EVERYWH2ERE
Making Hydrogen affordable to sustainably operate Everywhere in European Cities
EVERYWH2ERE Vision

2017

2023

TRL 8 – Plug and Play – Reliable
0 emission – 0 Noise
Interesting for Cities and Events’ Organizers
EVERYWH2ERE Abstract

European cities can become living lab for the demonstration of FC and H2 technologies, starting from their use in niche, but everyday applications such as temporary gensets that are used in construction sites, music festivals and temporary events.

EVERYWH2ERE project will integrate already demonstrated robust PEMFC stacks and low weight intrinsically safe pressurized hydrogen technologies into easy to install, easy to transport FC based transportable gensets. 8 FC containered “plug and play” gensets (4x25 kW + 4x100 kW) to be tested in construction sites, music festivals and urban public events all around Europe.

EVERYWH2ERE MAIN ACTIVITIES

- Demonstration campaign
- Three replicability studies for the use of the gensets in new contexts
- A detailed business, logistic and environmental analysis (Support Tool)
- Strong dissemination and stakeholders’ engagement campaign (city, event industry ecc.)

Start Date: 1 February 2018
End Date: 31 January 2023
**EVERYWH2ERE Objectives**

**M01:** Capitalize EU FC industry expertise and close to market products in automotive/backup power communication sectors, towards the design of reliable, easy to use transportable FC gensets (WPI)

**M02:** Realization and demonstration of eight PEMFC transportable gensets (4x25 kW and 4x100 kW) integrated with pressurized H2 storage (WP2-3-4)

**M03:** Leverage demonstration campaign for the future techno-economical replicability of the FC gensets (WP5-6) – Realization of a Logistic Decision Support tool

**M04:** Demonstration of economic viability, safety and environmental sustainability of the novel solutions (WP5-6) – Realization of replication feasibility studies and an E-Handbook for replication

**M05:** Communication, dissemination and preparation of the future deployment of the new EVERYWH2ERE gensets through public and private stakeholders engagement (WP7) – Stakeholders and City Groups

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**Note:** This project has received funding from the Fuel Cells and Hydrogen 2 Joint Undertaking under grant agreement No 779606. This Joint Undertaking receives support from the European Union’s Horizon 2020 research and innovation programme, Hydrogen Europe and Hydrogen Europe research
EVERYWH2ERE Challenges

- High TRL to be achieved: TRL 8
- Logistic, permitting, environmental (at LCA level) aspects to be studied
- Proper contractual arrangements
- A pre-industrial project
- Dissemination and Stakeholders’ engagement is crucial: let’s make EU and cities aware of EVERYWH2ERE!
- A long but well structured project both in terms of responsibilities and timing
EVERYWH2ERE 25 kW Genset

- 350bar Tanks (MAHY)
- HTV Check valve, ESV, manual valve, bleed valve, excess flow filter, temperature sensor, TPRD, regulator, PRV
- H2 containerized storage (LINDE)
- Receptacle
- H2 refueling Station / H2 Truck
- Defueling
- Pressure gauge, pressure sensor, Safety manual valves, ESV
- EVs power & Safety control parameters
- H2 supply
- To / From 25kW FCS

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EVERYWH2ERE 100 kW Genset

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EVERYWH2ERE: A demonstration to Market Project

DEMONSTRATION IS CRUCIAL IN EVERYWH2ERE – In Construction sites and Events

Construction Demosites: Frederikssund Bridge - Sweden and Galicia High Speed Railway - Spain

Music Festivals: more than 25 LoS collected by DI

Public Temporary Events: FHA (1x25 kW +1x100 kW + logistic budget) and ENVI (1x25 kW) received support from local authorities to test the genset at local events (Huesca Film Festival, Slow Food Festival etc.)
**EVERYWH2ERE: A demonstration to Market Project**

DEMONSTRATION IS CRUCIAL IN EVERYWH2ERE in construction sites, temporary events, music festivals etc. On the field performance, logistic, environmental data useful for future replication!

### 25 kW GENSET

<table>
<thead>
<tr>
<th>PARTNER in CHARGE</th>
<th>locations</th>
<th>N° of events</th>
<th>events duration</th>
<th>starting dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>1x 25 @ ENVI PARK (TORINO)</td>
<td>Public events in Italy/Partnership with Torino</td>
<td>5-10 events per year</td>
<td>2 to 15 days</td>
<td>start in 2021 up to 2023</td>
</tr>
<tr>
<td>1x 25 @D1</td>
<td>Music Festivals: in this case the genset will be used in different European music festivals</td>
<td>5-10 events per year</td>
<td>2 to 15 days</td>
<td>start in 2020 up to 2023</td>
</tr>
<tr>
<td>1x25 @ACCIONA</td>
<td>Sweden construction site</td>
<td>3 to 6 months</td>
<td></td>
<td>start in 2021 up to 2023</td>
</tr>
<tr>
<td>1x25 @FHA</td>
<td>Public events in Italy/Partnership with Aragon Region</td>
<td>5-10 events per year</td>
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### 100 kW GENSET

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EVERYWH2ERE: A demonstration to Market Project

Key Exploitable Results
- PCS Fuel Cell Stack
- Ejector for Cold Operation
- H₂ Storage Control / Safety Devices
- ATEX Containerized Solution
- H₂ Tanks
- Power Management (Electronics / Control)
- EVERYWHERE GENSET

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Project Demosites

MAIN APPLICATIONS:
- Construction Sites
- Music Festivals
- Temporary Events
- Exhibition Centres

MARKET DRIVERS:
- Reduction of noise in urban contexts guarantees night working periods for construction companies
- Increasing of environmental sensibility of festival and events organizer
- Reduction of H₂ costs thanks to RES driven electrolysis and the spreading of HRS all around EU cities

ADDITIONAL MARKETS:
- Emergency & Reconstruction Sites
- Cold Ironing for Ships in Ports

Replication Feasibility Studies

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EVERYWH2ERE: An Industry Driven Consortium

This guarantees:

- Industrial and Market interest to project outcomes and marketability
- Facility to involve stakeholders
- Strong commitment to genset realization
- A common «project business» to be pursued made by «different actors’ business»
- Ability to overcome contingencies
everywh2ere stakeholders group

in everywh2ere two stakeholders group will be composed everywhere cities (iclei) and everywhere industrial support group (fha)

main targets:

- **everywh2ere cities** – workshop within m12: analyze current bottlenecks/challenges towards decarbonization of local temporary power supply (link with fch ju city and regions initiative)

- **everywh2ere industrial support group** – workshop within m48 after demonstration campaign starting stakeholders from fc sector, event organizers, construction companies will be involved via questionnaire (d1 – m18) for market and stakeholders' interest assessment. their support is crucial to foster replication and marketability.

please just contact us to join everywh2ere!
THANKS FOR YOUR TIME

info@everywh2ere.eu

www.everywh2ere.eu

@EverywH2ere