Latvian Startup Secures €10 Million to Revolutionise Green Hydrogen Production

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Riga-based Naco Technologies, a startup specializing in nano-coatings and materials for hydrogen production and usage, has secured a €2.3 million grant from European Innovation Council and SMEs Executive Agency (EISMEA), as well as investment, for a total of €10 million.

The project aims to reduce the need for expensive materials like platinum and iridium in the production of green hydrogen. With the support, Naco Technologies' high-speed magnetron sputtering technology can create complex, nano-composite coatings with outstanding properties, including precise thickness control, high density, conductivity, and corrosion resistance.

Hydrogen is a major opportunity in the switch to an eco-friendly economy. Today, it is produced from fossil fuels with high carbon emissions. A green alternative is converting excess solar and wind energy into hydrogen via a water electrolysis process. Hydrogen produced in this process is very aggressive chemically, so electrolyzer components need protection with advanced coatings. Currently, most widely used coating deposition methods are outdated and not scalable due to high production costs and usage of precious and scarce metals.

Naco Technologies provides catalytic and protective coatings for hydrogen system components, such as membranes, anodes, cathodes and bipolar plates. Its technology allows to create complex, nano-composite coatings with outstanding properties (precise thickness control from 5 nm to 5µm, high density, conductivity, and corrosion resistance).

The high-speed magnetron sputtering technology developed by Naco Technologies holds great promise for the green hydrogen industry. It can sputter almost any material at a high rate and combine them into novel nano-structure coatings. PEM electrolyzers and fuel cells

are essential components in hydrogen production and storage, but their reliance on noble materials like platinum and iridium makes them expensive and less sustainable.

Naco Technologies' innovative catalytic coatings aim to eliminate or significantly decrease the usage of these materials, reducing the cost and environmental impact of hydrogen production. As the world moves toward decarbonization, green hydrogen has emerged as a clean, sustainable energy source with a wide range of applications, from transportation to industry. However, the high cost of production has been a significant barrier to widespread adoption. Naco Technologies' breakthrough technology could help overcome this hurdle, making green hydrogen a more economically feasible option for businesses and consumers alike.

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