

ENERGY RESEARCH AND DEVELOPMENT

Engineering & natural sciences, informatics, accompanying socio-economic research



02.04.2012

EnCN - An Energy Research Center for Bavaria

ENERGIE CAMPUS NÜRNBERG

Research along the energy chain!

Generation

solar energy conversion.

Materials science and process development for

Transport & Storage

Power electronics, infromatoin and communication technology for smart grids. Materials and processes for energy storage and transport

Usage

Improving energy efficiency through new materials, processes, electronics and smart buildings.

Optimal and holistic design of intelligent energy systems as well as control algorithms for process management

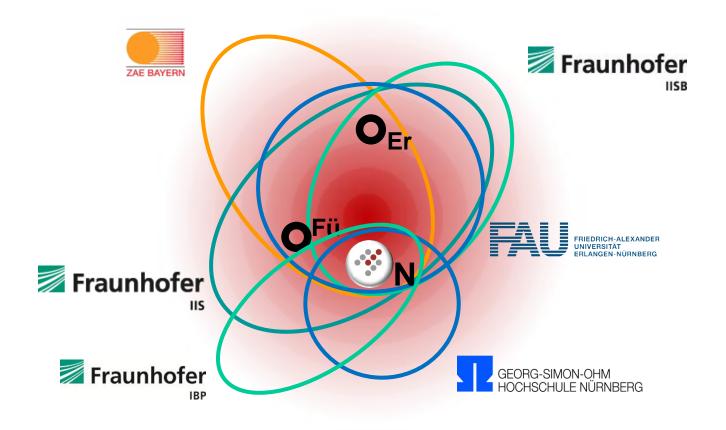
Social and economic impact research

Design for energy efficiency

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EnCN - A Campus

Uniting energy research of multiple institutions in a single location!

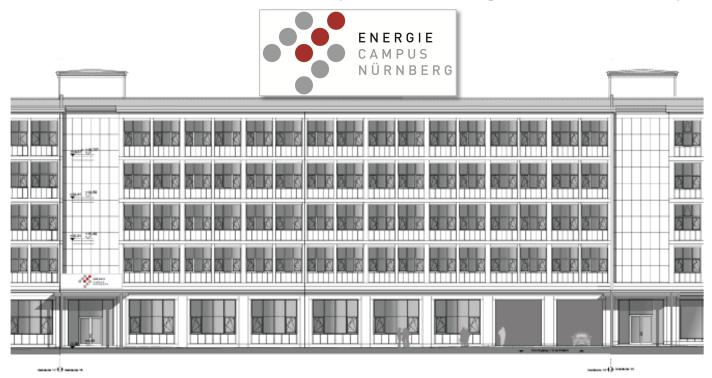




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EnCN - A Campus

Participating in the restructruring of a neighborhood in Nuremberg! From "White Ware" industry to knowledge based Industry



On 6000square meters the EnCN will perform research in the West of Nuremberg, on the AEG grounds— a former production site for washing machines



EnCN - The Cooperation Partners



Friedrich-Alexander-Universität Erlangen-Nuremberg

- One of the largest german universities
- · Full university with a strong engineering faculty
- More than 33.500 students



Georg-Simon-Ohm-Hochschule Nuremberg

- One of the larges technical universities in germany
- · More than 10000 students



Fraunhofer-Institute for Integrated Circuits - IIS

 Applied R&D for integrated circuits, sensor technologies, embedded systems, ITC und system architectures



Fraunhofer-Institute for Integrated Systems and Device Technology - IISB

 Applied R&D for power electronics, micro- and nanoelectronics, energy technology, electric mobility, materials for electronics and photovoltaics



Bavarian Center for Applied Energy Research

- Applied energy research for Bavaria since 1991
- Material research, component development & system optimization



Fraunhofer-Institut for Building Physics

• R&D, testing, demonstration and consulting in the areas of building physics – energy efficiency, room climate, heat-, humidity and weathering protection.

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The Financing

- Funded Project in the structural revitalization program "Nürnberg/Fürth"
- The funding is part of the initiative "Aufbruch Bayern Bavaria on the move"
- Possible through the close cooperation of

Bavarian State Ministry of Economics, Infrastructure, Traffic and Technology Bavarian State Ministry of Science, Research and Culture City of Nuremberg

And the support from

Bavarian State Ministry for the Environnment and Health Bavarian State Ministry of Finance

• Funding sum of 50Mio. Euro for a period of 5 years, distributed over 10 projects







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The goals of the EnCN

Realizing the vision of a sustainable energy economy based on renewable resources

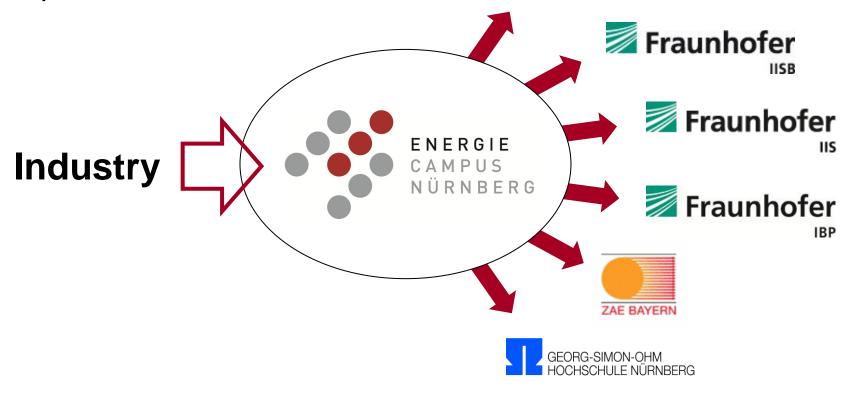
- 1. Increasing efficiency in the energy supply chain: production, distribution, storage and use
- 2. Developing the foundations for energy supply based on renewables
- 3. Excellence in pioneering areas of energy research
- 4. Pooling of the partners' competencies in an internationally visible centre
- Becoming the development partner for companies in all aspects of energy technologies
- 6. Promoting energy expertise and economic strength, particularly in the metropolitan region of Nuremberg

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Simplified Access

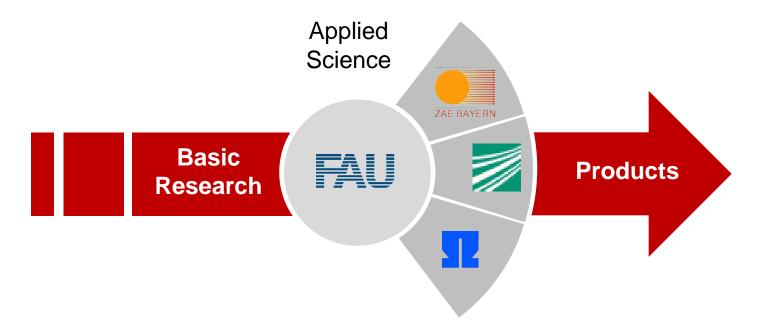




- Exceptional access to state of the art research
- One contact point
- Unique network
- An independent platform for common research

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From Basic Research to the product



- Accessing the complete value chain
 - from basic research to the product
- Utilization of synergies
- interdisciplinary and interinstitutional



The Research program

Research in selected fields of the renewable-energy chain

Generation

Solar Factory of the Future printed photovoltaics

MATSOL

new materials for power technology

Distribution & Storage

TRANSPORT

chemical conversion, storage, transport

Net

ICT, power electronics, energy flow control for power grids

Utilization

Process

engineering efficient electric drives

Building

construction materials and building technology

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Cross-sectional topics

Simulation modeling, analysis, simulation, optimization

Acceptance media monitoring regarding energy policies

Economy effects of policy intervention in energy markets

Design design for energy efficiency and user acceptance

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Thank you for listening!

Deutschland Land der Ideen



Ausgewählter Ort 2012

16.11.2012

