PRESS RELEASE

Presentation of the Annual Report 2020

Sustained success in difficult times

In 2020, the Fraunhofer-Gesellschaft was able to maintain and consolidate its position as the leading organization for applied research. The total business volume remained stable at 2.8 billion euros. Of this sum, 2.4 billion euros were generated through contract research. The scientists filed over 600 patent applications and more than 20 companies were established as Fraunhofer spin-offs. Around 29,000 employees at 75 Fraunhofer Institutes and research units, whose dedication, expertise and outstanding research create benefits for society and strengthen the German and European economies, are the key to this success.

The Fraunhofer-Gesellschaft, headquartered in Germany, is the world's leading applied research organization. With its focus on developing key technologies that are vital for the future and enabling the commercial exploitation of this work by business and industry, it plays a central role in the innovation process. Fraunhofer is a pioneer and a catalyst for groundbreaking developments and a model of scientific excellence. It collaborates with companies to transform original ideas into innovations — to boost the economic and scientific locations of Germany and Europe as a whole.

In January 2020, the Fraunhofer Research Institution for Energy Infrastructures and Geothermal Systems IEG added yet more value to the Fraunhofer portfolio — helping drive the transition to renewables ("Energiewende"). The organization, established in 1949, now operates 75 institutes and research units in Germany. Most of the approximately 29,000 employees working across Fraunhofer are qualified scientists and engineers, who work with an annual research budget of 2.8 billion euros. Of this sum, 2.4 billion euros are generated through the core area of contract research. Around two thirds of this is derived from industry contracts and from publicly funded research projects. The remaining third comes from the German federal and state governments in the form of base funding. This enables our institutes to work on solutions that could be essential to industry and society in the years to come.

Fraunhofer is a leader in terms of the number of patent applications filed with the German Patent and Trade Mark Office: In 2020, employees of the Fraunhofer-Gesellschaft submitted 753 invention disclosures. They filed 638 patent applications claiming rights of priority. This is equivalent to more than two patent applications per working day. The portfolio of active patent families, each of which comprises all actionable rights in different countries, rose to 7667.

Editorial Notes
Janis Eitner | Fraunhofer-Gesellschaft, München | Communications | Phone +49 89 1205-1333 | presse@zv.fraunhofer.de

Tackling challenges to increase performance

Prof. Reimund Neugebauer, President of the Fraunhofer-Gesellschaft: "To boost our own strength and the opportunities for industry and society that this generates, the Fraunhofer-Gesellschaft is further developing its scientific excellence through competence-oriented groups. It is defining, in the form of the Fraunhofer Strategic Research Fields, system-relevant research focuses and offering sectors with a high relevance for the innovative strength of Germany and Europe system solutions with our lead market-oriented alliances. The aims we have set ourselves are ambitious ones: healthcare affordable to all, the completion of the Energiewende, a digitalized value chain, an integrated and sustainable circular economy and a secure, resilient society. I am convinced that the work we did in 2020 set us on the right course."

Fraunhofer resilience research

The coronavirus pandemic has given an explosive new meaning to the issue of resilience in public discourse. For over ten years now, Fraunhofer has pursued interdisciplinary research into relevant technologies and innovations. The competence profile of the institutes comprises established areas of interest, such as the protection of critical infrastructures (KRITIS), the resilience of production and logistics processes, decentralized energy and mobility concepts for the Energiewende as well as digital technologies. The strategic pooling and coordination of the wide-ranging expertise within the Fraunhofer Institutes is an important basis for avoiding dependencies on other markets and securing technological and hence political sovereignty.

Fraunhofer Strategic Research Fields

The Fraunhofer Institutes regularly implement standardized strategy processes for adapting their research fields and strengthening their alignment. These processes were modified in 2020 in order to promote cross-sector cooperation, to better consider the expectations of the stakeholders and to ensure the quality of demand-oriented development of expertise. The 16 High-Performance Centers, which mainly offer small and medium-sized enterprises research and development programs in technological key fields, form a vital transfer structure.

We are now also seeing the development of the Fraunhofer Strategic Research Fields through which Fraunhofer is hoping to achieve leadership, especially in groundbreaking areas with a high potential for exploitation. The company is pursuing the fields of bioeconomy, digital healthcare, artificial intelligence, next generation computing, resource efficiency and climate, hydrogen and quantum technology. The criteria for selecting these Fraunhofer Strategic Research Fields, established in 2020, centered around the relevance to industry and society, scientific excellence and strategic priority.

Fraunhofer Competence Network Quantum Computing

The centrally coordinated "Fraunhofer Competence Network Quantum Computing" was established to drive forward applied research in quantum computing. At the core of the network is the IBM Q System One. This quantum computer is installed in Ehningen in Baden-Württemberg for use exclusively by the Fraunhofer-Gesellschaft and its partners. It was commissioned in early 2021 and is operated under German legislation — a key advantage in terms of data protection and IP security. Cloud access to IBM quantum computers in the USA has been available since April 2020. The network is currently divided into seven regional Competence Centers, each with its own research focus. These regional Competence Centers work closely with partners and customers from research and industry.

Fraunhofer Innovation Program

In the pact for the future of its white paper entitled "Combating the Consequences of Corona, Securing Prosperity, Strengthening Sustainability" (Corona-Folgen bekämpfen, Wohlstand sichern, Zukunftsfähigkeit stärken), the German federal government decided, in response to the current crisis, to support non-university research institutions in order to prevent an interruption to ongoing research work. In turn, in May 2020 the Fraunhofer Executive Board initiated the "Fraunhofer Innovation Program". This program is designed to structure innovative projects across all institutes, address fields of expertise that are particularly affected by the current economic crisis, contribute towards securing the future of the institutes and help find ways to reboot the economy.

Within just a few weeks, consortia had been set up and joint initiatives with high a synergy potential in research fields such as green ICT, trusted electronics or digital pharma production had been launched.

Science policy framework

The Fraunhofer-Gesellschaft is represented in the German federal government's two most important advisory committees on research and innovation: the High-Tech Forum and the Innovation Dialogue. With experts from science, industry and society, the High-Tech Forum advises the German federal government on implementing the High-Tech Strategy 2025. It is co-chaired by Prof. Neugebauer and Christian Luft, State Secretary at the German Federal Ministry of Education and Research (BMBF). The President of the Fraunhofer-Gesellschaft is also a member of the Innovation Dialogue Steering Committee, which advises the German federal government on future innovation policies as an independent, impartial body.

As part of the economic and future stimulus package, in early July 2020 the German Bundestag and Bundesrat approved a second supplementary budget to support the non-university research institutions in the form of a one billion euro package. The aim is to maintain and strengthen research cooperations with industry, with a focus on

those with small and medium-sized enterprises. In 2020, the BMBF earmarked 400 million euros of its budget for non-university research. This funding was able to cover shortfalls up to the amount of the gap left by the corporate financing, and also meant that expertise in non-university research institutions could be preserved.

Focusing clearly on preserving expertise and capacities, the Fraunhofer-Gesellschaft applied to the government for an additional allowance to cover the deficit caused by the coronavirus pandemic. In two stages, the BMBF approved an allowance at the end of 2020 that amounted to almost 195 million euros. In the budget renegotiations by the German Bundestag in November 2020, three new Fraunhofer initiatives were approved: the Fraunhofer Center for Biogenic Value Creation and Smart Farming, which combines the research of five Fraunhofer Institutes, a Fraunhofer Cluster of Excellence for boosting research activities in immune-mediated diseases and the Fraunhofer Center for Public Safety and Security.

Shareholdings and spin-offs

At the reporting date, the Fraunhofer-Gesellschaft held equity investments in 86 companies across a broad range of sectors. Overall, the organization spent some 1.9 million euros on acquiring equity interests. The Fraunhofer-Gesellschaft added three companies in which it holds share capital. The book value of all holdings increased to 9.1 million euros.

For over 70 years now, Fraunhofer has been meeting its responsibility to transfer knowledge and expertise to industry and society. This calls for a broad and sophisticated set of transfer channels. Spin-offs are an important element of exploitation activities. The Fraunhofer-Gesellschaft helps founders prepare to launch their spin-off though Fraunhofer Venture, a department set up specifically for this purpose. In 2020, Fraunhofer Venture provided support to 64 new spin-off projects and saw a total of 26 new businesses being established. With AHEAD, the funding program for technology transfer launched in 2019, Fraunhofer is bundling its measures to assist internal researchers interested in founding a company. This extensive program has an annual volume of 10 million euros and is aimed especially at those employees seeking technology transfer support for current projects via spin-offs.

The full Annual Report and further publications of the Fraunhofer-Gesellschaft are available at: https://www.fraunhofer.de/de/mediathek/publikationen/fraunhofer-jahresbericht.html
(the English version will be published shortly)