

Press Information

Kyocera will be exhibiting its high-performance functional and structural ceramics for aerospace applications at Space Tech Expo Europe

Kyocera Fineceramics, a leading manufacturer of technical ceramics, will showcase its latest solutions using cordierite and silicon infiltrated silicon carbide (SiSiC) for aerospace applications at [Space Tech Expo Europe](#) in Bremen, Germany, taking place on November 14-16 2023.

Kyoto/London, 07th November 2023. Non-conductive functional ceramics and wear-resistant structural ceramics are vital materials for the aerospace industry. Parts and system components made of these materials behave reliably, even under the most extreme conditions. These include environments with temperatures between absolute zero and several hundred degrees Celsius. The materials are also highly resistant to radiation and can provide protection for sensitive electronics.

KYOCERA Fineceramics Europe GmbH is specialised in manufacturing ceramic parts for the aerospace industry in all required quantities. This involves energy-efficient sintering techniques to produce ceramics with high strength and temperature resistance, additive manufacturing techniques to produce components with stringent structural requirements, and monolithic integration techniques that combine electronic components with radiation-proof ceramic casings in a particularly compact manner.

Precision and sustainability with cordierite and silicon infiltrated silicon carbide (SiSiC)

At Space Tech Expo Europe, Kyocera will present its latest components made of cordierite, a functional ceramic with minimal thermal expansion coefficients. This enables weight reductions of up to 70 percent compared to other materials with similar mechanical properties and makes cordierite suitable for both high-temperature insulation and high-precision functional parts, such as fine-adjusting mirrors in laser-based communication systems.

The high-strength ceramic silicon infiltrated silicon carbide (SiSiC) is also highly resistant to mechanical and thermal stresses, and requires significantly less cooling than metallic components. Proprietary processing techniques also allow the production of monolithic components with hollow structures that can be used for internal cooling. Silicon carbide and silicon nitride also offer outstanding resistance to rapidly changing temperatures. This makes them perfect for use in engine construction. As such, ceramic materials are making an important contribution to achieving the European Commission's Flightpath 2050 targets, which include a reduction in fuel consumption.

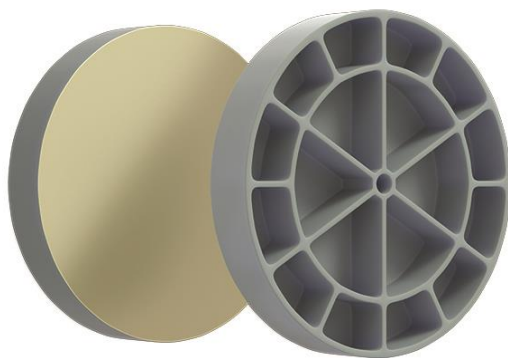
Innovative materials for the next round in "New Space"

"There is an extreme boom going on around space innovations at the moment," says Dr Carsten Rußner, President of KYOCERA Fin ceramics Europe GmbH. "The focus is particularly on the economic systems of the future, such as the basics of satellite and communication technology for autonomous driving. Kyocera is also committed to developing advanced materials and technologies in these areas in order to continue achieving milestones that both reflect progress and enrich the lives of all. For this, it is essential to have industry-experienced development partners with the right materials and manufacturing techniques, as well as regional supply chains."

Kyocera's portfolio includes classic oxide ceramics that range from aluminium oxide to zirconium oxide and non-oxide ceramics – such as nitrides and carbides of silicon and titanium – as well as ceramic-metal composites for ultrahigh vacuum applications.

Details of the Kyocera stand

Trade fair	<u>Space Tech Expo Europe</u>
Date	14 to 16 November 2023
Location	Bremen, Germany
Kyocera stand	Messe Bremen Hall 6, Stand #V31



Cordierite mirror



SiSiC mirror



For more information about Kyocera: www.kyocera.co.uk

About Kyocera

[KYOCERA Fineceramics Europe GmbH](#) is a subsidiary of [KYOCERA Europe GmbH](#), which has been successful in Europe for over 50 years. The Kyocera Group is one of the world's leading providers of high-performance ceramic components for the technology industry, offering over 200 different ceramic materials, as well as state-of-the-art technologies and services tailored to the specific needs of each market.

KYOCERA Europe GmbH is a company of the KYOCERA Corporation headquartered in Kyoto/Japan, a world leader in semiconductor, industrial and automotive components as well as electronic components, printing and multifunction systems, and communications technology. The technology group is one of the world's most experienced manufacturers of smart energy systems, with more than 45 years of industry expertise. The Kyocera Group comprises 297 subsidiaries (31 March 2023). In England, Kyocera has a subsidiary in Frimley, KYOCERA Fineceramics Ltd. With around 81,000 employees, Kyocera generated net annual sales of around EUR 13.87 billion in the 2022/2023 fiscal year.

Kyocera is ranked 672 on Forbes magazine's 'Global 2000' list for 2023, and ranked as 'The 100 Most Sustainably Managed Companies in the World' according to the Wall Street Journal. For the second year in a row, Kyocera qualified for the Dow Jones Sustainability Index (Asia-Pacific). As well, Kyocera receives a Gold rating on EcoVadis Sustainability Survey for the second consecutive year and was acknowledged as a 'Top 100 Global Innovator 2023', being one of the world's leading innovators, for the seventh time by Clarivate.

The company also takes an active interest in cultural affairs. The Kyoto Prize, a prominent international award, is presented each year by the Inamori Foundation — established by Kyocera founder Dr Kazuo Inamori — to individuals worldwide who have contributed significantly to the scientific, cultural, and spiritual betterment of humankind (equivalent to approximately €685,000 per prize category).

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