Thanks to its excellent chemical, electrical and thermal properties, high-purity dense magnesia ceramic is highly suitable for extremely stressed components, for example in analytics, electronics, high-temperature or (when using transparent materials) optical applications. Fraunhofer IKTS is currently investigating another type of application: suitable temperature- and reaction-resistant sintering aid is needed for the ion- and proton-conducting ceramic flat membranes developed at the institute on the basis of BSCF- (Ba-Sr-Co-Fe), CSFM- (Ca-Sr-Fe-Mn), La-Wolframat and Sr-Cereat materials. Such kiln furniture is not yet available with the quality required. The aim of the research project was therefore to develop the fundamental know-how for the material and technological basis of high-purity MgO ceramics for use as sintering aid.

**Services offered**

- Development of high-purity magnesia ceramic components for customer-specific applications
- Development of shaping technologies and thermal processes
- Characterization of materials and components
- Realization of small-batch series