



The Next Gate – Pioneering demonstration project in Hamburg

New Power-to-Liquid plant at H&R's Hamburg site produces alternatives to fossil raw materials

- Power-to-Liquid demonstration plant goes into operation
- Inauguration of the "futurefuels.experience" information center
- Market development of climate-friendly eFuels and chemical-pharmaceutical specialties begins

Sustainability, resource conservation and the efficient use of raw materials are among the most important topics of today. On Wednesday, September 14, 2022, H&R inaugurated the new Power-to-Liquid (PtL) demonstration plant at the production site of Ölwerke Schindler GmbH. The process facilities will be used to produce synthesis-based alternatives to fossil raw materials. The demonstration project is one of the world's first PtL concepts on a technical scale, supplying so-called eFuels as well as synthetic raw waxes, which will be marketed via the P2X-Europe joint venture of the two partner companies Mabanaft and H&R.

Salzbergen, September 15, 2022. The Power-to-Liquid synthesis technology, developed by Karlsruhe-based technology company INERATEC, will in future produce around 200 tons of eFuels for road as well as rail transport and around 150 tons of waxes for use in the cosmetics, pharmaceuticals and food industries. "For more than 10 years, we have been working on exploiting the potential of green hydrogen and climate-friendly base materials produced from it, and we are proud to set a milestone in the production and marketing of chemical-pharmaceutical specialties and eFuels from renewable resources together with Mabanaft. Our future offer of various non-fossil products is our contribution to a climate-neutral future, which lets us actively shape the energy transition," says Detlev Woesten, Chief Sustainability Officer of H&R and Co-CEO of P2X-Europe.

In contrast to the fossil origin of these raw materials, the PtL process enables the production of synthesis-based hydrocarbons made from sustainable and climate-friendly components. For this purpose, green hydrogen from the electrolysis hydrogen plant commissioned in 2017 is first processed together with biogenic CO₂ to produce synthesis gas, from which synthetic hydrocarbons are subsequently produced. The plant is integrated into the network of Norddeutsches Reallabor (NRL), in which 50 partners from different production and

consumption sectors are jointly testing new ways to achieve climate neutrality as part of an energy transition alliance.

With the official inauguration of the plant, the NextGate project partners are completing an important part of the commissioning phase, in which all essential systems have already been ramped up and the first batches of synthetic hydrocarbons have been produced. In the coming weeks, operations will be optimized in terms of continuous production. "In the near future, we will produce eFuels and synthetic raw materials and refine them to specification-compliant end products and base materials for chemical-pharmaceutical products," says Dr. Thorsten Frick, Director Transformation at H&R. The company's declared goal is to transform the basic chemical industry and also to support its own customers in their climate protection goals.

In the coming years, building on the volumes from the NextGate demonstration project, H&R and Mabanaft will enable the market ramp-up by increasing production volumes to a commercial scale through projects of the joint venture company P2X-Europe.

"We need to reduce our dependence on fossil raw materials. At the same time, for many aspects of our everyday social and economic lives, we also need climate-friendly alternatives to fossil liquid fuels that can be used directly and easily as substitutes. With the help of the PtL technology, we can offer synthetic fuels in the form of CO₂-neutral eFuels to air, marine and rail transport and thus make a significant contribution to the defossilization of these sectors," explains Volker Ebeling, Senior Vice President New Energy, Chemicals & Gas at Mabanaft.

Dr. Peter Tschentscher, First Mayor of the Free and Hanseatic City of Hamburg: "The power-to-liquid demonstration plant by H&R and Mabanaft is an important project for climate protection and the energy transition in Germany. Synthetic fuels and basic materials will become increasingly important for industry, logistics and mobility in the coming years. The new plant demonstrates the technological expertise and innovative strength of the industry in Hamburg."

The mobile multimedia and information center of en2x – Wirtschaftsverband Fuels & Energie (German Fuels & Energy Association) – is also located directly next to the new process plant. From now on, the transformation of the industry will be demonstrated in an exemplary and practical way to the professional public as well as stakeholders and other interested parties. In the "futurefuels.experience", groups of visitors have the opportunity to learn about important aspects of hydrogen and alternative fuels or raw materials directly on site.

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H&R GmbH & Co. KGaA:
H&R KGaA, listed in the Prime Standard of the Frankfurt Stock Exchange, is a specialty chemicals company active in the development and manufacture of hydrocarbon-based specialty chemical and pharmaceutical products and in the production of precision plastic parts.

www.hur.com

P2X-Europe is the Power-to-Liquid joint venture of Mabanaft GmbH & Co. KG and the H&R Group. Both partners hold equal shares in the Hamburg-based company. P2X-Europe will source power-to-X products (eFuels and petrochemical specialties) from corresponding projects and market them through the respective sales channels.

www.p2x-europe.com

Mabanaft GmbH & Co. KG is a leading independent and integrated energy company that provides its customers with innovative energy solutions in the transportation, heating and industrial sectors. In addition, the company is active in the trading of petroleum products, natural gas liquids, chemicals and biofuels and biofuels.

www.mabanaft.com/de

Forward-looking statements and prognosis:

This press release contains forward-looking statements. These statements are based on the current estimates and forecasts of the Management Board and the information currently available to it. The forward-looking statements are not to be understood as guarantees of the future developments and results mentioned therein. Rather, future developments and results depend on a variety of factors, they involve various risks and uncertainties and are based on assumptions that may not prove to be accurate. We do not assume any obligation to update the forward-looking statements made in this press release.