

Press release

International Consortium to Advance Decarbonisation of Aviation Sector

In the CARE-O-SENE research project, partners from Germany and South Africa develop new catalysts for green aviation fuels

JOHANNESBURG, South Africa, 25 May 2022 – Sasol and Helmholtz-Zentrum Berlin (HZB) will lead a consortium to develop and optimise next-generation catalysts that will play a key role in decarbonising the aviation sector through sustainable aviation fuels (SAF).

At a ceremony at Sasol's global headquarters in Johannesburg yesterday, South African President Cyril Ramaphosa and German Chancellor Olaf Scholz attended the launch of CARE-O-SENE (Catalyst Research for Sustainable Kerosene) research project, to be funded by the German Federal Ministry of Research, Technology and Space (BMFTR).

Sasol joins forces with five other world-leading organisations in Germany and South Africa to accelerate the development of catalysts that are essential to produce green kerosene on a commercial scale through Fischer-Tropsch (FT) technology.

“We are delighted to have been selected to lead this important project,” said Fleetwood Grobler, President and Chief Executive Officer of Sasol Limited. “Our expertise in FT technology and catalysts makes us the ideal partner to help Germany and the world decarbonise the aviation sector and make it sustainable over the long-term.”

Prof. Dr. Bernd Rech, Scientific Managing Director of HZB adds, “CARE-O-SENE will enable us to accelerate innovation in a crucial field of green energy. This can only be achieved in a global partnership by deeply integrating fundamental research and technology development on an industry relevant scale.”

Other CARE-O-SENE project partners include the Fraunhofer Institute for Ceramic Technologies and Systems (IKTS), the Karlsruhe Institute of Technology (KIT), the University of Cape Town, Department of Chemical Engineering (UCT) and INERATEC GmbH. The consortium expresses its sincere gratitude to the German Federal Ministry of Research, Technology and Space (BMFTR) for supporting these important efforts.

CARE-O-SENE has the goal of setting the course for large-scale commercialisation of green kerosene production by 2065 with its research on catalysts. Catalysts are used to speed up chemical reactions, increase the yield and improve the quality of refined products. The new FT catalysts are expected to increase the kerosene yield of the process to over 80 percent, thereby optimising use of resources.

Unlike conventional kerosene derived from fossil feedstocks, SAF can be made from green hydrogen and sustainable carbon dioxide sources. Developing SAF is key to a sustainable decarbonisation of the hard-to-abate aviation industry, and the main lever for net zero aviation. The underlying technology to developing SAF at scale from green hydrogen and sustainable carbon sources is FT technology, in which Sasol has been a global leader for more than 70 years.

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About Sasol:

Sasol Germany GmbH is a manufacturer of high-quality chemical products with production sites in Brunsbuettel and Marl and its head office in Hamburg. Around 1,800 employees and almost 60 trainees produce innovative, sustainable products and develop solutions for the processing industry. The company offers a wide range of products, including substances for the production of detergents and cleaning agents, paints and coatings, cosmetics and pharmaceutical products. In addition, specialities such as high-purity and ultra-high-purity aluminas are used, for example, as catalyst carriers in catalytic converters for the automotive industry, industrial applications and high-performance abrasives.

Sasol Germany GmbH is part of the South African Sasol Group, a leading integrated chemical and energy company with almost 29,000 employees in 22 countries manufacturing and marketing first-class products.

About HZB:

The Helmholtz-Zentrum Berlin fuer Materialien und Energie (HZB) is researching solutions for a climate-neutral society. Researchers are developing and optimising efficient and cost-effective energy materials for photovoltaic cells, batteries and catalysts. The HZB uses a research infrastructure with the accelerator-based x-ray source BESSY II which enables unique insights into materials and permits operando analyses. With around 1,200 employees, HZB is one of the largest non-academic research centres in Berlin in the field of energy research and is member of the Helmholtz Association. More information: www.helmholtz-berlin.de