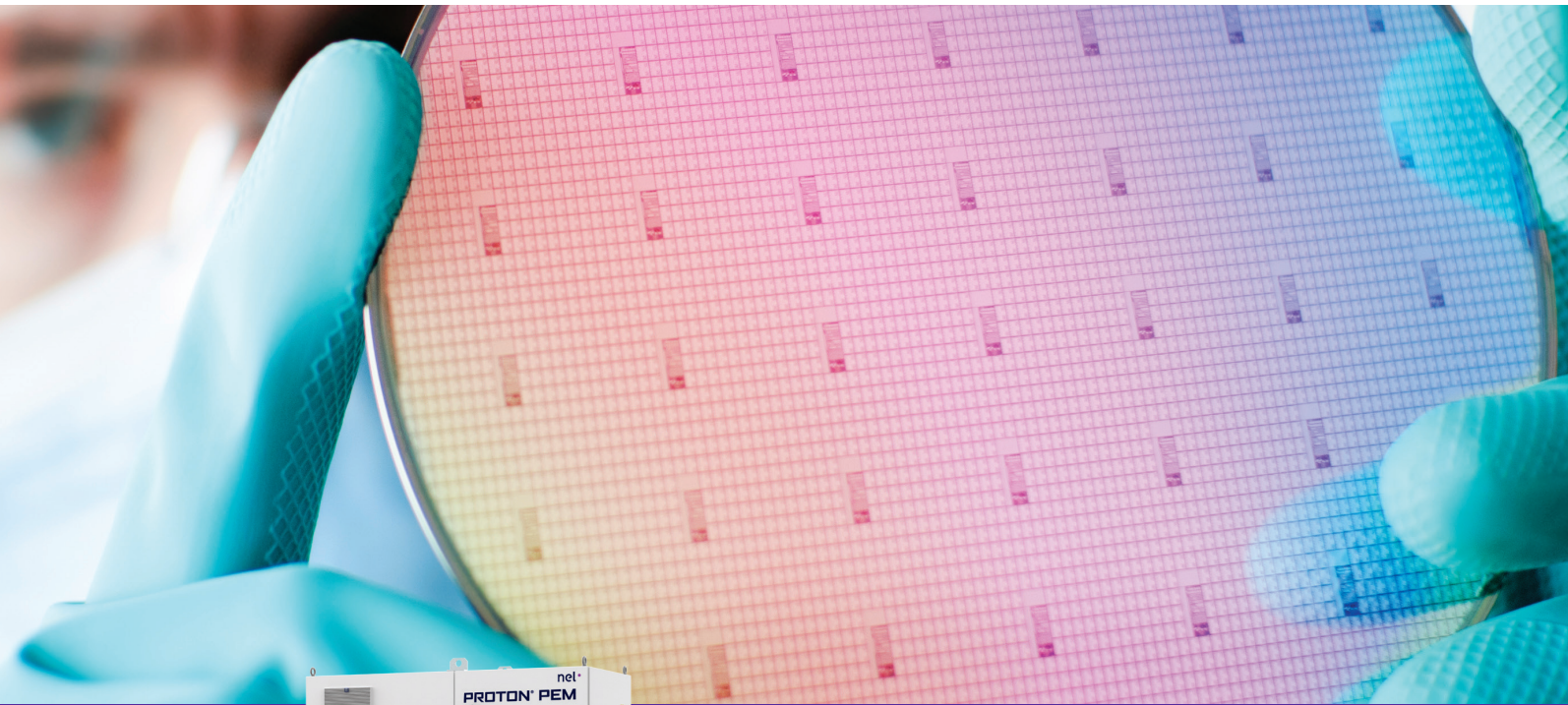




# Generate **Hydrogen** On-Site

## Hydrogen for Semiconductor Processing



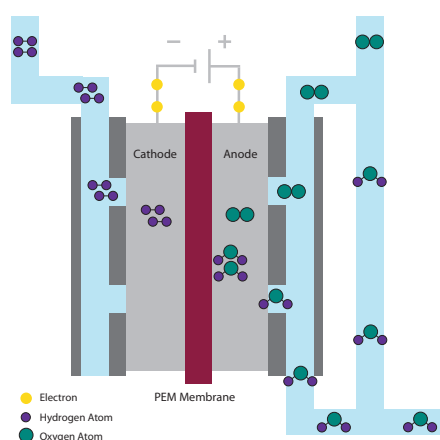
## A Better Alternative to Delivered Hydrogen

- Safer with fewer compliance issues
- Less expensive with predictable costs
- Avoid hydrogen delivery and storage
- Better productivity
- No contract commitments
- Eliminate runouts

# Hydrogen Is the Predominant Carrier Gas Used in Epitaxy and Related Semiconductor Production Processes

If you use hydrogen for semiconductor fabrication, Nel Hydrogen can save you money and enhance safety and processing results. Our Proton® PEM water electrolyzers make delivered hydrogen obsolete, generating high purity hydrogen 24/7 for all your production needs at less cost. Nel Hydrogen systems are used by semiconductor leaders worldwide.

## PEM TECHNOLOGY



Proton Exchange Membrane (PEM) water electrolysis splits deionized water ( $\text{H}_2\text{O}$ ) into its constituent parts, hydrogen ( $\text{H}_2$ ) and oxygen ( $\text{O}_2$ ), on either side of a polymer electrolyte membrane. When DC voltage is applied to the electrolyser, water fed to the anode is split into oxygen and protons while electrons are released. The protons ( $\text{H}^+$  ions) then pass through the membrane to the cathode where they meet electrons from the other side of the circuit and combine into hydrogen.

## NEL HYDROGEN



Nel Hydrogen offers hydrogen and nitrogen generation systems for enhanced product quality, reliability, maintainability and support.

All products are supported with 24/7 technical support capability and field service technicians. The generators are standardized, conservatively engineered, proven systems that provide many years of reliable gas generation with minimal maintenance needs.

Let us assist you!

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