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Opening of the new Casting Technology Laboratory of the Fraunhofer IGCV

Exactly two years after the foundation stone was laid, the new Casting Technology Laboratory of Fraunhofer IGCV in Garching was inaugurated on October 13, 2021. "A place for research and cooperation", "Strengthening Germany as a production location" – much praise and recognition were expressed during numerous greetings and celebratory speeches. The guests were impressed by the new building, which in the future will provide a home for research at every step of the casting process: from mold production to the finishing process.

The scientific field of "Casting Technology" is one of the core competencies of the Fraunhofer Institute for Casting, Composite and Processing Technology IGCV. The researchers work with great enthusiasm on individual solutions for the industry to transfer knowledge and innovative developments directly into industrial applications.

Fraunhofer IGCV in Garching focuses primarily on molding materials, sand, and permanent mold casting processes, as well as simulation. In addition to novel approaches to combining basic molding materials, predicting casting processes, and integrating quality assurance measures, the scientists are researching the embedding of casting technology systems in overall control technology solutions, thus addressing the potential of Industry 4.0.

In the future, scientists working in these areas will have access to an entirely new research environment: the Casting Technology Laboratory in Garching. In the building now inaugurated, they will find the best conditions for driving forward innovations in casting technology.

A new home for casting technology

Inside the new building, the scientists research every step of the casting process, and drive further developments forward – a purpose that the structure's outside reflects as well. From the interior design to the exterior facade, the materials are derived from the

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, Fraunhofer plays a central role in the innovation process. As a pioneer and catalyst for groundbreaking developments and scientific excellence, Fraunhofer helps shape society now and in the future. Founded in 1949, the Fraunhofer-Gesellschaft currently operates 75 institutes and research institutions throughout Germany. The majority of the organization's 29,000 employees 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 contract research.

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basic structures of the raw materials and the casting materials. Molded sand, core sand, and metallic surfaces characterize the appearance of the new building.

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The 1,500 m² main floor space will house various functional areas in the future. At the center of this is the casting hall supplemented by workshops, laboratory areas, meeting rooms, seminar rooms, office areas for scientists, administration, and shared communication zones.

The new Casting Technology Laboratory is located within the 36,500 m² area of the future Fraunhofer research campus. In addition to Fraunhofer IGCV, the Fraunhofer Institute for Applied and Integrated Security AISEC has already moved into a building there. The future location of the Fraunhofer Institute for Cognitive Systems IKS is currently being planned as well.

Situated in the immediate neighborhood of the Garching campus of the Technical University of Munich, the new Fraunhofer research can better utilize and expand on existing strategic and synergy effects with the neighboring science and engineering faculties.

Inauguration ceremony of the new Casting Technology Laboratory

After the scientists of Fraunhofer IGCV had already moved there in July 2021, the new building was presented to guests from politics, industry and science in a formal setting on October 13, 2021.

Prof. Dr.-Ing. Wolfram Volk, director of Fraunhofer IGCV and responsible for the scientific field of casting technology, welcomed the guests together with Prof. Dr. Raoul Klingner, Director of Research Management and Governance of the Fraunhofer-Gesellschaft.

Prof. Dr. Raoul Klingner was enthusiastic about the new site and its potential for the future: "The new casting technology laboratory of Fraunhofer IGCV creates a place for research and cooperation on application-oriented cutting-edge technologies in the field of casting research – an essential topic for the future, as it represents critical technologies for many application areas and industries. For example, the automotive industry benefits from research in the field of drive components, chassis parts, and structural castings," said Prof. Dr. Raoul Klingner.

Further words of welcome followed the speech. Roland Weigert, State Secretary in the Bavarian Ministry of Economic Affairs, Regional Development and Energy, emphasized

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in his welcoming address, for example, the importance of the Bavarian casting industry with its centers in Central Franconia, Swabia, and the Upper Palatinate with over 11,000 employees. According to Weigert, casting is a crucial technology for many industries, especially for the automotive and mechanical engineering sectors or aerospace – because no wind turbine housing or essential engine parts would function without casting metallic materials. Since only science and research can drive further development in casting technology, Weigert believes that Fraunhofer IGCV has a responsibility: “It would be great if an answer could be found at the new research and science location in Garching on how casting can be powered by green hydrogen or green electricity in the future. Researchers will benefit from an ideal research network of natural science and engineering faculties near the vicinity.”

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According to Weigert, Fraunhofer-Gesellschaft's new IGCV building will be the new centerpiece of Science City.

Prof. Dr. Thomas F. Hofmann, President of the Technical University of Munich, Dr.-Ing. Erwin Flender, member of the advisory board of Fraunhofer IGCV, BDG e.V. and VDG e.V. and Annette Ganssmüller-Maluche, Deputy District Administrator of Munich, also congratulated the institute's management on its new building and emphasized its successes in casting technology.

Prof. Dr.-Ing. Carsten Intra, Chairman of the Board of Management of the Volkswagen Commercial Vehicles brand, said in his speech: “The new building of Fraunhofer IGCV is representative of the increasing need for scientific knowledge in production technology as a whole. The research work carried out by the institute helps in a very tangible way to strengthen Germany as a production location and maintain its special position in the world.”

The presentation of the new casting technology laboratory by Prof. Dr.-Ing. Wolfram Volk and Dr.-Ing. Steffen Klan, institute director and head of the casting technology department at Fraunhofer IGCV, was followed by tours of the building.

During the subsequent get-together, the guests could discuss individual research topics with Fraunhofer IGCV experts during demonstrations. With traditional food, brass band music, and exciting conversations, the guests enjoyed a festive end to the event.

- End -

(approx. 6,000 characters)

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Image 1: The facade of the Casting Technology Laboratory of Fraunhofer IGCV | Copyright: Fraunhofer IGCV / Andreas Heddergott



Image 2: Guests at the opening event visiting the production hall | Copyright: Fraunhofer IGCV / Andreas Heddergott

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Image 3: The speakers at the opening event (from left to right): **Dr. Erwin Flender** [BDG e.V. and VDG e.V.], **Prof. Dr. Raoul Klingner** [Director Research Management and Governance of the Fraunhofer-Gesellschaft], **Mrs. Annette Gansmüller-Maluche** [Deputy District Administrator of the District of Munich], **Prof. Dr.-Ing. Wolfram Volk** [Director of the Fraunhofer IGCV], **Prof. Dr. Thomas F. Hofmann** [President of the Technical University of Munich], **Prof. Dr. Carsten Intra** [Chairman of the Board of Management of the Volkswagen Commercial Vehicles brand]. | Copyright: Fraunhofer IGCV / Andreas Heddergott

About Fraunhofer IGCV

Fraunhofer IGCV stands for application-oriented research focusing on efficient engineering, networked production, and intelligent multi-material solutions. The institute enables innovations at the level of manufacturing processes and material sciences, machines and process chains, and factory and company networks. The nearly 160 employees generate interdisciplinary solutions specifically for casting, composite, and processing technology. Knowledge from research and development is transferred to industrial applications. Cooperation with industrial partners in various research projects contributes to securing the sustainable competitiveness of Germany and Europe.