NEMO PROJECT VISION, OBJECTIVES & EXPECTED IMPACT

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NeMo at a glance

Call identifier: H2020-GV-2015

Topic: GV-8-2015 Electric vehicles’ enhanced performance and integration into the transport system and the grid

EC funding: 7836827.04 €

Duration: October 2016 – September 2019

5 test sites

1 cross-country demonstration

Supported by eMI3, EUCAR, BMW Group
Challenges for the wide deployment of electromobility

• Interoperability of electromobility services and among eRoaming platforms
• Lack of a common data and information model for objects and services
• Lack of standardisation regarding information exchange and services provision
• Need for open system to integrate existing ICT services in a seamless way
• Need for access to large data, so as to appropriately forecast demand and efficiently optimise charging, minimising impact to the electric grid network
• Lack of common framework for commercial agreements
• Win-win business cases
A Hyper-Network of new and existing tools, models and services which will provide seamless interoperability of electromobility services, creating an open, distributed and widely accepted ecosystem for electromobility. NeMo aims at bringing the successful interoperability paradigm of seamless roaming (as in mobile telecommunications) into the domain of electromobility services, paving the way for a Pan-European eRoaming framework.
NeMo Strategic Objectives

• Develop a **Hyper-Network** for the provision of seamless and interoperable electromobility ICT services (for all users and actors)
• Create **Common Information Models** for objects, data and services
• Introduce a set of **ICT interfaces**, to facilitate the communication and data access for all actors
• Develop a **Core system** capable of providing ICT services
• Develop a set of **horizontal services** to facilitate the creation of innovative and smart services
• Create a set of **open APIs** that will enable an **open B2B Marketplace** for electromobility
• Develop a **self-certification mechanism**
• Develop a **pan European eRoaming framework**
• Develop **new business models** and scenarios for all actors
Actors in the Hyper-Network

Industry:
- Vehicle Manufacturer
- Charge Point Manufacturer
- Electromobility Service Provider

IT Suppliers:
- IT Service Developer
- IT Cloud Platform Provider
- eRoaming Platform Provider
- Map Service Provider
- Travel and Traffic Information Service Provider
- Routing and Navigation Service Provider

EU and Int. Organisations and Networks:
- Association of EV Market Stakeholders
- Stakeholders Interest Group
- NeMo Association

Decision Makers:
- Policy Maker
- Regulatory Body
- Energy Regulatory

Public Authorities:
- Municipality
- Tax Authority
- Control Authority
- Road Authority
- Road Operator

End Users:
- Driver
- Owner of EV
- Fleet Operator
- Logistic Company

Complementary Services:
- Payment Service Provider
- Insurance Operator
- Charge Card Operator

Charging Infrastructure:
- Charge Point Operator
- Charge Point Owner
- Parking and Service Stations Provider

Energy:
- Transmission System Operator
- Distribution System Operator
- Facility Manager
- Energy Retailer
- Aggregator, Energy Trader
How actors interact with the Hyper-Network
Functional Building Blocks of the Hyper-Network

Service Creation
- Planning
- Requirements & Design
- Code and Build
- Test and Debug
- Simulation
- Frameworks & Libraries
- Tooling
- Communication & Collaboration
- Change Management
- Quality Assurance

Service Delivery
- Business Services
  - Service Store
  - Business Partner Mgmt
  - Contract Mgmt
  - Payment & Billing
- Service Brokerage
  - Service Requester Access Gateway
  - Service Proxy Environment
  - Service Finder & Optimiser
  - Service Aggregation Engine
- Service Management
  - Service Store
  - Business Partner Mgmt
  - Contract Mgmt
  - Interface to OEM backend

Service Execution
- Horizontal Services
  - Actors Monitoring & Profiling
  - Rating & Pricing
- Electromobility Services
  - Grid Services
  - EV User Services
  - EV & Battery Services

Data Management
- Data Translators
- Business Partner Data Management
- Smart Processing Algorithms
- Operational Data Store

Analytics & Optimisation
- Information Visualisation
- Service Optimiser
- Predictive Analysis
- Anomaly Detection

Security & Compliance
- Authentication
- Authorisation
- Identity & Access Mgmt
- Monitoring & Auditing
- Federation
- Data Privacy

Open European Inter-Roaming Framework

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Expected impact

• Improved attractiveness of EVs
  – Enhanced driver satisfaction via a single method of identification, authorization and payment across providers and countries
  – Unified charging infrastructures for all operators connected to the NeMo Hyper-Network

• Easy creation and delivery to a wide audience of innovative, interoperable electromobility services via an open cloud marketplace

• Information exchange among all involved actors

• Integration of smart-grid applications and services, to support the EVs integration in the electricity grid
Thank you for your time!
Any Questions?

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