

Grand Solutions Call 2019

Drones and Robotics

Application deadline: 20 August 2019 at 12:00 CET

Grand Solutions: Typical duration 2-5 years

2019 budget: DKK 20 mill.

Innovation Fund Denmark invests in ambitious and targeted strategic research and innovation projects that creates new solutions, technologies and valuable new knowledge.

Innovation Fund Denmark is willing to share the risk with the project partners, when the level of knowledge, value creation, project efficiency and implementation of the results is correspondingly high.

Objective

Denmark and the rest of the world are facing a digital and technological transformation within businesses and the society in general at a speed so far unseen. This development is fundamental and extensive with great opportunities for Denmark and the Danish industry. However, this development is also challenging and requires significant adaptability due to the rapid introduction of technologies, such as artificial intelligence, Internet of Things, robotics and drones.

With this call, Innovation Fund Denmark (IFD) addresses value creating research- and innovation projects concerned with drones and robotics.

Investment Areas

IFD invests in strategic research and innovation projects at all levels in the research and innovation value chain. Thus, IFD may invest in the early strategic research project where a dedicated effort and collaboration among the most competent international and/or Danish partners from relevant areas are prerequisites. IFD may also invest in the good and promising project, which is only lacking the last step before successful introduction to the market or deployment.

The investments of IFD do not necessarily lead the project all the way through the value chain. It is therefore of paramount importance that the project partners are able to introduce the project results directly to the market, ensure deployment of the results or as a minimum have identified potential purchasers who are able and ready to invest in and take over the project after the completion of the IFD investment period.

IFD gives priority to radical and/or disruptive project ideas, which potentially can open new markets or provide solutions to existing challenges in a new and value creating manner. Consequently, IFD does not invest in incremental development projects with relatively low market or impact potential. If the application involves incremental elements it is important to describe the expected value increase caused by the project compared to existing available solutions (globally). It is mandatory that the application carefully documents State-of-the-Art and that the return of investment is quantifiable.

Investments within drones

Investments within this theme must create value for Denmark through new applications of drones and through the development of new technologies, which expand the range of potential applications of drones. Project applications are expected to involve the drone industry in Denmark and are expected to be concerned with, but not limited to, the following areas:

- Development of the drone as a vessel, including body, wings, propels, motor, servo, energy system, battery, auto pilot and associated sensors, antennas, data links, control unit etc. This area involves both hardware and software.
- Development of the drone as a platform. This concerns payloads solving specific tasks under the deployment of cameras and other sensors and equipment mounted on a drone. In addition, the development of software systems targeted towards processing of data from drones are included in this area.
- Other solutions to challenges involving drones, such as security aspects or drone fleets.

Investments within robotics

Investments within this theme must create value for Denmark through new applications of robots and through the development of new technologies, which expands the range of potential applications of robots. Project applications are expected to involve the robotics industry in Denmark and are expected to be concerned with, but not limited to, the following areas:

- Effective and reconfigurable robot systems targeted towards automation and digitalisation of small series, high variability, production lines
- Autonomous robots targeted towards applications where a robot exhibits a high degree of autonomy
- Collaborative robots – robots collaborating with robots
- Assistive robots – robots assisting or collaborating with humans using human robot interaction

For further description of the two themes, drones and robotics please refer to FORSK2025 (in Danish).

Assessment Criteria

The overall assessment criteria are:

- Excellence - Quality of research and innovation
- Value creation during and after the project period
- Efficiency of project execution
- Implementation of results

In connection with applications for this call, value creation is to be understood in broad terms as targeted activities that lead to increased growth and employment through e.g. development of new products and services, creation of more and more intelligent jobs, increased productivity, fewer societal costs, reduced resource consumption or environmental impact as well as to solutions to major societal problems.

The partners must account for the specific and preferably quantitative value creation of the project. Value creation should not be understood as just monetary value, but may also be e.g. increased quality of life, cleaner environment, etc. It is the applicant's responsibility to account for the different types of value creation.

From IFD's side, great emphasis will be the potential of the project to create measurable value for Denmark and the Danish society. The project potential must be significant and result in new solutions or products, e.g. by development and use of new unconventional business models, methods, smart regulations, etc.

Specifically, the applications will be assessed based on the qualities of the project in terms of research and innovation in a global perspective in relation to an articulated or latent need, state-of-the-art, directly competing or closely related scientific or technological solutions, the scalability of the solution, technical, regulatory and market risks, the risk management of the project plan as well as feasibility. In addition, the development rate, the effective use of invested resources, managerial and professional skills and the subsequent effective implementation of the project results nationally and/or globally will be carefully assessed. The value creation of the project will be assessed in relation to the size of the investment.

Likewise, it will be emphasised that the project's beneficiaries/end-users and core stakeholders contribute to the formation of the project, participate in the project or are otherwise directly involved in the project, e.g. through investments.

In addition to the above assessment criteria, reference is made to "Guidelines for Grand Solutions". Allocation of funds will be made on the basis of the 2019 Finance Act.

Selected projects are invited to interviews taking place in October 2019. Applications not invited for interviews and thereby rejected will be notified at the end of September. Final decision on the application is notified at the end of November 2019 with project start in Q1 2020.

Guidance – Links

- [Guidelines for Grand Solutions 2019](#)
- [Guidelines for e-grant](#)
- [National Budget 2019](#)
- [2019 Agreement on Allocation of the Research Reserve as well as other research priorities](#)
- [FORSK2025, including the listed indicators for the allocation of funds](#)
- IFD Investment strategies for [Industry 4.0](#), [ICT and Digitalisation](#), [Energy](#), [Health](#), [Environment](#), [Bioresources](#), [Tourism](#) and [Trade, Services & Society](#)
- [Innovation Fund Denmark 2015 Strategy](#)
- [UN 17 Sustainable Development Goals \(SDGs\)](#)
- ["Denmark's drone strategy", The Government \(in Danish\)](#)
- ["Strategy for Denmark's digital growth", Ministry of Industry, Business and Financial Affairs \(in Danish\)](#)

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