

H₂ELLO



APEX[®] GROUP



EPC



EPCM



OWNER

H₂-PROJECTS

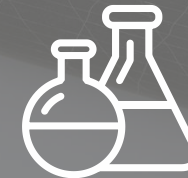
APEX Company profile



SINGLE
TANK



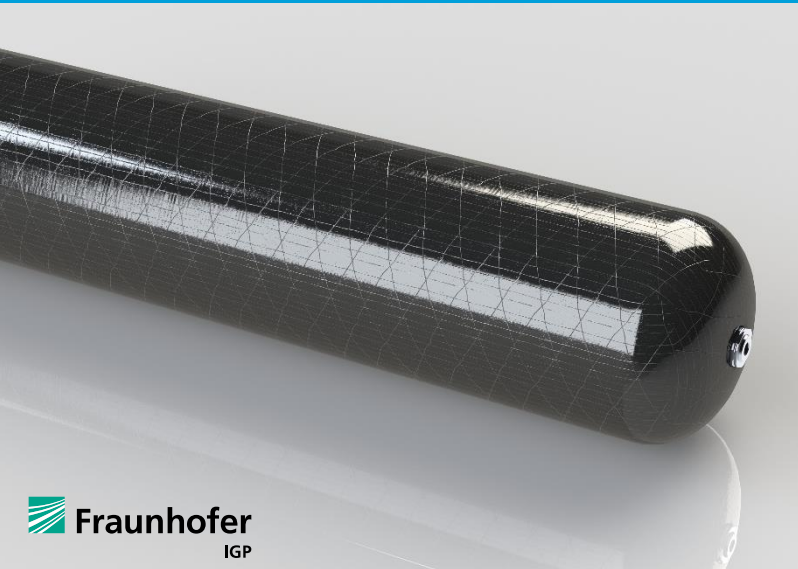
TRAILER



CHEMICAL
STORAGE

H₂-STORAGE

HYDROGEN STORAGE



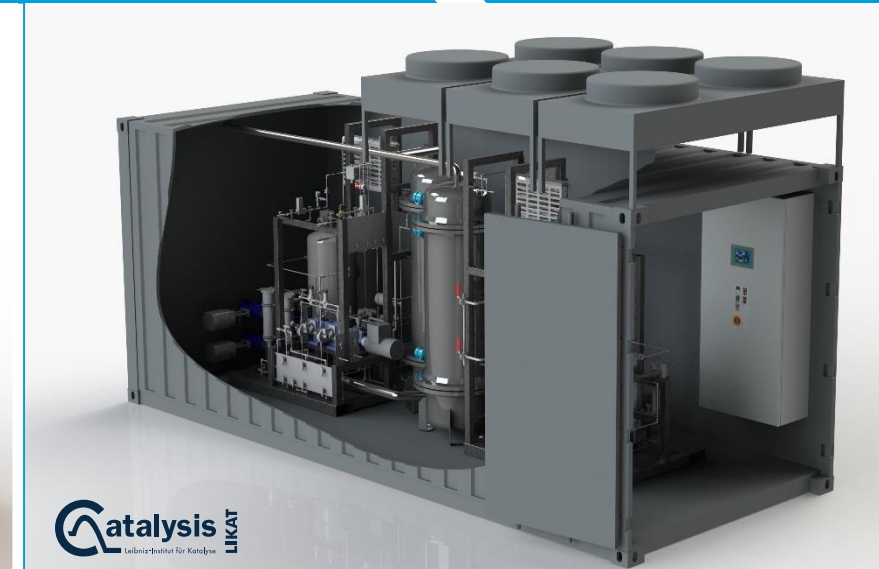
Fraunhofer
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**STATIONARY COMPRESSED
GAS STORAGE**



Fraunhofer
IGP

**PORTABLE COMPRESSED GAS
STORAGE & FUEL STORAGE
SYSTEMS**



Catalysis
LIKAT
Leibniz-Institut für Katalyse

CHEMICAL STORAGE



EUROPE'S LEADING HYDROGEN PARK AS STRONG ASSET BASE

More than EUR 50m invested in strategically located state-of-the-art facilities



APEX hydrogen refuelling station

11.5 MWp PV park (owned by APEX)

2.5km

2 MW APEX hydrogen pilot plant expand to 12 MW

Future 100 MW H₂ERO electrolysis site¹ (IPCEI project)

infrastructure for 200 MW

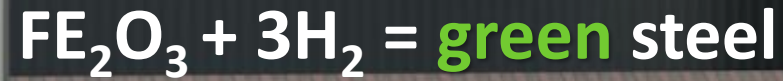
Facility let to corporate customer (Rhodius)

APEX corporate headquarter

1) 100 MW H₂ERO project part of IPCEI "Doing Hydrogen" to be built by 2027.



CO₂-NEUTRAL STEEL PRODUCTION



PROJECT DATA:

Electrolysis capacity: 10 MW

H₂-Storage: 600 kg

Production capacity: 180 kg/h | 1,500 t/y

Usable oxygen: 1,440 kg/h

CO₂-Reduction: 21,000 t/y

Implementation: 24 Months



ArcelorMittal



swb

H₂ERO – INDUSTRIAL SOLUTION

Development of a hydrogen-exclusive gas network

EUROPEAN FLAGSHIP PROJECT: APEX is part of an Important Project of Common European Interest (IPCEI).

DETAILS:

Electrolysis capacity:	100 MW
Hydrogen storage:	direct grid feed
Production capacity:	more than 7,500 t/y H ₂
CO ₂ -reduction:	at least 70,000 t/y
Implementation:	24-36 Months



APEX Company profile

LUBMIN



- Electrolysis capacity: first stage 100-150 MW, final stage up to 600 MW
- H₂-Production capacity: up to 54.800 t p.a.
- 5.2 ha of land acquired in July 2023
- Hydrogeological expertise for securing process water completed
- Securing 1 GW of power from the Lubmin substation in October 2023
- Environmental expertises and plant planning are commissioned and in progress
- Future-proof availability of renewable energy - off-shore wind parks (northeast of Rügen) with direct power connection to Lubmin
- H₂ off-take via connection to future H₂ gas network "FLOW", currently Gas pipelines NEL, EUGAL and OPAL, Gas net access points of NordStream 1+2

APEX site extension – DEMO 3.0

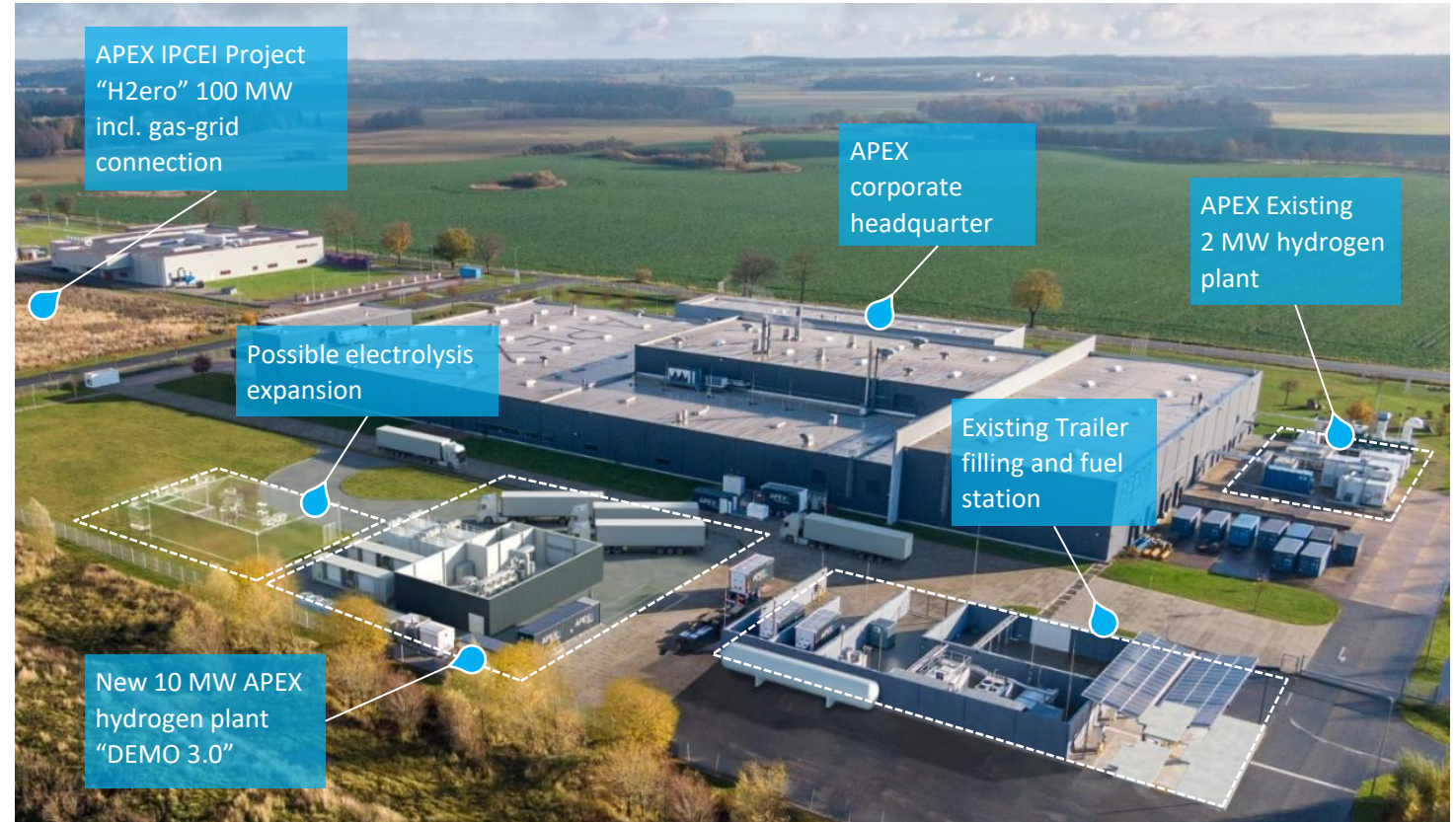
Laage, December 2023



Project profile DEMO 3.0

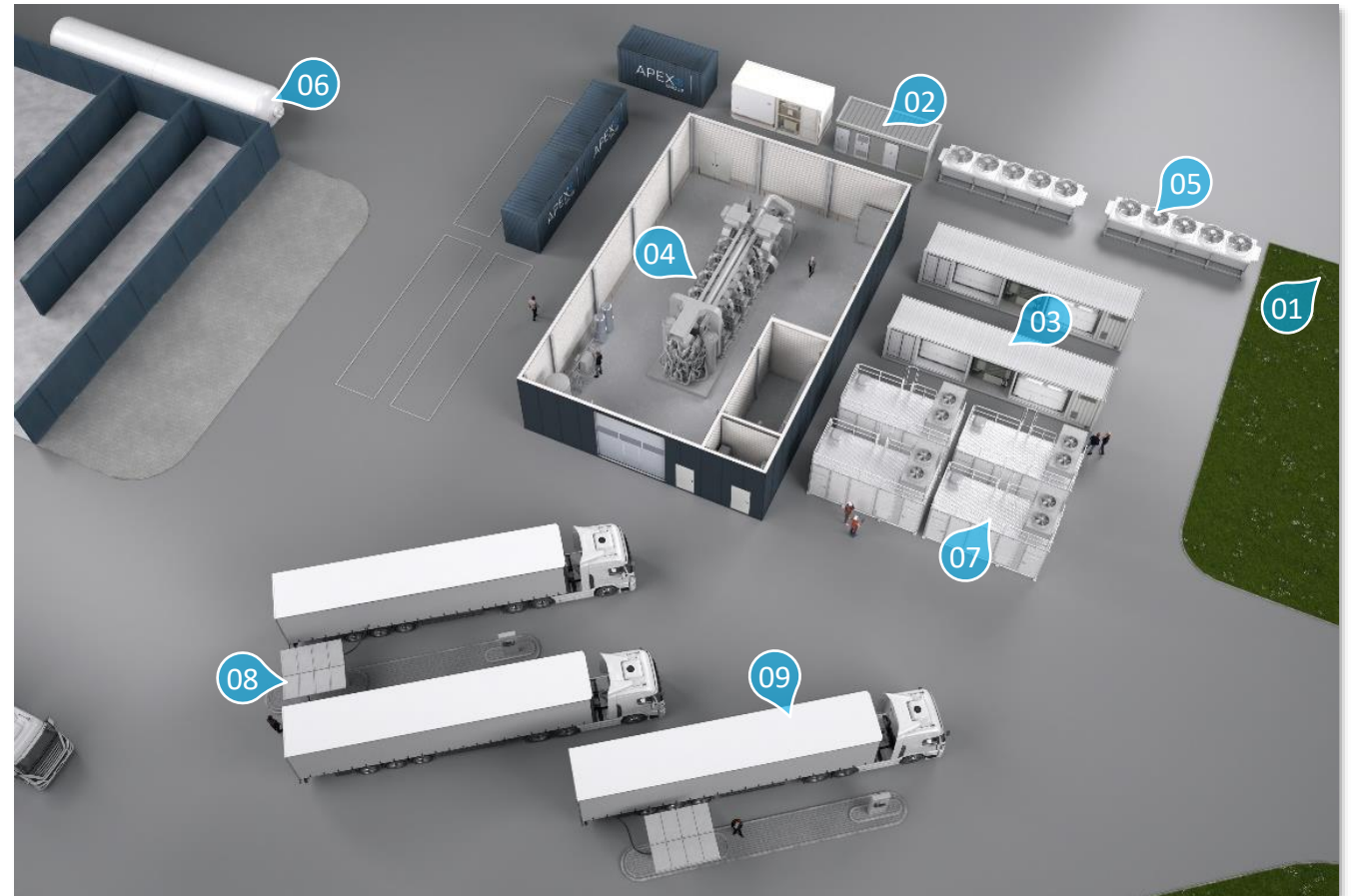
Brief description

- Expansion of electrolysis capacity at APEX site Rostock-Laage up to 12 MW electrolysis capacity
- Realization of an additional power connection of 20 MW via a new power line to the substation “Kronskamp” (length ca. 5 km)
- Power supply from local producers RE (wind and PV) via PPA contracts, participation at spot-market
- Usage of electricity from own 11,5 MWp PV-Park
- Trailer filling stations for 40 feet trailers (each 1.000 kg H₂)
- Signed off-take agreement of ca. 312 t/a of H₂ by a local bus company “Rebus”
- Connection to existing trailer filling and fuel station
- Possible connection to the upcoming H₂ gas pipeline (ONTRAS project “doing hydrogen”) using the connection for the APEX 100 MW IPCEI project
- Usage of heat for APEX facilities and lease customer Rhodius (future connection to head grid to airport, military base and town Laage)

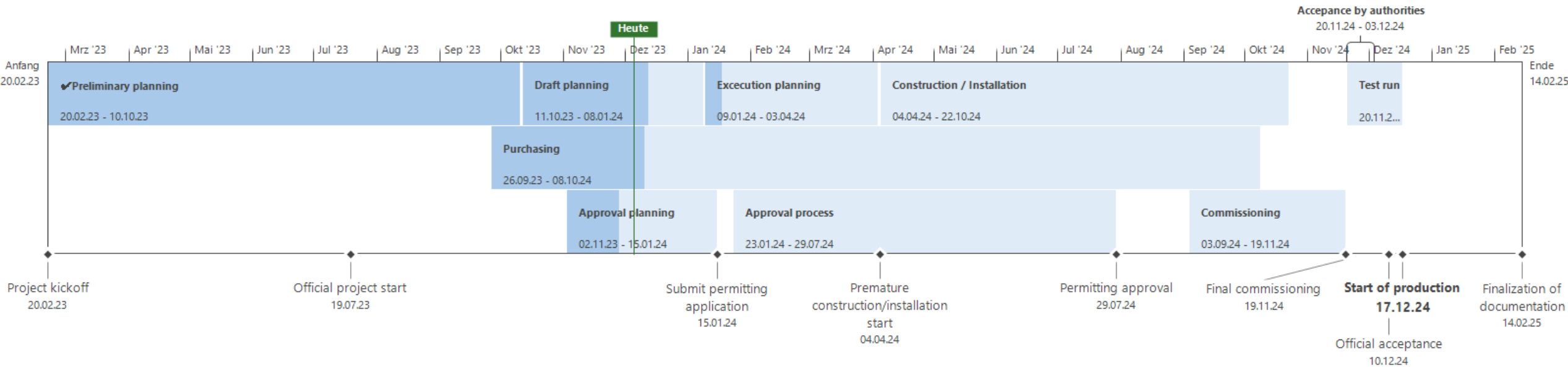


Site plan and plant overview

Item	Qty	Component
01	1	Medium-voltage power line 20 kV (5.5 km) incl. transfer station
02	1	20 kV transfer station, MV switch station and LV transformer
03	2	Electrolysis Power Conversion Unit
04	1	Electrolysis hall: 10 MW electrolysis array, water and gas treatment, gas quality measurement, N2 and instrument air supply, LV switch station, plant control
05	1	Cooling system for electrolysis
06	1	Low pressure tank 40 bar (95 m ³) connection to existing electrolysis, trailer filling and fuel station
07	4	H2 Compressors 500 bar
08	4	Trailer filling stations
09	4	500 bar Trailer each 1.000 kg H2



Project time plan



Extension APEX



Extension APEX + Current Overview





Green **HYDROGEN**.
Anytime. Anywhere.