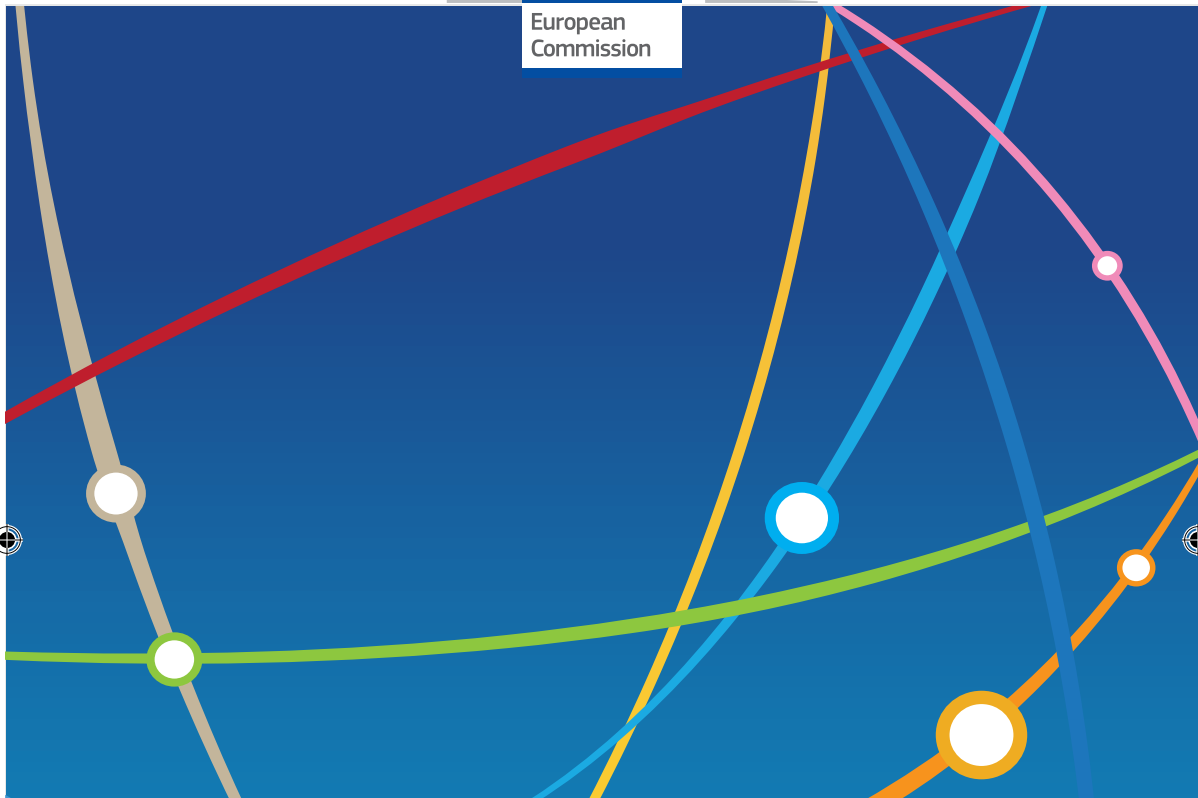




European
Commission



Exhibition Guide

Connecting
EUROPE

TEN·T Days
2015



Welcome to the Connecting Europe Exhibition!

Thanks to EU funding, European transport infrastructure is being transformed from a patchwork into a network, connecting European citizens and bringing a wealth of benefits to the EU as a whole. At the **TEN-T Days Exhibition in Riga**, you'll be able to learn more about 40 different TEN-T projects and initiatives and meet the people helping to make them happen. Those organisations involved in the indoor Exhibition are listed below.

Midsummer in Latvia is an excellent time for a break outdoors, so don't miss the outdoor displays on the Esplanade, directly in front of the conference venue, to see innovative vehicles and enjoy a test drive. More details are on page 4.

An Exhibition floor plan is on pages 28-29.

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Disclaimer: Although close care has been taken to ensure the accuracy, completeness and reliability of the information provided, DG MOVE/INEA assumes no responsibility therefore. The user of the information agrees that the information in this guide and the event itself is subject to change without notice.

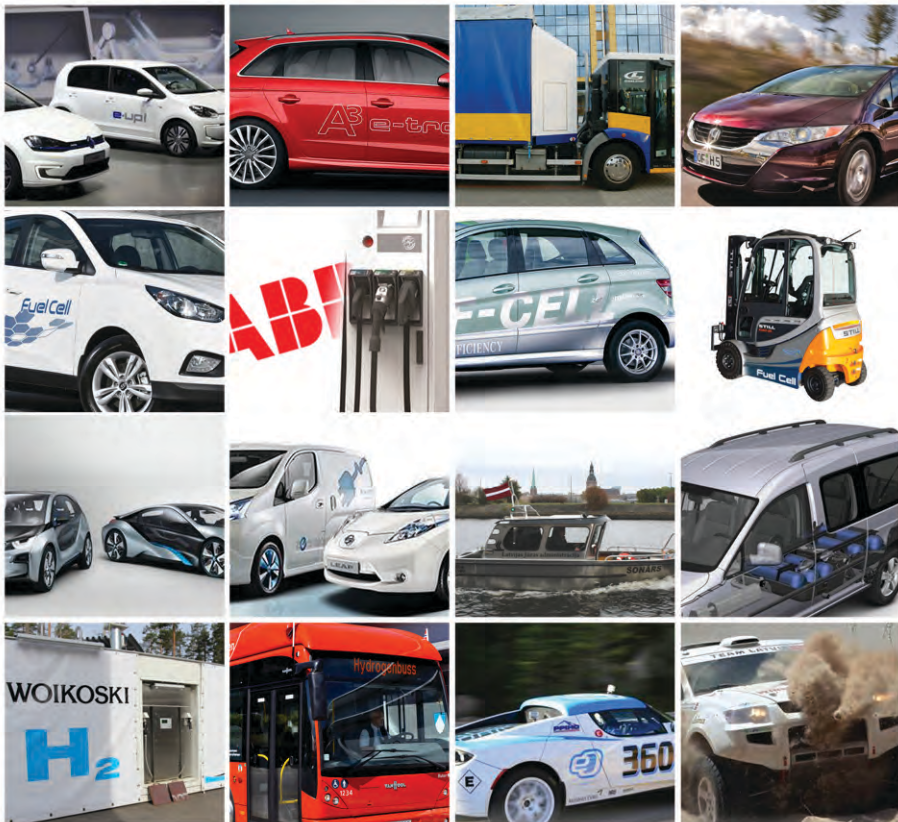
Visit the outdoor Esplanade!

The Riga TEN-T Days outdoor Exhibition highlights different innovative technologies for the road sector, such as electromobility, fuel cells/hydrogen and natural gas.

Located just a hop, skip and a jump right outside the Radisson Latvija Hotel in the beautiful green surroundings of the Esplanade park, the outdoor Exhibition spotlights a range of innovative vehicles, from passenger cars and light commercial vans to heavy vehicles such as a CNG mobile refuelling truck and hydrogen bus/truck. Take a break from the inside excitement and see hydrogen forklifts, a fully functional hydrogen refuelling station and an electric fast charger on display and in action. Learn more about a hydrographic survey boat which will also be showcased.

As in previous TEN-T Days, we are also offering the popular opportunity to ride&drive a number of test vehicles around the Esplanade, if you feel up to getting behind the wheel.

Don't miss the other half of the Exhibition and join us outside!





European Commission: Directorate- General for Mobility & Transport

DG MOVE



Transport directly affects everyone in Europe. Whatever age we are, and whatever activities we undertake, transport and mobility play a fundamental role in today's world. The aim of the European Commission is to promote a mobility that is efficient, safe, secure and environmentally friendly and to create the conditions for a competitive industry generating growth and jobs. The issues and challenges connected to this require action at European or even international level — no national government can address them successfully alone. The European Commission's **Directorate-General for Mobility and Transport** works in concert with the EU Member States, European industry, citizens and stakeholders.



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TENtec Information System DG Mobility & Transport



TENtec is the European Commission's information system to coordinate and support the Trans-European Transport Network Policy (TEN-T). It is based on two pillars:

1. The first pillar focuses on policy-related information by storing and managing technical, geographical and financial data for the analysis, management and political decision-making related to TEN-T and the underlying funding programme, the Connecting Europe Facility (CEF). The core TENtec modules are OMC (Open Method of Coordination) and iReport, which are accessible through the TENtec Private Portal.
2. The second pillar is related to grant management activities, managed by the Innovation and

Networks Executive Agency (INEA), to support the necessary workflows for issuing grant agreements after completion of the selection cycle for new projects - including proposal submission and reception and the required web interfaces. The underlying modules are eSubmission, Action Status Report, Project Follow-Up, Evaluation and Grant Agreement.

Moreover, TENtec also enables the European Commission to easily compile information and create timely reports & maps. All parties concerned benefit from an increased visibility, data quality and systematic up-to-date overview of the budget execution and technical implementation for each TEN-T/CEF project. TENtec acts as a bridge to Member State ministries and other key stakeholders (DG REGIO, DG ENV, EIB and neighbouring countries) and includes support for transport modelling of future policy and budgetary scenarios, briefings, the mapping of TEN-T/CEF co-funded projects and other layers (alternative fuels, secure and safe parking etc.).

In 2014, TENtec was an integral part of the Core Network Corridor studies in the area of data collection. The final Core Network Corridor reports have been published along with TENtec compliance maps on selected technical indicators, based on the TEN-T Regulation.

In Riga, TENtec will present the latest version of the TENtec Interactive Map Viewer which will be launched by Commissioner Violeta Bulc.

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 Public portal: <http://ec.europa.eu/transport/infrastructure/tentec/tentec-portal>





Innovation & Networks Executive Agency (INEA)

The **Innovation and Networks Executive Agency**, which is the successor organisation to the Trans-European Transport Network Executive Agency (TEN-T EA) and started its operations on 1 January 2014, is charged with the implementation of several EU programmes on behalf of the European Commission. The Agency manages the Connecting Europe Facility (CEF) and portions of the Horizon 2020 (H2020) initiatives plus the legacy of the 2007-2013 TEN-T and Marco Polo (freight performance) Programmes. In the 2014 to 2020 timeframe, INEA will manage a total budget* of up to €34.1 billion: €27.4 billion from the CEF and €6.7 billion from H2020.



INEA's main objective is to ensure the efficient and effective implementation of the CEF and H2020 programmes, thereby allowing the European Commission to focus more on policy matters. The Agency uses its expertise to increase the efficiency of the technical and financial management for all programmes and beneficiaries. This applies to the entire project lifecycle — from the evaluation of projects to be awarded financial support to the administration and control of the use of the funds allocated. INEA provides a single access point for funding for all potential beneficiaries of its programmes, allowing them to benefit from the Agency's long-standing experience and proven high-level performance.

**totals subject to final approval of the European Fund for Strategic Investments – EFSI*

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D European Railway Agency (ERA)

ERA's mission is "making the railway system work better for society" through improved technical interoperability and a common approach to safety on the EU railway system. It contributes to the creation of a "Single EU Railway Area". Under this general objective, ERA is focussing its tasks in the horizon 2020 on implementing four operational activities:

1. A harmonised safety framework
2. Removal of technical barriers
3. A single European Train Control and Communication System
4. A simplified access for customers.

ERA prepares new and updated legislative acts in working groups with stakeholders, for adoption by the European Commission, and gives other technical support to the European Commission. Additionally, the Agency's work increasingly disseminates and facilitates the developed framework for the European railway system and monitors the progress towards the desired outcome.

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E SESAR



A well-functioning and efficient Air Traffic Management (ATM) system is seen as a vital element for the sustainability of global aviation. That is why in 2004, **SESAR** (Single European Sky Air Traffic Management Research) was set up to modernise and harmonise ATM systems through the definition, development and deployment of innovative technological and operational solutions. Today, SESAR consists of two pillars: The SESAR Joint Undertaking (SJU), a public-private partnership (PPP) under the EU framework, launched in 2008, and the SESAR Deployment Manager, under a framework partnership arrangement with the EC comprising of a group of air navigation service providers, airports and airlines, launched in December 2014.

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[@SESAR_DM](https://twitter.com/SESAR_DM)





Fuel Cells & Hydrogen Joint Undertaking FCH JU

**CLEAN
SECURE
ENERGY**

The **FCH JU**, as a funding agency, is supporting 19 demonstration projects for transport applications, with a financial contribution of €147.3 million. Within the context of these projects, 250 cars, 65 buses and 400 forklifts, together with at least 20 hydrogen refueling stations are being deployed throughout Europe.

With this large demonstration programme, the FCH JU intends to cover the gap towards the wide deployment of the vehicles and infrastructures, showing the readiness and maturity of this technology. Fueled by hydrogen, fuel cell electric vehicles are comparable to internal combustion engine vehicles in terms of range, performance and refueling times, while offering the advantages of electric vehicles: zero tail-pipe emissions, reduced noise and vibration levels and high passenger comfort. They represent a clear alternative to achieve the greening of urban mobility. See some of the fuel cell electric cars at the Esplanade and learn more about the projects at the FCH JU stand.

FCH JU transport projects: H2MOVES HYTEC SWARM HyFIVE CHIC HYTRANSIT HIGH V.LO-CITY 3EMOTION HyLIFT-EUROPE HAWL



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SmartPort Projects at the Port of Hamburg

Hamburg Port Authority

2012-DE-91054-S • 2012-DE-92052-S • 2013-DE-92024-S •
North Sea-Baltic, Scandinavian-Mediterranean and Orient/East-Med Corridors

The **Hamburg Port Authority (HPA)** started to build a fixed shore power station at the cruise terminal in the district of Altona at the beginning of July 2014. The topping-out ceremony was held in November 2014, and the facility is expected to be completed by early autumn 2015. Hamburg will be the first port in Europe to operate a permanent shore power station of this size and to deploy power barges. The innovative concept of shore power lowers CO₂ and fine particulate matter emissions and reduces noise pollution near the terminals.

Car Park Management

The HPA is also implementing an intelligent parking space management system to optimally utilize existing truck parking bays. The system will reduce the number of trucks looking for parking spaces in the port area and minimize problems caused by trucks parking in areas close to the port. The dynamic parking space management system will not only make truck parking bays more cost-efficient, but also bring benefits to the environment and ease the burden on adjacent city districts.

New Kattwyk Railway Bridge

The New Railway Kattwyk Bridge is planned purely as a railway bridge. The old bridge will remain as a dedicated road traffic bridge and will no longer be excessively used by freight trains. The symbolic first pile for the bridge was driven in during August 2014, and road building works started this year at the Kattwykdamm, the construction of the Kattwyk road bridge and work on the flood defence wall. The first trains are expected to cross the New Kattwyk Railway Bridge in 2020.

Engine holding siding

The HPA is planning an engine holding siding as one tool to optimize a smooth traffic flow on the railway infrastructure. At the moment, engines either park on the tracks in the western area of the port or leave the port if they don't have any follow-up order. To avoid this blocking of infrastructure capacity, a storage option for rail vehicles will be offered within the port area. By reducing empty engine movements, additional capacity will be created and other economic and ecological benefits.

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2

Pilot deployment of emission reduction technologies (scrubbers) on general cargo vessels on North Sea and Baltic Sea MoS corridors

Spliethoffs Bevrachtingskantoor B.V.

2013-NL-92007-5

This Action carried out a pilot test on **exhaust gas cleaning on board general cargo vessels** sailing on the North Sea and Baltic Sea Motorways of the Sea corridors. Exhaust gas cleaning systems (a.k.a. scrubbers) reduce vessel emissions of CO₂, fine particles and sulphur. As such, they are one of the potential solutions to comply with the revised EU Sulphur Directive (2012/33/EU), which imposes lower limits to the sulphur content of marine fuels as from 1 January 2015. Furthermore due their operational cost advantage – *vis-à-vis* burning distillate fuel or gas – scrubbers can prevent ships from opting for (the more CO₂ intensive) road transport, which brings further negative consequences such as seizing of (port/maritime) activity, disappearance of MoS links and unemployment.

However, the uptake of scrubbing technology is hampered due to technological and operational drawbacks. Until now, only very few general cargo vessels have been equipped with scrubbers, even though these vessels form a considerable part of European short sea traffic – transporting products and raw materials for important European industrial sectors like paper and timber, steel, and renewable energy. The Action aims to tackle the operational and technical drawbacks of exhaust gas cleaning. For this purpose three different types of general cargo vessels have been selected. Due to their differences in design, they cover the features of most other general cargo vessels. The Action is expected to deliver the successful operation of scrubbers to meet the emission limits of the EU Sulphur Directive. It serves as a showcase and will foster the uptake of scrubber technology in the European short sea shipping sector.



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3

Port of Dunkerque

2011-FR-92026-S • 2011-FR-93025-S • 2012-FR-91028-P •
2013-FR-91002-S • North Sea-Mediterranean Corridor

As a major gateway to the North-Sea Mediterranean Corridor, strategically located close to the city of Lille, at the center of the Paris-London-Brussels triangle and at the heart of a market of more than a hundred million consumers, the **Port of Dunkerque** offers an ideal geographical location for the development of logistics and distribution activities. All of its terminals have excellent road, barge and rail network connections.

An LNG terminal, currently under construction at the Port, will be operational by the end of 2015 with a total annual capacity of 13 GM3. The Port is committed to implement LNG bunkering services for ships.

The Western Port enjoys a direct access to and from the sea and enables fast turn-round calls for the largest container ships and for all types of Ro-Ro vessels. It is also accessible to the biggest bulk carriers. More than 120,000 m² of warehouse space is already available in the Western port.

The Port is committed to implementing a new generation multimodal container platform, including a reception terminal able to handle the largest container ships and an adjoining logistic area addressing the specific needs of the European freight transport system. With this project, Port infrastructure will be at the cutting edge of future transport and logistics standards in terms of security, safety, capacity, intermodal services and competitiveness.



©Dunkerque-Port / Samuel Marquette, MG Prod. ©NAI/Didier Carette

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DUNKERQUE
PORT
Grand Port Maritime de Dunkerque



PPP project Amsterdam Lock

Rijkswaterstaat, Ministry of Infrastructure and the Environment,
Netherlands • Port of Amsterdam • City of Amsterdam • Province
North Holland

2012-NL-93121-S • North Sea-Baltic, Rhine-Alpine and North Sea-Mediterranean Corridors

This project will improve maritime access to the TEN-T network in Amsterdam by constructing a new, large lock with a Public-Private Partnership (PPP). The largest current lock will reach its maximum capacity of 95 million tonnes around 2018 and as the size of vessels continues to increase, resolution of this important physical bottleneck is needed. The **Port of Amsterdam** is the fourth largest port in the EU in throughput volumes, and several EU regions are served by the port through its sustainable hinterland connections. Amsterdam is located on 3 Corridors: the North Sea-Baltic, the Rhine-Alpine and the North Sea-Mediterranean.

The lock will be the first PPP for large maritime infrastructure in The Netherlands with a Design, Build, Finance and Maintain (DBFM) contract. The previous studies, co-financed by TEN-T, demonstrated that PPP offers value for money. Efficiency savings are estimated at 3.5% for the lifecycle of the new lock, and sound risk management and accelerated completion are expected PPP benefits. The project can make use of innovative financial instruments: private companies in the running for the DBFM contract are strongly encouraged to finance their loans with the EIB Project Bonds Credit Enhancement (PBCE). The Port of Amsterdam (public limited company) is investigating the use of PBCE for the financing of the municipal share of the construction budget.

The project is highly mature and ready to start. All legal approvals are in place and the budget of approximately €850 million is secured. Procurement is also on schedule: financial close is expected in September 2015, works will start in January 2016, and in 2019, the new lock will be operational.

The preferred dimensions are 500 m length, 70 m width and -18 depth. A CEF grant is needed for its leveraging effect on the affordability. Interested in maritime PPPs, innovative financing, timely completion, procurement strategies, availability payments, and risk management? Please come visit our stand.

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[http://www.rijkswaterstaat.nl/water/plannen_en_projecten/vaarwegen/
noordzeekanaal/zeetoeegang_ijmond](http://www.rijkswaterstaat.nl/water/plannen_en_projecten/vaarwegen/noordzeekanaal/zeetoeegang_ijmond)



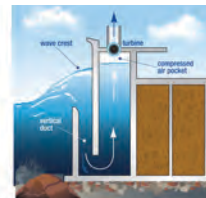
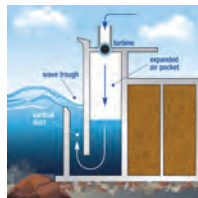
5

REWEC 3 study

Port Authority of Civitavecchia • Reggio Calabria
University

2013-IT-92050-5

The **REWEC 3 study** is part of a larger action aiming to reduce the emissions produced by the services and the terminal activities of the Port of Civitavecchia. The Port Authority is planning to install renewable energy systems expected to satisfy at least 55% of the port's total energy needs by 2020 and implement new systems for the mobility inside the port, such as electric cars, busses and forklifts. The project features a feasibility study and a pilot test to convert wave energy into electricity through a wave energy absorbers system expected to reduce the port's dependency on conventional energy.

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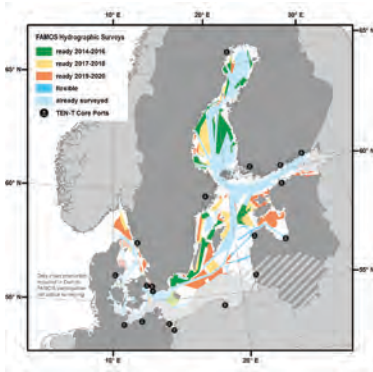
www.portidiroma.it
www.unirc.it



6

FAMOS - Finalizing the Baltic Motorways of the Sea project Swedish Maritime Administration (coordinator)

Project succeeding MONA LISA (2010-EU-21109-S)



Reliably surveyed shipping routes at sea are a major pillar of the maritime transport infrastructure and an indispensable precondition for the safety of ship navigation and sea transport. In the Baltic Sea however, the water depth of extensive parts of the areas used by commercial shipping traffic have not yet been mapped to modern standards, and thus a full picture and precise information on the sea floor is still lacking.

To overcome this, the **FAMOS project** is focusing on the hydrographic surveying of the Baltic Sea according to the BSHC-HELCOM Revised Baltic Sea Harmonised Hydrographic Re-Survey Scheme. The

planned hydrographic surveys will also provide information that can be used for navigating vessels on routes with maximised water depth and thereby optimal fuel efficiency. In addition to hydrographic surveys, the project also encompasses other closely related essential activities:

1. Improvement of the data workflows and information exchange at the hydrographic offices in order to efficiently provide end users with the most recent navigation information
2. Improvement of the infrastructure needed for hydrographic surveys in terms of survey boats and equipment
3. Providing the foundation for a common, unified zero level in all Baltic Sea nautical charts as recently required by the Baltic Sea Hydrographic Commission.

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MONALISA 2.0 project

Swedish Maritime Administration

2012-EU-21007-5

MONALISA 2.0 is a European-wide maritime project, ending in 2015, that includes 39 partners from 10 countries and has a total project budget of €24 million. The project's three main objectives are:

1. increased safety and incident prevention
2. minimised negative consequences when incidents do occur
3. creation of a new maritime information system concept for Sea Traffic Management (STM)



Some examples of the safety related actions include a new search and rescue system in Sweden using new layered technologies and interfaces, as well as indoor positioning on board large vessels to locate crew in case of emergencies before using CO2 firefighting or sealing of parts of the ship. The positioning feature will also be helpful in case of evacuation. In the Mediterranean, the project is developing several solutions to handle accidents and evacuations of cruise ships, which were tested live on a cruise ship in Valencia on 15 June 2015.

STM started with the idea of sharing route information ship to ship on route for better risk assessment by ship officers. The vision and value of an integrated system to share all relevant information was realised. The potential benefits of STM are fewer accidents due to enhanced situational awareness on the bridge, shore-based advice on congestion and floating obstacles, enhanced collision and grounding warnings and improved efficiency in terms of administration, shorter time at port due to improved planning and lower insurance due to fewer accidents. This further improves the environment through less CO2 emissions due to shorter routes, slow-speeding and shorter port calls.

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WINMOS - Winter Navigation Motorways of the Sea

Swedish Maritime Administration (coordinator)

2012-EU-21008-M

The Baltic Sea is one of the busiest seas in the world, with the number of ships and quantity of cargo growing rapidly. More than 2,000 ships are sailing in the Baltic Sea at any given time, and around 750 million tonnes are annually transported to and from Baltic Sea ports — nearly 15% of the world's maritime transport. The maritime transport system in the EU's northernmost waters is thus of high importance for trade between this region and other parts of the EU throughout the entire year.

The main objective of the **WINMOS project** is to ensure sustainable and efficient maritime transport throughout the year and diminish the barrier effect caused by sea ice in the Baltic. WINMOS aims to develop a comprehensive winter navigation system, improve environmental performance and secure icebreaking resources for future needs by:

- Foreseeing possible future changes and analysing the impact on the winter navigation system and the requirements for icebreaking capacity
- Working out proposals for different concepts and designs of icebreakers and icebreaker fleets that meet industrial and environmental demands on maritime transport
- Improving environmental performance by reducing emissions from existing icebreakers
- Modernising the existing Finnish-Swedish icebreaking management system (IBNet) and improving the accessibility of the information for all relevant stakeholders within maritime shipping
- Developing training methods for navigation in sea ice by enhancing simulator training and developing an improved training programme
- Ensuring sufficient icebreaking resources by technically upgrading existing icebreakers and by building a brand new icebreaker.



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9

CLYMA - Development of the Connection Lyon-Madrid on the Mediterranean Corridor

Port de Barcelona (coordinator)

2012-EU-94174-S • Mediterranean Corridor

Within the context of Mediterranean Core Network Corridor, this Action focuses on freight transport connecting Lyon and Madrid (**CLYMA**) to enable the implementation of the network concept. It takes into account long-term demand and supply perspectives, environmental aspects, ICT and associated needs, as well as studies that promote environmental sustainability, resource efficiency and low-carbon transport within an integrated transport system and the development of strategic projects alongside the Lyon-Madrid section. This aims to stimulate the deployment of a Green Corridor as introduced in the Freight Logistic Action Plan.

The project also intends to develop some recommendations for the managerial structure for the intermodal corridor. It is composed of 8 activities for the Lyon-Madrid section, including the analysis of the current/future situation, development of an intermodal corridor, development of an intermodal management structure, development of the concept of "green corridor", elaboration of a development plan for ICT integration, pilot strategic projects and studies alongside the Corridor, Corridor promotion, and project coordination/monitoring.



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10

WiderMos, AnNa, B2MoS projects

La Spezia Port Authority • Dutch Ministry of Transport • Valenciaport Foundation

WiderMoS 2012-EU-21021-S • B2MoS 2012-EU-21020-S • AnNa 2012-EU-21019-S

LET'S GET IT DONE TOGETHER

The virtualisation of the world is taking shape, not least in the transport and logistics sectors. Increasingly digital technology allows businesses to better connect and deliver the goods and services in a smoother, faster and in a more sustainable way to their clients. The digital economy also allows public authorities to streamline their operations and enhance the quality of their services to the European citizens and business. The EU TEN-T Motorways of the Sea programme supports various projects to identify and experiment on the opportunities to integrate ICT in maritime transport and its connectivity to various surface transport modes. Since 2012 three major ICT driven projects are taking shape:

1. **AnNa**, a Member State driven project, strives towards advanced networks for national administrations based on EU legislation that allow maritime businesses to report data only one time
2. **B2MoS** fosters the effective business reporting from seagoing transport to European ports and assists ports to become efficient gateways and compete on more door-to-door corridors.
3. **WiderMos** develops IT tools to ensure a strong integration between maritime and Core Network Corridors, thereby solving a specific set of bottlenecks currently jeopardising interoperability between sea- and land-based transport.

In 2015, the three projects will finalise their work and are currently presenting viable options to make Europe more competitive while benefitting from the opportunities provided by digital technologies. A platform approach underpinning the online economy — on which new service developments can be based on — is supported. Such a platform could allow European companies to develop new IT services connected to the EU maritime transport and logistics industry. Due to the diversity of EU Member States, the interconnectivity of systems and co-operation are essential. Let's get IT done together!



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Let's get IT done
TOGETHER



B2MoS **ANNA** **WiderMos**
 EU TEN-T MOTORWAYS OF THE SEA PROJECTS

11

GATE project

Regione Liguria • Aeroporto di Genova SpA (Genoa Airport) • Società per Cornigliano SpA (For Cornigliano Company) • Comune di Genova (Genoa Municipality)

2012-IT-91009-S • Rhine-Alpine Corridor

According to the Genoa Airport Master Plan and the other local planning instruments, the **GATE project** aims to improve the territorial and intermodal connections of Genoa's Cristoforo Colombo airport. In particular, the intermodal connections will integrate the airport within the framework of the Rhine-Alpine Rail Corridor and improve the connections at European level. The airport is also a "Core Airport" of the new TEN-T policy.



In this framework, the action consists of two inter-related sub-projects:

1. Planning of the airport's new rail station and upgrade design of all related works
2. Planning of the connection between the new railway station and the air passenger terminal building by cableway. In order to achieve its objectives, the action is organized into four main activities: a preliminary analysis, railway station scheme design, airport-rail station link scheme design and a technical secretariat and coordination.



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12

POSEIDON MED project

QEnergy Europe (coordinator)

2013-EU-21019-S

POSEIDON MED is the LNG bunkering initiative supported by fellow EU countries in the Eastern Mediterranean and Adriatic Sea (Cyprus, Greece, Italy, Croatia and Slovenia). It is led by QEnergy Europe and delivered by top experts in the marine, energy and finance sectors. Focusing on the eastern Mediterranean region, the project is the first cross-border European Global Project aimed at developing a strategy for the introduction and promotion of LNG as marine fuel in order to provide an efficient and effective solution to the problem of emissions abatement. This will entail the design of a LNG transport, distribution, and supply (including bunkering) network and infrastructure for its use as marine fuel in the region and it will define the framework for a well-functioning and sustainable relative market (vessels) for its demand. Additionally, it will address safety, regulatory, as well as financial and societal aspects.

Activities during the first phase of the project include the development of a proposal for the appropriate regulatory framework, the planning of an integrated supply chain, technical and financial feasibility for six lead-ships and a sustainable financial model. The second phase will aim to mature and detail further required actions with enhanced technical studies covering ships, ports and bunkering operations. The lessons learned from the ECA zone depict the necessity of a system with the simultaneous development of critical supply and demand side installations. This will achieve economies of scale, break the “chicken and egg” problem and avoid the formulation of “missing links” in the LNG as fuel supply chain.

There are two main pillars for a successful and sustainable bunkering system: the development of the critical mass of supply points and the retrofit or the building of an adequate number of vessels — an activity that will instigate the demand for LNG as fuel. Overall, POSEIDON MED’s ultimate objective is to prepare in detail a holistic solution of infrastructure development in the Mediterranean area so that LNG can be embraced as the marine fuel of the future, thus making shipping more efficient and sustainable.

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13

LNG in Baltic Sea Ports II projects

Port of Helsingborg, Port of Trelleborg, Port of Sundsvall, Port of Rostock, Klaipdos nafta AB

2011-EU-21005-S • 2013-EU-21007-S



The **LNG in Baltic Sea Ports projects** are Motorways of the Sea activities co-financed by the TEN-T programme. They are helping to facilitate the adaptation to the new SECA sulphur content limits and aim to foster a harmonised approach towards LNG bunker filling infrastructure in the Baltic Sea area. Seven ports are involved in the first project: Aarhus, Copenhagen-Malmö, Helsingborg, Helsinki, Stockholm, Tallinn and Turku. The sequel project, co-ordinated by Port of Helsingborg, expands the development of small-scale LNG infrastructure in the Baltic ports of Trelleborg, Sundsvall, Rostock and Klaipėdos Nafta.

The project activities include:

1. Project coordination (professional and timely management and communication of the action secured by Baltic Ports Organization (BPO) in partnership with Port of Helsingborg — the project's leading partner).
2. Studies at the project partner ports (e.g. quay and terminal design, planning, location & storage and technical studies at the ports, as well as vessel design, health and safety permits and environmental impact studies)
3. Harmonisation via studies and analysis prepared by the different ports for knowledge transfer, LNG know-how through joint meetings and seminars, as well as training using an excellent course for project partners which will be available as a common standard for further use by port community members (port authorities, terminals, stevedores, pilotage and towing companies, forwarders, etc.) With the addition of the partners of the LNG in Baltic Sea Ports projects, an extensive network of ports will be established with planned facilities for LNG bunkering in the Baltic region — 9 Core and 2 Comprehensive ports representing a significant achievement in meeting the future clean shipping strategy in the Baltic Sea region and the EU.

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1

Danish rail projects

Rail Net Denmark (Banedanmark)

2012-DK-20013-S • Scandinavian-Mediterranean Corridor



Denmark is committed to the ambitious and comprehensive development of railway infrastructure to benefit the transport of people and goods within the internal market. Located geographically at the intersection of Scandinavia and Central Europe, Denmark is working in close collaboration with partners and stakeholders to implement the Scandinavian-Mediterranean Corridor. The projects listed below, comprising a selection of impending Danish investment, will provide significant increases in capacity, improved safety, as well as shorter and more reliable travel times. The projects will ensure sufficient, long-term operating capacity in accordance with the projected increase in rail freight. Several projects also provide vast improvements of the Danish railway hinterland connections to the Fehmarnbelt Tunnel.

- New High Speed Line Copenhagen-Ringsted
- Ringsted-Fehmarn: The railway connecting Europe
- New Storstrøm Bridge
- New double track Vamdrup-Vojens
- New Railway Line on Western Funen
- Capacity increase of the Øresund railway line connections at Copenhagen Airport (Kastrup)
- The Danish Signalling Programme
- The Danish Electrification Programme

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2 UNIFE - The European Rail Industry • ERTMS – The European Rail Traffic Management System

UNIFE represents the European Rail Industry in Brussels since 1992. The Association gathers over 80 of Europe's leading large and medium-sized rail supply companies active in the design, manufacture, maintenance and refurbishment of rail transport systems, subsystems and related equipment. UNIFE also brings together 15 national rail industry associations of European countries. UNIFE members have an 84% market share in Europe and supply 46% of the worldwide production of rail equipment and services.

UNIFE represents its members' interests at the level of both European and international institutions. On the technical side, UNIFE works on the setting of interoperability standards and coordinates EU-funded research projects that aim at the technical harmonisation of railway systems. To this end, UNIFE is one of the supporting bodies of the European Railway Agency. Furthermore, UNIFE has established itself as a trusted partner of the European Institutions in all matters related to rail and transport. The European Railway Traffic Management System (ERTMS) is a major industrial project developed by eight UNIFE members — Alstom Transport, Ansaldo STS, AZD Praha, Bombardier Transportation, CAF, Mermec, Siemens Mobility and Thales — in close cooperation with the European Union, railway stakeholders and the GSM-R industry.

ERTMS aims at replacing the different national train control and command systems in Europe. The deployment of ERTMS will enable the creation of a seamless European railway system and increase European railway's competitiveness. UNISIG is an industrial consortium which was created to develop the ERTMS/ETCS technical specifications. As an Associated Member of UNIFE, a recognised stakeholder, UNISIG actively contributes to the activities of the European Railway Agency in the field of ERTMS/ETCS technical specifications. Furthermore, UNIFE in cooperation with its members (and UNISIG) is involved in the TEN-T project titled Facilitating and Speeding up ERTMS 2nd Phase.

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Rail Baltica

RB Rail AS Latvia, Lithuania, Estonia

North Sea-Baltic Corridor

Rail Baltica is the largest infrastructure investment project in the Baltics. More than 700 km of a completely new, fully interoperable double track electrified railway line between Tallinn via Riga to Kaunas, with an extension to Vilnius and the Lithuanian-Polish border will be built by 2025. Rail Baltica will boost growth and integration, create thousands of new jobs and dramatically reduce the ecological footprint of transport in the region. It will also cut by half the travel time between the major cities. More than 10 million tonnes of freight are expected to shift yearly from road to rail.



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Brenner Base Tunnel project

BBT SE

Scandinavian-Mediterranean Corridor

The Brenner Base Tunnel: A new link through the Alps

The Brenner Base Tunnel is a railway tunnel running from Innsbruck, Austria to Fortezza, Italy. Together with the existing Innsbruck bypass, it is 64 km long (55 km without the bypass). Far below the Brenner Pass, the longest underground railway connection in the world is being built. The Brenner Base Tunnel is considered a pioneering engineering achievement of the 21st century and will lead to a marked improvement in the travel and transportation systems in the heart of Europe.

The tunnel system

The Brenner Base Tunnel consists of an exploratory tunnel, two main tunnel tubes and four lateral access tunnels, located in Ampass, Ahrental and Wolf near Steinach am Brenner (Austria) and Mules (Italy). The four lateral access tunnels connect the tunnel tubes to the surface. During the construction phase, they are used for logistics, to move the spoil via the access tunnels to the disposal sites. At the same time, all material deliveries for the construction of the tunnel (concrete, iron, tubing) come in through the access tunnels.

Between Innsbruck and Fortezza two single-track main tunnels are planned at a distance of 40 to 70 meters from each other. Smaller tunnels connecting the two main tubes are located every 333 m for logistics and emergency rescue. One special feature is the unbroken exploratory tunnel, which is centrally located twelve metres below the two main tunnels. The exploratory tunnel is meant for geological prospection, as a service and logistics tunnel during the construction phase and as a maintenance and drainage tunnel during the operational phase. Overall, the proposed tunnel system of the Brenner Base Tunnel is comprised of approximately 230 kilometres of tunnels.

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INDOOR EXHIBITION FLOOR PLAN

CONFERENCE AND EXHIBITION 2 FLOOR

scale



HALL 2: European Commission, Agencies & Joint Undertakings

- A - European Commission - DG MOVE
- B - TENtec Information System
- C - Innovation & Networks Executive Agency (INEA)
- D - European Railway Agency (ERA)
- E - SESAR
- F - Fuel Cells & Hydrogen Joint Undertaking

HALL 2: Innovation, Inland Waterways, Ports/Maritime & Others

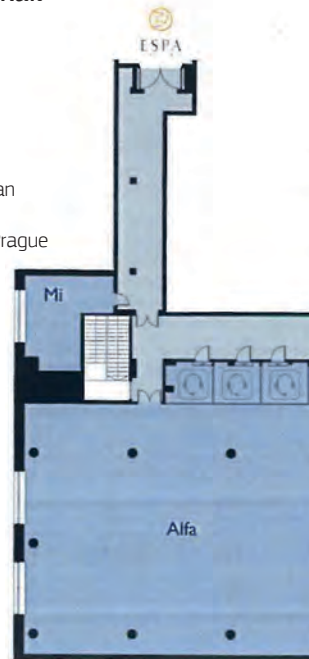
- 1 - SEA TERMINALS project
- 2 - Inland waterway infrastructure initiatives
- 3 - Inland waterways in Northern Italy
- 4 - LNG Masterplan for Rhine-Main-Danube
- 5 - Freeport of Riga/City of Riga
- 6 - Baltic SO2lution project
- 7 - vialisbon
- 8 - BioGaC project
- 9 - Electric Vehicle infrastructure projects
- 10 - HyER
- 11 - HIT-2-Corridors project
- 12 - Seine-Scheldt European Waterway project
- 13 - York Street interchange project
- 14 - EuroVelo - European Cyclists' Federation
- 15 - Trimodal Port of Freudenu/Vienna projects

HALL 1: Ports & Maritime

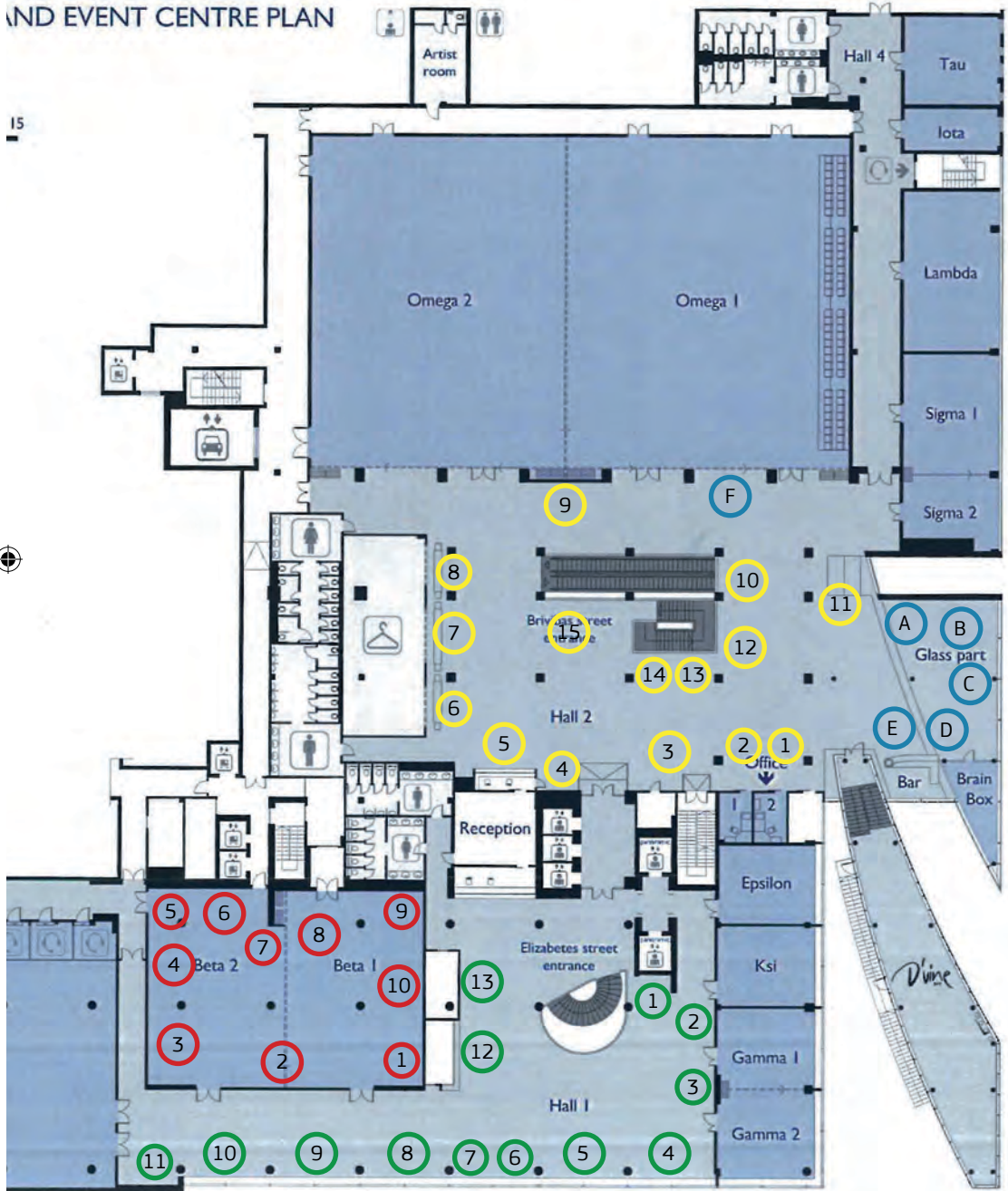
- 1 - SmartPort projects at the Port of Hamburg
- 2 - Pilot deployment of scrubbers on general cargo vessels
- 3 - Port of Dunkerque
- 4 - PPP project Amsterdam Lock
- 5 - REWEC 3 study
- 6 - FAMOS project
- 7 - MONALISA 2.0 project
- 8 - WINMOS project
- 9 - CLYMA project
- 10 - WiderMos, AnNa, B2MoS projects
- 11 - GATE project
- 12 - POSEIDON MED project
- 13 - LNG In Baltic Sea Ports projects

BETA ROOMS 1 & 2: Rail

- 1 - Danish rail projects
- 2 - UNIFE/ ERTMS
- 3 - Rail Baltica
- 4 - Brenner Base Tunnel project
- 5 - RFC 6 & RFC Atlantic Corridor
- 6 - RFC 8 North Sea-Baltic
- 7 - RFC 2 North Sea-Mediterranean
- 8 - RFC Rhine-Alpine
- 9 - High speed rail line Dresden-Prague
- 10 - The Fehmarnbelt Tunnel



AND EVENT CENTRE PLAN



5

Rail Freight Corridor Mediterranean (RFC 6)

EEIG for Rail Freight Corridor 6

Rail Freight Corridor Atlantic

EEIG Atlantic Corridor



Rail Freight Corridor 6 (RFC 6) - Mediterranean is one of the main axes of the European Commission strategy to develop a network of RFCs to strengthen the competitiveness of international rail freight transport. RFC 6 crosses five countries (Spain, France, Italy, Slovenia, Hungary) and involves eight members from infrastructure managers and allocation bodies (ADIF, TP Ferro, SNCF Réseau, RFI, SŽ, AZP, MÁV, VPE). RFC 6 opened in November 2013 and it is now fully operative and market oriented.

In the near future, RFC 6 will also be extended to Croatia. Its +7,000 km length already stretches from Almería (south of Spain) to Záhony (Hungary at the border with Ukraine), connecting the most important ports of southern Europe with eastern European countries and Ukraine.

RFC 6's aim is to offer a quality service for international rail freight transport. Its main goal is to relaunch rail freight transport for medium and long-term distances, improving its efficiency, diverting long-term traffic from other modes of transport and guaranteeing a "greener" way for freight transport. The Corridor One-Stop-Shop is the single contact point for requesting and receiving information on rail freight capacity, and allows simple and fast booking of international high quality paths. Since 2013, in only two years, the number of Corridor requests has increased more than 100%. RFC 6 management and members are fully committed to fulfil customer needs in order to actively support the development of international rail freight transport.

The goal of the **Rail Freight Corridor Atlantic** is to increase the competitiveness of European rail freight transport with our partners, by offering: more capacity, higher performance, better information. The Atlantic Corridor (the former Rail Freight Corridor 4 Atlantic) includes from November 2013 the existing railway lines and planned itineraries between Sines/Setúbal/Lisbon/Aveiro/Leixões - Algeciras/Madrid/Bilbao - Bordeaux/Paris/Le Havre/Metz/Strasbourg - Saarbrücken/Mannheim, crossing the international borders of Vilar Formoso/Fuentes de Oñoro, Elvas/Badajoz and Irun/Hendaye. Furthermore, an extension to Germany is foreseen by two branches - one to Mannheim and the other up to the French/German border at Strasbourg - and should be operational by November 2016.

The mission of the Atlantic Corridor covers the management of existing infrastructure, without additional investments, through centralised management of capacity allocation, traffic management and customer relationships. The Corridor also acts as a coordination platform between Portugal, Spain, France and Germany concerning infrastructure investments, overcoming technical and operational barriers, promoting interoperability and, ultimately, increasing the competitiveness of rail freight. The involved infrastructure managers are Infraestruturas de Portugal (PT), ADIF (SP), SNCF Réseau (FR) and DB Netz AG (DE).

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6

Rail Freight Corridor North Sea-Baltic (RFC 8)

The RFC North Sea-Baltic Office

The **North Sea-Baltic Rail Freight Corridor (RFC 8)** was established on the basis of EU Regulation 913/2010 concerning a European rail network for competitive freight. The Corridor runs through six EU Member States and involves six infrastructure managers and one allocation body: The Netherlands (ProRail), Belgium (Infrabel), Germany (DB Netz), Czech Republic (SŽDC), Poland (PKP PLK S.A.), Lithuania (LG, VGI). The Corridor will become operational as of 10 November 2015 and connect six great harbours of the North Sea (Antwerp, Rotterdam, Amsterdam, Wilhelmshaven, Bremerhaven and Hamburg) with the centre of the Continent. As a tool for increasing the competitiveness of rail freight transport, the Corridor will offer two products:



1. Pre-arranged Paths (PaPs) for the annual timetable are dedicated capacity for international rail freight, published annually in mid-January catalogue in the middle of January of each year for the following timetable. PaPs are defined in accordance with specific parameters such as load, length or locomotive type and are organised and presented in logical geographical sections. The PaP catalogue is displayed transparently in the IT tool and provides a basis for international train path requests.

2. Reserve capacity (RC) for the ad-hoc traffic on the Corridor will be offered by indicating a guaranteed contingent of "capacity slots" for international freight paths per day/section. After the annual timetable creation, RC will be displayed in an updated path catalogue on the Corridor website, available from two months before the timetable change to 30 days before train departure.

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7

Rail Freight Corridor North Sea-Mediterranean (RFC 2) GEIE Rail Freight Corridor 2

The Rail Freight Corridor North Sea-Mediterranean (RFC 2) is a freight-oriented route connecting The Netherlands, Belgium, Luxembourg, France, Switzerland and soon the United Kingdom. It links main European ports (Antwerp, Rotterdam, Dunkirk, and shortly Zeebrugge and Marseille), passing through major industrial areas until reaching Lyon and Basel as gateways to southern Europe. The Corridor provides customers the following advantages:



EASIER: A single contact to supply quality paths to railway undertakings and other entities (shippers, freight forwarders and combined transport operators) that can request capacity for international traffic, through the Corridor’s one-stop-shop and international PCS (Path Coordination System) booking system. This capacity is in the form of “off the shelf” paths (Pre-arranged Paths) reserved for international freight and can be requested either for the next annual timetable or at short term notice for more flexibility.

FASTER: A high level of performance to improve traffic quality. Trains running on the Corridor can benefit from new services. In order to increase punctuality, train performance is measured and analysed. When a train deviates from its planned schedule, the European TIS (Train Information System) tool provides detailed data on the delay. Railway undertakings therefore benefit from a global view of the punctuality of their trains at the European level.

SAFER: An optimised network. By improving the interoperability and collecting information on investment across borders, the lines of the corridor are optimised. The corridor is currently deploying the interoperable European Railway Traffic Management System (ERTMS) on the principal lines of the former Corridor C. This system is designed to replace national ones, which impose specific equipment on locomotives running on several networks.

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8

Rail Freight Corridor Rhine-Alpine

EEIG Corridor Rhine-Alpine (EWIV)



The **Rail Freight Corridor Rhine-Alpine** is the most important European axis for rail freight transport. It links the Dutch and Belgian seaports with the Mediterranean, and runs through the heart of the EU with its most significant conurbations and industrialised areas. This north-south axis connects strong economic urban centres such as Rotterdam, Amsterdam, Antwerp, Zeebrugge, Ghent, Duisburg, Cologne, Mannheim, Basel, Zurich, Milan and Genoa as the corridor cuts through the Netherlands, Belgium, Germany, Switzerland and Italy. This corridor was one of the first implemented at European level. Its outstanding geographical position and large annual

volume (700 million tonnes) of transported goods makes the Rhine-Alpine Corridor a key initiative for international rail freight transport for the European market.

The Corridor is focusing on the introduction of measures with high potential which can be quickly realised with a minimum of funds. This includes the coordination of operational conditions and processes, proactive and integrated performance management, coordination of works, and the establishment of the Corridor One-Stop-Shop (C-OSS) as the single point of contact for the allocation of international paths. A further element is the elimination of infrastructure bottlenecks using properly coordinated measures to bring about the desired capacity increase.

You are invited to our stand, where you may gather information regarding the core corridor topics: Corridor Performance Management, Corridor One-Stop-Shop (C-OSS), Customer Information Platform (CIP). We will provide you with brochures and a live presentation of CIP showing all features of this internet based information platform.

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9

Preliminary Planning Services - new high speed rail line Dresden-Prague

Czech Ministry of Transport • Saxon State Ministry for Economic Affairs, Labour and Transport

2013-EU-22004-S • Orient/East Med Corridor



The **German-Czech rail link** through the Elbe Valley is an essential part of the Orient/East-Med Core Network Corridor. Besides linking Dresden and Prague, the new railway line has high importance for international traffic from the North and Baltic Sea ports to the south of Europe, connecting nine EU Member States. Approximately 200 trains use this rail connection every day, and it is forecast that the capacity of this railway line will be exhausted in the medium term. An expansion of the existing infrastructure is not feasible, due to geographic conditions and environmental protection in the Elbe Valley. Therefore the German Free State of Saxony and the Czech Republic are committed to a new high speed rail line between Dresden and Prague outside the Elbe Valley, which is suitable for mixed (freight and passenger) traffic.

The main objective of the new high speed rail line is to reduce the passenger travel time between Dresden and Prague from the current 2+ hours down to one hour and increase the capacity for freight transport. The TEN-T funded study, carried out by the Czech Republic and the Saxon State Ministry for Economic Affairs, Labour and Transport looks at the cross-border section between Heidenau (Germany) and Ústí nad Labem-Litoměřice (Czech Republic). In particular, it will examine the environmental, operational, economic, legal and time requirements necessary for the new high speed line.

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10

The Fehmarnbelt Tunnel

Femern A/S

TEN-T Priority Project 20 • Scandinavian-Mediterranean Corridor

The **Fehmarnbelt Tunnel** is northern Europe's largest transport infrastructure project. The 19 km immersed tunnel will connect the German island of Fehmarn to the Danish island of Lolland through a double-track electrified railway and a four-lane motorway. On 28 April 2015, the Danish Parliament adopted the Construction Act with a broad majority of eight out of nine parties. The German approval procedure is currently approaching its final phase leading up to the issuing of the approval.

Facilitating growth and competitiveness, the Fehmarnbelt Tunnel will reduce travel time, increase capacity and ensure a higher reliability on the direct route from Scandinavia to Continental Europe, since the tunnel is not exposed to weather conditions. The travel time for passenger trains between Hamburg and Copenhagen will be shortened significantly from approximately 4½ hours to about 2½ hours. For cars and lorries, the fixed link will mean a total time savings of one hour compared to the present ferry service.

The Fehmarnbelt Tunnel will thereby contribute to a modern and efficient transport corridor network, linking cities and regions — which is an important step towards more evenly spread growth. Fostering the mobility of people and goods will reinforce the internal market and create a more integrated, open and competitive Europe.



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Femern
Sund ≈ Bælt

1

Smart, Energy Efficient and Adaptive Port Terminals - SEA TERMINALS

Valenciaport Foundation (Spain) • Port Authority of Valencia (Spain) • Noatum Ports SLU

2013-EU-92058-5



SEAterminals

The TEN-T funded **SEA TERMINALS** action takes the concepts developed in the GREENCRANES project as a basis and goes beyond to look at how energy efficiency and GHG emissions reduction can be deployed in the ports industry. SEA TERMINALS will encompass three different approaches which configure the current and short-term future of port container terminal evolution towards a low carbon operative model. The project will introduce smart energy management, LNG as alternative fuel, as well as hybrid and full electric concepts as main drivers to reduce the environmental impact of the European port container industry.

The project will introduce an innovative concept of Smart, Energy-Efficient and Adaptive Management System (SEAMS) jointly with the development of eco-efficient prototypes based on alternative fuels and electrically driven machinery. These developments will be tested at the Port of Valencia (Spain) by the end of 2015. LNG as a fuel will also be a remarkable solution to decrease pollutant emissions at port container terminals. A set of LNG-powered prototypes will be tested at the Port of Livorno (Italy). SEA TERMINALS is a market-side innovation action, based on low carbon emission technologies, thus facilitating the evolution towards smart, energy-efficient and adaptive strategic facilities.

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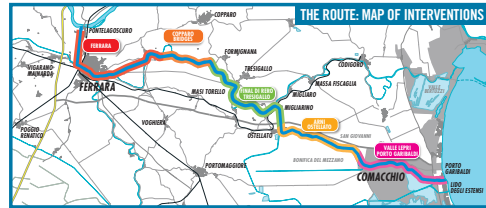
2

Inland waterway infrastructure initiatives

Province of Ferrara - Emilia-Romagna Region, Italy

2012-IT-91145-P • 2013-IT-91064-S

The Province of Ferrara - Emilia-Romagna Region (Italy) is involved in two TEN-T co-financed actions which are both aimed at improving its **waterway infrastructure** and finding the technical solutions to remove four bottlenecks hampering the growth of inland waterway transport in the region.



1. "Adjustment works of the Ferrarese waterway and connection with the Padano-Veneto waterway system" (2012-IT-91145-P): This project relates to a series of interrelated works activities to improve the fairway conditions and capacity of the Ferrarese Waterway by upgrading it to Class Va. As an integral part of the northern Italy waterway network, the Ferrarese Waterway plays a key strategic role in the development of both the region around the Po delta and the wider Italian economy as a whole. These works include specific activities to adjust the existing section of the Pontelagoscuoro basin along the Boicelli Canal up to Po di Volano until Porto Garibaldi. The works are divided into seven lots, each focusing on specific activities in different sections.

2. "Ferrarese Waterway and connection with the Padano-Veneto waterway system: study for the removing of the bottleneck "City of Ferrara"" (2013-IT-91064-S): The economic districts and industrial areas located along the Po river have created a rising demand for transport services and infrastructure upgrades to create a better transport flow to the Adriatic Sea. Although large investments have been made in this area in the recent years, important transport bottlenecks on the waterways remain. This study will focus on how to remove four bottlenecks hampering the inland navigation along the Po of Volano: the existing railway bridge on the Bologna-Padua line near Ferrara railway station, as well as and the bridges of Porta Reno, San Giorgio and Prinella. The study is part of a larger project, described above, aiming to upgrade the existing infrastructure and develop the missing links of the northern Italy inland waterway transport network from Mantua to Ravenna. Our stand will show these 2 TEN-T projects, through relevant facts, maps, pictures, data & video.

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3

The Evolution of Inland Waterways in Northern Italy: studies and actions

AIPo - Interregional Agency for the Po River

2012-IT-91076-S • 2013-IT-91061-S • Mediterranean Corridor



The inland waterway system of the Po river and connected canals is part of the Mediterranean Core Network Corridor. AIPo, as the operating organisation for the four Po river regions (Lombardy, Emilia-Romagna, Veneto, Piedmont), carries out studies, projects and actions for the development of inland waterways in Northern Italy, including the two following initiatives:

1. The “365 Po River System - Preliminary

Project to improve navigation from Cremona Port to the Adriatic Sea” (total budget €2 million, co-financed 50% by EU/50% by Lombardy, Emilia Romagna, Veneto regions and with AIPo funds) aims to increase knowledge on the hydraulic characteristics of the Po river and upgrade it for navigation, considering two complementary solutions: regulation and readjustment to free stream. Regulation provides for the construction of 5 navigation locks and associated hydroelectric energy plants between Cremona and the Provinces of Rovigo and Ferrara. It will ensure commercial navigability 365 days a year and solve various problems related to the morphological features of the river, thanks to the stabilisation of water levels. A cost-benefit analysis and socio-economic study will assess the possibility of covering construction costs (€2 billion) using a project financing scheme. With the production of energy from renewable sources, the intervention would be financially self-sustaining, with a business plan time frame of 30 years. Readjustment would extend the section of the Po river from the mouth of the Mincio river to the Adriatic Sea. Total construction costs are estimated to be €200 million.

2. The “Feasibility study for the new Milan-Cremona navigable canal” (total budget €1 million, 50% EU co-financing/50% by AIPo) looks at connecting the area east of Milan to the canal that currently links the inland port of Cremona with the town of Pizzighettone. The new waterway, which is also strategically located at the intersection of major road and rail axes, will allow the navigation of boats of European ECMT Class V, up to 110 m long and 11.40 wide, with a theoretical load from 1600 to 3000 tonnes. The environmental impact of the work would be limited as it would use the existing Muzza Canal, with the necessary adjustments, and would bring benefits for the territory also in terms of tourism and recreation. The estimated cost for the construction of the new waterway is approximately €1 billion.

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4

LNG Masterplan for Rhine-Main-Danube

Pro Danube Management GmbH (coordinator)

2012-EU-18067-S • Rhine-Alpine Corridor

The objective of the **LNG Masterplan for Rhine/Meuse-Main-Danube project** (2013-2015), co-financed by the TEN-T Programme, is to facilitate the deployment of LNG as an eco-friendly alternative fuel and a new commodity for the inland navigation sector. The project functions as a cooperation platform for authorities and industry stakeholders bringing together 33 partners from 12 EU Member States and one associated partner from Switzerland. LNG Masterplan:

- Provides insights into current framework and trends related to the LNG market (LNG sourcing, pioneer customers) covering the Rhine and Danube region.
- Helps to remove market barriers by contribution to the elaboration and introduction of technical provisions necessary for creating an encouraging regulatory framework for safe use and handling of LNG (input for regulatory bodies such as EC, CCNR, UN/ECE and national authorities).
 - Delivers a large number of advanced technical concepts for new and retrofitted vessels being propelled by LNG and transporting LNG and deploys some of them i.e. LNG propelled retrofitted container vessel Eiger Nordwand (Danser), chemical tanker Sirocco (Chemgas) and Ecoliner (Damen), LNG/MGO bunker vessel (Argos Bunkering), LNG inland carrier (LNG E-motion).
- Prepares concepts for deployment activities in the field of small-scale LNG facilities and enables deployment of the first LNG terminal in the Danube region in Ruse (Bulgaria) by Bulmarket.
- Delivers curricula, training materials and simulators and pilot classes for several staff categories (crew members, terminal workers, bunkering and management personnel, competent authorities, logistics students).
- Elaborates a comprehensive strategy with a roadmap for concrete measures for the deployment of LNG as fuel for inland vessels and as cargo, presented in a policy advocacy document "LNG Masterplan – Guidelines and Recommendations", which aims to provide guidance for the regulatory bodies and national/regional decision makers in their LNG related activities and policy actions.



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A3PS (AT), Erste Group Bank (AT), EVN (AT), FHOO Forschungs- & Entwicklungs GmbH (AT), Pro Danube Management (AT) – project coordinator, Gemeentelijk Havenbedrijf Antwerpen (BE), Bulmarket DM (BG), Asociace NGV (CZ), DST (DE), DNV-GL (DE), Universität Duisburg-Essen (DE), Port autonome de Strasbourg (FR), Chemgas Barging (LU), Argos Bunkering (NL), Chemgas Holding (NL), DCL Barge (NL), Havenbedrijf Rotterdam (NL) – Rhine region coordinator, Stichting STC-Group (NL), Kooiman Marine (NL), LNG E-Motion (NL), APDM Galati (RO), CERONAV (RO), NAVROM Galati (RO), Transport Trade Services (RO), University of Craiova (RO), Danube LNG (SK), Vyskumný ústav dopravný (SK), Staatliche Rhein-Neckar-Hafengesellschaft Mannheim mbH (DE), LINZ AG, (AT), Italian Republic (IT), Schönherr Rechtsanwälte (AT), DAMEN Shipyards (NL), Bernhard Schulte (CY), Port of Switzerland (CH) as a non-TEN-T funded partner.





Freeport of Riga/City of Riga

2012-LV-91079-S • North Sea-Baltic Corridor

The **Freeport of Riga**, managed by the Freeport of Riga Authority, is the largest port in Baltic States in terms of cargo turnover. In 2014, the cargo turnover reached 41.1 million tonnes. The port is multifunctional and offers year round navigation. The main types of cargo handled at the port are coal, oil products, containers, timber, mineral fertilizers and metals.

Due to its geographical location, 1520 mm rail gauge and excellent hinterland connections, the Freeport of Riga serves as an efficient hub for multimodal transit cargo transport between EU countries and Russia, CIS and the Far East. It also offers advantages provided by the Free Economic Zone regime.

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6

Into the future - Baltic SO₂lution project

Wärtsilä Finland Oy (coordinator) • North European Oil Trade Oy •
Terntank Rederi A/S • Tärntank Ship Management AB

2013-EU-21003-5



The **Baltic SO₂lution project** is a pilot action that introduces an innovative and environmentally friendly LNG engine system both for new buildings and retrofits of ships. It aims to reduce emissions and increase energy efficiency of the entire supply chain of oil products in the Baltic Sea. It increases LNG demand and deployment of LNG bunkering infrastructure in the Baltic Sea, as well as connects 21 ports in the region. Activities include the development and initial installation of the new innovative low-speed two-stroke dual-fuel engine system, and analysis of its effects on the product sustainability and LNG availability in the 21 ports.

Other activities of the action include a feasibility study of the low emission LNG engine system, supply chain case study and availability of LNG in Baltic Sea ports, LNG engine system procurement process, test bed installation study, test bed installation of the LNG engine system for a new building and dissemination and

project management.

The project is a part of the Zero Vision Tool collaboration method and project platform for a safer, more environmentally friendly and energy efficient maritime transport and will share experiences and find common, workable and sustainable solutions. It supports the objectives of the Global Project, which aims at finding solutions to reduce emissions from maritime transport in a safe, environmentally sustainable and technically viable way. The Global Project is a joint venture between the beneficiaries and other stakeholders to develop and test a new LNG engine system for new buildings and retrofits of ships, as well as to find other measures to increase energy efficiency of maritime transport. The follow-up application (Solution4Future) was submitted for the 2014 CEF Transport Call to introduce more comprehensive measures for energy efficiency and emission reduction (NOX, CO₂ and PM).

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www.zerovisiontool.com/projects/BalticSO2
www.wartsila.com
www.neot.fi/en/neot-en/north-european-oil-trade-en
www.terntank.com



BALTICSO₂LUTION



viaLisbon Port of Lisbon

Atlantic Corridor

In order to reorganise the existing port capacity, the Port of Lisbon initiated an integrated project for the exploitation of the different assets in the Tagus river estuary. The **viaLisbon initiative** aims to develop the role of the Port of Lisbon as a key multimodal platform for the Atlantic. Special emphasis was given to the south bank, namely in the areas of Barreiro and Seixal. The project foresees revamping a cluster of terminals in these areas and the redevelopment of multimodal and logistics contiguous area. It also aims to “clean up” several areas with relevant environmental liabilities. viaLisbon will also support improvements to the Port’s road, rail and river accessibility, as well as its logistic integration with first and second line logistic platforms.

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8

BioGaC: Biomethane and LNG in the North for growth and competitiveness in the EU

Municipality of Skellefteå (lead partner)

2013-SE-92044-S



The **BioGaC project** aims to upgrade and extend the existing alternative fuel infrastructure in order to fill in a missing link of the TEN-T network and enable the supply of safer, greener and cheaper CNG. We are encouraging the use of CNG and creating a market opportunity for CNG/LNG investors. Creating this market for biomethane where there is no natural gas grid requires work. Northern Sweden is such an area. During the course of the project, we will be evaluating our work to build up new stations and improve existing filling stations along the Norrland coast. The results will be used to develop best practice for new actors in the CNG market and support decision-making for other possible CNG filling stations.

The project will also provide solutions on how to accelerate market development of both CNG and LNG infrastructure along roads in specific regions where the distance between urban centres and gas distribution grids is too long, or where such a grid does not exist. The BioGaC project is producing a manual describing how to create an effective infrastructure for biomethane, focusing on the market and the user. Through comprehensive interviews with drivers of biogas cars, we have studied their needs and experiences. Based on this, students from the University of Industrial Design designed filling stations customised for the needs of the everyday user. The collaboration on biogas that already exists in Sweden will be reinforced and we are also seeking to extend the network and collaboration to other European countries with similar conditions and challenges as ours.

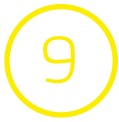


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Electric Vehicle infrastructure projects

ELECTRIC • Greening NEAR • CEGC • Rapid Charge Network (RCN) • Corri-Door • Green Hubs

The electrification of transport is vital in reducing both oil dependence and CO₂ emissions, while improving air quality in cities. The direct synchronicity between electric mobility uptake and infrastructure development is already being reported from the findings of seven current TEN-T supported Electric Vehicle infrastructure projects which have joined together to attend TEN-T Days to showcase their joint approach and findings to date. The development of fast charging networks for electric vehicles are essential in promoting electric mobility for customers and the projects are showcasing their innovative solutions to cross border implementation of new technologies. The seven projects are supported by a large range of partners including major OEM partners, Nissan, BMW, Renault and VW; national governments, e-mobility operators, utility companies and academic organisations.



ELECTRIC • 2013-EU-92043-S • www.electric-project.eu • www.clever.dk • <http://fastned.nl/nl> • www.oresundskraft.se • www.vde.com/de/Seiten/Homepage.aspx • www.abb.com

ELECTRIC aims to create an open access fast charging corridor of 155 chargers along major motorways connecting Sweden, Denmark, Germany and the Netherlands. This corridor will strengthen the TEN-T network by the following means: Filling the missing link for e-mobility along major motorways with heavy road traffic and the highest density of electric vehicle owners; boosting innovative recharging technology, including ITS (high-end multi-standard software-based recharging infrastructure provided by ABB); introducing new services to electric vehicle drivers to overcome range anxiety, with user-friendly payment systems; facilitating an increasing in intermodal transport with suitably located charging and using CO₂ friendly energy as much as possible, e.g. via solar roofs.



Greening NEAR • 2013-DK-92032-S • www.eon.dk/e-mobility

Greening NEAR aims to clearly demonstrate the market readiness and innovative consumer oriented business models of fast-charging technologies. This will be done through three intensive studies and by deploying up to 40 multi-standard fast-charging stations along the Core Network Corridors of Denmark, southern Sweden and northern Germany. The project will expand on pan-European e-mobility infrastructure developments, by reviewing existing efforts and following European standards of charging infrastructure and open payment services. The goal is to integrate electric car services with the greater e-mobility networks of Europe, making a solid contribution to the large-scale introduction of electric vehicles.



CEGC • 2013-EU-92069-S • www.cegc-project.eu

CEGC is driven by the emerging need for decarbonisation of EU road transportation and by the related interoperability and synergy opportunities. CEGC will

focus on the roll out of technologies ready for mass market deployment and carry out studies examining the preparation required for the roll-out that will be ready in the mid-term thereby opening the market for an even larger customer base in the future. CEGC will deploy 115 high power charging stations in Austria, Croatia, Germany, Slovakia, and Slovenia. At each charging station, service for vehicles with AC/Type 2, DC/Combo 2 as well as DC/CHAdeMO interfaces will be provided, thus being compatible with most electric vehicles on the market. All charging stations will form one interoperable network.



Rapid Charge Network (RCN) • 2012-EU-13066-S •

www.rapidchargenetwork.com

RCN is a network of 74 multi-standard, interoperable EV rapid charge points across the UK and Ireland. The project is the first to bring together car manufacturers with universities and utilities to break down one of the main barriers to the uptake of electric vehicles. The network is developed through a number of strands including the development of the multi-standard point, design of the charge station, installation, project management and network operation. One of the key aims of the project is to undertake a study on the impact of the network and the results will be developed into a strategy for the development of similar networks across Europe.



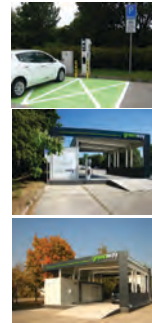
Corri-Door • 2013-EU-92055-S • www.edf.fr • www.renault.fr • www.nissan.fr • www.paristech.fr • www.bmw.com • www.volkswagenag.com

Corri-Door is deploying 200 interoperable and multi-standard (ChaDeMo, AC triphase, CCS) fast charging stations along the main TEN-T axes and highways in France. Compliant with all EVs on the market this network is to be completed by December 2015. Interoperability with other existing French and cross-border networks is being implemented. Commercial operation has started. Viable business models are assessed for recommendations to EC. A roadmap for the rollout of complementary fast charging stations in France and recommendations for cross-border connection will be provided. Corri-Door carried out by EDF and its subsidiary Sodetrel, Renault, Nissan, BMW, VW and ParisTech.

corri-door
recharge rapide pour véhicules électriques

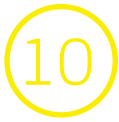
Green Hubs • 2013-SK-92043-S • www.greenway.sk

Economic advantages of EVs will be entirely apparent only when they are deployed for longer distances. Green Hubs will support long distance driving by the construction of two new hubs connecting fast charging and battery swapping technology, which together with already existing hubs form a compact network covering a significant part of Slovakia. The project will study the impact of two different options Fast Charging (FC) versus Battery Swap Station (BSS) technology on the business customer EVs acceptance. The same project will demonstrate the viability of a Service model for EVs deployment, when EV is not directly sold to the customers but rather rented on the pay-per-use basis. This includes comparison of cost competitiveness with ICE cars and customer acceptance of such a service model.



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HyER - Association for Hydrogen, Fuel Cells and Electromobility in European Regions

2011-EU-92130-5

Since 2008, **HyER**, the Association for Hydrogen, Fuel Cells and Electromobility in European Regions, has monitored industrial and regional developments to allow fact-based and effective policy making and accelerate robust deployment channels for applications and infrastructure.

In 2011, it facilitated the development of the first Hydrogen Infrastructure for Transport (HIT) project, co-financed by the TEN-T programme and supported by the responsible ministries of France, Sweden, Netherlands and Denmark.

The HIT project developed a Synchronised Implementation Plan (SIP), based on an analysis of the four National Implementation Plans (NIP) for Hydrogen Refuelling Station (HRS) roll-out in the four participating countries, along a 1000 km corridor from Gothenburg to Rotterdam. The project included the installation of state-of-the-art refuelling technology in pilot stations in The Netherlands and Denmark.

The follow-up HIT2 Corridors project will expand the work on the NIP to Finland, Poland and Belgium and Latvia. Riga will draft an implementation plan for its region. These new plans will build upon experiences from the NIP's of Sweden, Denmark, The Netherlands and France in the HIT project. In this way, a collective learning process will deliver harmonised plans for the future. The new plans will also gain experience from national programmes in Germany (NOW), UK (H2-Mobility) and Norway (HyNor), which are all already well advanced in national hydrogen network planning.

Three new HRS will be deployed along two TEN-T Core Network Corridors: Scandinavian-Mediterranean and North Sea-Baltic. All HRS have different characteristics and specific innovative elements, and all provide essential missing links between the existing HRS along these two Corridors. Germany, Denmark, Sweden, Norway and Finland will be interlinked by two new HRS in Gothenburg and Stockholm. A new HRS in Finland will link Sweden and Finland to the Baltic States. The plans for HRS in Riga will extend the link via Finland towards Poland.

Three complementary studies coordinated by the Dutch Ministry of Infrastructure and Environment will provide much needed insight in various aspects with regards to HRS operations, customer demand and regional and local authority engagement to ensure coordinated planning.

- HRS network operation and business model: this sub-activity looks at the HRS owner perspective and will result in a comprehensive handbook on HRS corridor deployment issues.
- Customer demand management: starting from the customer perspective – providing a toolbox of options for strengthening customer demand.
- Hydrogen corridors integration: seen from the role of cities and regions, an overview of effective measures and lessons-learned for HRS integration in core corridors will be developed.

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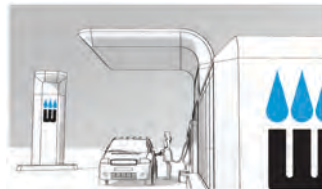
HIT-2-Corridors – Hydrogen infrastructure for transport along TEN-T corridors

Sweco

2013-EU-92077-S • Scandinavian-Mediterranean and North Sea-Baltic Corridors



The overall aim of the **HIT-2-Corridors project** is the harmonised deployment of Hydrogen Infrastructure for Transport (HIT) along two TEN-T Core Network Corridors (Scandinavian-Mediterranean and North Sea-Baltic). It builds upon the results of the previous TEN-T project HIT which ended in December 2014. New infrastructure investments and plans are located along the two Corridors to ensure long distance travel for fuel cell electric vehicles:



1. Studies and plans will be drafted to provide a basis for the preparation of new political propositions for implementation of hydrogen infrastructure deployment and fuel cell electric vehicle roll-out in Finland (study by Woikoski), Poland (study by the Motor Transport Institute), Belgium (study by VWZ WaterstofNet), Riga (study by Riga City Council), Sweden (the existing national study will be complemented with focused regional studies for hydrogen for transport by Hydrogen Sweden).



2. New hydrogen refuelling stations are to be built in Stockholm (by AGA Gas, member of the Linde group), Gothenburg, and Voikoski (both by Woikoski) to kick start the hydrogen network along both road corridors.

3. A strategic analysis on the integration of hydrogen in road corridors is led by Ministry of Infrastructure and Environment of the Netherlands. Communication will be done at the regional, national and European scale by all

partners supported by the coordinator Sweco and Hydrogen Fuel Cells and Electro-mobility in European Regions (HyER). The hydrogen road tour along both Corridors is organised by Hydrogen Sweden. HIT-2-Corridors seeks active interaction with the Corridor coordinators and cities and regions along the Corridors. First mover cities and regions are welcomed to sign up to participate in a reference group to better include their perspectives and needs in the study.

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www.HIT-2-Corridors.eu
www.swecogroup.com/en/Sweco-group/Services/8379/Hydrogen-as-fuel

HYDROGEN INFRASTRUCTURE FOR TRANSPORT
HIT-2-CORRIDORS

12

Seine-Scheldt European Waterway project

Voies Navigables de France • EEIG Seine Scheldt

North Sea-Mediterranean Corridor



The **Seine-Scheldt** link is a European priority project which consists of the construction of a wide-gauge inland waterway link between France, Belgium and The Netherlands in order to provide an operational link between the seaports and inland ports of northwest France and Europe. The project is located in the heart of the North Sea-Mediterranean Corridor and directly connected to three other Core Network Corridors. It has been identified as one of the five most important high European added-value projects in the frame of the Connecting Europe Facility (CEF).

The Seine-Scheldt link aims to increase the reliability of the services offered in order to encourage modal shift. It will develop the hinterland of the seaports by improving or creating multimodal platforms and container terminals with a regional, national and European scope. It will also encourage the ecology and energy transitions by reducing the transport sector's consumption of energy and optimise water management by improving flood management systems. The project also aims to contribute to the deployment of an urban logistics system based on inland navigation. It will connect the major metropolitan areas of the Corridor between the Seine axis and northern France and Europe. It will also improve safety for the users of the waterway transport systems.

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13

York Street interchange project

Department for Regional Development -
Northern Ireland

2011-UK-93016-S • North Sea-Mediterranean Corridor

The **York Street Interchange project** involves the removal of a bottleneck on the North Sea-Mediterranean Core Network Corridor and improvement to hinterland connections to Belfast Port for passengers and freight. This will include the construction of a grade-separated junction at the York Street interchange between the Westlink, M2 and M3 roads on Corridor. The existing junction links the A12 Westlink, the M2 and M3 Motorways and is crucial to the movement of traffic in and out of Belfast and along the Corridor.

The removal of this bottleneck will:

- improve the interconnection between the Core and Comprehensive road networks
- improve the hinterland access to the key regional gateways of Belfast and Larne Ports and Belfast City and Belfast International Airports
- encourage modal shift through enhanced safety and access for non-motorised users and more reliable public transport services.



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www.drdni.gov.uk/yorkstreet

14

EuroVelo - European Cyclists' Federation



About 250 million Europeans cycle regularly, of which 61 million cycle at least once a day. There is a long list of environmental, economic and social benefits associated to cycling. The EU estimates that the economic benefits of cycling to be more than €200 billion a year and that the cycling sector employs 650,000 Europeans. One of the objectives of the **European Cyclists' Federation** is to double cycling by 2020. Currently, 7.4% of Europeans cycle as a daily means of transport and we want that figure to rise to 15% by 2020. If successful, we will save 24 million tonnes of CO2 and create up to 1 million jobs in Europe linked to the cycling sector. EuroVelo, the

European cycle route network, is made up of 14 long distance cycle routes connecting all of Europe - and in many cases, following TEN-T corridors.

The European Parliament asked to recognise EuroVelo and cycling as part of the TEN-T and it was successfully included in the TEN-T Guidelines: "When implementing projects of common interest on the TEN-T, due consideration should be given to the particular circumstances of the individual project. Where possible, synergies with other policies should be exploited, for instance with tourism aspects by including on civil engineering structures such as bridges or tunnels bicycle infrastructure for long-distance cycling paths like the EuroVelo routes." Thus, cycling should not be limited by TEN-T projects, but supported by the main railway and motorway projects. Supporting cycling means developing bike infrastructure which crosses (bridges, subways) or runs along TEN-T Corridors. This could take the form of separate cycle paths and lanes, cycle transport on trains or cycle parking in stations.

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 @ECFEuroVelo
 @EUCyclistsFed



15

Studies and works for the expansion of the trimodal Port of Freudenau/Vienna

Wiener Hafen, GmbH & Co KG

2012-AT-91099-S • 2012-AT-18070-P • Orient/East-Med, Rhine-Danube & Baltic-Adriatic Corridors

The **Port of Vienna**, an intersection for international flows and transshipment between inland waterway, rail and road transport, is the only trimodal logistics location in the Greater Vienna area - therefore offering key advantages for the intermodal transport of goods. Due to its geographical position and its trimodal handling facilities, the Port of Vienna-Freudenau provides the best environment for future expansion. It is linked to the TEN-T network via the main road B14 to the motorway A4 East and Vienna's expressway S1 to the A23 south-east junction. It is also linked to the Austrian Railway network (Donaulände/Donauuferbahn, ÖBB-Strecke 124) and has a direct link to the Kledering central marshalling yard. The current rail connections link the Port to the major ports of Hamburg, Rotterdam and Bremerhaven. Moreover, the Port is linked to the Black Sea via the Danube and to the North Sea via the Rhine-Main-Danube canal.

The Port, which is the largest container handling facility along the Danube river, has a trimodal container handling facility of 12 hectares and consists of three terminals. The container terminals are operated by WienCont, a 100% subsidiary company. In recent years, the increase in container transshipments at the Port has caused bottlenecks, in particular in terms of cargo handling space. Compared to 2010, container handling alone increased by 38% to nearly 442,000 container units (TEU) in 2011. In 2013 the container handling hit the 500,000 TEU benchmark.

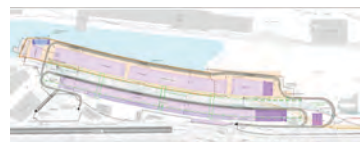
The main objectives of the TEN-T funded action focus on the planning measures required for the expansion of the container handling capacities at the Port by expanding and optimising operational areas and thus increasing the storage capacity and the trimodal handling performance. Since the area of the Port is limited, the expansion will be accomplished through a partial transformation of a port basin into dry land. Through a two-stage transformation (backfilling), additional space of 7 ha will be reclaimed for the expansion of the container handling facilities. The reduction of the port basin will be enabled by new ship technologies. While older ship models had to make a curve when moving forwards in order to turn around, due to their lateral-thrust unit (lateral control system), newer models are able to turn around "on the spot" and thus require significantly less space to manoeuvre. Therefore, a reduction of the water area in the port basin will have no detrimental effects on the water-side handling capacities. Thanks to the additional land-side handling areas, it will be possible to develop operative areas required for the expansion of the trimodal container handling facilities.



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Notes





TEN-T Days 2015

Notes



2015 Connecting Europe Exhibition

Organiser and overall coordination:

EUROPEAN COMMISSION DG MOVE

Herald Ruijters

Mohammadi Laazzouzi

INNOVATION & NETWORKS EXECUTIVE AGENCY

Kara Baptista

Francesco Falco



TENTDAYS.EU



