

# Strategy for innovation in the public sector

## Foreword

There is a pressing need for a new approach in research and innovation efforts within and for the public sector. That is the main message of this strategy. The public sector constitutes half of the national economy, but over 90 per cent of the Research Council's annual allocations to innovation go to the private sector. We must find the right steps to achieve a better balance between innovation efforts targeting the business sector and those targeting the public sector.

The Research Council is still in the first stages of developing effective instruments to increase cooperation on research-supported innovation in the public sector. Moving forward in these efforts will require an active dialogue with relevant ministries, the public sector itself, the research community at large, and others.

The Research Council has an overall responsibility to enhance the research and innovation system and thereby enable the research community to play a wider role in developing a more knowledge-based, innovative public sector. The solutions to many social challenges, such as climate change, rising inequality, changing demographics and increased migration, will require collaboration across the traditional dividing lines between disciplines and sectors. The current framework of research activity is not always aligned with the knowledge needs of municipal, regional and state stakeholders. Nor does the public sector always manage to take full advantage of relevant research findings.

Encouraging competition and providing funding for the best projects gives us greater insight into both the opportunities and the obstacles in this area. A growing number of our research programmes are announcing funding for innovation projects in the public sector, and this has already led to many good results. This strategy will take the Research Council's activities to promote innovation in the public sector a major step further.

We understand that the grand societal challenges are global. The UN Sustainable Development Goals establish a framework for good global solutions; success in finding these will require, among other things, international research collaboration. Norwegian municipalities and state service providers and public agencies can learn much from other countries, both in terms of renewal in their own activities and in terms of local contributions to global solutions. Cooperation with internationally oriented research groups and participation in the Horizon 2020 framework programme can play a crucial role in helping to bring home innovation, knowledge and experience from other countries.

John Arne Røttingen  
Chief Executive

# ***1 Platform for the Research Council's efforts to promote innovation in the public sector***

## **1.1 Challenges and opportunities**

### **Major societal challenges call for more knowledge and innovation**

A new approach is called for in research and innovation efforts within and for the public sector. Rapid-paced societal change makes it necessary to devise new public solutions. A decline in the proportion of the active working population relative to the non-working population is posing challenges to the foundation for the welfare state. Both the expectations relating to and the costs of operating the public sector are rising in many areas, even as the funding base is growing increasingly uncertain. Moreover, new thinking is needed across many segments of the public and private sectors in order to deal with the ramifications of climate change, expanding migration and increasing social differences.

These *intractable and complex* challenges must be solved across subject fields and sectors, and through active international cooperation. The UN Sustainable Development Goals view environmental, economic and social development within a unified context, and establish a framework for development towards 2030. To achieve these goals, public sector entities, research environments, inhabitants, civil society and trade and industry must all work together to design new solutions. Tomorrow's public sector solutions must be based on the best knowledge available as well as on a political-administrative willingness and ability to seek knowledge-based restructuring and renewal in the public sector.

The public sector consists of

- entities within the public administration, i.e. municipal, county and state agencies;
- companies and undertakings wholly owned by public entities;
- entities that carry out tasks on behalf of the public authorities.

The public sector is society's vehicle for safeguarding communal interests, managing public resources and caring for and creating a viable foundation for its inhabitants. The public sector is democratically governed and is an integral part of a political-administrative system with a broad-based set of goals and values. It is essential that innovation efforts are firmly based on democratic decision-making processes and incorporate high-quality knowledge.

In designing its strategy for innovation in the public sector, the Research Council has focused on the need to:

- reduce the wide variation in innovation efforts in the public sector;
- strengthen innovation knowledge and innovation capabilities in the public sector;
- encourage research environments and innovation stakeholders to collaborate together more effectively.

### **Wide variation in innovation efforts**

In general, there are limited resources available within the public sector for developing innovative solutions and promoting their subsequent use. A great deal of development activity

is taking place in the sector, but there are few incentives to seek innovation, to distribute good solutions and thus to implement new solutions on a larger scale. The public sector is dominated by incremental change and improvement. There is a need for more radical innovation in the form of larger-scale, more sweeping changes. Radical innovation carries higher risk, and may have unintended consequences, or be more costly, before it begins to yield its benefits. This is particularly challenging for the public sector, where it is not clear which entities and administrative levels are responsible for innovating, and who is responsible for which tasks.

All this implies there is a need for political support for national, more systematic, cohesive actions in innovation efforts across sectors and administrative levels.

### **Innovation knowledge and innovation capabilities must be strengthened**

Innovations are new or significantly improved goods, services, processes, organisational and governing forms or concepts that are implemented to promote value creation and/or yield benefits to society.

Innovation processes in the public sector are difficult. Many decisions are dealt with at the political level, and there are clear stipulations regarding professionalism, privacy protection, equal treatment and participation in the public administration.

The political system can be an important driver of innovation, but conflicting interests and the need for agreement and balance in decision-making may also pose obstacles to innovation efforts. Research can contribute to an informed public debate and lay the foundation for more knowledge-based and forward-looking policy development, public administration and service provision.

Many reform processes and changes in the public sector are carried out without any systematic evaluation of whether the changes are actually benefiting the users and citizens. There is also a need for more knowledge about the premises for innovation, and what will be needed to implement new solutions in the public sector.

Innovation in the public sector encompasses both innovation within the public sector entities and innovation in the interplay between them. The interaction between public sector actors and their partners and the inhabitants is also important. Increasingly, traditional, agency-internal innovation processes are being supplemented by more open innovation, where new solutions are developed in collaboration between different stakeholders.

### **Knowledge environments and innovation stakeholders must collaborate together more effectively**

A number of excellent educational and research environments already have activities targeted towards the public sector's sphere of responsibility. The research institutes play an important role in this context. However, many public sector actors find that the research activities are not aligned with the knowledge needs of municipal, regional and state stakeholders. Nor does the public sector always manage to take full advantage of research findings that could be both relevant and useful. Better coordination within the research and innovation system is needed to develop a more knowledge-based, innovative public sector. The research community, with its international networks, can be an important partner in cooperation with countries facing challenges similar to Norway's. Providing research groups with framework conditions that

encourage cooperation with industry and the public sector can help to enhance the societal impacts of research.

## **1.2 The Research Council as a driving force for innovation**

### **The Research Council's role**

This strategy will enable the Research Council to be a driving force for knowledge-based, sustainable and innovative changes in the public sector. The Research Council's role in the knowledge system will enable it to strengthen cooperation between the research community, trade and industry and the public sector, in collaboration with Innovation Norway, the Agency for Public Management and eGovernment, and the Norwegian Association of Local and Regional Authorities, among others.

The strategy will provide a clear direction for activities in the Research Council's boards and administration, and will offer recommendations to relevant stakeholders in the research and innovation system. Together with the Research Council's main strategy, *Research for Innovation and Sustainability*, and the affiliated strategies for sustainability and an innovative business sector, this strategy will be an important instrument for achieving the objectives of the Government's *Long-term plan for research and higher education* and the performance targets set for the Research Council.

Knowledge-building to develop public services, government administration and infrastructure is a long-term endeavour. The strategy highlights certain areas in need of particular focus, while the specific action points chart out a course for the Research Council's efforts in the period from 2018 to 2023.

The Council will work to achieve:

- a competent public sector that incorporates research into its innovation efforts, and that works together with elected officials to innovate services, infrastructure and government administration systematically and effectively;
- a knowledge sector that collaborates closely with the public sector, and that consistently maintains a relevant, high-quality knowledge base;
- an innovative business sector, that expands its research activity together with the public sector, and views that sector as a key partner and market for developing innovative solutions;
- a civil society that has access to sound knowledge, where the inhabitants can participate in knowledge development and help to create innovative, sustainable solutions.

The Research Council will implement concrete measures to:

- encourage the research community, trade and industry and public sector actors to participate in research and innovation in and for the public sector;
- be a driving force in ensuring that renewal and innovation in the public sector are founded on new, research-based knowledge;
- ensure that relevant research is summarised, published, disseminated and shared in multiple arenas and meeting places, to enable society to make use of the knowledge that is generated;

- strengthen cooperation between stakeholders and finance specific collaborative projects;
- expand research in professional education programmes, in order to lay the foundation for better cooperation between research, professional practice and practitioners.

### **The role of research in innovation processes**

To be successful, innovation processes and the solutions that emerge from these must be based on sound, validated knowledge. Research can provide new insight into needs and expectations, development trends, changes in the framework conditions and how these changes are brought about. This enables decision-makers to understand the ramifications of changes and different policy choices.

While research can result in smart, new solutions, it can also provide insight into existing solutions, clarifying whether these have the desired effect in the right place and leading to a better understanding of how innovation can best be implemented. Research is important for understanding how to make someone else's experience function well in a new context. Research activity leads to the accumulation of a wide array of knowledge that is not always easy for others to access or use. Cooperation with one or more research groups will give public sector entities better access to a broad-based national and international knowledge pool. As public sector renewal continues, international research and innovation cooperation will provide a critical conduit for developing and exchanging knowledge with other countries that are facing similar challenges.

Research can promote innovation both directly and indirectly. The Research Council will encourage both *research-based innovation*, where research leads directly to new products and solutions, and *innovation with researcher participation*, in which researchers are partners with public sector actors, industry and civil society, and help to design and implement the projects. In both cases, the research activities will lead to valid, verifiable results, where impacts can be measured and described. In this way, research and researchers facilitate better use of resources, encourage more useful solutions for inhabitants and communities, and promote knowledge-based decision-making processes.

## **2 Focus areas**

Since 2012 the Research Council has strengthened its activities to promote innovation in the public sector. The Public Sector Ph.D. scheme (OFFPHD) was launched in 2014, and the Programme on Research and Innovation in the Local and Regional Authorities (FORKOMMUNE) was established in 2017. The application type "Innovation Project for the Public Sector" is now being employed by a number of thematic programmes in areas such as education, health, transport and ICT. User participation has been incorporated as an important principle in most of the programmes that are generating knowledge within the public sector's sphere of responsibility. There is growing awareness of public sector knowledge needs in programmes focusing on climate change, sustainability and the cities of the future. Research plays a key role in the development of professional education programmes targeted towards the public sector.

Over the next five years, the Research Council will target its activities in particular towards:

1. improving coordination and collaboration within the research and innovation system;
2. implementing larger-scale knowledge-based initiatives and a wider range of joint solutions;
3. coordinating efforts at the regional, national and international levels;
4. introducing instruments to promote experimentation, renewal and innovation.

The Research Council will place special focus on the following cross-cutting thematic areas:

5. Digitalisation, organisation and competency;
6. Service innovation, user and inhabitant involvement and social innovation;
7. Public/private cooperation and smart public procurement.

## **2.1 Improving coordination and collaboration within the research and innovation system**

Universities, university colleges and research institutes are an important for innovation in the private and public sectors alike. .

The OECD emphasises the need for projects in which talented researchers collaborate with public and private partners. It also points to Living Labs as a particularly effective project model. In these projects, students and researchers use public sector entities as arenas for testing and experimentation. In return, they help to increase public sector staff competency and implement new, research-based practice.

While cooperation between universities, university colleges and the public sector is extensive, there is wide variation in the forms and patterns it takes. There is much to be gained from systematising experience and expanding on interaction models that have had documented effects.

The research institutes are an important part of the research and innovation system for the public sector. These institutes have close contact with public sector entities through their commissioned research activity, and thus have the chance to gain in-depth insight into the sector's special needs and challenges. Their cooperation with industry gives them good knowledge of new, innovative solutions as well. There is a need for instruments to support and make better use of the unique role of the research institutes in the research and innovation system.

Public sector employees do not have easy access to scholarly publications. Scholarly dissemination and communication activities are vital to ensuring that research results are distributed throughout the public sector. The Research Council is working to promote open access to research results and stipulates requirements for dissemination and communication activities when awarding project funding. Scholarly publication of individual studies is increasing dramatically, which has led to a growing need for summarisation to show where different studies agree. Some segments of the public sector have established dedicated functions/units to meet this need.

Public sector actors need research capabilities in order to determine which of their knowledge needs will require research and how to apply potential research results within their own sector. The Public Sector Ph.D. scheme and collaborative projects involving public sector actors in research activities help to promote greater research competency in the public sector.

The numerous stakeholders and increasing need for collaboration pose special challenges for research and innovation policy for the public sector. It may be important to carry out broad-based national processes in which relevant stakeholders take part in designing national strategies for research and innovation in the 21st century (referred to as “21” processes) in many areas of society. The 21 processes that have been completed have led to a common understanding of needs and a clarification of roles and responsibilities in connection with research and innovation efforts. They have also given more weight to proposed new initiatives.

**The Research Council will work to:**

- develop an overall strategy for research and innovation in the public sector that includes analyses of knowledge needs, utilisation and dissemination of knowledge, and clarifies the roles and tasks of key innovation stakeholders;
- develop national stakeholder-driven research and innovation strategies in areas of importance to dealing with societal challenges where the public sector plays an important role;
- establish functions for summarising research studies and disseminating knowledge about the state of the art within multiple sectors of society.

**The Research Council will:**

- devise incentives to promote cooperation between universities, university colleges and research institutes and the public sector, using project funding and strategic measures;
- support arenas for testing out research-based measures, student-involved research in practice, competence development, piloting and implementation;
- finance knowledge summaries and highlight the importance of disseminating knowledge about the state of the art in areas where the public sector has major knowledge needs;
- strengthen research competency in the public sector through collaborative projects and expansion of the Public Sector Ph.D. scheme;
- facilitate increased synergies between existing national research programmes and new initiatives.

## **2.2 Implementing larger-scale knowledge-based initiatives and a wider range of joint solutions**

Achieving clearer political focus on research-supported innovation in the public sector will require a significant financial boost. Billions of kroner in grants are allocated each year for development of the public sector, but of the roughly NOK 9.5 billion that the Research Council awards for research and innovation, only NOK 400 million is targeted specifically towards renewal and innovation in the public sector. A larger share of funding for development and expansion of the public sector should be channelled through the research and innovation system, and this funding should be linked to larger-scale national initiatives, implementation of joint solutions and knowledge-based reforms.

Large-scale national initiatives, reforms, revision of the regulatory framework and structural change in the public administration may stimulate innovation in the public sector. Changes in the digital infrastructure will have an impact on how the public administration and governance can and should be constructed and on how services can be delivered. The implementation of eGovernment can make the public administration more open and more easily accessible to inhabitants and the business sector alike.

Large-scale initiatives require systematic testing of new products and processes and documentation of impacts. To avoid the extra costs of failure and prevent unintended consequences, innovation initiatives should be tested at a smaller scale before they are implemented and scaled up. Systematic trials, intervention studies and evaluations, as part of “incremental reforms”, can provide valuable knowledge and thus yield socio-economic benefits.

Norway has vast amounts of population data and high-quality registries that provide an excellent basis for statistics, analysis and other types of research. Better utilisation of public data and registries will facilitate the development of new, innovative solutions based on better insight. An open, transparent public administration and systems that provide easy, secure access to data while safeguarding personal privacy are necessary to take full advantage of this potential.

There is also a great need to obtain a better overview of innovation efforts, results and impacts in the public sector. Statistics and documentation are inadequate, which hampers knowledge development and distribution of new solutions. To ensure transparency in relation to processes and results and facilitate better distribution, it is important to encourage larger-scale joint projects across municipalities, sectors and directorates, with the active involvement of R&D groups, industry and other stakeholders. In order to achieve greater and more systematic innovation at the municipal and county level, it is essential to set aside resources for, and encourage, trial activities and experimentation. There must also be stipulations that new solutions are to be disseminated to the entire sector.

<p><b>The Research Council will work to:</b></p> <ul style="list-style-type: none"> <li>• set aside funding for research and innovation activities as part of all larger-scale development and expansion projects;</li> <li>• promote easier access to public data and registries for the purpose of analysis, research and innovation.</li> </ul> <p><b>The Research Council will:</b></p> <ul style="list-style-type: none"> <li>• strengthen data, analyses and statistics on innovation in the public sector to improve insight into the sector’s needs;</li> <li>• allocate research funding for systematic trials, intervention studies and evaluation of new solutions in the public sector;</li> <li>• develop effective mechanisms for distributing and scaling up innovations and facilitate dissemination and sharing of knowledge about the results of and experience with innovation.</li> </ul>
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**2.3 Coordinating efforts at the regional, national and international levels**

Since their launch in 2010, the regional research funds have been an active driver of Innovation Projects for the Public Sector. However, the evaluation of the funds showed there has been limited ability to expand upon the fruitful collaboration achieved between the municipalities and research groups in individual projects. The Government’s regional reform makes the Research Council’s regional presence all the more necessary, and it is an important task for the Council to consider the various schemes in an overall context. The Research Council must have the capacity to assist the municipal, county and state stakeholders in taking full advantage of the schemes that best fit their needs and situation.



Dealing with societal challenges and achieving the ambitious targets set out in the UN Sustainable Development Goals will require international cooperation at all levels: among the Nordic countries, with countries in Europe and the EU, and with countries outside Europe. Many of the innovation efforts taking place internationally are pertinent to Norwegian public sector actors, and Norwegian innovations may in turn be interesting to and applicable for other countries. Comparative analyses and imitation across national borders provide insights that can lead to innovations by placing them in a new context. Greater cooperation between the Nordic countries, for instance, may open the door to relevant knowledge transfer and the possibility of joint development of instruments and methods.

Norway has more than 25 years of experience as a participant in European research and innovation cooperation. Horizon 2020, associated partnership activities and subsequent framework programmes offer significant potential for research and innovation cooperation for the public sector. Horizon 2020 emphasises the importance of research in driving economic growth, creating jobs and fostering innovation in Europe, as well as for developing solutions that enhance sustainability, mitigate climate change and incorporate considerations relating to demographic change. Public sector actors are in demand as active participants in the projects awarded funding. Importance is attached, among other things, to public procurement as a means of strengthening the market position of public sector actors and encouraging more trade between nations. Participation in international research and innovation cooperation gives participants support for specific projects, access to networks and insight into other ways of dealing with challenges.

**The Research Council will work to:**

- ensure that regional, national and international instruments for research and innovation complement one another;
- design user-friendly advisory, supervisory and financial support schemes.

**The Research Council will:**

- expand its regional presence;
- exchange experience and further expand Nordic cooperation on research and innovation in the public sector;
- further develop instruments that encourage and qualify the public sector to participate under the EU framework programmes for research and innovation;
- develop meeting places where public entities can find relevant partners for cooperation, together with other public agencies in the EU research and innovation system.

## **2.4 Introducing instruments to promote experimentation, renewal and innovation**

When developing new instruments for the public sector it will be useful to draw on experience from the efforts carried out to increase research and innovation activity in the business sector. It will be important to determine whether existing instruments can be refined to enable public and private entities to join forces in using research and research groups to address societal challenges, innovate in the public sector and create new opportunities for the business sector.

New instruments for innovation in the public sector must encourage development-oriented research, experimentation, network building and knowledge sharing. New forms of collaboration and work methods must be tested. Mechanisms must be designed for spreading knowledge about new solutions within organisations and sectors and for demonstrating how these solutions can be implemented in new contexts. There is a need to devise instruments that can cultivate better interplay between research, education and industry, can develop knowledge environments that are informed regarding public sector needs and challenges, and can promote effective international networks.

**The Research Council will work to:**

- establish framework conditions in the public sector that promote implementation and impact assessment of new knowledge-based solutions.

**The Research Council will:**

- intensify efforts to meet the knowledge needs of the public sector;
- develop new generic funding schemes for the state sector;
- encourage experimental studies, systematic trials and research-based evaluations;
- further develop measures to increase public sector participation, such as competence brokering, funding for pre-projects and qualifying grants from the regional research funds, and provide better supervision for project development;
- launch large-scale, interdisciplinary lighthouse projects and smaller-scale centre schemes within the public sector's sphere of responsibility, which bring together stakeholders from the entire value chain;
- cooperate with other actors in the public agencies for innovation in the public sector, when this is relevant.

## 2.5 Digitalisation, organisation and competency

In the past 20 years, the Internet and digitalisation have changed society at a fundamental level. Digitalisation can renew services, processes and work methods when technology is coupled with the knowledge and skills of an organisation and its management. Concepts such as the “Internet of Things”, “big data”, “blockchain technology”, “artificial intelligence” and “gaming technology” are likely to have a tremendous impact on cooperation and service provision in both the private and the public sectors in the years to come. Digitalisation makes knowledge from all over the world electronically accessible and expands, as well as challenges, the position of the local classroom as a learning arena.

Data systems that can be used to predict needs, adapt services autonomously, detect fraud and errors and provide agencies in the public administration with decision support (often in real time) are often referred to as *artificial intelligence*. Norway is home to several research groups in the field of *artificial intelligence*, and is one of the first countries in Europe to employ it in the context of diagnostics.

A vast amount of information is collected on individuals via the digital traces we leave when we move from place to place, make purchases, and use public and private services, search engines, electronic payment solutions and social media. Such *big data* can be more widely exploited to make the public sector better at predicting needs and preventing undesirable

incidents or developments. Norway is very advanced when it comes to the use of *big data* in the area of health, especially in connection with personalised medicine.

Knowledge about big data, artificial intelligence and the dilemmas related to personal privacy and security will be important in the years ahead. The increasing amount of personal information being stored digitally is accompanied by a need for stringent requirements regarding how to manage personal privacy and digital security. Developments are opening up for monitoring and analysis of individuals at a level that has never before been possible. Ethical considerations dictate that the overall benefit to society of introducing new solutions must be weighed against the protection of personal privacy. As the amount of critical infrastructure being controlled by digital systems grows, so does the vulnerability of society to cyber attacks. Norway has been an early adopter of digitalisation in many areas, and should also be in the forefront of digital security.

Digitalisation is vital to the development of other types of critical infrastructure. “Smart cities and communities” involve among other things ensuring that water supply, electricity supply and sewerage systems function together optimally. Transport technology of the future, such as autonomous cars and other modes of transport, will yield cheaper, more efficient collective passenger transport and freight transport.

**The Research Council will work to:**

- encourage more municipal, regional and state entities to exploit the potential of digitalisation for research-based innovation through dissemination and sharing of knowledge and experience;
- achieve digital interaction between the public and private sectors that promotes new, user-friendly, effective solutions that safeguard data security and personal privacy;
- fund internship schemes and shared positions within the field of digitalisation between the university and university college sector and the municipal, county and state levels to enhance the relevance of educational programmes.

**The Research Council will:**

- intensify research on the challenges of digitalisation in relation to protection of personal privacy and societal safety and security;
- encourage research-supported innovation projects that make use of big data, artificial intelligence and automation and which include public sector entities as partners;
- encourage projects that advance the implementation of digital solutions in the development of smart cities and communities;
- cooperate with the Agency for Public Management and eGovernment and public sector entities on providing access to, linking and sharing data for research and innovation purposes.

## **2.6 Service innovation, user and inhabitant involvement and social innovation**

Service innovation involves re-thinking the interaction between service recipients, family members, NGOs and public sector entities. This often entails a change in leadership roles and new organisation or work processes. There is a widespread need for research related to the development of new technological and organisational solutions for the public services, the development of completely new services, and the interplay between the public sector services, the government administration and the inhabitants.

User participation in research entails involving users in the research activities, in decision-making processes, and in the efforts to identify research needs and research questions. The aim is to make research activities more relevant and useful by increasing the ability of users to exert greater influence on priorities, planning and performance. Participation from diverse user groups is important when the research results are to be implemented as well. User involvement is stressed in national health and care plans, among others, as a means of achieving better designed and more accurately targeted health care measures.

More and more service providers are employing service design to develop their activities. Service design is a way to involve users and inhabitants in innovation processes, and thereby consider them to be resources. The users are an important source of knowledge about what is needed.

Social entrepreneurship is emerging as a useful aspect of public innovation. It involves individuals or groups who take it upon themselves to develop and implement solutions to a specific social issue. The aim is to generate a positive return to society, and social entrepreneurs seek to organise their activities to be viable in the long term. Social entrepreneurship can be considered a supplement to public services, and/or as an important contribution to reassessing and renewing the public services.

**The Research Council will work to:**

- encourage users and inhabitants to participate actively in efforts to increase innovation in public services in close collaboration with R&D institutions.

**The Research Council will:**

- expand the use of collaborative projects for innovation in the thematic programmes targeting service areas in the public sector;
- generate new knowledge about user-initiated, needs-driven, social innovation and social entrepreneurship, methods and impacts, and models for cooperation with public sector actors;

- strengthen insight into, and experience with, user participation in research, and consider new areas that are suitable for user-identified research.

## **2.7 Public/private cooperation and smart public procurement**

Public procurement of goods and services amounts to roughly 15 per cent of the GDP. This can be a powerful driver of innovation in both the private and the public sectors. Trade and industry and non-governmental organisations (NGOs) are important partners in many of the public sector's spheres of responsibility, for instance in the design and operation of public infrastructure for roads, water and sewerage systems, and in the area of social housing.

There are longstanding traditions of cooperation with NGOs on the operation of institutions and provision of services in both health care and education. The boundaries between what the public sector should provide itself versus what can and should be dealt with by private actors, as well as how to finance services and infrastructure, are important topics in the public debate. These boundaries will be questioned and re-drawn, which will require more knowledge, new models of cooperation and the testing of new solutions.

Research stresses the importance of viewing demand-driven innovation and instruments to promote research and technological development in a unified perspective, and this is a key element of EU innovation policy. The public sector can contribute to innovation-friendly markets, both by increasing the demand for innovative goods and services and by cooperating with providers on the development of new products and services. Innovation partnerships, which are now allowed under the public procurement rules, increase the opportunities for innovation-targeted cooperation between public sector actors, the business sector, and the research community.

Pre-commercial R&D activity develops products and services before they are made available on the market. In areas where the procurement requires research and development, suppliers can qualify to meet public sector needs prior to an ordinary competitive tendering process. Although this is not procurement in the proper sense of the term, it is an important tool for promoting more targeted research. A home market with good opportunities for testing innovative solutions for a global market is highly beneficial for ensuring the competitiveness of the business sector. The business sector has a key part to play in finding solutions, together with the public sector, to challenges related to climate, the environment, energy, welfare and health care.

The public sector also plays a central role in creating a foundation for incubation and entrepreneurship beyond what it needs for its own procurements. Knowledge about framework conditions and measures to develop "the new" trade and industry are an important research area, as are various models for public-private partnerships. Systematic investment in regional development through the Smart Specialisation approach, among other things, has been introduced as a strategy in the EU and will be important for Norwegian municipal and regional authorities in their societal mission. This approach focuses on transparency and cross-sectoral collaboration between the public and private sectors, knowledge environments and civil society, as well as cooperation across national borders.

Public procurement is a research area that is underrepresented in the Research Council portfolio. Too little is known about how to organise effective, innovation-promoting procurement processes, how to target contracts more directly towards needs and functions,

and how these contracts should be followed up. The exception for research in the public procurement rules has not been clearly enough defined and requires further clarification. This is important for the research community as a whole and the research institute sector in particular. Procurement and innovation processes in the public sector both represent important potential business areas for research groups.

**The Research Council will work to:**

- promote greater use of the new opportunities in the public procurement rules and apply the exception for research more widely when this is relevant;
- establish schemes for procurement of innovation that considers the entire value chain in a unified context, together with other stakeholders.

**The Research Council will:**

- emphasise innovative public procurement as an important secondary objective for research and innovation efforts;
- encourage better use of EU instruments for innovative public procurement;
- develop instruments for pre-commercial R&D cooperation on innovative public procurement;
- expand research on innovation through public procurement and work to build dynamic research groups that can achieve international acclaim in this field.