



FORES ENGINEERING

Sustainable Solutions

Focus On Energy Transition & Digitalization

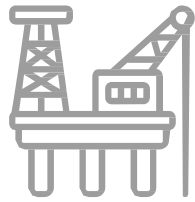


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SOLUTIONS FOR THE ENTIRE OIL&GAS PROCESS...



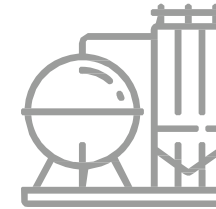
UPSTREAM

- WHCP-HPU
- Analyzer System
- Chemical Injections
- Power Generation
- TUTU Panels
- Metering Systems
- Utility Packages
- Water Treatment Packages
- Test/Production Separators
- Gas Treatment Packages



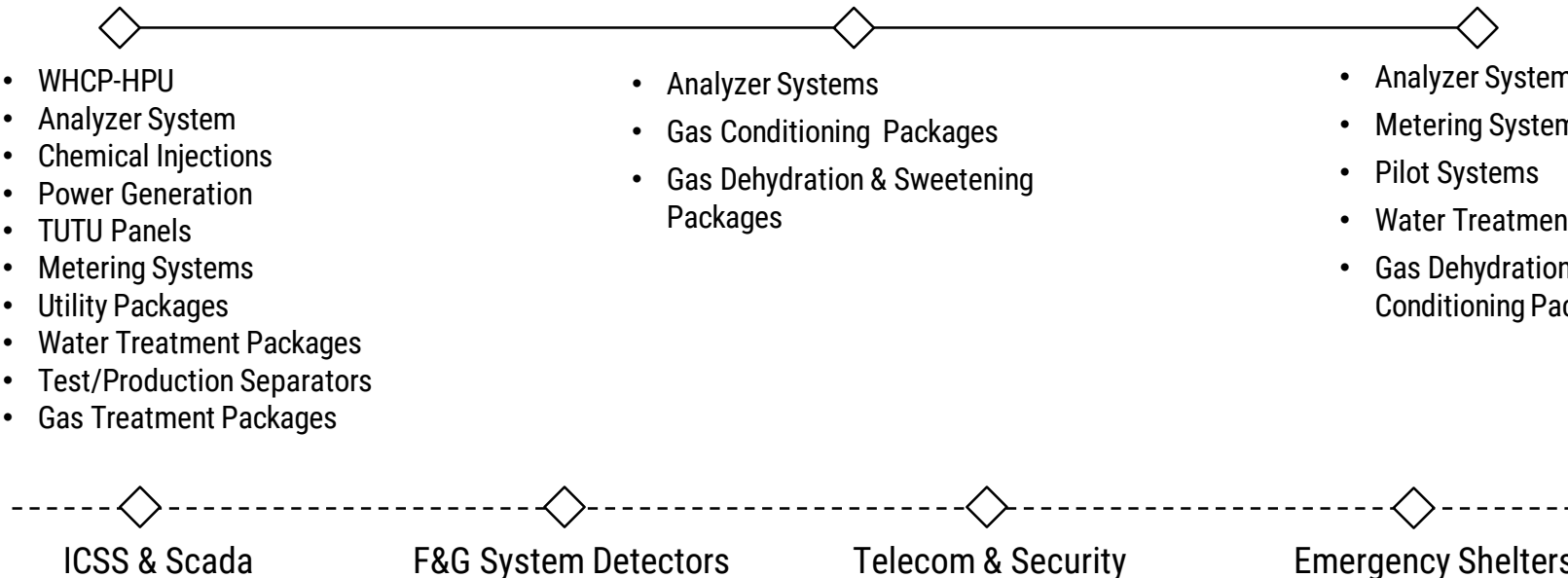
MIDSTREAM

- Analyzer Systems
- Gas Conditioning Packages
- Gas Dehydration & Sweetening Packages



DOWNSTREAM

- Analyzer Systems
- Metering Systems
- Pilot Systems
- Water Treatment
- Gas Dehydration & Conditioning Packages



... and ENERGY & DIGITAL TRANSFORMATION



(BIO)FUELS/LNG

(bio)Waste to Fuel solutions:
µLNG solutions
Flexible (4 - 50 tpd);



GREEN HYDROGEN

Integrated solution for hydrogen generation via renewable sources



BLUE HYDROGEN

Catalytic Partial Oxidation for high separation CO₂/H₂ streams and CCS capability

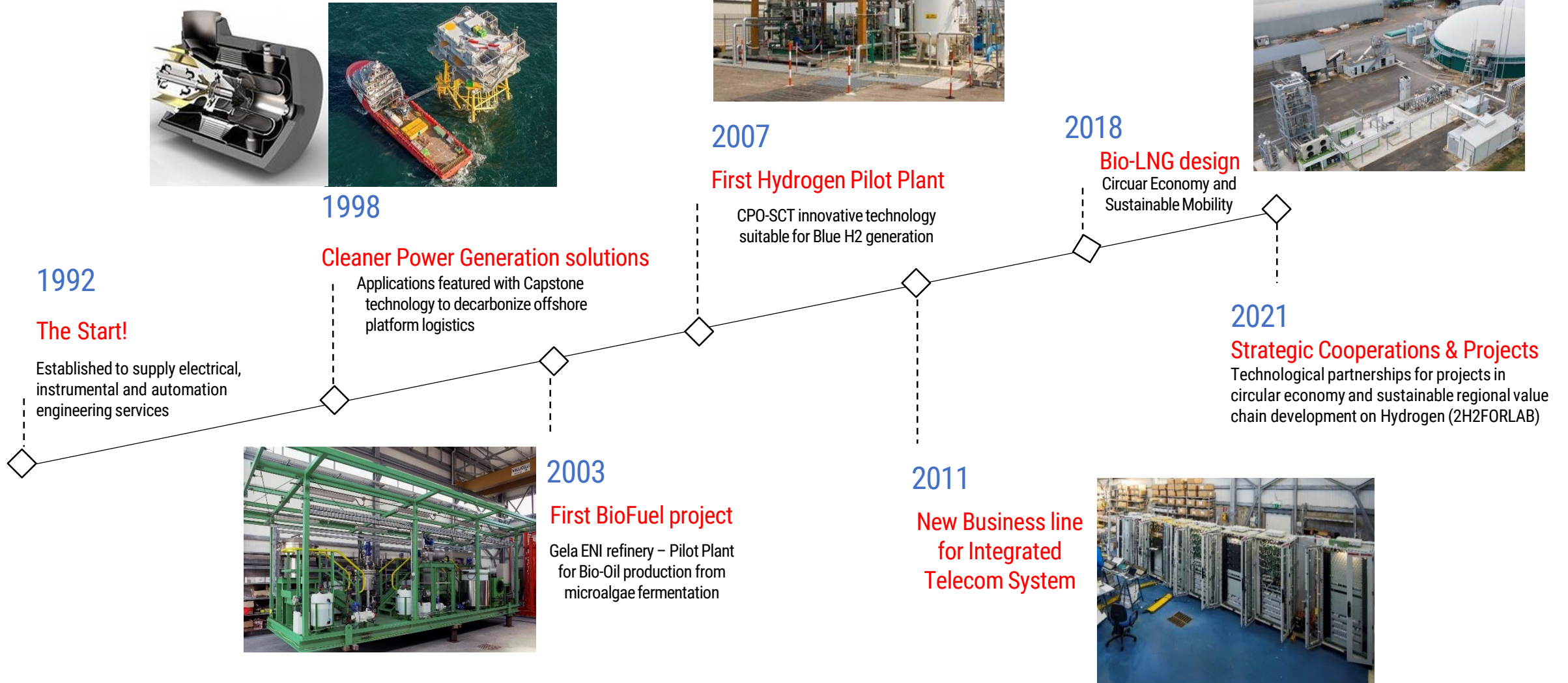


DIGITALIZATION

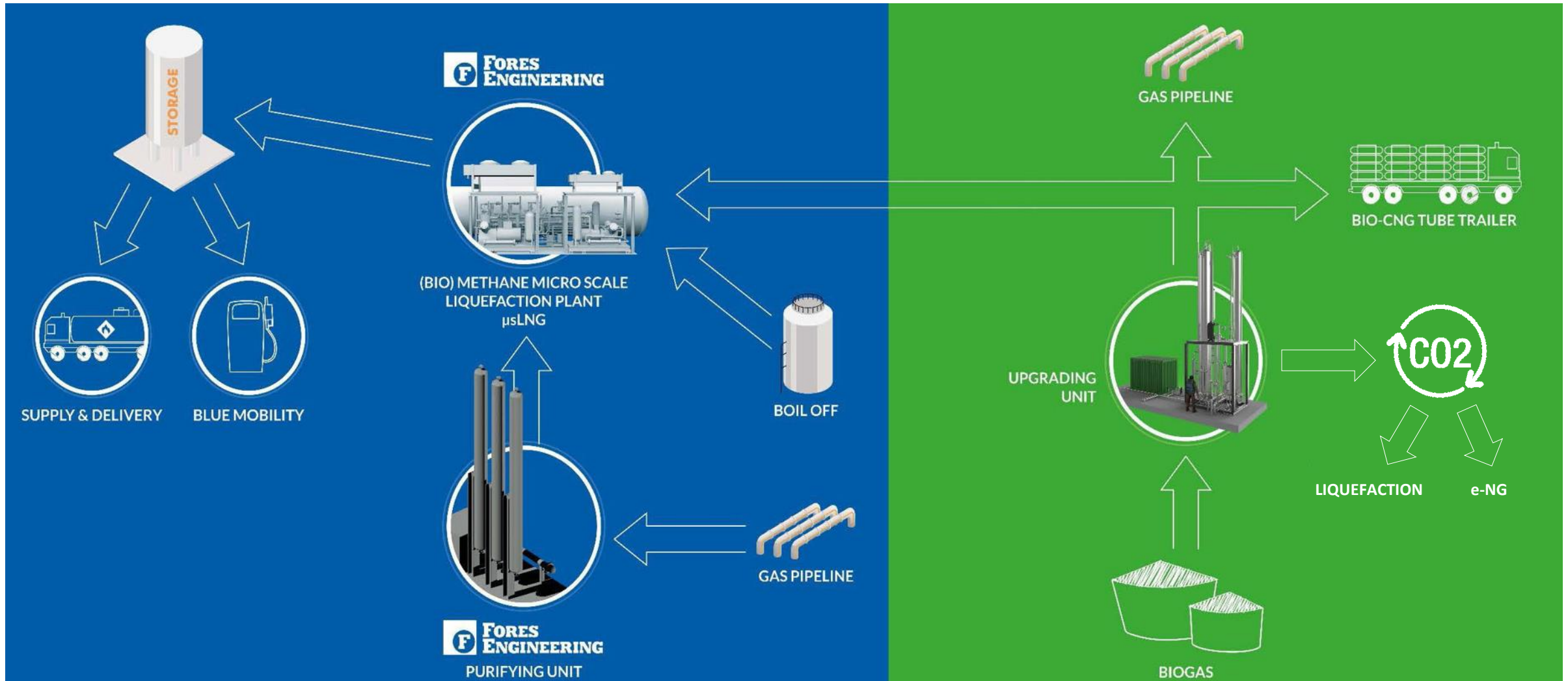
IoT-ready skids for digitalized asset management and cyber security protection



OUR HISTORY - INNOVATION



Biofuels: micro-scale LNG plants (fossil, boil-off, bio/waste sources)

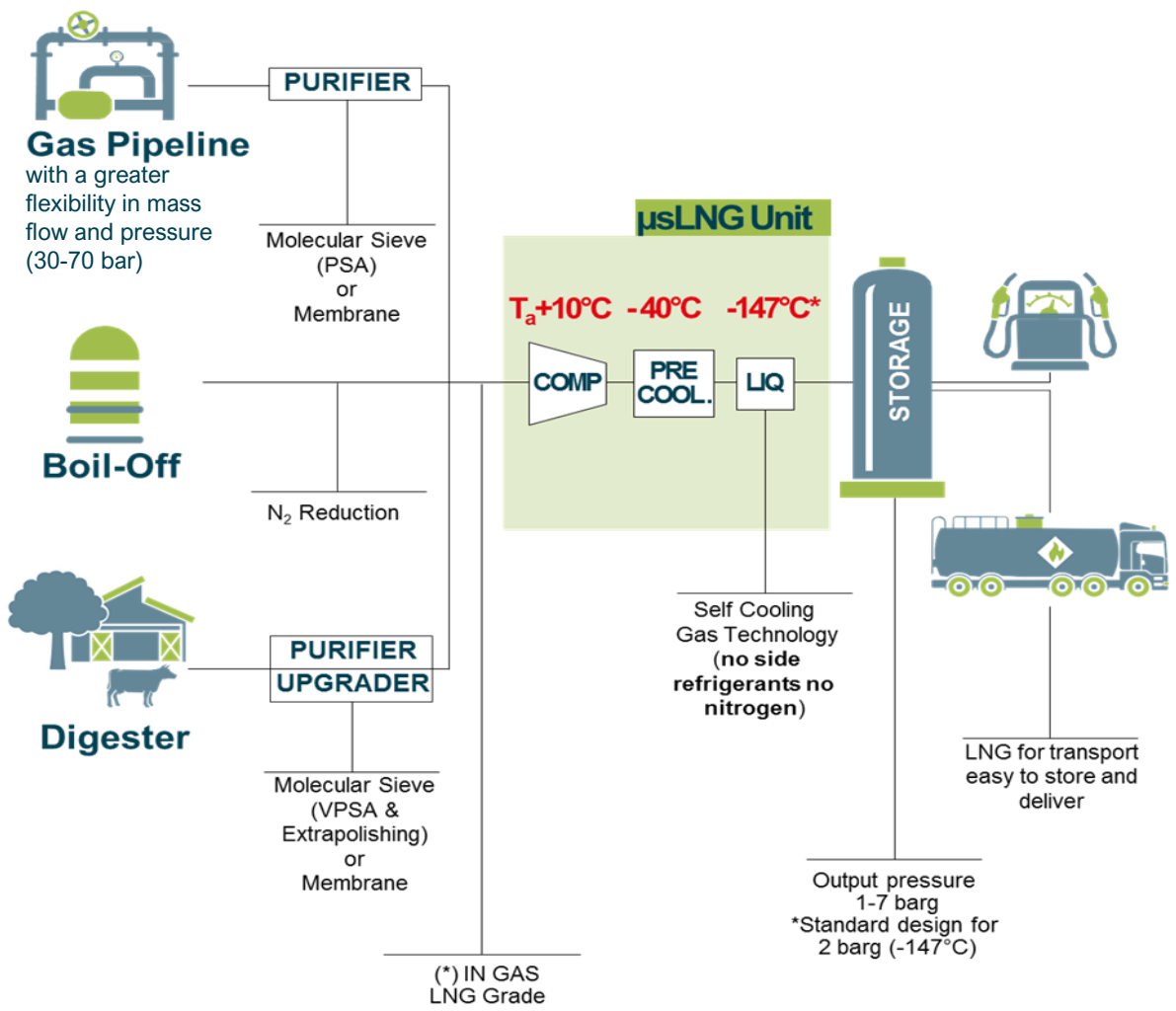


Biofuels: micro-scale LNG plants

GAS SOURCES

LNG PLANT

USERS



μsLNG Key features:

- Nitrogen free: Self Cooling Gas (Autonomous and simple system);
- Scalable design (from 4 to 50 tpd) with Modular stand-alone unit:
 - < low installation costs
 - < low commissioning costs
 - < low maintenance costs;
- Low energy consumption;
- Low start-up time.

Advanced Fuels: Green & Blue Hydrogen

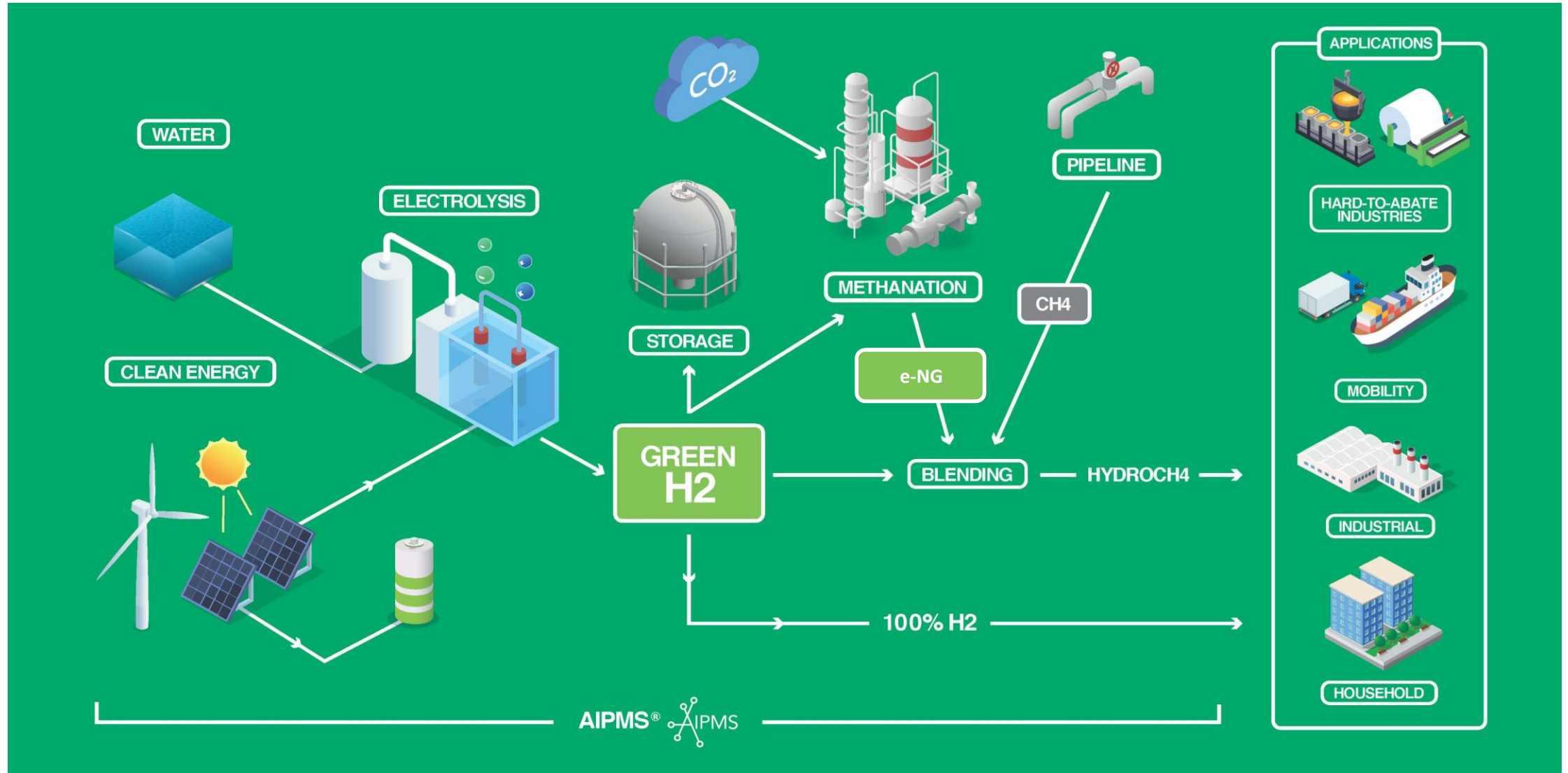
Green H2

- Leveraging on its engineering /design skills and the proven track record of integrated system in the O&G and Energy market, Fores is ready to provide the market with innovative and efficient Green Hydrogen integrated solutions.
- In 2021 Fores has been awarded of a significant grant for the development of a regional Laboratory focused on «sustainable hydrogen» production, the so called 2H2FORLAB.

Blue H2

- Fores has designed, manufactured and commissioned 3 plants featured with an efficient technology for Blue Hydrogen generation: Catalitic Partial Oxidation on Short Contact Time reaction (CPO-SCT).
- The technology patented by ENI is extremely performant in purity of the syngas (CO2 and H2) streams generated and avails an effective Carbon Capture Sequestration

Advanced Fuels: Green Hydrogen



Advanced Fuels: Blue Hydrogen

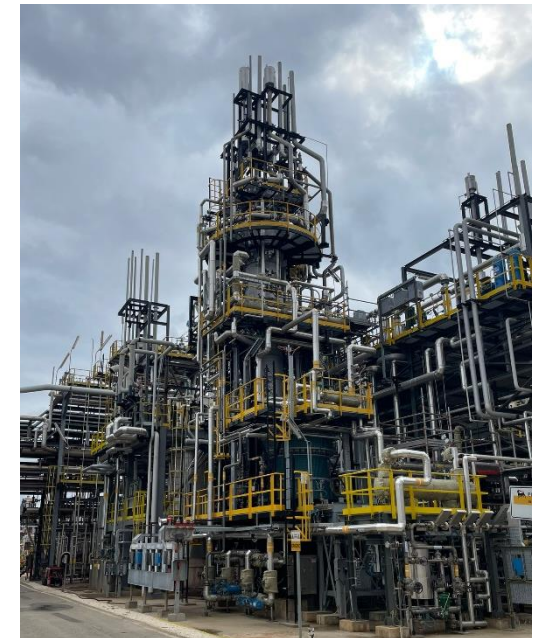
- Short Contact Time Catalytic Partial Oxidation (SCT – CPO) is an innovative technology for Syngas production;
- It avails:
 - Higher performances in CO₂/H₂ purity and separation;
 - Robust and compact design and footprint;
 - Lower CAPex e OPex vs competitive technologies.
- Fores executed all the projects as EPCIC supply with an increasing production capacity (50 – 6.000 Nm³/h).
- The systems has been designed in skid configuration with a close-knit quality to facilitate the on-site installation and maintenance.
- DCS/ESD control and safety system have been designed and deployed for SIL3 level.



«ENI Zero-Regio fuel station» - 50 Nm³/h



Milazzo - 150 Nm³/h



Taranto - 6000 Nm³/h

Digital Transformation

- IoT-ready applications for digitalized asset management;

- Proprietary AI platform for energy efficiency and predictive maintenance and operation, through plant digital twinning:
 - AIPMS is an advanced software platform, fully adaptable to the plant hierarchy for a wide range of markets
 - The software collects and analyses data from the plant, creating its «Digital Twin» and providing predictive information on specific areas, in order to optimize the plant KPIs;
 - Using AIPMS, productivity is increased, equipment life is extended, energy savings are assured, maintenance costs are reduced, unplanned downtime is reduced, or eliminated.

- Digitalized assets require higher level of protection: Fores relies on its long-standing experience in Cyber Security applications on Telecommunication and Automation systems to provide to improve safety and security of digitalized industrial assets.



Fores Capabilities on OT Cybersecurity Solution

IT Cyber Security
Information Technology
ISO 27000

OT Cyber Security
Standard
IEC 62443
(Company Certification
expected 10/23)

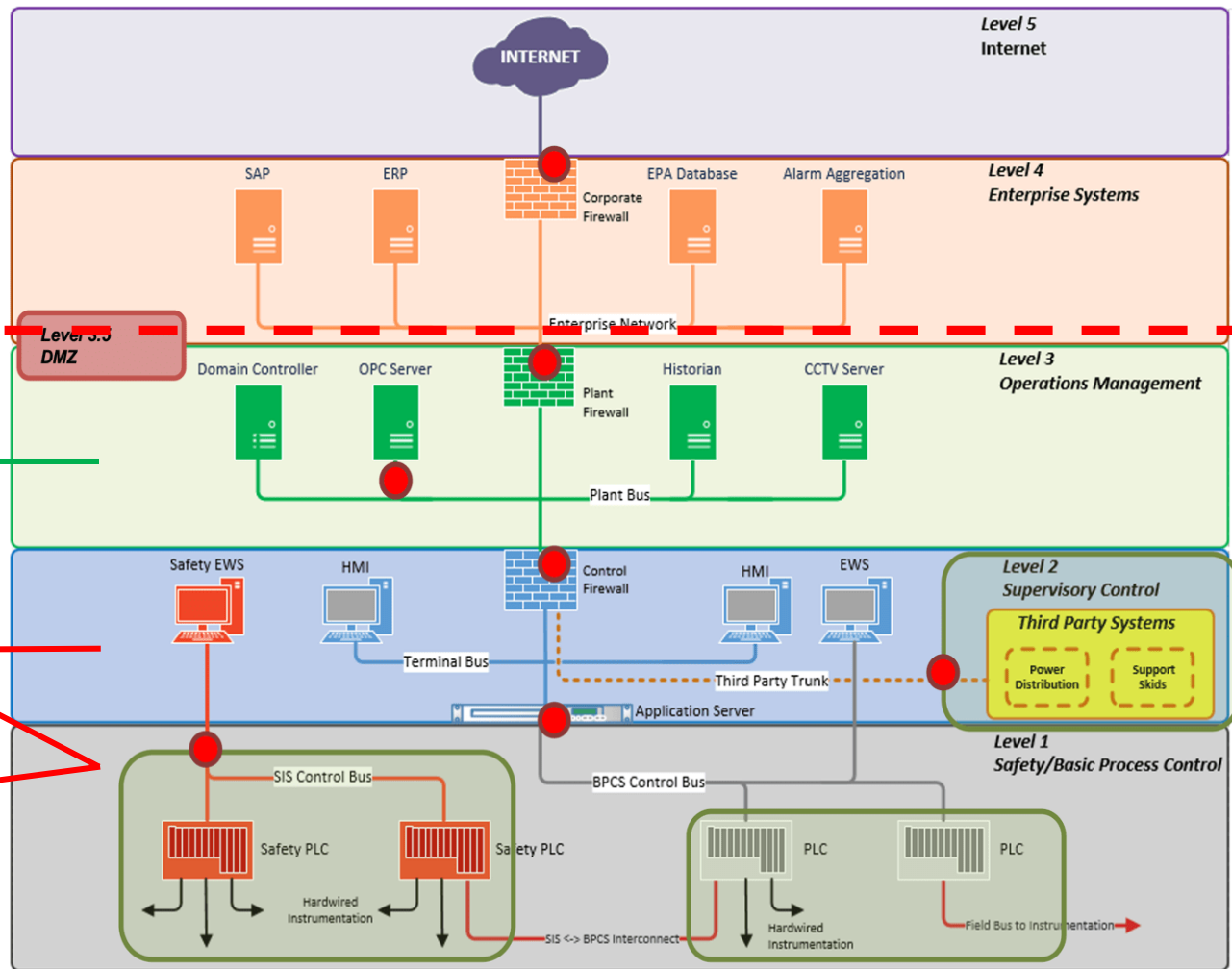
Functional Safety
Standard
IEC 61508/61511

F FORES ENGINEERING

1 - Telecom / IT
Networking
IT Infrastructure Firewall / IDS / IPS

2 - Automation & Safety
ICSS / PLC / RTU / SCADA / HMI
SIS ESD

3 - Field / Site Service
Process Knowledge
Maintenance



Fores Engineering's overall skills make it a competent and reliable OT Cybersecurity service provider

TOTAL INTEGRATION APPROACH



ADVANTAGES

1. **Integration** of Different manufacturers or Same manufacturer
2. In-house **Multi-Discipline Engineering** teams
3. **Vendor neutral gives best architecture** based upon project characteristics
4. **Revamping & Migration** capability
5. **Single point of responsibility** even if different manufacturers
6. **Tuv Certified** Functional Safety Engineers
7. IEC 62443-2-4 OT Cyber Security Solution Provider

GET IN TOUCH

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