EPFL

REMA

Opening up the world of hydrogen production to support sustainable economic growth – creating a healthier planet and building thriving communities.

In a nutshell

Hydrogen has great potential to be an environmentally friendly alternative to fossil fuels. It's naturally occurring and only emits water when burned. Despite this, green hydrogen only makes up less than 1% of total hydrogen production. The process of harvesting hydrogen gas – through electrolysis – is expensive and doesn't compare favourably to energy created by fossil fuels. To make green hydrogen financially feasible, the cost would need to reduce from its current price of \$6-12 per kg to \$2 per kg. The REMA team have developed a new method of electrolyzer which is more robust, can operate at a higher temperature, and is more efficient than current systems.

Why is our technology important?

REMA's mission is to provide the world with access to cost-effective and high-quality green hydrogen. By using fluid mechanics and membrane-less electrolysis, they have eliminated the cost barriers posed by conventional membranes used for hydrogen production. Their technology thrives at higher operating temperatures, is robust in nature, and attains unprecedented efficiency levels.

The benefits of our solution

REMA is the catalyst for a world powered by affordable, sustainable, and green hydrogen. REMA's electrolyzer introduces a simplified design that greatly enhances affordability in production – making it possible to produce green hydrogen at a lower price than grey hydrogen. Their design can be manufactured through standard methods and cost effective conventional manufacturing processes. Thanks to its membrane-less assembly, REMA's technology is incredibly versatile – performing under the most challenging conditions and processes. REMA is pioneering the universal use of green hydrogen to build a world which no longer relies on carbon and fossil fuels.

Keywords

Green hydrogen - Electrolysis - Electrolyzer - Electrochemistry - Renewable Energy - CleanTech

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