vehicles and the road infrastructure, as well as address measures to detect and inform conventional vehicles. The most promising solutions will become demonstration prototypes tested in real urban conditions. The project will define guidelines for advanced infrastructure-assisted driving, which will also include a roadmap on activities and necessary upgrades of road infrastructure in the upcoming 15 years.

**Topic:** ART-05-2016  
**EU contribution:** €4 million  
**Duration:** 36 months
TrustVehicle - Improved trustworthiness and weather-independence of conditional automated vehicles in mixed traffic scenarios

The TrustVehicle consortium brings together participants from the whole vehicle value chain to enhance safety and user-friendliness of level 3 automated driving systems.

The project’s main objectives are:
1. Systematic identification of critical road scenarios based on in-depth analysis of possible traffic situations and human behaviour
2. Setup of new tools for the cost- and time-effective assessment of driver-in/off-the-loop situations
3. Design of controllers and sensor fusion systems capable of dealing with complex, uncertain and variable road scenarios to enhance road safety
4. Implementation of intuitive human-machine interfaces for the safe management of the transition phases taking into account user acceptance and gender-specific aspects
5. Establishment of an adaptive and agile vehicle validation based on self-diagnostics and data logging to steadily extend the list of relevant scenarios and test cases

The project’s outputs will be extensively assessed in real-world operating conditions on four demonstrators representing four vehicle classes, with constant feedback from the technology’s end-users. Special focus will be put on the demonstration of the fault-tolerant and fail-operational system behaviour at any time and for different kinds of weather conditions.

Topic: ART-04-2016
EU contribution: €5 million
Duration: 36 months