



# TEN / CEF-T New Developments

## Info Day Hydrogène Opportunités Européennes pour H2

*Ministère Français de la Recherche  
Parc Floral, Route de la Pyramide  
75012 Paris, France  
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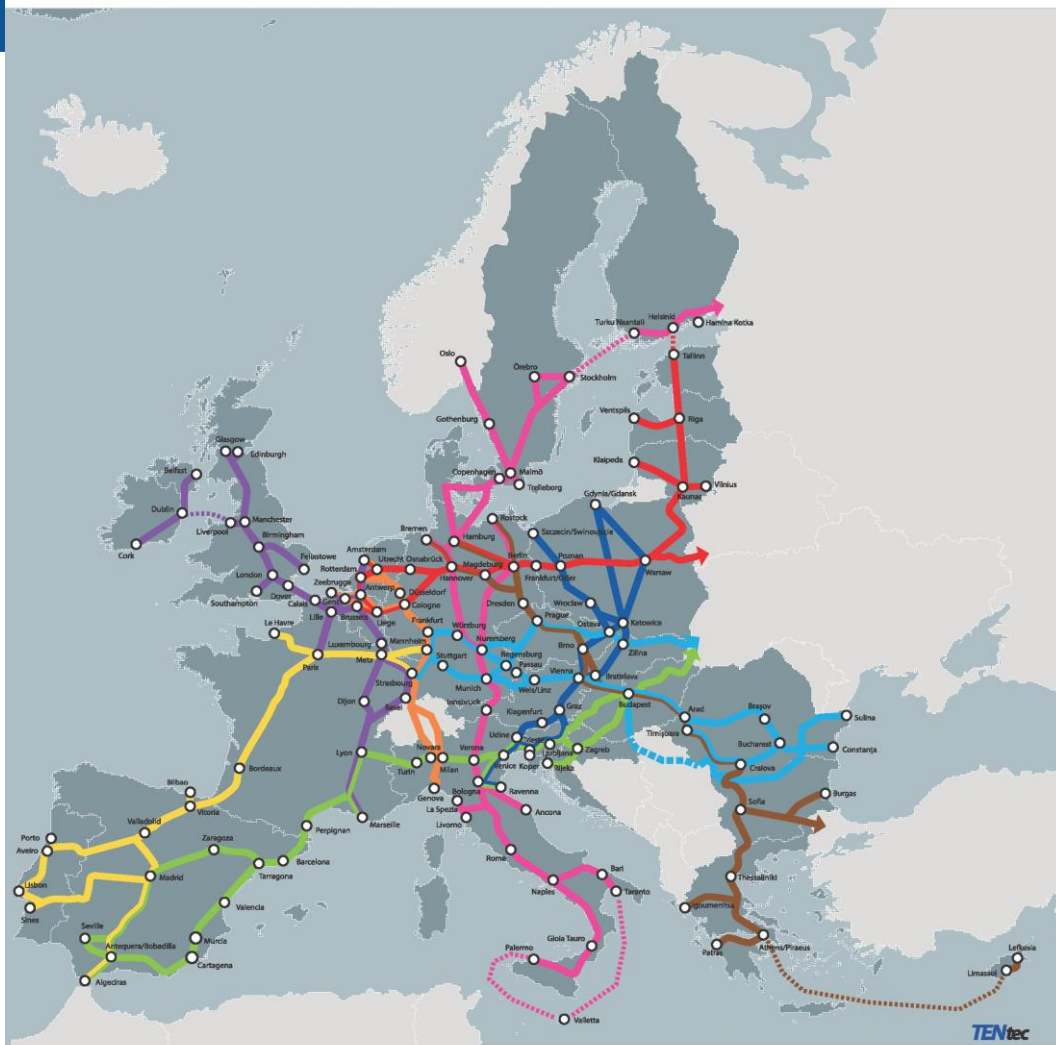
## ● CEF / TEN-T's History

- Trans-European Networks – Guidelines with maps in all member states incl. islands & some outermost regions.
- Connecting Europe Facility – Budget & Focus = Corridors & Energy PCIs
- Transport, Energy & ICT
  - » Large budgets (€33 billion, mostly for transport)
  - » Geographical restrictions (networks)
  - » Mainly infra-structure, but also vehicles: ships, ferries, etc
  - » Hard-core infra, but also soft-topics: innovations, MoS, logistics, transport management systems
- Many projects funded on EU ports & islands, hinterland, etc – *We are doing well in innovation, but aim to improve! (5% -> CEF2 40%)*

# TEN-T Corridors, Core & Compreh. Networks Example



TRANS-EUROPEAN TRANSPORT NETWORK  
TEN-T CORE NETWORK CORRIDORS



- Legend**
- BALTIC - ADRIATIC
  - ORIENT / EAST-MED
  - ATLANTIC
  - NORTH-SEA - BALTIC
  - SCANDINAVIAN - MEDITERRANEAN
  - NORTH SEA - MEDITERRANEAN
  - MEDITERRANEAN
  - RHINE - ALPINE
  - RHINE - DANUBE

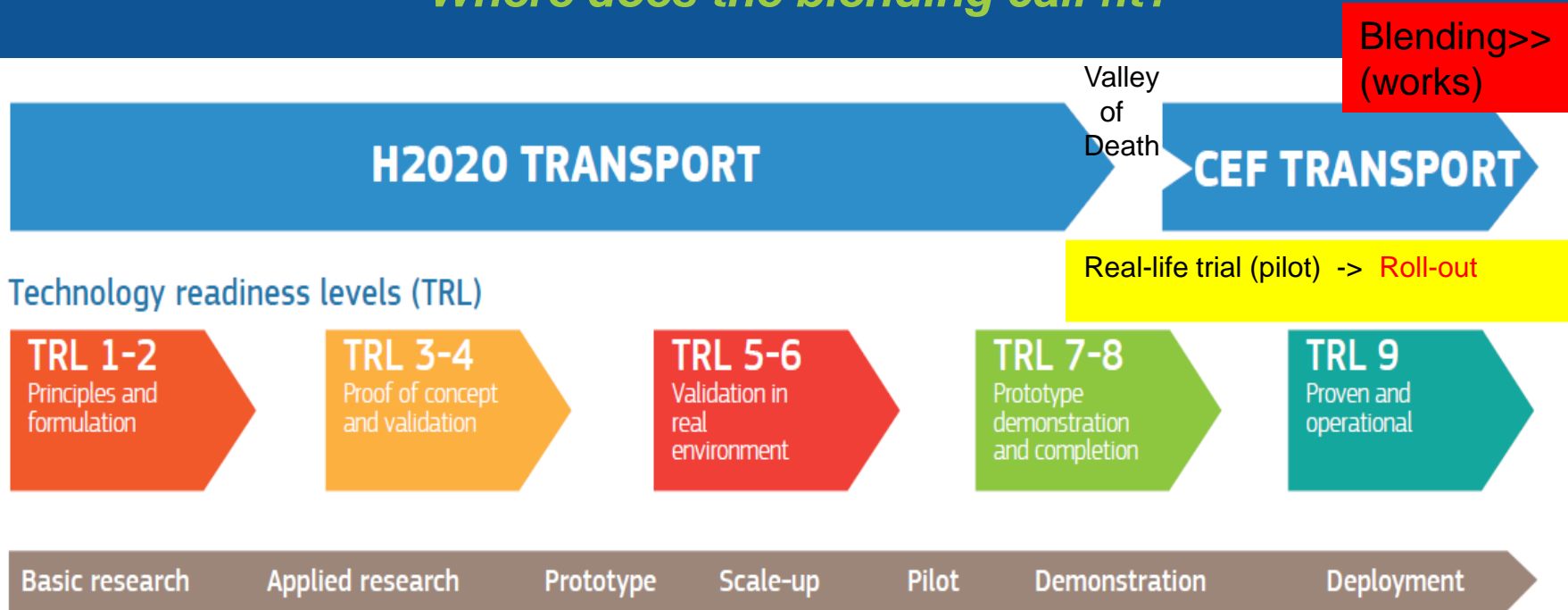


TENtec  
REGULATION (EU) NO 1315/2013 OF 11/12/2013



# Overall EC Funding Pipeline for Innovation

- *Where does the blending call fit? -*



After supporting about 100 alt.fuel trials (total inno 112), we see now the follow-ons of many trials in the proposals submitted to the blending call (7/2017 & 4/2018)!  
**Roll-outs into market are starting for ALL alt.fuels** ("works" under TEN-T/CEF)

## Organising Strong Private Investment in TEN-T/CEF (\*)

- *Market-sided Innovation* : overcoming the "valley of death" in a systematic way

- Studies (50% grant): "Market-sided" innovation versus research-sided innovation
  - » *No research! No demos!* Under CEF. Real-life trials: pilot deployments, 112 projects.
  - » The dual optimisation process. – *reduction of unit costs & business-client relation. Short-term projects of experimental nature with focus on cost & clients.*
  - » All projects: <http://ec.europa.eu/transport/infrastructure/tentec/tentec-portal/site/en/innovation.html>
  - » Paper-output of study at the end of trial: lessons learnt & analysis on how to scale-up to do rollout; since 2015: *business plan for roll-out became contractual deliverable -> banks* (loans, blending, dept; - EFSI, InvestEU, etc)
- Works (20% grant): "experiments are over, people know what they are doing"  
- *Amazing success in 2017 & 2018* : Results of the CEF Blending Call
  - » Roll-out on (significant part of) corridor... *into the market!* -> Business Plan for Roll-out -> mainly with new fin.instruments EFSI, Juncker Plan, Blending/EIB, etc) -> Advisory Hub
- CEF Blending calls became Blending Facility in 2019

(\*) TEN-T = Trans-European Networks for Transport; CEF = Connecting Europe Facility

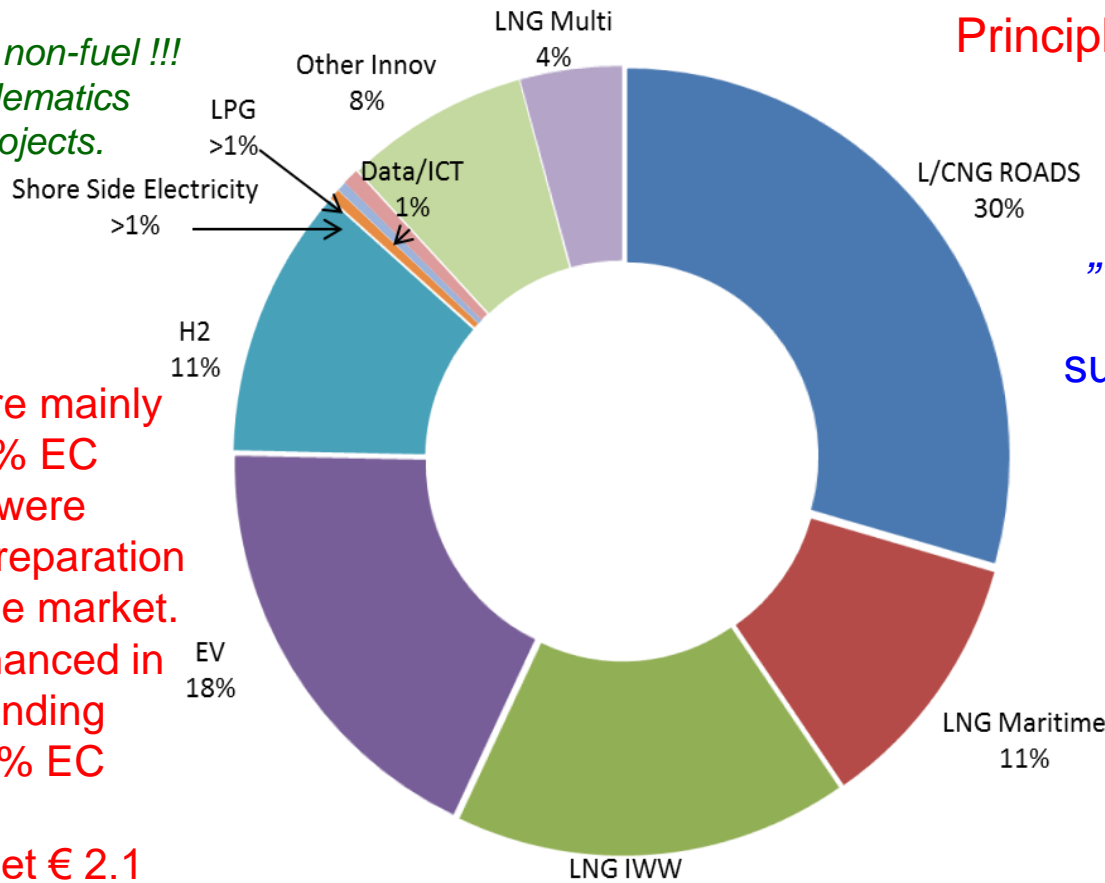
## Strong Support by TEN-T/CEF

## Preparing Market Deployment/Roll-out

- About 130 AF (altern.fuels infra) projects financed under the innovation priority by TEN-T and CEF Programmes (2010-17) (\*)

*About only 10% for non-fuel !!!  
However IT/data/telematics  
integrated in fuel projects.*

**Principle: Techn. Neutrality**



**„Market-sided“ innov.:**  
The systematic & successful introduction of private capital into the deployment of innovation & new technologies!

### Important Note:

These projects are mainly real-life trials (50% EC fin.supp.), which were essential in the preparation of roll-outs into the market. Roll-outs were financed in 2017-18 CEF Blending calls with only 20% EC fin.supp. Total deployment budget € 2.1 billion on AF infra!

(\*) Includes 12 AF projects/trials of other TEN-T/CEF priorities, mainly MoS



# Electric Vehicles Fast Chargers

**Legend**

**Deployed**

**Multi Standard Fast Charger**

- 1 Charging Points
- 2 Charging Points
- 3 Charging Points
- 4 Charging Points

**CCS Fast Charger**

- 1 Charging Points
- 2 Charging Points
- 3 Charging Points
- 4 Charging Points

**CHAdeMO Fast Charger**

- ▲ 1 Charging Points
- ▲ 2 Charging Points
- ▲ 3 Charging Points

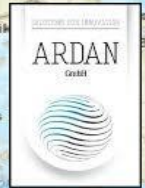
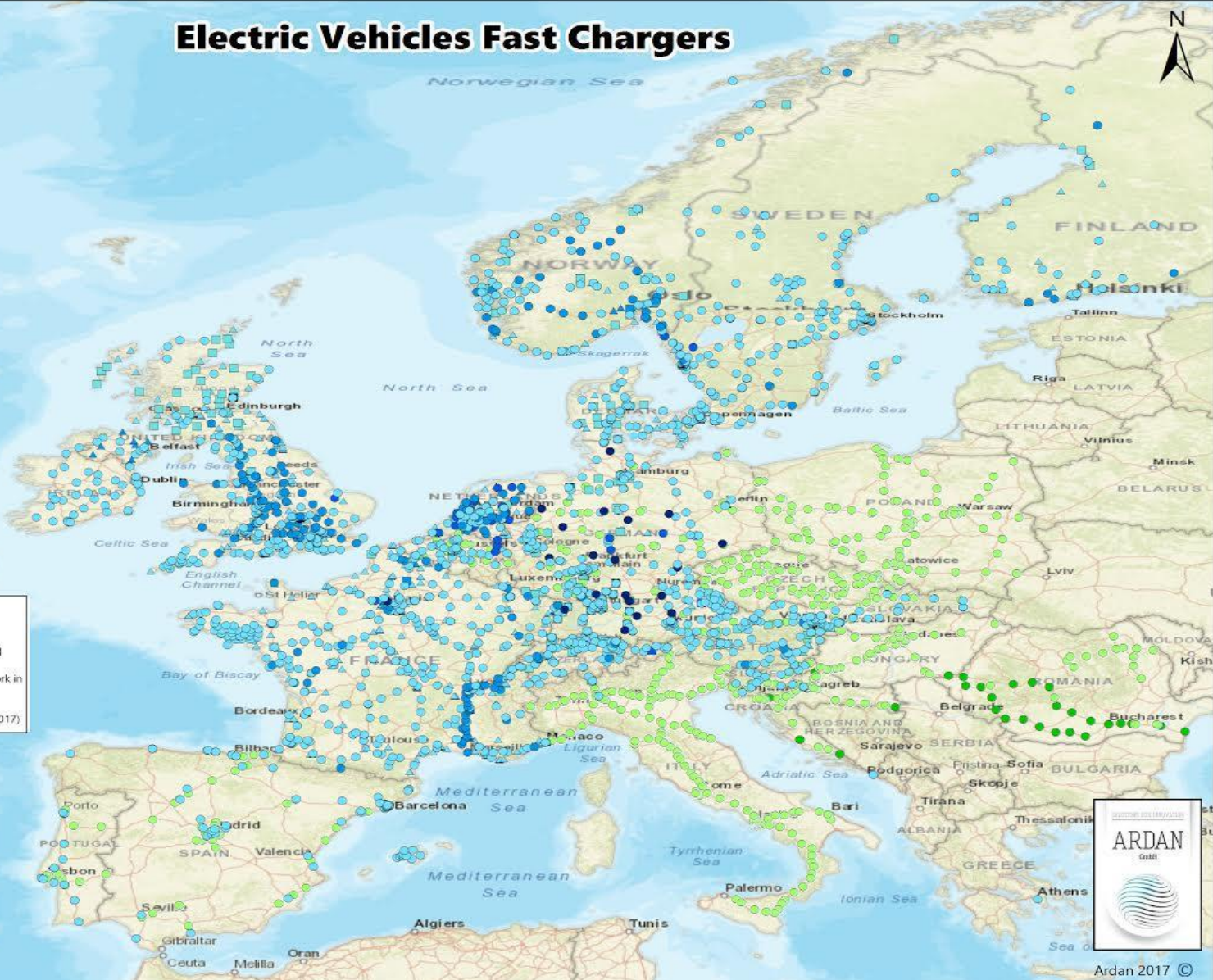
**Contracted**

**Multi Standard Fast Charge**

- 1 Charging Points
- 2 Charging Points



Sources:  
Hubject, October 2017  
Gerieve, October 2017  
CEF funded projects/INEA: Fast-E, EVA+, East-E, International Green Electric Highways, FastEvNet, AdvancedEvNet, CEGC, Cirve, Next-E, Comprehensive Fast-Charging Corridor Network in Southeast Europe, Fast Charging Backbone Network Central Europe, UNIT-E  
CCS Charge Map Europe (<http://ccs-map.eu/> - accessed 10/2017)

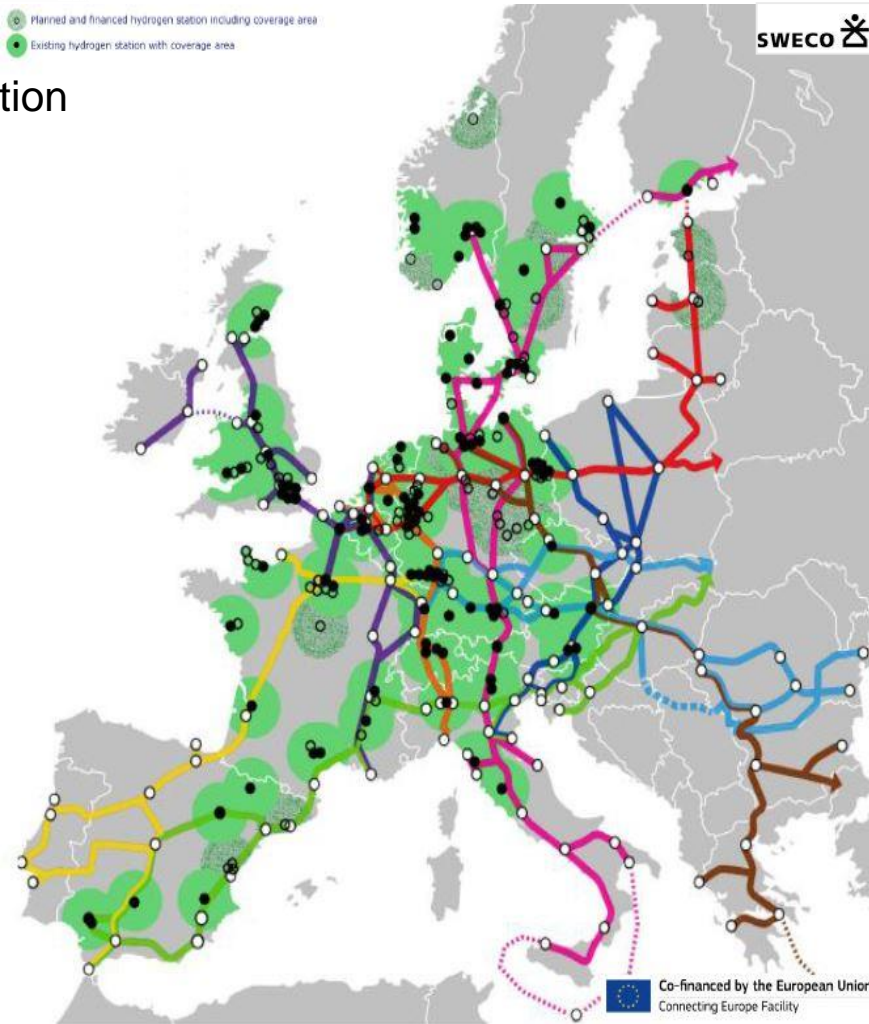


## The Strong Rise of H<sub>2</sub> → Start of Industrialisation - EC Focus Hydrogen-Electric (FCH)

- The great work of the FCH-JU (H2020 & Industry): RTD
- TEN-T & CEF: Deployment (mainly infrastructure, but also increasingly vehicles)  
– to trigger market (chicken & egg problem!).
- 11 real life transport trials & 1 roll-out (T) & 1 synergy trial based on H<sub>2</sub> storage (T&E)
- Recent CEF impact on H<sub>2</sub> for Europe:
  - » T&E: real-life trial "TSO2020" (NL)  
(Grant call Sept'2016)
  - » T: real-life trial "H2Benelux" (BE, LU, NL)  
(Grant call end'2016)
  - » T: real-life trial "Nordic H<sub>2</sub> Corridor" (SE)  
(Grant call end'2016)
  - » T: roll-out "Zero Emission Valley" (FR)  
(Blending call 2017 DL1 (\*))
  - » T: 3 new roll-outs funded in DL2: H<sub>2</sub>Bus Europe, Last Mile & Pure H<sub>2</sub> : € 242.7 / 48.5 million (\*\*)

**Need more H<sub>2</sub> roll-out proposals to 2.DL of CEF Blending Call (infra & vehicles)! → Result 3 out of 3 funded!**

(\*) EC Selection Decision of 05/01/2018  
(\*\*) & of 12/10/2018 (adoption) – both not in map



125 H<sub>2</sub> stations operational by end 2017;  
expand to 350 by 2020 (already planned & financed, but without results of CEF blending call, because contract is not signed yet).



## Zero Emission Valley - *First H2 blending project under TEN-T/CEF!*

- "Valley" initiative: multiple stations, many vehicles, concerted action of all towns & cities plus companies
- CEF Roll-out action for 20 H2 stations & 1000 FCH vehicles
- Global project: National roll-out plan for H2: 600 stations by 2030

### Transport corridor:

Mediterranean, North Sea - Mediterranean

2017-FR-TM-0052-W

### Transport mode:

Road

### Call year:

2017

### Member State(s):

France

### Implementation schedule:

January 2018 to December 2023

### Maximum EU contribution:

€10,131,800

### Estimated total cost:

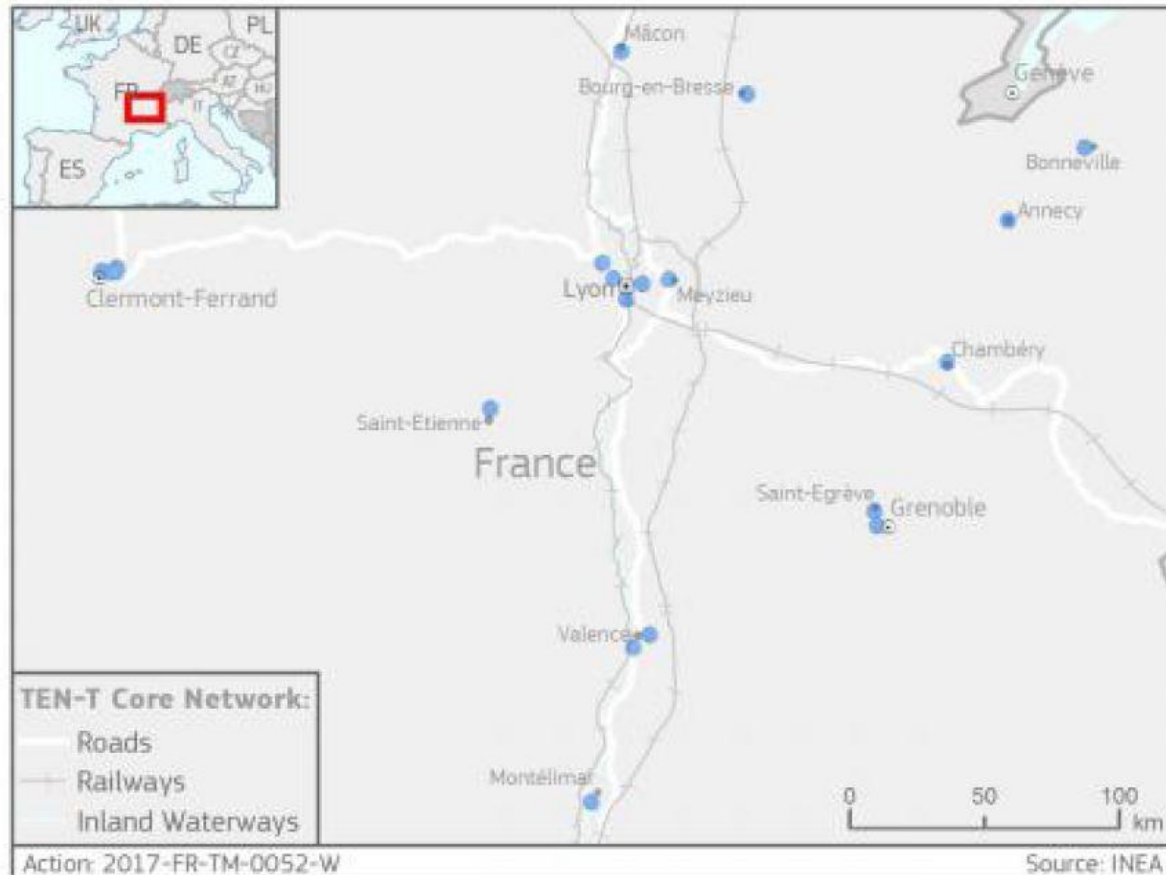
€50,659,000

### Percentage of EU support:

20%

### Coordinator:

Conseil Régional Auvergne-Rhône-Alpes





European Commission

## European Dimension of H2: H2Nodes (€ 29 / 14.5 million)

- Evolution of European H2 refuelling station network by mobilising local demand and value chains: 5 H2 Stations in NL, LV & EE along 1 TEN-T corridor (Tennishaven - Tallinn)



## Synergy Projects: H2

CEF Synergy : TSO2020 – A milestone for European deployment of innovation



## ● Remaining Funding Opportunities under CEF 1 (2019-20)

### ● Blending Facility 2019-20 :

- » €198 million, topping up is possible
- » a new, efficient instrument:
- » Continuous submission & 1 Stop shop & simplified and shortened selection process
- » Flexible : **core & comprehensive** TEN-T network (80% / 20%) ++
- » 2 topics only:
  - **Innovation** Art.33(a&b), i.e. alternative fuels; roads, shipping, rail; infra and mobile assets (=vehicles) an adjacent sectors required to do transport innovation, eg energy storage, telematics, IT
  - **ERTMS** - European Rail Transport Management System
- » *Evaluation out-sourced to banks, EC-bank agreements: EIB, national banks (if they like! – all are welcome) negos on-going with national banks. – Completed 15.1.: EIB, NL, FR, SI, ES (ICO); updates on call website*
- » *Work Programme published on INEA website (application details!), CEF Committee informed on 27/9 on call text, **Call postponed to Mid November 2019** to be able to complete agreements (MoUs) with banks, Info Day in Bxl planned.*
- » *Call published 15/11/2019; Info Day 05/12/2019; 1.Cut Off Applicants 14/02/2020*
- » *2-step process: (1) quick concept/eligibility check by bank & EC, (2) full proposal via TENtec (but eval. by bank).*
- » *EIB Advisory Hub is open for project preparations - **CEF Blending Facility** !!! <https://eiah.eib.org/>*

## ● Remaining Funding Opportunities under CEF 1 (2019-20) & *Green Deal*

- Reflow call 16 October 2019 (*indicative date*) (voted in CEF Committee on 27/9, formal adoption by EC normally within 10 working days):
  - » Paper-Studies (50%) & Works (20%)
  - » However at moment no trials (studies with integrated deployment, 50%) foreseen
  - » Budget € 1.1 billion, of which 0.4 billion for cohesion
  - » On TEN-T core network
  - » Several priorities including some very limited budget for innovation
  - » However, strong support for alternative fuels in maritime & inland ports (**islands & mainland coasts**)
- More Calls in 2020 ! (*preliminary, updated 12/01/2020*)
  - » Exact amount and timing still unclear.
  - » However there will be more budgetary reflow from non-performing projects or other unused EC budgets : “Reflow 2 Call” – *is now in preparation!*
  - » Which is likely to contain a synergy element (transport & energy) ?
    - to allow ending synergy projects from 2016 to do next step, and
    - to prepare for CEF2’s synergy topics
- New EC President presented *Green Deal* Initiatives on 12/12/2019 & More details on 15/1/2020

## CEF2 - Next Steps to Accelerate Innovation in Europe

- Current legislative status: CEF2 (partial) Common Agreement Reached on 13 March 2019, *however budgets still to be agreed !!!*

### ● CEF2 Proposal for 2021-2027 (06 June 2018, COM2018-438final)

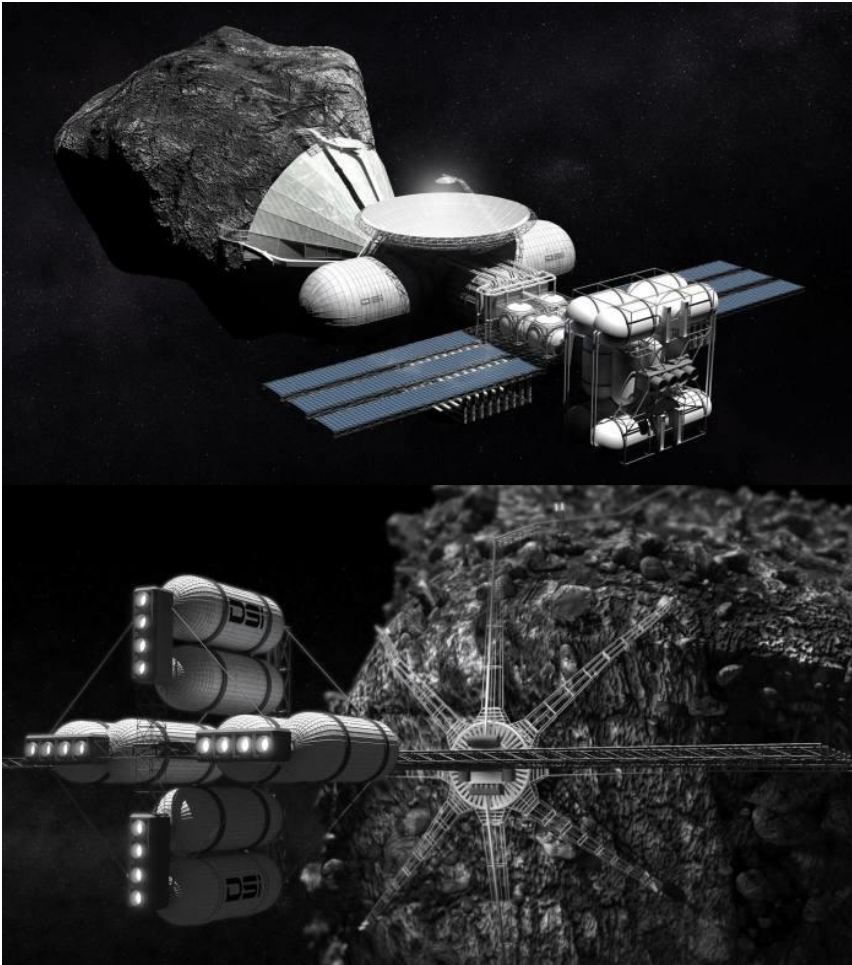
- » Total € 42.3 billion: transport (30.6), energy (8.7) & ICT (3.0)
- » Incl. € 11.3 billion earmarked for cohesion
- » 2 parts: network "development" & "modernisation"
- » Larger budget share for innovation being part of "modernisation": up to 40% (was 5% for inno.)
- » Higher max. funding rates: general 60% / 30%, cohesion 85% / 70%
- » New topic: military mobility (6.500), ie dual purpose transport infra
- » Simplification & Modernisation: *synergy made easier – particularly great for holistic solutions!*

(\* ) all amounts in billion €



European  
Commission

Deep Space Industries Fuel  
Processor concept  
© Bryan Versteeg/DSI



Deep Space Industries asteroid  
harvester spacecraft concept  
© Bryan Versteeg/DSI

**THANK YOU  
FOR YOUR  
ATTENTION!**

Innovation Projects:

<http://ec.europa.eu/transport/infrastructure/tentec/tentec-portal/site/en/innovation.html>

TENtec Portal (info, maps etc):

<http://ec.europa.eu/transport/infrastructure/tentec/tentec-portal>