e-mobility NSR

NORTH SEA REGION ELECTRIC MOBILITY NETWORK

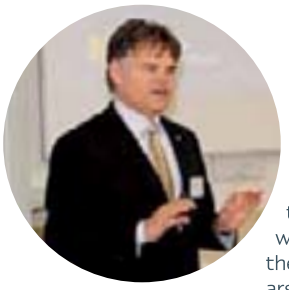
NEWSLETTER ISSUE 1|2012

KICK OFF MEETING
Aligning tasks for the next years

OUR PARTNERS
Wide range of expertise across the NSR

KICK-OFF MEETING AND TRANSNATIONAL MEETING

5TH–6TH OCTOBER 2011, HAMBURG, GERMANY



Peter van Deventer at the kick-off meeting in Hamburg

More than 30 representatives of the seven partner countries met in Hamburg to discuss and align the joint work which lies ahead in the next three years on Day 1 of the first meeting of the new Interreg IVB North Sea Region project E-Mobility NSR. Day 2 was devoted to the public: In collaboration with the international partnership, HAW Hamburg organized a transnational public meeting where trends on E-Mobility in the North Sea Region were presented.
E-Mobility NSR and all its activities were showcased to more than 40 expert participants from public authorities, science and the business environment from all over the NSR. Highlighting e-mobility concepts, current activities and future plans for the partner cities, the participants debated technical elements as well as aspects of infrastructure. The meeting thus catalyzed cooperation and networking among different actors as well as projects working in this field, for example the EU Framework 7 project "Green eMotion", another Europe-wide effort to enable mass deployment of electromobility in Europe.

UPCOMING ACTIVITIES

15th March 2012 | HAMBURG
1st International Workshop on „Experiences and the future of EV Fast Charging"

29th March 2012 | NEWCASTLE
Project partner meeting

30th March 2012 | NEWCASTLE
Seminar on "EV Battery Technologies" and public event on "User Experiences", engagement and implications for public policies

11th May 2012 | DELFT
European consultation on the effectiveness and feasibility of policy measures for the support of e-mobility

16th May 2012 | HAMBURG
Specialist seminar "Fuelling the Climate – Klimaschutz und Elektromobilität" *(German Event)*

13th June 2012 | HAMBURG
2nd Roundtable E-Mobility NSR "E-Mobility – European Perspectives", Dr Lars Friedrichsen, HanseOffice Brussels *(German Event)*

Editorial

Prof. Walter Leal

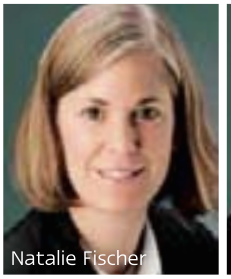
DEAR READER,

The recently launched **North Sea Electric Mobility Network (E-Mobility NSR)** project aims at improving e-mobility in the North Sea Region. The Interreg North Sea project E-Mobility NSR will help to create favourable conditions to promote the common development of e-mobility in the North Sea Region. Transnational support structures in the shape of a network and virtual routes are envisaged as part of the project, striving towards improving accessibility and the wider use of e-mobility in the North Sea Region countries.

The partnership comprises 11 organisations covering all countries in the North Sea Region: Belgium, Denmark, Germany, the Netherlands, the United Kingdom, Norway and Sweden. The vertical dimension of the partnership is also ensured since it includes universities, economic development agencies, cities, local and provincial governments, NGOs and public enterprises.

"On the basis of a strong partnership, I am confident that we will succeed in increasing accessibility within the NSR by fostering the diffusion of e-mobility and stimulating the use of electric vehicles in public, private and freight." says the lead partner Prof. Walter Leal, Hamburg University of Applied Sciences.
In this first newsletter, we introduce you to our project partners, review first activitites and provide an outlook on upcoming events.

Enjoy the reading,
your E-Mobility Newsletter Team



Natalie Fischer

Franziska Mannke

2 | PROJECT PARTNERS

The partnership comprises 11 organisations covering all countries in the North Sea Region: Belgium (Flanders Region), Denmark, Germany, the Netherlands, the United Kingdom, Norway and Sweden. Find below an overview of the organizations involved in our transmissional colloberations.

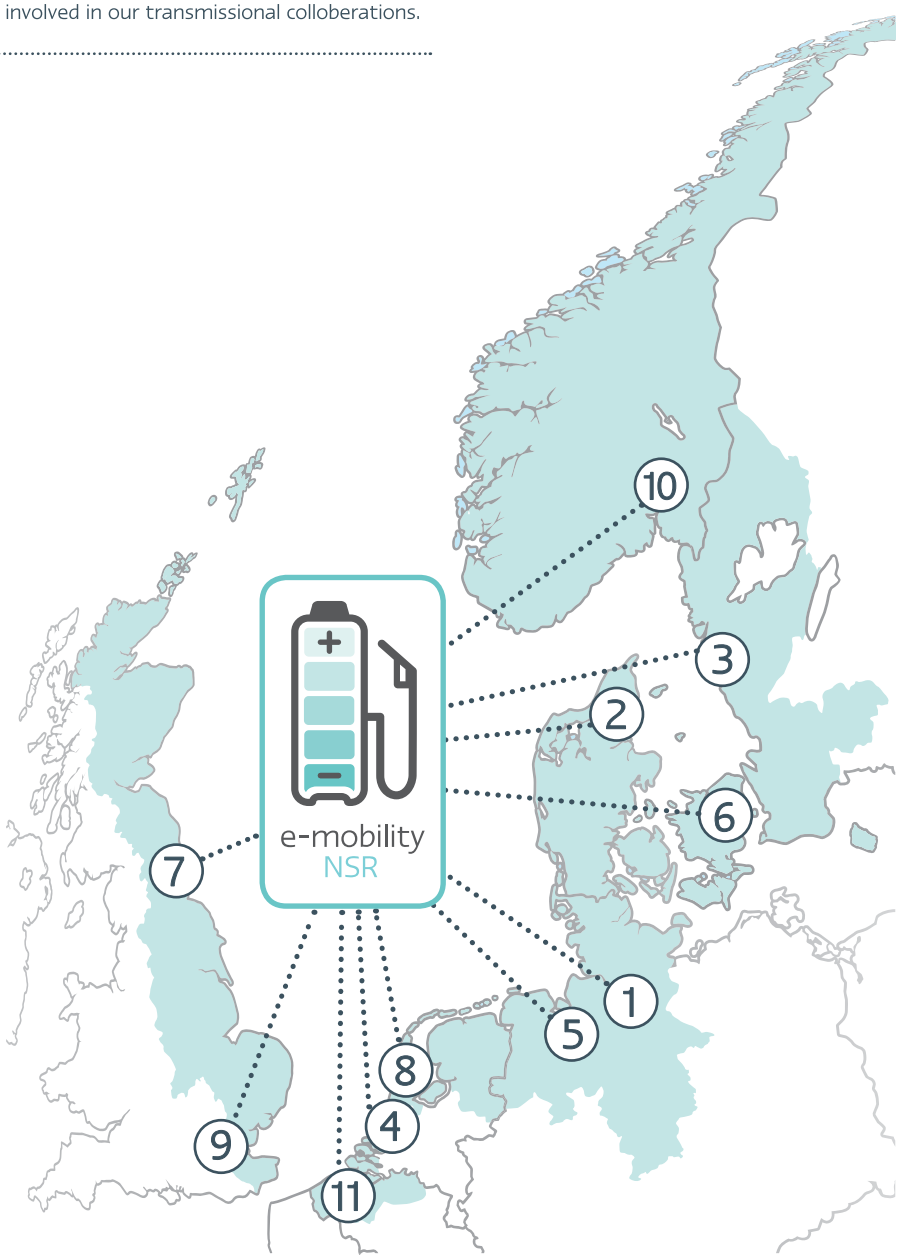
1 HAMBURG UNIVERSITY OF APPLIED SCIENCES (DE)

Hochschule für Angewandte Wissenschaften Hamburg
Hamburg University of Applied Sciences

The Hamburg University of Applied Sciences (HAW Hamburg) is, with over 12,000 students, the second largest institution of higher education in the Hamburg metropolitain region and one of the largest of its kind (University of Applied Sciences) in Germany. Solving future energy problems is one key focus of the HAW Hamburg, therefore different research and transfer centres exist.

The Research and Transfer Centre "Application of Life Sciences" (FTZ-ALS) is vastly experienced in technical research and implementation of state-of-the-art projects in the fields of sustainability, renewable energy and climate change. Moreover the FTZ-ALS is involved in numerous national and international programmes, e.g. INTERREG, ALFA, EuropeAID, etc. A team of highly qualified scientific staff members supports the implementation of the projects and the arrangement of a series of high level events which bring together scientists, government agencies and industry.

As lead partner of E-Mobility NSR, the Hamburg team (Prof. Walter Leal, Natalie Fischer, Franziska Mannke, Tessa Taefi) is responsible for the overall project coordination, dissemination activities and the financial management under **workpackage 1**; moreover, the team coordinates **workpackage 2**.



2 FDT – ASSOCIATION OF DANISH TRANSPORT AND LOGISTICS CENTRES (DK)

FDT is a public non-profit organisation approved by the Danish Ministry of Transport. The organization comprises eight Transport and Logistics Centres located in Denmark and has its headquarters in Aalborg in Northern Jutland.

FDT has more than 20 years of experience in working with Transport and Logistics Centres and related logistics solutions and networks, where our organisation focuses on promoting the utilisation and development of sustainable transports. FDT is the Danish member of EUROPLATFORMS EEIG, the (only) European association of freight villages.

Our experience is that well-managed and coordinated projects can serve as valuable platforms for developing sustainable transport solutions on a transnational level.

FDT has experience from several EU regional development projects both in the NSR and the BSR, as well as in EU R&D activities and has advised several European ministries and authorities on the development of frameworks for Transport and Logistics Centres. FDT is often directly requested by ministries and authorities; moreover it is deeply involved in the development of Master Plans, logistics activities, new transport solutions, etc. in Denmark and Europe. FDT will, through the "E-Mobility NSR" project, develop and implement urban freight electric vehicle solutions to facilitate sustainable freight flows within the NSR and beyond.

3 LINDHOLMEN SCIENCE PARK (SE)

Lindholmen Science Park is an international Science Park focusing on three areas:

- Mobile Internet
- Intelligent vehicles & transport systems (ITS)
- Modern media and design

In our environment stakeholders from the business, university and public sectors collaborate. The projects carried out within Lindholmen Science Park are characterized by cross-border cooperation, both in terms of competence, organization and between countries.
Within the E-mobility NSR project, Lindholmen Science Park is responsible for **workpackage 4**. So far, Lindholmen Science Park has been running a fast charging pilot in Gothenburg and organised an international workshop on fast charging in Hamburg.
Regarding the fast charging project, Lindholmen is right now performing a user survey which has been presented at the Hamburg event. One issue that might come up at the event is how to deal with a range reduction both from fast charging (stops at 80%) and cold winters (reducing range with 30-40%).
One of the cross-border cooperation projects that Lindholmen Science Park is hosting is Test Site Sweden (TSS). TSS is a national program for the testing and demonstration of sustainable transport technologies such as e-mobility, intelligent vehicles & transport systems (ITS) and active safety.
Within this program Lindholmen is right now planning for testing and demonstration actions concerning the electrification of roads. Our belief is that this is one topic for the coming action within our E-mobility efforts. We are looking forward to fostering a NSR-wide dialogue in this area.

4 DELFT UNIVERSITY OF TECHNOLOGY (NL)

OTB Research Institute for the Built Environment (OTB) is an interfaculty research institute within the Delft University of Technology (DUT). With 4,500 staff and over 16,000 students, DUT is the largest university of technology in the Netherlands. OTB itself currently employs ca. 130 staff.
The OTB Research Institute specializes in multidisciplinary and problem-oriented research, mainly concerning market and policy issues related to the built environment and transportation. Current research topics include electric mobility, innovation, sustainable urban development, and policy analysis. OTB has substantial experience of international collaborative research projects, including INTERREG, the EC Framework Programme, URBACT and ESPON projects, as well as nationally and locally funded research. Staff members are involved in research networks such as ERSA (European Regional Science Association), BIVEC (Benelux Interuniversity Association of Transport Researchers), EURA (European Urban Research Association), IAPS (International Association for People-Environment Studies), and NECTAR (Network for Communications and Transport Activities Research).
The Delft team for E-Mobility NSR consists of Kees Maat, Jan Jacob Trip, Sjoerd Bakker and Rob Konings. Within the project, they are responsible for the **workpackage 3** on "Inventory of state of the art and stakeholder analysis"; in addition, OTB is involved in several other work packages.

5 WFB BREMEN ECONOMIC DEVELOPMENT CORP. (DE)

On behalf of the Free Hanseatic City of Bremen, the WFB Bremen Economic Development Corp. (WFB) acts as the central service-providing body for all matters concerning business, economic and regional development as well as marketing the City of Bremen as a location for business, trade fairs and events. Furthermore, WFB aims at helping to secure and create jobs and fosteres businesses in Bremen with an optimal environment for entrepreneurial success. WFB's department for innovation support appraises user needs and technological possibilities, supports the regional government in defining innovation strategies and their implementation in close contact with all relevant stakeholders. Highly innovative and therefore important sectors for the economic development and sustainable growth of Bremen are aerospace, renewable energy, environmental technology and maritime industries.
The WFB is also active in interregional, European and international networks and therefore closely connected to several European regions. These alliances are permanently strengthened and expanded for further economic development. Activities specifically adapted to the economic and research profile of the region are key aspects.
As project partner the WFB is mainly involved in activities promoting the dialog and exchange of experience between science, industry and government (traditional triple helix).

WORKPACKAGES

1 MANAGEMENT AND ADMINISTRATION

To set up and carry out a sound management and administration scheme enabling the proper implementation of the project.
Led by: **HAW Hamburg (GER)**

2 INFORMATION AND COMMUNICATION

To communicate the project information and results in the NSR as well as Europe-wide. Led by: **HAW Hamburg (GER)**

3 INVENTORY OF STATE OF THE ART AND STAKEHOLDER ANALYSIS

To provide a state-of-the-art knowledge base for the project
To make an in-depth analysis of the role of public and private stakeholders and consumers of e-mobility
To encourage discussion, knowledge exchange and learning between project partners and relevant stakeholders
Led by: **Delft University of Technology (NL)**

4 DEVELOPMENT OF A TRANSNATIONAL E-MOBILITY PLAN

To attract the attention of policy-makers, industry, academy and public for cross-border e-mobility travel.
To create a virtual e-mobility route in the NSR
Led by: **Lindholmen Science Park (SE)**

5 SMART GRID SOLUTIONS

To develop an NSR smart grid concept with charging points
Led by: **Flanders Region represented by TransEnergy (BE)**

6 SET UP TRANSNATIONAL ELECTRIC MOBILITY INFORMATION CENTRES (EMIC)

Set up virtual or physical information centres in the partner cities to inform the stakeholders about e-mobility in their region.
Led by: **Høje-Taastrup Municipality (DK)**

7 PROMOTING EFFICIENT & EFFECTIVE URBAN FREIGHT LOGISTICS SOLUTIONS IN ENHANCING REGIONAL ACCESSIBILITY

To integrate the urban freight logistics into the e-mobility network
Led by: **FDT - Association of Danish Transport and Logistics Centres (DK)**

6 HØJE-TAASTRUP MUNICIPALITY (DK)

Høje-Taastrup Municipality, a suburb of Copenhagen, holds a population of 46,000 people. A Climate municipal agreement with the Danish Society for Nature Conservation requires the municipality to indicate sustainability in terms of its management and to encourage individuals and companies to protect the environment through superior energy efficiency.

Furthermore, Høje-Taastrup Municipality is the frontrunner when it comes to energy renovation of its buildings. Recently, the municipality has laid 800 square metres of solar cells on to the roof of the Town Hall in order to self-generate a great deal of its own energy.

Another key area in relation to the above, is electrical powered transportation where the municipality once again acts as inspiration. In a project called "Test-an-EV", the municipality has made it possible for ten citizens to try out an electric vehicle (EV) for a period of three months in return for feedback and briefings, in order for us to strengthen the development of EVs.

The overall E-mobility landscape also comprises experience from the use of electric bicycles and scooters. The municipality has bought 12 electric bicycles for use in home care areas, and it is on the verge of acquiring an electric scooter as well.

7 NORTHUMBRIA UNIVERSITY AT NEWCASTLE UPON TYNE (UK)

Northumbria University is one of the UK's leading modern universities and the largest university in the North East of England offering programmes in most subjects at all levels. Northumbria University is foremost in terms of widening participation, and is the leading provider of high-calibre graduates to business, industry and the professions in the North East of England – and one of the highest nationally. The School of the Built and Natural Environment has a proven track record in building mutually beneficial partnerships with employers, businesses, organisations and professional bodies, and it is committed to innovative research and applied consultancy and knowledge transfer. We focus our activities and new projects in four areas: Business and Economy, Design and Technology (including our Building Information Management academy and the Built Environment Visualisation Centre), Environment and Energy as well as Sustainability and Society.

Our Sustainable Cities Research Centre and the Human Geography & Environmental Management group work on sustainable policy development, including at a European level.

The School of Computing, Engineering and Information Sciences provides a range of study opportunities at all levels, and supports multidisciplinary research groups pursuing cutting-edge research strongly linked to industry requirements. The Energy Systems Group combines two main areas of strength, photovoltaic and power engineering, addressing energy supply, particularly related to integration of electric vehicles and renewable sources into the electricity grid.

Northumbria University's New and Renewable Energy Laboratory, directly linked to renewable energy, helps to train students and researchers to feed into a growing industrial base.

8 PROVINCE OF NORTH HOLLAND (NL)

North Holland is the province situated in the north-western part of the Netherlands. With more than 2.5 million people sharing an area of 2,670 km2, North Holland is the country's second most densely populated province. The region offers a highly diverse landscape, from dunes and forests to villages and cities. It is also rich in water resources, with well over 20% of its surface consisting of water.

In terms of its provincial activities, North Holland plays a role in the fields of care, welfare, culture, the environment, nature and landscape; sometimes as the drafter of the plans and sometimes as the funding party.

The province is also involved in issues such as ensuring good public bus transport in the region and is responsible for building and improving its road network, constructing safe roundabouts and cycle paths.

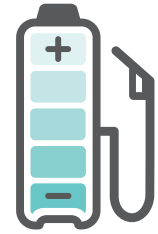
Europe offers chances to take part in matters which are of interest to the residents and economy of the region, promoting a vital rural area and European funding for knowledge and innovation. As such the province of North Holland engages in European projects with other public authorities and private organisations. The province is lead partner of SUSCOD in which six North Sea countries joined forces to build a toolbox for the sustainable development of their precious coastal zones. North Holland also partners with the Interreg E-Mobility NSR project and is a sub partner of JoaQuin, the Joint Air Quality Initiative in the NWE programme.

10 ZERO EMISSION RESOURCE ORGANISATION - ZERO (NO)

ZERO – the Zero Emissions Resource Organisation – is an Oslo, Norway-based independent not-for-profit foundation working for zero emission solutions to the global climate challenge. ZERO's staff consists of more than 30 technologists, economists, political scientists and communications professionals.
ZERO works to reduce climate change through policy strategies and technology solutions that reduce greenhouse gas emissions. In order to make emission-free solutions prevail, ZERO takes an active, constructive part in the political climate debate. We participate in political discussions in a broad range of forums and media to help politicians, industry and consumers choose climate friendly solutions.
ZERO believes that emission-free alternatives exist for all energy uses. ZERO's focus areas are:

- Renewable energy production
- Energy efficiency in buildings
- Carbon capture and storage (CCS)
- Electric power for the offshore petroleum sector
- Emission reduction in industry
- Carbon neutral transport
- Climate friendly agriculture and forestry

Within these focus areas, ZERO develops specific projects, such as promotion of electrical vehicle fast charge stations in Norway and promotion of energy-positive buildings. ZERO also hosts the Zero Rally, one of the world's largest emission-free vehicle car races.



9 CITIES INSTITUTE, LONDON METROPOLITAN UNIVERSITY (UK)

London Metropolitan University is one of the largest in the UK with over 25,000 students, located in campuses in both the city and north London. It is also one of the most diverse, with 190 nationalities represented. The University prides itself in its social justice and access mission, which is reflected in its research informed by sustainable development and inclusion principles. Research is concentrated in faculty research centres and institutes, including the Centre for International Business and Sustainability (CIBS), and the Transport Research Centre (TRaC) which is located at the Cities Institute - a multidisciplinary Institute undertaking applied research and knowledge exchange in a range of urban fields, among them social, economic and environmental, with specialist expertise in accessible transport, built and sustainable environments.

The Institute's research was judged to be of international excellence and world-leading standard in the last national assessment. This work is supported by EU Framework Programmes (SECOA, CSEYHP), Council of Europe, as well as UK research councils (EPSRC, AHRC, ESRC), government and industry. LondonMet is a partner in E-Mobility NSR, leading research in the London and Eastern NSR 'Plugged in Places' regions. Dr Steve Shaw, Prof Graeme Evans and Antje Witting will contribute to the orkpackage on Inventory and State of the Art and Stakeholder Analysis, comparative city case studies, as well as to transnational e-mobility planning, and London met will host the final conference.

11 TRANSENERGY SON (B) (STICHTING OPENBAAR NUT / PUBLIC UTILITY FOUNDATION) (BE)

TransEnergy (son) is the leader of Workpackage 5 "Smart Grid Solutions". The TEF-team is managed by Koenraad Grillaert, Wolfgang Hauer is responsible for financial issues and Giuseppe Pace handles the planning of activities.

Since the early 1990s, the TransEnergy team working in the automotive sector in the Flanders Region, gained real in-service experience on battery- and fuel cell-related electric and hybrid driveline applications (EV-Range+)(*) together with the EESA Lab at the Ghent University. This Hydrogen-based innovation was implemented in drive trains of city busses operating in different European and Canadian cities and was achieving low emissions.

At the same time the "RES Energy Islands" concept was introduced in the "RES Energy Corridors". The electricity produced is either delivered to the grid or hydrogen (H2) is created from it, using electrolysis technology. The produced hydrogen can then act as an energy buffer to provide electricity when required. This type of "RES Energy Island" setup is particularly suitable for wind turbine parks to generate a constantly higher power output than is otherwise feasible.

The cooperation of TransEnergy with the TELIN Lab covers the integration of information, data logging and communication technologies, both wireless and by-wire communication, into the vehicle.
These technologies can be used for:

- finding the nearest available charging spot
- identifying the vehicle being recharged
- payment procedures for recharging
- eco-predictions for navigation, best routes

*(EV-Range +)= Usage of hydrogen/ H2 as a range extender or as an alternative storage component

6 | SUB PARTNERS

In addition to the project partner institutions the following bodies are also associated with the emobility NSR project: Newcastle City Council (UK), City of Amsterdam (NL), Transport for London (UK), Hertfordshire County Council (UK)

NEWCASTLE CITY COUNCIL (UK)

Newcastle City Council is a Local Authority in North East England. The population within the authority is 277,800 and there are ambitious regeneration plans, which include the building of around 14,000 new homes over the next 14 years. The rate of unemployment in the area is around 8%.

Newcastle upon Tyne covers an area of 112 km2 north of the River Tyne. The area has a rich industrial heritage built around mining and shipbuilding and is famous for its seven great bridges across the River Tyne, linking Newcastle to Gateshead on the south bank.

Newcastle serves as the regional capital for a population of over two million people across North East England, as well as the many students who come to study at the city's two universities. As many issues affect the Tyne & Wear region as a whole, the City Council works together with Gateshead, North Tyneside, South Tyneside and Sunderland in such cases. Transport is one of these Tyne & Wear issues, where officers for Newcastle upon Tyne collaborate via the Local Transport Plan to meet shared targets, focused upon strengthening the economy, addressing climate change and creating safe and sustainable communities.

CITY OF AMSTERDAM (NL)

Electric mobility is essential, promising and realistic for Amsterdam as a leader in sustainability. The Amsterdam municipal executive wishes to achieve better air quality, to implement a cohesive and effective climate policy, and to cement Amsterdam's position as an attractive location for innovative international business. These key themes are brought together in the Amsterdam Electric program.

The ambition of Amsterdam Electric is the deployment of 10,000 electric vehicles, including 2,500 frequent business drivers (such as taxis and vans) in 2015 and 40,000 vehicles in 2020. To fulfil this ambition, Amsterdam has developed a targeted subsidy program for 2,200 electric commercial vehicles until 2015. Furthermore, in 2010 Amsterdam decided to implement 2,000 public charging points of which more than 400 (including 4 quick-charging stations) have been realized until today.

It is expected that with the construction of further charging infrastructure, 10,000 passenger cars (diesel and gasoline) can be replaced by electric vehicles before 2015. However, the impact, effectiveness and efficiency of the Amsterdam measures are significantly enhanced when geographically scaled. Cooperation with the region (public and private sectors) around Amsterdam, other large Dutch cities and throughout Europe is therefore essential.

In the E-Mobility NSR project, the City of Amsterdam – as a subpartner of the Province of North Holland – is mainly involved in the **workpackage 6** on the "Set up of Transnational Electric Mobility Information Centres (EMIC)". Within the Dutch EMIC, Amsterdam would like to share experiences on electric mobility and learn from the experiences from the other project partners.

TRANSPORT FOR LONDON (UK)

Transport for London (TfL) is the local government body responsible for implementing the Mayor of London's transport strategy, and for managing transport services in London. London is one of eight 'Plugged in Places' that receives additional funding from the UK government for EV infrastructure, and the Mayor has given his enthusiastic support with additional incentives such as exemption from the Central London Congestion Charge for EVs.

Since only 33% of Londoners can park their cars off-street and recharge at home, an extensive network of publically accessible charging points will be essential for drivers of electric cars, vans, light trucks, scooters, and motorcycles. Over 200 electric vehicle charge points have already been installed across the city, which will increase to 1,300 by 2013.

A recent development is the first widespread trial of wireless charging in the UK. Innovative technology enables EV users to charge their battery by driving over an electric charge pad instead of plugging in their vehicles. Based partly in the Shoreditch 'Tech City' centre in London's East End, the trial will include two industry partners. The Mayor's EV implementation strategy will help overcome barriers that may currently deter private drivers as well as firms with fleets of commercial vehicles. The INTERREG E-Mobility NSR project will facilitate exchange of knowledge and experience by TfL, the 33 local authorities and other London based stakeholders with their counterparts across the North Sea Region.

HERTFORDSHIRE COUNTY COUNCIL (UK)

Immediately to the north of Greater London, Hertfordshire is an upper tier non-metropolitan local authority, situated in the Eastern (NSR) region of England. Its County Council supports the development of a local low carbon economy that will enable and encourage the use of EVs across a geographical area that includes urban, suburban and semi-rural settlements, many of which are within London's commuter belt. Located within the East of England "Plugged in Area", Hertfordshire (like London) receives additional support from the UK government for EV infrastructure. Funding for the latter is managed by 'Evalu8', an independent agency set up by the University of Hertfordshire. Evalu8 now offers 75% match-funding for charging points: around 600 across the East of England, with just over 100 in Hertfordshire. In the near future, the County Council and Evalu8 will jointly install 15 points, mainly in the settlements of Watford, Hemel Hempstead and St. Albans. Hertfordshire County Council officers and their colleagues in other EV stakeholder organizations will participate in the INTERREG E-Mobility NSR network, and they are particularly keen to discuss positive outcomes from initiatives, especially sound evidence that will encourage public and commercial agencies to invest further in EV infrastructure over the next few years.

Subscribe to our electronic newsletter on the website to receive the latest information on upcoming project activities, relevant events, e-mobility studies and more:

www.e-mobility-nsr.eu

Hamburg University of Applied Sciences
Faculty of Life Sciences
Research and Transfer Centre
'Applications of Life Sciences'

Prof. Dr. (mult.) Dr. h.c. (mult.) Walter Leal
Franziska Mannke
Natalie Fischer

Lohbrügger Kirchstrasse 65
21033 Hamburg, Germany

Tel.: **0049 (0)40 42875-6324**
Fax: **0049 (0)40 42875-6079**
E-mail: **e-mobility@ls.haw-hamburg.de**
Website: **www.haw-hamburg.de/ftz-als.html**