Work Programme

In effect from 2018

Commercialising R&D Results – FORNY2020
Contents
1 Summary......................................................................................................................... 4
2 Background and challenges ......................................................................................... 6
3 Objectives of the programme ...................................................................................... 7
   3.1 Primary objective ..................................................................................................... 7
   3.2 Secondary objectives .............................................................................................. 8
4 Thematic and scientific priority areas .................................................................. 9
5 Priorities for structuring the research effort .............................................................. 9
   5.1 Priorities for the assessment process .................................................................. 10
   5.2 Commercial proof-of-concept funding ................................................................. 10
   5.3 STUD-ENT funding .............................................................................................. 11
   5.4 Local project funding ........................................................................................... 11
   5.5 Measures to enhance structure and promote network-building and competence-building at TTOs 12
6 Cooperation with related instruments ................................................................. 12
7 Anticipated results, impacts and societal outcomes .................................................. 13
8 Resources and budget ............................................................................................... 15
9 Governance and organisation .................................................................................... 15
1 Summary

The FORNY programme under the Research Council of Norway is specifically aimed at increasing the commercial utilisation of results from publicly-funded R&D in Norway. By funding the projects with the greatest commercial potential, the FORNY programme will help to bring promising R&D results closer or all the way to the market.

The various instruments under the programme are designed to enhance the professionalism of the Technology Transfer Offices (TTOs) at the regional level, and to provide funding through national competitive arenas to the most promising projects that, if successful, may result in new patents, licensing agreements, investments, jobs and company start-ups.

The four main instruments employed by the programme are:

- **Proof-of-concept funding**: a national competitive arena for verification of the most promising R&D results showing significant commercial potential, including in international markets;
- **STUD-ENT funding**: a national competitive arena for verification of top student-driven projects that show significant commercial potential, including international markets;
- **Local project funding**: a national competitive arena to fund early-phase proof-of-concept activities at the regional level via the Technology Transfer Offices (TTOs), the programme's primary partners.
- **Measures to enhance structure and promote network-building and competence-building at TTOs**: a national competitive arena to further develop the TTOs.

In addition, the programme works actively to recruit external referees to assess project proposals and provide valuable feedback, and to link projects with other relevant actors, other public agencies in the research and innovation system, trade and industry and the national and international capital market.

The programme organises an important annual meeting place where the TTOs and their project managers can meet and exchange experience, and will work actively to further develop this into a central hub of interaction for public funding agencies. The FORNY programme also holds meetings with the heads of TTOs roughly three times a year as a means of further developing the programme and fostering a sense of ownership of, and strategic support for, the various programme instruments.

There is a clearly stated political interest in intensifying the commercial utilisation of Norwegian research efforts, and this is yielding a wider range of new research-based concepts for the TTOs and more projects in need of verification with a view to commercialisation. The FORNY programme is designed to compensate for the lack of private capital in the early phases of project development. In this phase, the potential utility and profitability of a project are not always adequately documented, and the level of technological and financial risk may be too high for private or public actors to be willing to assume responsibility for further development.

The FORNY programme has no thematic, scientific, sectoral or industrial priorities, and provides funding to commercialisation projects that are based partially or entirely on R&D results from publicly-funded research institutions in Norway. The programme funds projects from all industries, at various levels of maturity and with different paths to market. There are no unilateral requirements relating to technology readiness levels (TRL)\(^1\), but the programme stipulates clear criteria relating to

---

types of proof-of-concept activity, performance indicators for measuring results, implementation capacity and the ability to trigger commercialisation activity.

The FORNY programme gives priority to projects that are expected to lead to substantial commercial returns and/or other major societal benefits, and that have an excellent implementation capacity. The programme supports the development of concepts and R&D results generated by both researchers and students in institutions of higher education.

The FORNY programme continues the activities of the previous FORNY programmes and seeks to expand the programme and instruments related to commercialisation on an ongoing basis.
2 Background and challenges

The Programme on Commercialising R&D Results (FORNY) under the Research Council of Norway has provided funding for the commercialisation of research results through Technology Transfer Offices (TTO) at Norwegian research institutions for over 20 years. These efforts were intensified following an amendment to legislation in 2004 that gave universities and university colleges an independent responsibility for ensuring that R&D results were realised and used to promote industrial development and increase competitiveness.

Ambitions to encourage entrepreneurial thinking and commercialisation activities within research groups are set out in the Government Entrepreneurship Plan² (2015), which states among other things: “From a social perspective it is desirable to increase the commercial utilisation of Norwegian research efforts. Too little of the effort results in new, profitable businesses... The Government wants a greater yield on society’s research efforts. It is necessary to strengthen entrepreneurship culture at research institutions, and to link student-oriented measures to the commercialisation efforts.”

The Norwegian Government’s Long-term plan for research and higher education 2015–2024³ states that the “The Government wants to achieve...more research-based innovation, new establishments and commercialisation,” and “The Government wants to facilitate research-based new businesses, and commercialisation of public research results.”

An evaluation of the public agencies for the commercialisation of R&D results⁴ carried out by the Nordic Institute for Studies in Innovation, Research and Education (NIFU) states “The FORNY programme is the key instrument for commercialisation in Norway, and the programme has played a crucial role in developing the commercialisation system... The programme has helped to establish a far more efficient system for commercialisation of research than was previously in place. The Transfer Technology Offices (TTOs) must satisfy stricter eligibility requirements to become partners under the FORNY programme, and they have become more professional. This includes developing more effective selection mechanisms to ensure that resources are targeted more towards the most interesting commercialisation projects. In recent years, there has been a substantial increase in the number of commercialisations.” The report also states that the Research Council has, and should continue to have, a key role in the commercialisation activities of research institutions.

The Confederation of Norwegian Enterprise’s (NHO) innovation policy document, Næringslivet former fremtiden (2016) [Trade and industry shape the future]⁵ states that “The FORNY programme should be substantially expanded in coming years. Allocations to the programme should be increased to NOK 500 million by 2020, corresponding to approximately two per cent of research funding allocations overall.”

In its evaluation of the Norwegian innovation system,⁶ the Organisation for Economic Co-operation and Development (OECD) is critical to what it called “limited incentives for commercialisation” and recommends increasing allocations for activities under the FORNY programme.

---

² https://www.regjeringen.no/contentassets/ff38c0b943c740fea43752f099a2632c/grunderplan_2015.pdf
³ https://www.regjeringen.no/contentassets/e10e5d5e2198426788ae4f1ecb0cbbb20/150007000dddpdfs.pdf
⁴ NIFU 18/2015
In *Research for Innovation and Sustainability: Strategy for the Research Council of Norway 2015–2020* (2015), the Council emphasises the importance of utilising and commercialising R&D results to increase value creation, productivity and competitiveness. It is a problem that research results with high innovation potential currently produced by research institutions do not have support far enough along the path to commercialisation, and this must be addressed strategically, culturally and financially. The Research Council will work to enable trade and industry to establish ties with the best research and innovation groups and will extend support to promising projects all the way through to commercialisation.

There is a need for measures to compensate for the lack of private capital in the early phases of project development. In this phase, the potential utility and profitability of a project are not always adequately documented, and the level of technological and financial risk is too high for private or public actors 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 FORNY programme has been designed with precisely this need for a compensatory measure in mind.

## 3 Objectives of the programme

The FORNY programme is to help the Research Council to realise the established performance target to increase value creation in trade and industry. The Research Council helps to increase value creation by:

1. enhancing the capacity for restructuring in the Norwegian economy;
2. increasing competitiveness in new and existing industries;
3. promoting better cooperation and knowledge transfer between R&D institutions and trade and industry.

The programme is to follow up the Government’s Long-term plan for research and higher education by promoting increased commercialisation and innovation activity among publicly-funded research institutions.

### 3.1 Primary objective

<table>
<thead>
<tr>
<th>Primary objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>The primary objective of the FORNY2020 programme is to increase the commercial utilisation of high-potential R&amp;D results from publicly-funded Norwegian research institutions.</td>
</tr>
</tbody>
</table>

By mobilising, assessing, funding, following up and giving a higher profile to the projects with the greatest commercial potential, the FORNY programme will help to bring R&D results from publicly-funded research institutions closer or all the way to the market.

---

1 [https://www.forskningsradet.no/servlet/Satellite?blobcol=urldata&blobheader=application%2Fpdf&blobheadername1=Content-Disposition&blobheadervalue1=attachment%3B+filename%3D%2Frhovedstrategiwebbokm%C3%A5l.pdf%22&blobkey id=blobtable=MungoBlobs&blobwhere=1274508360386&ssbinary=true](https://www.forskningsradet.no/servlet/Satellite?blobcol=urldata&blobheader=application%2Fpdf&blobheadername1=Content-Disposition&blobheadervalue1=attachment%3B+filename%3D%2Frhovedstrategiwebbokm%C3%A5l.pdf%22&blobkey id=blobtable=MungoBlobs&blobwhere=1274508360386&ssbinary=true)
3.2 Secondary objectives

**Secondary objective 1**
Bring commercially promising research results closer or all the way to the market by reducing the level of risk, and thereby helping to set in motion the next stage of the commercialisation process.

Through its Proof-of-concept and STUD-ENT funding schemes, the FORNY programme helps to reduce the level of risk associated with commercially promising projects by clarifying application and market potential; testing the concept, technology or prototype; demonstration; developing a business model; securing rights; establishing contact with customers and users, and more.

In the short term, the results of this clarification will prompt the next stage of the commercialisation process for these projects.

The purpose of proof-of-concept activities is to ensure that the most important questions and uncertainties are well enough clarified to lead to the next step of the commercialisation process, and pave the way for other funding instruments, public clients or private actors to invest.

**Secondary objective 2**
To encourage the establishment of professional, efficient and specialised commercialisation actors (TTOs) associated with publicly-funded research institutions in Norway.

The FORNY programme will continue its close cooperation with TTOs and promote further development of professional, efficient and specialised TTOs associated with publicly-funded research institutions in Norway.

Through its Local project funding scheme, the FORNY programme provides funding to the best TTOs for early-phase proof-of-concept activities at the regional level. The measures to enhance structure and promote network-building and competence-building at TTOs help to develop and encourage a culture for innovation and collaboration between TTOs. These measures also help to build networks targeted towards industrial circles and expand cooperation with companies.

**Secondary objective 3**
A more widespread culture for entrepreneurship and commercialisation among students, researchers and administrators at Norwegian academic and research institutions.
Many of tomorrow’s jobs are expected to have their origin in new, high-potential research results combined with individuals who have the courage to take a chance on their own abilities and ideas. University colleges, universities and research institutions play a crucial role in cultivating greater interest in and knowledge about entrepreneurship and commercialisation among researchers and students.

The FORNY programme uses competitive arenas that identify the best projects in order to increase, directly and indirectly, interest in and knowledge about entrepreneurship and commercialisation.

The programme organises an important annual meeting place where the TTOs and their project managers can meet and exchange experience. The FORNY programme also holds meetings with the heads of TTOs roughly three times a year as a means of further developing the programme and fostering a sense of ownership of, and strategic support for, the programme instruments. Beyond this, the programme works actively to promote a culture for entrepreneurship and commercialisation among students, researchers and the administrators at Norwegian universities, university colleges and research institutions.

4 Thematic and scientific priority areas

The FORNY programme has no thematic, scientific, sectoral or industrial priorities, and provides funding to commercialisation projects that are based partially or entirely on R&D results from publicly-funded research institutions in Norway. The programme funds projects from all industries, at various levels of maturity and with different paths to market. There are no unilateral requirements relating to technology readiness levels (TRL), but the programme stipulates clear criteria relating to types of proof-of-concept activity, performance indicators for measuring results, implementation capacity and the ability to trigger commercialisation activity.

The programme supports the development of concepts and R&D results generated by both researchers and students in institutions of higher education, and from research institutions.

5 Priorities for structuring the research effort

In order to achieve the FORNY programme’s primary objective to increase commercial utilisation of high-potential R&D results from publicly-funded research institutions, the programme will prioritise the following strategic tasks:

1) Mobilising, assessing, funding, following up and giving a higher profile to the best, most promising student- and researcher-driven projects;
2) Mobilising, assessing, funding and following up early-phase proof-of-concept activities at the regional level from the best TTOs;
3) Funding the best competence-building projects at TTOs;
4) Attracting more external referees to assess project proposals and provide valuable feedback;
5) Linking projects with other national and international funding instruments and stakeholders;
6) Increasing interest in commercialisation within institutions and expanding the role of TTOs in these activities;
7) Increasing interest in and knowledge about entrepreneurship among students and researchers;

8) Promoting cooperation and the exchange of experience between the TTOs;
9) Promoting cooperation with the other relevant public agencies, both nationally and internationally;
10) Actively seeking out the experiences of other countries and further developing the programme.

5.1 Priorities for the assessment process

Researcher projects normally comprise ground-breaking activities that are ahead of the current market. In researcher projects seeking to commercialise their results, it is important to be able to find a balance between the push towards further technology development and the need to clarify its market potential. Customer focus is often not included until too late in the process. As time to market is critical, it is essential that projects do not spend unnecessary time and resources on technology development based on market assumptions instead of seeking market insights and verifying the assumptions underlying the technology being developed and its commercial potential.

The competition-based funding schemes focus on selecting and providing funding for the best-planned projects with the greatest commercial potential and implementation capacity (team). A key element of the FORNY application review process is matching projects to relevant referee panel members with the expertise to review project plans and assumptions with a critical eye and provide valuable feedback on priorities and resource use during a crucial phase of the commercialisation process.

In the application review process the Research Council uses only external referees with relevant experience in relation to the individual grant applications. These external referees have a background as an investor, business developer, technology developer, serial entrepreneur or the like, and provide critical and practical advice for all grant applications, regardless of whether applicants receive financial support. This unique approach makes the competition itself and feedback from the referee panels essentially as valuable as the potential for obtaining funding at this stage. For projects that have been assessed and given priority, it serves as a seal of approval which can spark the interest of private actors.

The Research Council is a strong trademark that stands for neutrality, credibility and a solid reputation, and there is great potential to use this position to attract more investors/business developers/industry experts who can provide precise, qualitative feedback in the panel reviews, and can help to open doors and establish ties to important national and international business networks.

5.2 Commercial proof-of-concept funding

The FORNY programme is a competition-based funding scheme that selects, funds, follows up and increases the visibility of the researcher projects with the highest commercial potential at the national level.

Typical 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 establishing contact with customers and users.

Referees provide comprehensive feedback for all grant applications in the application review process, regardless of whether applicants receive financial support. Thus, this funding instrument also serves as a learning arena for projects and TTOs.
Proof-of-concept funding is to be awarded to business-driven, business-oriented projects; it is not intended to finance research activities. The competition gives priority to projects that are expected to lead to substantial commercial returns and/or other major societal benefits, and that have an excellent implementation capacity.

Proof-of-concept funding is not intended to be an alternative to private funding. Projects that already have other funding or are considered to be in a position to obtain other funding may fall outside the target group for this type of FORNY funding.

Proof-of-concept funding is also not intended to finance the entire commercialisation phase, nor does it support the general development of products or companies. This type of funding is to be used to clarify uncertainties related to the commercial utilisation of research, i.e. questions that will prevent the project from moving forward in the commercialisation process if they remain unanswered. At project completion, the objective is to have clarified the most critical questions and uncertainties associated with a project at a good enough level to set in motion the next step, in which clients in the public sector or private stakeholders are able to take over the continued commercialisation and industrialisation activities.

5.3 STUD-ENT funding
The STUD-ENT funding scheme is the Research Council’s national competitive arena in which students, together with higher education institutions, may seek financial support for realising their knowledge- and/or research-based business ideas. The scheme corresponds, by and large, to FORNY Proof-of-concept funding, and the application review process here is also carried out exclusively by external referees with relevant business experience. The referees ask critical questions and provide practical advice for all grant applications, regardless of whether the applicants receive financial support. Thus, the STUD-ENT funding process also serves as a practical learning arena for students who would like to become entrepreneurs and institutions of higher education that wish to provide high-quality education in the area of entrepreneurship.

Many universities and university colleges are already taking active steps to support students with business ideas. STUD-ENT funding gives these institutions the opportunity to focus on the most promising ideas from their students and to develop local role models that promote student entrepreneurship and a culture for commercialisation internally.

By giving the best projects and educational institutions a higher profile in a national competitive arena, STUD-ENT funding enables institutions to compete more successfully for the best students.

As with proof-of-concept activities, the objective of the completed projects is to clarify the most critical questions and uncertainties well enough to prompt the next commercialisation step, in which industry, customers, partners, investors or other actors are able to contribute to the continued commercialisation and industrialisation activities.

5.4 Local project funding
Local project funding is awarded in a national competition to fund early-phase proof-of-concept activities at the regional level via TTOs, the programme’s primary partners. Local project funding is used for:
1) regional-level early-phase proof-of-concept activities to determine whether concepts and R&D results are suitable for commercialisation;

2) determining the potential for further funding (private or public funding schemes, including the FORNY programme’s proof-of-concept funding).

TTOs are assessed on the basis of results, volume of new research-based concepts, potential of affiliated research groups, utilisation of the unique strengths of these research groups, internal TTO work methods and resources as well as TTO cooperation with local, national and international trade and industry.

The objective of the Local project funding scheme is to increase the number of better qualified project concepts submitted by researchers and students, as well as to increase the number and quality of projects that advance from the regional competition to the national competitive arena for verification of concepts with a view to commercialisation.

5.5 Measures to enhance structure and promote network-building and competence-building at TTOs

The measures to enhance structure and promote network-building and competence-building help to develop and encourage a culture for innovation at the institutions and at the TTOs, and to promote collaboration between TTOs. These measures also help to build networks targeted towards industrial circles and expand cooperation with companies.

The purpose here is to aid the programme’s primary partners, the TTOs, in becoming more professional and specialised, and to enhance the culture for entrepreneurship and commercialisation in the administrations at Norwegian universities, university colleges and research institutions.

6 Cooperation with related instruments

Cooperation with related instruments with direct or indirect significance for the commercialisation of R&D results is essential for achieving the programme’s primary objective. Of crucial importance is the ability to succeed in providing guidance and linking projects with other relevant actors, other Research Council funding instruments, other public agencies in the research and innovation system, trade and industry and the national and international capital market.

The role of the Research Council is to help to bring promising R&D results closer to the market. Innovation Norway contributes to company and business development, and SIVA – The Industrial Development Corporation of Norway, provides support for innovation-related infrastructure. The Research Council and Innovation Norway provide direct support to projects, while SIVA contributes indirectly and by developing innovation enterprises such as TTOs and incubators. Risk capital provided through seed funds under Innovation Norway also plays a major role in the early commercialisation phase.

The Research Council sees a need for expanding collaboration and optimising the synergy between public agencies in the research and innovation system. The role played by SIVA in relation to incubators is a very interesting one now that more TTOs and universities are more actively including them in their activities. Activities relating to commercialisation are to incorporate two important aspects – the scientific activities at the institutions and the creation of closer ties with industry. These are areas it will be natural for the Research Council to follow up in close cooperation with the institutions as knowledge producers and owners of the TTOs.
The FORNY programme also plays an important role in connecting projects to relevant incubators, start-ups, industry and the capital market in key international markets such as Scandinavia, Europe, North America and Asia. The competitive funding arenas provide the FORNY programme with broad insight into the characteristics of a successful project and the actors that may play a critical part in the further progress of the projects. This kind of insight is not something the individual environments can acquire on their own, so the projects are dependent on the Research Council to provide this. Therefore, the FORNY programme works actively to stay updated regarding developments in other public agencies in the research and innovation system, other actors, trade and industry and the national and international capital market.

The FORNY programme also plays an important role in drawing attention to the best projects and cultivating greater interest in Norwegian research-based start-ups among established companies and national and international capital markets. The programme will give priority to taking part in relevant arenas and events and will develop a media strategy that promotes visibility both in Norway and abroad.

7 Anticipated results, impacts and societal outcomes

Projects under the FORNY programme do not report on results themselves; instead, each TTO submits the overall results from its research institutions for a number of indicators of relevance to the programme. The performance indicators include amount of foreign capital invested, number of new or improved products, processes or services developed; licensing agreements; and patent applications. The results show a very positive trend and all key indicators have doubled in the period 2012–2016.

Commercialising R&D results requires a long-term innovation pathway that entails high risk in the initial years. For technology development it can often take 5–10 years before the technology and market potential are verified, and the results exhibit low enough risk to attract private capital to take over the process.

The FORNY programme is a unique instrument that covers the decisive phase between the actual research and successful verification in terms of technology and market interest. This is a highly critical phase in which uncertainty surrounding the commercial application of the research is addressed, questions that will prevent the project from moving forward in the commercialisation process if they remain unanswered.

The FORNY programme is to help the Research Council to realise the established performance target to increase value creation in trade and industry. The programme’s anticipated results, impacts and societal outcomes are best illustrated through its programme logic model:
The model is presented in two versions: a simplified model and a detailed model (see attachment).

**Primary objective**: see Chapter 3.1 for detailed description.

**Secondary objectives**: see Chapter 3.2 for detailed description.

**Activities**: see Chapter 5 for detailed description.

**Results**: In the short term (up to three years) clearly identified, measurable results are expected within two main areas:

1) **Project results**: measurable results from the projects such as new patents, licensing agreements, investments, jobs and company start-ups;

2) **Ecosystem results**: measurable results from the programme and the TTOs in that a greater number of better qualified project concepts are advancing in the commercialisation process.

These results on their own do not represent a significant contribution towards achieving the Research Council’s performance targets, but they are expected to set activities in motion to bring projects closer or all the way to the market. For instance, patents in themselves are not a value-creation target, but a patent can represent an important clarification of rights, which in turn may lead to new investment in a project or company start-up and thus move the project forward in the commercialisation process.

**Impacts**: In a slightly longer perspective (4–6 years), it is anticipated that a larger number of projects will be further developed, leading to new licensing agreements, new investments from established industry or the emergence of new start-ups. Visible results and proven success stories are expected to increase interest in Norwegian research and start-ups among established companies and the capital market. A ripple effect, where more projects seek to commercialise their results, is also expected to occur.

**Societal outcomes**: In the long term, it is anticipated that there will be greater interest and cooperation between trade and industry and academia, as well as increased value creation and enhanced competitiveness in Norwegian trade and industry.
8 Resources and budget

The Programme on Commercialising R&D Results (FORNY) under the Research Council of Norway provides funding for the commercialisation of R&D results through Technology Transfer Offices (TTO) at Norwegian research institutions. These efforts were intensified following an amendment to legislation in 2004 that gave universities and university colleges an independent responsibility for ensuring that R&D results were realised and used to promote industrial development and increased competitiveness.

In its evaluation of public agencies for the commercialisation of R&D results9, the Nordic Institute for Studies in Innovation, Research and Education (NIFU) recommends strengthening the FORNY programme by increasing its budget to NOK 300 million over next few years. According to NIFU, this will enable the programme to expand its efforts in current areas (Local project funding and Proof-of-concept funding) and the leeway to enter into new areas, such as funding for the development of broader areas of technology and investment in student-oriented measures.

In its evaluation of the Norwegian innovation system,10 the Organisation for Economic Co-operation and Development (OECD) is critical to what it called “limited incentives for commercialisation”, and recommends increasing allocations for activities under the FORNY programme.

The Research Council intends to make the FORNY programme a key instrument for promoting the utilisation of R&D results in Norway. The Council recommends increasing 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.

9 NIFU 18/2015

9 Governance and organisation

The programme board of the FORNY 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 Research Council’s guidelines for programme boards, national budget and the annual ministerial allocation letters will affect the programme board’s latitude for action.

The programme administration of the FORNY programme is responsible for the day-to-day tasks of the programme and consists of a programme coordinator assisted by personnel who 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.

The FORNY 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.