




Nedstack
PEM FUEL CELLS

Company Profile

Nedstack Company Profile

20 Years of PEM Power Excellence

Name	Nedstack Fuel Cell Technology BV
Location	Westervoortsedijk 73-VB, Arnhem, the Netherlands
Founded	1999
Ownership	Privately

Website	www.nedstack.com
Industry	PEM Fuel Cells & PEM Power Solutions
Logo	 Nedstack PEM FUEL CELLS

Company Highlights

- AkzoNobel spin-out. Independent since 1999;
- Leading Global Player in High Power PEM-FC Technology;
 - World's Longest PEM Power Plant in Operation > 10 years;
 - World's First MW Sized PEM Power Plant;
 - World's Largest PEM Power Plant > 2 / 3.6 Mwe.
- > 700 FC Systems deployed as per 2019;
- > 23.000 Hours in-use Lifetime demonstrated;
- In-house stack assembly – systems with co-makers on Nedstack IP;
- Proprietary Labels: PemGen and HesCo



Vision & Mission

Committed to Delivering Mission Critical High-Power PEM Technology

To be sure.

Vision

At Nedstack we are confident that Hydrogen will be a backbone of the future global energy system. The rise of renewables provides for an abundance of excess hydrogen making it a widely available future commodity.

There is an increasing need for electrifying such green hydrogen in both stationary and mobile applications. As this hydrogen economy matures, the market for reliable and durable solutions will emerge.

Hydrogen will power the energy transition and we at Nedstack are strongly committed to develop and industrialize our PEM-technology and -products to enable the hydrogen economy.

Mission

At Nedstack we enable the hydrogen economy by developing, realizing, verifying, applying and servicing PEM fuel cell solutions. Our products and services are superior in quality, durability, safety and reliability and are cost competitive.

Our responsibility is to be a partner to industry and a partner to society by tailoring our solutions and services to achieve optimal energy efficiency, large scale deployment of zero-emission power systems and balanced power grids.

Flagship Demo Plants – Globally Unique Recognitions

Leadership in the Mission Critical High-Power Domain



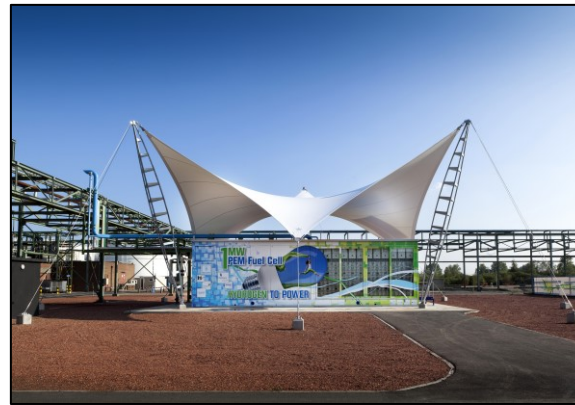
Longest Running PEM Power Plant



- > **AkzoNobel Delfzijl (NL) Plant**
- > Live since 2007
- > Using H₂ from Chlor-Alkali
- > 70k Running hours accumulated



First MWe Sized PEM Power Plant



- > **Solvay Antwerps (Be) Plant**
- > Now transferred to Martinique (Fr)
- > Installed in 2011, under transit
- > Using H₂ from Chlor-Alkali



Largest PEM Power Plant





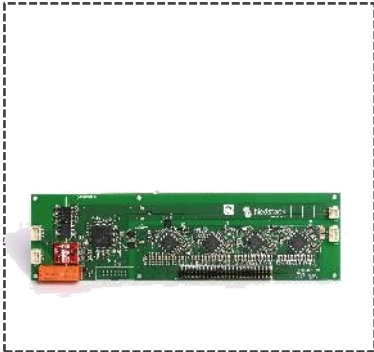


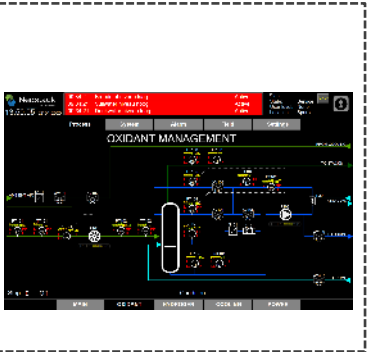
- > **Ynnovate Yinkou (PRC) Plant**
- > Installed in 2016
- > Developed in DemcoPEM Project
- > Using H₂ from Chlor-Alkali

1) DemcoPEM has received funding from the European Union's Seventh Framework Programme for research, technological development and demonstration under Grant Agreement no. 621265

Technology & Engineering Services Portfolio

Fuel Cell Excellence from Powder-to-Power



Signature PEM Fuel Cell Technology Portfolio					
Fuel Cell Parts			Fuel Cell Solutions		
BMC's	BPP's	CVM	PEM Stacks	Power Plants	FC Control
					
Application Engineering & Project Management Services					
Field Engineering Services (commissioning / Inspection)					
Maintenance & Support Services					

 By Co-Maker

FCS-XXL LTPEM Stack Label

Extended Long-Life PEM Stacks



FCS-XXL
LT-PEM Stacks



Highlights

- Portfolio of LT-PEM Fuel Cell stacks intended for extended long-life and high-power applications;
- Designed to provide the lowest possible LCOE within boundaries of absolute reliability, availability and safety.
- Proprietary long-life graphite composite bipolar plate technology and proprietary bulk moulding compounds;
- IEC 62282-2 Compliant design, production and Exit factory inspection.
- Integrated safety system by Nedstack CVM Assembly (safety μ C) and voltage pick up assembly.

PemGen Label and Signature Features

Fuel Cell Power Solutions Optimized for LCoE



PemGen
FC-Power Systems



Highlights

- At Nedstack we have developed a portfolio of power systems around our extended long life (XXL) PEM-FCS stack platform.
- Rationalized over the lowest possible levelized cost of energy (LCOE) within boundaries of absolute reliability, availability and safety.
- The PemGen platform is based on the Nedstack Central BoP philosophy for extreme plant life and superior serviceability;
- Configurable to customer requirements;

1) PemGen is a Nedstack European registered trademark. Registered at EUIPO under NO. 018036949 / Registered at USPTO under NO. 6,054,999

Nedstack Focus Markets

Servicing the Mission Critical / High Power Domain



Maritime & Ports

- Ferries
- Cruise Vessels
- Dredging
- Inland navigation
- Fish farming
- Tug boats
- Canal boats



Built Environment

- District heating
- Holiday parks / Spa's
- Hotels / Conference
- University campuses
- Industry parks;
- Hospitals;
- Shopping malls;



Industry

- Chlor-Alkali industry
- Sodium-Chlorate Ind.
- Semi-conductor

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About Nedstack

Nedstack is a leading player in the PEM fuel cell industry with a strategic focus and unique track-record on the high power and mission critical domain.

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PemGen®

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Nedstack.com

To be sure.



Management
System
ISO 9001:2015

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