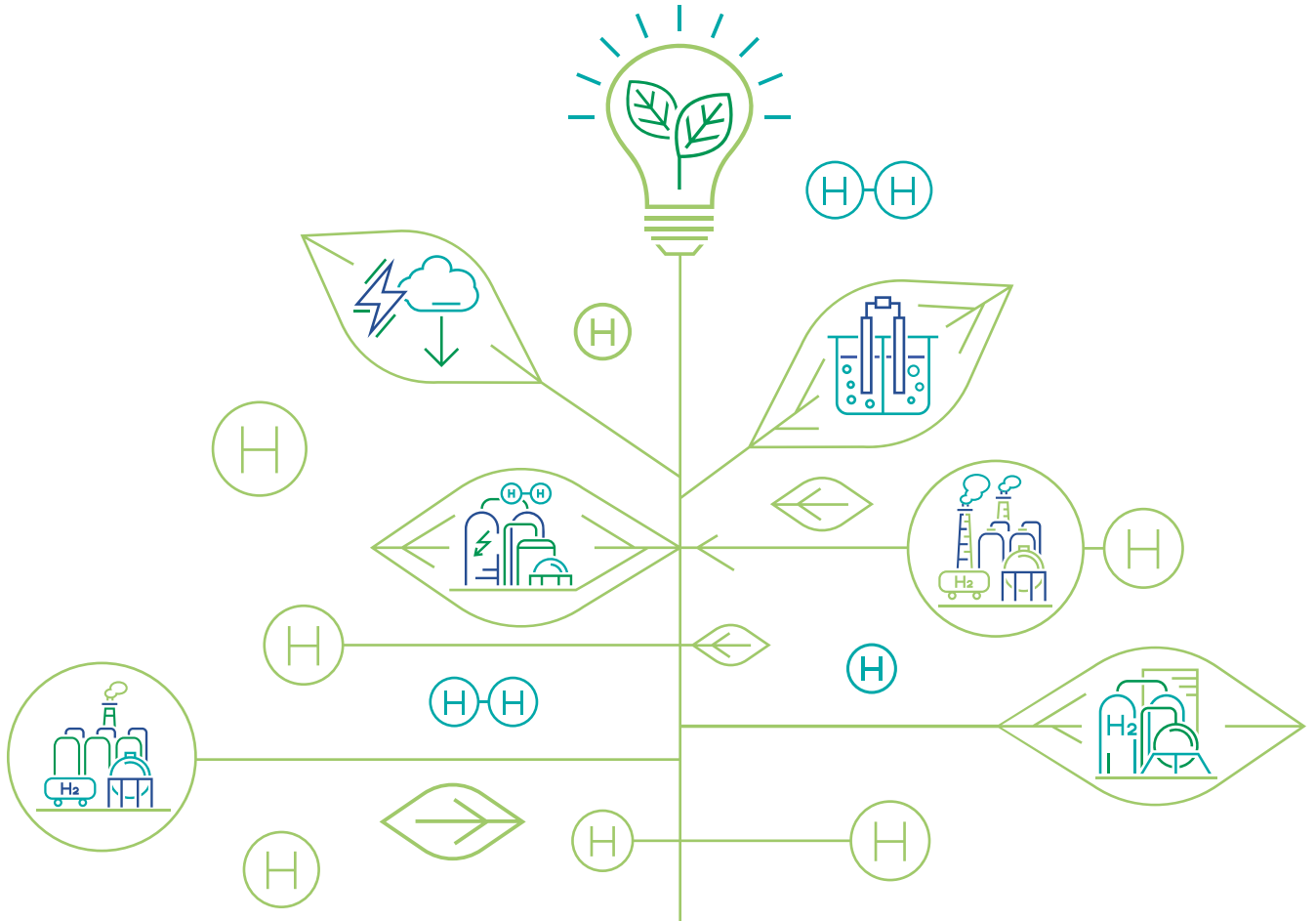


ASO

FILTRI

a **mott** company



CLEAN ENERGY SOLUTION

HYDROGEN

a cultural and energy revolution



ASCO
FILTRI

a **mott** company

Asco Filtri, a mott company, is a market leader in **process purification and filtration** that designs, manufactures and services **highly engineered products** for the most severe applications, with the aim to deliver great solutions that tackle the most demanding engineering challenges.



mott
MISSION CRITICAL PRECISION

Mott Corporation is a global leader in producing ultra-thin, ultra-smooth porous transport layers (PTLs), which are a critical component in the generation of green hydrogen in PEM electrolysis, a low-emission fuel. **Mott's Titanium porous transport layers are the thinnest in the world**, which allow for efficient and cost-effective production of green hydrogen.



ASCO FILTRI and **MOTT CORPORATION's** combined expertise in the design and manufacturing of packaged systems, is launching ASCO FILTRI as a leading Company in providing:

FULLY INTEGRATED MODULAR SYSTEMS FOR HYDROGEN DEOXO AND DRYING UNITS

HYDROGEN AND NATURAL GAS PURIFICATION PSA UNITS

MEMBRANE SYSTEMS FOR HYDROGEN PURIFICATION AND GAS HUMIDIFIERS MEMBRANE FOR FUEL CELL

WATER TREATMENT FOR H₂ ELECTROLYSERS AND DENOX SYSTEMS.



CLEAN ENERGY TURN-KEY SOLUTION

ASCO FILTRI acts as the **main contractor for complete turn-key package units**, designed, fabricated, assembled and pre-tested in workshop and delivered to site, **ready for commissioning and start-up.**

► HYDROGEN DRYER

Proven experience in supplying Hydrogen Drying Unit tailor made on customer requirements and full range of pressurized hydrogen flow rates, designed to reach a very low water dew point with selected adsorbent materials.

► HYDROGEN DEOXO

Proven experience in purifying hydrogen up to 99.9995% downstream water electrolysis by catalytic oxygen removal. The Deoxo catalyst is based on palladium as active component.

► PSA/VSA Purification Units

Pressure Swing Adsorption (PSA) and Vacuum Swing Adsorption (VSA) units for the recovery and purification of hydrogen up to 99.999 % and CO₂ capture, achieving a blue hydrogen from steam methane reforming.

► Membrane Purification Units

- Hydrogen Separation Membrane Systems to recover hydrogen in ammonia production plants.
- CO₂ Separator Membranes for biogas upgrading.
- Gas Humidifiers Membranes for the fuel cells.

► Water Treatment for H₂ Electrolysis

Ion Exchange Resin that softens or demineralizes water making it suitable for electrolysis to generate hydrogen.

► Catalytic Conversion of NO_x and CO

SCR (Selective Catalytic Reduction) and SNCR (Selective Non-Catalytic Reduction) and NSCR (Non-Selective Catalytic Reduction), CO Catalytic Removal Units to remove NO_x and CO from the combustion flue gas below the allowed limits for environmental emission.

► Filtration Solution for PEM Water Electrolyzer

Water pre-filtration (Micro, Ultra, Super and Nano filtration for inlet water), Desalination and Demineralization. Separation & Purification: Coalescing technology for moisture removal from Hydrogen or Oxygen stream up to 99.999 % efficiency.

Hydrogen automotive market

The use of innovative energy carriers such as hydrogen, particularly coming from renewable electricity, will play a key role in the European Green Deal. The automotive sector is being challenged to improve the environmental benefits of fuel cells in transportation applications, seeking alternative solutions to gasoline engines.

Hard-to-abate

Industrial processes, highly integrated and complex, such as heavy industries (steel, cement, and aluminum sectors) and some Chemical sectors producing emissions from non-energy sources (e.g. Ammonia), are very challenging to find carbon-free approaches by means of Hydrogen.

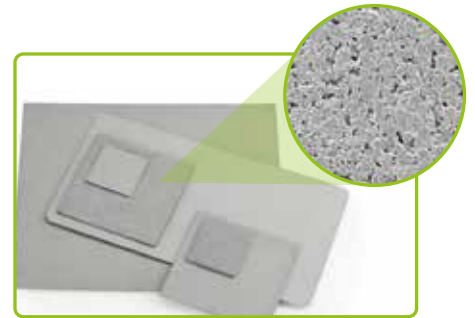
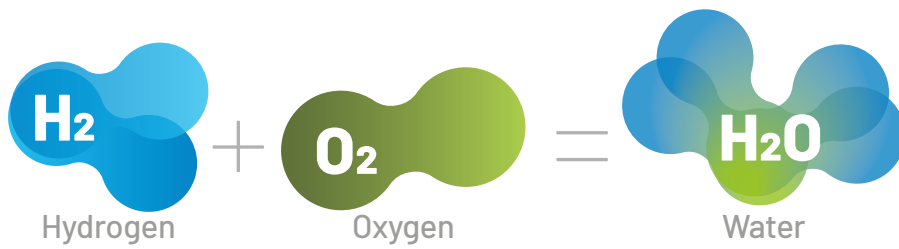
Hydrogen to Power

The production of hydrogen supports zero carbon electricity generation. Power to hydrogen, with integration of wind turbines, photovoltaic arrays, and high-efficiency water electrolyzer units, is now feasible with the new Best Available Technologies (BAT).

APPLICATION OF HYDROGEN



GREEN HYDROGEN GENERATION



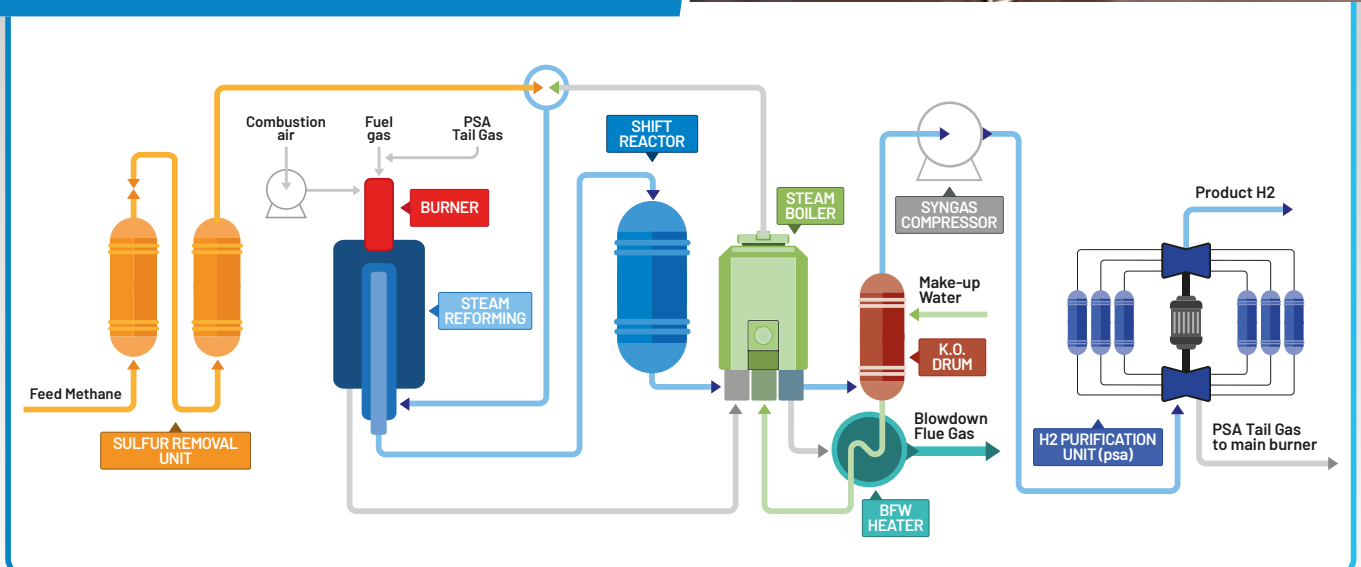
Hydrogen production from water electrolysis using renewable power sources is clean, and greatly reduces CO₂ emissions with benefits for environmental sustainability.

The proven competency of Mott Corporation as a global leading supplier of ultra-thin porous metal layers, a critical component in PEM electrolysis green hydrogen generation, allows ASCO FILTRI to promote modular units, able to properly operate with the fluctuating power production of Renewable sources (Wind and Solar PV) and to match the full range of hydrogen production.

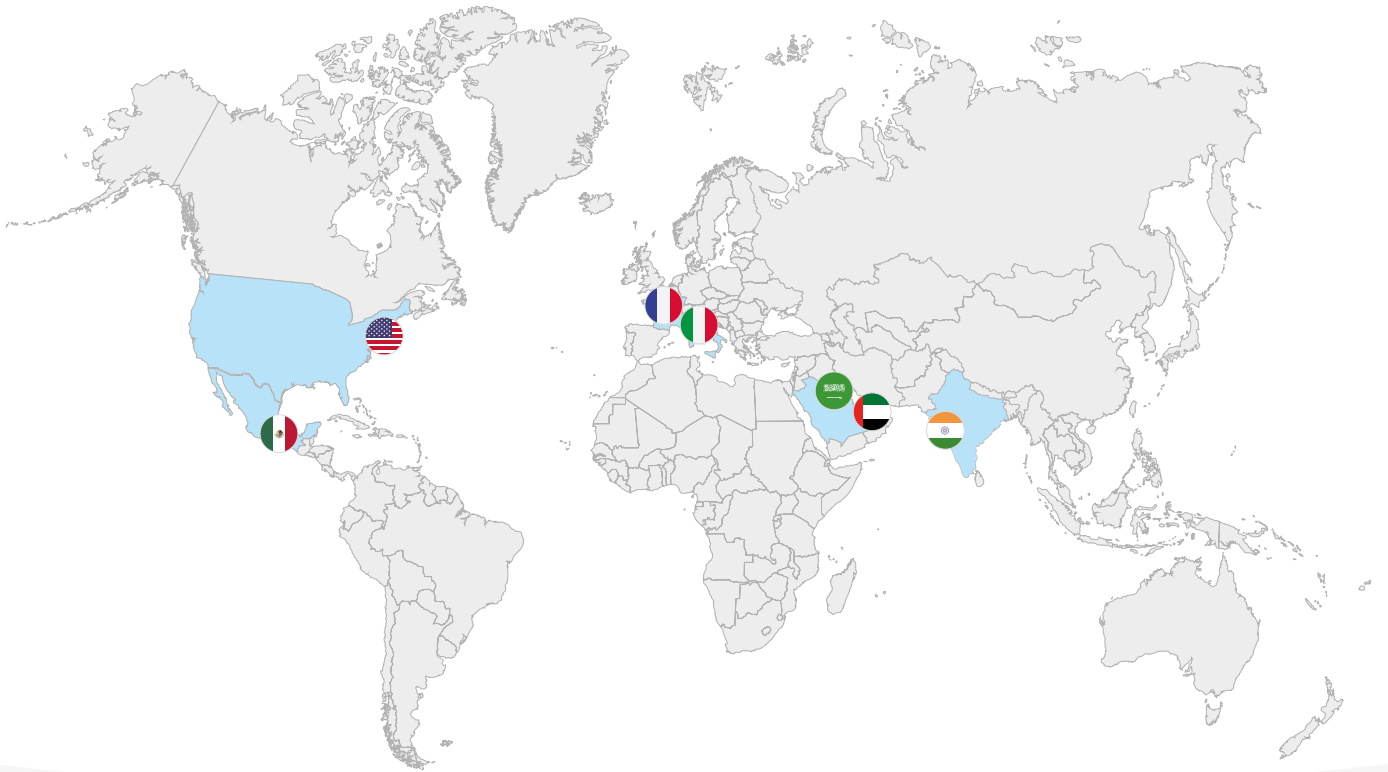


STEAM REFORMING + CO₂ CAPTURE

Steam Methane Reforming (SMR) with Carbon Capture and Storage (CCS) uses innovative and high efficient adsorbent media, producing hydrogen from natural gas or biomethane while capturing resulting carbon dioxide emissions. Therefore, SMR with CCS is a promising technology for reducing greenhouse gas emissions from hydrogen production.



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