



# Produktion2030

## Research and Innovation Project

A call for proposals within the strategic innovation programme Produktion2030

The strategic innovation programme Produktion2030 is part of **Vinnova, the Swedish Energy Agency and Formas' joint venture** in strategic innovation areas. The aim of the venture in strategic investment areas is to create conditions for international competitiveness and to find sustainable solutions to global challenges facing societies today.

For more information on the programme, see [www.produktion2030.se](http://www.produktion2030.se)



Med stöd från:



STRATEGISKA  
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## Revision history

Date	Change
07/01/2019	Chapter 1: Note that research actors in a consortium must be employed within separate parts (preferably Departments or Divisions) of the organisations.

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## 1 The offer in short

In its call for proposals, the strategic innovation programme Produktion2030 is advertising SEK 25 million for research and innovation projects.

The aim of the call for proposals is to create research and innovation projects which correspond to the challenges that Produktion2030 has identified within six areas of strength (see chapter 4). Research and innovation projects have a project period of a maximum 3 years and can apply for a maximum SEK 5 million in grant funding.

Produktion2030 imposes requirements on collaboration in all projects with the aim of increasing and strengthening actors' innovative capacity. The requirement for collaboration must stimulate the formation of new project constellations, with a wide range of actors from various organisations, which are complementary in terms of their activities and the competence encompassed therein.

This call for proposals is intended for consortiums consisting of companies which are active within the Swedish manufacturing industry and research actors such as universities and research institutes. Consortiums must consist of at least three companies and at least two research actors. *Note that research actors in a consortium must be employed within separate parts (preferably Departments or Divisions) of the organisations.*

- The maximum grant per project from Produktion2030 is SEK 5 million.
- The maximum project period is 36 months.
- The project consortium must consist of at least three companies and at least two research actors (university or research institute).
- The requirement for co-financing from industry is a minimum 50 per cent of the project's total costs.
- Only universities or research institutes can be grant recipients.
- Produktion2030 favours applications for research and innovation projects which continue to build on concept projects previously financed by Produktion2030. All Produktion2030 projects can be found on <http://www.produktion2030.se>.

### **The following dates apply to the call for proposals:**

Please note that the dates are preliminary. For up-to-date information, see [www.vinnova.se](http://www.vinnova.se).

Start date:	22 October 2018
Application deadline:	21 January 2019
Final decision date:	22 February 2019
Project start deadline:	1 March 2019
Project completion deadline:	28 February 2022

# CALL FOR PROPOSALS

4 (14)

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**Impact goals for the call for proposals for research and innovation projects:**

- Increased sustainability in the Swedish manufacturing industry in accordance with goals under Agenda 2030 (for more information, see <https://www.vinnova.se/m/agenda-2030> and <https://www.un.org/sustainabledevelopment/sustainable-development-goals>)
- Increased competitiveness in the Swedish manufacturing industry

**Both impact goals must be fulfilled by all projects.**

**Important assessment criteria:**

- The project must have a clear focus on **one** of Produktion2030's six areas of strength/challenges (see chapter 4)
- The project must have a high industrial and scientific news value and be suitable for presentation in both industrial and popular science contexts.

**Contact person for the call for proposal's background, aim and desired effects:**

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**Contact person for the assessment process, legal matters and other questions regarding the content of the call for proposals:**

Tero Stjernstoft, responsible for this call for proposals at Vinnova  
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**Administrative questions:**

Bengt Larsson, Vinnova  
+46 (0) 8-473 31 14  
[bengt.larsson@vinnova.se](mailto:bengt.larsson@vinnova.se)

**Contact regarding Vinnova's eServices Portal:**

Vinnova's IT support  
Tel: +46 (0)8-473 32 99  
[helpdesk@vinnova.se](mailto:helpdesk@vinnova.se)

You can find relevant information about the offer and a link to our application service at [www.vinnova.se](http://www.vinnova.se).

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## 2 What is the aim of Produktion2030's funding?

The intention of the call for proposals is to stimulate collaboration between actors in industry, universities and research institutes in order to generate new knowledge and develop new solutions which correspond to Produktion2030's six challenges. The long-term effect of the project is to contribute to increasing sustainability and competitiveness in the Swedish manufacturing industry.

Research and innovation projects have a medium-high risk, run for 2–3 years and can receive a maximum SEK 5 million in funding. Produktion2030 favours applications for new research and innovation projects which build on previously funded concept projects. A list of all projects funded under Produktion2030 can be found: [www.produktion2030.se](http://www.produktion2030.se)

Collaboration, concentrated efforts and innovation will be crucial to achieving the goals for sustainable development in Agenda 2030. With this call for proposals, Produktion2030 aims to get more parties to develop their innovative capacity in collaboration and to create new solutions which contribute to the goals, within the framework of the call for proposal's prioritisations.

Gender equality is a prerequisite for sustainable growth and is included in Agenda 2030 as a goal in itself but also as a perspective which should permeate the work with all the other goals. The call for proposals must therefore contribute to a societal development which is characterised by gender equality and which is linked to two main perspectives.

One aspect concerns both women and men benefiting equally from the grant and participating in and having influence over the project. Another important aspect is about analysing and considering whether there are gender equality aspects (sex and/or gender) which are relevant to the problem and implementation areas associated with the solution.

## 3 Whom is the call for proposals aimed at?

Research and innovation projects are carried out by industrial undertakings active in the Swedish manufacturing industry and by universities and research institutes. The project consortium must consist of at least three companies and at least two research actors (university or research institute). The requirement for co-financing from industry is a minimum 50 per cent of the project's total costs. Only universities or research institutes can be grant recipients.

The project must take into consideration diversity in terms of gender, age and position.

## 4 What gets funded?

### 4.1 Activities eligible for funding

Research and innovation projects funded under this call for proposals must have a clear focus on **one** of Produktion2030's six areas of strength. The areas constitute important and prioritised challenges for the Swedish manufacturing industry (see fig. 1)<sup>1</sup>. The extensive digitalisation within the six areas constitutes an important part of what is referred to as Industry 4.0. All areas can also potentially influence the sustainability goals under Agenda 2030.

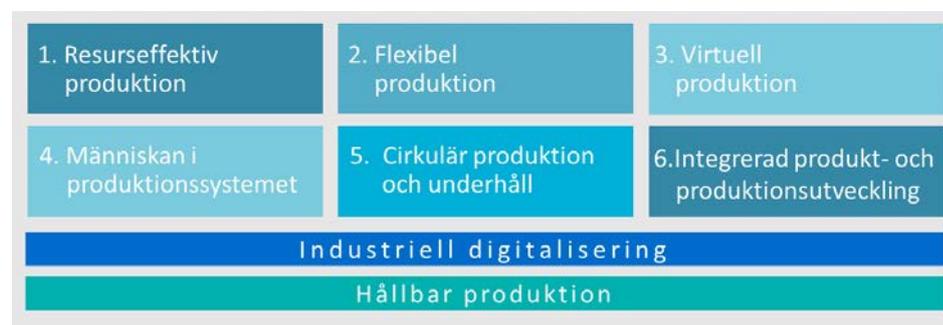


Fig. 1. Produktion2030 focuses on solving the challenges within six areas of strength and two intersecting themes. Information on the areas of strength and the challenges can be found at [www.produktion2030.se](http://www.produktion2030.se)

A more in-depth description of the challenges for the industry and for the research within Produktion2030's six areas of strength can be found below:

#### 4.1.1 Area of strength 1 – Resource-efficient production

Resource-efficient production is a prerequisite for manufacturing in a country such as Sweden, with its high quality levels and material costs. Resources such as material, energy, capital and time must be used effectively in order for production to be competitive. High levels of automation for production and methods for optimising large quantities of data are important for resource efficiency. Research and innovation geared towards resource-efficient production requires a holistic perspective and affects all life-cycle phases of products and production systems.

#### 4.1.2 Area of strength 2 – Flexible production

Flexibility is a prerequisite for customer-tailored, individualised products, and the same is true for one-of-a-kind production (OKP). Flexible production concerns volume changes, many variants, new materials and material combinations, and new products. This in turn requires new, innovative manufacturing methods, automation and robotics, and new knowledge. Automation, digitalisation, machine learning, artificial intelligence and advanced simulation create opportunities for

<sup>1</sup> <http://produktion2030.se>

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increased flexibility and the integration of different systems which are necessary in order to create a more decentralised management and supervision of the production processes.

#### 4.1.3 Area of strength 3 – Virtual production

Virtual tools and digital models are a prerequisite for the development of the next generation of complex products and production systems. In the factories of tomorrow, most production resources, machines and employees are all connected to the internet. Data gathering, analysis, machine learning, AI as well as quick communication and automatic processing of large quantities of data facilitate the creation of “digital twins” of the entire production system. The virtual factory becomes the original and the basis which allows the company to make the right decisions via the optimisation of complex data and the development of smart production strategies.

#### 4.1.4 Area of strength 4 – Humans in the production system

Humans have a key role in the digitalised production system and Industry 4.0. The production requires competent people collaborating with advanced, automated production systems, robots and manufacturing processes. The humans in the industry of the future will manage production processes and systems, in virtual and global networks. Digitalisation, machine learning, AI, sensors and the management of large quantities of data impose new requirements on personal safety, advanced communication, interfaces and the allocation of tasks among people and technical systems. Advanced technological solutions facilitate the development of new workstations, working methods, ergonomics and access to information regardless of language.

#### 4.1.5 Area of strength 5 – Circular production systems and maintenance

The lifespan of products and production systems can be radically extended through remanufacturing and/or a smarter, more adaptive maintenance of products, machines and systems. Circular systems facilitate the re-use and remanufacturing of products in several cycles through smart maintenance, machine learning, AI and the analysis of large quantities of data. The transition to a circular economy and production requires new services such as “production capacity as a service”.

#### 4.1.6 Area of strength 6 – Integrated product and production development

Products must create value for all actors in a supply chain. The development of products and production systems must happen in parallel and must be integrated with all actors at the same time in order to create speed and flexibility on the market. In order to develop this integration, digital product models and work tools are required, as well as information from all previous stages of the development process. Aided by the rapid analysis of large quantities of gathered data, intelligent decision-making support, models of new materials, and advanced product and production models, the integration of product and production development can lead to a dramatic rise in competitiveness.

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## 4.2 Eligible costs

Vinnova's funding is done through grants. Grants to organisations which carry out financial operations are subject to regulations on government funding.<sup>2</sup> The regulations govern which types of costs and what share of the costs may be paid for with grants.

## 5 How large a grant can be given?

The budget for the call is SEK 25 million. The call for proposals funds research and innovation projects with an amount of up to SEK 5 million. The project consortium must consist of at least three industrial undertakings active within the Swedish manufacturing industry and at least two actors from universities or research institutes. Produktion2030 has decided that only universities and research institutes can be grant recipients, primarily in order to achieve maximal dissemination of results. The industrial co-financing must account for at least 50 per cent of the project's total costs eligible for funding. Grants for universities or research institutes can be funded up to 100 per cent.

## 6 Requirements for the application to be assessed

Only applications that meet the following formal requirements will be assessed:

- The project may not have commenced before the application is submitted.
- The project consortium must consist of *at least three companies, at least two research actors (university or research institute)*.
- The project parties must be legal persons.
- The coordinator for the project may be a company, university or research institute.
- The project must be able to commence by 1 March 2019 at the latest.
- The project must be completed by 28 February 2022 at the latest.
- The application must be completed in accordance with the instructions in chapter 9.

Applications which deviate from this will not be assessed.

- A project summary must be sent to the programme management team for Produktion2030: [cecilia.warrol@produktion2030.se](mailto:cecilia.warrol@produktion2030.se)
- Vinnova's grant can cover a maximum of 50 per cent of those of the project's costs that are eligible for funding.
- Grants for universities or research institutes can be funded up to 100 per cent.

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<sup>2</sup> Read more about government funding on our website: <https://www.vinnova.se/sok-finansiering/regler-for-finansiering/statligt-stod/>. There you can also find general terms and conditions for grants and a guide to the conditions regarding costs eligible for funding: <https://www.vinnova.se/sok-finansiering/regler-for-finansiering/allmanna-villkor/>

- The project budget that is reported must only include costs eligible for funding, see point 4.1. Project costs which are not eligible for funding are to be included in the project description as they may have some bearing on the assessment.

If the formal requirements are not met, the application will not be assessed and will be rejected on formal grounds without further justification. Once the application deadline has expired, the application can only be supplemented at Vinnova's request.

## 7 Assessment of received applications

### 7.1 What is assessed?

Each application is assessed in competition with other applications received and an assessment is made of the electronic application submitted to Vinnova via the eServices Portal. An expert group comprised of independent Swedish and international experts performs the assessment.

*Schematically, the application and decision process is as follows:*

1. The application is submitted via Vinnova's eServices Portal.
2. A project summary must be sent to the programme management team for Produktion2030: [cecilia.warrol@produktion2030.se](mailto:cecilia.warrol@produktion2030.se)
3. The applications which fulfil the formal requirements will be assessed based on the below assessment criteria by independent external experts who will provide recommendations regarding which projects should be approved and which should be rejected.
4. Vinnova makes a decision on which projects shall be funded.
5. The decision is announced to the applicants and the management for the strategic innovation programme is informed of the outcome.

### 7.2 How do we make our assessments?

Research and innovation projects must have a clear focus on *one of Produktion2030's six areas of strength*. This must be specified in the project application.

The application is assessed based on three main criteria:

- 1) Potential
- 2) Actor constellation
- 3) Feasibility

		Criterion	Description
<b>Potential</b>	1.1	Impact goals	To what extent does the project contribute to the impact goals of the call for proposals and Produktion2030?
	1.2	State-of-the-art	Is there a satisfactory description of the project's being industrially and scientifically state-of-the-art within its area?
	1.3	Areas of strength	How clear is it that the project has a focus on one of Produktion2030's six areas of strength?
<b>Actors</b>	2.1	Project consortium	How well do the project's combined competence, project management, roles and stated resource requirements correspond to its goals?
	2.2	Cooperation	How well does the application present how collaboration between industry, academia and research institutes shall be achieved? How clear is it that all parties will be participating on equal terms and with equal commitment?
	2.3	Equality	How well is the team (of key persons) composed in terms of gender distribution and the distribution of power and influence between women and men?
<b>Feasibility</b>	3.1	Risk analysis	How well are the risks identified and activities for handling risks described?
	3.2	Innovation level <sup>3</sup>	How in-depth is the description of the project results' news value (beyond being state-of-the-art), feasibility and value for Swedish industry?
	3.3	Dissemination of results	How well does the project application describe how the project shall achieve broad dissemination and widespread effects from the project results which also reach actors outside of the project consortium?

## 7.1 How does the assessment process work?

Applications which fulfil the formal requirements and continue to the assessment stage will receive a decision with a brief description of how the application has been assessed based on the three criteria of Potential, Actors and Feasibility. Applications which do not fulfil the formal requirements will be rejected and a reference made to the formal requirement that was not fulfilled. Applicants will not receive any further feedback or justification of the decision.

Vinnova makes decisions regarding which projects will be funded, taking into account the assessors' recommendations, and notifies the applicants of the decision.

<sup>3</sup> <https://www.oecd.org/site/innovationstrategy/defininginnovation.htm>

## 8 Decisions and conditions

### 8.1 Vinnova's decision

The decision states how much funding each participating party is awarded. Grants will be approved on the basis of ordinance SFS 2015:208 on state aid for research, development and innovation.

The grounds for support are detailed in the decision and also govern which costs are eligible for support.

Our decision to approve or deny an application cannot be appealed.

### 8.2 Conditions for approved grants

Vinnova's general terms and conditions for grants apply.<sup>4</sup> The terms and conditions include rules concerning project agreements, preconditions for payment, follow-up, reporting and utilisation of results.

As the call for proposals is taking place within the framework of the strategic innovation programme, the following special terms and conditions also apply:

1. The project must be represented by at least one project party at the conferences and other activities organised within the Strategic innovation programme Produktion2030.
2. It must be expressly stated in information concerning the project and every publication of project results that the work has been carried out under the strategic innovation programme Produktion2030, a joint venture of Vinnova, Formas and the Swedish Energy Agency.
3. Research institutes within the RISE group, When participating in their non-economic activities, may make surcharges for indirect costs in accordance with the full-cost principle that they apply and which has been approved by Vinnova.
4. The coordinator must provide information concerning the project summary, project managers and actor constellations for publication on [www.kunskapsformedlingen.se](http://www.kunskapsformedlingen.se). Instructions and templates are provided in conjunction with the decision.

Supplementary special conditions may be decided on for individual project.

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<sup>4</sup> Our current terms and conditions can be found on our website, along with guidelines for interpreting and meeting the requirements: <https://www.vinnova.se/sok-finansiering/regler-for-finansiering/allmanna-villkor/>

If you do not comply with the terms and conditions of the decision, you may be liable to pay back received grants. The same is true if you have incorrectly been approved for grants or have received too high a sum.

## 9 How to apply

To apply for a grant, fill out the online form in Vinnova's eServices Portal, available via our website. There you can also upload the following appendices<sup>5</sup>:

- Project description
- Project summary (public)
- CV appendix

The appendices must be sent in PDF format.

- The project description must be no longer than 10 sides of A4 (portrait) with 12-point black text, single column. References to information on websites and similar will not be taken into account in the assessment.
- Project summary. At the same time as the application is sent to Vinnova, the Project summary appendix must also be sent to Produktion2030 via e-mail [cecilia.warrol@produktion2030.se](mailto:cecilia.warrol@produktion2030.se). The project summary must be freely distributable and publishable and may not contain information which is confidential or in any way sensitive.
- The CV appendix should contain relevant CVs for the project manager and all key persons in the project team. Each CV should be a maximum of one side of A4 with 12-point text.

**N.B. The application will be assessed by an international expert group and we therefore recommend that the application be written in English.**

All appendices listed above are obligatory and templates provided in the call for proposals must be used. Applications which deviate from this will not be assessed.

Once the application period has come to an end, the application can only be supplemented at Vinnova's request.

## 10 Who can read the application?

Applications submitted to us become public documents, but we do not disclose information about individual business relationships or working conditions,

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<sup>5</sup> Templates for the appendices can be found on our website: <https://www.vinnova.se/e/strategiska-innovationsprogrammet-for-produktion-2030>

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inventions or research findings if it can be assumed that an individual will suffer damage due to the disclosure.

Documents sent to the organisation responsible for the strategic innovation project are not covered by our confidentiality provisions.

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