COMPANIES FROM SAXONY – A HIGH TECH LOCATION IN GERMANY

NANO TECH TOKYO JANUARY 29 – JANUARY 31, 2020 WEST HALL 1, BOOTH 1W-U29





STAATSMINISTERIUM FÜR WIRTSCHAFT ARBEIT UND VERKEHR



NANOTECHNOLOGY IN SAXONY

With 200 companies specialized in nanotechnology Saxony belongs to Germany's top 5 locations. Saxony is characterized by a tight network of producing industries and suppliers that give impetus to the development and economic use of nanotechnologies and open up new channels. Thus, nanotechnology experts benefit from close exchange with the microelectronics / ICT (»Silicon Saxony«), mechanical engineering and automobile industries, which are particularly strong in Saxony.

When it comes to nanoanalysis, nanoelectronics, functional nanolayers, ultra-thin layers and materials in particular, Saxony's companies and research institutes are at the top of the European field. Some of Europe's leading research institutions for nanoelectronics can be found in Saxony – e.g. the Nanoelectronic Materials Laboratory gGmbH (NaMLab) and the Dresden Center for Nanoanalysis (DCN) at Dresden University of Technology or the Center Nanoelectronic Technologies CNT at the Fraunhofer Institute IPMS Dresden.

Saxony's nanotech companies and research institutions have largely organized themselves in various active networks. An excellent example is the "High Performance Center for Functional Integration of Micro- and Nanoelectronics in Dresden and Chemnitz" that unites four Fraunhofer Institutes as well as researchers from the Dresden and Chemnitz Universities.

Saxony Economic Development Corporation

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axony Economic Development Corporation

The Saxony Economic Development Corporation promotes Saxony as a business location and advises potential investors on relocation projects. Furthermore, the WFS supports Saxony's companies in their export efforts and initiates cooperation with partners outside Saxony.

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Our services include:

- I the latest data on Saxony's economy and business environment,
- I customized business site location services,
- I procurement of contacts with regional decision makers,
- I information on opportunities for financial support and subsidy programs,
- I access to branch networks in Saxony,
- I assistance in opening up new markets, and
- I in initiating cooperative partnerships.

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CreaPhys provides solutions for the organic electronics research and industry to its customers worldwide. We offer molecular compounds at opto-electronic grade (> 99.99%) as well as a purification service of molecular compounds at R&D or production scale. Our proprietary concept allows for the cost-efficient purification of large volumes at high throughputs (up to kg) while maintaining high quality standards.

We offer customized solutions for thin film deposition for R&D and for production. Our portfolio ranges from single components, like deposition sources for molecular compounds (linear sources) and metals to entire vacuum deposition systems. Our well-established solutions can be combined in a customized setup to meet the individual needs of scientific research.

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Contact Ms. Jessica Hempel E-Mail jessica.hempel@creaphys.com Internet www.creaphys.com Fraunhofer Institute for Organic Electronics, Electron Beam and Plasma Technology FEP



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, plasmaassisted large-area and precision coating, roll-to-roll technologies, development of technological key components 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 flex-ible 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.

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Fraunhofer Institute for Material and Beam Technology IWS



The Fraunhofer IWS portfolio includes two overlapping working areas: the laser and the surface technology. The R&D work is based on a solid materials science background and extensive technical capabilities for materials and component characterization.

Materials are a central key element of today's manufacturing technology. On the other hand, the field of nanotechnology is increasingly gaining importance in both materials development and manufacturing. The Fraunhofer IWS offers one-stop-solutions usually derived from novel concepts, which are based on the holistic analysis of manufacturing systems, processes, materials and component performance. The IWS continuously expands its facilities, which guarantees an efficient project execution utilizing state-of-the-art and hightech equipment.

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Life Science Inkubator Sachsen GmbH & Co. KG



We produce tailored single-walled carbon nanotubes, in particular highly pure semiconducting carbon nanotubes (s-CNTs). We also develop and produce s-CNT based detector chips for application in biosensors, gas sensors and flexible electronics. We also test our s-CNT based detectors in prototype devices of our partners.

Our s-CNT based gas sensors are highly efficient: they work and room temperature, consume less than 1 μ W power and have low detection limit (e.g., 100 ppb for ammonia gas). Such sensors are suitable for Internet-of-Things, environment monitoring or point-of-care diagnostic applications. Moreover, we have developed a compact 64-channel gas sensor for the detection of complex gas mixtures and smells (electronic nose) using our Al-based software.

Our team is looking for partners in Japan for joint development and validation of s-CNT based end-applications like multi-gas sensors, biosensors, transparent and flexible backplanes and other.

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LuxChemtech 🔘

The need to address end-of-life issues early in the design stage of product development is also clearly illustrated by the history of the electronics industry. We cannot afford to wait for the inevitable tidal wave of WEEE waste (including photovoltaic scrap) before we begin to address this problem and we have to handle enough scrap for now. Without economic and ecologic valuable recycling programs, defective and decommissioned (also EOL) solar PV equipment and other high tech products will enter the waste stream. It will end up in landfills (where toxic compounds can leach into groundwater) or incinerators (where burning can release toxic compounds into the air). Learn more about our new and innovative technologies for the recycling of nano silver and thin film layers from semiconductor materials. LuxChemtech has set itself the goal of continuing and expanding the recycling activities of the SolarWorld, that's why we can produce flat multi-crystalline silicon targets.

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Nanotech Digital GmbH



Nanotech Digital GmbH is a highly experienced engineering company that supports materials, equipment, and component technologies related to semiconductor, display & battery industry. Our main business field is a development of transparent electrode with graphene, engineering services of semiconductor & display equipment and parts.

We are also Europe Head Office of 'SEC Co., Ltd.' SEC is the best inspection system company developing & selling industrial X-ray inspection system and SEM.

Our main business field is :

- I Transparent electrode Film with graphene and Semiconductor Equipment & Components
- X-ray System 3D Inspection (Void, Cu Filar, Package) for Mass Production
- Tabletop SEM & EDS System Ion Sputter Coaters
- Application Products : Transparent Electrode Film, Flexible Film Heaters
- Semiconductor Equipment : Sputter, Evaporator, Stepper, Track
- Components : Si, SiC, Equipment consumerble Parts, Vacuum Valve, Evaporation Cell, Bellows Parts, LAM Parts

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OES Organic Electronics Saxony Management GmbH





- I Organic Electronics Saxony (OES) is Europe's leading cluster for organic, printed and flexible electronics.
- I Global leading companies, hidden champions, promising start-ups as well as specialized technology centers are combined in the competence network and cover the whole value chain.
- With the "SenSa" innovation cluster for sensor techologies a digital network operators along axes of the sensor is to be promoted. The networking is to take place across sectors using the existing structures, such as the technology networks, industry networks and the Saxony Economic Development Corporation.

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