

IONOMR INNOVATIONS' BREAKTHROUGH AEMION+ MEMBRANE NOW AVAILABLE FOR INDUSTRIAL SCALE WATER ELECTROLYSIS

Vancouver, Canada | June 23, 2021 - Ionomr Innovations Inc. today released its breakthrough Aemion+® membrane technology for industrial-scale green hydrogen production by water electrolysis.

Ionomr's Aemion+® alkaline membranes are ultra-stable Anion Exchange Membranes (AEMs) designed to eliminate the traditional expensive components for water electrolysis -- like Iridium, Platinum, and Titanium, replacing these with less expensive materials while maximizing performance.

"The launch of Aemion+® marks an important milestone in Ionomr's strategic evolution to support the production of green hydrogen for industrial solutions," said Bill Haberlin, CEO of Ionomr Innovations. "AEMs are no longer limited to research in the lab. We are ready to take orders for our industrial-scale Aemion+® membranes at widths up to 60 cm, produced using our continuous roll-to-roll processes. Our Aemion+® membranes enable OEMs to produce the lowest possible cost electrolyzer solutions, providing a clear pathway to 2050 green hydrogen cost targets in the immediate term.

Ionomr customers recognize the significance of the progress. Thijs de Groot, Innovation Technologist, Nouryon BV said: "Ionomr seems to have corrected one of the very difficult challenges in membrane science, which is finding an anion exchange membrane that is stable in concentrated KOH solutions. That was always very difficult - people basically said 'it's impossible,' but Ionomr has succeeded."

The central component of an electrolyzer is the ion-conducting membrane. How the membrane is made has a major influence on efficiency, reliability, and lifetime. Ionomr membranes allow more reliable, efficient and compact intermittent power-to-renewable fuel conversion processes, enabling production of the lowest-cost green hydrogen and green fuels needed to de-carbonize the global economy.

"The Ionomr team is proud of what we have accomplished by bringing this highly stable, efficient membrane to the hydrogen economy, and being the first to supply at sufficient scale for large industrial pilots, to make a significant impact on global development efforts toward GW-scale deployments. Our AEM materials continue our strategic goal of eliminating fluorinated materials in hydrogen production and fuel cell processes, enabling the transition to a green economy," said Ben Britton, Ionomr Innovations' co-founder and Chief Strategy Officer.

Ionomr membranes and polymers can help convert excess electricity generated from renewable energy into energy-dense clean fuels such as green hydrogen. These can be stored and transported to replace the dense fuels used in heavy duty transportation, aviation and chemical feedstock industries.

Current solutions for water electrolysis are not competitive with traditional fuels, and Ionomr is working with major customers from the energy, chemical, and heavy industries, such as mining, to make AEM electrolyzer technology that can meet and exceed 2050 cost targets a reality today. This creates the foundation for competitive and rapidly scalable business models in the production and supply of green hydrogen.

Aemion+® is produced roll-to-roll in a continuous process with a mechanical reinforcement at thicknesses between 50 and 100 µm. The next-generation materials are based on imidazolium chemistry which is widely used in aerospace and as thin-film coatings due to their exceptional mechanical properties. Mechanical reinforcements are further integrated to reduce unwanted dimensional swelling for suitability in the largest size electrolyzer cells. Ionomr's patented processes enable maximum conductivity, performance, and repeatability, while also providing the greatest alkaline stability of any ion exchange materials available, enabling operation in 1 M KOH at 80 – 100 °C, and up 3 – 4 M KOH at 80 °C.

About Ionomr Innovations

Ionomr Innovations is advancing the development and manufacturing of ion-exchange membranes and polymers for clean energy. Ionomr's Pemion® and Aemion® technologies provide cost, performance and sustainability advantages for fuel cells, hydrogen production and carbon capture & conversion. Leveraging technology developed at Simon Fraser University, Ionomr was founded in 2018, and employs 25 professionals at its research and manufacturing facilities in Vancouver, Canada. For more information about how Ionomr is helping to advance the clean energy economy, visit www.ionomr.com.

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Media Contact: Nancy McHarg | nancy@mchargcommunications.com | (604) 760.4366
Business Contact: Andrew Belletti | belletti@ionomr.com | (604) 628.6098