Vlaamse proeftuin Elektrische Voertuigen

Met steun van de Vlaamse overheid

EVS27

Barcelona, 20/11/2013

Flemish Living Lab Electric Vehicles

Carlo Mol

Programme Office

Vlaamse proeftuin
Elektrische Voertuigen

Met steun van de Vlaamse overheid

Innovations from lab to real-life !

Innovation is a costly process. Indeed only one out of 3000 product ideas makes it on the market, meaning that there are hundreds of unsuccessful ICT products beyond every success. Even successful products may be far from being user friendly. Surveys show that 75% of all users find their ICT tools more stressing than relaxing. In such a context, user-centric validation can play an important role in speeding up effectively the innovation process through addressing the actual user needs.

Living Labs are open innovation environments in real-life settings, in which user-driven innovation is fully integrated within the co-creation process of new services, products and societal infrastructures. In recent years, Living Labs have become a powerful instrument for effectively involving the user at all stages of the research, development and innovation process, thereby contributing to European competitiveness and growth.

Vlaamse proeftuin Elektrische Voertuigen

Met steun van de Vlaamse overheid

Flemish Living Lab : 2011-2014

- Call end 2010 for setting up a “Living Lab Electric Vehicles” to **facilitate and accelerate the innovation and adoption of electric vehicles in the Flemish region.**
- Set up an **open “real-life” innovation platform** in which innovations can be tested by representative end users in their own living and working environment.

EVA Elektrische Voertuigen in Actie

iMOVE

OLYMPUS

eVTecLab

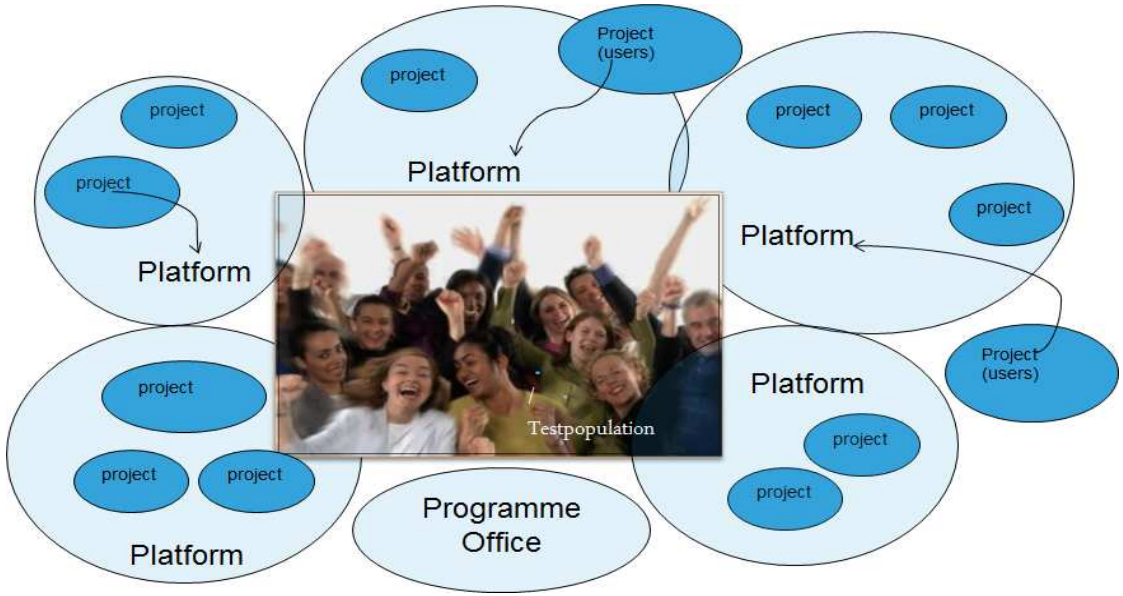
- Decision Flemish Government (15/7/2011) : Approval of 5 different platforms (3 years)
- Programme Office

iwt

Vlaamse proeftuin Elektrische Voertuigen

Met steun van de Vlaamse overheid

Open “real-life” innovation platform



- 5 Platforms
  - Funding : 16,25 m€
  - Budget : 27 m€
  - 71 unique partners
    - 48 companies
    - 8 universities/research
    - 15 local governments
  - Budgets mainly for **investment in open testinfrastructure (vehicles, chargepoints, dataloggers, ICT)**
  - Operating cost to keep platform up and running (testpopulation, communication, …)
- Programme Office
  - Central point of contact, support of platforms, facilitate common working groups, …
- Project
  - Research projects making use of platform infrastructure, data, knowledge, …
  - Open innovation platform : also external companies (= users) can initiate projects
  - Projects need to find budget via existing channels like IWT, Interreg, ERA-NET, Horizon 2020, …

Vlaamse proeftuin Elektrische Voertuigen

Met steun van de Vlaamse overheid

Research topics
Flemish Living Lab Electric Vehicles

- 5 Platforms with different focus on **research topics** :
  - **Technology** :
    - Electric vehicles (bike, scooter, car, van, bus, truck), drivetrain components, batteries, …
    - Charging infrastructure (public and semi-public domain)
  - **Energy** :
    - Renewable energy integration, microgrids, grid impact, aggregator role, …
  - **Mobility** :
    - Mobility behaviour, new mobility concepts (multi-modal, shared, …), …
- **New products/services/business models, feedback end users, …**
- **Results : Economic & Societal Benefits**

Vlaamse proeftuin
Elektrische Voertuigen

Met steun van de Vlaamse overheid

5 Platforms
Flemish Living Lab Electric Vehicles

eVTecLab

punch powertrain
Gear up for the future

EVA
Elektrische Voertuigen in Actie

eandis
altijd in uw buurt

iMOVE

umicore
materials for a better life

Vlaamse proeftuin
Elektrische Voertuigen

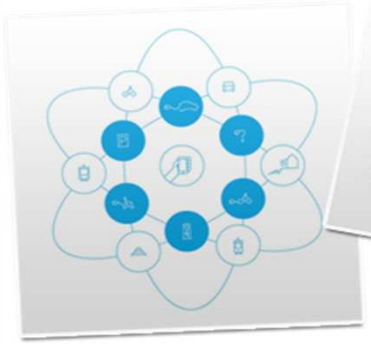
Met steun van de Vlaamse overheid

5 Platforms
Flemish Living Lab Electric Vehicles

SIEMENS

OLYMPUS

B HOLDING



Vlaamse proeftuin Elektrische Voertuigen

Met steun van de Vlaamse overheid

Flemish Living Lab Electric Vehicles

Vlaamse Proeftuin Elektrische Voertuigen

Jaarverslag over het eerste werkingsjaar

Programme Office Elektrische Voertuigen

www.proeftuin-ev.be

Vlaamse Proeftuin Elektrische Voertuigen

Tussentijds verslag – midden 2013

Programme Office Elektrische Voertuigen

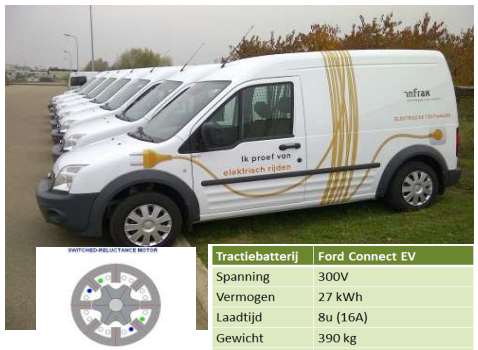
www.proeftuin-ev.be

Vlaamse proeftuin
Elektrische Voertuigen

Met steun van de Vlaamse overheid

Electric Vehicles : a broad range

243



Tractiebatterij	Ford Connect EV
Spanning	300V
Vermogen	27 kWh
Laadtijd	8u (16A)
Gewicht	390 kg
Celtype	Lithium ijzer fosfaat

...

Testpopulation / Use cases

193 families

- Residential
- Companies : company or pool car
- Cities

> 100

Vlaamse proeftuin
Elektrische Voertuigen

Met steun van de Vlaamse overheid

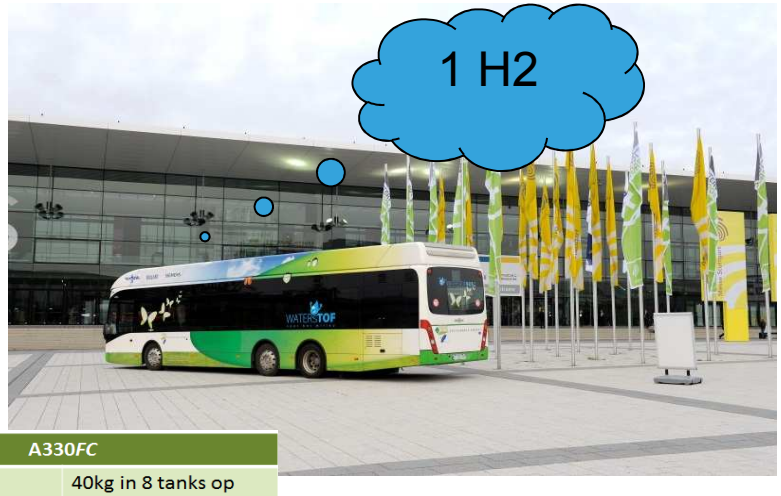
Electric Vehicles : a broad range

> 90

4

2

1 H2



A330*FC*	
H_2-voorraad	40kg in 8 tanks op 350 bar
Brandstofcel	150 kW
Batterij	60kW nom 100kw piek
Motorvermogen	2x85 kW

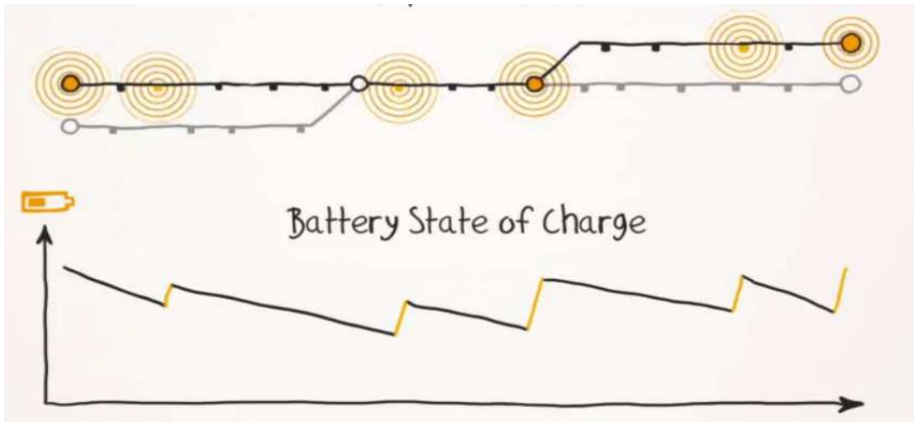
E-Truck *Full Electric*	
Bereik	200km
Bruto gewicht	Tot 22ton
Type	DAF CF
Asconfiguratie	2 of 3 assen
Batterij energie inhoud	144 kWh
Motorvermogen	150kW
Max snelheid	90km/u
Laden	32A, 3ph contact
Laadtijd	8u

Electric Vehicles : a broad range

3 BEV

- City of Bruges (2014)

A308*E*	
Type	Lage vloer, midi bus
Buslengte	9,4 m
Capaciteit	18 zittend en 38 staand
Bereik	Continu – op een gedefinieerde lijn
Conductief snelladen	140 kW
Inductief snelladen	170 kW
Inhoud Batterijpakket	LTO Technologie – 34.8kWh



Vlaamse proeftuin Elektrische Voertuigen

Met steun van de Vlaamse overheid

move i-know

Tracking crowds,
Respecting personal space

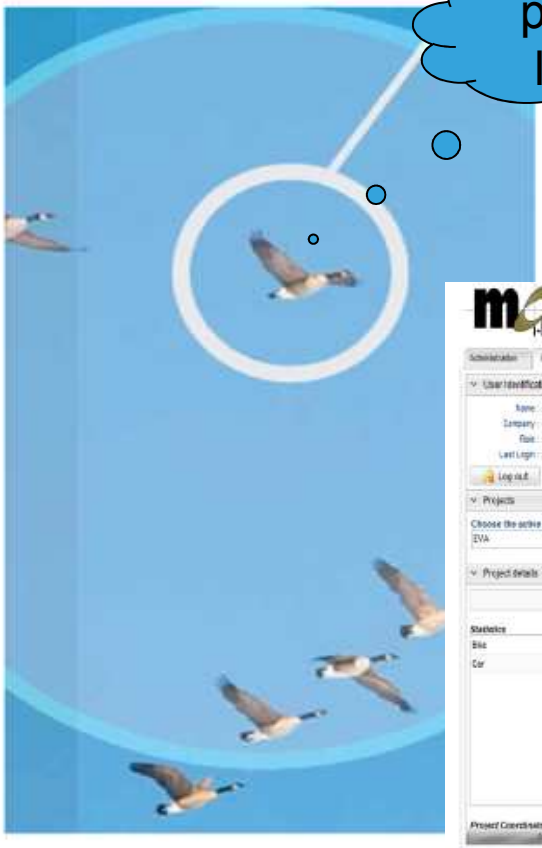
Datamonitoring

CAN and/or GPS

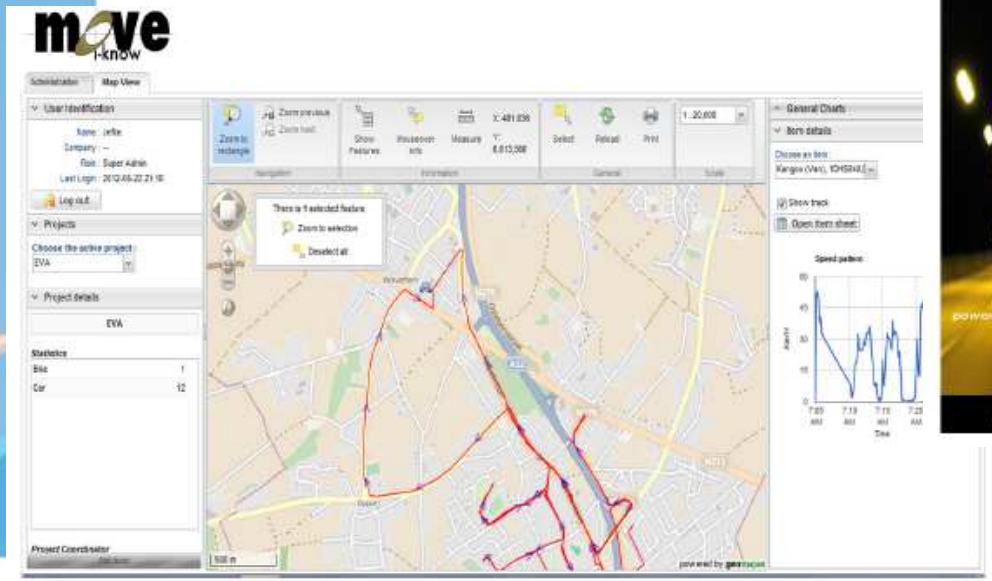
EVA
Elektrische Voertuigen in Actie

OLYMPUS

privacy levels



surveys



Vlaamse proeftuin Elektrische Voertuigen

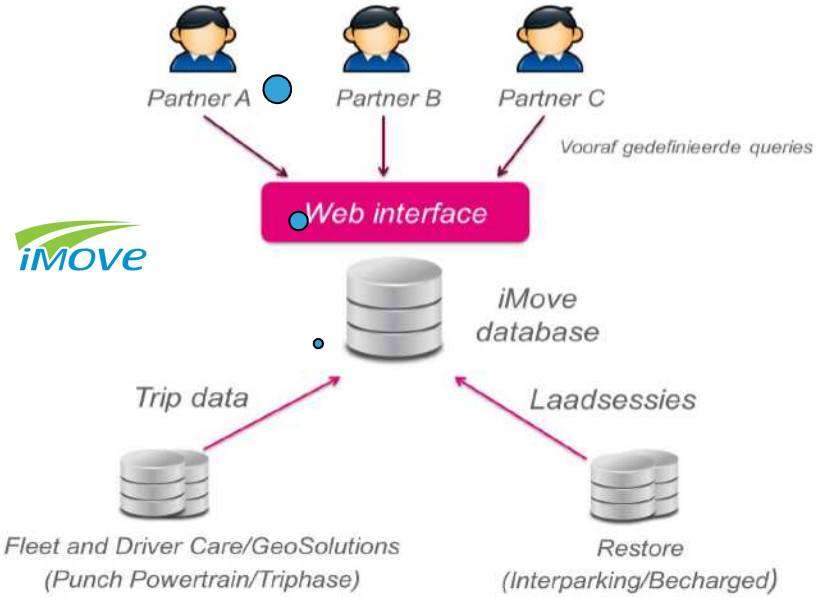
Met steun van de Vlaamse overheid

Datamonitoring

> 1.000.000 km

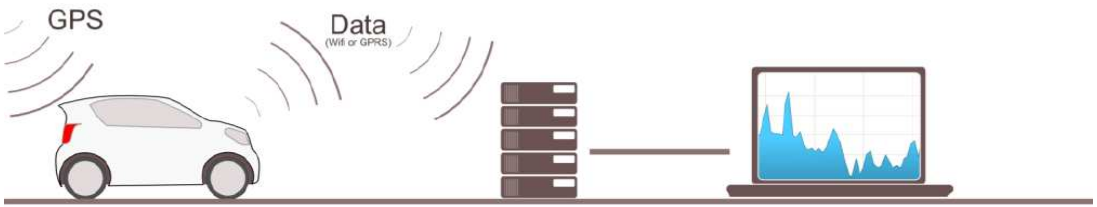
eVTecLab

driving and charging behaviour



VITO data logging

- On board data logger
- GPS + CANbus
- GPRS
- Back-end at VITO
- Processed data to Volt Air / Powerdale server



Vlaamse proeftuin
Elektrische Voertuigen

Met steun van de Vlaamse overheid

Charging infrastructure

157 locations

839 charging points for bikes and cars (349)

Vlaamse proeftuin Elektrische Voertuigen

Met steun van de Vlaamse overheid

Charging infrastructure

Public and Semi-Public domain

Laadinfrastructuur:

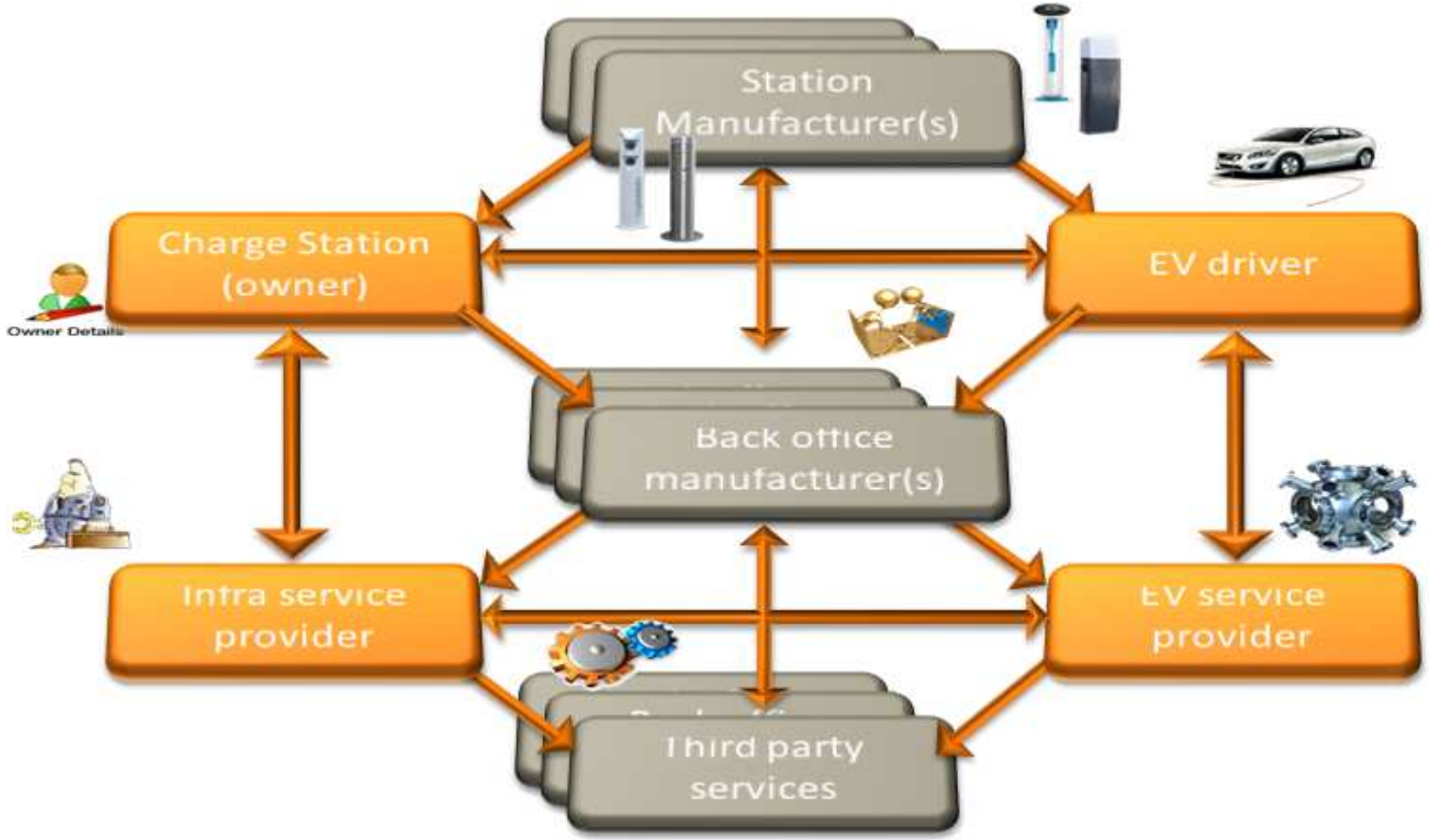
- ✓ Laadinfra voor 12 elektrische wagens en 12 e-bikes/scooters in 34 treinstations
- ✓ Laad- & uitgiftestations voor fietsen (5 in Gent en 4 in Hasselt)
- ✓ Verbinding laadinfra met distributienetwerk
- ✓ Backoffice laadinfra

Charging infrastructure : 7 different brands and different operators and mobility providers

Vlaamse proeftuin Elektrische Voertuigen

Met steun van de Vlaamse overheid

Charging infrastructure : Marketmodel



Source : eMI3

Charging infrastructure : Interoperability

Vlaamse proeftuin Elektrische Voertuigen

Met steun van de Vlaamse overheid

Vlaamse proeftuin Elektrische Voertuigen

PERSMEDEDELING VAN VICEMINISTER-PRESIDENT INGRID LIETEN
VLAAMS MINISTER VAN INNOVATIE, OVERHEIDSINVESTERINGEN, MEDIA EN ARMOEDEBESTRIJDING

25 mei 2012

UNIFORME LAADSTEKKER VOOR PUBLIEKE OPLAADINFRASTRUCTUUR ELEKTRISCHE VOERTUIGEN

Om het voor de gebruiker van een elektrische wagen zo gemakkelijk mogelijk te maken om op te laden bij de publieke oplaadpunten in Vlaanderen, is het belangrijk dat dit overal met dezelfde laadkabel kan gebeuren. Een standaard stekker is één van de eerste belangrijke stappen die nodig zijn om van elektrisch rijden een succes te maken.

De platformen uit de Vlaamse Proeftuin Elektrische Voertuigen hebben, onder begeleiding van het Programme Office, gezamenlijk besloten dat Mode 3 laden met de IEC62196-2 Type 2 stekker de standaard keuze wordt voor het opladen van elektrische wagens in de publieke oplaadinfrastructuur in Vlaanderen.

EUROPESE COMMISSIE

Brussel, 24.1.2013
COM(2013) 18 final

2013/0012 (COD)

Voorstel voor een

RICHTLIJN VAN HET EUROPEES PARLEMENT EN DE RAAD

betreffende de uitrol van infrastructuur voor alternatieve brandstoffen

CEN – European Committee for Standardization
CENELEC – European Committee for Electrotechnical Standardization

CENELEC

Focus Group on European Electro-Mobility

Standardization for road vehicles and associated infrastructure

Report

in response to Commission Mandate M/468 concerning the charging of electric vehicles

Version 2 - October 2011

ACEA

Brussels, 14 September 2011

ACEA position and recommendations for the standardisation of the charging of electrically- chargeable vehicles

NEW E-MOBILITY COORDINATION GROUP TO ADVISE CEN-CENELEC ON STANDARDISATION

On 23 March the kick-off meeting of the CEN/CENELEC eMobility Coordination Group (eM-CG) brought some 50 stakeholders together to discuss the work structure of this newly created joint coordination group. The eM-CG will advise the Technical Board of CEN and CENELEC on the on-going European requirements relating to electric vehicle standardisation. In particular, it will maintain an overview of the implementation of the recommendations of the CEN-CENELEC eMobility Focus Group, and serve as a focal point for the implementation by CEN-CENELEC of Mandate M/468 "Standardisation mandate to CEN, CENELEC and ETSI concerning the charging of electric vehicles".

Vlaamse proeftuin Elektrische Voertuigen

Met steun van de Vlaamse overheid

Charging infrastructure : Interoperability

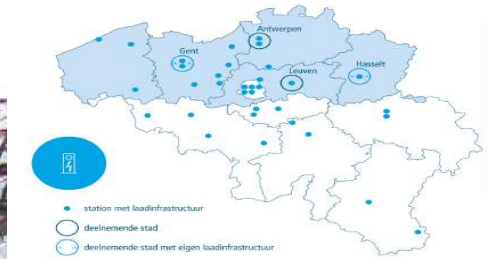
Vlaamse proeftuin Elektrische Voertuigen

Met steun van de Vlaamse overheid

Open service platform for mobility services

From A to B ?
Networked &
Shared

OLYMPUS
Proeftuin elektrische voertuigen



Laadinfrastructuur:

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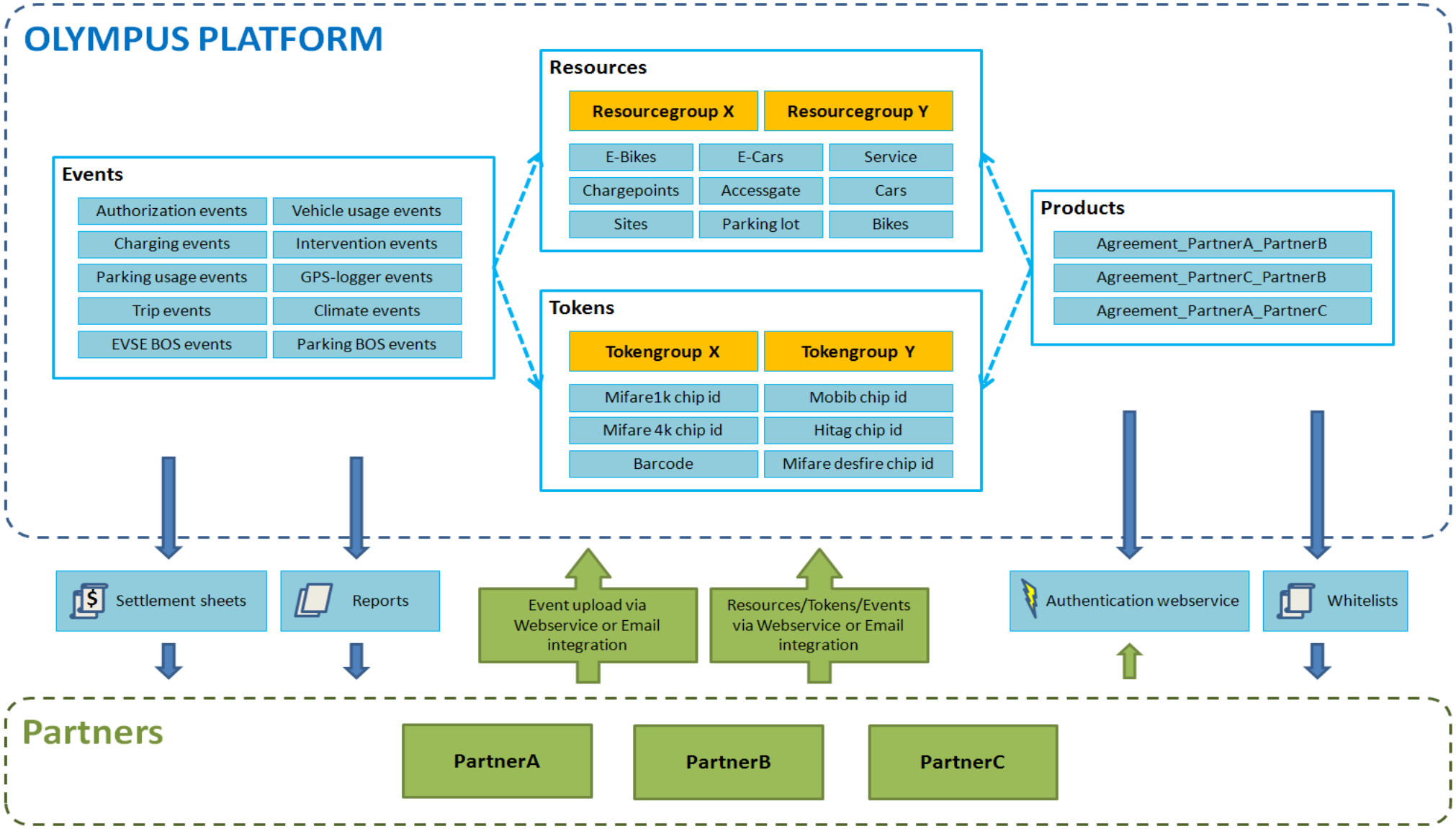
- Backoffice laadinfra

Vlaamse proeftuin Elektrische Voertuigen

Met steun van de Vlaamse overheid

Open service platform for mobility services

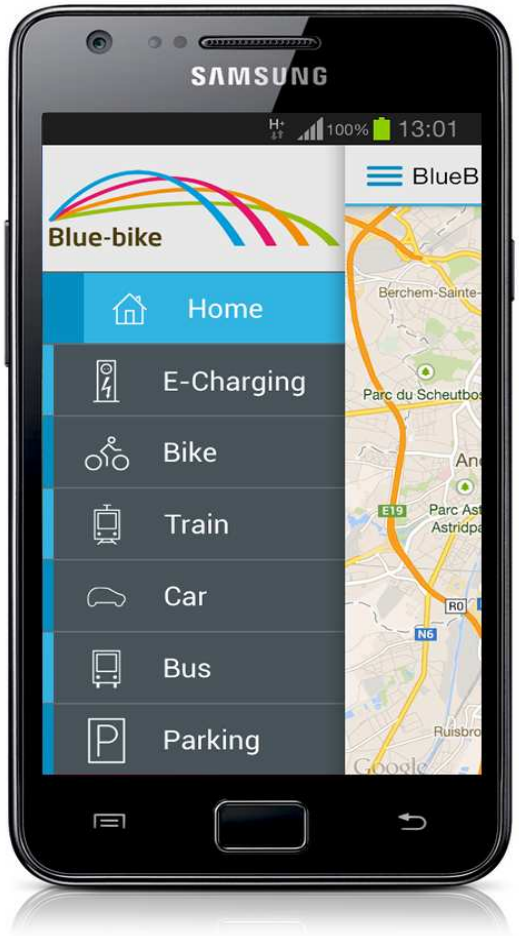


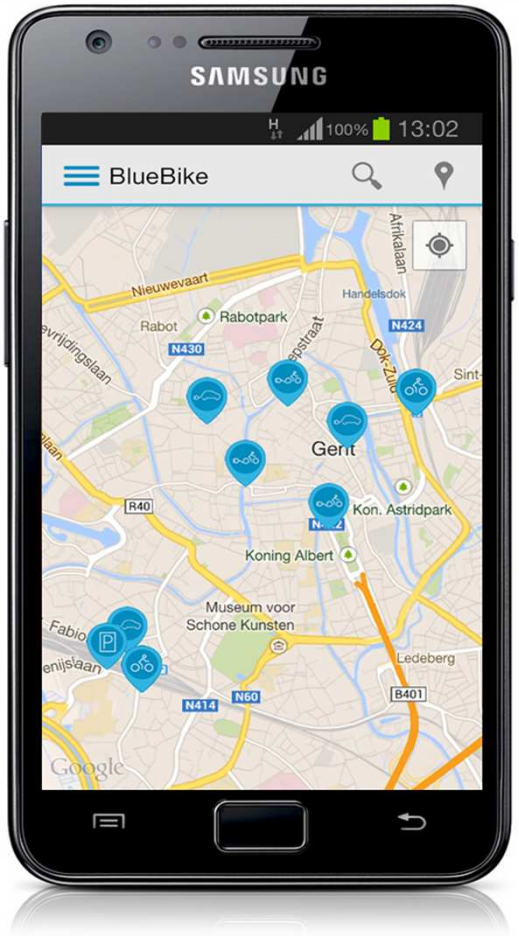
Vlaamse proeftuin Elektrische Voertuigen

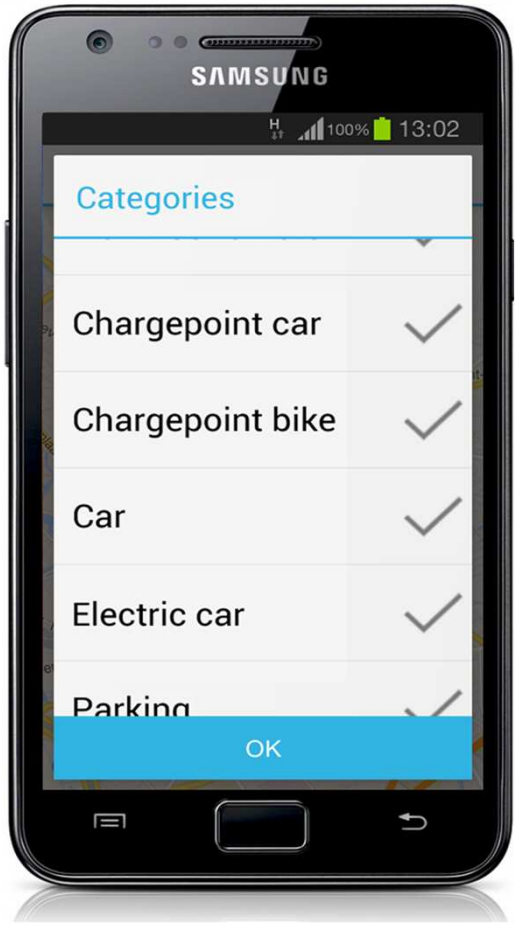
Met steun van de Vlaamse overheid

Open service platform for mobility services

- Smart App “MoveFree” : end user = director of it’s own mobility





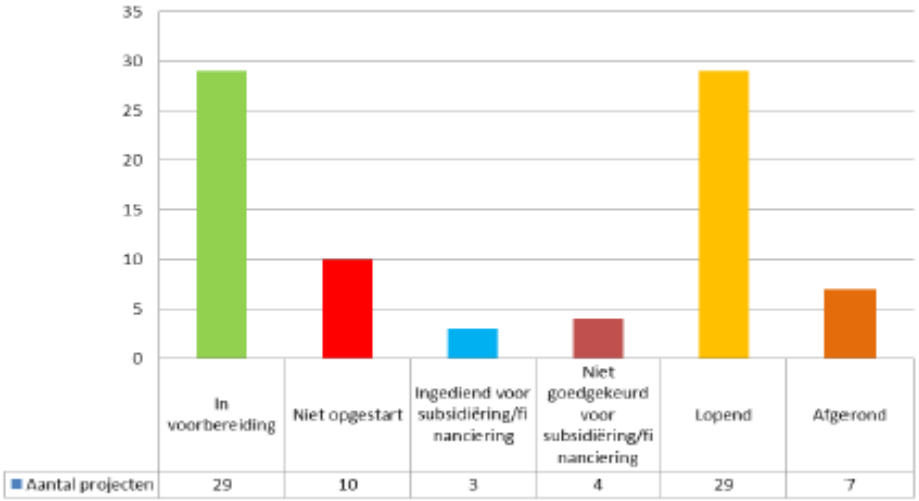


Vlaamse proeftuin Elektrische Voertuigen

Met steun van de Vlaamse overheid

Projects

- Research projects making use of platform infrastructure, data, knowledge, …
- Open innovation platform : also external companies (= users) can initiate projects



- Open for further collaboration e.g. within Horizon2020

Vlaamse proeftuin Elektrische Voertuigen

Met steun van de Vlaamse overheid

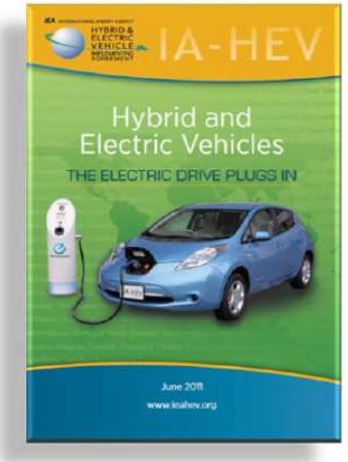
International contacts

Dissemination
Lessons Learned
Projects
Standardisation

Handelsmissie
Vlaanderen-
Baden-Württemberg

TIDE

Internationaal :
- Verankering/Bekendmaking
- Lessons learned uit het buitenland



'De daadwerkelijke start van elektrische mobiliteit in Vlaanderen'

Development of the European Framework for Electromobility

FP7 call TRANSPORT – 2010 TREN -1
43 partners
Project Start: March 2011

24 Mio € funded by:

Green eMotion

Scope

- ICT interfaces, application level protocols and standardized software services
- Initial focus on business objects like unique identifiers, data models, attribute lists and data structures

Flemish Living Lab Electric Vehicles @ EVS

- Presentation on Flemish Living Lab Electric Vehicles (Programme Office , Carlo Mol)
- Identification of EV use patterns, based on large scale EV monitoring data (VUB - De Cauwer C.)
- Living Lab Electric vehicles Flanders (Belgium): The influence of testing an EV on the general appreciation of electric mobility (VUB - Heyvaert S.)
- Multi-actor business model analysis of uncoordinated electric vehicle charging compared to local load management, (VITO, Annelies Delnooz)
- Volt-Air: Where energy meets mobility (VITO, Tobias Denys)
- Booth E526 : Triphase & E-trucks Europe (EVTecLab platform)

Green eMotion External Stakeholder Forum

Green eMotion External Stakeholder Forum, Fira, Barcelona, November 21st 2013

The Green eMotion Project (GeM) is the largest EC funded electric vehicle project with 43 partners from 10 demonstration regions across Europe. If you would like to get a better understanding of the work being done to create a framework for electromobility in Europe, then the 7th Green eMotion External Stakeholder Forum is the event to attend and will take place on the 21st of November 2013 at Fira, Gran Via, Barcelona. The draft agenda is outlined below and includes a wide range of topics on electromobility from the project as well as from external stakeholders. Topics include: The GeM Marketplace, Roaming, Standards, Smart Grids and Real Life Data From EVs. To register for the event click on the link below :

http://www.eurelectric.org/events/2013/green-emotion-external-stakeholder-forum/

08:30 - 09:00	**Coffee & Registration**		
09:00 - 09:10	Welcome & opening of the conference	Dr. Heike Barlag	Siemens
09:10 - 09:20	Welcome from Barcelona City	Ramon Pruneda	Barcelona City Council
09:20 - 09:35	Words from the co-chair	Carlo Mol	Flemish Living Labs
09:35 - 09:55	Green eMotion status update	Dr. Heike Barlag	Siemens
09:55 - 10:15	Towards a Connected (EV) World: The Green eMotion Marketplace connecting European Demo Regions for seamless (electro) mobility	Volker Fricke	IBM
10:15 - 10:30	First experience of roaming between Green eMotion demo regions	TBC	TBC
10:30 - 11:00	**Coffee & Networking**		
11:00 - 11:15	The Links Between eMobility and Storage Batteries - Policies and applications for the overall energy storage picture.	Alfons Westgeest	Eurobat

Vlaamse proeftuin Elektrische Voertuigen

Met steun van de Vlaamse overheid

Green eMotion External Stakeholder Forum

Green eMotion

11:15 - 11:30	Connecting electric vehicle infrastructure, a communications perspective	Mark Rose	Vodafone
11:30 - 11:55	Real-life data on the use of Plug in Hybrid Electric Vehicles from Green eMotion and external demonstration regions	Cristina Corchero & Speaker TBC	IREC & TBC
11:55 - 12:10	COTEVOS Project: Concepts, Capacities and Methods for Testing EV systems and their interoperability within Smart Grids	Eduardo Zabala	Tecnalia
12:10 - 12:25	Intercharge – international interoperable charging	Thomas Daiber	Hubject
12:25 - 12:40	Standards for electromobility: an update	Silvio Weeren	IBM
12:40 - 13:55	**Lunch & Networking**		
	Session: Smart Grid Integration and Load Management		
13:55 - 14:20	Smart grid functionalities as a facilitator to mass market adoption of EVs	Enrique Meronjo	Iberdrola
14:20 - 14:45	Trialling intelligent grid rearrangement in Ireland	Senan McGrath	ESB
14:45 - 15:10	Controlling EV charging based on grid demands	TBC	TBC
15:10 - 15:40	**Coffee and Networking**		
15:40 - 15:55	Barcelona-Malaga - Local Impact of high level EV penetration and Fast Charging and using second life battery to support the grid	Narcis Vidal	Endesa
15:55 - 16:10	Core Green eMotion values as a foundation of seamless emobility	Norbert Vierheilig	Siemens
16:10 - 16:20	**Closing Remarks**	Dr. Heike Barlag	Siemens

Vlaamse proeftuin
Elektrische Voertuigen

Met steun van de Vlaamse overheid

E-mobility innovations : from lab to real-life !

Flemish Living Lab
Electric Vehicles

Carlo Mol

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carlo.mol@livinglab-ev.be - www.livinglab-ev.be