MEDIARELEASE

▶ *RHEINMETALL*

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Contribution to European energy and fuel security:

Rheinmetall cooperates with German technology champions to build production facilities for CO_2-neutral synthetic fuel for military use

In the future, Rheinmetall intends to enable armed forces to produce their own fuel locally and independently of global fossil fuel supply chains. To ensure the operational readiness and energy supply of military forces, Rheinmetall is now presenting a new strategic concept: the independent synthesis of e-fuels by European armies. The 'Giga PtX' project developed by Rheinmetall, in collaboration with partner companies, aims to establish a Europe-wide network of several hundred modular e-fuel production plants. Depending on the application profile, these plants will be capable of producing 5,000 to 7,000 tonnes of diesel, marine diesel, or kerosene per facility per year. With this concept, Rheinmetall is looking at strengthening the energy self-sufficiency and resilience of European armed forces in a sustainable manner, while also contributing to the stability of critical energy infrastructure.

Rheinmetall offers to act as general contractor and is responsible not only for system integration but also for the design, construction, maintenance and operation of the large-scale industrial facilities. The company thus offers its customers a holistic solution – from the engineering phase to long-term operation.

In order to be able to provide the plant technology immediately, a strong alliance of participating German industrial giants and leading cleantech companies has been formed. "We have exactly the partners we need. We are prepared and can start immediately. We are literally ready to go in order to strengthen fuel resilience in Germany and Europe in the long term", says Birgit Görtler, Vice President Sales Hydrogen at Rheinmetall.

Sunfire, a leading global manufacturer of industrial electrolysers will be joining the consortium. The company's pressurized alkaline electrolysers are intended to be an indispensable component of e-fuel production plants, ensuring the reliable supply of green hydrogen.

Sunfire's portfolio also includes highly efficient SOEC technology. By utilising waste heat in the form of steam, the facility achieves a significantly higher conversion efficiency. This means that more hydrogen, and consequently more fuel, can be produced with the same amount of electricity. This technology is therefore ideal for use in e-fuel facilities.

▶ Key facts

- Rheinmetall presents concept for independent e-fuel production by European armed forces
- Fuel to be produced locally and independently of global fossil fuel supply chains
- Cooperation with Greenlyte Carbon Technologies, Sunfire and INERATEC

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In addition to green hydrogen, carbon dioxide is required to produce synthetic fuels. This is why Greenlyte, a new energy player based in North Rhine-Westphalia, is also joining the consortium. Using its modular technology to produce green raw materials, Greenlyte can capture carbon directly from the air, providing another key component for producing synthetic fuels at the Giga PtX facilities, alongside hydrogen. This feature enables the facilities to operate independently of existing infrastructure and with greater flexibility, thereby increasing location independence.

Alongside the new partners, Rheinmetall's long-standing cooperation partner INERATEC from Karlsruhe also plays a central role in the consortium. This technology company is responsible for the heart of the facility: the Reverse Water Gas Shift (RWGS) and Fischer-Tropsch processes. These processes convert hydrogen and carbon dioxide into synthetic fuels. INERATEC recently demonstrated its leading expertise in the field of power-to-X technologies by commissioning Europe's largest power-to-liquid facility in Frankfurt am Main. This facility produces up to 2,500 tonnes of sustainable fuel annually.

"War readiness requires a resilient energy infrastructure. Maintaining fossil fuel supply chains will be challenging for European countries in the event of a defence situation. With the Giga PtX facilities, Rheinmetall and its partners are sending a strong signal of industrial transformation, climate protection and security resilience in Europe", said Armin Papperger, CEO of Rheinmetall AG.

The first facilities can be realised at short notice as soon as the political and regulatory framework conditions have been established.

About Rheinmetall

The stock exchange listed Rheinmetall AG in Düsseldorf is a leading international systems provider for the defence industry and a driving force behind pioneering technological and industrial innovations in civilian markets. With over 40,000 employees at 174 sites worldwide, Rheinmetall generated sales of €9.8 billion in 2024. With its technologies, products and systems, the company creates the indispensable basis for peace, freedom and sustainable development: which is security.

About Greenlyte Carbon Technologies:

Greenlyte is one of Europe's most innovative new energy start-ups, with the clear goal of reshaping the global energy industry. With LiquidSolar, the company has developed a fully electric system, protected by over 10 patent families, that simultaneously produces green carbon and hydrogen, thus supplying the essential raw materials for the production of e-fuels. This enables the scalable production of e-fuels at prices that are competitive with fossil fuels.

Since its founding in 2022, Greenlyte has secured over €45 million in capital and funds, has built a team of over 70 experts and is currently working with leading industry partners to implement its first commercial plants.

About Sunfire:

Sunfire is a global leader in the production of industrial electrolyzers based on pressurized alkaline and solid oxide (SOEC) technologies. With its electrolysis solutions, Sunfire is addressing a key challenge of today's energy system:

Providing renewable hydrogen and syngas as climate-neutral substitutes for fossil energy. Sunfire's innovative and proven electrolysis technology enables the transformation of carbon-intensive industries that are currently dependent on fossil-based oil, gas, or coal. The company employs more than 650 people located in Germany and Switzerland.

About INERATEC:

INERATEC stands for defossilisation and decarbonisation. The company produces e-fuels and e-chemicals: CO_2-neutral substitutes for fossil fuels used in aviation, shipping and the chemical industry. The modular, scalable facilities use renewable hydrogen and biogenic CO_2 to produce synthetic kerosene, petrol, diesel, waxes, methanol and natural gas. The company is based in Karlsruhe and is supported by various international investors.