
Cell Impact signs collaborative agreement on surface treatment of fuel cell plates

Morphic Technologies' subsidiary, Cell Impact, is signing a collaborative agreement with Impact Coatings AB concerning completely new types of surface treatment material for flow plates designed for fuel cells. The collaborative arrangement will add coatings from Impact Coatings to the products on offer.

In a short space of time, Cell Impact has taken up a prominent position regarding the production of components for fuel cells. Its main operation involves the cost-effective production of "flow plates", one of the key components in a fuel cell system. The flow plates are responsible for a large proportion of the costs and their ability effectively to conduct the fuel into the fuel cell is absolutely critical for the entire system's ability to generate electricity.

The collaboration with Impact Coatings is intended to offer completely new surface treatment materials that will lower production costs, improve performance and increase efficiency. The development is being run as a collaborative venture between Cell Impact, Impact Coatings, SP Technical Research Institute of Sweden and the University of Uppsala.

Surface layer crucial to durability and effectiveness

The outer layer of the flow plates plays a major role in the durability and effectiveness of the entire system. By protecting the flow plates from the corrosion that the acid environment within the fuel cell would otherwise lead to, different metals and ceramic coatings can extend the life of the fuel cell.

To date, the surface coating has primarily been made of various types of precious metals, including gold. Impact Coatings has developed a technology that makes it possible to replace the precious metals with other materials, which will reduce the cost of the surface coating by up to 90% without the efficiency of the flow plate being affected.

"The surface layer and the flow plates' corrosion resistance is one of the key issues that must be resolved if fuel cell technology is to be able to make a breakthrough on a broad front. The collaboration with Impact Coatings means that we are strengthening and broadening our range without, because of that, competing with those of our customers who are system suppliers of fuel cell stacks and complete fuel cells", says Martin Valfridsson, MD at Cell Impact AB.

"Within a short period, Cell Impact has established itself as a global player in the fuel cell industry and we have a unique opportunity to reach out with our products via an already established platform", says Henrik Ljungcrantz, MD at Impact Coatings AB.

Market with great potential

Fuel cells can best be described as energy converters which make it possible efficiently to convert hydrogen gas and other energy-bearers into electricity and heat. In a fuel cell system, electricity is produced when hydrogen is broken down in a controlled manner and reacts with oxygen. When

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hydrogen and oxygen react with one another, electricity is generated with heat and water as the only residual products.

This technology has immense potential. With their long useful lives and, in principle, non-existent environmental impact, fuel cells constitute a real alternative to most of the energy converters today as regards the production of electricity for communities, industries and homes, including vehicles and portable electronics.

Cell Impact intends, in the years to come, to become established as a strategic partner and a leading global sub-supplier of both flow plates for fuel cells, and plates for heat exchangers.

Impact Coatings in brief

Impact Coatings AB (publ) develops and commercializes innovative technology for PVD surface coatings. PVD is a method of producing, in a vacuum, thin layers of metals and ceramics. The company's main product is the coating system, InlineCoater™, which rationalizes PVD coating of mass-produced components. The company also participates in the development and commercialization of the new layer material Maxfas, which can replace gold for plating electrical contacts. The business started in 1997 and, after a phase of developing and establishing products and services, the company is now looking ahead to a period of expansion. For more information on Impact Coatings, please visit www.impactcoatings.se.

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Morphic Technologies is a Swedish industrial group that specializes in energy systems for renewable electricity production as well as resource-light production techniques for efficient component manufacture. The operations are located in Karlskoga, Kristinehamn, Filipstad, and Gothenburg, Sweden. The Company's class B shares are listed on the Stockholm Stock Exchange's trading site, First North, with Remium Securities as Certified Advisor. For more information, see: www.morphic.se