

# Program description Smarter Electronic Systems

A strategic innovation program to increase competitiveness and growth in Swedish industry

With support from

**VINNOVA**  
Sweden's Innovation Agency

 Swedish  
Energy Agency

**FORMAS** 

Strategic  
innovation  
programmes

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## Smarter Electronic Systems

Smarter Electronics Systems is a strategic innovation program to increase competitiveness and growth in Swedish industry. The work takes place in broad collaboration between industry representatives, research institutes and universities.

Sweden is a world-class industrial country. A strong contributing factor to this is that Sweden's electronics system is world-class. Electronics systems operate to the highest degree cross-sectorally. They are part of more and more contexts and constitute an ever larger and more important share in the products and production systems that exist and are developed in various industries, thus increasing the market.

Smart electronics systems are increasingly in demand as new effective solutions must be found to meet the many global challenges facing the world, such as demands for the development of renewable energy sources, streamlining energy production, energy saving, long-term sustainable environment and care for a growing and an increasingly aging population.

For Sweden and Swedish players to be able to be competitive on smart electronics systems also in the future, we need to meet three main challenges:

### Value Chain

Improve collaboration and increase efficiency in value chains

### Top Areas

Maintain and further develop national leadership in key areas

### Skills supply

Secure the supply of skills

*The Smarter Electronic Systems program works continuously with these three challenges.*

*You can also be involved in developing the opportunities, for example through involvement in our program councils or by participating in the announcements and events we organize.*

# Vision

**In 2025, Sweden will continue to be a world-class industrial country. In virtually all areas where you are dependent on advanced technology, Swedish (or originally Swedish) companies are at the absolute top of the world.**

A large part of the reason is that we are world class in terms of electronic systems. Electronics systems operate to the highest degree cross-sectorally. They are part of more and more contexts and constitute an ever larger and more important share in the products and services that exist and are developed within in various industries. This increases the market. Smart electronics systems will be increasingly in demand as new effective solutions must be found to meet the many global challenges facing the world, such as demands for the development of renewable energy sources, streamlining energy production, energy saving, long-term sustainable environment and care. a growing and increasingly aging population.

In 2025, Sweden is a country that is very attractive for electronics-dependent companies of all sizes, as there is a geographical proximity to thriving research and industry which, with its efficiency and cutting-edge expertise, provides good anchoring for companies through a favorable climate to operate in.

Efficiency in electronic systems R&D is ensured by well-functioning collaboration functions between all actors involved. The area of smart electronic systems is characterized by high accuracy, as all the players involved have both good will and good conditions to meet each other's conditions.

As a result of Swedish players in smart electronics systems refining their cutting-edge expertise in the areas where Sweden has the best conditions to be stronger than the competition, we are a world leader in these areas. The connection to the needs picture on the market side is well thought out, clear and successful.

The area of smart electronics systems is supplied with competent staff from an education system that is well connected to both the research and industry's prerequisites through relevant study subjects, marked elements of "industrial reality" in undergraduate education and well-functioning academic development opportunities.

# Vision

Overall, the 2025 world map of electronics development is very different from today, and Sweden has secured a leading position. The analogy "to be with when the train leaves" is appropriate but not sufficient.

In 2025, Sweden has not only stepped on the train; we have also acted as train drivers in selected areas and also identified where new rails are to be built in unpaved terrain.

In short, the electronics industry has the potential for strong growth in both the short and long term. A competent and competitive electronics industry is a basic prerequisite for a successful and internationally competitive industry as a whole. Sweden has every reason and every opportunity to secure its world-class position. But the position must be earned - continuously.

## Short facts

Sweden has over 3,500 electronics companies with sales of SEK 172 billion and employs just over 57,000 Swedes (2017). We add to companies where electronics are a crucial component of our own product, we reach a total turnover of over SEK 1,150 billion and over 310,000 employees.

The part of the industry that produces electronics has had a growth of 14% in the number of employees since 2011 and that is more than the average for Swedish business.

The two groups, those that produce electronics and those that manufacture products with crucial electronics content, account for 7% of Sweden's GDP and 6% of those employed in Sweden.

# Organisation

## The board

Ulla-Britt Fräjdin-Hellqvist, President  
Mats Sundin, Veoneer AB  
Rickard Åström,  
Maria Månsson, Prevas AB  
Mikael Joki, Ordf. Svensk Elektronik  
Christina Hugosson, Effic AB

Tommy Noaksson, ABB Process Automation  
Charlotte Karlsson, RISE ICT  
Christoffer Levandowski, QRTEch AB  
Jerker Delsing, Luleå Tekniska Universitet  
Carl-Mikael Zetterling, KTH  
Maria Linnér, Holmbergs Digital Safety AB

## Program office

Magnus Svensson, Program Manager  
Thorbjörn Ebefors, Deputy Program Manager  
and Internationalization Manager

Therese Forsén, Communicator

## Program advice

There are three program councils, each of which responds to the three main challenges that are in focus for Smarter Electronics Systems.

The councils propose activities and initiatives. The board is decisive. The councils include professionals from the industry, who want to influence and participate in the work within each council's area.

Each council is led by people from the board and the program office:

Each council is chaired by a board representative and a representative from the program office.

Those who want to participate in the councils are warmly welcome to contact those responsible for the councils.

## Value Chain

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## Top Areas

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Magnus Svensson, Program office  
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## Skills Supply

Magnus Svensson, Program office  
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# Organisation

## International collaborations

From 2018, the program increased its focus on strengthening Swedish companies' participation in international project consortium. We build networks with organizations similar to Smarter Electronics Systems in other countries and help Swedish companies find international partners. The main person in charge is Deputy Program Director Thorbjörn Ebefors.

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## Agenda

Research and innovation agenda Smarter Electronic Systems that form the basis for the program was presented in the autumn of 2013.

The agenda was developed under the leadership of the following working group:

Leif Ljungqvist, Acreo Swedish ICT

Jan Y Andersson, Acreo Swedish ICT

Louise Felldin, Acreo Swedish ICT

Maria Månsson, Prevas, Branschorganisationen Svensk Elektronik

Lena Norder, Branschorganisationen Svensk Elektronik

Dag Andersson, Swerea IVF

Pierre-Yves Fonjallaz, PhotonicSweden

Dag Jungenfeldt, Chalmers

Staffan Norrga, KTH



# Organisation

## Nomination Committee

The program wants to be relevant to all need owners and at the same time be open to new forces to get involved. To ensure this, the program has appointed a nomination committee with an independent chairman, Olle Hulteberg, Inission.

Others on the nomination committee are Leif Ljungqvist, Jerker Delsing and Ulla-Britt Fräjdin-Hellqvist.

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**Smartare  
Elektroniksystem**

ELECTRONIC COMPONENTS & SYSTEMS

# Our three challenges

In 2025, Sweden will continue to be a world-class industrial country. In virtually all areas where you are dependent on advanced technology, Swedish (or originally Swedish) companies are at the absolute top of the world.

## Challenge 1:

### Create better knowledge transfer and collaboration in value chains

- » • Knowledge transfer
- » • Greater collaboration between actors in the entire value chain
- » Research
- » Technology development
- » Manufacturer
- » Distribution
- » Large and SMEs
- Makes new demands on:
  - » Overview
  - » Customer competence
  - » Communication
  - » Commercialization

## Challenge 2:

### Maintain and develop Swedish top areas

- Micro- & nanoelectronics
- Printed electronics
- Power electronics
- Photonics
- Antenna, microwave and terahertz
- Sensors
- Built-in systems
- Construction method
- Reliability
- Advanced production technology

## Challenge 3:

### Create a more secure supply of skills

- Get the applicant to technical education levels
- Link educational content and industrial needs
- Retain skilled labor in Sweden



# Gender equality strategy

The vision is an industry where there is equal treatment and non-discrimination regardless of gender, ethnic or cultural background. The goal is for all women and men to have the same opportunity to shape their careers and private lives.

The vision is an industry where there is equal treatment and non-discrimination regardless of gender, ethnic or cultural background. The goal is for all women and men to have the same opportunity to shape their careers and private lives. Smarter Electronics Systems believes that gender equality in research, development and manufacturing is a quality issue. Quality and renewal are promoted if both women's and men's experience and competence are used. Smarter Electronics Systems also believes that women and men should have the same opportunity for careers in the industry.

Gender equality in the electronics industry is also a recruitment issue and Smartare Elektroniksystem is working to broaden recruitment to the industry. Efforts to achieve the goal include, through the impact on the education system, a long-term contribution to changing the numerical bias in educations relevant to the industry. Smarter Electronics Systems also work with the visibility of role models and positive discrimination of under-represented groups when merits are otherwise equal. For the distribution of the programme's resources in open calls, Smartare Elektroniksystems follows Vinnova's recommendations on writings regarding gender equality. When recruiting to the program board and appointing other positions within the program, the gender perspective must always be taken into account.

## Concrete measures

The program is seen as one of the most important tasks to increase the proportion of women in the industry in the long term. The program contributes to this through information initiatives aimed at SYV and teachers, as well as initiatives aimed at students that aim to increase interest in technology in general and electronics in particular. The project Attraction for the future, which is being implemented by the Technical Museum within the collaboration programs, was initiated by Smartare Elektroniksystem. The project aims to give all students in primary school a positive attitude towards technology and science.

Smartare Elektroniksystem runs an individual project that develops an NTA theme that is intended to be used primarily in technology education but has connections to several other subjects. The new NTA theme is primarily intended for years 7-9 in primary school and will give all students an knowledge of some important electronic components and how these can be used with the help of programming to influence and control important functions in a modern society. Teaching materials and laboratory work are designed to attract and show that everyone is needed in the electronics industry of the future.

In all election situations, it is important for those who can imagine being on their way into the industry to make role models visible. It is especially important that under-represented groups are offered opportunities to discuss their situation with someone you can identify with.

# 2

# Project Competence hub

The purpose of the competence hub is to create national coordination to make it easier to find competence within these top and focus areas and thereby facilitate problem solving and collaborations. The task of the competence hub is, in addition to having its own knowledge, also to know which others have cutting-edge knowledge in the area and to create collaboration - to be just a hub. All to strengthen innovation, competitiveness and growth.



### Competence hub for antenna, microwave and terahertz systems

Antenna, microwave and terahertz systems (AMT) are an important electronics area for several Swedish industrial industries such as telecom, defense, space, transport and medical technology. AMT enables wireless communication and sensors in the GHz range. The competence node AMT brings together Swedish stakeholders from component to system.



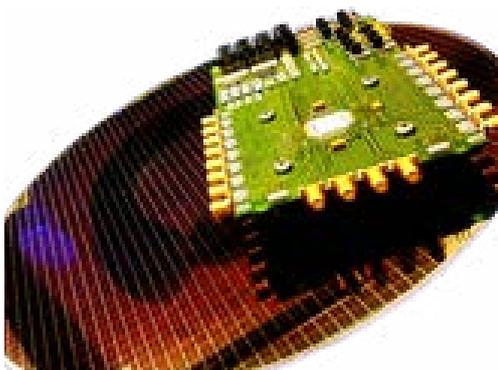
### Competence hub for printed electronics

Printed Electronics is a growing technology area that is based on a class of organic materials which make it possible to use, for example, common printing methods that are currently used in printing on paper, cardboard and plastic to manufacture electronic and bio-electronic components and systems.



### Competence hub Photonics

Optics - is the science that deals with the generation and reproduction of light - and which can be traced back to the scientific works of the sixteenth century by famous scientists. The term "photonics" can be defined as "engineering application of light", which means the use of light to detect, transmit, store and process information, to capture and display images, and to generate energy.



### Competence hub MikroNanoElektronik

Products and processes in society and industry today are increasingly dependent on micro / nanoelectronics. One trend is, for example, that sensors communicate with each other and with the Internet, wirelessly and energy-efficiently, for measuring and controlling industrial processes, or generally for adapting the environment to human needs, for the benefit of industry and society. The technology is revolutionized by new advanced materials such as graphene.

# Kompetensnav



## Competence Hub Embedded Systems

The competence hub for embedded systems gathers contacts with a wide range of knowledge in order to strengthen Swedish industry through collaboration. The hub gathers expertise in areas such as system integration, wireless technologies, built-in software, testing and more for a variety of applications of built-in systems.



## Competence hub Construction method - Cross Connect

Electronic components and systems are a prerequisite for many products and services in Swedish industry. Trends in recent years have been increased integration and the use of innovative manufacturing methods such as construction methods in 3D, System-on-Chip, Network-on-Chip and printed electronics.



## Competence hub Power electronics

Power electronics are more relevant today than ever. The reason is that sustainable development leads to increasing use of electrical energy. This increasing demand creates demands for electrical energy savings and more efficient use. This means more widespread use of power electronic systems and the need for high-efficiency energy converter systems.



## Competence hub Reliable electronics hardware

The rapid development of electronic hardware entails demands for higher reliability know-how in order to ensure reliability early in the development process. Availability of reliability know-how and resources for reliability testing will be crucial for Swedish electronics companies' competitiveness.

## Secondary competence hubs

These are granted to primarily carry out the described activities in close collaboration with LTU - Competence hub for embedded systems and Mid Sweden University respectively - Competence hub for MikroNanoElektronik

## Competence hub built-in sensors systems for health

The competence hub intends to strengthen the Swedish innovation system within electronic components and systems within the top and focus area embedded systems and the market area medical technology / life science. The initiatives planned will be focused on three important challenges / areas:

Create better knowledge transfer and collaboration in value chains

2. Maintain and develop Swedish top areas

Create a more secure supply of skills.

## Competence hub with focus on integrated circuits and systems

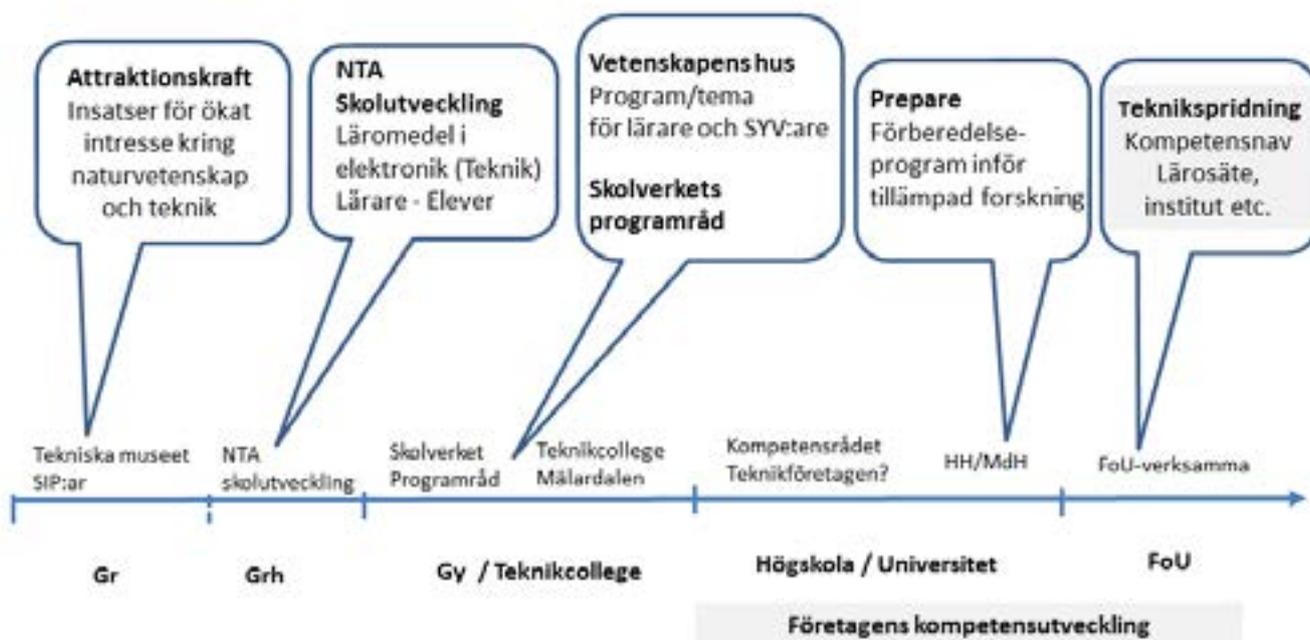
Electronic circuits and systems are important components for all cutting-edge areas within the Smarter Electronics Systems program. In Sweden, the competence for the design of integrated circuits and systems plays an important role in being able to miniaturize and generally streamline new solutions and products.

# Skills supply



## Kompetensförsörjning

- vad gör vi och var finns vi med?



## Prepare

Smarter Electronics Systems finances project funding at two higher education institutions, Mälardalen University and Halmstad University for the development and introduction of preparatory programs for industry-related doctoral education aimed primarily at professionals in the electronics industry (SME). Prepare will contribute to increased understanding of postgraduate studies and that more people in SME companies qualify for doctoral studies in electronics.

Through the program, which is intended to form a bridge between a basic education and a doctoral education, prospective doctoral students and companies for 6-12 months can get an introduction to research and a better understanding of doctoral studies, what opportunities it provides a SMEs, and to identify appropriate research issues. For the individual, it may be that the subject-specific basic education is far back in time or perhaps there are no formal admission requirements. For companies, it can be a matter of getting a good basis for a decision to allow an employee to become an industrial doctoral student. The target group is technical staff in small and medium-sized companies with the ambition of becoming industrial doctoral students in the field of electronics.

An increased number of industrial doctoral students in Sweden is an important part of the transfer of knowledge between academia and industry. A Prepare program is expected to make it easier for professionals to further their education. Even if the participation in the Prepare program does not lead to a completed doctoral program, the Prepare period will give the participants insight into scientific work in industry-relevant projects, something that is valuable for the Swedish electronics industry.

# Attraction

Securing the supply of skills is seen as one of the main challenges for the Swedish electronics industry. The overall goal of the Attraction project is to increase the proportion of students who choose a program that is relevant to a future employment in upper secondary school in

Recruitment to upper secondary school is a common issue for many of the strategic innovation programs. The completed part 1 of the project has been about identifying and evaluating existing initiatives to create increased technology interest among young people. At a later stage, the goal, together with other strategic innovation programs, is to scale up one or more of these initiatives so that they make a real difference at the national level. Another goal achieved with the project was to understand the need for information materials in and establish communication channels for teachers and study counselors so that they can disseminate information about the electronics industry and its significance for Sweden as an industrial nation. Implemented on a larger scale, information, inspiration and education will increase teachers' and study counselors' ability to convey the industry's competence needs. This in turn leads to increased interest among young people to work with the challenges that the industry and society face.

## Results

*A detailed description of the results from the project up to the summer of 2016 can be read in the report: [Attraktionskraft del 1](#).*

The network with important players in skills supply such as:

- The National Agency for Education
- Guidance counselors
- Arbetsförmedlingen
- The electronics industry in Sweden

**The next step was proposed and is in progress / has been completed**

- Teaching materials for primary school> NTA them
- Cooperation with other SIPs
- The National Agency for Education's program council
- Joint events in the network

**Examples of actors to collaborate with:**

- Science Center  
> Technical Museum m.m.
- KomTek
- The NTA organization  
> Theme boxes
- Technology companies
- House of Science
- CETIS
- Swedish higher education institutions

# NTA project

Smarter Electronic Systems wants to make visible and increase interest in electronics and programming

## Background

The program Smarter electronic systems works to secure the long-term supply of skills to the Swedish electronics industry. This takes place at several levels in the Swedish education system.

The curriculum in the subject Technology in compulsory school has changed and from 2018, all students will have 200 hours teaching the subject. In addition, it is stated that basic understanding of digital technology and programming should come in, which opens up for the electronics field to be clarified in teaching in a completely new way than before. It is about increasing students' interest in technology and science and about demonstrating the possibilities of electronics to solve everything from simple everyday problems to major societal challenges.

## Goal and purpose

The aim and purpose of the initiative is to, in collaboration with NTA, produce teaching materials in the form of so-called NTA theme. The content of the themes will make digital technology visible in products and services and how this technology works affected people and society and its consequences.

## Target groups and content

The teaching aid is divided into two themes, Smarter Products for years 4 - 7 and The smarter city for years 6 - 9. Furthermore, the content of the two themes is built around the so-called mission.

The Micro: bit platform from England and the BBC uses an electronics system with a microcomputer with an associated development environment for the laboratory elements. The programming is done with s.k. block programming, where the engineering process's design process is included in the teaching assignment.

The two themes are completely in line with the activities that the program Smarter electronic systems does around competence supply. The launch of the first theme Smarter Products has begun in education in the autumn of 2019 and the theme The Smarter City was launched on December 8, 2020 and will be rolled out to education in 2021.

## Collaboration with NTA and other organizations

Smarter electronics systems work in networks and the choice to collaborate with NTA Skolutveckling was made after a careful evaluation of the possibilities for large distribution with qualitative content. NTA stands for Science and Technology for All.

Other organizations such as CETIS (Center for Technology in Schools) and the Swedish Research Council within the NTA organization are also involved in the collaboration and development process. Advisors to the National Agency for Education are also part of one of the working groups.

[Read more about NTA](#)

[Read more about the theme Smartare Produkter.](#)

[Read more about the theme Den smartare staden](#)

# Internationalization



Our strategic efforts in the area of internationalization aim to increase Swedish participation in the EU's research programs, such as H2020, ECSEL and Eureka.

Contact information: Thorbjörn Ebefors, Deputy Program Manager and internationalization manager, [thorbjorn.ebefors@smartareelektroniksystem.se](mailto:thorbjorn.ebefors@smartareelektroniksystem.se)

Smarter electronics systems work actively to help companies reach out internationally with networking. For several years now, several players have been making major strategic investments in Digitization with smarter electronics systems and its strategic technology areas in electronics, components and systems (ECS) as significant enablers called key technologies (KETs) for this digitization. Vinnova develops and manages a number of programs that will contribute to strengthening Sweden's competitiveness in several related areas, where our Strategic Innovation Program is one. These initiatives need increased support for internationalization activities and collaboration between actors, in addition to a coherent value chain from research to innovation. Smarter electronics systems work closely collaboration with other Swedish SIPs as well as with our sister organization in the ECS area in Italy, Austria and Germany.

## **The Program Office's Internationalization activities will facilitate**

- International presence
- International collaborations
- Influence on the program office's and Sweden's strategic investments and monitor synergies between the Swedish and European / International ecosystems' strategic roadmaps within the ECS area.

# Internationalization

## Our activities support:

- The companies in the Smarter Electronics Systems project portfolio companies and other stakeholders
- The program's needs owners for International contacts, projects and business
- Upcoming Strategic Innovation agendas and roadmaps via monitoring of corresponding international strategy work and roadmaps

The work includes H2020 and subsequent 9th Framework Programs (Horizon Europe) and other collaboration opportunities within European and non-European international research and innovation (R&I) programs such as EIC, EUREKA and ECSEL JU. It must be continuously reconciled and synchronized with other relevant groupings. The intention is that we will complement and benefit from existing actors and networks in the implementation and our influence and internationalization work at EU level.

Some of these actors we work with are (click for more information):

- [EUSME support kontoret](#)
- [Tillväxtverket och EEN](#)
- [Svenska utländska kontoren inom EIT Digital](#)
- [Business Swedens olika internationaliserings program](#)
- [Vinnovas internationaliserings avdelning](#)



# Internationalization

## Previous international events

In 2019, the program office participated in various International events, a selection:

**ECSEL 2019 Helsinki 19-21 November**

EF ECS 2019 - European Forum for Electronics Components and Systems is co-organized between ECSEL-JU, EPoSS, AENAS, ARTEMIS-IA and the European Commission in collaboration with EUREKA and focuses on "our Digital Future" and the Electronic Components and Systems (ECS) throughout the value chain within Europe. This annual international forum will be held in 2019 in Finland. EF ECS provides many opportunities to learn more about the latest development, cooperation and funding opportunities in the ECS sector.

The smarter electronics systems program office participated and coordinated an industry delegation of about 10 Swedish companies. Some participants combined EF ECS with participating in SLUSH in direct connection. SLUSH is one of the world's major tech events that annually attracts more than 25,000 visitors to the event in Helsinki. Magnus and Thorbjörn, from the program office, were on site in Helsinki and together with representatives from Digital Sweden, the Swedish electronics industry was shown in a Swedish stand where a selection of our Swedish smarter electronics projects and our 350+ companies and other stakeholders from our Swedish electronics project portfolio was presented.



### **ECSEL Symposium Rumänien 17-18 juni**

The program office's representatives, Magnus and Thorbjörn, were present in Bucharest and together with representatives from Digital Sweden, the Swedish electronics industry showed up at a Swedish stand where a selection of Smartare Elektroniksystem projects was presented.

### **EUREKA Global Innovation Summit Manchester 14-16 maj**

Smarter Elektroniksystem's representatives Magnus Svensson and Thorbjörn Ebefors were on site in Manchester with just over 2,000 other participants from more than 50 countries. They participated in Vinnova's breakfast seminar and in the EUREKA Innovation conference as well as Korea's Eureka Day where about 100 Korean SMEs pitched project ideas where they want international collaborations within the Eureka clusters or Eurostars programs. Also 10 Canadian companies in electronics systems and smart hardware with a focus on integrated innovative AI solutions are looking for collaborations with Swedish SME companies. Contact Thorbjörn or the Canadian Embassy in Stockholm if more information is required.

[Mer info här.](#)

# Smarter Electronics Manual

## About the Smarter Electronics Manual

The first version of the Smarter Electronics Handbook was released in 2017 and the response from companies in the Swedish electronics industry was very positive. This handbook focuses on the information needed between the parties involved from the design and development to the production of a new electronic product. The work with the handbook is done together with dedicated participants who are experts in the field from several different companies. Encouraged by the positive reception and feedback from the first book, the innovation program Smartare Elektroniksystem decided to produce this second extended edition. The sequel contains more information about quality and reliability, but also more practical guidance that is useful in design processes.

Do you have views and want to contribute to the Handbook's development?

### Contact:

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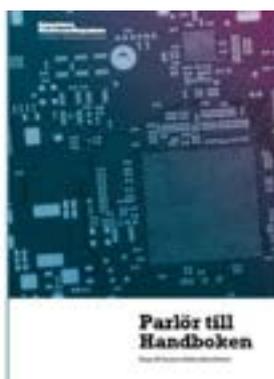
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**Smartare Elektronikhandboken**  
... om väg till design och tillverkningsfärdighet



**Smartare Elektronikhandboken**



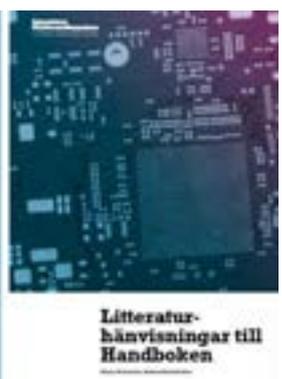
**Parlör till Handboken**



**EU Direktiv och regelverk**



**Tillförlitlighet hos mönster och kretskort**



**Litteraturreferenser till Handboken**

# PEA Innovation cluster

Smarter Electronics Systems is investing in making printed electronics available, a disruptive technology for electronics manufacturing.

The area is in rapid development in terms of research results in this technology as well as in technology and product development to develop products and production methods for new applications of printed electronics. Electronics in completely new contexts will be possible. It is one's own imagination that sets the limits for the electronics of the future based on this new technology. Compared with ordinary electronics production, printed electronics offer a number of new possibilities, such as cheap mass production, electronics on flexible substrates and fast prototype production in small series. Few Swedish companies have so far dared or been able to use printed electronics, despite the fact that Sweden is far ahead in international comparisons regarding R&D in printed electronics. At the same time, we see in external monitoring how companies and countries invest in printed electronics to create renewal in the business community. To make the opportunities visible and get more Swedish companies to test how they can use printed electronics in their operations, Smartare Elektroniksystem in printed electronics has made its largest investment to date in a single project - PEA Innovation Cluster. Status of printed electronics in Sweden

New electronic materials such as electrical conductors and semiconductors in the form of plastics (polymers), have made it possible to manufacture electronic "inks". These inks can be used to draw, or print, electronic components and circuits on paper or plastic.

The process can be automated by using printers (eg inkjet printers) or printing presses, which provide processes for mass production of electronics called printed electronics.

RISE Acreo and Linköping University in Norrköping collaborate within PEA (Printed Electronics Arena) and operate a test bed / demonstration facility / pilot line for printed electronics that is world-unique. Thanks to a grant of approximately SEK 25 million from Knut and Alice Wallenberg's fund, the equipment within PEA and the new laboratory now constitutes Europe's most modern facility for research and development of future production for printed electronics.

Within PEA, the focus so far has been on technology and concept development, development of production technology and market adaptation in areas such as

- Smart packaging
- Sensors in built environment
- Printed solar cells on paper or plastic
- Authentication
- Sensor platform for applications in health and care

Smarter Electronics Systems now wants to enable a widening of the use of printed electronics in Swedish companies and is therefore investing in the individual project PEA-Innovation Cluster. The innovation cluster increases the visibility of printed electronics, informs companies about the possibilities and offers company-adapted services so that each company can have its special needs met. These company-adapted services include, for example, support in the development of prototype design, participation in prototype production in the test bed, participation in the evaluation of prototypes.

The test bed can be used in three levels

- Buy R&D projects from RISE Acreo and pay according to current rates (updated annually)
- Let your own staff work together with Acreo staff in PEA-Manufacturing. Acreo charges according to current rates depending on the stake.
- Rent individual machines or the entire facility for shorter periods. Fees for this are negotiated on a case-by-case basis, e.g. depending on requirements for confidentiality and the ability of other actors to use the facility at the same time.
- Participate in training in Printed Electronics in PEA-Manufacturing.

[Läs mer om PEA](#)

## Roadmap for Smarter Electronics Systems

As part of our external monitoring, a Swedish roadmap for Smarter Electronics Systems is presented here. The document has two main chapters. Chapter 4 describes trends, visions and long-term goals for designated Swedish cutting-edge areas in electronics. Chapter 5 describes ideal concepts that concretize the direction of development, business potential and the need for efforts to achieve the goals.

## Attractiveness part 1 – 2016

Securing the supply of skills is seen as one of the main challenges for the Swedish electronics industry. The overall goal of the Attraction Attraction project is to increase the proportion of students who choose upper secondary school programs that are relevant for a future employment in the electronics industry. This report is a detailed description of the results of the results up to the summer of 2016.

## Current situation and needs analysis 2015

The report is about how the situation is and what Swedish electronics companies need for efforts to increase their competitiveness. Approximately 200 company interviews form the basis of the report.

## Agenda Smarter Electronic Systems for Sweden

This document is a research and innovation agenda for the Swedish research, development and production area of smart electronics systems. It applies to the period up to 2030 and is developed by Acreo Swedish ICT, the industry organization Swedish Electronics, Chalmers, KTH, LTU, PhotonicSweden and Swerea IVF.

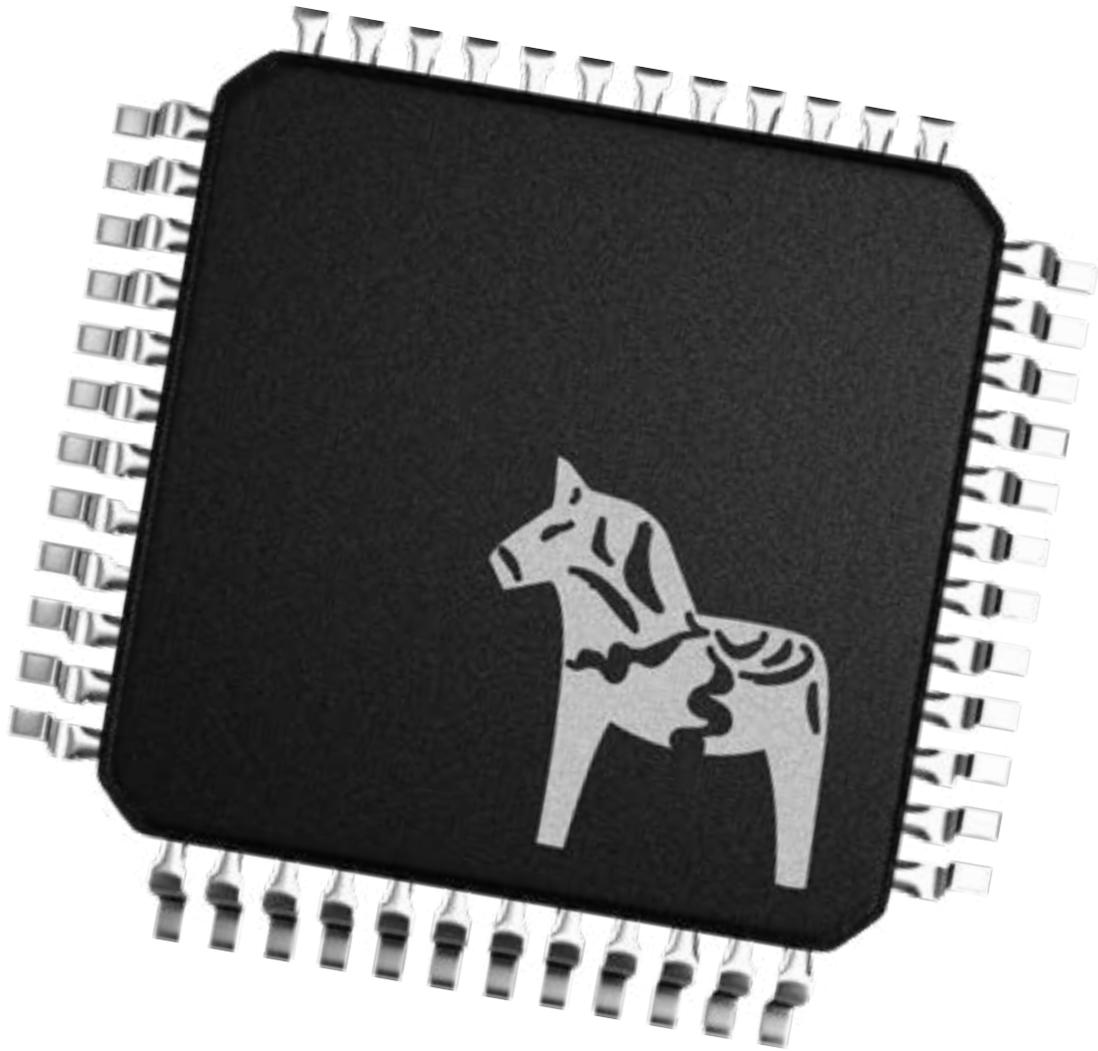
Electronics is highly cross-industry and is part of more and more and constitutes an ever larger and more important share in the products and services that exist and are developed within in various industries. The market is growing. Electronics will be in increasing demand as new effective solutions must be found to meet the many global challenges facing the world, such as demands for energy saving, long-term sustainable environment and care for a growing and increasingly aging population. Electronics are a vital prerequisite in these solutions.

## Study of the electronics industry 2002-2011

This is a survey of what the Swedish electronics industry looks like and how it has developed during the year 2002 to 2011.

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# **Smarter Electronic Systems**

ELECTRONIC COMPONENTS & SYSTEMS

