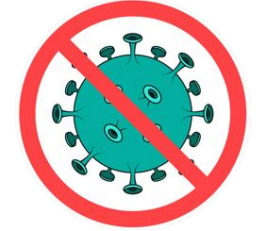


Welcome to our digital WIC meeting!



A few game rules:

✓ Mute yourself but you can use camera



✓ Ask your questions in the chat



✓ You can use mic/cam in the question round



WIC MEETING NOVEMBER 18, 2020

Welcome to the WIC meeting!



AGENDA

10.00 – 11.00 : Presentation H2 projects and ambitions

Gasunie & ~~Holthausen Clean technology~~

11.00 – 11.30 : New cluster members

11.30 – 12.00 : Developments in the WIC

12.00 – 12.15 : (Project) news from WIC members

Q&A and closure

Growing Hydrogen

Udo Huisman

Gasunie Business Development Hydrogen



Gasunie strategie

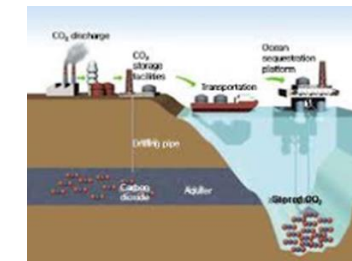
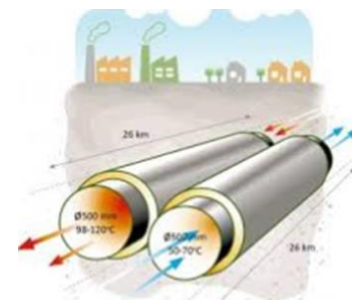
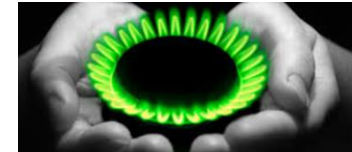
Zorgdragen voor een veilige, betrouwbare, betaalbare en duurzame gasinfrastructuur in ons kerngebied



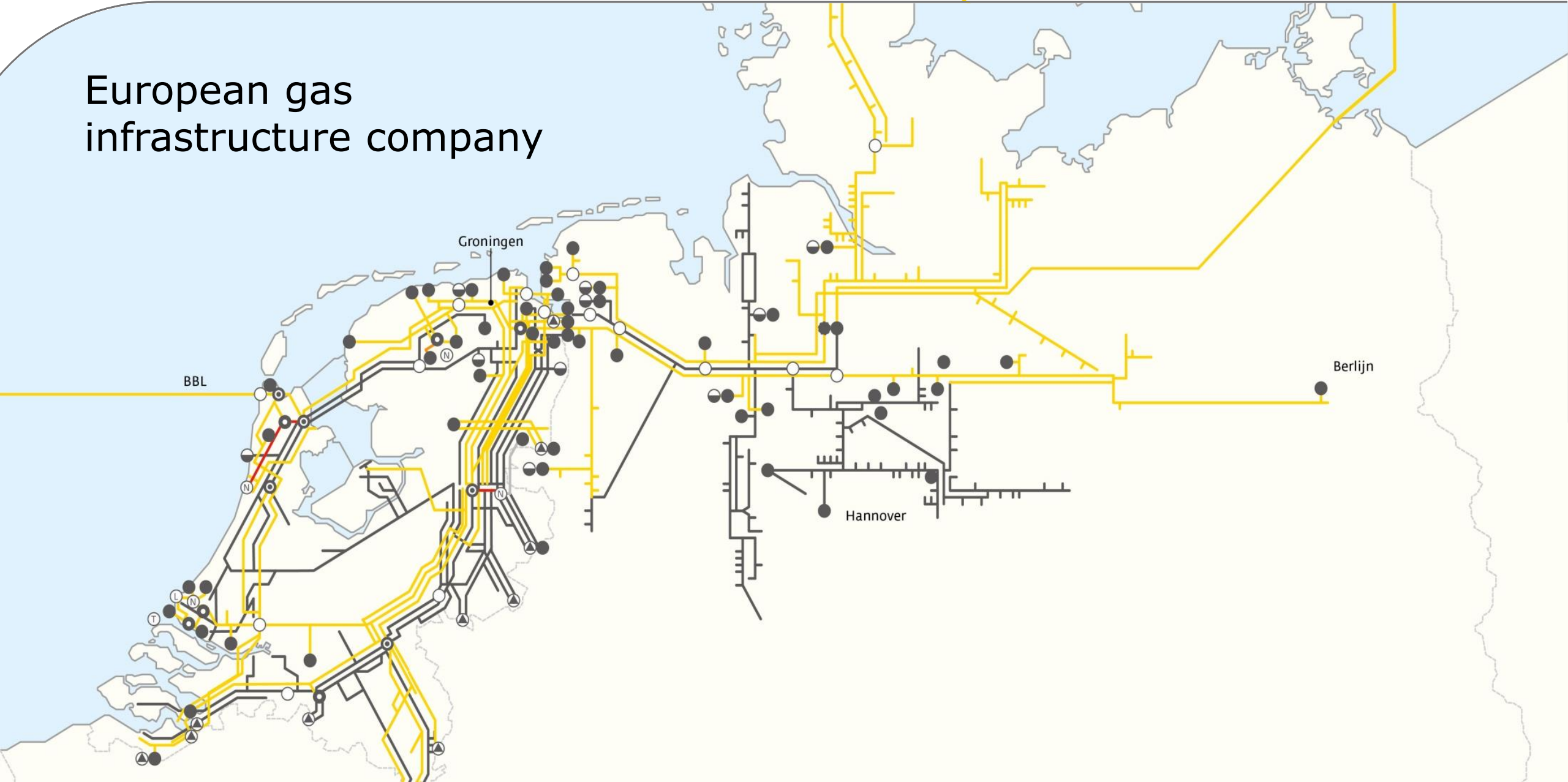
Bijdragen aan efficiënte gasinfrastructuur & diensten voor een goed functionerende Europese aardgas- en LNG-markt



Versnellen van de transitie naar een CO₂-neutrale energievoorziening

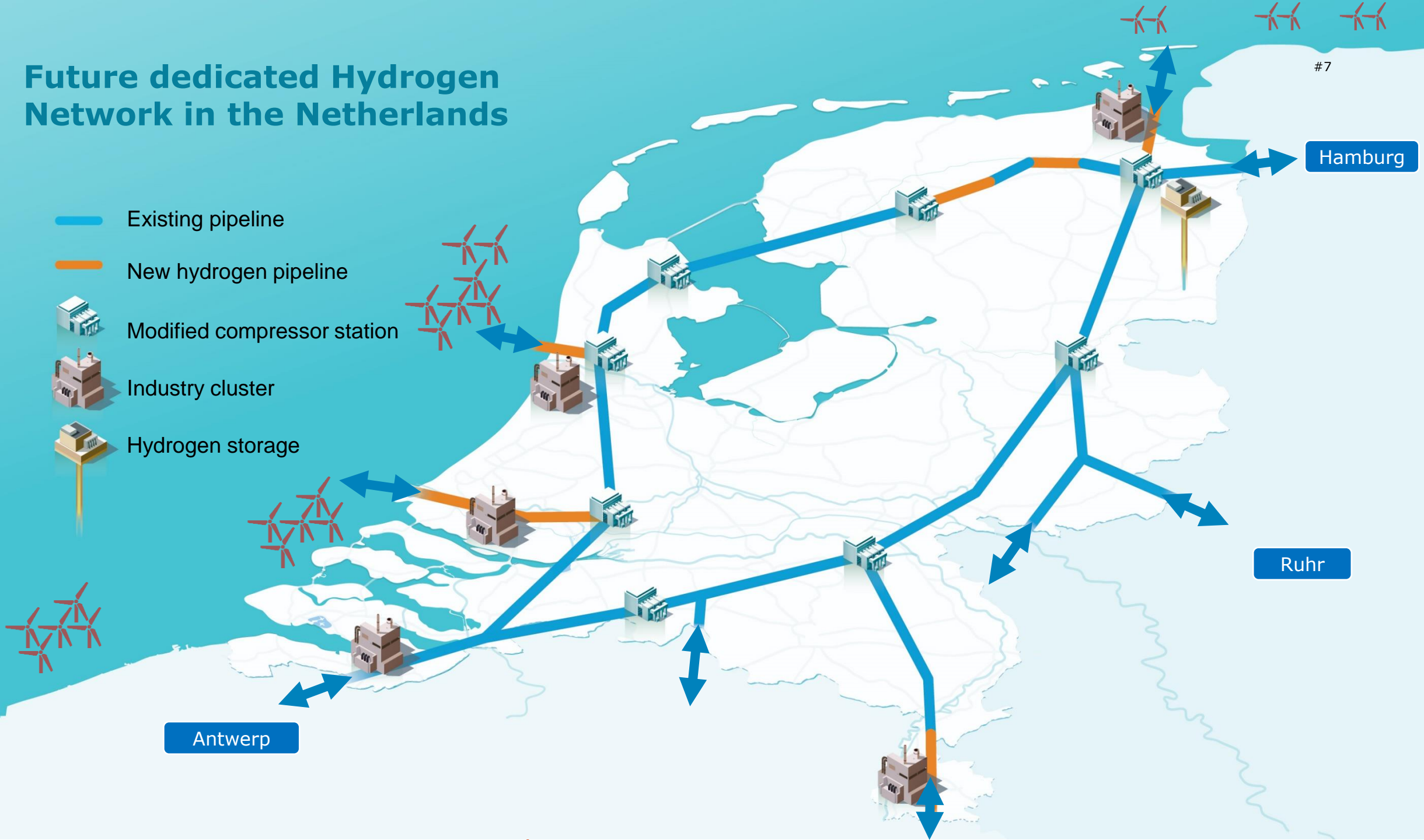


European gas infrastructure company



Future dedicated Hydrogen Network in the Netherlands

- Existing pipeline
- New hydrogen pipeline
- Modified compressor station
- Industry cluster
- Hydrogen storage



Moving towards 2030 and 2050 with hydrogen

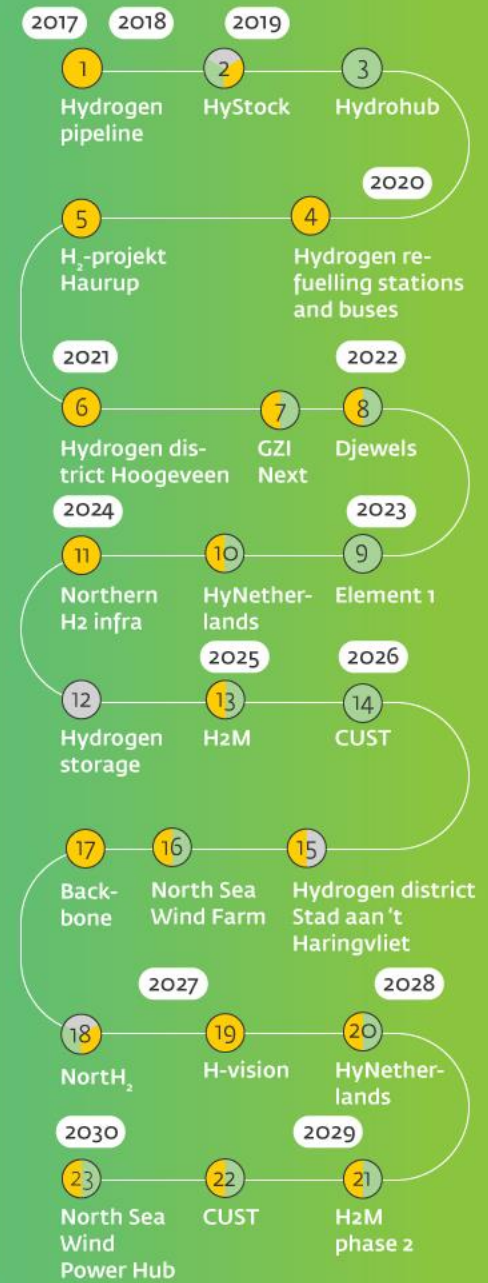
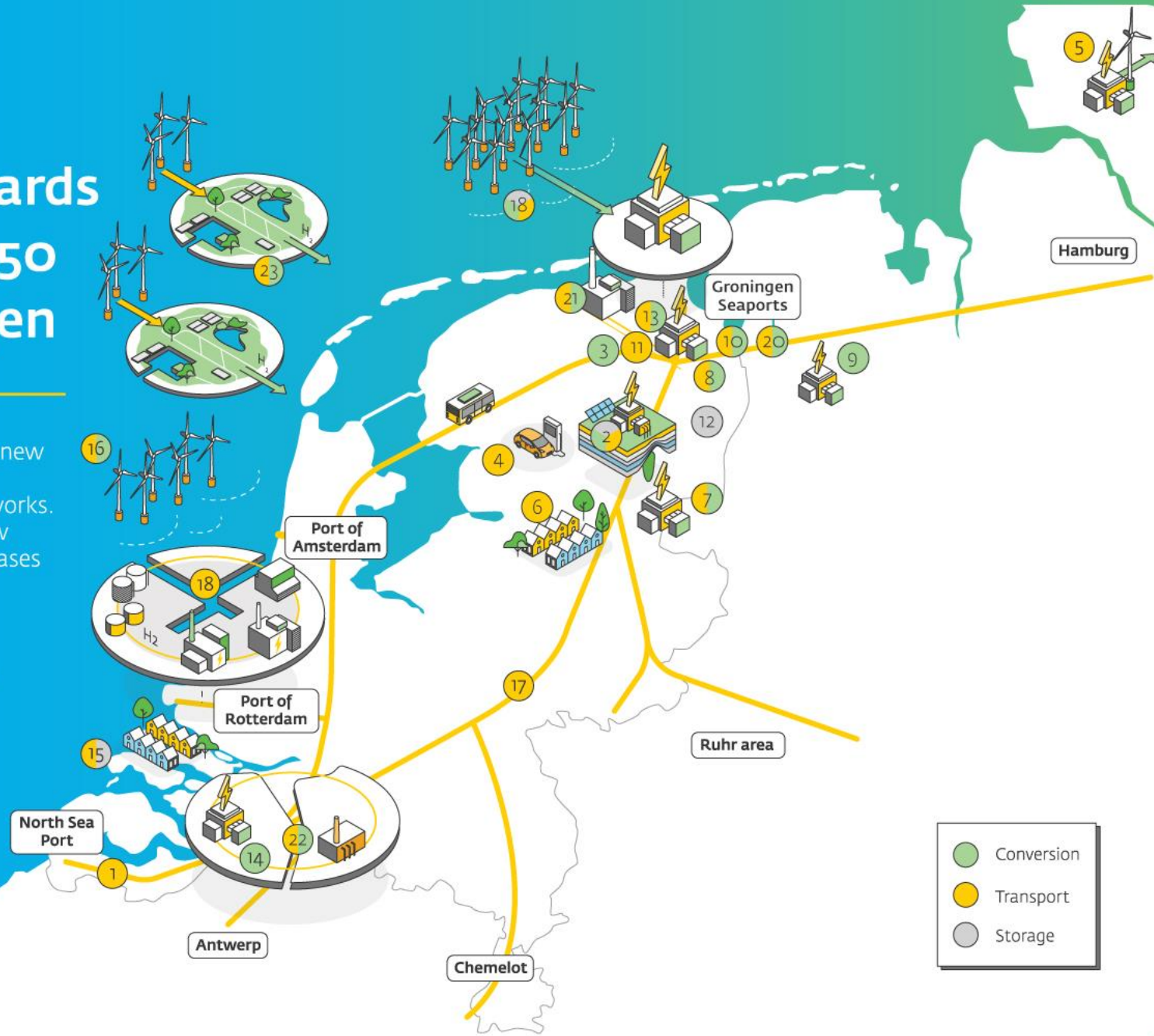
The energy transition requires new forms of infrastructure and intelligent use of existing networks. Gasunie wants to invest in new infrastructure for renewable gases such as hydrogen.

2016 Paris Agreement:

Global warming set at a max. 2°C. This requires CO₂-reduction in the Netherlands of:

- 40-50% in 2030
- 85-100% in 2050

Hydrogen as a fuel and as a raw material can help to achieve CO₂-reduction targets.

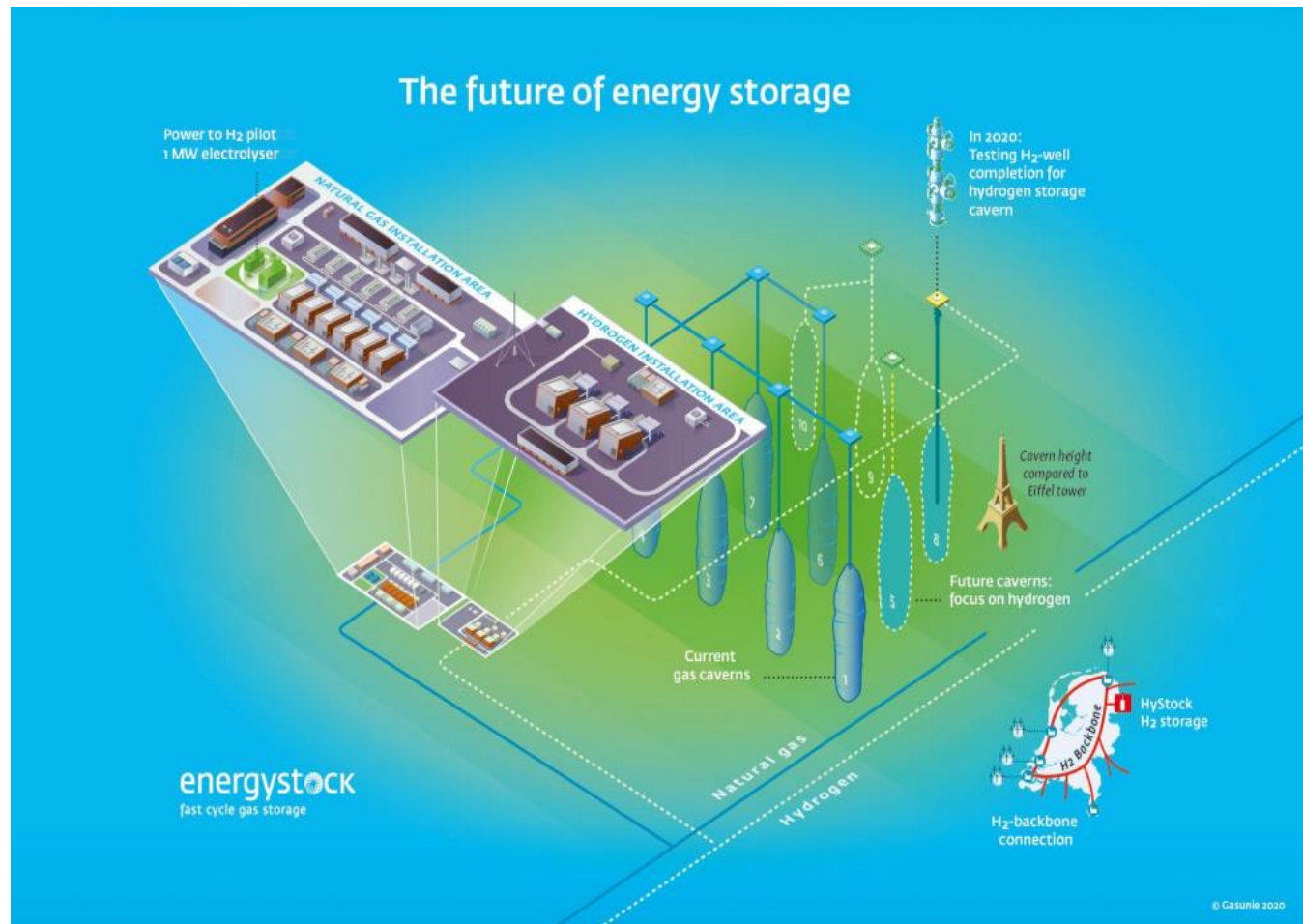


Refit from natural gas to hydrogen pipeline



- Smart Delta Resources (Zeeland): Hydrogen for the region
- Energy savings
- Road transport savings
- CO₂ emission reduction

Hystock waterstof opslag



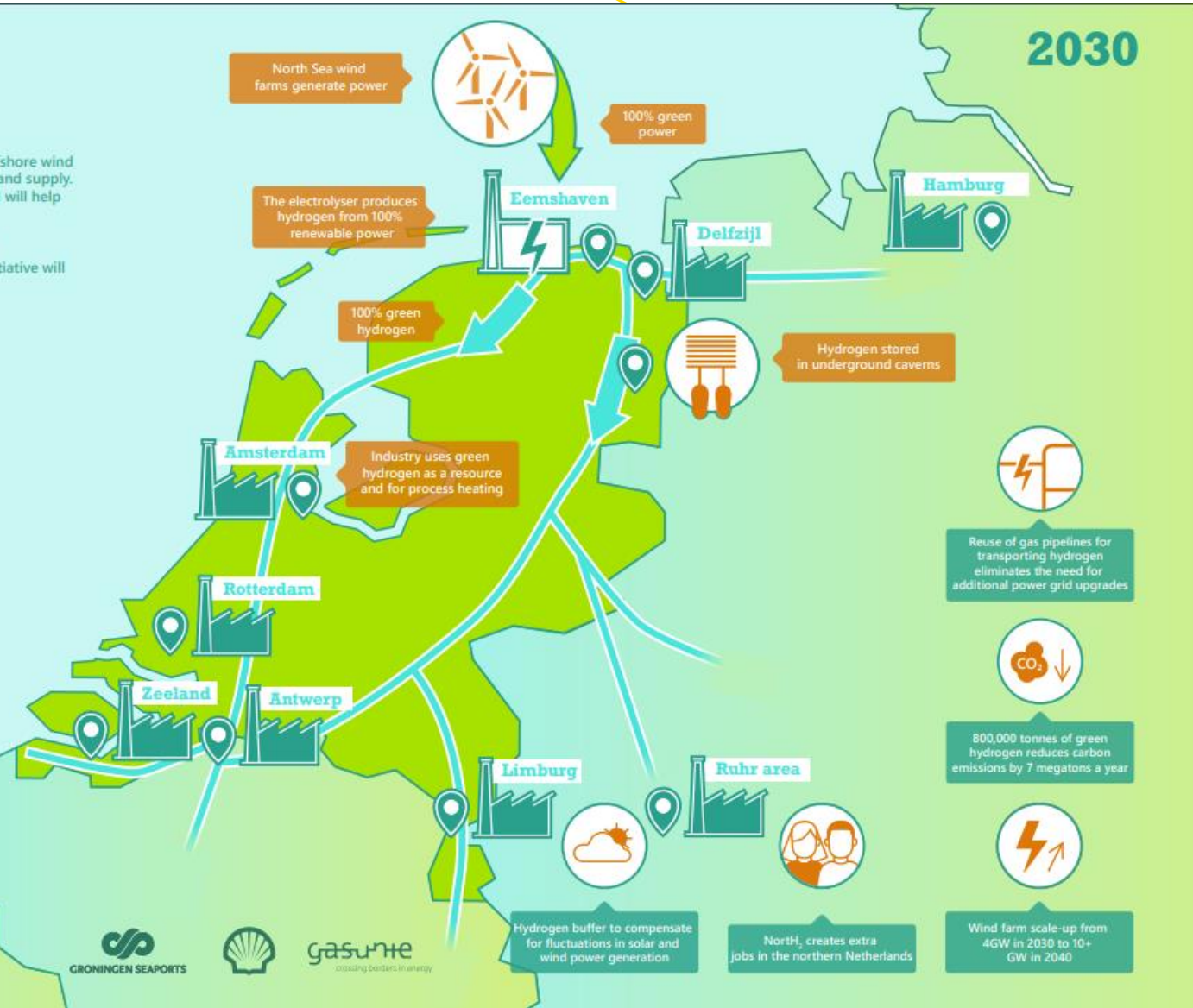
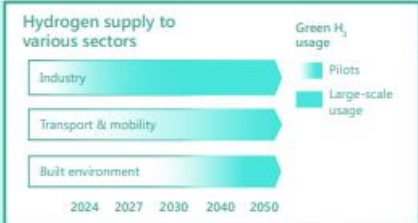
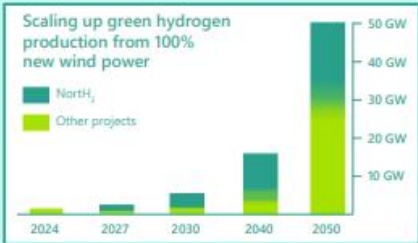
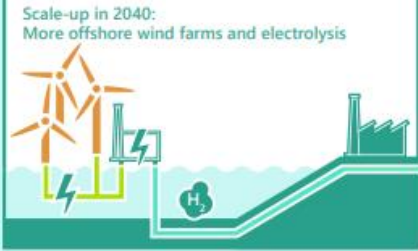
- EnergyStock, nabij Groningen: Opslag van aardgas in ondergrondse caverns.
- Nabij Energystock is nu Hystock in ontwikkeling. Opslag van waterstof in ondergrondse caverns.
- Op het terrein staat nu een 1MW PtG installatie met solar panelen.
- Feasibility voor storage afgerond einde van dit jaar; Testing kan aanvangen in 2022.

NorthH₂

Europe's largest green hydrogen project

NorthH₂: One single integrated chain in which renewable power generated by offshore wind farms is used for large-scale green hydrogen production, transmission, storage and supply. With this ambitious initiative, Gasunie, Groningen Seaports and Shell Nederland will help achieve the targets from the Dutch Climate Agreement.

We will be supplying more green hydrogen to industry in the Netherlands and Northwestern Europe, reducing carbon emissions by 7 megatons a year. This initiative will give the green hydrogen market a real boost!



Hydrogen Mobility

Company presentation November 2020

Accelerating the energy transition

HYZON Motors Inc

US based operations, assembling global capabilities to be the first US producer of fuel cell trucks and heavy vehicle fuel cell powertrains

A leader in fuel cell truck commercialization through consolidating and spinning-off the vehicle business of Horizon Fuel Cell

Combine sustainable hydrogen supply with fuel cell commercial vehicles to achieve attractive TCO – aim to match diesel vehicle TCO by 2023

Established Hyzon Motors Europe joint venture with Holthausen Clean Technology in the Netherlands, and Hyzon branded vehicles are being built now



Medium
Truck
Range



Hyz
on

Mot
ors:

HYZON Motors has been established to deliver complete solutions to dramatically accelerate the uptake of Hydrogen powered commercial vehicles

Veh
icle

Initial target deployments capture immediate scale through back-to-base fleets of high utilisation vehicles, with simple and cost-effective Hydrogen solutions

s

For
The

Hyd
rog

Heavy and Medium Duty Trucks, City and Coach Buses...

HYZON Motors focus on depot-based fleets which rapidly justify

en
Rev

hydrogen infrastructure investments

olut



City and
Coach
Buses

Heavy
Truck
Range



World's Highest Power Fuel Cell makes Heavy Vehicle Applications viable

The importance of the fuel cell powertrain in a fuel cell commercial vehicle is akin to the engine in a diesel alternative

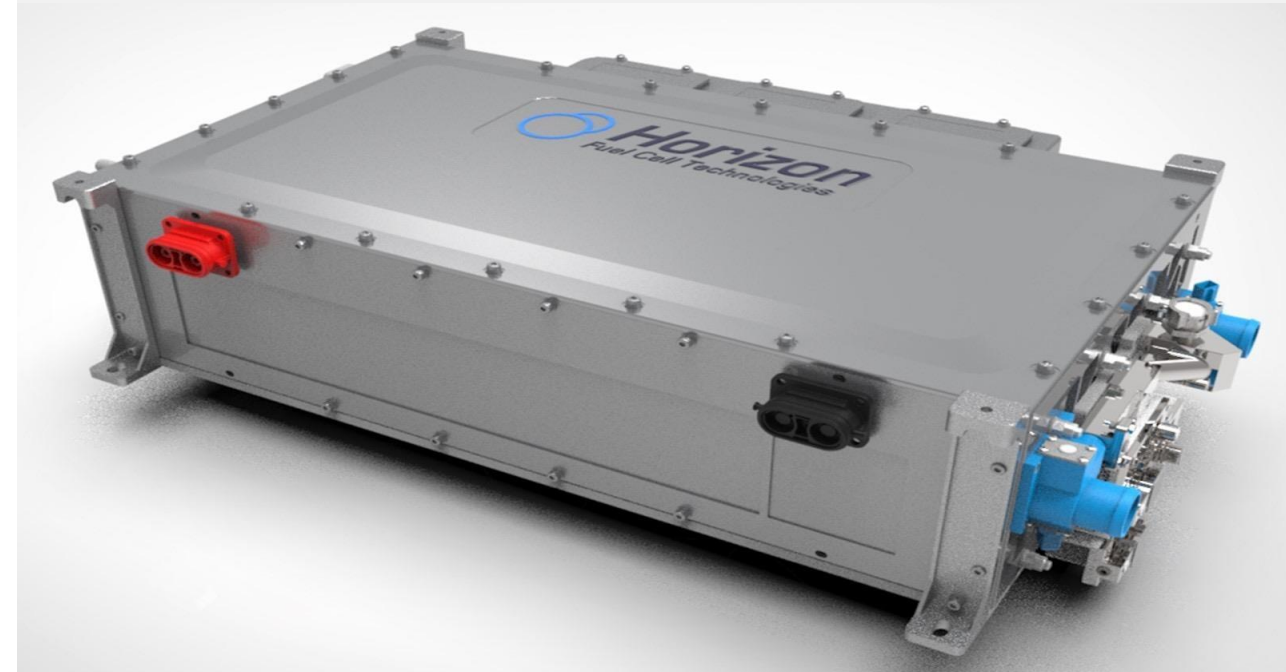
HYZON deploys single fuel cell modules up to 150kW, and from 2021 will deploy Fuel Cell modules over 300kW, by far the highest power single module globally

HYZON's high power and high power density fuel cells:

- Improve fuel economy
- Extend fuel cell lifetime
- Compete with diesel engines in every way
- Reduce fuel cell costs

BREAKING NEWS:

*TUV test results on next-gen fuel cells: **6.03kW/l, 5.56kW/kg***



Experience Counts



Horizon powertrains have been deployed in hundreds of commercial vehicles; mostly trucks (up to 42t GVM)

Almost 400 commercial vehicles deployed in 2019, totalling more than 21MW of fuel cell powertrains

Core Technology Focus

Leverage world-class Fuel Cell IP, but partner with first-class vendors for balance of vehicle components and sub-assemblies

USA: Rochester, New York

- Global Center for fuel cells (design capacity up to 10,000 truck systems) and vehicle development
- Low volume vehicle production in Rochester, high volume production with assembly partners

Europe: Groningen, The Netherlands

- HYZON Motors Europe Headquarters
- Low volume vehicle assembly plant for hundreds of trucks
- Series production assembly plant for up to 2,000 trucks per year to be commissioned 2021

China

- Contract vehicle production to OEMs such as JMC



Hyzon Motors: USA, Europe, Australia

Leveraging
international
experience to unlock
the enormous potential
for Zero Emission
Heavy Vehicles

Accelerating the
Energy Transition



PRESENTATIONS MEMBERS



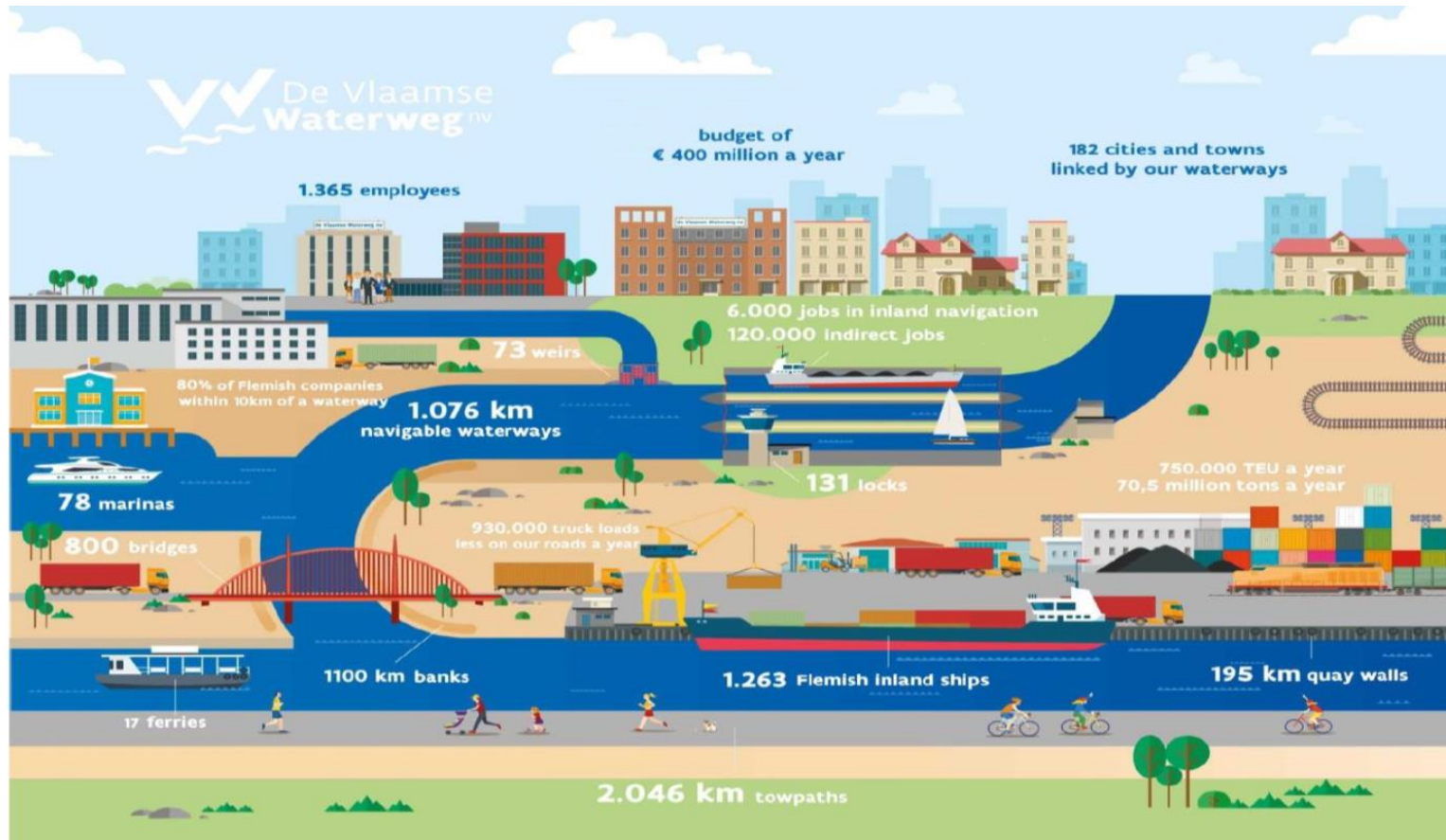


Lynn Eyckmans – Project Manager
0491/86.81.64
lynn.eyckmans@vlaamsewaterweg.be



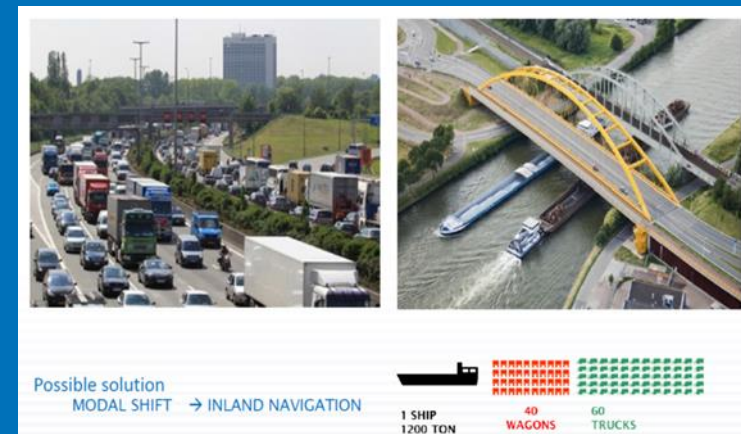
WIC 18th of November 2020

De Vlaamse Waterweg





1. Development & maintenance
2. Commercial use & innovation
3. Flood management
4. Facilitator



Research into the added value of alternative fuels - hydrogen

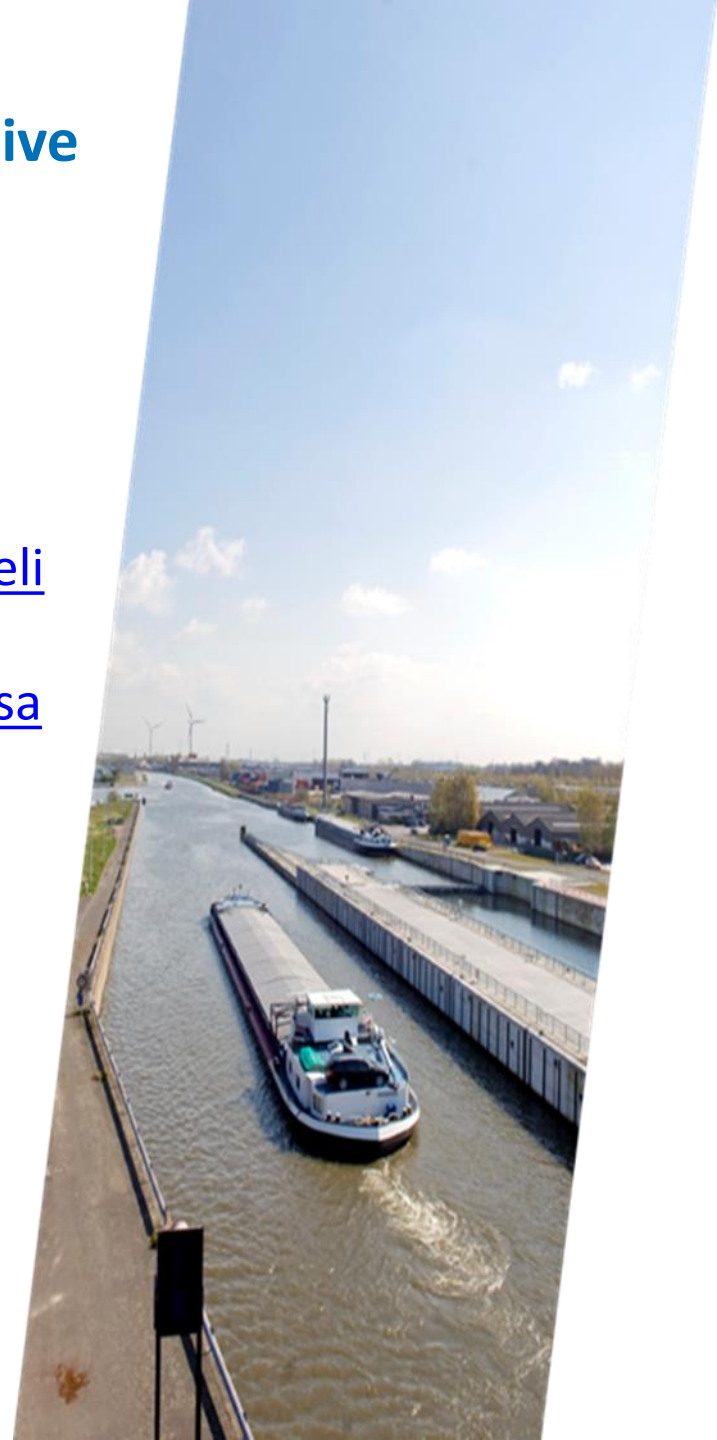
Inland shipping fleet

 Demo projects (Blauwe Reiger/ferries)

 Regional aid

<https://www.vlaamsewaterweg.be/nabehandelingstechnieken>

<https://www.vlaamsewaterweg.be/hermotorisatie-kleine-schepen>



Research into the added value of alternative fuels - hydrogen

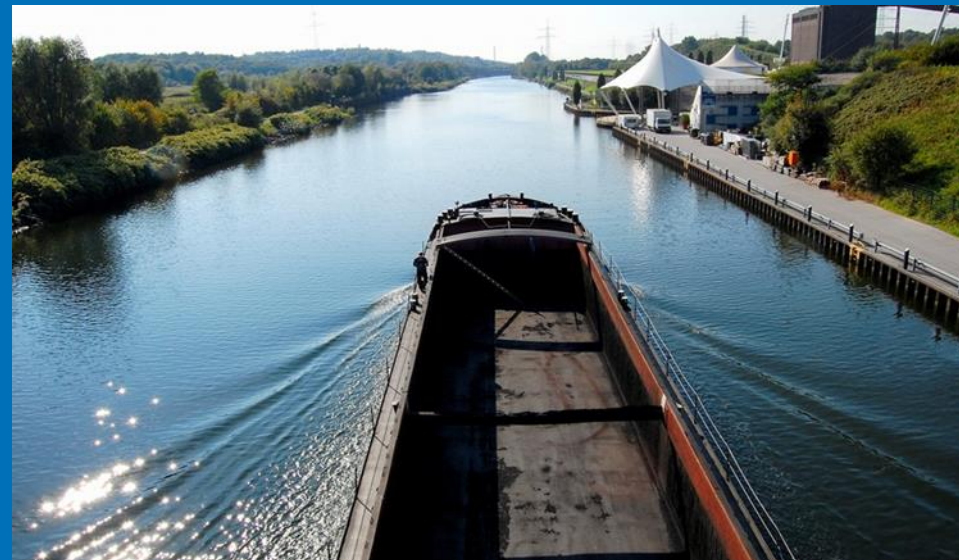
Infrastructure: multipurpose fuel hubs, shore power and fast chargers

 Locations

 Shore power & fast chargers

<https://www.binnenvaartservices.be/walstroom/aanvragen.php?lang=nl>

Legislative framework



Thank you!
Questions?



De Vlaamse
Waterweg nv

Lynn Eyckmans – Project Manager
0491/86.81.64

lynn.eyckmans@vlaamsewaterweg.be

WE ARE SPIE BELGIUM



Over ons



5 divisies



Voor de toekomst



Veiligheid

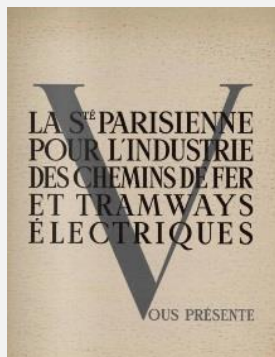


Bedrijfsfilm

Over ons

SPIE Group

Een lang verhaal





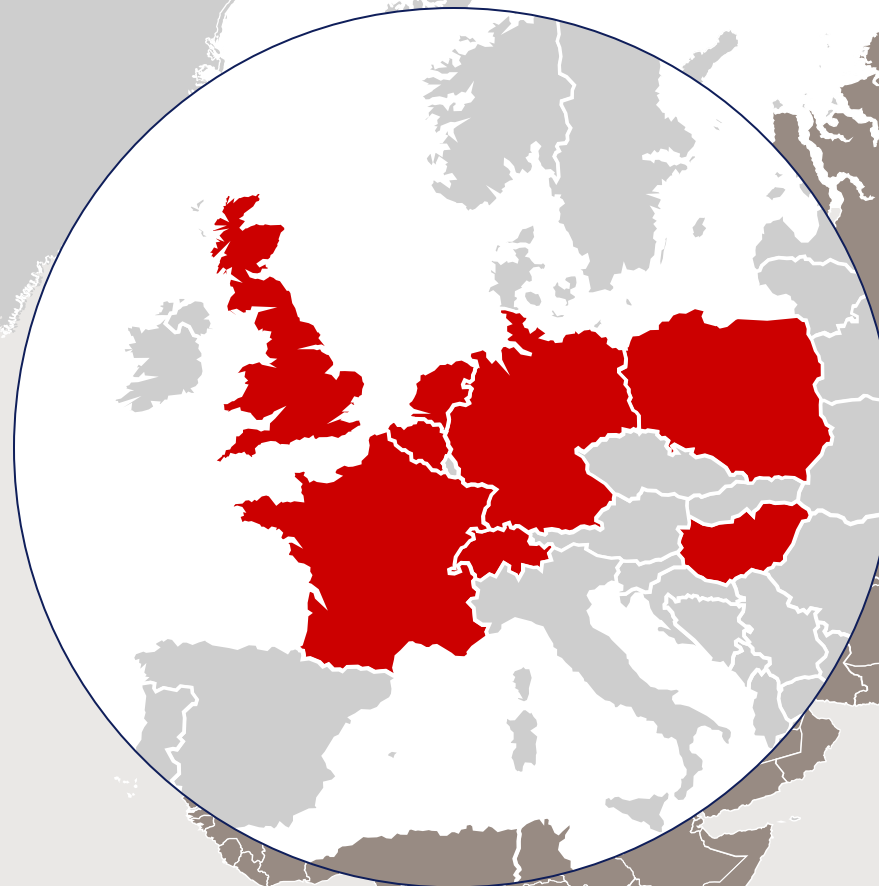
€ 6,671
miljard omzet



46.400
medewerkers



Sterke lokale
verankering



 Oil and gas activities

SPIE Belgium

Een groei door acquisities



SPIE Belgium

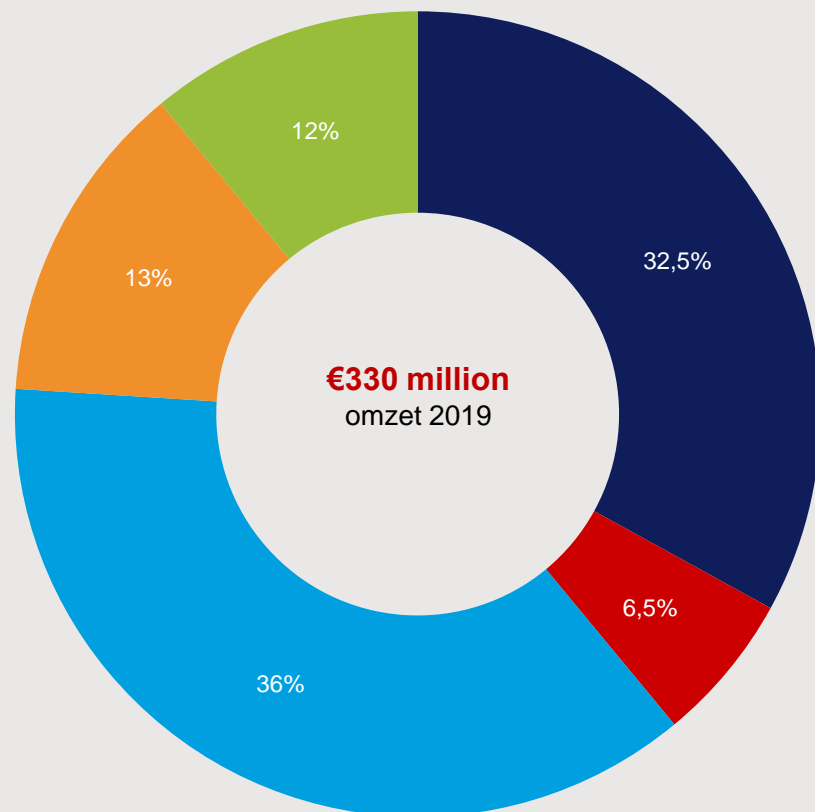
17 lokale vestigingen



1850 medewerkers

SPIE Belgium

Omzet per divisie



€330 million
omzet 2019

■ Industry ■ Infrastructure ■ Building Systems ■ Services ■ ICS



4 STRATEGISCHE BUSINESS SEGMENTEN



Smart city



E-efficient buildings



Energies



Industry services

Bijdragen tot een duurzaam model voor stedelijke en regionale ontwikkeling

- Slimme publieke verlichting
- Videobewaking
- ...

Optimaliseer de bouwprestaties op lange termijn

- Elektrische en HVAC systemen met hoge energie prestaties
- Informatie en communicatie systemen
- ...

Vergemakkelijk de energietransitie over de hele wereld

- Olie- en gaswinning en productie
- Thermische en hernieuwbare energie
- ...

Ondersteuning van de ontwikkeling van elke industriële sector

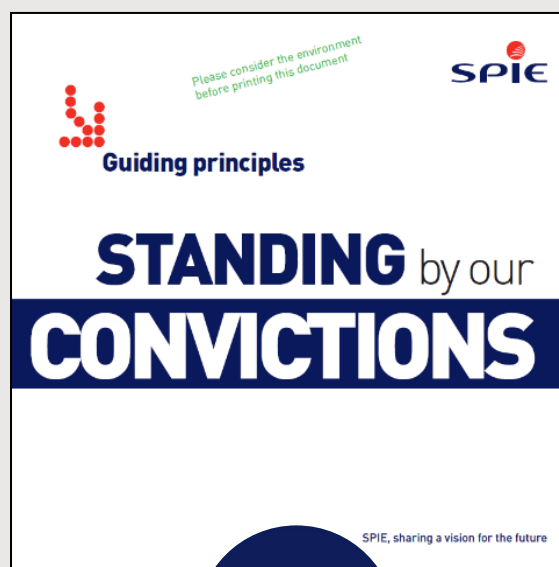
- Mechanische en elektrische installaties
- Optimalisatie van energieverbruik in industriële processen
- ...

Corporate Social Responsibility

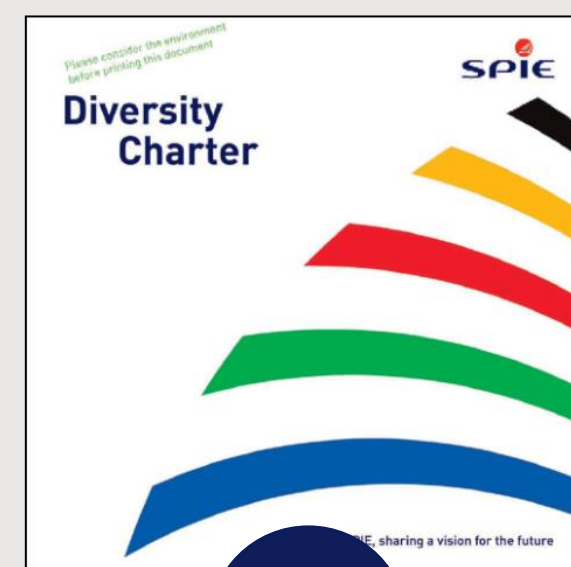
bouwstenen voor onze waarden, leidende beginselen en toekomstvisie



Groene economie



Ethiek



Diversiteit

Waarden

Nabijheid



Luisteren naar onze klanten

- Initiatief
- Creativiteit
- Innovatie
- Beschikbaarheid

Geïntegreerde oplossingen

- Europese spreiding
- Volledige levenscyclus

Dicht bij de lokale vestigingen

- Professionalisme
- Verantwoordelijk

Waarden

Prestaties



Garantie

- Conform de verwachtingen
- De wetgeving
- Andere eisen

Marktvernieuwing

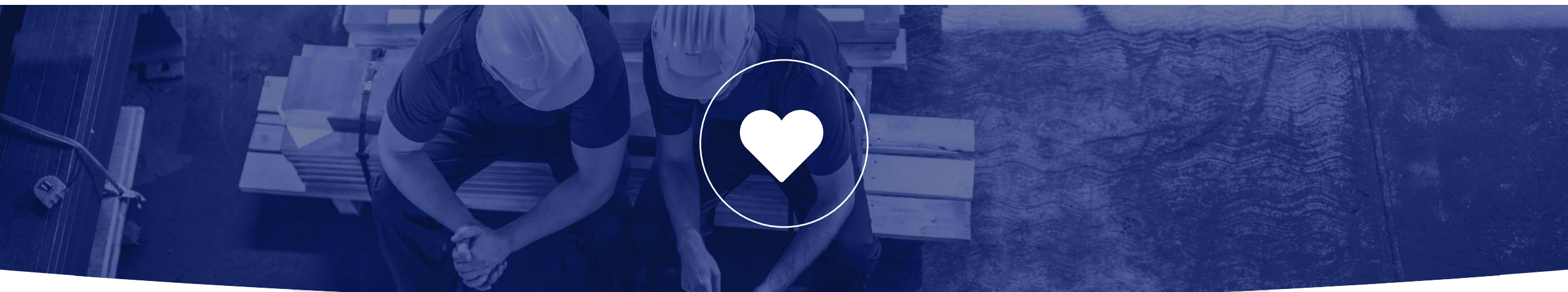
- Technologische evoluties
- Nieuwe trends
- Offerte-opmaak voor partner-klanten

Aanpassingsvermogen

- Anticiperen op de vraag
- Voldoen aan de noden van morgen

Waarden

Verantwoordelijkheid



Deontologische principes - solide vertrouwensrelatie met klant

- Ernst
- Betrouwbaarheid
- Beloftes nakomen
- Boven de klantverwachting uitstijgen

INDUSTRY



BUILDING
SYSTEMS



INFRA-
STRUCTURE



SERVICES



ICS



Onze divisies



Industry

Industriële waarde anders produceren

Van een productie met verlaagd energieverbruik tot een vermindering van de impact op het milieu: de industrie is een onmisbare speler inzake duurzame ontwikkeling.

- Automatisering en proces
- Engineering
- Industriële elektriciteit
- Industriële verhuizingen
- Instrumentatie
- Mechanica
- Onderhoud
- Piping in kunststof en metaal
- Skidbouw
- Industriële vloeistof en klimaatbeheersing
- Stilstand & Turn-around
- Supervisiesystemen
- ...

VERBETERING beheer van nutsvoorzieningen
BEHEERSEN van het energieverbruik,
ONTWIKKELING van de milieuaanpak



Industry

Onderhoudswerken



SPIE, een gezamenlijke ambitie



Industry



Vernieuwen van hoogspanningsposten Elia





Industry



Bekabeling en elektrische uitrusting van windmolenparken





Industry

Kunststofpiping





Building Systems



Performante technieken in gebouwen

Kantoorgebouwen, ziekenhuizen, openbare gebouwen, winkelcentra, datacenters, ...

- Branddetectiesystemen
- HVAC-regeling
- Noodgroepen
- Gebouwentechnieken
- Telefonie
- Algemene laagspanningsborden
- Toegangscontrole
- UPS – systemen
- Verdeelborden
- Verlichtingsinstallaties
- Camerabeveiliging
- Cleanrooms
- Datacenters
- Internet of Things
-

VALORISATIE van gebouwen en hun activiteiten
STIMULATIE van het ecobeheer van het patrimonium
LEVERING van geïntegreerde digitale diensten



Building Systems

UZ Leuven Gasthuisberg





Building Systems

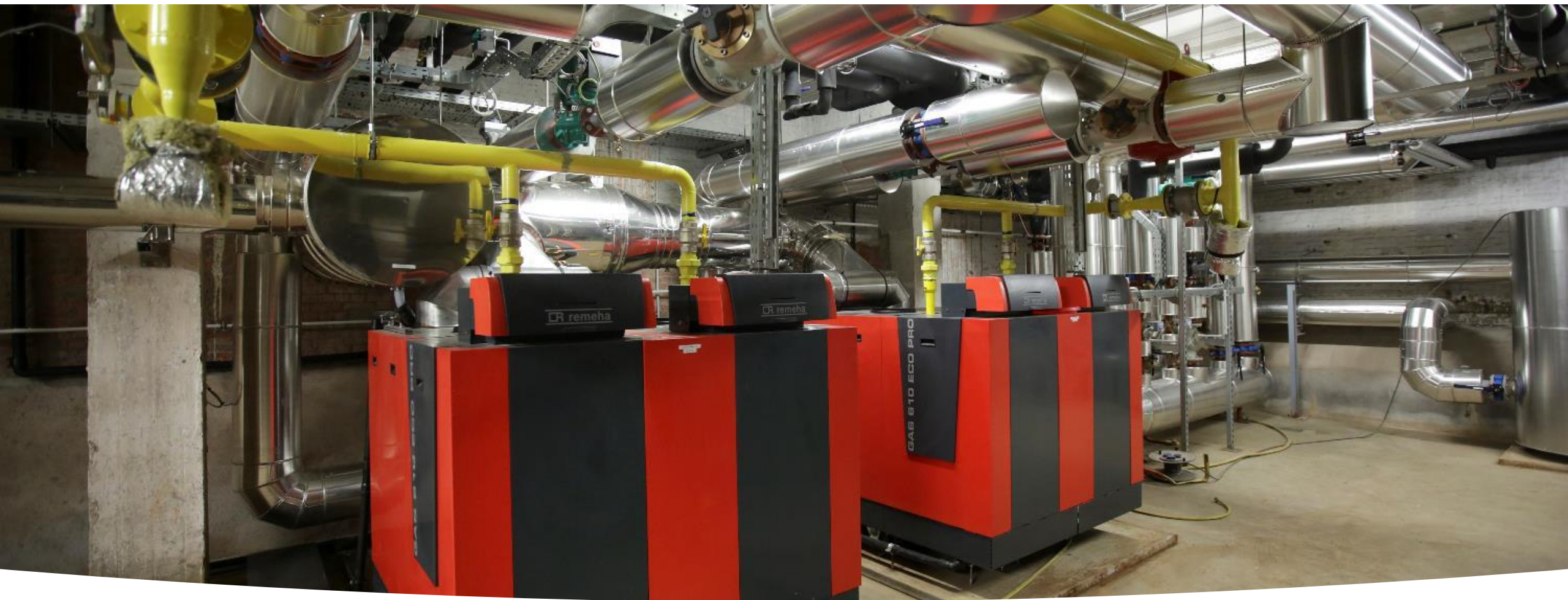
Elisabethzaal Antwerpen





Building Systems

Havenhuis Antwerpen





Infrastructuur

Handelen voor duurzame en intelligente leefomgevingen

Infrastructuuroplossingen voor de Belgische markt



Openbaar vervoer



Wegentransport



Luchthavens



Waterwegen



Spoorwegen

- Automatisering
- Openbare verlichting
- Elektromechanische installaties in tunnels
- Beheer van het verkeer
- Informatiesysteem voor reizigers
- Opslag en transport van brandstoffen
- Verkeerslichtenbeïnvloeding
- Videobewaking
- Parkeerbeheersystemen
- IoT technieken
- Laadinfrastructuur voor alle voertuigen
- ...

ONTWIKKELING mobiliteits-,
veiligheids- en netwerkoplossingen



Infrastructure

Rail Transport





Infrastructure

Road Transport





Infrastructure

Air Transport





Infrastructure

Water Transport





Infrastructure

Urban Transport





Services



Follow-up van uw systemen

Uw kosten verlagen en de levensduur van uw installaties verlengen

- Automatisering
- Brandbeveiliging
- Waterdistributie
- Weerstations
- Tellen voertuigen
- Communicatienetwerken
- Elektriciteits- en gastellers
- Inregeling, telebewaking en –beheer
- Zwakstroom, laag- en middenspanning
- Installatie & onderhoud van liften
- Beheer en optimalisatie van energie
- ...



**AUTOMATISERING van installaties,
ECO BEHEER van energie
OPTIMALISERING van prestaties en levensduur**



Services

Tunnel de Cointe





Services

HVAC Installaties





Services

Techniekherstelling





ICS



Uw digitale overgang vereenvoudigen

ICT oplossingen & innoverende diensten **op maat** die u helpen om de groei van uw business te optimaliseren en zo gefocust te blijven op uw hoofdactiviteit.



Workspace



Printing & document management



IP connectivity



Datacenter & Cloud



IT Security

- Advies & Engineering
- Project & Integratie
- Outsourcing & Onderhoud
- Outsourcing IT-talent
- Managed services
- Financiële oplossingen

BEVEILIG uw gegevens en uw bedrijf,
VERHOOG uw productiviteit,
OPTIMALISEER uw kosten en activiteiten



ICS

SME United





ICS

Unizo





ICS

Cleary Gottlieb



WE
ARE
FOCUSED
ON EXECUTING
OUR MISSION



WIJ
ZIJN
GEFOCUST
OP HET UITVOEREN
VAN ONZE MISSIE

SPIE voor de toekomst



Alstom @ WIC

Yves CARELS

18.11. 2020

ALSTOM
• mobility by nature •



Agenda

1. Alstom
2. Coradia iLint
3. A track record of demonstrations
4. A demo for BE

01

Alstom

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ALSTOM

€9.9
Billion orders

€8.2
Billion sales

7.7%
Adjusted
EBIT margin

Present in
60+
countries

40.000
employees

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• **ALSTOM** •

A comprehensive portfolio of mobility solutions



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Alstom in Belgium

- 3 activities: Traction, Signalling, Services
- More than 100 projects in 5 continents
- Workforce: >1250 people of 29 nationalities
- A high level of expertise
 - 500 in engineering department (20% in R&D)
 - 2 Master Experts
 - 36 Senior Experts
- R&D, Project Management, Industrial activities
- Innovation through collaborative approach with universities, other companies and local institutions



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M7 double deck for the SNCB

- Frame contract in consortium with Bombardier Transportation
 - 1st contract: 445 vehicles
- Alstom in charge of traction vehicle with passengers on board
 - 90 units riding up to 200 km/h
- Traction and auxiliary converters, low voltage cabinets and ERTMS signalling system by Charleroi site
- Integration by Valenciennes site
- 1st vehicle in commercial service in 2020

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02

Coradia iLint

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Need for alternative propulsion technology



Considerable part of the **railway network non-electrified**

Emission-free trains for non-electrified routes



Medium and long-term **rising prices for diesel**
Implementation of **CO₂ tax**

Alternatives to fossil fuel



Legislation and forecasts regarding **climate protection and noise reduction**

Climate protection and noise reduction



Falling acceptance and political discussions about **diesel driving ban in urban areas**

Compliant technology

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ALSTOM Waterstoffrein Coradia iLINT

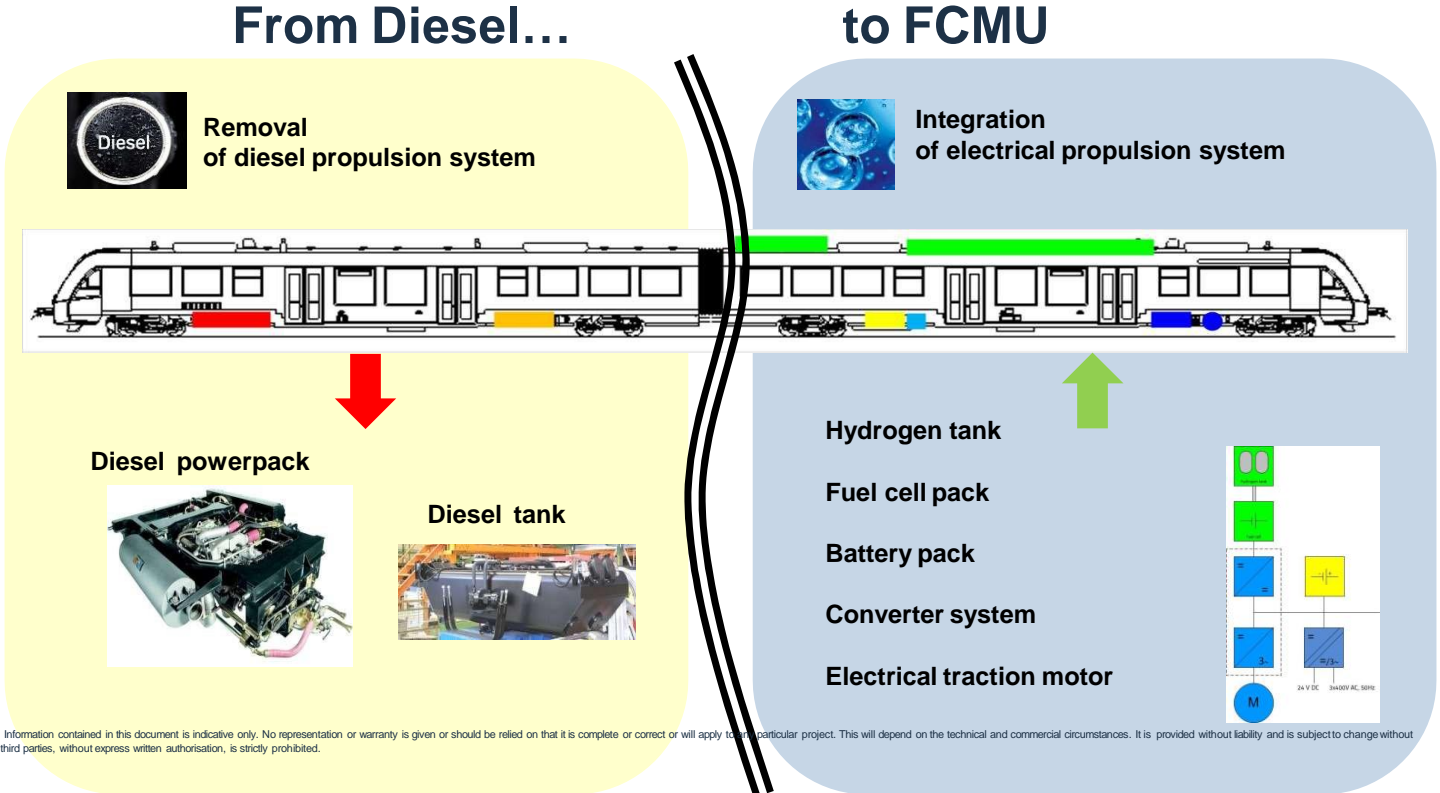


Een regionale trein met hybride aandrijving

op basis van brandstofcellen

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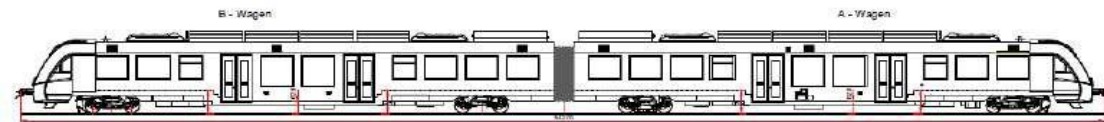
Coradia Lint / Coradia iLint - transformation from Diesel to FCMU



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Coradia iLint

- Based on successful Coradia Lint 54 DMU
- Lowfloor train (entrance height 620 or 810 mm)
- Max. speed 140 km/h
- Performance similar to the diesel version
- 150 seats
- 1 toilet
- Flex area
- Zero emission
- Less noise



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Fuel cell technology for trains

How does it work?

- Main features:
 - Electric train with hydrogen powered fuel cell for onboard electric power generation
 - Traction battery (for brake energy storage, boost acceleration and auxiliary supply)
 - Range up to 1000 km
 - Hydrogen infrastructure needed: Hydrogen Refueling Station (HRS)

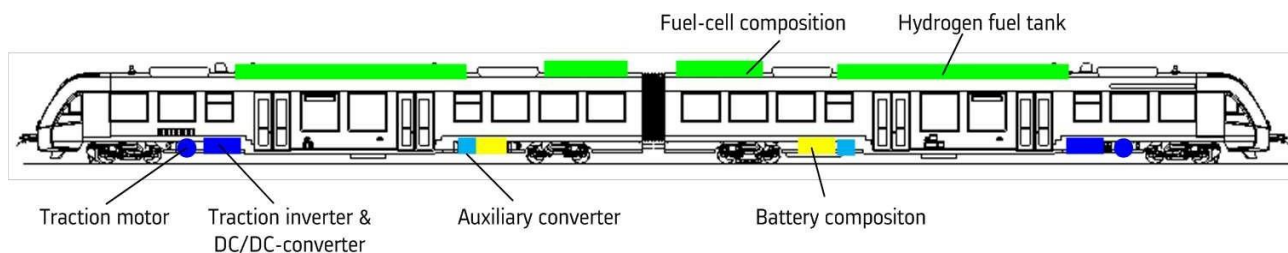
FC(E)MU: An electrical train with onboard electricity generation and storage

© ALSTOM
notice. Re

Fuel cell technology for trains

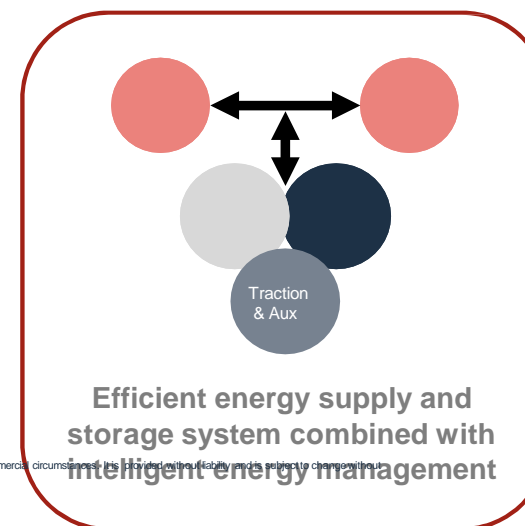
How does it work?

- Example Coradia iLint



- Main elements on the train

- Electrical traction system
- Primary energy supply by hydrogen fuel cells
- Intermediate energy storage by Li-Ion batteries
 - to boost during acceleration
 - to recover kinetic energy during braking
- All electrical auxiliary supply



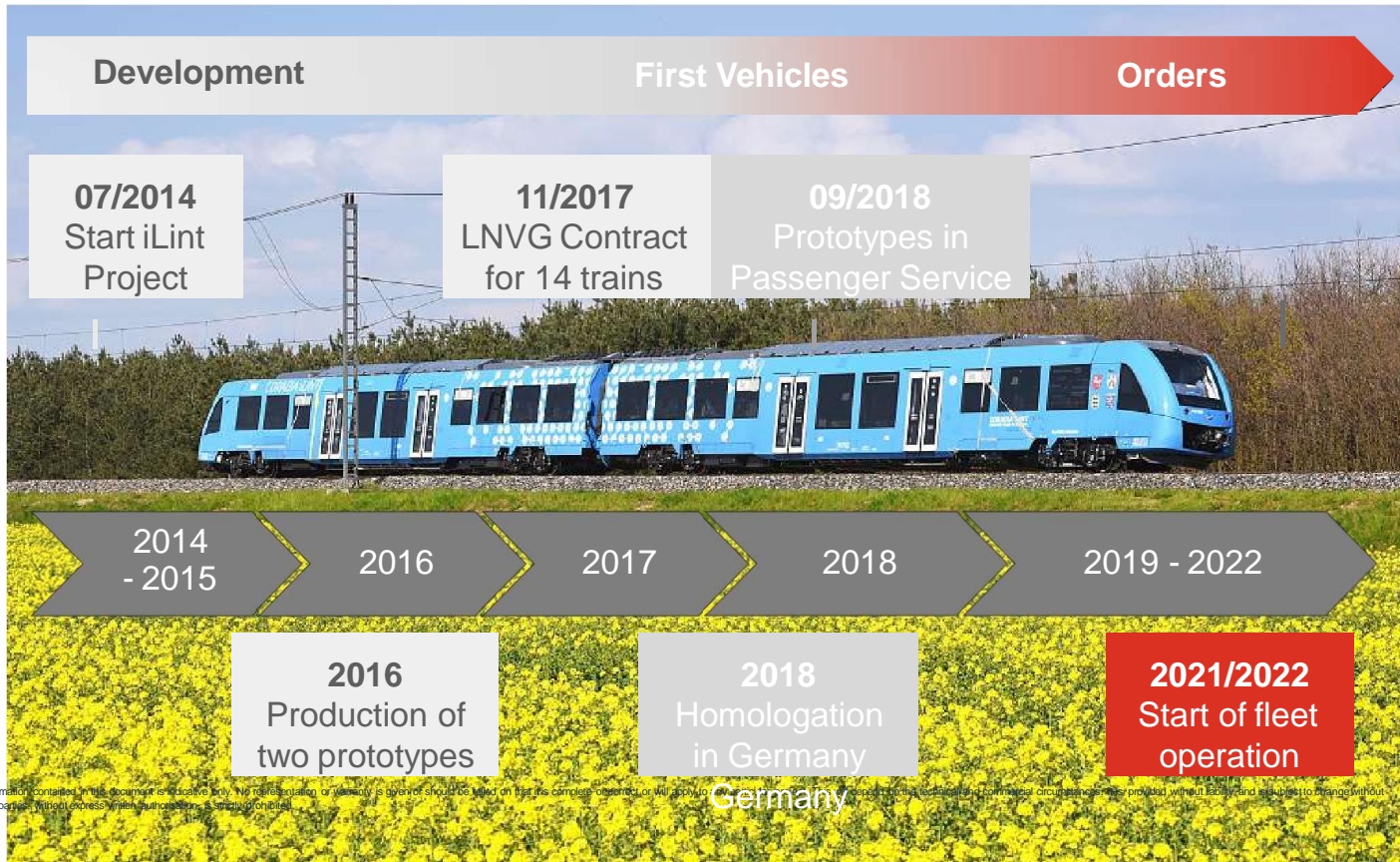
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03

A track record of demonstrations

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Coradia iLint: Program



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Coradia iLint

Coradia iLint pre-serial trains

**Homologated
by EBA (Germany)**



**Passenger service
in Ger Sept 18 - Feb 20**



**Test operation in NL
27.02.20 – 11.03.20**

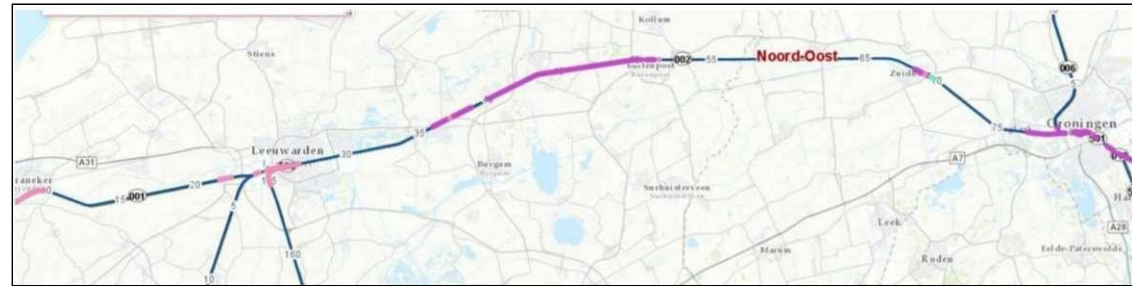


- Passenger operation in Austria close to Vienna from Sept to Nov 2020.
- Additional test operations under preparation

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Main results of Coradia iLint test operation in the Netherlands

- Coradia iLint perfectly fit to operate instead of the current Diesel fleet
- Infra compatibility confirmed
- Timetable perfectly kept
- Coradia iLint range fits needs for NL
- Lower noise emissions in operation
- Significant noise reduction at platforms
- Drivers very satisfied: “comfortable and easy to drive”
- Public success



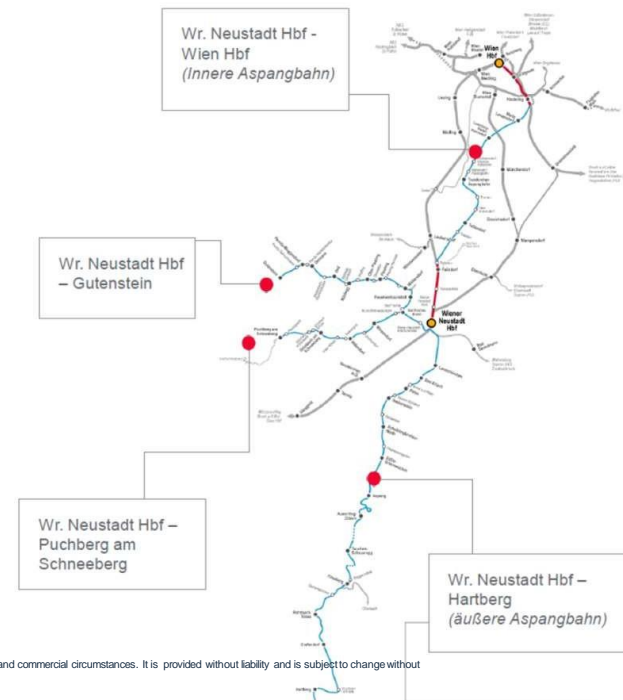
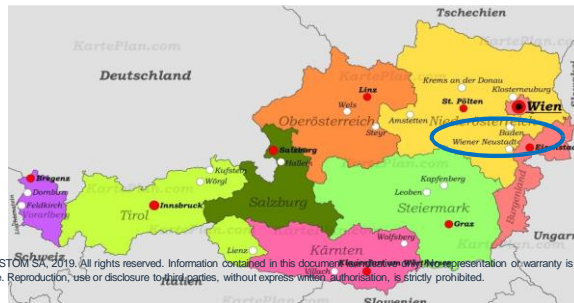
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Coradia iLint: ... passenger service in Austria



Overview

- Operation on 4 lines in the area of Wiener Neustadt between September and end of November 2020
- Regular operation acc. to time tables with passengers (mixed with standard DMU)
- Demanding lines in alpine area with slopes from 2,0 % up to 4,4 %



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04

A demo in BE

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ALSTOM hydrogen train strategy

Project Criteria

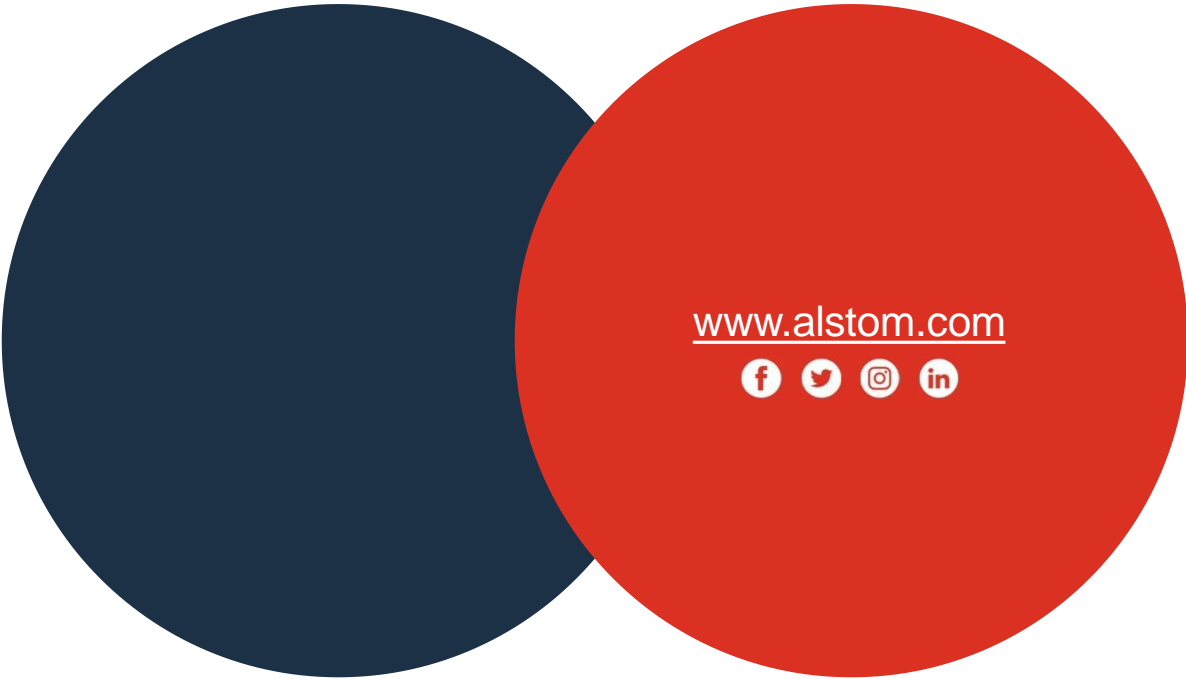
- 
- 1 Synergy with existing H2 market/infra (sector coupling)
 - 2 “Energy transition” towards renewable electricity
 - 3 Existing or new RW track without OHL
 - 4 Demand for regional passenger train transport from multimodal hubs
 - 5 Pilotproject as lever to decarbonise DMU fleet

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Q&A





ALSTOM
• mobility by nature •

Capgemini/Altran presentation

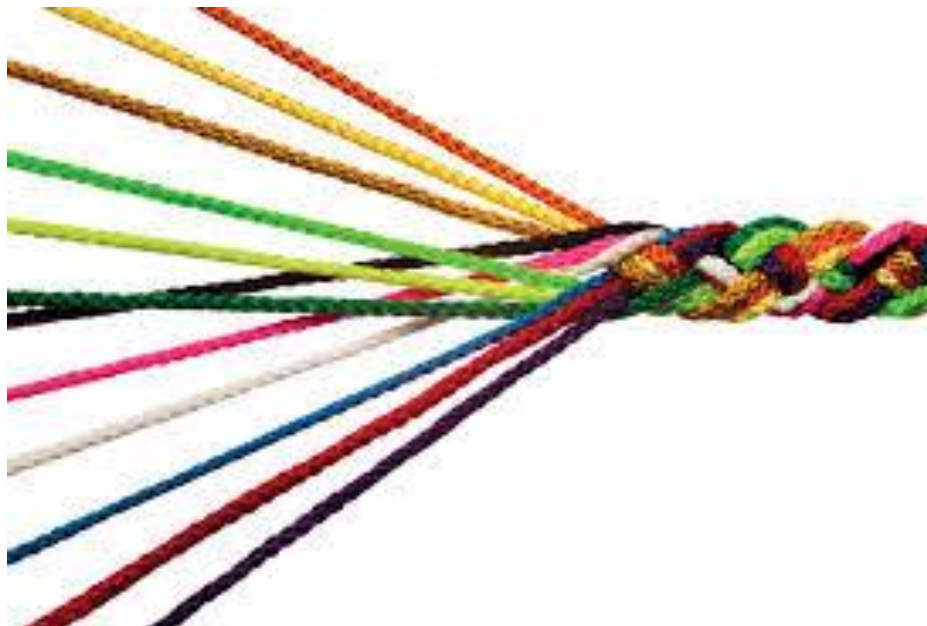
Waterstofnet webinar
18-11-2020



Digital services leader
220.000 employees



Engineering services leader
50.000 employees



Intelligent Industry
services leader

Capgemini / alTRAN

Pioneering Intelligent Industry

global leader in consulting, **digital** transformation, **technology** and **engineering** services

€17billion
revenues 2019

50+
countries

270.000
Employees
excl. sourced-in

2.000+
Belgian workforce
9.000+ Benelux

throughout **ALL** industries



Undisputed global Engineering and R&D services leader

Automotive

product development

Aerospace

product development

Energy

all types of energy

Processing

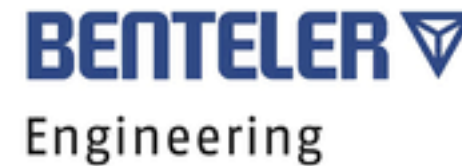
primarily pharma

Other: Electronics, Semiconductors, Railways, Defense, Telecom, Finance, Public sector, and so forth

altran

Part of Capgemini 

Other present & recent former brands active in the Benelux



former Philips embedded software department



Hydrogen projects & investments



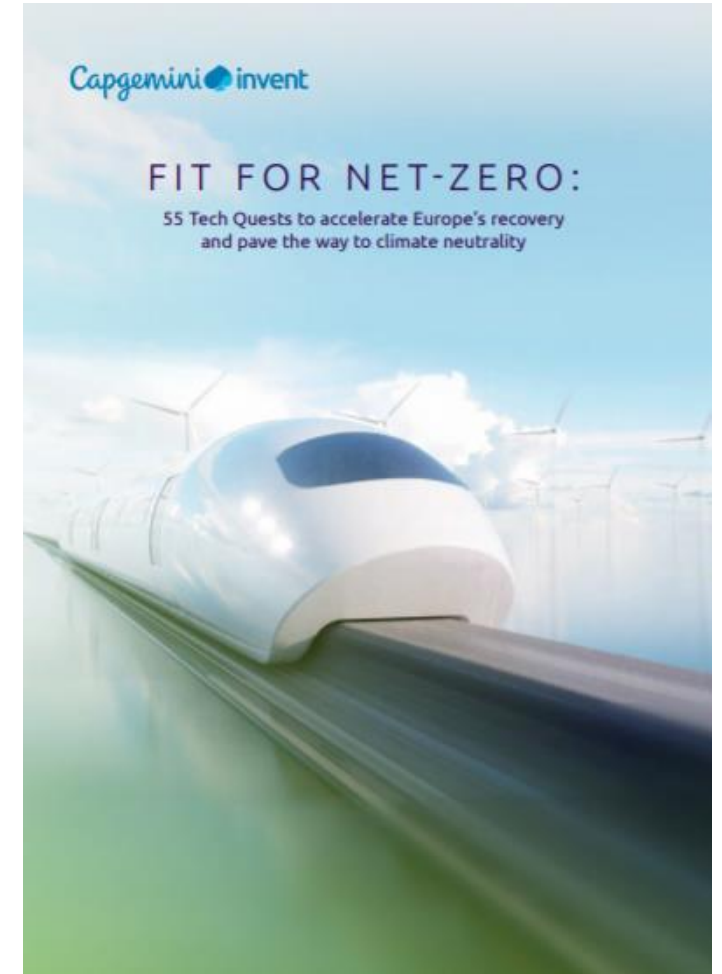
altran equity investment
(non-controlling equity)

hydrogen leak detection and
process gas measurement solutions for
industrial markets
Used by **Waterstofnet** members



CONTRIBUTION TO
THE REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL
RELATING TO THE TYPE-APPROVAL OF HYDROGEN POWERED MOTOR VEHICLES

Our regulatory
type-approval
contribution in 2006

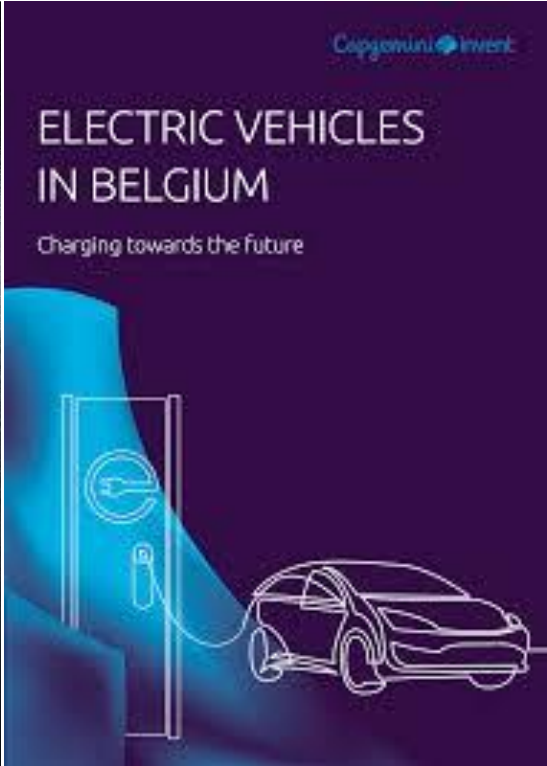


regular publications

Hydrogen projects & investments - Automotive



carbon-neutral racing projects



regular publications



involved in most car product development programs in Europe

Altran HIP team
Hybrid Innovative Powertrain
(incl. Hydrogen)

Hydrogen projects & investments - Aerospace



Stratospheric Platforms

5G AeroSat for German telcom operator

involved in **most** aircraft product development programs in Europe

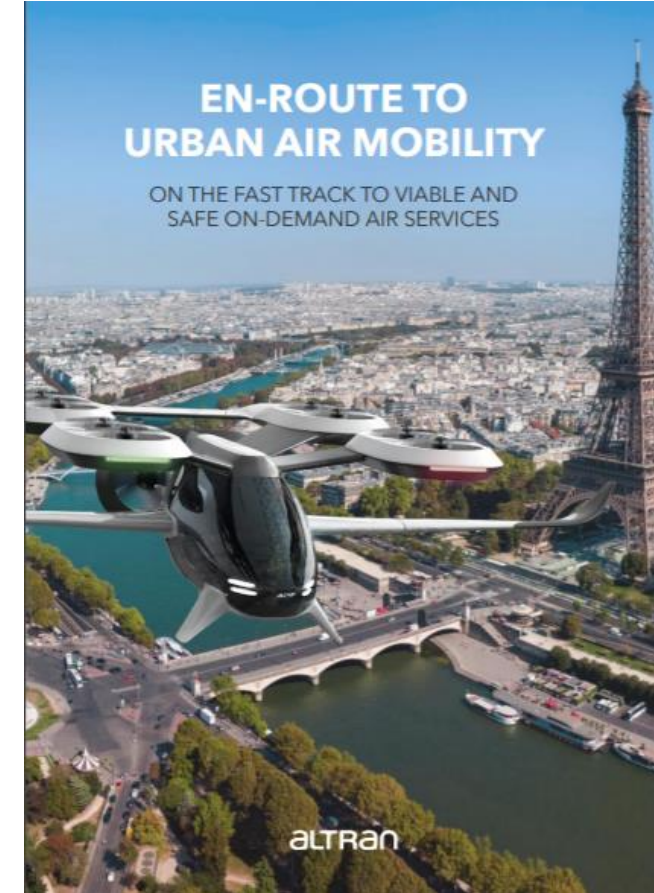


Airbus ZEROe

Operational 2035

ICAO CORSIA program

Carbon Offsetting and Reduction Scheme for International Aviation (incl. hydrogen)



Hydrogen powered

Hydrogen projects & investments - Maritime



involved in many naval product development programs in Europe

energy management system
emission free propulsion for the
MV Soloven research vessel using Liquid
Organic Hydrogen Carrier (LOHC)

alTRAN
Part of Capgemini 

Developments in the WIC

- New members
 - H2-news from our governments (FL/BE/NL)
 - Strategic plan H2 for Flanders
 - Overview EU initiatives/funding
 - Cluster activities
-

NEW MEMBERS SINCE SEPT. 2020

ALSTOM

SPIE

AVIA

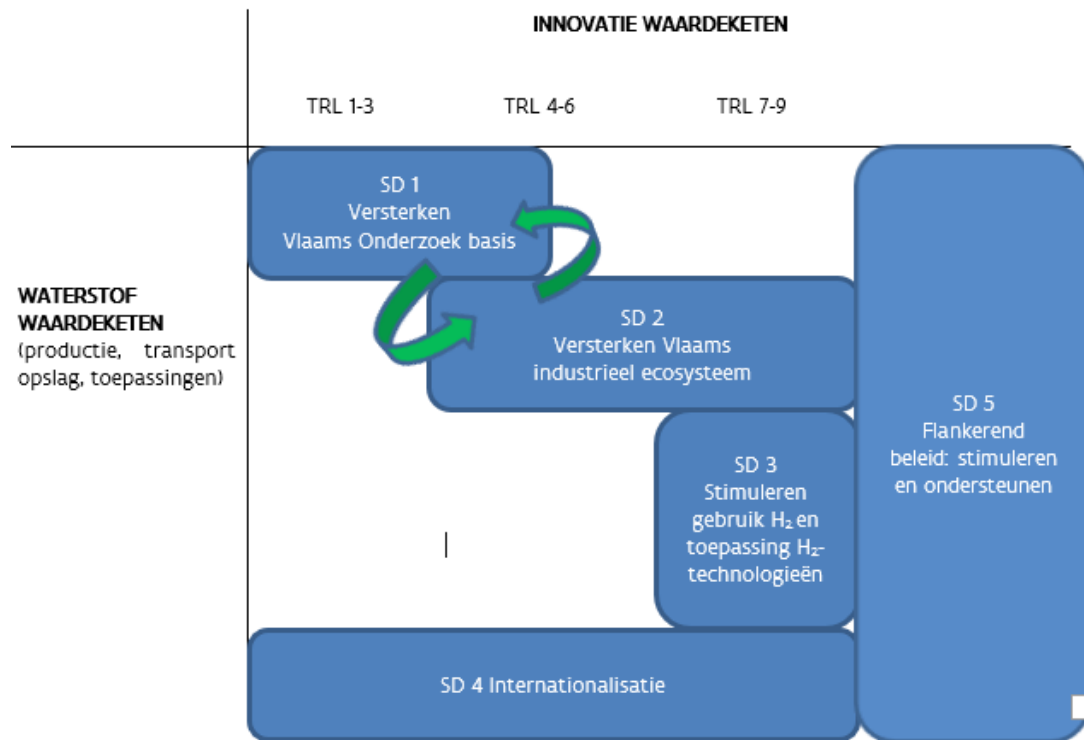
VOLLENHOVEN

ZIERO

PerPetum
SMART ENERGY SOLUTIONS

ALTRAN
Part of Capgemini

➤ Friday Nov 13, “mededeling” Flemish hydrogen vision



HIGHLIGHTS

SD1: Flemish impulse-program for R&D on H₂

SD2: (Improved) funding instruments

SD3: Pilots & first industrial deployments
>100M€ for IPCEI and support for EU funding

SD4: Intensify EU collaboration, involve FIT (import!)

SD5: Legislation; development of infrastructure

➤ Federal government agreement



- ✓ Invest in production of green H₂ for industry & freight transport
- ✓ Stimulate of pilot projects & creation of legislative framework for power-to-x, production of low carbon H₂, CCS/CCU& storage
- ✓ Creation of framework to enable roll-out of a H₂- and CO₂ backbone with maximal reuse of existing natural gas infra.
- ✓ The potential of hydrogen for trains will be investigated.
- ✓ Innovation funding via Energy Transition Fund
- ✓ Policy-document dept Energy published on Nov 3:

H2 NEWS FROM OUR GOVERNMENTS (FL/NL)

➤ IPCEI

- Belgium closed EoI, budget announced 100+ M€
- Netherlands:
 - 22/9 first step, 83 proposals
 - Budget to be defined, coming elections in March 2021
- Germany:
 - Takes the lead in dialogue with other member states
 - Planning: prenotification beginning of 2021



DKTI (Demonstraties Klimaat Technologieën & - Innovaties):

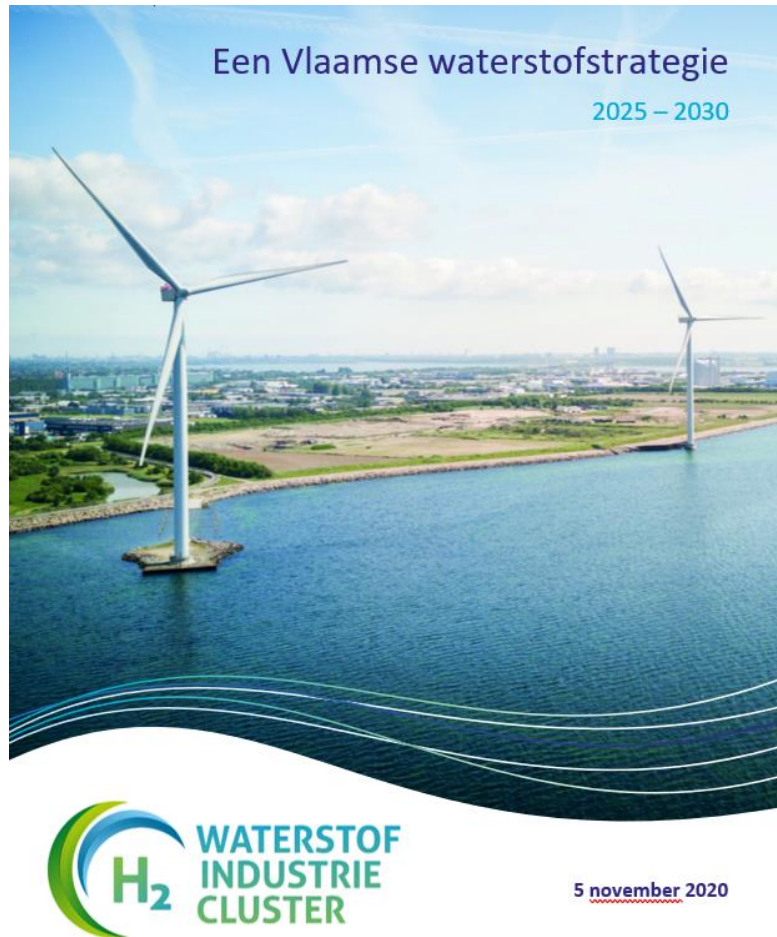
- 36 Meuro
 - Lancering begin 2021
 - Haalbaarheidstudies
 - Experimentele ontwikkeling
 - Proeftuin
 - Learning by using (first come, first serve) heavy duty
-

➤ Dutch-Flemish summit Nov 4, 2020



- H2 becomes part of the collaboration agenda.
- H2 for energy & feedstock in industrial and mobility sectors
- Through collaboration, the FL/NL region can be leading in EU
- Specific collaboration on electrolysis
- Cross border transport of H2 and CO2 (with support of EU)

<https://www.rijksoverheid.nl/documenten/diplomatieke-verklaringen/2020/11/04/gezamenlijke-verklaring-vlaams-%E2%80%93-nederlandse-top-4-november-2020-brasschaat-digitaal>



H2 roadmap Flanders

Targets & recommendations for 2025-2030 w.r.t.

- ✓ Domestic H2 production
- ✓ H2 import
- ✓ Infrastructure for distribution & storage
- ✓ H2 in industry
- ✓ H2 in transport
- ✓ H2 in built environment
- ✓ Research & innovation
- ✓ Flemish & Federal policy measures

STRATEGIC PLAN H2 WIC: FEEDBACK FROM CLUSTER

Main comments:

- ✓ Additions or modifications on map with realised & planned projects
- ✓ Identification of technological gaps is missing
- ✓ Too limited attention for R&D options in Flanders => specific innovation program needed
- ✓ Minor details/additions



Figuur 5: gerealiseerde en geplande waterstofprojecten in Vlaanderen (2025)

FOLLOW-UP STRATEGIC VISION DOC WIC

- Week 16 Nov \Rightarrow finalize doc
 - WIC congres Dec 7: official handover to Min. Crevits
 - Dec 2020-Feb 2021: cabinet visits FL and federal level
-

NEW EU ORGANISATIONS RELATED TO H2 (1)

Clean Hydrogen Alliance (ECH2A)

Launched alongside the energy system integration & hydrogen strategy strategies, to:

- develop investment agenda for the production & use of renewable and low-carbon H2
 - build concrete pipeline of projects by end 2020
- Will be supported by the Strategic Investment Facility under InvestEU and the ETS Innovation Fund.
- Will also coordinate the Important Projects of Common European Interest (IPCEI) for H2

Open to all public and private actors with activities for renewable or low-carbon H2 that are ready to actively contribute to the objectives set out in the declaration of the alliance

NEW EU ORGANISATIONS RELATED TO H2 (2)

Clean Hydrogen Partnership for Europe

Continuation of the FCH2-JU (HorizonEurope)

Public-Private partnership between Hydrogen Europe, Hydrogen Europe Research and the European Commission

→ focus on R&I

European Green Hydrogen acceleration center

Launched by [EIT Innoenergy](#), supported by Bill Gates' Breakthrough Energy

HYDROGEN WEEK

Hydrogen week 23 Nov – 27 Nov

23 – 24: review days

25: regional day

26: Hydrogen Forum

27: Matchmaking day

→ Free [subscription](#)

NEW FUNDING OPPORTUNITIES (1)



Horizon2020 Green Deal Call (TRL \geq 6) Open: 22 September 2020 - 26 January 2021

Development and demonstration of a 100 MW electrolyser

Green Airports and Ports

New **Multiannual Financial Framework (MFF) 2021-2027** (aimed at realizing the Green Deal objectives) with opportunities for hydrogen:

HorizonEurope, e.g. Cluster 5 Climate Energy Mobility

Innovation Fund, larger due to ETS revision (\pm €10 billion until 2030 dep. on CO₂ price)

Managed by INEA, focus on *highly innovative technologies* and *big flagship projects* with European value added that can bring on significant emission reductions

First call for large scale projects closed

First call for [small-scale projects](#) (<€7.5 million) to be launched in December 2020.

NEW FUNDING OPPORTUNITIES (2)

CEF-E & CEF-T Blending Facility: Energy system integration strategy:

“Synergies between the Connecting Europe Facility Energy (CEF-E) and the Connecting Europe Facility Transport (CEF-T) will be harnessed to fund dedicated infrastructure for hydrogen, repurposing of gas networks and carbon capture projects, and finance hydrogen refuelling stations.” (±€23.4 billion)

Deadline 4th call: 13 November 2020

Subsidies accompanied by an obligatory loan

FCH-JU observatory [website](#)

NEW FUNDING OPPORTUNITIES (3)

Next Generation EU (EU recovery plan), primarily through:

InvestEU, all financing programs under one roof, backed by an EU budget guarantee of €38 billion, assistance through the [InvestEU advisory hub](#)

[Recovery and Resilience Facility](#), funds allocated to member states based on Recovery and Resilience plans

Draft proposals submitted 15 October 2020, final plans to be submitted once the fund has entered into force

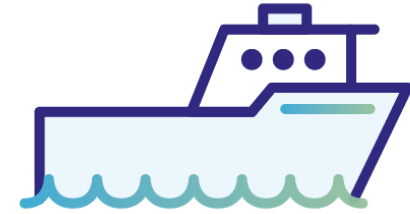
REACT-EU, €55 billion extra for existing funds (ERDF, ESF, FEAD)

In the Netherlands (€417 million) possibly through [Kansen voor West, OP zuid, OP Noord and OP Oost](#); In [Belgium](#) (€245 million)

IPCEIs

CLUSTER ACTIVITIES

- **Working group shipping** applications has started
 - ✓ First meeting on Nov 17
 - ✓ 18 cluster members participate
 - ✓ Collaboration with Blauwe Cluster (TBD)
- NEW in 2021: **WIC webinars**
 - ✓ Topics from cluster members or their partners
 - ✓ Open to external audience, on request of speaker
 - ✓ Thursday afternoon, 16.00-17.30
 - ✓ First edition Jan 28; next sessions tbd



SAVE THE DATES

- **Hydrogen conference:** December 7 PM, 13.30-17.00 (virtual)
 - Program on website; open for subscription
 - Minister Crevits confirmed
- **Cluster meetings 2021**
 - Wednesday 9.30-14.00
 - March 3, June 2, Sept 8, Dec 8 ,
 - Locations to be defined (COVID!) ; **hosts are welcome!**
(preferrably where H2 related activities can be visited)

