

FOREWORD



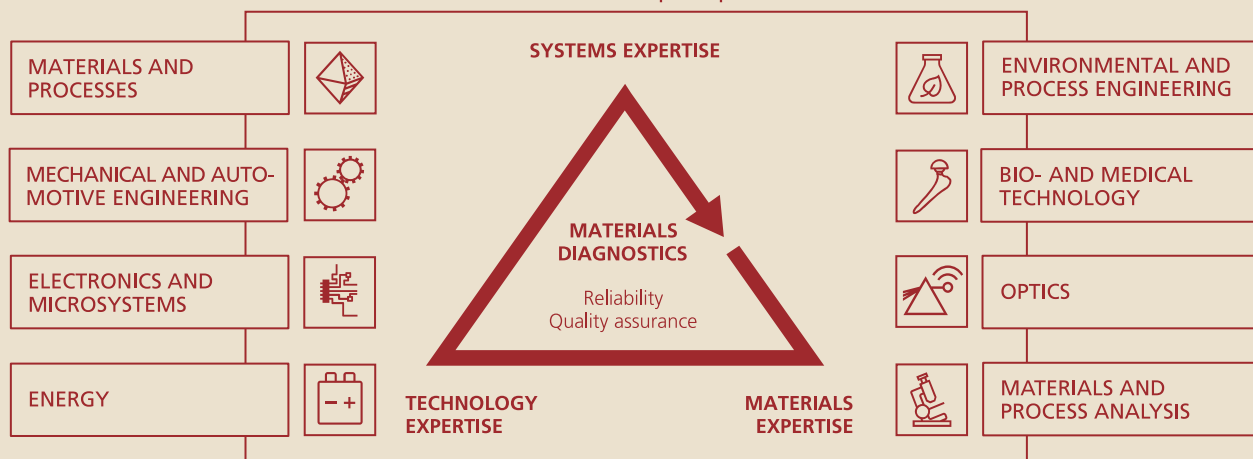
ANNUAL REPORT 2015/16

Dear partners and friends of IKTS,

I am pleased to present you our new annual report. We had a successful year and completed a number of exciting projects, in many cases transferring the results to industry. In 2015, two spin-offs were established: ceragen GmbH, created to market the "eneramic®" fuel cell systems developed in a Fraunhofer foundation project, and MPower GmbH, which utilizes our fuel cell stack know-how.

Over the last reporting period we performed the standard Fraunhofer evaluations with the support of a panel of experts from industry. All in all, our strategy of covering the entire field of ceramics with technological core competencies while concentrating on the eight business divisions described in this report was clearly followed. IKTS once again proved itself to be a strong team. We are well prepared for the future and can continue to carry out our mission of conducting applied research to serve industry. Once again, I would like to invite you to make use of our expertise. We at IKTS are always available to support you in realizing your project ideas and look forward to discussing these ideas with you.

Fraunhofer IKTS – "one stop shop" for ceramics



We invested overall 5 million euros of the over 54 million euros budget in new equipment to further strengthen and develop our core competencies at all of our sites. We would especially like to thank the *Länder* of Saxony and Thuringia for supporting these investments.

We made considerable advances in the field of medical and bioceramics. With our partner, Fraunhofer IZI, we opened the Bio-Nanotechnology Applications Lab (BNAL) in Leipzig on October 2, 2015. A new group was established to support these activities, with funding provided by the Fraunhofer Attract Program. Apart from developing new implantable materials and components and equipping them with sensor and actuator properties to make them theranostic, we will draw on our expertise in materials diagnostics to develop new diagnostic techniques at BNAL.

Our non-destructive evaluation (NDE) methods will also be coupled with our additive manufacturing (AM) activities for medical technology and other applications.

With the combination of NDE and AM, it should be possible to predict and avoid defects during the component printing process and thereby increase process reliability. By connecting our long-term experience and expertise in the development of printable ceramic materials (pastes and inks) with various AM process technologies as well as established processes, such as injection molding or functional ceramic hybrid technology (LTCC/HTCC) and integrating non-destructive test technology, we hope to establish unique capabilities in the field of additive manufacturing. Here, too, synergies are created from cooperation between our three sites and the fields of structural and functional ceramics.

Our 2015 annual report includes a compilation of highlights and trends from our various business divisions. I hope that they provide a source of inspiration for new project ideas, which we can discuss with you at any time. As always, I invite you to make use of our well-equipped facilities and our outstanding IKTS team. We look forward to working with you.

Sincerely,

Alexander Michaelis

April 2016