

# THE SIGNIFICANCE OF THE FRAUNHOFER-GESELLSCHAFT FOR THE GERMAN SMES WITH WHICH IT COOPERATES

## Taking stock and making recommendations on how to intensify collaboration.

The objective of this study is to empirically examine the significance of the Fraunhofer-Gesellschaft for German SMEs as cooperation partners. It also discusses the approaches available for improving collaboration. To do this an online survey was carried out - on the basis of literature research - with SMEs that cooperate with Fraunhofer. Furthermore, representatives from Fraunhofer institutes across all Fraunhofer Groups were questioned

### Fraunhofer Center for International Management and Knowledge Economy IMW

Neumarkt 9 – 19  
04109 Leipzig  
Germany

Authors: Dr. Friedrich Dornbusch,  
Dr. Harald Lehmann, Anna Pohle,  
Dr. Marija Radic

With contribution from: Hannes Knorr,  
Marcel Liebig, Dmitry Neustroev,  
Sebastian Schellbach, Maik Ziessnitz

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regarding collaboration with SMEs from the institutes perspective. The following presents central findings from that study as well as the recommendations for action by the Fraunhofer-Gesellschaft.

Collaboration between Fraunhofer and SMEs is considered positive and extremely important for both sides. The results from the company survey show that it is primarily SMEs with a strong focus on R&D and innovation that collaborate with Fraunhofer. The Fraunhofer-Gesellschaft is of central importance for the innovation activities at the SMEs that cooperate with it. Fraunhofer also has a correspondingly positive reputation among SMEs: Fraunhofer's image is characterized by a high degree of specialist excellence, professionalism, innovativeness, and internationality. The positive overall picture of Fraunhofer's significance for SMEs is rounded off by a high level of willingness to again collaborate with the Fraunhofer-Gesellschaft and to recommend it to others. On the other hand, interviews with representatives from the Fraunhofer institutes show that SMEs are also an important pillar with regard to business revenues. SMEs drive innovations and integrate them faster. That means they increase the institutes' ability to innovate. The high pressure for success over the short term means they need results quickly. They transfer their dynamism in the shape

of flexibility, agility, and swiftness to the institutes.

However, the study's findings also show that the competition doesn't sleep. The Fraunhofer-Gesellschaft is by no means the sole cooperation partner for SMEs. The latter are increasingly collaborating with institutions of higher education, in particular. The institutes of the AiF are also highly important for SMEs. In order for Fraunhofer to retain its central significance for SMEs, consistent expansion of SME activities is required, as well as a consistent orientation of Fraunhofer-Gesellschaft activities toward the needs of SMEs.

As far as expansion potential is concerned, the survey's results show that the majority of companies consider "product and technology development" to be an important field for collaboration with Fraunhofer. Accordingly, this product spectrum should be systematically expanded and marketed - especially with respect to the ability to map complete value addition chains beyond institute boundaries and offer system solutions. In contrast, the fields of "industrial property rights, norms, standards," and "market-related services and training programs" are deemed by SMEs to be less relevant for collaboration, which also applies to the field of "R&D services and knowledge-based consulting." These kinds of SME services should precisely identify

and address the respective target groups and/or be integrated as part of system solutions.

The significance and the actual use of these services by companies are widely divergent in all fields. This implies that there is yet untapped potential for collaboration between the Fraunhofer-Gesellschaft and SMEs. This is reinforced by interviews with the institutes. The significance SMEs have for the institutes varies and correlates with the relative business revenues generated with SMEs, as well as with the branch structure in the Institutes' target markets. With a view to the future, the institutes that already have strong activities here see the continued significance of SMEs. In contrast, those Institutes that have been comparatively less active in SME cooperation are looking at a declining trend for the future. This potential downward trend in SME collaboration must be decisively counteracted.

How can the Fraunhofer-Gesellschaft's SME activities be brought into line with the needs of SMEs? The study offers numerous approaches in this respect.

The findings from the company survey indicate difficulties in identifying the right contact partners within the Fraunhofer-Gesellschaft. One central aspect, therefore, consists of enabling systemic access to Fraunhofer-Gesellschaft services. This also corresponds with the assessments made by institute representatives, who observe a growing demand for system solutions. On the one hand, the measures for improving collaboration should aim to network technologies across institutes and disciplines where possible. On the other hand, these measures should take into account the respective target group's needs and combine these aspects systematically. That includes communication of services tailored to the target group because in the case of industrial projects it tends to be the companies who approach the Fraunhofer-Gesellschaft about a research contract.

Further central aspects become apparent with regard to the acquisition and expansion of networks with SMEs. In addition to the consistent enhancement and marketing of USPs, professional project management and quality management are indispensable for obtaining visible results and clear project time frames, delivery on-time, and ongoing attentiveness to the customer relationship - especially with existing customers. All of these points contribute to the establishment and maintenance of lasting relationships with companies. Particularly when collaborating with SMEs, using smaller preliminary studies to start collaboration has proved to be successful. They can be extended successively, and/or subsequent projects can be contracted. This has the advantage that companies can first gain trust in the quality of the results from collaboration while simultaneously maintaining control.

The study's results show that SMEs need support in administrative tasks due to capacity bottlenecks. That applies both for drafting the contract with Fraunhofer-Gesellschaft and for ongoing project work. A further important point is assistance in identifying, applying for, and administering suitable public funding programs. From the perspective of the Institutes and the SMEs, those aspects are important for collaboration because they contribute to the long-term financial stability of the institutes, particularly enabling SMEs to conduct R&D that they would be unable to afford on their own. Nearly all institutes indicated that the administrative expenditure, the long approval times, and the evidence requirements associated with funding programs represent a big challenge for SMEs. Beyond individual solutions at the various institutes, this poses the question of what avenues for taking action are available to Fraunhofer as a whole. One possibility would be to address the subject of debureaucratization politically. Another possibility for enhancing the Fraunhofer-Gesellschaft's cooperation with SMEs would be the institutionalization of support for SMEs in administrative processes connected

with public funding programs. During interviews with institutes, interviewees suggested a "Fraunhofer-Gesellschaft SME service department" be established, which, as a one-stop agency, serves as a contact point for companies and Fraunhofer staff for questions regarding current funding programs, also providing further support services of an administrative nature. That could increase both internal and external service quality.

Furthermore, criticism regarding the framework conditions for collaboration with the Fraunhofer-Gesellschaft was voiced by SME partners. This especially applies to drafting the contract and the cost-benefit ratio. Against the background of limited resources at SMEs, these points come as no surprise. However, they do underscore the need for specific SME solutions that take these aspects into account. Where possible administrative and financial expenditure should be reduced. Overall, many interviewees said that it would be desirable and helpful to simplify negotiations regarding industrial property rights, and to lower administrative barriers overall, especially for SME projects of a small volume.

The companies were also asked about their expectations regarding future support from the Fraunhofer-Gesellschaft. Under the heading "Resources and network," models for joint financing of contract research, networking events, partnerships in public tendering, and integration into regional excellence centers all scored highly or very highly in terms of support value. In particular, the establishment of research networks and strategic research partnerships - especially in pre-competitive research - appears highly promising in order to meet resource bottlenecks while simultaneously meeting the requirements for long-term R&D. That would also mean innovation risks can at least be limited. Accordingly, pooling and consortium solutions are promising approaches, especially for collaboration and joint research.