

An independent free data service commissioned by the Fuel Cells and Hydrogen Joint Undertaking



FUEL CELLS AND HYDROGEN
JOINT UNDERTAKING



Clean Fuels
Hydrogen
STATION AVAILABILITY



INTRODUCTION: EUROPEAN HRS AVAILABILITY SYSTEM

May 2021

Developed and maintained by



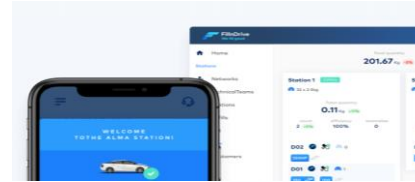
MAIN AIMS OF THE SERVICE

- **There is a growing network of HRS in Europe:** >100 now in operation, expected to grow to 200+ by the early 2020s.
- **Providing information on the status of HRS in real time** is an important part of ensuring the user experience of early adopters of FCEVs is positive and information is available for hydrogen project developers.
- **Providing a common data repository framework and an OS export API to third party** is key to the collection of granular, consistent reliable and transparent information.

The system aims to

- ➔ **improve the vehicles and stations end-user experience by publishing information on stations and the real-time availability of HRS across Europe.**
- ➔ **provide free access to this data with an export API for third party apps and websites.**
- ➔ **provide reporting functionalities to support data analysis for HRS operators.**

FREE OPEN SOURCE EXPORT



Source: cleanenergypartnership.de

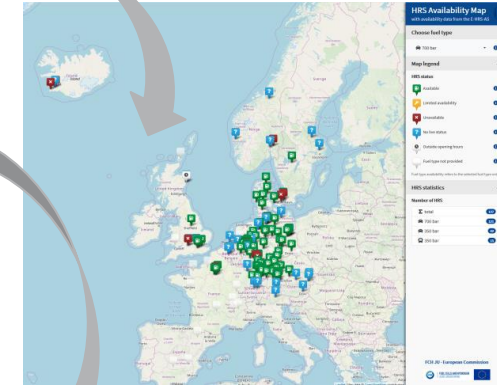


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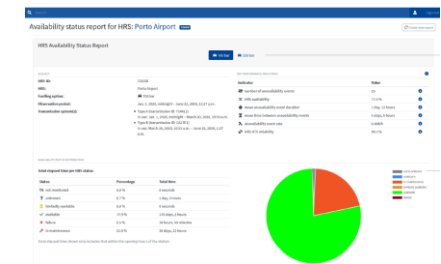
LIVE AVAILABILITY AND STATIC INFORMATION



SERVER HOSTED
@ FCH JU



REPORTING



WHY A EUROPEAN HRS REAL-TIME AVAILABILITY SYSTEM?

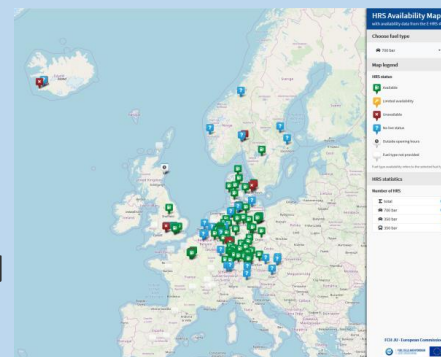

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EUROPEAN CONTEXT FOR HYDROGEN MOBILITY

- **Revisions to the EU regulatory framework** presents a **key opportunity** and **require solutions to support monitoring and reporting on progress** e.g. Alternative Fuel Infrastructure Directive and Member States implementation.
- There is a **large momentum for hydrogen in Europe** through **EU and national funding programs** which **requires a consistent and independent approach for data collection and sharing** – e.g. EU green deal, HorizonEurope, AFF etc.

SERVICES PROVIDED

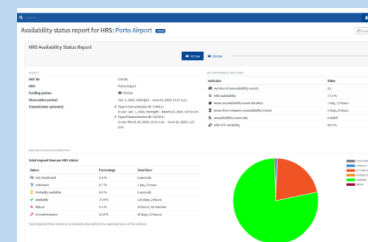
1. LIVE AVAILABILITY AND STATIC INFORMATION



2. FREE OPEN-SOURCE EXPORT (NON CONFIDENTIAL DATA)



3. REPORTING (RESTRICTED ACCESS)



USERS

- **Drivers and fleet operators, companies requiring mobility solutions**
- **Legislators** (EU and national institutions, local authorities etc.)
- **Hydrogen project developers** (EU and national institutions, local authorities, associations, industry, etc.)
- **Hydrogen sectors professionals and commentators** (public and private sectors, consultants, research institutions and universities, associations, medias etc.)

REAL-TIME AVAILABILITY AND KEY INFORMATION

EASY ACCESS TO HRS LOCATION, SPECIFICATIONS AND REAL-TIME AVAILABILITY



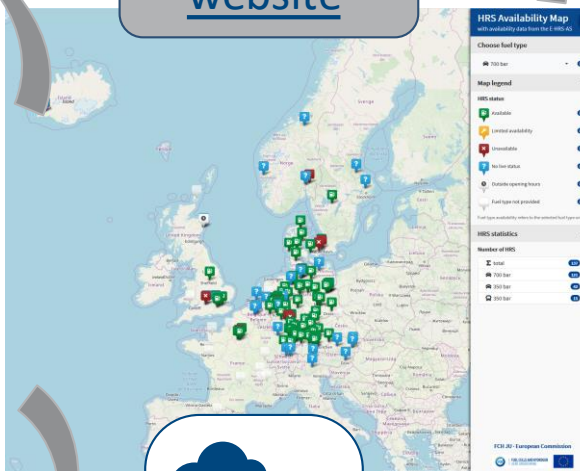
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OPERATIONAL & TECHNICAL DATA

- HRS operator, supplier
- Funding body
- Dispenser pressure levels
- OEM approval status
- H2 capacity (optional)
- Green hydrogen (optional)

Operational Data	
Station operator	H2 Mobility
Technology supplier	Air Liquide
Fuel types	<ul style="list-style-type: none"> 700 bar <input checked="" type="checkbox"/> OEM approved 350-bar not provided 350-bar not provided
Green hydrogen	(unknown)
Capacity	(unknown)
Station funded by	Connecting Europe Facility

[H2-map website](#)



PAYMENT & AUTHORIZATION

- Payment methods
- Authorization methods

München | Detmoldstraße

700 BAR

AVAILABLE

Station details including location, hours, and refueling requirements.

Aberdeen | City Hydrogen Energy Storage (ACHES)

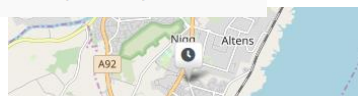
OUTSIDE OPENING HOURS

Station details including location, hours, and refueling requirements.

OPENING HOURS

- Time zone of HRS site
- Automated „outside opening hours“ signal

OUTSIDE OPENING HOURS
opens 09:00:00 (local time)



FREE OPEN SOURCE
EXPORT VIA API

CONTACT INFORMATION

- Contact information
- Further HRS details

Regensburger Str. 68

Station details including location, hours, and contact information.

REPORTING FUNCTIONALITIES

SUPPORT DATA ANALYSIS FOR HRS OPERATORS / OWNERS

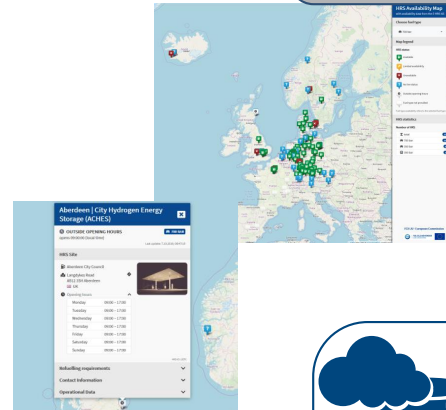


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PUBLIC FACING INFORMATION

- **Information available:** operational & technical data, opening hours, contact information
- **Information is provided by HRS operators / owners via the access portal:** dashboard, HRS registry, location information, GPS information, organization information, technical information, event scheduler

[H2-map website](#)



HRS AS
HRS Availability Status Report

This report summarizes the hydrogen dispenser availability on the specified HRS as monitored by the HRS-AS platform in the given observation period. Availability statistics are given separately for each monitored fuelling option if applicable.

SUBJECT

HRS ID: **CSGK**
 HRS name: **Porto Airport**
 Observation period: **2020-01-01 00:00:00 - 2020-04-23 06:00:30**
 Monitored fuelling option(s): **700 bar H2 for cars, 350 bar H2 for cars**
 Transportation system(s): **Type A (Transmodules ID: T14811) in use: 2020-01-01 00:00:00 - 2020-03-28 10:53:59, Type B (Transmodules ID: CAZ21) in use: 2020-03-20 10:53:59 - 2020-04-23 09:00:30**

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Availability statistics for 350 bar H2 for cars	3
Incident history	4

REPORTING FUNCTIONALITIES

- **Automated reporting functions for HRS operators / owners**
 - By default : off
 - Can be activated by user
- **Secured and confidential data storage with restricted access for:** Raw data, charts and comparison for availability and key performance indicators (KPIs).

FREE REPORTING WITH RESTRICTED ACCESS

fuelling option	availability	availability	availability	availability	availability	availability
700 bar H2 for cars	99.9%	99.9%	99.9%	99.9%	99.9%	99.9%
350 bar H2 for cars	99.9%	99.9%	99.9%	99.9%	99.9%	99.9%

KPIs: number of events, average duration of events, average time between failures, availability system reliability etc..

USEFUL & CONTACT INFORMATION SUMMARY



GAIN ACCESS TO DATA (FREE AFTER REGISTRATION)

- **Open access platform via website:** <https://h2-map.eu>
- **Export API** for third party apps and websites by contacting e-hrs-as@fch.europa.eu (request token and confirm reason for requesting data)

NEW HRS OPERATOR CONNECTION TO SYSTEM (FREE) OR CONFIRMING CONTACT POINT

- **Contact the project team:** Nadine Hoelzinger; tel: +49 30 536 796 24, email: [nadine.hoelzinger\[@\]spilett.com](mailto:nadine.hoelzinger[@]spilett.com)

REGISTER TO OUR QUARTERLY TRAINING WORKSHOP (FREE)

- **We hold quarterly introductory and training workshops**
- **Register interest by contacting** e-hrs-as@fch.europa.eu

EXISTING MEMBERS - HOW TO

- **Any questions on reporting functionalities, contact the project team:** Nadine Hoelzinger; tel: +49 30 536 796 24, email: [nadine.hoelzinger\[@\]spilett.com](mailto:nadine.hoelzinger[@]spilett.com)



EUROPEAN COMMISSION SERVICES AND MEMBER STATES HOTLINE

- **Contact:** e-hrs-as@fch.europa.eu

