

**FRAUNHOFER INSTITUTE FOR ORGANIC ELECTRONICS,
ELECTRON BEAM AND PLASMA TECHNOLOGY FEP**

PROFILE



PROFILE

The Fraunhofer Institute for Organic Electronics, Electron Beam and Plasma Technology FEP works on innovative solutions in the fields of vacuum coating, surface treatment as well as organic semiconductors. The core competences electron beam technology, sputtering and plasma-activated deposition, high-rate PECVD as well as technologies for the organic electronics and IC/system design provide a basis for these activities.

Thus, Fraunhofer FEP offers a wide range of possibilities for research, development and pilot production, especially for the processing, sterilization, structuring and refining of surfaces as well as OLED microdisplays, organic and inorganic sensors, optical filters and flexible OLED lighting.

Our aim is to seize the innovation potential of the electron beam, plasma technology and organic electronics for new production processes and devices and to make it available for our customers.

CONTACT

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CORPORATE COMMUNICATIONS

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MARKETING

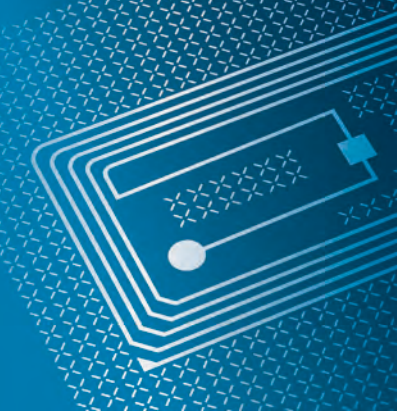
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OPTICS, SENSOR TECHNOLOGY AND ELECTRONICS



- Ultra-barrier films
- Energy harvesting layers
- Optical sensors for surface inspection in biology, biomedicine and chemistry
- Organic photodiodes
- Insulation layer
- Optical precision and high performance coatings

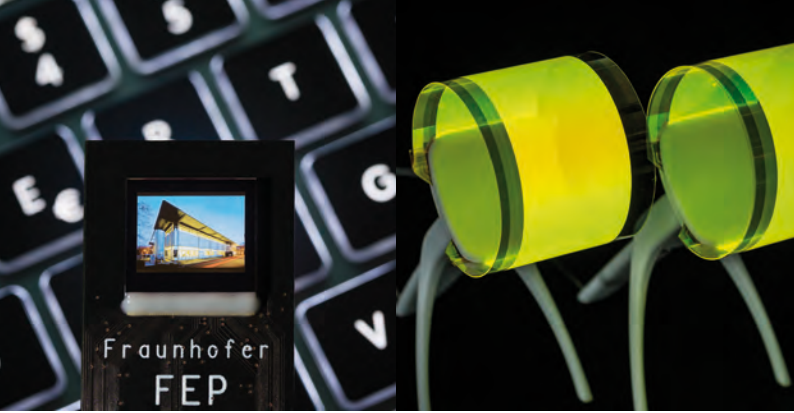
 www.fep.fraunhofer.de/optics-sensor-technology-and-electronics

MEDICAL APPLICATIONS



- Biofunctional surfaces
- Surface treatment of medical products
- Coating for medical devices
- Electron beam sterilization and germ reduction
- Testing of biocompatibility and degree of sterilization
- OLED-on-Silicon technology for fluorescence sensors

 www.fep.fraunhofer.de/medical-applications



DISPLAYS AND WEARABLES



- Bidirectional OLED-on-Silicon microdisplays
- Microdisplays in various resolution and layouts
- Autostereoscopic 3D-displays
- CMOS design, optic design, system integration, IC design
- OLED microstructuring e.g. with orthogonal photolithography
- Functional layers for displays

 www.fep.fraunhofer.de/displays-and-wearables

LIGHT



- Pilot and development lines for production of organic devices and OLED
- Preparation of concept studies
- Development and processing of flexible substrates with organic electronics
- Evaluation and characterization of devices
- Inspection and production of samples for organic devices

 www.fep.fraunhofer.de/light



SMART BUILDING AND ARCHITECTURE



- Energy-efficient coatings
- Decorative layers
- Integrated organic solar cells
- Integrated sensors
- Customized OLED-lighting

 www.fep.fraunhofer.de/smart-building-and-architecture

SOLAR ENERGY



- Front barrier layers / ultra-barrier films
- Front contact layers (TCO)
- Absorber layers (Si, CdTe, CIGS)
- Rear contact layers (Mo, Al, Cu; electron beam structuring)
- Layers for rear support (insulation, barrier functions)
- Advisory service for the cleaning of solar panels
- Development of encapsulation and contacts for organic solar cells

 www.fep.fraunhofer.de/solar-energy



MECHANICAL ENGINEERING



- Vacuum coating of components (e.g. automotive, aircraft, ships)
- Vacuum coating of tools (e.g. forming and cutting tools)
- Electron beam modification of components
- Plasma cleaning of components
- Advisory service for the cleaning of components

 www.fep.fraunhofer.de/mechanical-engineering

PACKAGING



- Vacuum roll-to-roll coating of polymer films and metal foils
- Barrier coatings
- Electron beam sterilization of packaged products
- Electron beam curing of inks
- Electron beam modification of polymer surfaces

 www.fep.fraunhofer.de/packaging



ENVIRONMENT AND ENERGY



- Coating and layer modification for energy storage devices
- Coatings for green technologies
- Processes for the recovery and refinement of valuable materials
- Processes for the treatment of waste water and waste gas

 www.fep.fraunhofer.de/environment-and-energy

AGRICULTURE



- Electron treatment of seeds
- Electron beam disinfection of animal feed and food products
- Modification of materials made from renewable resources
- Technology in agricultural machines for detecting foreign objects

 www.fep.fraunhofer.de/agriculture



TRANSPORT



- Anticorrosive coatings, antifreeze and scratch-resistant coatings
- Antireflective coatings
- Curing of polymers
- Coatings for innovative sensor systems
- Flexible organic lighting systems
- Integrated sensors and displays, additional information for driver's via OLED smart glasses

 www.fep.fraunhofer.de/transport

PRESERVATION



- Energy-efficient coatings
- Corrosion sensors
- Plasma cleaning of textiles and silver jewelry
- Stabilization of brittle papers
- Disinfection of paper, polymers, wood and leather

 www.fep.fraunhofer.de/preservation

DIRECTIONS

WINTERBERGSTRASSE

DIRECTIONS

BY CAR

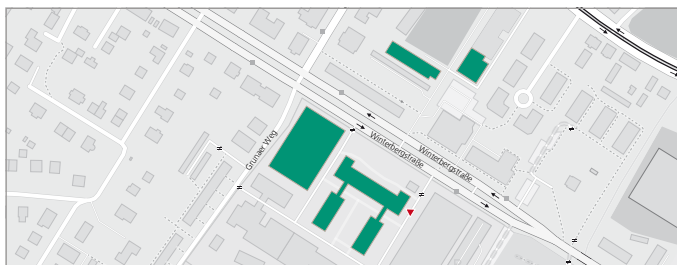
- Autobahn A17, exit »Dresden-Südvorstadt«
- Bundesstrasse B170, direction Dresden
- At »Pirnaischer Platz« turn right, direction »Gruna/VW Manufaktur«
- At the end of »Grosser Garten« turn right onto »Karcherallee«
- At the next traffic light turn left into »Winterbergstrasse«

BY BUS AND TRAM

- Dresden »Hauptbahnhof Nord« take tram line 3/7 (»Wilder Mann«, »Weixdorf«) and exit at »Pirnaischer Platz«
- Change to tram line 1/2 (»Prohlis«, »Kleinzschachwitz«) and exit at »Zwinglistrasse«
- Change to bus 64 (»Reick«) and exit at »Fraunhofer-Institutszentrum«

BY PLANE

- From Dresden Airport 30 minutes by taxi to the Fraunhofer-Institutszentrum (Winterbergstrasse 28)



DIRECTIONS

BY CAR

- Autobahn A4, exit »Dresden-Flughafen«
- Drive along the »Hermann-Reichelt-Strasse« direction »Hoyerswerda«; this leads into the »Grenzstrasse«
- After the »Dörnichtweg«, take the first junction right into the »Maria-Reiche-Strasse«

BY BUS AND TRAM

- From Dresden »Hauptbahnhof Nord« take tram line 7 (»Weixdorf«) and exit at »Arkonastrasse«
- Walk left through the residential area to the »Grenzstrasse«
- Follow the »Grenzstrasse« and turn left into »Maria-Reiche-Strasse« (10 min by foot)

BY PLANE

- From Dresden Airport take bus 80 and exit at »Grenzstrasse Mitte«
- You will reach »Maria-Reiche-Strasse« after ca. 150 meters





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