era-net TRANSPORT
mindfuel at the heart of transport research

NEWSLETTER

MAY 2016

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THE END OF ENTIII PROJECT BUT NOT THE END OF ENT

Era-net Transport (ENT) has been active with launching joint pooled funding collaborations in transport research and innovation for 12 years. ENTIII as a CSA project within the EU Framework Program(s) has now come to an end, officially last 30th April when the last contract with the EC expired.

This means this is now the final ENTIII newsletter as a CSA project. We want to share with you some of the outcomes of the ENT Final Conference, which took place at TRA2016 in Warsaw on 18th April. These comprise experience and know-how on tuning and gearing national/regional programmes to transnational collaborations and the main results of these collaborations resulting in eight research projects funded under the ENT Flagship 2013 Call "Future Travelling".

This does not mean the end of transnational cooperation in the field of transport. Continue reading and discover the future of ENT!

AN ERA OF ERA-NET TRANSPORT AND ITS ACHIEVEMENTS

The ENT framework was founded in April 2004. Already since the early nineties EU member states had felt a growing need for better coordination and transnational collaboration in transport research and started (ad hoc) initiatives. It was only in April 2004 that this transnational collaboration was structured and in addition co-financed by the European Commission (EC) through a CSA (Coordination and Support Action). Going through three successive CSAs, in April 2016 ENT celebrated its 12-year anniversary and at the same time the completion of its 3rd and final CSA with the EC.

This project has received funding from the European Union's Seventh Framework Programme for research, technological development and demonstration under grant agreement no. 321525.

Looking back on 12 years of transnational collaborations in transport research we can state that ENT has built up quite a legacy and track record. From 2004-2012, in the first two CSAs (2004-2012), ENT has set up and launched close to 50 million euro of transnational funding initiatives in transport research. In the third and final CSA (November 2012-April 2016) ENT gathered another 50 million euro of transnational funding co-launched initiatives, totalling some 100 million euro since 2004. In addition, ENT has yielded a long list of other general achievements. To mention a few:

Peter Wilbers, ENTIII project coordinator, opened the Final Conferences

- Significant geographical expansion: 24 partners from 19 countries/regions, stretching past the boundaries of the European Union (Norway, Belarus) and even beyond the geographical limits of Europe (Turkey, Israel)
- Pooling scarce resources and corresponding leverage effect boosting pan-European transport research results
- Pooling supplementary/complementary skills and expertise and mutual learning
- Standardised and improved evaluation and monitoring procedures and instruments and improved negotiation and contracting process for research projects (for both virtual and real common funding pot)
- Delivery of supportive tools and database, e.g. ENT-platform

ENTIII has achieved specific tangible results during this last CSA period. Goals for ENTIII were the exploration and launch of 4 small- and medium-sized funding initiatives and two large Flagship Calls. For the first ones, position papers have been drafted regarding six different transport research topics. Eventually only one of them concerning 'Sustainable logistics and supply chains' took off and even evolved into a Flagship Call.

Regarding the Flagship Call funding initiatives ENTIII achieved the following successes:

- Future Travelling: launched in 2013, involving 10 million euro, resulting in 8 transnational transport research projects
- Sustainable Logistics and Supply Chains: launched in 2015, involving 10 million euro, resulting in 7 transnational transport research projects
- In addition, the following ENT spin-offs have been triggered:
    - ERA-NET Plus Electromobility+: launched in 2011, involving 20 million euro, resulting in 18 transnational research projects

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- ERA-NET Cofund Infravation: launched in 2014, involving 9.5 million euro, resulting in 9 transnational transport research projects
- ERA-NET Cofund Electric Mobility Europe: transnational call to be launched end of 2016 (after contract signing with EC), involving 30 million euro

Overlooking 12 years of ENT, it can be stated that Flagship Calls are more popular than the small and medium-sized funding initiatives. They enable pooling of scarce resources more prominently and are generating a higher leverage effect. For countries and regions, it appears to be easier to justify spending a larger amount of money to transnational transport research funding initiatives than to smaller funding initiatives. Moreover, due to various reasons joint programming turns out difficult in practical implementation. One reason is that national and regional policies and research interests ever tend to change after elections.

MEANING OF ERA-NET TRANSPORT FOR THE EUROPEAN RESEARCH AREA

William Bird, ENTIII project officer, explained the meaning and evolution of ENT in the context of the European Research Area.

Sustainable mobility is *"the ability to meet the needs of society to move freely, gain access, communicate, trade, and establish relationships without sacrificing other essential human or ecological values today or in the future"*. Behind this definition is what we are about, what we want to achieve and what we want to contribute to through its success.

William Bird highlighted the importance of the international dimension beyond Europe

ERA-NET activities were first launched in FP6 aiming at stimulating trans-national research on areas of mutual interest: road transport (Era net Transport I, II and III, Era net Road, Electromobility+) and transport infrastructures (Infravation).

We are now looking back to more than ten years of ENT collaboration and the results are much more than just a funding mechanism. Other goals have been achieved such as Ambassadors, Action Groups and the development of a Toolkit for implementing cooperation actions or ENT-Platform.

ENT is now a solid and self-sustaining entity that, taking advantage of all the acquired knowledge should keep looking for other areas of common interest in which to launch instruments for cooperation.

Taking a look forward to what is needed, in a concerted effort between the European Commission and the Member States we want to ensure that through whatever (future) funding mechanism we are able to face up to the Horizon 2020 Societal Challenges and beyond.

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THE LEGACY OF ERA-NET TRANSPORT

Advancement of pooled funding mechanisms and transnational collaboration

Origins of both pooled funding mechanisms and transnational collaboration go back to ENTI in the year 2004. Different approaches have been developed and tested on a trial-error base laying the ground for a number of suitable cooperation procedures and tools.

Walter Wasner (BMVIT), WP leader, presenting the evolution in pooled fund mechanisms

Joint calls for proposals have become the central focus in later ENT stages and finally evolved to large scale cooperation insight the ENT framework (Flagship Calls) and beyond (ERA-NET Plus, ERA-NET Cofund).

Quality, transparency and visibility of ENT calls have been significantly improved by the introduction of an independent external experts' panel for evaluation, the online project monitoring via the Electronic Proposal Submission System (EPSS) or brokerage events. After all there is no more doubt about the scaling effects (in terms of number of funding partners or budgets above 10 million €) and the increased call efficiency (preparation time, time2evaluation). These developments can be traced finally to a high level of satisfaction both for applicants and funders.

Incoherent national/regional funding requirements and procedures still impose common call frameworks hindrances and the underlying virtual common pot models restricts the full utilization of funding budgets involved. Given these limits and the observed tangible outputs, the efforts for the preparation and execution of joint calls still remain high.

Future activities can however build on a large and solid base of experience for cooperation and a network of funders with various practical experiences made.

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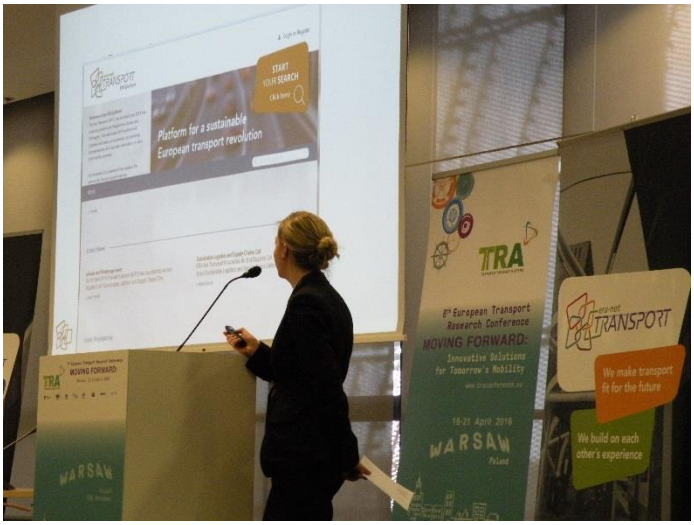
Smart instruments for transnational collaboration

ENT has evolved since 2004 into a service platform. A number of joint research calls, many transnational research projects and lots of mutual learning have shaped ENT activities.

In order to avoid isolated applications, it is not sufficient to ensure interoperability on a mere technological level. National funding architectures have experienced an increase in complexity and a growing number of partners, resulting in a segmented and poorly structured funding landscape.

To increase and ease up cooperation between regional and national programme owners (PO) and programme managers (PM) the web-based ENT-platform has been developed.

The ENT-platform is based on a user-centred design. This approach guarantees that web sites like the platform are easy to use. In this way cooperation across regions and nations can be encouraged at a very early stage, turning redundancy to synergy.



Patricia Haniger from AustriaTech explained how Ent-platform can contribute to facilitate cooperation activities

It took some time to overcome the challenges and to work out determined requirements, specifications and use cases.

The ENT-platform made progress in succeeding as a well-developed tool enabling the respective authorities to recognise possible common aspects and coordinate their activities. After 12 years of experience the lessons learned indicated that especially encouragement and commitment in an early stage improves the data quality tremendously.

Additionally, regular monitoring and user trainings could increase data topicality!

For more information about ENT-platform, please visit www.ent-platform.eu or contact Patricia Haniger Patricia.Haniger@austriatech.at

ENT spin-offs: Electromobility+ and EM Europe

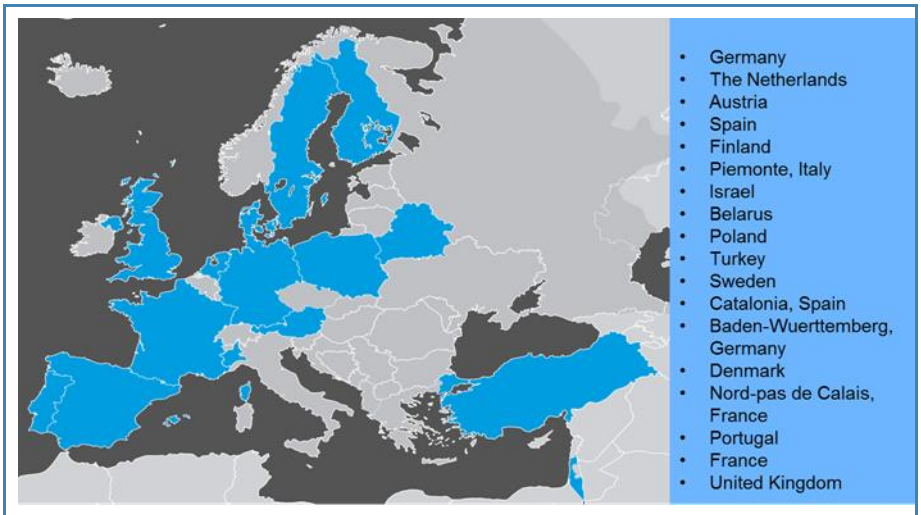
From ENT and with its support several spin-off initiatives for transnational collaboration in the field of transport have sprouted. For example, the ERA-NET Plus Electromobility+.

This initiative funded 18 projects with a total budget of 20 M€. Some of the results obtained from these R&D projects are listed below:

This project has received funding from the European Union's Seventh Framework Programme for research, technological development and demonstration under grant agreement no. 321525.

- Optimised management of electric vehicles in commercial fleets
- Simulation of the impact of EVs
  - on the electricity grid
  - on greenhouse gas emissions
- Performance of electric vehicles in accidents
- Guidelines for emergency and towing services
- Innovative solutions for extending the range of EVs by optimising charging infrastructure
- Efficient, cost-effective and sustainable approaches to battery recycling
- Innovative materials for light-weight structures for the construction of EVs

As Electromobility+ was supported by ENT, the recently born transnational pooled funding initiative Electric Mobility Europe builds on the experiences, networks and results of Electromobility+.



Fourteen countries and four regions are involved in the new initiative EM Europe

Up to 15 countries and 4 regions (as per April 2016) are involved in this new ERA-NET Cofund which is designed to take e-mobility in Europe to the next level.

The project is organised around a double tracked mechanism: call for proposals and policy cooperation with the objective of testing and demonstrating existing knowledge and technology in the transport system and urban areas on the one hand and to provide tangible and practical guidance to the decision makers in public authorities on the other hand.

A co-funded call for proposals will be launched in November 2016, with 30 M € to fund highly visible demonstration and implementation projects in the field of electromobility.

For more information about Electromobility+ and EMEurope contact Oliver Althoff
Oliver.Althoff@de.tuv.com

ADDED VALUE OF TRANSNATIONAL COLLABORATIONS FROM AGENCIES' POINT OF VIEW

Three agencies explained in Warsaw their experiences of being part of ENTIII, the benefits and some lessons learned from participating in transnational collaborations.

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Christian Pecharda, Mustafa Buldum and Neil Ebenezer during their presentations in the Final Conference

Austria is firmly committed to transnational collaborations. The Austrian Innovation System is currently cooperating with 65 countries covering a broad thematic range. Between 20 and 25 million euro/year are being invested in different transnational funding initiatives.

In the framework of ENTIII Austria has taken part in the two Flagship Calls launched: 'Future Travelling' and 'Sustainable Logistics and Supply Chains'. Christian Pecharda highlighted the figures of Austrian participation in these calls: 19 Austrian projects presented [what does thie mean?], 42 entities participated, 6 projects funded which budgets reaching 4.7 million euro and 1.8 million € funded by Austria.

The ***value for the invested money*** (receiving results worth 4.7 million euro whilst contributing with 1.8 million euro) and the knowledge are the main benefits for Austria from their participation in ENT.

The strategic approach of TUBITAK, the leading agency for management, funding and conduct of research in Turkey, is building collaborations within international perspective and having specific programs for international R&D projects (2007). The added value of transnational collaborations for TUBITAK is the increase of firm potential for active participation in European research programs in the transport area and the establishment of sustainable and effective cooperation pursuing transnational targets from which all participants can benefit. In Mustafa Buldum's opinion, "***ENTIII contributes to improving the transnational interoperability and openness for transnational cooperation for our research/innovation companies***". Some other expected outputs of being part of the network are the increase of the number of project proposals, international patent applications, participation rate of SME and integration of new partners.

"Societal challenges cannot be solved by a country on its own", that is why Neil Ebenezer (UK Department of Transport) thinks that the partnering collaborative effects of ENTIII are beneficial. However, he also evokes the difficulties of coordinating funds within proper timeframes and procedures, which makes participation in the calls sometimes impossible for some countries/regions. In his opinion one major challenge for the future for the ERA-NETs and ENT is to translate research results into growth and development scenarios.

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ENT FLAGSHIP 2013 CALL, MID-TERM EVENT AND RESULTS

Representatives from the eight projects funded in Flagship 2013 Call 'Future Travelling' presented their projects, mid-term results and future perspectives during the session "The Future of Travelling. Promises, Challenges, Strategies and Actions to move towards a new reality!"

From upper left to lower right: Hend Manasra (ADAPT-IT), Grzegorz Sierpiński (Green Travelling), Marcin Koniak (REP-SAIL), Eran Ben-Elia (SMART-PT), Beata Starzynska (aim4it), Daniel Bell (Guide2Wear), Stephanie Schwarz (PERRON) and Mónica Pla (MoREZero)

An electric yacht powered by renewable energy, a range extender based on a Fuel Cell to be integrated in electrical vehicles, a travel assistance application to reduce barriers in public transport systems, enhanced functionalities for trip planners allowing environmentally friendly travelling, a sophisticated pedestrian navigator or new concepts for providing transport information to travellers and to design public transport systems are some of the ideas that are being developed.

A more in-depth description of all the projects can be found in the annex.

A discussion about the opportunities and barriers of turning the promising future travelling scenarios presented in the projects into reality closed the event.

A panel of four experts in the field of transport gave some key statements in order to help projects to go a step further. Martin Hajek (RODOS) pointed out that *patience* is an important quality from a researcher point of view: measure the energy needed to skip the gap between future and reality. ***"Sometimes talking to people, to media or to potential final users can help to get things realized"***. In Neil Ebenezer's opinion (UK Department of Transport of) *engagement with regulators* can be crucial to boost project developments and save the legal constraints that usually hinder the innovation. Karl Ernst Ambrosch (ERA Chair Holder for ITS, Univerzity of Zilina) noted that international research can be an excellent opportunity to get measures and best practices but nevertheless, finding people willing to invest time and money in development is the great challenge. Albert Daly from Transport Infrastructure Ireland suggests changing the point of view. ERA-NET Road only funds projects that solve problems and offer solutions to road directors. It is not the

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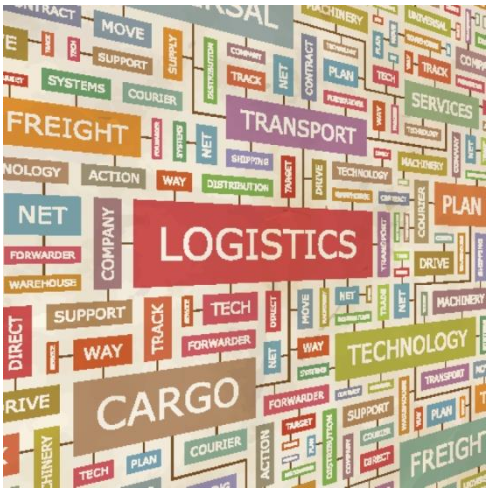
researcher's role to think ahead of the implementation, ***"we don't start projects until we know how and where we are going to implement them"***. The starting point is tackling a concrete issue.

Panel discussion chaired by Martin Russ from AustriaTech

Value for money is the key concept. Although it is clear that structure and standards are needed to facilitate implementation it seems also true that research projects have to show enough benefits to justify the costs. Better marketing based on evidence is needed. But what should never be missed in the process of transforming society through research and innovation is passion and having fun in what we are doing.

SIX PROJECTS SELECTED FROM ENT FLAGSHIP 2015 CALL



Six transnational proposals have been selected for funding from the ENT Flagship Call 2015 ***"Sustainable Logistics and Supply Chains"***.

The Call was closed on 2nd October with eleven participating national/regional funding agencies from ten countries: Austria, Basque Country, Belarus, Catalonia, Flanders, The Netherlands, Nord Pas de Calais, Norway, Poland, Sweden, and Turkey, with a global call budget of 10 Mio. €.

In total 12 proposals have been submitted under this Flagship Call. The submitted proposals have been evaluated by an external panel of evaluators and ranked according to their quality. The final selection of proposals has been determined in accordance with the available national/regional funding budgets.

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Selected proposals

Cross-border freight transport corridors	• CO2REOPT - Coordination of core European supply chains using Optimization *(Sweden, Netherlands, Norway)* • CLOUD - Collaboration in Logistics Operations and Urban Distribution *(Austria, Basque Country, Netherlands, Sweden)*
Hub development	• HubHarmony - Harmonization benchmark for inland multimodal hubs - Future links for sustainability *(Flanders, Austria, Sweden, Poland)*
Urban / last mile logistics	• SAILOR - Smart last mile commerce *(Sweden, Basque Country, Austria, Netherlands)* • S-mile - Smart platform to integrate different freight transport means, manage and foster first and last mile in supply chains *(Basque Country, Turkey, Poland)*
Organisational innovations and new business models in logistics	• MultiStrat - Multimodal strategies for greener and more resilient wood supply *(Sweden, Austria, Norway)*

Further steps

Each of the national / regional funding organisations negotiates its own funding agreements with the respective consortium partners from their countries in the selected proposals. As soon as all contracts for a project have been established, the respective project can officially start. All projects are envisaged to start in July 2016.

THE FUTURE OF ERA-NET TRANSPORT

Starting with a first CSA in 2004, ENT went through three successive CSAs. The third and final one elapsed after twelve years in April 2016. There will be no CSA follow up and co-financing of the EC anymore. Does this mean that the ENT network and its pooled funding initiatives in transport research will cease to exist forever? In no way!

After a long lead time and after extensive preparation in the ENT Management Group (MG), the ENT Strategic Group (SG) decided in Warsaw in April 2016 to maintain the ENT collaboration network. The main reasons are:

- The valuable mutual learning through information exchange
- The partners aim for starting up new pooled funding transnational collaborations, preferably large Flagship Calls and if possible in the frame of an ERA-NET Co-fund

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- It cost a lot of time and efforts to get the ENT network going. We should therefore capitalize on it and continue using it in future periods, for the benefit of all parties involved.

Since in the post-CSA period there will be no more co-financing from the Commission, the ENT network has to become self-sustaining and only essential and vital activities can be maintained. These involve:

- supporting activities for the research projects of the Flagship 2013 and 2015 Calls and their funders until 2018
- Deployment of the call secretariat and EPSS for monitoring and reporting
- Dissemination, communication

The ENT network has got permission from the EC to keep using the ENT brand and the ENT-platform name. However, the ENT network will not be able to maintain the ENT-platform and is in consultation with ERA-LEARN 2020 about the possibility to take (parts of) it over.

ENT will organise annual "general meetings" and ad-hoc (sub) meetings, whenever needed. The Netherlands and Germany offered to play a leading role in "ENT IV". The Netherlands, Rijkswaterstaat will carry on their role as coordinator. To give tangible substance to the ENT network and the commitments of its partners, a (light version) Memory of Understanding (MoU) will be drafted and submitted to all interested members for signature. A range of potential topics for future pooled funding initiatives was discussed at the SG meeting in Warsaw in April 2016. Amongst them were electromobility, logistics and automated vehicles.

Please find more information on our website

http://www.transport-era.net

- Latest news and events
- ENT Ambassadors
- Flagship Calls
- Smaller sized transnational funding initiatives
- Links to other transport research related sites

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ANNEX

Future Travelling

Description of projects

This project has received funding from the European Union's Seventh Framework Programme for research, technological development and demonstration under grant agreement no. 321525.

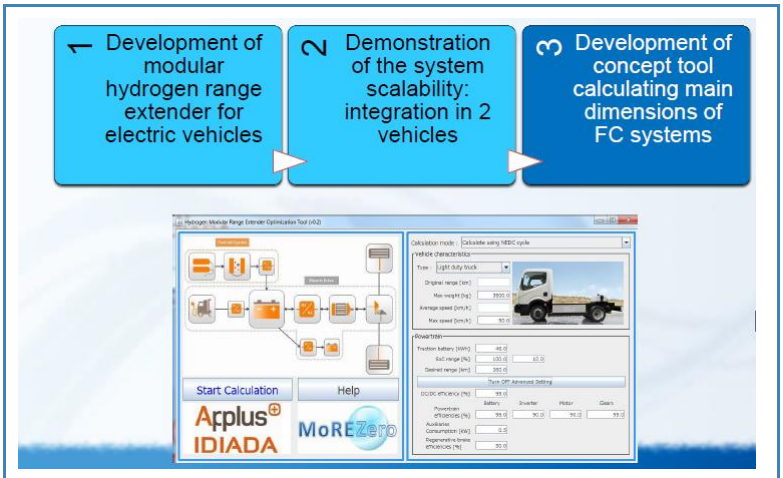
Hydrogen Modular Range Extender for Electric Vehicles (MoREZero)

Catalonia, Flanders, Turkey, Sweden

Zero emissions cities, increasing taxes on polluting vehicles and rapidly growing consumer vehicle demand are factors pushing the need for alternative fuel vehicle technologies. Many strategies have been conducted in the past years to promote the market introduction of electric vehicles. However, it seems that the main fear that final users have is a range anxiety, which is the fear that the vehicle does not have sufficient range to reach its destination.

The MoRE Zero project aims to contribute to increasing consumer awareness and acceptance of Electric Vehicles by increasing the range of these vehicles through the installation of a zero emissions range extender based on fuel cell technology. The main outcome of the project will be the development of a hydrogen modular range extender system.

To achieve this key objective, the MoRE Zero project has analysed and optimised each of the key components of the system in order to find the most suitable solution for two vehicle categories, 3,5T and 18T. As such, the result of the project will be two demonstration vehicles with the hydrogen range extender system fully integrated. Currently, components belong to new Range Extender system (FCM-Fuel cell module & DC/DC converter) have been validated independently. After that functional validation, these components will be calibrated together and finally, once they are fitted on the vehicle, performance vehicle validation will take place.



Main objectives of MoRE Zero project

In order to ensure the system modularity and scalability, the project is also developing an automated tool to assist the selection of different alternatives for specifying a hydrogen range extender system. The application customizes the integration and size of the relevant components (such as battery, fuel cell or number and capacity of H_2 tanks) to the consumer needs of any existing electric vehicle.

MoRE Zero will achieve a substantial impact with regards to a greener road transport system and the acceptance of citizens and policy makers to introducing alternative fuel vehicles. This will be accomplished by demonstrating that zero emission vehicles can meet the challenge of range anxiety in all kinds of vehicles.

For more information about the project visit www.morezero.eu or contact Natalia Artal: Natalia.Artal@idiada.com

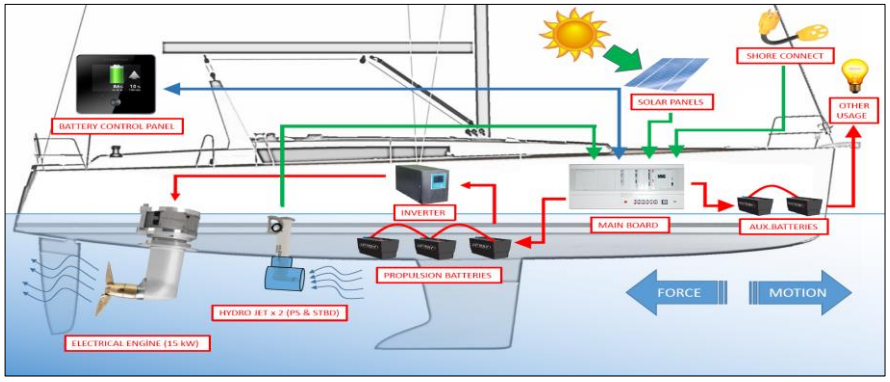
This project has received funding from the European Union's Seventh Framework Programme for research, technological development and demonstration under grant agreement no. 321525.

Renewable Energy Powered Hybrid Innovative Sailing Yacht (REP-SAIL)

Turkey, Poland

Sailing boats are nature friendly vessels as they are using wind as their primary propulsion resource. In certain cases, where the wind may not be enough and for household energy usage, they use liquid-fuel auxiliary systems and diesel engines as extra energy resources. Using liquid-fuel systems for manoeuvring while entering ports, in opposite wind conditions and when the thrust is low, are main factors that raise carbon footprint of sailing boats.

Platform that is being researched and developed in this project, will use energy stored in the batteries that is generated by renewable energy resources instead of any liquid fuel generated energy for propulsion or household energy usage while cruising, on port or anchored.



REP-SAIL is developing a new renewable energy powered sailing yacht

Two water turbines integrated under the hull, venturi wind turbines located on port and starboard sides of the stern deck and solar panels that will be laid down on upper deck and main deck will be the main energy input for the boat.

Batteries and energy management system will be designed for lowest energy loss. This will provide enough energy to move the boat while sailing is not possible, and energy for accommodation.

Maritime University in Szczecin, Warsaw University of Technology and Autocomp Management under management of Milper, are researching sub-components of the boat, including energy converters, energy storage systems, energy management systems and high-efficiency electric propulsion systems.

Those components will be suitable for offshore conditions and will conform enough efficiency.

For more information about the project contact Gürhan Ertas gurhan.ertas@milper.com.tr

This project has received funding from the European Union's Seventh Framework Programme for research, technological development and demonstration under grant agreement no. 321525.

Accessible and inclusive mobility for all with individual travel assistance-aim4it

Germany, Austria and Poland

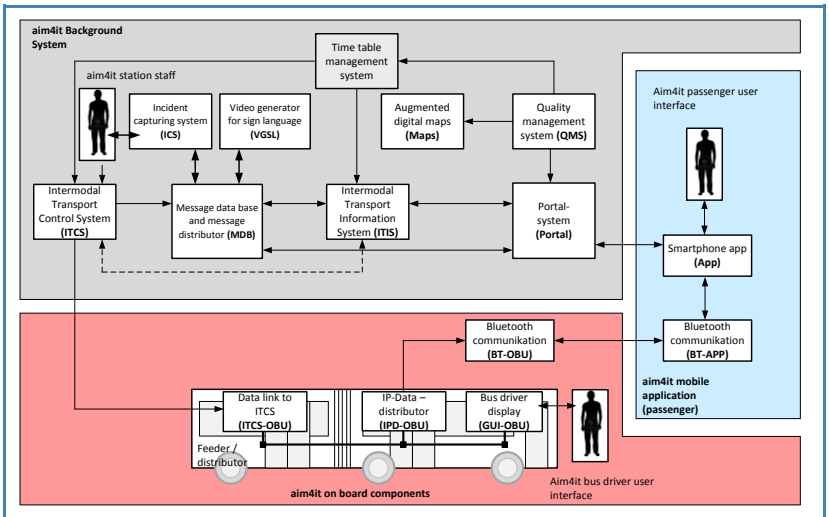
The project aim4it focuses on a public transport system which is inclusive and fair to all groups of society contributing to reduce the existing barriers. The project pursues a holistic approach which reflects both the user point of view as well as the service provider perspective by the development of a broad spectrum of assistance functions.

Especially passengers with special mobility needs have to be informed in due time about their departure times and their changeover times at interchange stations. This information not only need to be up to date but also represented in an understandable manner.

The project aim4it tackles this challenge and combines competences of a multidisciplinary project team to develop a novel intermodal pre-/on- and post-trip transport information system (ITIS).

The system architecture consists of three main elements: services in the background, in-vehicle components and smartphone client application. The smartphone application connects with background services and in-vehicle components in order to deliver the end-user the functionality consisting of six main functions.

1. **Barriere-free re-routing function in case of incidents**
2. **Connection protection of passengers with reduced mobility**
3. **Request for staff assistance**
4. **In-vehicle passenger information** -based on wireless communication between the app and the in-vehicle infrastructure
5. **Incidents information in sign language** provided by the avatar -
6. **Feedback function** for actively involve passengers in continuous improvement of the barrier-free public transport system



The picture shows the system architecture of aim4it project

The solution has already been presented to the target group of end users and received a positive reception. Next steps envisaged are the in integration of project results into productive system and the updating of industry standards (VDV) according to project outcomes in order to make the solution transferable to other regions.

See how aim4it works in this video.

For more information about the project contact Anna-Maria Ademeit: Anna-Maria.Ademeit@dlr.de

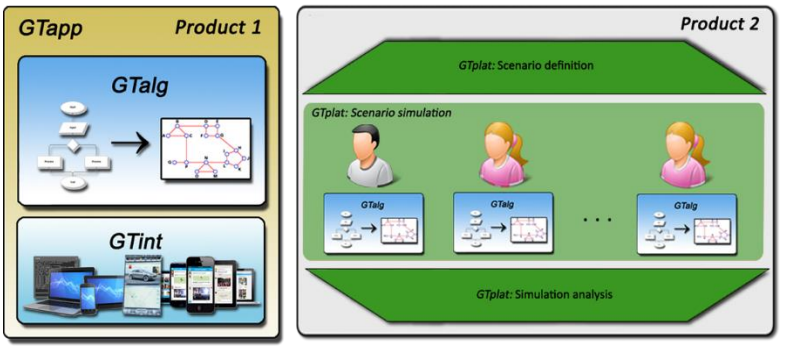
This project has received funding from the European Union's Seventh Framework Programme for research, technological development and demonstration under grant agreement no. 321525.

A platform to analyse and foster the use of Green Travelling (GreenTravelling)

Basque Country, Poland, Turkey

This project aims at developing a set of tools for the assessment of inter-modal travelling options, fostering green transport means based on two very innovative points. First, from a micro perspective, the development of a multi-modal routing algorithm that includes the electric vehicles (EVs) as an alternative transport mean. Second, from a macro perspective, the deployment of a decision support tool to allow infrastructure managers and public administrations to evaluate different parametrisable scenarios according to several kind of costs, as well as social and environmental impact.

The result of this project derive in two products which are now under development:



The Green Travelling application and the Green Travelling Platform will be the two products derived from the project.

(1) The Green Travelling Application

It includes the developing of the GTAlg GTInt. The first is the algorithm representing a key element of the project. It takes into account heterogeneus information coming from different, public and internal, databases. I.e transport network parameters (OpenStreetMap), public transport information: schedules, stops, lines, costs… (GTFS, General Transit Feed Specification), traffic conditions, elevation…

The second is the interface for computers, mobile devices and car consoles.

(2) The Green Travelling Platform.

A platform for decision support addressed to infrastructure managers and local authorities, able to simulate the transport needs of the society. It allows to build what-if scenarios considering (1) citizens Preferences, (2) modal Split of the Population, (3) Public Transport Routes and Schedules and (4) Environmental impact of vehicles. It also considers the inclusion of electric vehicles and the effects that incentives can have on citizen's behaviors.

The project usability will be tested in three case studies featuring Basque Country, Poland and Turkey realities. They will include real data about the GIS system, the different transport means schedules and costs, local incentive alternatives, etc.

The Green Travelling Project offers new possibilities for changing transport users' behavior by expanding functionalities of trip planners and drawing special attention to environmentally friendly travelling and multimodality.

For more information about the project contact Luis Rodríguez: luisrodriguez@saitec.es

This project has received funding from the European Union's Seventh Framework Programme for research, technological development and demonstration under grant agreement no. 321525.

Enhanced Pedestrian Routing and navigation as well as Quality Management of Pedestrian Ways (PERRON)

Austria, Belarus Germany

Although walking is part of almost every journey, no matter which mode of transport is used, wayfinding for pedestrians has only been performed based on standard car-centric street maps.

The main objective of the PERRON project is to improve pedestrian navigation by bringing it to a more detailed and realistic level. Nowadays, pedestrians are mostly routed and navigated based on road networks. However, to ensure efficient, attractive, and safer navigation solutions for pedestrians, they should be routed and navigated on pavements wherever possible. Therefore, the PERRON project applies and validates a scientific model for route search depending on the quality of the footways, based on measurable way attributes.

PERRON identifies patterns for road crossing and extracts landmark information from OSM to be integrated in navigation instructions

Moreover, PERRON identifies patterns for road crossing where there are not dedicated crosswalks and develops pedestrian-centered routing algorithms using information of OpenStreetMap (OSM) database, which consider sidewalks and way quality criteria (distance, safety, comfort, attractiveness).

PERRON further aims to extend and adapt existing methods of generating and presenting pedestrian navigation that consider pedestrians needs. The main achievement in this field has been the extraction of landmark information from OSM to be integrated in the navigation instructions. In the pedestrian-centered interface design the provision of navigation instructions will be provided via text to speech as well as through the use of wearable technologies.

These developed methods and algorithms will be brought together in a mobile demonstrator and will be evaluated in two selected test sites in Austria and Germany.

For more information about the project visit perron-project.eu or contact Manfred Tscheligi*:* manfred.tscheligi@ait.ac.at

This project has received funding from the European Union's Seventh Framework Programme for research, technological development and demonstration under grant agreement no. 321525.

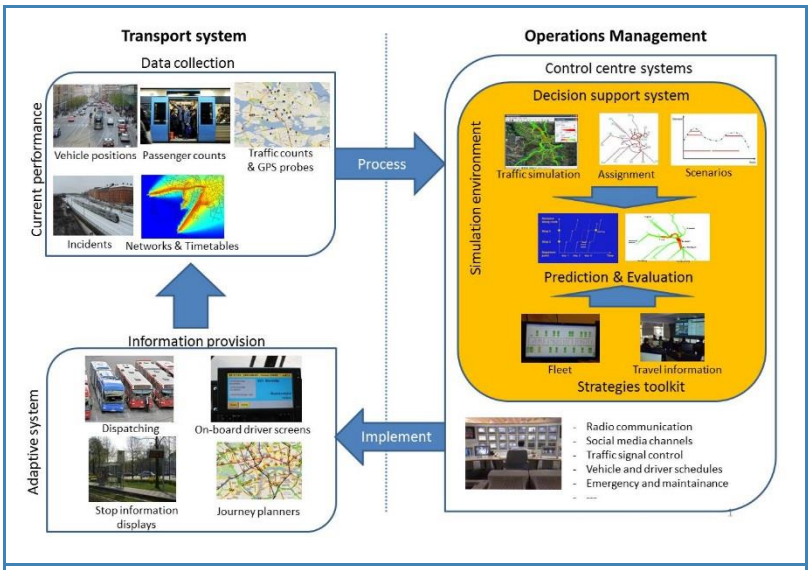
Analysis and development of attractive public transport through information technology (ADAPT-IT)

Israel, Sweden

One of the most effective strategies to achieve an efficient and sustainable transport system is to develop and operate high level of service public transport. The public transport system needs to be efficient under varying traffic flow conditions, passenger demand, incidents and events, service disruptions and other interruption and irregularities. To realize its potential in these circumstances, real-time operations control of the transit services is required. Despite the importance of transit operation control to the service quality and cost, much less attention has been given to real-time operations control when compared to service planning and design.

The overall objective of the proposed research is to develop strategies and methods for real-time operations control and information provision. The project will design a decision support system that will facilitate proactive and predictive public transport operations control to maximize the benefits to travellers, operators and the transport system as a whole, in real-time in response to real-time conditions.

At this stage of the project a detailed traffic transit simulation model under development. This model implements various transit control algorithms and thus support evaluation of impact on the system. simulation model will be embedded within the decision-support tool to recommend specific control actions in various situations. The project also include case studies using real-world data and the effect of sensors to reduce prediction uncertainty.



Conceptual framework of the ADAPT-IT project

ADAPT-IT's final results will demonstrate the benefits of the developed tool to passengers and operators.

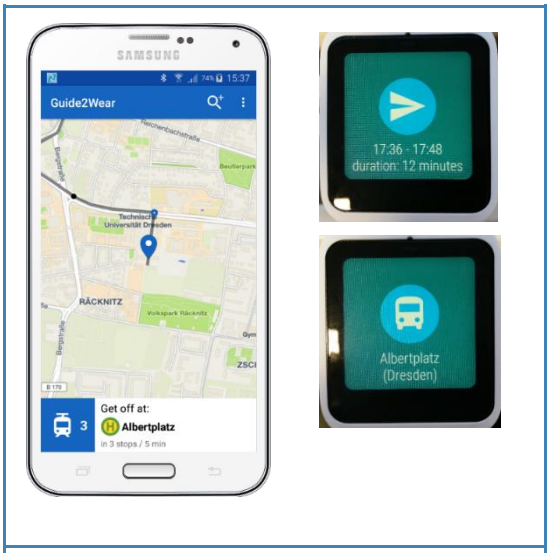
For more information about the project contact Tomer Toledo: toledo@technion.ac.il

This project has received funding from the European Union's Seventh Framework Programme for research, technological development and demonstration under grant agreement no. 321525.

Public transport services with wearable devices for different mobility types (Guide2Wear)

Austria, Basque Country, Flanders, Germany, Sweden

Guide2Wear aims at evaluating the potential of wearable devices for future travel services and providing a prototype for public transport navigation services with additional functions using a wearable device. The main objective is to improve co-modality and the use of environmental friendly transport modes for passengers by taking a major step forward in information providence, payment support and passenger guidance by using wearable devices and the related new possibilities.



Guide2Wear is developing a prototype for public transport navigation services with additional functions using a wearable device

The project has deeply analysed the technical side as well as the human side of this task. On one hand wearable devices and expected progress in this field have been studied and on the other hand the different user needs based on different mobility behaviour and human factors have been considered as well as legal and economic aspects.

Through literature reviews, interviews and surveys, discussion with stakeholders, focus groups, and expert workshops the consortium has identified the state of the art in transport supporting services for mobile devices. Different user groups and their special requirements, mobility types and mobility behaviour, future mobility trends, wearable devices relevant for transport, and the current situation concerning related legal aspects in Europe have been thoroughly analysed. By means of a field study, the impact of new technology on mobility behaviour is evaluated.

Based on user need assessment and technological maturity the smart watch has been chosen as the preferred wearable for developing the prototype. A prototype application is now under development and will be used to show the potential of wearable devices for public transport and intermodality.

This will lead to a major improvement of seamless intermodal trips by providing the appropriate information and functionality in a comfortable way.

For more information about the project visit www.guide2wear.eu or contact Ingrid Nagel: Ingrid.Nagel@ivi.fraunhofer.de

This project has received funding from the European Union's Seventh Framework Programme for research, technological development and demonstration under grant agreement no. 321525.

Smart Adaptive Public Transport (SMART-PT)

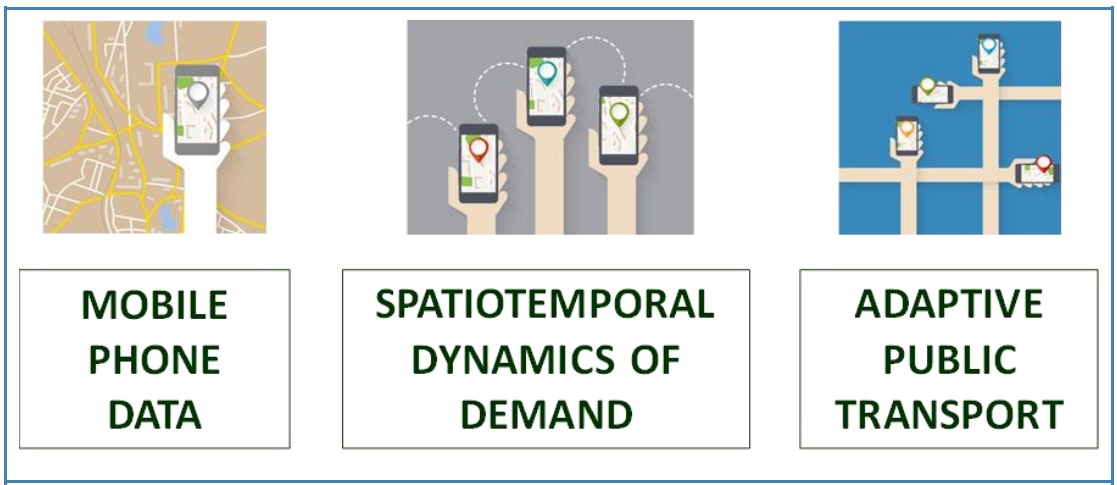
Israel, Flanders, Poland, Sweden

Public transport networks remain stable for many years, with mostly static routing governed by the assumption that residents have fixed and habitual activity and travel patterns. The starting point is that public transport services accommodate mainly the demand of the past with static routes and timetables.

SMART-PT aims to modify Public Transport into a smart system that adapts itself to the evolving activities and derived demand of the travellers of the future.

Based on the information available for several case studies the project is working to:

- Systemically analysing the discrepancy between travel demand and existing public transport supply from mobile telephony sources
- Develop algorithms for adapting the inflexible public transport supply to the current activity patterns of the population and further evolution following the expected changes in the future urban population
- Evaluate public transport supply changes with a spatially explicit high resolution agent-based simulation model using both synthetic and real data of urban dynamics
- Develop the pathways and policies for implementing SMART-PT approach in case studies of the project teams
- Investigate the potential impacts of this approach on end-users, service providers and regulators.



"Look the mobile, see where people are and redesign the system" is the paradigm behind SMART-PT

This research framework will be employed for developing a proof-of-concept and investigate its effectiveness in case studies in Tel-Aviv, Stockholm and Leuven.

For more information about the project visit smart-pt.tau.ac.il or www.facebook.com/smartpt.ent3 or contact the coordinator Itzhak Benenson bennya@post.tau.ac.il or project manager Eran Ben-Elia benelia@bgu.ac.il

This project has received funding from the European Union's Seventh Framework Programme for research, technological development and demonstration under grant agreement no. 321525.