

Information for journalists and media representatives "Center for Virtual Engineering ZVE"

Scientists at Fraunhofer IAO are conducting interdisciplinary research at the Center for Virtual Engineering ZVE into the foundational principles of such important concepts as "Morgenstadt" (the city of tomorrow), mobility of the future, visual technologies and digital engineering.

Laboratories equipped with the latest technology are available for the scientists to develop and test a range of innovations:

- **Digital Engineering Lab**
Integrated development and design of products and production systems
- **Immersive Engineering Lab**
Testing and developing the prototypes of products and buildings in virtual worlds
- **Visual Technologies Lab**
Ergonomic and energy-efficient deployment of innovative illumination and display systems
- **Mobility Innovation Lab**
Research into the future mobility of people, goods and information
- **Urban Living Lab**
Utilization scenarios and sample applications for innovative services in "Morgenstadt"
- **Workspace Innovation Lab**
Researching, developing and creating multi-location working environments

Conceived as a platform for research, development and testing of virtual reality technologies and innovative work/office concepts, the ZVE building has more than 3200 m² of usable floor space, two thirds of which is set aside for laboratories and demonstration centers. Owing to its efficiency, eco-friendliness and resource conservation, the ZVE was honored at its opening by the German Sustainable Building Council (DGNB) with a platinum DGNB certificate for excellence in sustainable building.

Fraunhofer IAO poured its scientific know-how in the fields of virtual engineering and workspace innovation into every aspect of the design and creation of the ZVE building. Combining a digitalized planning and construction process with 3D visualization in virtual reality means that complex building structures can be parameterized, and the planning of alternate variants made simpler; it also enables building components to be manufactured with (semi-)automated systems. Tours of the virtual building mock-up, collision analyses, and discussions on design optimization all make for increased planning certainty. It was also possible to analyze simulations of acoustic, thermal, and lighting conditions based on 3D models, and the results were factored into the rest of the process.

Further information:

www.iao.fraunhofer.de/zve | <https://www.youtube.com/watch?v=RpqqMNSqBiY>

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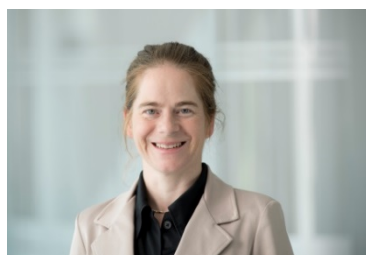


Photo material

The following photos may be used free of charge as part of reports on the Center for Virtual Engineering ZVE. Requests for high-resolution images should be sent to presse@iao.fraunhofer.de. All photos used must be accompanied by the appropriate source reference, and we kindly request a copy of the published material. The photos are to be used exclusively for editorial reporting and under no circumstances in advertising or sales materials. Further circulation, copying, editing or use on websites that is not for the purposes of editorial reporting is not permitted.

ZVE (1)

With its futuristic architecture, the ZVE building designed by star architect Ben van Berkel sets new architectural standards. However, the building is also exemplary in terms of sustainability – which is why it was honored by the German Sustainable Building Council (DGNB) with a platinum DGNB certificate for excellence in sustainable building.



Photo: Ludmilla Parsyak © Fraunhofer IAO

ZVE (2)

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Photo: Ludmilla Parsyak © Fraunhofer IAO

ZVE (3)

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Photo: Ludmilla Parsyak © Fraunhofer IAO

ZVE (4)

The laboratory building, which was designed by star architect Ben van Berkel, sets new standards in more ways than one. The sustainable manner of its construction led to the ZVE building being honored by the German Sustainable Building Council (DGNB) with a platinum DGNB certificate for excellence in sustainable building.



Photo: Ludmilla Parsyak, © Fraunhofer IAO

ZVE (5)

The architecture of Fraunhofer IAO's Center for Virtual Engineering ZVE deliberately creates lines of sight in order to encourage informal encounters and exchange of ideas.



Photo: Ludmilla Parsyak © Fraunhofer IAO

ZVE (6)

The architecture of Fraunhofer IAO's Center for Virtual Engineering ZVE deliberately creates lines of sight in order to encourage informal encounters and exchange of ideas.



Photo: Ludmilla Parsyak © Fraunhofer IAO

ZVE (7)

The architecture of the building deliberately creates lines of sight in order to encourage informal encounters and exchange of ideas. The hub of the building is formed by a spacious staircase, which links the laboratory and office areas on the different levels.



Photo: Ludmilla Parsyak © Fraunhofer IAO

ZVE (8)

The staircase has an open and cheerful design with lots of light, and it links the different levels of the ZVE building. The architecture of the building deliberately creates lines of sight in order to encourage informal encounters and exchange of ideas.



Photo: Ludmilla Parsyak © Fraunhofer IAO

ZVE (9)

The staircase has an open and cheerful design with lots of light, and it links the different levels of the ZVE building. The architecture of the building deliberately creates lines of sight in order to encourage informal encounters and exchange of ideas.

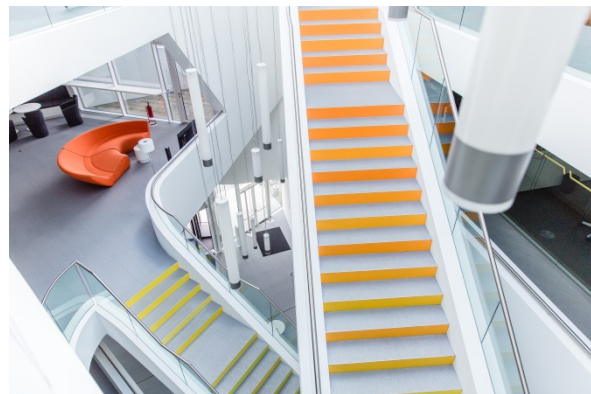


Photo: Ludmilla Parsyak © Fraunhofer IAO

ZVE (10)

The way spaces are laid out facilitates a range of work situations. Alongside open areas that encourage the exchange of information and expertise, employees also have access to office units where they can concentrate on their own work. Here, too, tables and chairs can be individually adjusted at the press of a button.



Photo: Ludmilla Parsyak © Fraunhofer IAO

ZVE (11)

Open areas with seating provide opportunities for spontaneous meetings and informal discussion. This creates space for the exchange of ideas, information and expertise.

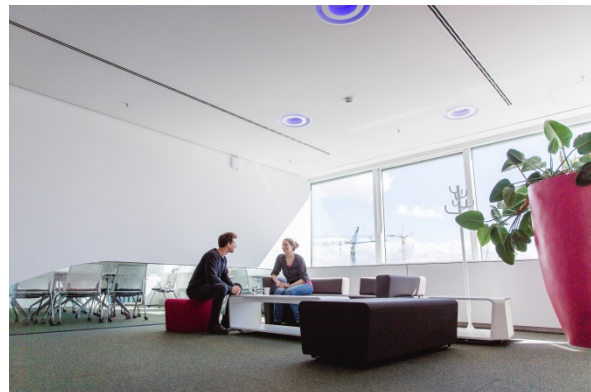


Photo: Ludmilla Parsyak © Fraunhofer IAO

ZVE (12)

Open-concept office areas enable collaborative working and facilitate the exchange of information between employees. Tables and chairs are height-adjustable at the push of a button, and they can be adapted for every employee as well as for the work situation and its associated requirements.



Photo: Ludmilla Parsyak © Fraunhofer IAO

ZVE (13)

Special armchairs in the open areas of the office serve as places where employees can retreat to make phone calls or concentrate on their own work.



Photo: Ludmilla Parsyak © Fraunhofer IAO