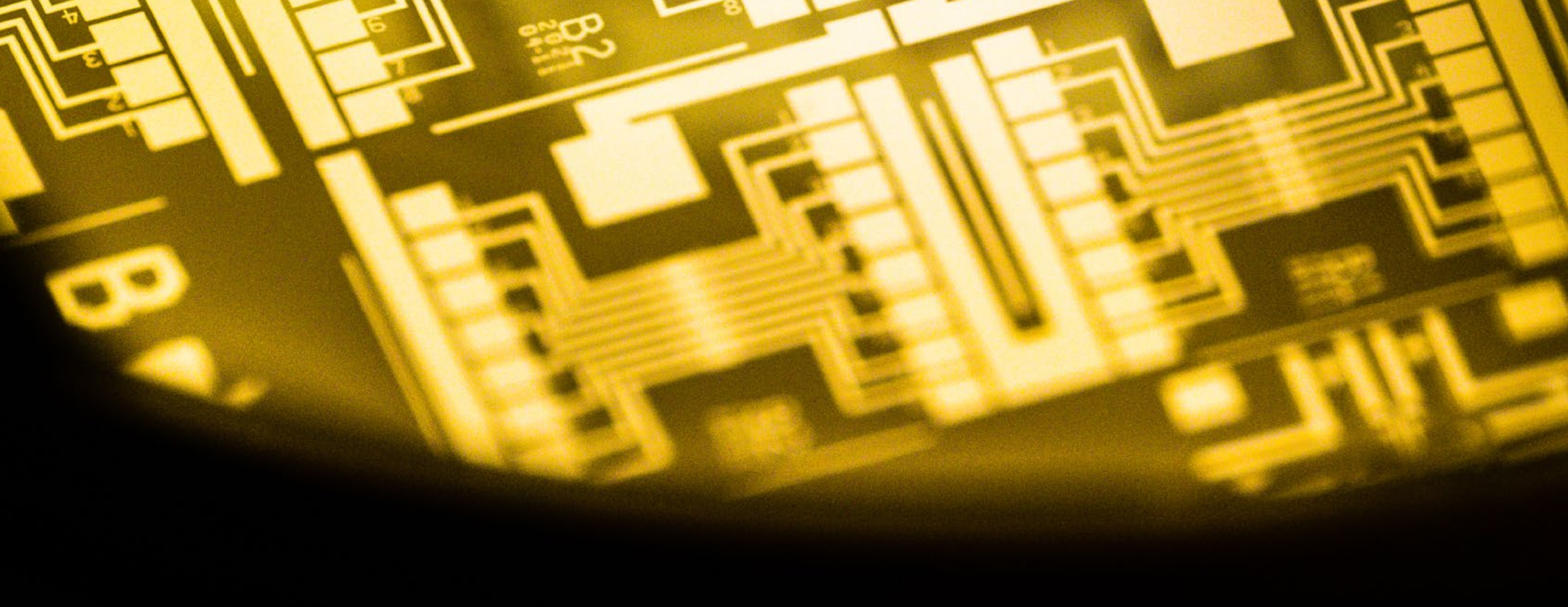


Investment opportunities in Materials

Region Östergötland

Linköping

Norrköping

ÖSTERGÖTLAND

Östergötland is a leading region within advanced materials technology, where research excellence, strong industrial capacity, and coordinated innovation support work together to accelerate development and commercialization. Linköping University plays a central role, offering world-class expertise in areas such as semiconductors, thin-film technology, printed and organic electronics, metals, polymers, composites, and emerging sustainable materials. Through institutions and departments including Department of Physics, Chemistry and Biology (IFM), Laboratory of Organic Electronics (LOE), and Center for Materials Science (KMAT), the university enables cutting-edge research closely linked to industrial needs.

The region hosts a broad and expanding ecosystem of companies across the materials value chain — from metal and composite manufacturing to cellulose-based materials, additive manufacturing, plastics and polymer engineering, as well as electronics and thin-film technologies. Major industries such as Siemens Energy, SAAB, Gränges, Hydro, Arla Plast, Billerud, Holmen, Toyota Material Handling, Väderstad and Svensk Plaståtervinning are complemented by innovative SMEs and research-intensive start-ups that benefit from strong networks and test environments. Innovation actors including the Innovative Materials Arena, Printed Electronics Arena, and LEAD Business Incubator support collaboration, demonstration, and commercialization.

Together, this combination of academic excellence, industrial diversity, and a dynamic innovation system makes Östergötland a powerful platform for the development of future, sustainable material solutions.

Content

Disclaimer: This information is not exhaustive but provides examples of research, companies, and innovation-promoting actors in Östergötland.

Values that Östergötland can offer companies in Materials

Region Östergötland, together with the regional innovation support system, has developed a value proposition for companies considering establishing operations in the region.

This offer is designed to provide meaningful support through access to key support functions, research environments, strategic partnerships, and other resources that help businesses establish themselves in Östergötland. This value proposition includes, among other things, the following benefits:

- **Incubators and innovation support** are offered through actors such as Innovative Materials Arena, LEAD Business Incubator, and Norrköping Science Park.
- **Well-established collaboration** with industry within electronics, energy, and manufacturing creates excellent conditions for companies developing products and services.
- **Access to knowledge** from Linköping University, as well as support in establishing contacts with researchers and students for various assignments (e.g., project and thesis work).
- **Relationship-building activities and networking** with existing industry and potential collaboration partners.
- **Support for innovation development**, commercialization, internationalization, production, and processes.

Regional strengths

Semiconductors

The region has strong competence and infrastructure within semiconductor technology, where the university, industry, and innovation support organizations work together to strengthen regional competitiveness. Linköping University contributes advanced research in materials science, electronics, and nanotechnology, closely linked to industry. Several companies in the region work with design, manufacturing, and integration of semiconductors for global markets such as electronics, automotive, and medtech. The innovation environment is supported by Research Institutes of Sweden (RISE) and other platforms offering testbeds and business development to accelerate commercialization.

Large-scale metal industry

Östergötland is a significant region for heavy metal industry, home to major companies such as SAAB AB, Gränges in Finspång, Siemens Energy, Saab (Bofors) Dynamics, and Hydro Extrusion. The region has a broad industrial base in metal production and machining, ranging from advanced aerospace manufacturing and aluminum rolling to engine, turbine, and metal structure production. A well-developed ecosystem of companies such as Väderstad, Toyota Material Handling, UMS Skeldar and Element Materials Technology fosters innovation and growth. Linköping University contributes world-leading research in metals and composite materials through institutions such as the IFM and KMAT, while research environments in Finspång focus on aluminum technologies. The region also hosts the strong LEAD Business Incubator and innovation platforms such as the Wallenberg Initiative Materials Science for Sustainability (WISE) and the Innovative Materials Arena.

Printed and organic electronics

Östergötland is an international center for printed and organic electronics, where the Laboratory of Organic Electronics at Linköping University plays a key role. Research spans materials development and applications in energy storage, medicine, and IoT, including several breakthroughs in organic electronics. Norrköping Science Park serves as a central hub where research, industry, and innovation collaborate to develop and test new solutions in this technology field. Companies like Ynvisible have established production in the region to leverage the strong research environment. Collaboration between the university, research institutes such as RISE, and industry creates a vibrant ecosystem supporting commercialization and growth of flexible, energy-efficient, and cost-effective components.

Thin-film technology

In thin-film technology, Linköping University is a hub for cutting-edge research in materials science and condensed matter physics. Through institutions such as IFM, advanced research is conducted in thin-film physics, nanotechnology, and materials modelling. This research has led to innovations, patents, and several spin-off companies developing thin-film-based products. The LEAD Business Incubator supports these innovations, while several startups have matured into profitable companies (e. g. Ionbond). Applications span semiconductor growth, hard coatings for tools, thin film materials for fuel cells and the development of smart and sustainable materials, strengthening the region's competitiveness.

Additive manufacturing (3D printing)

Östergötland is developing strong capabilities in additive manufacturing (AM), driven by its established metal industry, advanced materials research, and expanding innovation ecosystem. The region's industrial base — including major actors such as Siemens Energy and SAAB, creates a natural demand for next-generation manufacturing methods that enable lighter components, increased design freedom, and efficient small-series production. Companies in aerospace, energy, and engineering already integrate AM in prototyping, tooling, and component development, supporting faster innovation cycles and improved performance. Linköping University contributes with research in metallic and polymeric materials, surface engineering, materials modelling, and process optimization, enabling the development of high-quality AM components. Research groups within IFM and KMAT work with microstructure control, powder metallurgy, and sustainable production methods, supporting industry in transitioning to additive workflows. Innovative Materials Arena provides a strong supporting platform for collaboration. This combination of industrial need, research excellence, and test infrastructure positions Östergötland as an emerging region for advanced and sustainable additive manufacturing solutions.

Composites

Östergötland has strong and expanding capabilities in composite materials, supported by its advanced manufacturing industries and leading research environments. Major regional companies — including SAAB and Beyond Gravity and other engineering and aerospace actors — rely on high-performance composite solutions for lightweight structures, durability, and energy-efficient design. This creates a robust demand for novel composite materials and production processes that improve performance while reducing environmental impact. Linköping University contributes world-class expertise in polymer and fiber composites, multifunctional materials, and modelling of composite behavior. Research groups at KMAT and IFM, from molecular design and interface engineering to structural performance and sustainability analysis — enables industry to adopt new composite technologies.

Cellulose-based technologies and products

Östergötland has a growing profile within cellulose-based materials, supported by strong regional companies and research expertise in sustainable material development. Companies such as Billerud, Holmen and Sofidel drive innovation in fiber-based packaging, sustainable paper products, and new cellulose-derived materials addressing the need for renewable, recyclable, and low-carbon alternatives to plastics. These industries benefit from the region's long experience in process optimization, materials refinement, and circular resource flows, strengthening competitiveness in both traditional and advanced bio-based applications. Linköping University contributes to this development through interdisciplinary research in materials science, chemistry, and environmental technology, focusing on bio-based composites, nanocellulose, and hybrid materials. Initiatives like WISE, Digital Cellulose Center (DCC) and Wallenberg Wood Science Center (WWSC) support the creation of next-generation cellulose materials with enhanced mechanical properties, barrier functions, or electronic capabilities.

Plastics and polymer-based industry

Östergötland has a strong and diversified plastics and polymer-based industry, driven by companies that supply high-performance materials, specialized components, and large-scale recycling solutions. Large actors such as Arla Plast and Svensk Plaståtervinning as well as SMEs like

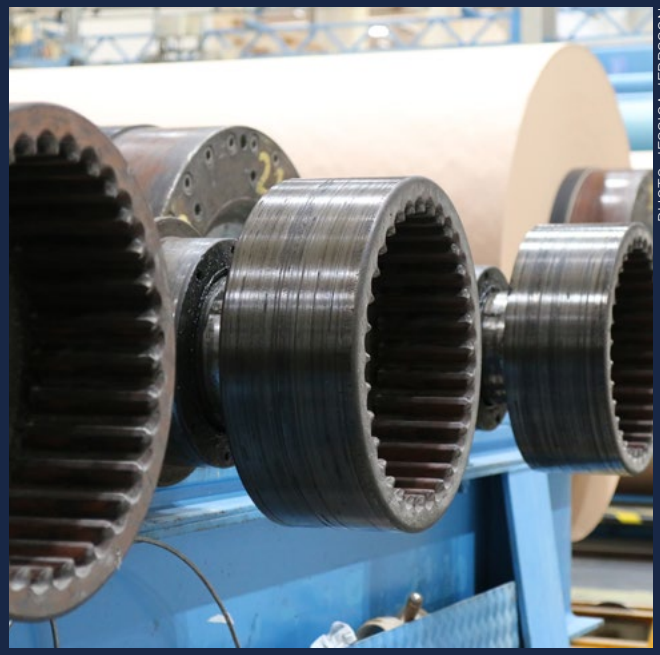


PHOTO: JESSICA JEPPSSON

Paper production at Holmen's facility outside Norrköping.

Inplastor and Teknoplast, all in or close to Motala, contribute to a dynamic value chain ranging from polymer sheet production and precision manufacturing to advanced circular material flows. At the system level, Svensk Plaståtervinning in Motala plays a national and increasingly international role in driving circularity in plastics. Operating the world-leading Site Zero facility, the company manages large-scale sorting and recycling of plastic packaging, enabling high material recovery rates and supporting Sweden's transition towards a circular plastics economy. Linköping University strengthens this industrial landscape through research in polymer chemistry, functional plastics, thin-film materials, and sustainable material systems.

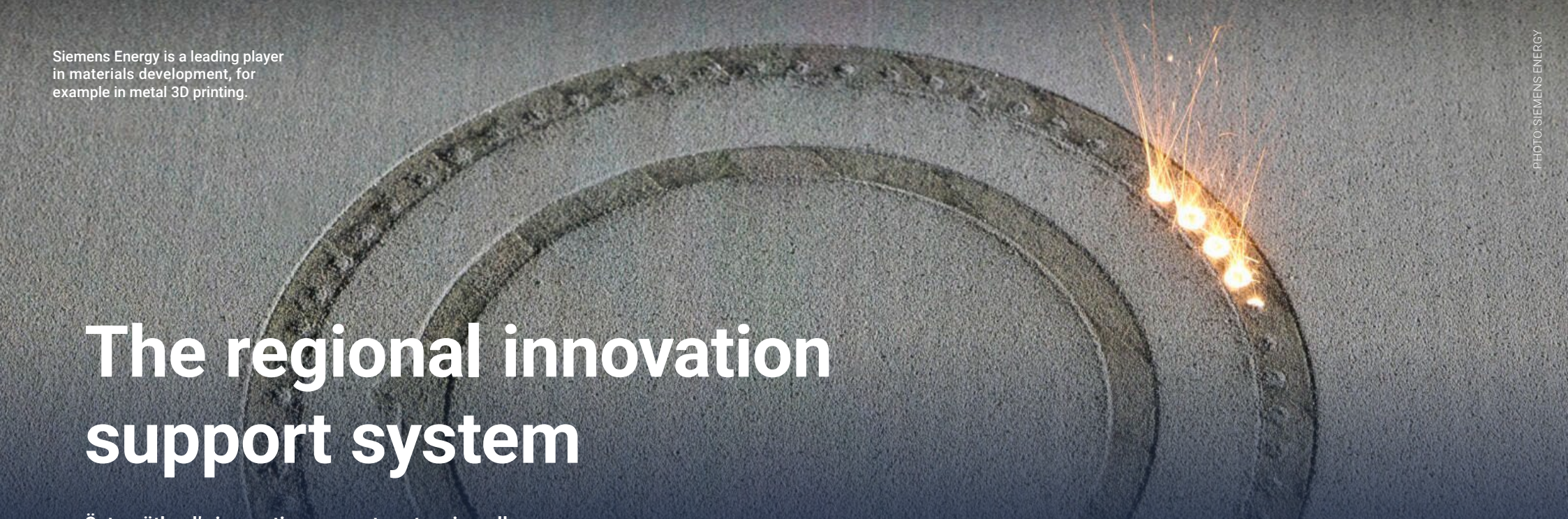
Industrial structure

Östergötland has a broad and well-developed industrial structure within the materials domain, characterized by strong industrial diversity and close integration between research, innovation support, and industrial application. The region hosts activities across a wide range of material areas, including metals, polymers and plastics, composites, bio-based and cellulose-derived materials, semiconductors, thin films, and printed and organic electronics.

The industrial landscape spans the full materials value chain — from fundamental research and material design to pilot-scale development, industrial manufacturing, and system integration. This breadth enables cross-sectoral knowledge transfer and the combination of different material technologies in advanced products and production processes. Established manufacturing industries coexist with emerging technology fields, creating a dynamic environment that supports both incremental improvements and the development of new material-based solutions.

A key strength of the regional industrial structure is the close and long-standing collaboration between industry and academia. Proximity to Linköping University provides access to advanced research competence, specialized infrastructure, and a continuous supply of highly skilled engineers and researchers. Joint research projects, testbeds, and innovation platforms support rapid knowledge transfer and facilitate the transition from research results to industrial implementation.

Together, the scale of industrial activity, the diversity of material domains, and the strong links between research and industry form a resilient and future-oriented industrial structure. This ecosystem supports competitiveness, sustainability, and innovation across a wide range of material technologies and application areas.



Siemens Energy is a leading player in materials development, for example in metal 3D printing.

PHOTO: SIEMENS ENERGY

The regional innovation support system

Östergötland's innovation support system is well developed and built on a long tradition of collaboration between academia, industry, the public sector, and entrepreneurs. The support network includes a wide range of actors offering assistance throughout the innovation journey — from early ideas to internationally established companies.

- **LiU Innovation** provides advice and support to students, researchers, and employees on idea development, business creation, and financing.
- **LEAD Business Incubator** offers programs and resources for entrepreneurs seeking faster and more secure growth, whether through research-based spin-offs or new startups.

Key actors strengthening Materials development in the region include:

Innovative Materials Arena Offers Sweden's largest network of stakeholders in the field of innovative materials, with a broad and well-established base of SMEs, industry, and academia spanning a wide range of material domains. It supports the initiation of new development projects, competence-building activities for industry within specific material areas, and a physical platform for meetings and problem-driven innovation.

Norrköping Science Park strengthens innovation in organic electronics by connecting startups, industry, academia, and the public sector. It supports the development, testing, and commercialization of printed and flexible electronic technologies through innovation projects, testbeds, and business support.

RISE Research Institutes of Sweden provides research and innovation support in materials science and production technology. With access to advanced test and demonstration facilities, RISE enables companies to develop and scale new materials solutions cost-effectively.

Examples of support areas include:

- Identifying resource flows for production
- Finding industrial collaboration partners
- Find researchers that can support industrial material development
- Production and process analysis
- Business model analysis
- Identification of public funding opportunities
- Establishing contacts to public actors relevant to planned establishments.

Research at Linköping University

Linköping University is a strong actor in the Materials area, with particular focus on materials science, nanotechnology, and materials design.

The research is interdisciplinary and includes the development of new sustainable materials and advanced production methods, where links between physics, chemistry, and engineering are central. The university collaborates closely with industry, including Siemens Energy, which enables practical application and commercialization of research results.

Education

Linköping University has about 45,000 students across four campuses, including ca 20 000 distance and off-site learners. The university offers 135 degree programs — 32 of which are international — and about 700 standalone courses. With exchange agreements with 400 universities in 50 countries, LiU hosts around 1,700 international students annually and awards about 2,600 bachelor's and 3,100 master's degrees each year. Linköping University is the only university in Sweden to offer an English taught civil engineering programme with an international profile and inbuilt studies abroad. Since many years Linköping University ranks number one in Sweden on both having the highest percentage of students successfully entering the job market upon graduation and doing it quickly.

Research and doctoral training

The university has 364 professors and 1,300 doctoral students. On average, 28 licentiates and 161 PhDs graduate each year, reflecting the strong research environment and active doctoral training.

Relevant departments

Several departments at Linköping University conduct research and education directly relevant to the materials field, contributing cutting-edge expertise in areas such as thin-film technology, semiconductor materials, and organic electronics:

- **Department of Physics, Chemistry and Biology (IFM)** – research in materials science, physics, chemistry, including nanotechnology, thin-film technology, and advanced materials.
- **Department of Science and Technology (ITN)** – includes the Laboratory of Organic Electronics (LOE) and focuses on developing organic and printed materials for electronics.
- **Department of Management and Engineering (IEI)** – research in innovation processes and production technologies linked to the materials industry.
- **Department of Mathematics, Computer and Information Science (MDT)** – working with modelling and simulation of materials, important for materials design and optimization.
- **Tema Technology and Social Change; Tema Environmental Change; Tema Design** – addressing how technology and materials influence society, sustainability, material use, innovation, and design.

Centers, major initiatives and testbeds

Östergötland hosts a number of research centers, major initiatives, and testbed environments that support collaboration between academia, industry, and the public sector.

Examples of such initiatives and environments in Östergötland include:

Wallenberg Initiative Materials Science for Sustainability (WISE). Enabling sustainable technologies with positive impact on our society by understanding, creating, and controlling complex materials

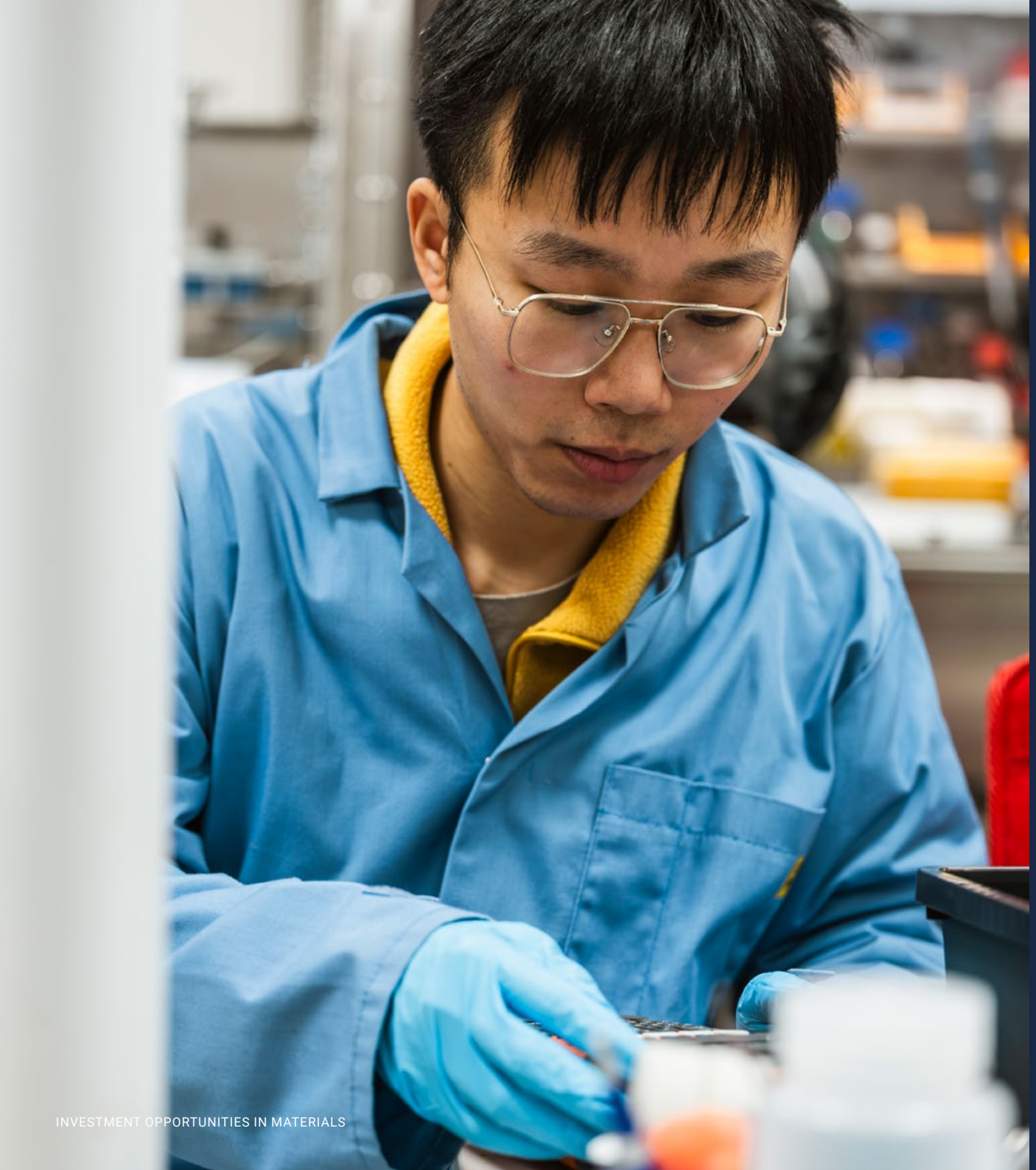
Advanced Functional Materials (AFM) is an interdisciplinary effort in high-quality material research at Linköping University. The aim is to promote groundbreaking research in materials science and contribute to the world's transition towards a sustainable future.

Wallenberg Wood Science Center (WWSC) is a research center with a focus on new materials from trees. The center creates knowledge and builds competence to form the basis for an innovative and sustainable future value creation from forest raw materials.

Center for Materials Science (KMAT) is a multidisciplinary research center gathering experts to advance material research and applications. Work spans composites, nanomaterials, organic and functional materials, supported by experimental research, theoretical modelling, and AI-driven simulations. Applications include energy storage, bioelectronics, semiconductors, and printed electronics.

Printed Electronics Arena enables testing and demonstration of printed and organic electronics, while the **Innovative Materials Arena** provides guidance to advanced equipment and collaboration opportunities.

Laboratory of Organic Electronics (LOE) includes cleanroom, surface physics, and printed electronics facilities used for synthesis, characterization, and manufacturing of organic and hybrid materials.



Skills supply

Linköping University ranks among the top 2 % of universities worldwide in several international rankings. The university has a strong focus on engineering education.

Programs relevant to Materials include, among others:

- Master's in Materials Physics and Nanoscience
- Master's in Materials Science and Engineering
- Master's in Materials Science and Nanotechnology
- Master's in Science and Engineering of Soft Materials
- MSc in Mechanical Engineering

Linköping University also offers customized professional education tailored to organizational needs.

Financing

National level

Sweden's innovation and support system for research, development, and investment operates at both national and regional levels, complemented by dedicated investment and transition programs for industry.

At the national level, the government and public agencies create frameworks, funding, and guidelines for innovation and commercialization, including:

- Research funding
- National innovation programs and collaboration platforms
- Special investment grants for transition, commercialization, or pilot-scale projects

Examples of national programs:

- **Klimatklivet** – Investment support for companies, municipalities, regions, and organizations implementing measures that reduce greenhouse gas emissions (e.g. charging infrastructure, biogas production, circular flows).
- **Industriklivet** – Support program targeting industrial transformation to fossil-free or carbon-negative solutions, financing feasibility studies, pilot and demonstration projects, and investments in transition technologies.

Regional level

Regions manage their own regional development funds and play an important role in implementing the European Regional Development Fund (ERDF), which promotes innovation and business-related development. Support may be granted to companies for R&D activities or to innovation support actors working to develop businesses, industries, and value chains.

Additionally, Almi Företagspartner offers both business development services and financing in the form of loans and venture capital.

As eligibility criteria and conditions for innovation and investment support may change, interested actors are encouraged to consult the latest information on the respective authorities' websites.

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