

ISPT Hydrohub Innovation Program

Opportunities for Cooperation between the EU and Japan
May 25 2022 - online

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Institute for
Sustainable
Process Technology





Institute for Sustainable Process Technology

Together

Trust-based

Factual

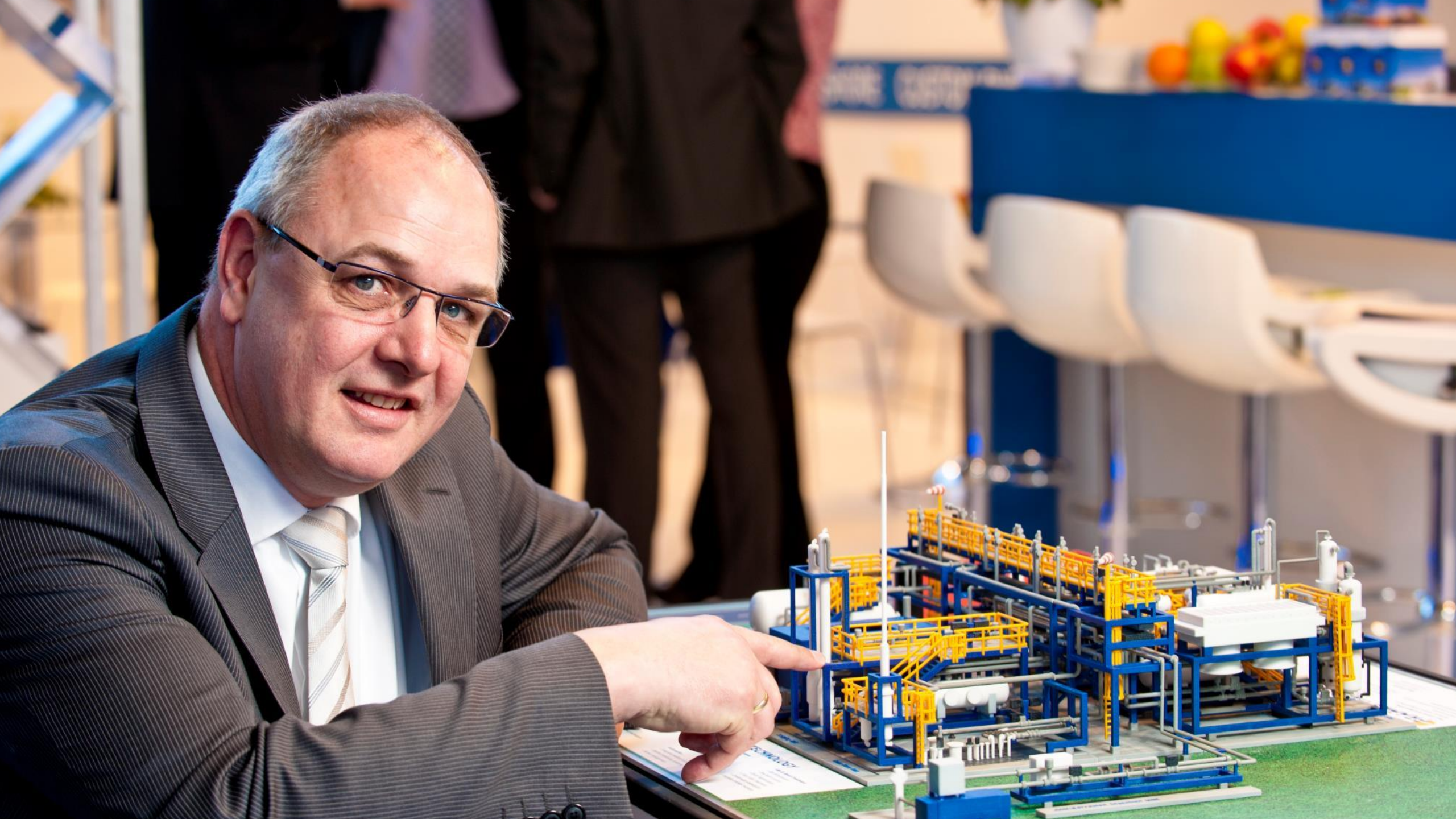
Independent



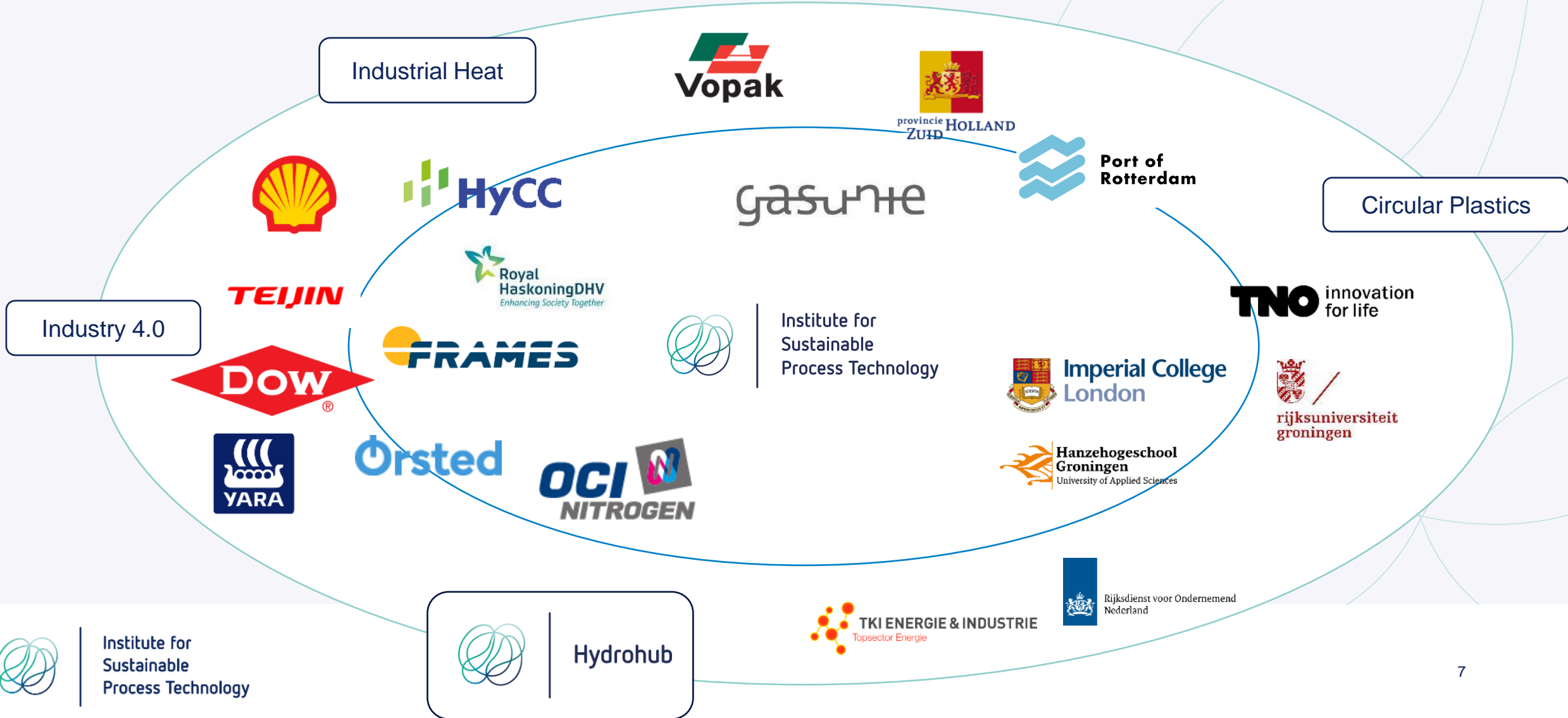








Some programs and partners



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EU – Japan?

TEIJIN

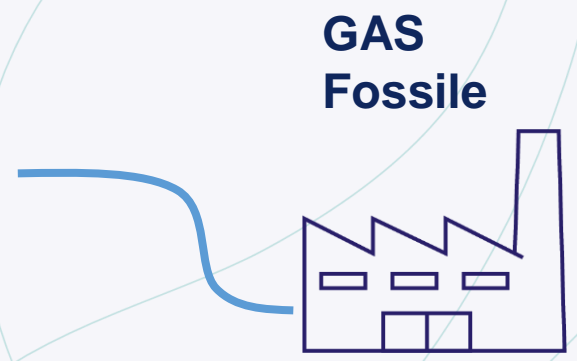
YOKOGAWA



Hitachi Energy

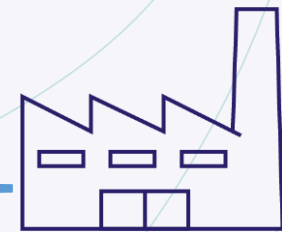








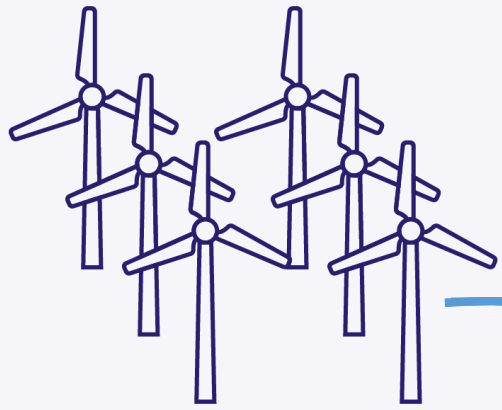
GAS
Fossile



H₂ ?
Electric?
CCS?

Industry goal 2030:
19,4 Mton CO₂ per year

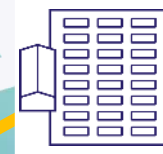
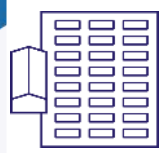
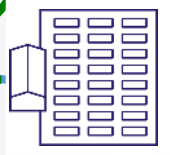
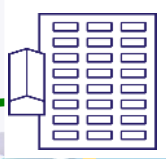
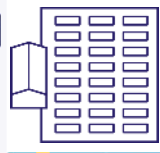




Amsterdam
Noordzeekanaalgebied

Rotterdam
Moerdijk

Zeeland
Vlissingen Terneuzen



Delfzijl
Eemshaven

Emmen

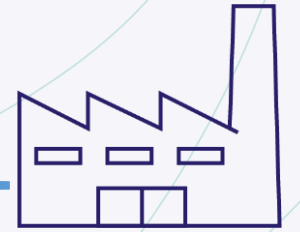
Geleen-Chemelot



GAS
Fossile



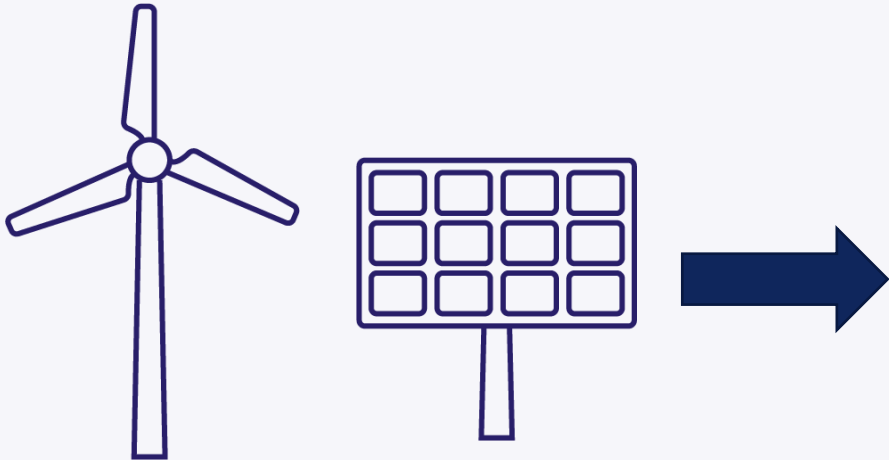
H₂ ?
Electric?
CCS?



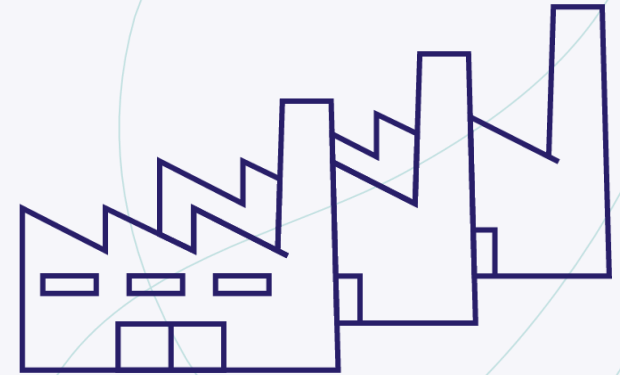
Industry goal 2030:
19,4 Mton CO₂ per year



Matching the scales



~20 GW offshore NL in 2030



NL ~800 kton / yr industrial hydrogen production and use



Hydrohub



HYDROHUB INNOVATION PROGRAM

Electrolysis-based production of sustainable, low cost hydrogen at scale as a driver for circular industrial chains

TECHNOLOGY

MEGAWATT TEST CENTER

HYSCALING

GREEN HYDROGEN SAFETY IN LARGE-SCALE INDUSTRIAL PRODUCTION

SOLID OXIDE ELECTROLYSIS DEVELOPMENT

SCALE UP

GIGAWATT SCALE
ELECTROLYSER

VALUE CHAIN

HYCHAIN

Matching the scales



Hydrohub

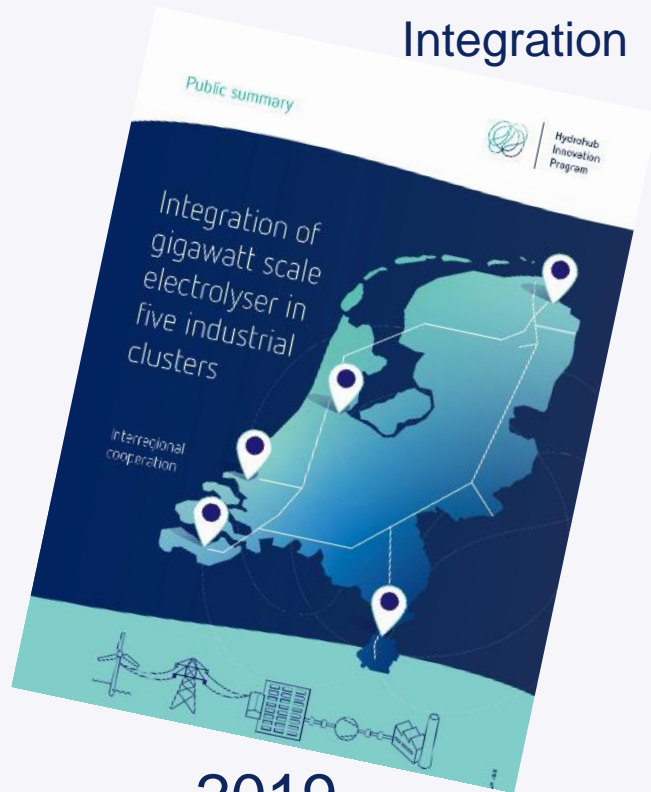


Connect through GW scale water electrolysis



Gigawatt Green Hydrogen Factory – 3 key reports

System Integration



Baseline Design



Advanced Design



Our GW consortium partners



Orsted



NOBIAN



HyCC



gasunie
crossing borders in energy



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TU/e
EINDHOVEN
UNIVERSITY OF
TECHNOLOGY



TNO
innovation
for life



Universiteit Utrecht

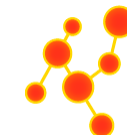


Imperial College
London


























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Process Technology

This project is co-funded by TKI Energy and Industry with the supplementary grant 'TKI-Toeslag' for Topconsortia for Knowledge and Innovation (TKI's) of the Ministry of Economic Affairs and Climate Policy.



TKI ENERGIE & INDUSTRIE
Topsector Energie

How did we work with our partners?

Area	Partner contributions
Power supply and electronics	    
Electrolyser stacks	     
Balance of plant (separation, compression and gas treatment)	    
Utilities and Process Automation	   
Civil, structural & Architectural	  

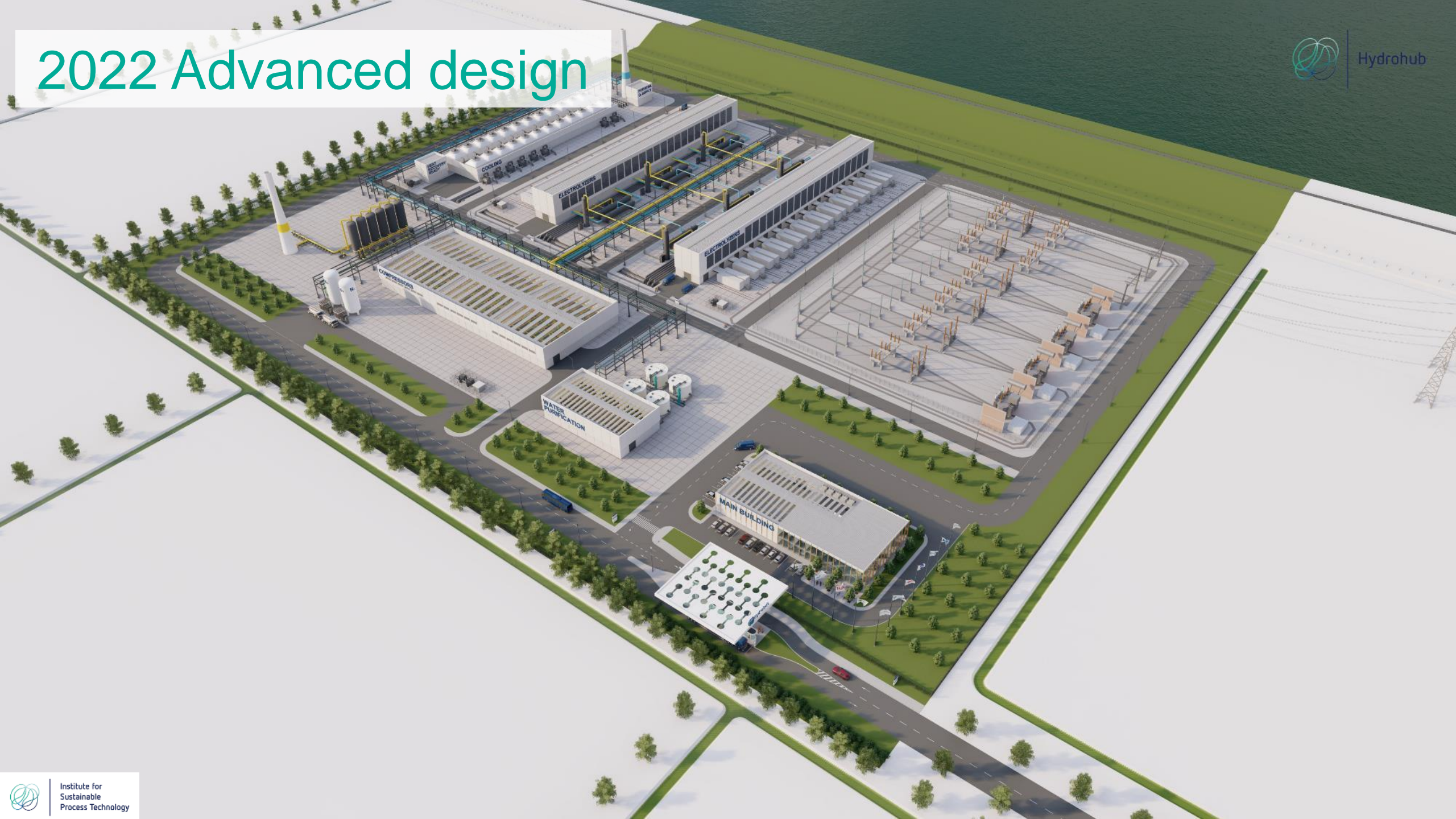


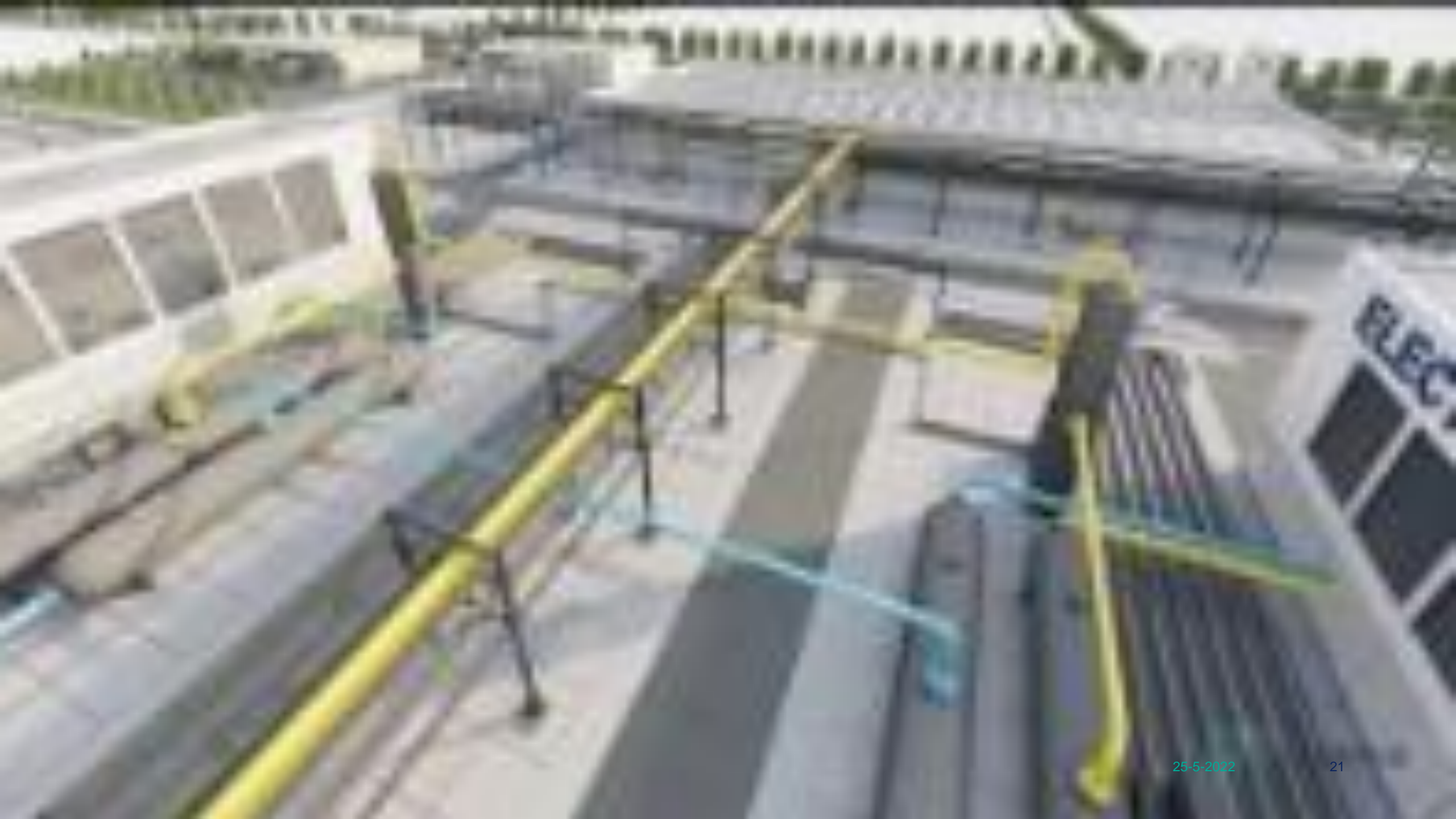


2020 Baseline GW plant

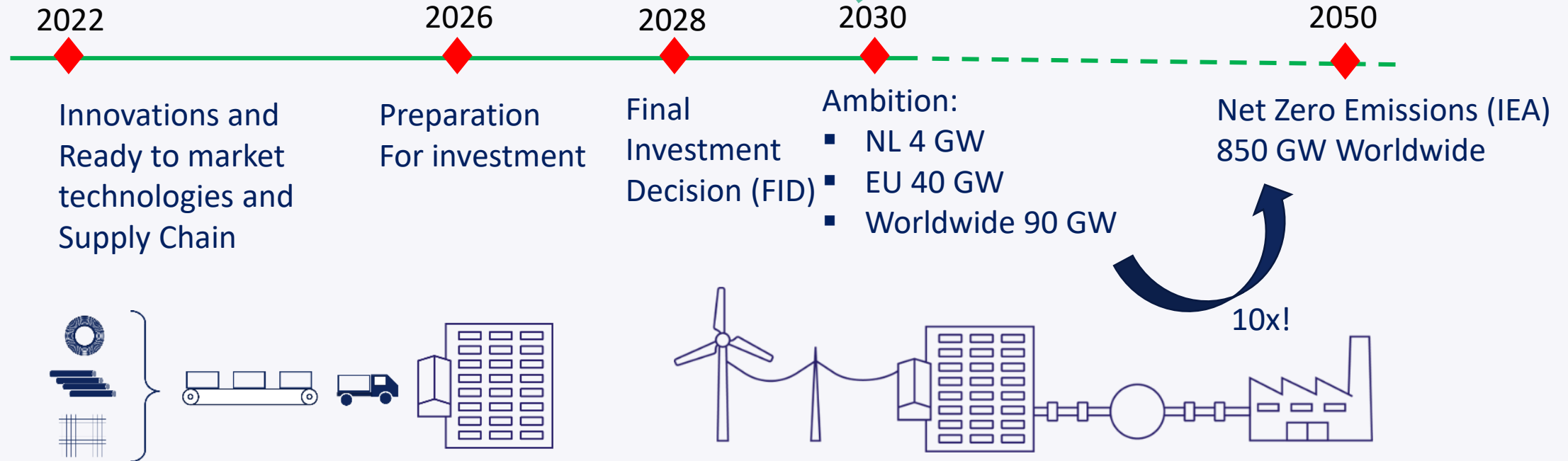


2022 Advanced design





We must act now!



Thank You!

You are cordially invited to reach out if
you want to learn more.

Visit us - www.ispt.eu/gigawattscale



Our team!



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Carol Xiao
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