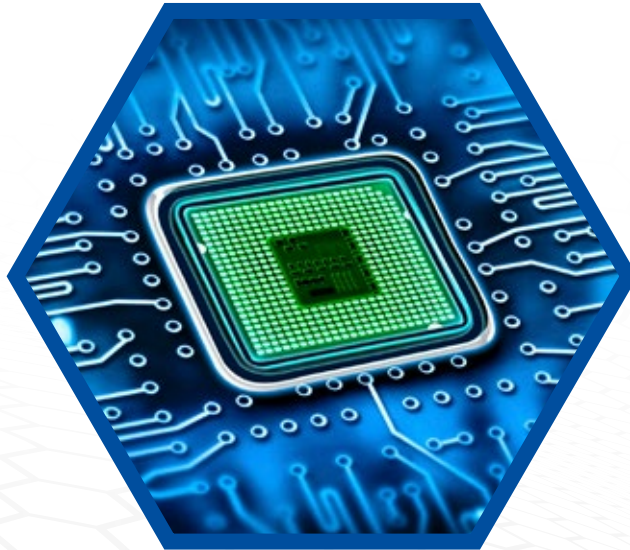




ALUMINA SYSTEMS – A BRILLIANT IDEA BEHIND EVERY PRODUCT!

Vacuum-tight metal-ceramic composite components are the unique selling point of Alumina Systems GmbH. Many of these products are developed in close cooperation with the customer. Classic production combined with additive manufacturing results in unique solutions – true to the motto „A brilliant idea behind every product“.

3D PRINTED COMPONENTS FOR SEMICONDUCTOR INDUSTRY



COMPONENTS AND STORAGE FOR ENERGY TECHNOLOGY



SENSORS FOR SHIP ENGINES

„THE GREEN BATTERY“

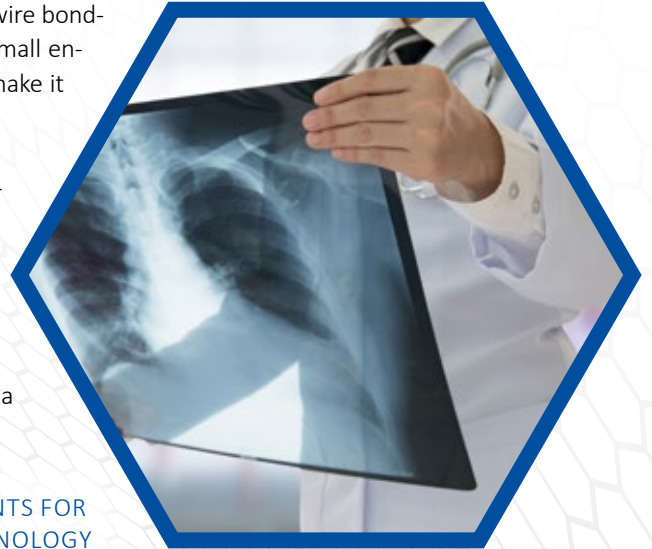
Alumina Systems has developed the „green battery“ based on sodium nickel chloride. This power storage device for stationary applications only requires common salt and nickel as chemical components. The „green battery“ can be almost 100% down-cycled. In contrast to lithium-ion technology, the battery is intrinsically safe, i.e. self-ignition or even deflagration is impossible.

CERAMIC-METAL COMPONENTS FOR USE IN HIGH-TECH APPLICATIONS

Vacuum-tight metal-ceramic composite components – made of the high-performance material aluminum oxide and a metallic joining partner – is the core business of Alumina Systems GmbH. These components are used where the highest energies need to be switched, e.g. in energy, laser, X-ray, plasma, medical and accelerator technology. A big advantage of technical ceramics is the high electrical insulation up to high temperatures.

Areas of application are, for example, sensors in ship engines (thin wire bonding), precursor gas distribution rings in wafer coating (PE-ALD) or small engines for satellites. This is where ceramic composite components make it possible to implement the application.

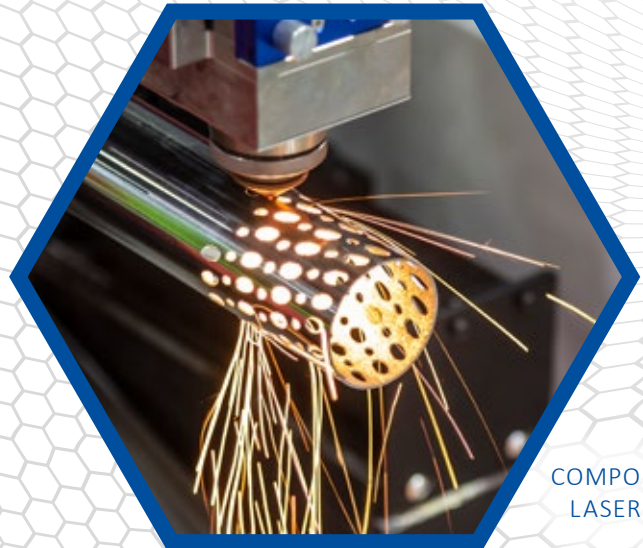
In addition to standard products such as power feedthroughs, vacuum interrupters or vacuum insulators, the need for customer-specific high-end applications is constantly increasing. Here at Alumina Systems, the mechanical-thermal stresses on a component are simulated using the finite element method (FEM) before the actual construction of the component and the most suitable design for the application is selected – without having to produce a real component!



COMPONENTS FOR
X-RAY TECHNOLOGY



COMPONENTS FOR
VACUUM INDUSTRY



COMPONENTS FOR
LASER SYSTEMS



COMPONENTS FOR
AEROSPACE ENGINEERING



COMPONENTS FOR
AIR CONDITIONING



COMPONENTS FOR
MEDICAL TECHNOLOGY

CERAMIC 3D PRINTING

At Alumina Systems, the currently largest 3D printer for ceramics is used with a construction area of 600 x 600 mm. They can be used to produce prototypes or even small series at low cost. With the help of 3D printing, ceramics can be produced in tiny dimensions and/or complicated geometries that cannot be produced with any other method.

OUR EMPLOYEES – ALWAYS THERE FOR YOU!



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ALUMINA SYSTEMS GMBH

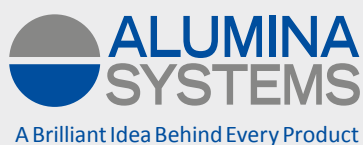
With over 80 employees, Alumina Systems GmbH manufactures at the Redwitz/R. vacuum-tight ceramic-metal components for a wide range of applications. The special know-how lies in the connection technology of ceramics and metal.

The dynamically growing company has repeatedly received awards for its innovative products: Alumina Systems has twice received the title of Top Innovator, the Innovation Life Award from Bayern Innovativ or the Best Components Award from the trade journal „Ceramic Application“.

The roots of Alumina Systems GmbH go back to the ceramics division of the Siemens group. The company has been independent since 2018 and is owned by management and private investors.

ALUMINA SYSTEMS S.R.O

Since 2012, Alumina Systems GmbH has integrated a 100% Czech subsidiary in Hradec Králové. Components for high-performance electronics and special parts are also manufactured there. Alumina Systems S.R.O. supplies the entire group with turned copper parts for thyristor technology.



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