

Fraunhofer-Center for Silicium-Photovoltaic CSP Halle



Location
Halle, Germany

Built
Competition 2008, 1st prize Execution: 2009 – 2013

The Fraunhofer-Center for Silicon-Photovoltaic CSP is a joint-venture of the Fraunhofer Institute for Mechanics of Materials and the one for Solar Energy systems. The CSP is supposed to complement the activities of the two existing research institutions and make it more effective.

The focus is on crystallization of Silicon and the scientific study of its micro structure, electric and mechanical qualities. The CSP Center will be built on a tree-lined lot on the site of the former Hospital in the city of Halle/Germany. The Weinberg-Campus is a scientific cluster that serves academic and research institutions, technology- and business incubators and commercial companies. The site was given to the Fraunhofer-Foundation by the State of Saxony-Anhalt and is in the South of the Business Park.

The new Centre with around 4.000 m² of floor space contains offices, storage, production and meeting. It can be extended in the future. The site is accessed from the Otto-Eissfeldt-Strasse in the South. The building acts like a solitary building in the open landscape, parallel to the other new buildings nearby and the former hospital buildings. The absence of any fences will allow the landscape to come right up to the building. Hedges will allow a more generous spatial feel. The rigid, rectangular building contains a linear courtyard west of an atrium. It is made up of two flush buildings. The office- and lab-building and the "Technikum" are connected

by a continuous screen. The atrium in the middle is used as the entrance and reception. The second and third floors of the lab building contain offices and labs below. The “Technikum” is made up of three components and contains all technical equipments and tools. There is storage room at the first floor and below. Access and deliveries are through the courtyard and a dedicated zone in the hall. Goods can be moved by means of a crane runway and portable hoisting platforms. In order to guarantee a short construction time the structure of the “Technikum” is composed of prefabricated steel columns and beams. The walls are made of Sand-wich-panels. Punched troughed sheet metal panels will only be added as a secondary facade after the construction of the building. This outer skin protects the wall panels from damage, overheating and acts as a sun-screen. The courtyard facade will be planted with twined plants. The facade screen will be decorated with the centre’s logo nearby the entrance. The southern parapets of the office building will be clad with photovoltaic-modules. Horizontal lamellas act as sun screens. The northern facade has a sun-screen-glazing and interior protection against glare.

The transparent atrium will be naturally light and ventilated. Photovoltaic-lamellas can later be added to the roof that would generate electric power and shade the space. The roofs with a total surface of 3000 m² will get green.

The building will be rated with the “Deutsches Gütesiegel Nachhaltiges Bauen [DGNB]”. The sustainable aspects of the design have already been approved in a preliminary rating. The design aims for the “Gold”-certification, the highest possible standard.

Awards, Nominations

Team

Architect

ingenhoven architects, Düsseldorf

Christoph Ingenhoven, Rudolf Jonas, Ben Dieckmann, Anke Koch, Patrick Esser, Darko Cvetuljski, Torsten Horn, Yi Li, Tessa Zaune