



Improving the EV charging experience within cities and for longer trips: the eCharge4Drivers project

Name

Title

Organisation



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 875131 (Innovation Action)

eCharge4Drivers in a Nutshell



Call identifier: H2020-LC-GV-2018-2019-2020

Topic: GV-10-2017 "Demonstration (pilots) for integration of electrified L-category vehicles in the urban transport system"

EC funding: 14,424,526.39 €

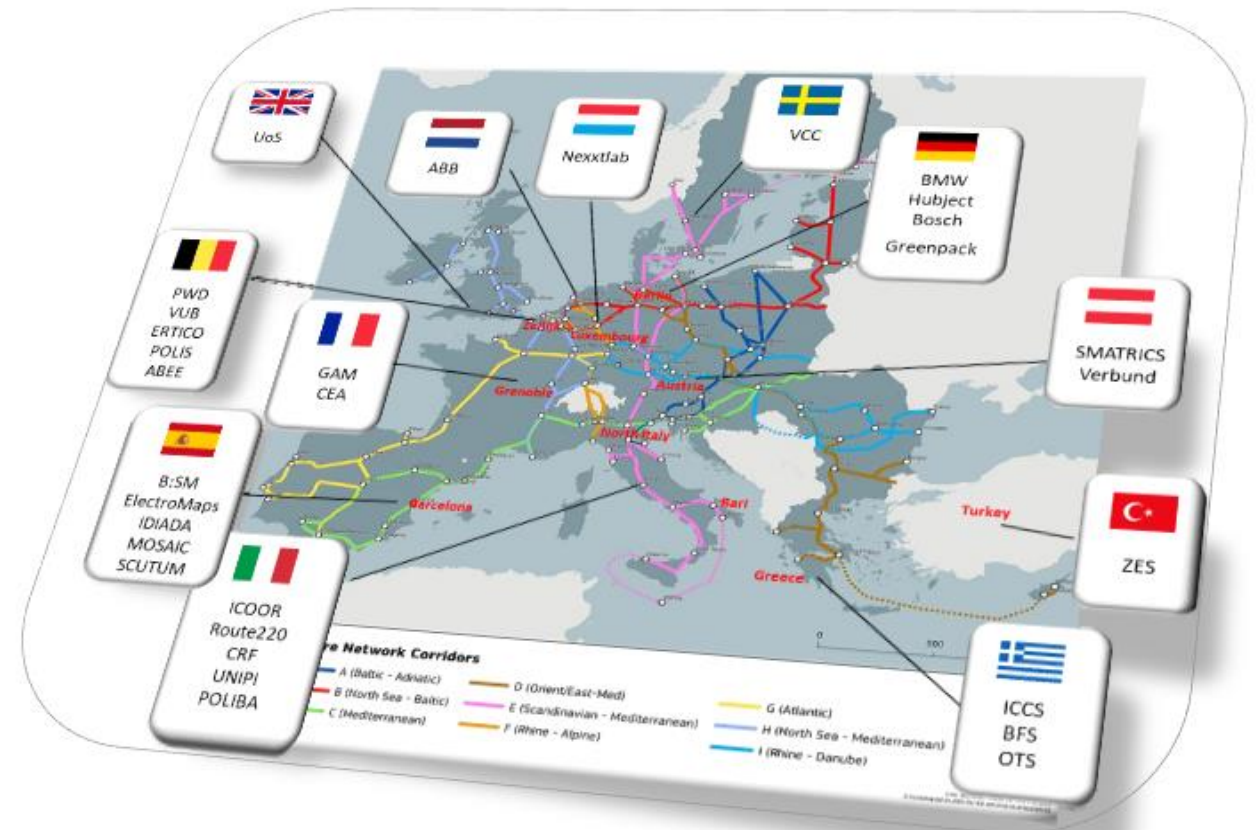
Duration: June 2020 – May 2024

12 countries - 31 Partners – 10 demonstration areas

SCOPE:

eCharge4Drivers aims to improve the **Electric-Vehicle charging experience in urban areas** and on interurban corridors towards promoting e-mobility concept and making it more convenient for users to go green by **developing and designing user-centric and interoperable charging solutions.**

Different e-mobility maturity level



<https://echarge4drivers.eu/>

Strategic objectives



O-1: Understand the user needs so that the project charging solutions and services substantially **improve the user charging experience**

O-2: Develop and demonstrate **user-friendly and cost-efficient charging stations** for passenger vehicles and LEVs

O-3: Design and **demonstrate advanced user-centric charging services (smart charging/booking/routing)** serving diverse objectives and unlocking several business opportunities

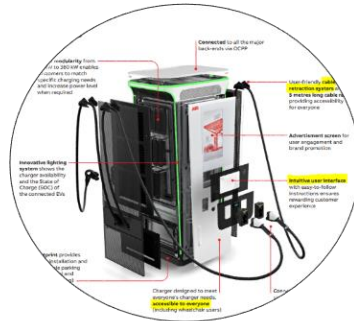
O-4: Enable and demonstrate **interoperability of end-to-end communication** and provision of **enhanced information to the EV users**, before, during and after a charging session

O-5: Propose mechanisms to **accelerate the deployment** of charging infrastructure and other charging services in a sustainable and user-centric way (CP location planning tools, new tariff/.incentives schemes)

eC4D demonstration topics



User-friendly & modular CS
with enhanced user interfaces



Multi-outlet DC CS for
(L)EVs supporting V2G
functionality



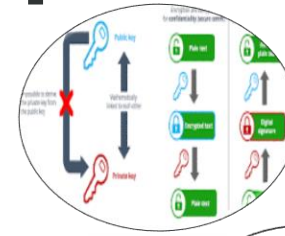
Battery sharing concept for
L1e vehicles



V2G EV prototypes &
EV/EVSE emulators for
towards ISO15118 PnC



Advanced charging authentication -
ISO15118PnC



Enhanced Booking Service &
routing service



Smart charging services suite
(peak demand shaving, EV/RES
synergy/ microgrid concept, etc.)



EV demand prediction model &
Charging location planning tool



Incentives schemes and tariff structures towards
emobility sustainability
(EU best practices and generic tariffication formula)



eC4D
focus
areas

Technologies

Services

Decision tools

EVs and parking operations: services, tariffs, and enforcement in Grenoble



- **Grenoble-Alpes Métropole (GAM)**
- Located in the Alps and surrounded by 3 mountains ranges
- Local urban authority covering Grenoble's greater urban area:
 - 49 Municipalities
 - 450.000 inhabitants



Charging points on lamp posts



- Objectives:
 - Take the advantage of **electrical device not in use during the day to permit EV charging**
 - **Optimize the occupation of public space**
- 2 possible options:
 - Installation on **public space**, with the charging points accessible to common users > most likely
 - Installation on a **parking space company**, with the charging points accessible to employees and EV's company



A charging point on lamp post in la-Roche-Sur-Yon

Charging points on lamp posts



- Technical specificities:
 - 3,7 kVA > **low power**, slow charging > for **residential use**
- Main difficulties:
 - The wiring of the local network to **allow the installation of one or more charging points at 3 kW**
 - The **available power of the public lighting sections**, because with the switch to LED the contracts are of low power
 - Electricity supply contracts which can be in **"night" mode** (therefore no daytime supply)
 - The **concomitance of the parking spaces with the lamp posts masts** (< 50cm so that people avoid passing between the car and the mast and tripping over the cable)

Charging points on lamp posts



- Organisation:
 - The **city (or company)** will provide with the lamp posts
 - The **company** selected through a tender will provide with the chargers
 - Charging points on lamp posts will be integrated to the supervision of the **CPO**
- Timeframe:
 - Contract to be signed with the company (Sept. 2022)
 - Installation 4th quarter 2022



Other experiences



New tariff schemes



- Objectives:
 - **Balancing takings and OPEX** as quickly as possible
 - Prioritize **complement charging**
 - **Increase the availability of charging stations by promoting vehicles rotation**
- Pricing is based on:
 - kWh consumption
 - Space occupation time, which depends on the pressure on this space (consistency with parking policies), with 2 differentiated zones

New tariff schemes

- New tariff schemes:
 - Park and ride facilities: 0,25 €/kWh
 - On-street, for subscribers:
 - Subscription 6€/month; 0,25€/kWh + 1€/30 min (free at night)
 - On-street, for non-subscribers:
 - 0,45€/kWh + 1€/30 min
 - Hypothesis to balance takings and OPEX: doubling of the number of users;
 - if the number of users is multiplied by 1,5, the deficit is estimated at 32 k€;
 - if the number of users is multiplied by 3, the benefit is estimated at 85 k€.
- Timeframe:
 - New tariff schemes applied since 1st April 2022



RECHARGEZ VOTRE VÉHICULE ÉLECTRIQUE AVEC alizé

Une marque de **BOUYGUES ENERGIES & SERVICES**

GRENOBLE ALPES MÉTROPOLE

COÛT DU SERVICE DE RECHARGE (applicable au 1er avril 2022)

	Tarif abonné*	Tarif non-abonné
Coût au kWh	0,25 € / kWh	0,45 € / kWh
Coût horaire	1 € / 30 min Gratuit entre 20h et 9h	1 € / 30 min

* L'abonnement est de 6€/mois. Rendez-vous sur www.alizecharge.com/fr/partenaires/grenoblealpes-metropole/
La puissance indiquée sur la borne est une puissance maximale qui peut ensuite être limitée par votre véhicule.

Besoin d'aide ?
0 805 02 14 80

Avec votre badge OùRA! ou un badge partenaire**

- 1 Badgez, branchez et chargez
- 2 Terminez la charge en débranchant votre véhicule
Si besoin, badgez au préalable

** Vérifiez la compatibilité de votre badge et les surcoûts auprès de votre opérateur de mobilité

Avec votre smartphone

- 1 Téléchargez l'application Alizé et créez un compte
- 2 Sélectionnez le point de charge et démarrez la charge
- 3 Terminez la charge en débranchant votre véhicule
Si besoin, arrêtez la session depuis votre application

New tariff schemes

Accelerated charging 22 kW –
On-street – Most frequent case



1h26

11€ for subscribers downtown

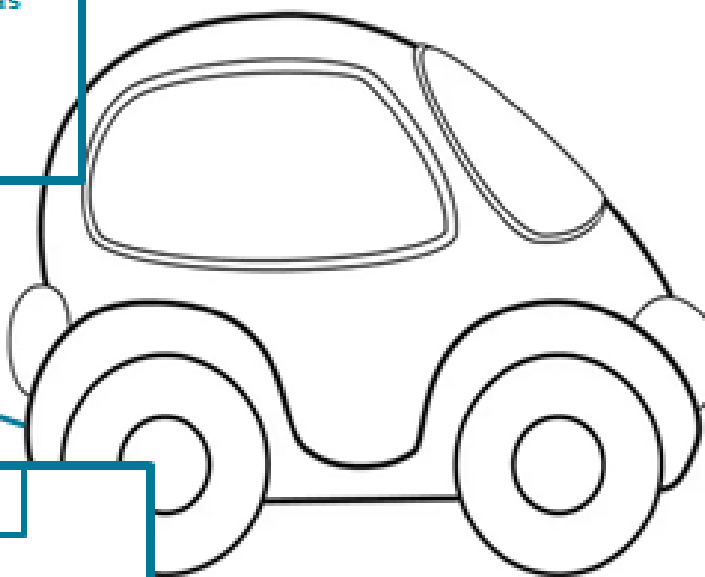
8 € for subscribers in peripheral areas



17 € for non subscribers

1 use case with a Renault Zoé 50 kWh (model 2020):

- Battery from 20% to 80% : 31,2 kWh charging



Slow charging 7 kW – On-street



4h15

17 € for subscribers downtown

13 € for subscribers in peripheral areas



23,4 € for non subscribers

At home



8h50



4,86 €



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