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# **Work programme for the FORNY2020 programme (2011-2020)**

**The programme facilitates innovation and commercialisation of R&D results from publicly-funded research institutions.**

8 September 2011

## 1. Summary

The Research Council of Norway's programme Commercialising R&D Results (FORNY2020) is a key instrument for promoting optimal use of concepts and results generated by publicly-funded research, thereby promoting value creation in society at large.

- The main task of the programme is to facilitate innovation and commercialisation of R&D results from publicly-funded research institutions.
- The programme will also work to enhance the professionalism of technology transfer offices (TTOs).

The FORNY2020 programme will provide funding to projects that have as their objective to facilitate commercialisation, and have originated in research conducted at a publicly-funded research institution. To be eligible for funding, a project must carry out targeted activities to make the project attractive for investment by national and international trade and industry, investors or the public sector. The project must have high potential for success, with the expectation of substantial commercial returns or societal benefits. Particularly innovative projects that are at the forefront of their field will be given priority under the programme.

A number of publicly-funded research institutions are affiliated with TTOs working to commercialise R&D results. The FORNY2020 programme will provide basic funding to TTOs, as well as funding measures to enhance efficiency and promote network-building and competence-building at TTOs.

The FORNY2020 programme continues the activities of the previous FORNY programme (1995-2010). The programme will disseminate information on how the concepts and results generated by research have benefited society. It will also help to enhance the body of knowledge underlying the further development of instruments in its sphere of activity.

## 2. Background and introduction

One of the overarching goals set out in the government white paper on research, *Climate for Research*, is more efficient use of research results and funding for the benefit of society.<sup>1</sup> Optimally used, research results can help to solve societal challenges as well as form the basis for new products and services and knowledge-based trade and industry, thereby increasing value creation and enhancing welfare.

The Research Council of Norway has a key role to play in realising this goal. Its main task in this context is to facilitate the commercialisation of R&D results, thereby promoting research-based innovation and industrial development. Fostering fruitful collaboration between trade and industry and publicly-funded research institutions is one important means of strengthening the innovation capacity of society and competitiveness in trade and industry.

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<sup>1</sup> Report No. 30 (2008-2009) to the Storting: *Climate for Research*.

Boosting public investment in research and increasing activity at publicly-funded research institutions has been shown to generate a wider range of concepts and larger number of projects with potential for commercialisation and innovation. Public authorities allocate a total of NOK 22 billion in research funding each year to universities, university colleges and independent research institutes. An additional NOK 2 billion goes to hospitals and other segments of the health care sector.<sup>2</sup> The results of publicly-funded research lead to many forms of technology and knowledge transfer that benefit society. It is most often the demand from the private or public sector that triggers the use of research results.

There is a need for measures to compensate for the low demand for projects in the early phases of their development. In this phase, the potential utility and profitability of a project is not always adequately documented and the level of technological and financial risk is too high for private or public players to be willing to assume responsibility for further development. This is especially true for projects in sectors where Norway has a weak industry structure or demand side.

The FORNY2020 programme has been designed with precisely this need for a compensatory measure in mind.

The previous FORNY programme (1995-2010) was evaluated several times, most recently in 2008 and 2009. These evaluations concluded that the programme had reached its target groups,<sup>3</sup> and had helped to increase awareness of and influence attitudes towards commercialisation of R&D results.<sup>4</sup> However, the final evaluation also pointed out that the programme's results in terms of directly measurable indicators such as patents, establishment of new companies and licensing agreements, were modest compared to corresponding international schemes. Few of the companies that had been established were deemed to have genuine growth potential. The evaluation identified several possible causes for this, relating to the structure of the programme itself as well as parameters outside the framework of the programme. Despite the moderate direct results, the Nordic Institute for Studies in Innovation, Research and Education (NIFU, formerly NIFU STEP) concluded in its 2008 and 2009 evaluation reports that the FORNY programme filled an important role and should be continued.

The FORNY2020 programme builds on experience gained from the previous FORNY programme, incorporating input from the research community, trade and industry, the finance community, corresponding international schemes, and the above-mentioned evaluation reports.

In Chapter 12.5 of the white paper on research, the Government identifies *the continuation of efforts to promote commercialisation of research results in the form of follow-up to the FORNY programme* as a key measure. This was reflected in the proposed national budget for 2011 (Proposition No. 1 (2010-2011) to the Storting), in which the Ministry of Education and Research recommends that *a revised FORNY programme be established from 2011 with the primary objective of promoting profitable commercialisation of research results.*

The FORNY2020 programme will be a key instrument for achieving the white paper's goal of more efficiently using the concepts and results generated by publicly-funded research in Norway. The programme will help to realise the potential inherent in such research – a potential that is not always reflected in the demand from existing industry or the public sector.

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<sup>2</sup> The Nordic Institute for Studies in Innovation, Research and Education (NIFU, formerly NIFU STEP).

<sup>3</sup> NIFU STEP Report 19/2009.

<sup>4</sup> NIFU STEP Report 34/2008.

### 3. Objectives of the programme

#### **Primary objective**

The FORNY2020 programme will increase value creation by ensuring that R&D results from publicly-funded research institutions are brought to the market.

The FORNY2020 programme will promote innovation within all disciplines and business areas. The programme will support the commercialisation of concepts and R&D results generated by researchers and students alike. Results may have their origin in publicly-funded research institutions alone or in collaborative projects involving trade and industry.

The programme will help to create a culture for commercialisation in the research community, stimulate the generation of concepts, assess concepts, and support the transfer of new knowledge and technology all the way to the market.

#### **Secondary objective 1**

To generate growth in new and existing companies by selecting and funding projects that are expected to lead to substantial commercial returns or other major societal benefits.

The FORNY2020 programme will provide funding to specific projects that, if successful, will result in the transfer of new knowledge and new technology from publicly-funded research institutions to existing or newly-established companies or the application of this knowledge or technology within the public sector.

The programme will help to clarify questions relating to commercial, conceptual and technological aspects of potentially commercialisable projects. The aim is to reduce the level of risk associated with a project to the extent that players in the private and public sector are willing to assume responsibility for further commercialisation and industrialisation. This requires establishing a broad, well-documented technological and commercial justification for realising a concept. Within certain sectors, such as the pharmaceutical industry and the biotechnology industry, there is a particularly large need for capital in the phases before private players tend to make their entry. The FORNY2020 programme is designed to fill this gap, on its own or in cooperation with other programmes and/or public agencies within the research and innovation system, by launching specific measures to promote commercialisation in various sectors.

#### **Secondary objective 2**

To encourage the establishment of professional, efficient and specialised technology transfer offices (TTOs) associated with publicly-funded research institutions.

By providing support to TTOs, the programme will facilitate the application towards value creation of research results which for various reasons have not been brought to market through demands from existing industry or the public sector.

There are plans to reduce the amount of basic funding allocated by the programme to TTOs over time.

The programme will implement performance indicators to measure the qualitative and quantitative results of the project portfolio and factors related to the development of the TTOs. These performance indicators will be developed during the first year of the programme.

## 4. Target groups

The FORNY2020 programme will provide funding to commercialisation projects that are based partially or entirely on R&D results from publicly-funded research institutions and that have as their objective to facilitate commercialisation.

TTOs<sup>5</sup> representing publicly-funded research institutions<sup>6</sup> and newly-established companies<sup>7</sup> whose activities are based partially or entirely on the intellectual property<sup>8</sup> of publicly-funded research institutions may serve as the Project Owner and contractual partner of projects funded under the programme.

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<sup>5</sup> A technology transfer office (TTO) is defined here as an organisation that is partly or wholly owned by a publicly-funded research institution or that works on behalf of such an institution to manage the institution's rights to commercially exploit the research results generated there. TTOs help to spread knowledge about opportunities for the application of research results, administer the rights for commercial use of research results from publicly-funded research institutions and further develop potentially commercialisable results to create new and improved products, services and processes. To be eligible for funding, the TTOs must have objectives and strategies that reflect several or all of the objectives of the FORNY2020 programme.

<sup>6</sup> A publicly-funded research institution is defined here as universities, university colleges, health trusts/hospitals with legally imposed obligations to perform R&D, independent research institutes that fall under the government guidelines for public funding of independent research institutes, museums with a research function, and other public institutions that perform research.

<sup>7</sup> A newly-established company is defined here as an enterprise that falls under the EU definition of a microenterprise (Commission Regulation (EC) No 70/2001, Annex I) and has been in existence for less than six years at the time of submission of the grant application (EU 2006/C 323/01, 5.4). To be eligible for funding under the FORNY2020 programme, the company's activities must also be based on the intellectual property of a publicly-funded research institution.

<sup>8</sup> Intellectual property refers to all rights to technical solutions, methods, processes and procedures, regardless of whether these are patented, patentable or unpatentable. It also refers to all copyrights for brands, designs, works of art, databases, circuit patterns, drawings, specifications, prototypes, trade secrets and the like.

## 5. Priority types of support

### 5.1 Proof-of-concept funding

Proof-of-concept funding under the FORNY2020 programme is competition-based funding for verification of R&D results from publicly-funded research institutions with the aim of facilitating the commercial application of these results.

In many cases, the level of technological, market-related or financial risk associated with a project at an early phase of development is too high for investors to accept. Activities in the proof-of-concept phase may involve clarifying application and market potential, testing the concept, technology or prototype, demonstration, developing a business model, securing rights and/or establishing contact with customers and users. Such activities will reduce the level of risk associated with a project, making it more attractive for investment by investors, existing industry or the public sector.

#### **The FORNY2020 programme: proof-of-concept funding**

- Funding may be sought for research-based commercialisation projects with the objective of carrying out proof-of-concept activities.
- Proof-of-concept funding encompasses all disciplines and business areas and is designed to support verification of concepts that can result in new products, processes and services in all sectors.
- Applicants may be required to contribute funding to the project.
- Projects will be assessed by external referees with relevant experience and an eye for innovation to ensure that priority is given to projects at the forefront of their field. The application review process is designed to ensure that adequate consideration is given to both commercial and technological/conceptual aspects and will be carried out based on established criteria.

#### **Follow-up of projects receiving proof-of-concept funding**

Projects will be closely monitored throughout the project period. This may be done in cooperation with experts from academia, trade and industry, and the public agencies within the research and innovation system. Allocations may be increased, reduced or terminated, depending on the status of the results achieved underway.

Performance indicators to measure the results of the project portfolio will be developed during the first year of the programme.

### 5.2 Basic funding for TTOs

The process of creating a culture for innovation, nurturing ideas, and establishing and bringing projects to market is long and resource-intensive and requires expertise in a number of disciplines and technology areas. In addition to cooperating closely with academic institutions, TTOs have to cultivate productive relationships with industry, market and financial players. This is a demanding task that calls for wide-ranging experience and well-functioning management systems.

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Experience both at home and abroad has shown that it takes a long time for players responsible for commercialisation of R&D results to gather enough funding to finance necessary activities on their own.

Basic funding for TTOs under the FORNY2020 programme will therefore support innovation and technology and knowledge transfer in the broad sense, including commercialisation of R&D results with commercial potential.

TTOs are partly or wholly owned by players in the public sector and have a board that is responsible for ensuring that the TTO achieves its owners' objectives. Basic funding for TTOs under the FORNY2020 programme is designed to bolster the TTOs' operating assets and must be used in accordance with the priorities and plans of the individual TTO's owners and governing bodies.

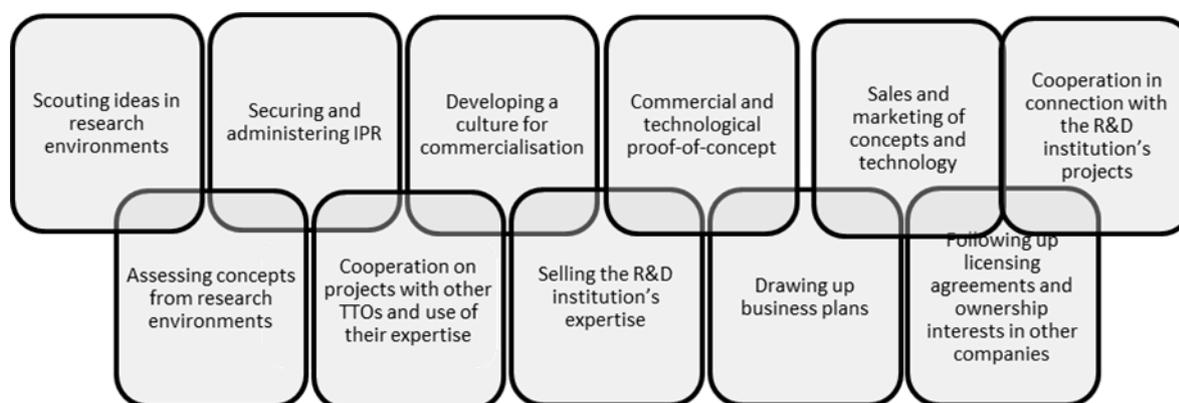


Figure 1. Selected TTO tasks.

### The FORNY2020 programme: basic funding for TTOs

- To ensure stability, basic funding is awarded as multi-year funding.
- Basic funding may be sought by all TTOs that fall under the definition in Chapter 4. Target groups.
- Basic funding may cover up to 50 per cent of the TTOs' operating expenses, provided that the TTO, its owners or other parties contribute a minimum corresponding amount. TTOs must report their results on an annual basis to the FORNY2020 programme, in accordance with Research Council routines and requirements.

Basic funding for TTOs under the FORNY2020 programme is awarded in two ways: one is after discretionary assessment based on a set of defined criteria, and the other is on the basis of performance.

Discretionary assessment of grant proposals is based on specific criteria set out in the individual calls for proposal. Criteria may include:

- Access to internal or external commercialisation experts.
- The objectives and strategies of the TTO, and the extent to which it has achieved its objectives.
- The extent to which the TTO conforms to the strategic plans of the research institution.

- Collaboration with other TTOs, seed funds, venture funds, trade and industry, and the public sector.
- Number of researcher years employed by the research groups represented by the TTO.

The results-based portion of the funding will be awarded on the basis of criteria that also serve as performance indicators for the programme. These will be developed during the first year of the programme and specified in the calls.

### **Follow-up of TTOs receiving basic funding**

TTOs receiving basic funding will be followed up on an annual basis using indicators for performance and achievement of objectives, which will be developed in cooperation with relevant players and the allocating ministries.

## **5.3 Measures to enhance structure and promote network-building and competence-building at TTOs**

The FORNY 2020 programme will provide funding for measures to improve integration and collaboration between trade and industry, research groups and TTOs. The aim is to boost interaction and mobility of ideas and specialist expertise. The instruments to be employed to achieve this aim will be developed in close dialogue with relevant stakeholders.

Such instruments may include:

- Incentives for restructuring, collaboration and specialisation;
- Funding for competence-building programmes, gatherings of project managers, and strengthening professional management/development teams in order to realise successful projects;
- Incentives for network-building in domestic and international markets and vis-à-vis trade and industry and the finance community;
- Funding for mentoring schemes.

Information about measures will be made available to potential applicants on an ongoing basis throughout the year or via funding announcements with open-ended deadlines.

The FORNY2020 programme will promote interaction within the innovation system and between various programmes and public agencies within the research and innovation system, including other programmes and centre schemes at the Research Council, entrepreneurship training programmes, SIVA – The Industrial Development Corporation of Norway's industry incubators, the Norwegian Industrial Property Office, the Norwegian Design Council's programmes, and Innovation Norway's programmes and regional and international offices.

## 6. Further development of instruments

The government white papers on research, *Climate for Research*, and innovation, *An Innovative and Sustainable Norway*,<sup>9</sup> identify the need to strengthen the knowledge base for research and innovation policy, with an eye to improving follow-up of the resources invested in and the results of Norwegian research. Such follow-up will require the systematic development of statistics and indicators, and may be supplemented by research and analysis both at the programme level and an overall level.

A number of evaluations of the previous FORNY programme were conducted, most recently in 2005<sup>210</sup>, 2008<sup>11</sup>, and 2009.<sup>12</sup> In addition, the programme administration systematically compiled data on the results of programme activities since 2005. These provide important documentation for measuring the impact of the programme and for developing new instruments within the programme's area of activity, which will be continued under the FORNY2020 programme.

A mid-term evaluation of the FORNY2020 programme will be conducted after five years and a final evaluation upon conclusion of the programme, in accordance with Research Council guidelines. In addition, studies and analyses of programme activities may be undertaken as needed to ensure that there is adequate knowledge for the further development of the programme. Such studies and analyses may be performed by the programme administration or by external consultants. The programme board will assess the instruments employed by the programme on an annual basis and make any necessary adjustments.

## 7. International cooperation

The FORNY2020 programme will continue to participate in international cooperation involving knowledge related to publicly-funded stimulation activities to promote research-based industrial development.

Key areas of cooperation include sharing of experience related to various instruments, models for organising commercialisation activities and coordination between various segments of the innovation system. The programme will cooperate with individual organisations, under EU programmes and through the Association for Technology Implementation in Europe (TAFTIE).

International cooperation is a key component of a number of projects funded under the FORNY2020 programme. Grant recipients may choose to participate in cooperative activities or procure services nationally or internationally, depending on where the best expertise for their project is found.

Cooperation with similar programmes in other countries may be relevant, as well as bilateral cooperation with companies or company organisations in other countries.

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<sup>9</sup> Report No. 7 (2008-2009) to the Storting: *An Innovative and Sustainable Norway*.

<sup>10</sup> Telemark Research Institute Working Report 5/2005.

<sup>11</sup> NIFU STEP Report 34/2008.

<sup>12</sup> NIFU STEP Report 19/2009.

## 8. Organisation

The programme board of the FORNY2020 programme is appointed by and reports to the Research Board of the Division for Innovation. The programme board will carry out its activities in accordance with its mandate and with the overall principles and guidelines for the establishment, operation and conclusion of research programmes as set out by the Research Council. Changes in the national budget and the annual ministerial allocation letters may affect the programme board's latitude for action.

The programme administration of the FORNY2020 programme is responsible for the day-to-day tasks of the programme and consists of a programme coordinator assisted by personnel with expertise to carry out the administrative functions of the programme. The programme encompasses all disciplines and business areas, and must therefore draw upon external scientific expertise for application review and project follow-up, in the form of ad hoc assistance from thematic research programmes at the Research Council or by hiring in external specialists when necessary.

The FORNY2020 programme will strive to achieve a gender balance in the programme's governing bodies, referee panels, and other advisory groups and committees, with at least 40 per cent participation of each gender.

## 9. Coordination with other related instruments at the Research Council

The FORNY2020 programme facilitates the transformation of research results from publicly-funded research institutions into commercial innovation projects that will attract investment from national and international trade and industry and the public sector. The programme encompasses all disciplines and business areas, and provides funding for the phases after research has been completed through to market launch or application in the public sector.

The FORNY2020 programme does not provide support for research activities. The programme allocates funding for activities to verify and document the application of R&D results and confirm whether or not the results can lead to substantial commercial returns or be of some other major benefit to society. The FORNY2020 programme thus fills a different role within the research and innovation system than other programmes at the Research Council.

Newly-established companies whose activities are based partially or entirely on intellectual property from publicly-funded research institutions are eligible to apply for funding for proof-of-concept activities under the FORNY2020 programme. They are also eligible to apply for funding for continued research activities under other programmes at the Research Council in the form of Innovation Projects for the Industrial/Public Sector. The FORNY2020 programme will therefore serve as a supplement to other research and innovation programmes at the Research Council.

## 10. Communication and dissemination activities

Information activities about the programme's area of activity, instruments and results are to be a step in enhancing value creation as well as draw attention to how concepts and R&D results can benefit society. The programme will disseminate information about ongoing projects and results to the political authorities and to society at large.

The programme will disseminate results from the most promising research-based commercialisation projects and newly-established, research-based growth companies, regardless of the institutional affiliation, location, gender or ethnicity of the originator of the idea or entrepreneur behind the company.

The programme's webpages, the Research Council website, and national and regional media are relevant dissemination channels. All communication materials will be quality assured.

The programme will draw up a communication plan that will be updated on an annual basis. The results of communication activities will be reported to the division research board and allocating ministries, also on an annual basis.

The impact of communication measures may be measured by the following indicators, among others:

- The level of activity on [www.forskningsradet.no/FORNY2020](http://www.forskningsradet.no/FORNY2020);
- The degree to which the programme is well known among the target groups and other relevant groups;
- The number of articles in the national media profiling projects receiving funding under the FORNY2020 programme.

## 11. Budget

The FORNY2020 programme aspires to be one of the Research Council's key instruments for promoting the use of R&D results from publicly-funded research institutions. The Research Council will increase the programme's budget in accordance with programme developments and the needs of society. Stable, reliable allocations are vital to further developing professional, efficient and specialised TTOs associated with publicly-funded research institutions.

The previous FORNY programme developed and adjusted its area of activity in response to identified needs and the resources provided by the allocating authorities. The FORNY programme was launched in 1995 with a budget of NOK 27 million. The budget for the FORNY2020 programme for 2011 is NOK 107 million, allocated by the Ministry of Trade and Industry (84 per cent), the Ministry of Education and Research (12 per cent), and the Ministry of Fisheries and Coastal Affairs (4 per cent).

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The programme's budget for 2011 makes up 0.4 per cent of overall public investment in research (NOK 24 billion). To achieve the objective of improving the utilisation of research results, a better balance must be achieved between investment in research and funding for realising the potential inherent in the results of research. The FORNY2020 programme will play a key part in these efforts.

The goal is to boost allocations to the FORNY2020 programme and for commercialisation of R&D results to 1 per cent of the overall allocations to research. Ideally, allocations to the programme should, in time, amount to around NOK 240 million annually. A gradual increase in the programme budget over a five-year period is recommended.

The majority of funding under the programme will be allocated to proof-of-concept projects. Basic funding for TTOs will remain at the current level in the short term, and will be gradually reduced over time.