The Ministry of Local Government
and Modernisation

Meld. St. 30 (2019–2020) Report to the Storting (white paper)

An innovative public sector

Culture, leadership and competence

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Translation from Norwegian. For information only.

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Recommendation of 23 June 2020 from the Ministry of Local Government and Modernisation,
approved in the Council of State the same day
(white paper from the Solberg Government)

1 Summary

The Government's goal is an efficient public sector that provides good services for its citizens, enjoys a high level of trust in the population and finds new solutions to societal challenges in cooperation with citizens, business and industry, research environments and civil society.

To achieve this goal, the Government has developed three principles to foster public sector innovation:
– Politicians and public authorities need to grant freedom of action and provide incentives for innovation.
– Leaders must develop a culture of and competence in innovation, where people have the courage to think differently and learn from mistakes and successes.
– Public agencies must seek new forms of collaboration.

This white paper presents trends, status, needs for change and the Government's policy for further work on public sector innovation.

Chapters 2 and 3 present the Government's goals and measures for public sector innovation, as well as definitions and the current situation.

Chapter 4 describes the framework conditions for day-to-day work in the public sector, such as governance, financial structures, laws and regulations, forms of organisation and requirements for official studies. The framework conditions can enable public sector innovation, encourage and facilitate innovation, or they can limit the possibilities.

Chapter 5 describes the policy instruments for public sector innovation. A number of actors manage policy instruments intended to support public sector innovation through funding and guidance.

Chapter 6 discusses the possibilities offered by digitalisation and new technology to address public sector tasks in new and better ways. Good digital infrastructure, artificial intelligence, 5G and the huge increase in the amount of data offer the public sector new opportunities to provide better and more comprehensive digital services to the population.

Chapter 7 describes the importance of an innovation-friendly culture as a key precondition for innovation. In this report, culture is understood as the overall behaviour in a workplace, and is thus a combination of, among other things, skills, attitudes and values. Politicians, leaders and employees play important roles in promoting innovation, and this chapter presents the characteristics of an innovation culture. They can form the basis for public agencies' assessment and further development of this culture.

Chapter 8 describes the relationship between competence and innovation. Competence is a combination of knowledge, understanding, skills, qualities, attitudes and values. For successful innovation, it is therefore an advantage to have technical knowledge and skills and to be familiar with work methods that can foster innovation.

Chapter 9 demonstrates how trial projects and experimentation in the public sector can contrib-

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ute to innovation. Testing new solutions in a limited area can reduce risk and costs and provide insight into the effects of measures that can potentially be introduced in other areas.

Chapter 10 describes the importance of collaborating with other actors if the public sector is to be able to think in new ways, grasp opportunities and find new solutions to minor and major challenges. The research sector, business and industry, the voluntary sector, and not least citizens, can help the public sector to develop and co-create better solutions.

Chapter 11 highlights how business and industry can help the public sector to achieve its objectives. The business sector is a key partner for the public sector in connection with procurements, partnerships and other forms of collaboration. To exploit the full potential of the business sector, the public sector can collaborate with established enterprises and draw on the innovative drive of start-ups and social entrepreneurs.

Chapter 12 focuses on how research can contribute to more innovation. Research institutions contribute by generating new knowledge about what works, by monitoring and documenting innovation processes, and by driving innovation by helping to develop new, smart solutions.

Chapter 13 describes the importance of diffusing good solutions and realising the benefits of innovation. Innovation generates value for society and its inhabitants, and more people should be able to utilise innovations that have proven valuable.

2 Public sector innovation

Figure 2.1

2.1 Norway needs an innovative public sector

Public sector innovation means implementing something new that generates added value for people and society. It can be a new or significantly changed service, product, process, organisation or method of communication that helps us to think in new ways about how Norway can address major public tasks and develop the public sector. Innovation can in this way contribute to long-term and sustainable efficiency.

Norway is a good country to live in. The public sector enjoys a high level of trust in the population, and is the very core of a welfare society characterised by responsible exercise of authority and good services. In the time ahead, Norway will face challenges that threaten the sustainability of today's welfare society. The petroleum industry will continue to be important for many decades to come, but it will contribute far less to the economic room for manoeuvre Norway has become accustomed to. The elderly population is increasing, and there will be fewer people in active employment. The extent of global warming and negative environmental changes must be limited. At the same time, the population will continue to have high expectations of the public sector, and Norway is committed to doing its part towards achieving the Sustainable Development Goals by 2030.

In addition to these well-known challenges, Norway and the rest of the world are facing a global crisis in spring 2020 as a result of the COVID-19 pandemic. This is having major financial, economic and societal consequences at present, and it is likely to affect Norway and the rest of the world for a long time to come.

In 2019, public expenditure amounted to close to 59 per cent of mainland GDP, and around a third of those in employment worked in the public sector. To address the challenges ahead, the public sector needs to make smarter, more targeted and systematic efforts to foster innovation. An innovative approach opens possibilities for new ways of thinking and will be among the Government's main strategies for becoming more sustainable. The potential benefits of innovation are substantial, for example through the use of innovative public procurements, digitalisation, and innovation that prevents exclusion and health challenges.

The public sector both drives innovation in society and the research and business sectors, and innovates within its own areas of responsibility. This white paper primarily concerns the public sector as innovator, but the roles of innovator and driving force also complement one another. Public sector innovation can, for instance, play a significant role by triggering value creation opportunities in the private sector.

The Government will take steps to ensure that the public sector can reap the full potential of innovation and, as such, facilitate expedient use of resources and greater overall value creation.

2.2 Government policy for public sector innovation

This white paper presents the current trends, status, needs for change and the Government's policy for further work on public sector innovation.

Public sector innovation is one of the Government's main strategies for addressing the challenges facing society in the years to come.

2.2.1 One goal and three principles for public sector innovation

The Government's goal is an efficient public sector that provides good services for its citizens, enjoys a high level of trust in the population and finds new solutions to societal challenges in cooperation with citizens, business and industry, research environments and civil society.

To achieve this goal, the Government has developed three principles to promote public sector innovation. The principles are inspired by the OECD's Declaration on Public Sector Innovation,[1] which Norway has endorsed, and input from the process of preparing this white paper.

The Government's principles for public sector innovation:

– *Politicians and public authorities need to grant freedom of action and provide incentives for innovation.*
– *Leaders must develop a culture of and competence in innovation, where people have the courage to think differently and learn from mistakes and successes.*
– *Public agencies must seek new forms of collaboration.*

2.2.2 Ten main concepts

The Government will achieve the goal of public sector innovation through the following ten main concepts:

1. *Framework conditions for innovation*

    Framework conditions, such as governance principles and practices, financing, laws and regulations, forms of organisation and requirements for official studies, affect the way public agencies pursue their social missions. The Government will endeavour to ensure that the framework conditions provide sufficient freedom of action and motivation for innovation, and contribute to expedient use of resources and greater overall value creation.

2. *Policy instruments for innovation*

    A number of funding agencies and policy instruments have been established to support public agencies' work on innovation. The Government will develop a more holistic and user-oriented policy instrument system for public sector innovation. This will in part be achieved by establishing a council for public sector innovation compromising key representatives of both supply and demand.

3. *Digitalisation and new technology*

    The Government wants the public sector to utilise the innovation opportunities offered by digitalisation and new technology. The Government will endeavour to create one digital public sector across different levels of the public administration, utilise the opportunities presented by artificial intelligence to work in new ways, and facilitate data-driven innovation.

4. *Culture of innovation*

    Innovation must play a bigger role in the public sector's work. This means that leaders must facilitate a culture characterised by inquisitiveness and openness to new ideas, and the courage to learn from mistakes and successes. The Government will develop competence-raising measures and tools that can assist public sector managers in their work on facilitating innovation in their own organisations.

5. *Competence in innovation*

    Digital competence, assessment competence, design competence and competence in the use of different work methods and techniques can help to foster innovation. The Government believes that knowledge and lifelong learning are key aspects of a better and more efficient public sector, and will enhance collaboration between the higher education sector and the labour market.

6. *Trials and testing*

    Trials and experimentation entail testing new solutions, technologies or statutory regulation. The Government will establish regulatory sandboxes[2] in several areas, and consider how the public sector can use trials and testing

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[1] OECD (2019) *Declaration on Public Sector Innovation.* OECD/LEGAL/0450. The declaration sets out five principles for public sector innovation: embrace and enhance innovation within the public sector; encourage and equip all public sector servants to innovate; cultivate new partnerships and involve different voices; support exploration, iteration and testing; and diffuse lessons and share practices. The declaration has been signed by 40 countries, including Norway.

[2] The term *regulatory sandbox* is used to describe ways of testing new technologies, statutory regulations and business models within given frameworks (Chapter 9).

more systematically to lower the threshold for introducing innovative solutions and ensuring that the results of successful trials become lasting solutions.

7. *Innovation collaboration*

    Public sector innovation requires frequent collaboration across different levels of the public administration, sectors, business and industry, civil society and education and research environments – and with citizens. This can introduce new perspectives and ideas to the development of the public sector. The Government will systematise and diffuse lessons learned from different forms of collaboration on innovative solutions.

8. *Innovative procurements and industry partnerships*

    The public and private sectors must work together to address major societal challenges and develop better and more innovative solutions. The Government will continue with its innovative procurement instruments and improve guidelines with a view to increasing public sector innovation. Start-ups and other small businesses may have innovative solutions to public needs. The Government will therefore establish a program for collaboration between the public sector and start-ups.

9. *Collaboration with research environments*

    Research and collaboration with research environments can contribute to innovation and learning, more radical innovation projects in the public sector and the diffusion of successful innovations. The Government will encourage greater collaboration between public agencies and research environments with a view to achieving better and more efficient services and measures, and make research more accessible by encouraging research dissemination, more open data and more knowledge summaries.

10. *Realise value and diffuse innovation*

    Innovation is not a goal in itself – it has to create value for society and the population. The Government will consider how the diffusion of lessons learned from innovation processes and results can best be facilitated and take steps to ensure that the benefits of innovation are highlighted and realised in the form of better services and budget savings.

2.3 Challenges and opportunities in the decades ahead

Demographic changes, less economic room for manoeuvre, climate and environmental challenges and achieving the Sustainable Development Goals (SDGs) are well-known challenges Norway and the public sector will face in the next few decades. Moreover, the COVID-19 pandemic has demonstrated how quickly framework conditions can change in a globally connected world. Since it is too early to determine the ramifications of the pandemic, this chapter will address development trends that are relatively unequivocal.

2.3.1 Demographic change

The age composition of the population will change significantly going forward. There will be a dramatic increase in the number of elderly people. At the national level, both the proportion and number of over-80s will more than double towards 2040. At the same time, the increase in people of working age will be low, particularly in less central parts of the country (Figure 2.2).

The circumstances of the elderly will be very different from those in previous generations. They will have higher education, better housing and a better financial situation. Better health can lessen, but not eliminate, the increased need for health and care services.[3] Statistics Norway has estimated that Norway could have a shortage of 28,000 nurses and 17,000 healthcare workers in 2035.[4] Urban areas will need to handle an increase in care needs due to the large increase in the elderly population, while less central areas will have fewer people in active employment to cover the care needs of the elderly.

To address the demographic changes, the public sector must make more efficient use of the resources available. Innovation, not least related to the use of new technology, can provide new solutions that enable the elderly to live at home longer, thus allowing health and care personnel to dedicate their time and expertise to those who need them the most. At the same time, it is difficult to estimate how technological developments will contribute.

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[3] Report No 29 to the Storting (2016–2017) *Long-term Perspectives on the Norwegian Economy 2017 – A Summary of Main Points*

[4] Statistics Norway (2019) *Projecting the labour market for personnel in health and care towards 2035*. Report 2019/11
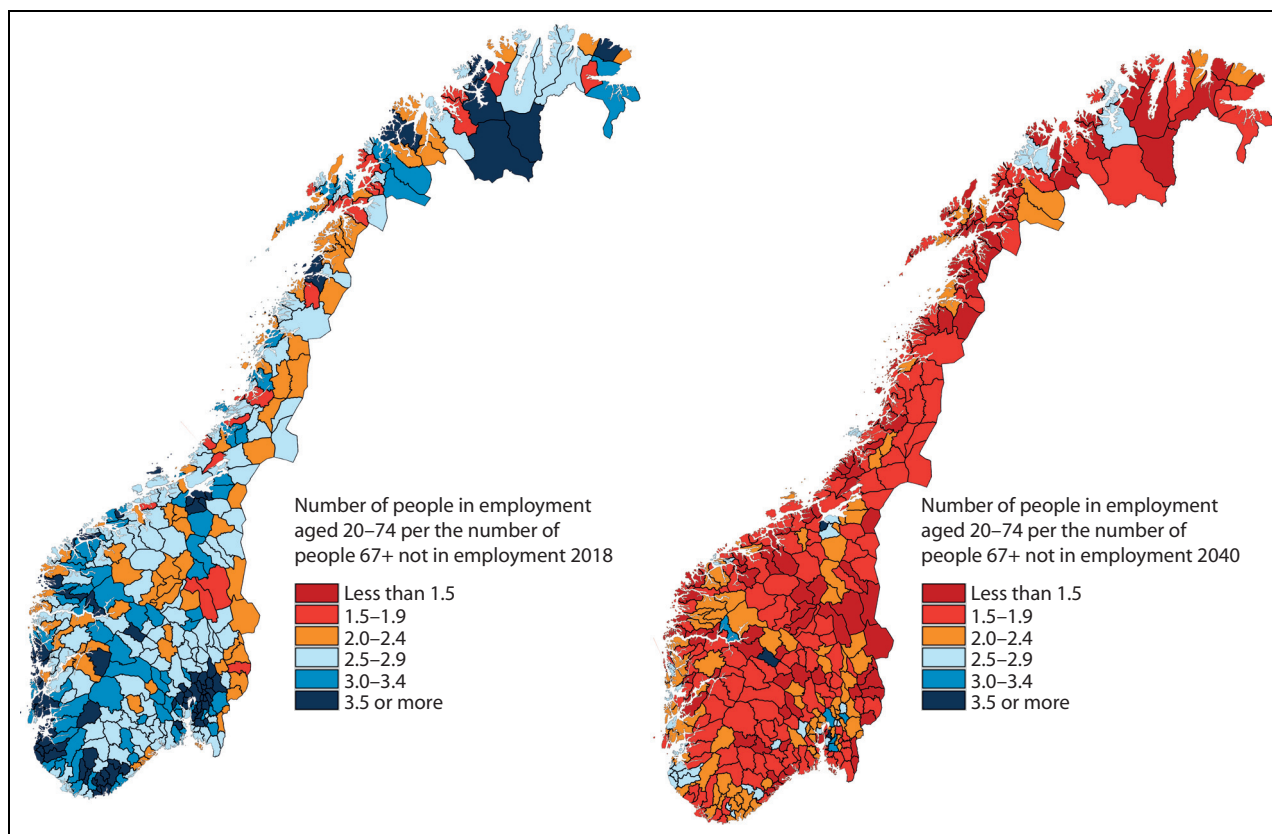
Figure 2.2 Proportion of people aged 20–74 in employment in relation to the number of people 67+ not in employment in 2018 and 2040

The age distribution in the population has been obtained from the main alternative in Statistics Norway's population projection (2018a). The number of people in employment has been calculated using the projected population of different age groups and the same proportion of people in employment as in 2017 for the 20–24, 25–39, 40–54, 55–66 and 67–74 age groups.
Source: Statistics Norway's population projections (the main alternative) and register-based employment. Calculations: Ministry of Local Government and Modernisation

The low growth in the number of people of working age seen in many places in the country will lead to more competition for labour, between both sectors and regions. Some municipalities already lack the necessary capacity and competence to provide good, equitable services to their inhabitants.[5]

2.3.2 Less economic room for manoeuvre

Over the past two decades, Norway has seen growth in its budgets and greater room for manoeuvre in its financial policy than most other countries. Several factors will contribute to a more challenging budget situation in the next decade. Challenges that have long been described as long-term are now more imminent. Oil and gas production has been estimated to increase somewhat

over the next few years and will be able to maintain the current level until the end of the decade, but, in general, the period of strong growth in petroleum revenue spending in the Norwegian economy has come to an end.[6] At the same time, the growth in expenditure on large rule-based schemes will continue to rise, as will demand for health and care services.

Innovation and new technology can potentially contribute to more efficient spending. It is nonetheless highly likely that there will be significantly less freedom of action in the next decade than in the previous one. A strong fall in petroleum prices and a strong increase in the use of fund capital over public sector budgets due to measures implemented in connection with the COVID-19 outbreak have led to further pressure on public finances, the consequences of which will be seen in the years ahead. The consequences of the

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[5] Telemarksforsking (2019) *Utredning om små kommuner* ('Survey of small municipalities' – in Norwegian only). TF Report 473

[6] Revised National Budget 2020

COVID-19 pandemic may also further reduce the economic room for manoeuvre due to lower revenues and higher expenses. This will be further elucidated by an expert group appointed by the Government to conduct an economic assessment of, among other things, the infection control measures introduced to combat COVID-19.

2.3.3 Climate and environmental challenges

A number of reports published in recent years have underlined the severity of the climate and environmental challenges the world is currently facing and shown that developments in many places are taking place more rapidly than previously assumed.[7] At the same time, a transition to a greener society can still reduce net emissions of greenhouse gases towards zero. The Government has increased Norway's climate targets for 2030 and now aims to reduce greenhouse gas emissions by at least 50 per cent and up to 55 per cent compared with the 1990 level.[8] Norway will be a low-emission society by 2050.

The public sector plays an important role in Norway's green transition. Climate change and biodiversity loss must be seen in conjunction with one another. Climate and environmental challenges are complex and interdisciplinary, and research and innovation are therefore necessary in order to develop whole-system solutions.

2.3.4 The Sustainable Development Goals

In 2015, the UN member states adopted the 2030 Agenda for Sustainable Development, which comprises 17 goals and 169 targets for economic, social and environmental sustainability.

The SDGs encompass all countries and affect all segments of society. They emphasise cooperation, mutual partnership and the interdependency between the goals. Norway has a great responsibility for helping to achieve the goals by 2030. The Government has decided that the SDGs will be the main political track for addressing the most pressing national and global challenges of our time.[9]

The Government believes that innovation and digitalisation are preconditions for achieving the goals by 2030. Cooperation between the public sector, business and industry, academia and civil society is also crucial in this context. Many munic-

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[7] IPPC (2018) *Special Report – Global Warming of 1.5°C,* The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) (2019) *Global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services,* IPCC (2019) *IPCC Special Report on Climate Change, Desertification, Land Degradation, Sustainable Land Management, Food Security, and Greenhouse gas fluxes in Terrestrial Ecosystems*

[8] Update of Norway's nationally determined contribution

[9] The Ministry of Local Government and Modernisation (2019) *National expectations regarding regional and municipal planning 2019–2023*

Figure 2.3 The Sustainable Development Goals

Source: The UN

ipalities, counties and public agencies are well under way with their efforts to systematically follow up the SDGs. There is great variation, however.

The Government has enhanced the national follow-up of the SDGs to give them a greater role in governing national policy development. This responsibility has been assigned to the Minister of Local Government and Modernisation. It provides an opportunity to see work on the SDGs in conjunction with public sector innovation efforts. In the course of spring 2021, the Government will present an action plan for the SDGs in Norway in the form of a white paper.

2.4 Inclusive work process

The Government has aimed for a transparent, inclusive process in its work on the white paper. The Ministry of Local Government and Modernisation has therefore employed methods that facilitate co-creation and new ways of thinking. By taking time to look at and understand how different actors experience public sector innovation, it has been possible to better understand the needs and identify new opportunities.

In general, the input received concerned obstacles in the public sector's framework conditions, the public sector's need for a culture of innovation, the public sector's need to cooperate on innovation, both internally and with other actors, and the importance of municipalities and agencies learning from each other and diffusing beneficial innovations. A great deal of input was also received about the difficulties of reaping the benefits of innovation and the importance of the public sector using innovation to address major societal challenges. This insight tallies well with the OECD's findings and research findings on what impedes and promotes public sector innovation in general.

Activities undertaken during the process of preparing the report

– Exploration and dialogue meeting: In order to identify factors that potentially impede and promote public sector innovation, the Ministry has conducted interviews, visits, questionnaire surveys, work meetings, knowledge summaries and dialogue meetings.[10]
– Predictions and scenarios: To develop a policy that will withstand the test of time, scenarios

have been developed for the public sector in 2040. This work culminated in a report[11] that has been used in strategic discussions by several public agencies[12] and an exhibition.[13]
– *Culture of innovation*: The characteristics of a culture of innovation (Figure 7.2, section 7.3) were developed to discuss and promote an innovation culture.
– Innovation policy in the Nordic countries: To gain inspiration from the other Nordic countries, the Ministry of Local Government and Modernisation, the Norwegian Digitalisation Agency and the Norwegian Association of Local and Regional Authorities (KS) ordered a compilation of the Nordic countries' public sector innovation strategies[14] (section 5.1).
– Mapping of collaboration models: To gain deeper insight into how cooperation can take place in practice, the Ministry of Local Government and Modernisation and the Research Council of Norway have mapped models for cooperation on innovation currently used in the public sector.[15]
– *Workshop in cooperation with OECD–OPSI*: OECD's Observatory of Public Sector Innovation (OPSI) has mapped the status of public sector innovation in Norway at the overarching level, including through interviews and a workshop.[16]

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[10] Ministry of Local Government and Modernisation (2018) *Dialogsamling om innovasjon i offentlig sektor* ('Dialogue meeting on public sector innovation' – in Norwegian only). Report

[11] Ministry of Local Government and Modernisation (2019) *Scenarioer for offentlig sektor i 2040* ('Scenarios for the public sector in 2040' – in Norwegian only). Report

[12] Including the Norwegian Directorate for Education and Training, the Centre of Competence on Rural Development, the Norwegian Courts Administration, Bærum municipality, Alna city district and the State Employers Council

[13] In autumn 2019, Oslo School of Architecture and Design (AHO) and Design and Architecture Norway (DOGA) organised the exhibition *Future Laboratory 2040* in cooperation with the Ministry of Local Government and Modernisation

[14] Nordic Institute for Studies in Innovation, Research and Education (NIFU) and Rambøll Management Consulting (2019): *De nordiske landenes strategier for innovasjon i offentlig sektor* ('Public sector innovation strategies in the Nordic countries' – in Norwegian only). Report

[15] InFuture (2019) *Dynamiske modeller for samarbeid om innovasjon i offentlig sektor* ('Dynamic models for cooperation on public sector innovation' – in Norwegian only).

[16] OPSI (2019) *Insights and Questions from OECD Missions to Inform the Norwegian White Paper on Public Sector Innovation*. Report

3 Definitions and the current situation
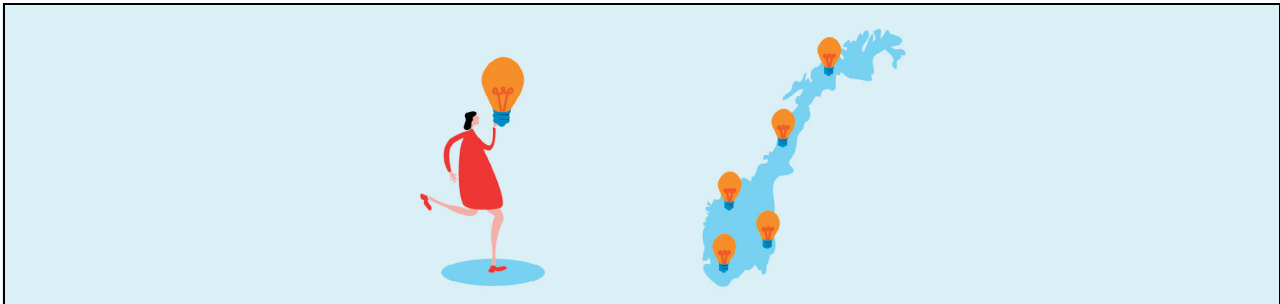
Figure 3.1

Public sector innovation is not a new policy area, although it has been more on the agenda in recent years. It is also relatively new as a research field. A review conducted in 2016 shows that more than half of the studies on public sector innovation were published after 2010.[1]

3.1 What is public sector innovation?

3.1.1 Definition of public sector innovation

Innovation means implementing something new that generates value for people and society.[2] In this report, we use the OECD's definition as our point of departure, where public sector innovation is defined as follows:

Public sector innovation can be a new or significantly improved service, product, process, organisation or form of communication. That the innovation is new means that it is new to the organisation in question; it may nonetheless be known to and implemented by other organisations.[3]

The definition tallies with the definition of innovation as something '*new and useful that has*

been utilised', which is used by the Norwegian Association of Local and Regional Authorities (KS) and many public agencies (Figure 3.2).[4] Furthermore, it is assumed that public sector innovation can also take place in systems, structures and in larger areas of society, often called transformative innovation.

User centricity

Users are citizens, public agencies, private enterprises and the voluntary sector.[5] Users should perceive public services as seamless and integrated, regardless of which public agency provides them.[6] One of the goals of the State's communication policy is that people are invited to take part in formulating policies, schemes and services.[7]

3.1.2 Identify opportunities and define needs instead of solutions

Identifying new opportunities and devoting time to clarifying the actual needs are important pre-

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[1] DeVries et al. (2016) *Innovation in the Public Sector: A systematic review and future research agenda.* Public Administration, volume 94, issue 1

[2] In this report, public sector innovation is used as a general term. Public agencies can be entities at the central government, county or municipal level. The local government sector comprises municipalities and county authorities.

[3] The definition is taken from the OECD's Oslo Manual, and is used by the EU and OECD, among others. See OECD (2018): *Oslo Manual 2018. Guidelines for Collecting, Reporting and Using Data on Innovation, 4th Edition*

[4] 'New, useful and utilised' is also used as a definition in the public sector innovation barometers developed by KS and the Norwegian Digitalisation Agency, and in the reporting indicators health trusts use to gain a better overview of innovation activities.

[5] In this report, the voluntary sector is used synonymously with civil society.

[6] Report No 27 to the Storting (2015–2016) *Digital agenda for Norway – ICT for a simpler everyday life and increased productivity*

[7] Regjeringen.no/kmd (Government.no/kmd)
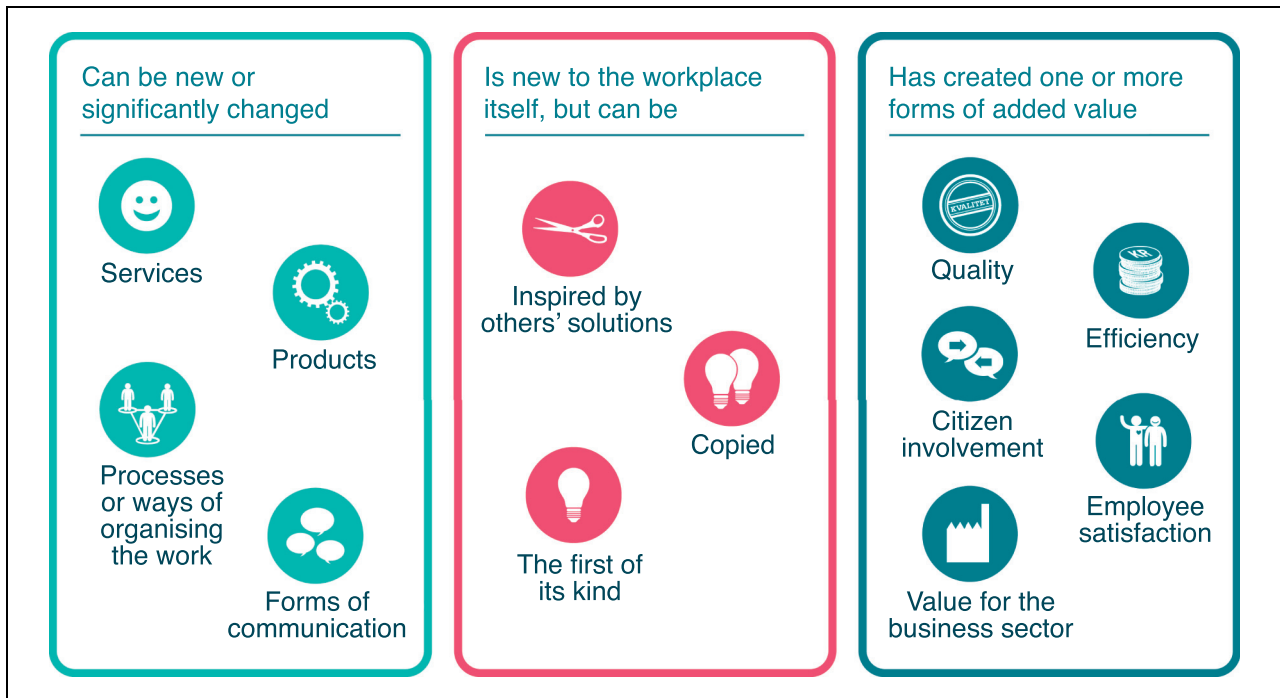
Figure 3.2 Types of innovation in KS and Difi's innovation barometers

Source: KS

conditions for public sector innovation. A successful process should not start by defining a detailed solution with clear specification requirements, but be open to the possibility that the solution may not have been invented or developed yet. It should also be open to the possibility that the problem or need may prove to be different to what was first assumed, or that it may be bigger and involve other parties. The solutions that were first identified are not necessarily the best way to solve the problem. Therefore, needs rather than solutions should be defined first. Involvement is important when mapping needs, because they can be the needs of citizens or users, industry players, civil society or the public sector itself. The Digitalisation Council, a consultancy service for all state sector managers, has noted that failure to involve internal and external users at an early stage is a challenge in the public sector.[8]

Public procurement is an area where defining needs rather than solutions is particularly important to encourage innovation. The public sector purchases goods and services worth more than NOK 560 billion every year. How the public sector spends its funds is of great importance, both to the degree of public sector innovation and to the development of the business sector.

Public procurers are responsible for spending taxpayers' money sensibly, and finding new ways of doing things is not necessarily easy. The easiest, most convenient choice is to do what they have always done or to order goods and services that seem to work satisfactorily.

If public agencies order the same goods and services tomorrow as they did yesterday, this limits public sector innovation and provides little room for new, interesting ideas that can save resources or develop services and offerings that have the desired effect. It is therefore important to have a culture in the public sector that encourages new ideas and fresh thinking, and where people have the courage to carry out tasks in new ways, be curious and keep an open mind to possible solutions.

A needs-based approach and early testing

A needs-based approach combined with early testing of unfinished solutions makes it possible to change course during a development process. *Fail fast* is precisely about testing new and unfinished solutions before you have put too much time and money into developing them.

One way of illustrating the work method that involves needs diagnosis, exploration and testing is the triple diamond (Box 3.1), which is the

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[8]   Digitalisation Council (2019) *Experience Report 2019*

Box 3.1 The triple diamond

The triple diamond shows the phases of a process comprising needs definition, exploration and development.

The diagnosis phase is strongly emphasised in the model and involves the participation of several parties already at this stage. The aim of the diagnosis phase is to achieve a common understanding of the issue to be resolved in the process, which ensures that the solution to be developed or procured is based on genuine needs and not assumptions. Diamond number two illustrates the phase during which ideas are developed, users involved and different concepts tested, to arrive at the solution that best addresses the task at hand.

The final phase is the phase in which the chosen solution is further developed, prototyped and simulated, before it is implemented.
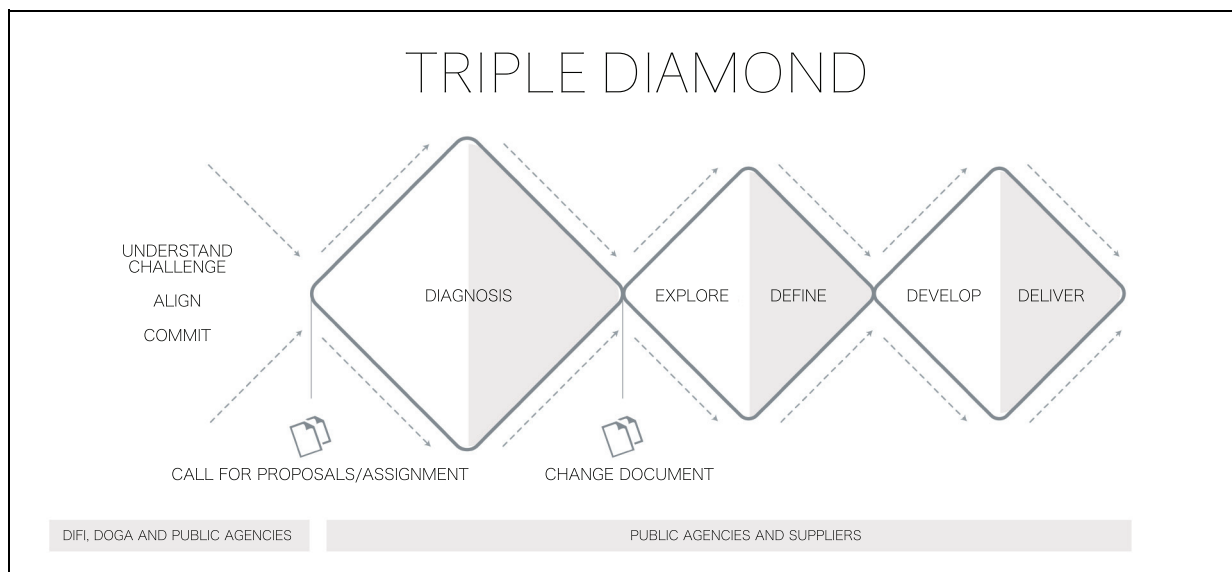
Figure 3.3 Triple diamond

Source: Norwegian Digitalisation Agency, StimuLab

model used by the Norwegian Digitalisation Agency[9] in projects under StimuLab, the stimulation scheme for innovation and service design (Chapter 8).

3.1.3 Incremental and radical innovation

Innovation is a term used to describe change and development that represent a break with previous practice. This distinguishes innovation from continuous change and other development work. You have to do something else, not just improve what you are already doing.

Innovation can take place in big leaps, through *radical innovation*, or step by step through incremental innovation. *Incremental innovation* is gradual, but nonetheless represents a break with previous practice. For each step, the degree of risk and uncertainty is lower than in the case of radical innovation. The sum of several incremental innovations can amount to a radical change. One example of this is the work of the Norwegian Tax Administration, which, through incremental changes over ten to twenty years, has radically changed how people submit their tax returns (Box 3.2).

Radical innovation is about fundamentally changing ways of providing services or developing products. Radical innovation constitutes a bigger break with the status quo and thereby entails greater risk and uncertainty during the development phase.

Radical innovation can turn entire organisations or industries on their heads, change the

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9 The Norwegian Digitalisation Agency consists of the former Agency for Public Management and eGovernment (Difi), Altinn and parts of the Brønnøysund Register Centre.

Box 3.2 The tax return: an incremental and radical innovation

The use of information technology in the tax area goes a long way back. Tax calculation was one of the most important applications of the intermunicipal punch-card stations established in the 1950s. In the 1960s, the Directorate of Taxes developed services for machine calculation of taxes at the central level. During the 1980s, it became possible for employers and banks to submit information to the tax authorities in a machine-readable format. In the 1990s, this information was used to devise a simplified tax return for taxpayers who could confirm that they had received correct, complete annual statements. Following extensive efforts to raise the quality and amount of data, it became possible for all wage-earners and pensioners to correct and supplement the information received by the Tax Administration from other sources. This meant that the tables had turned, with the agency now providing the information and the taxpayer verifying it. Electronic submission via the internet was established in the early 2000s, and from and including 2008, taxpayers who had

no changes to report no longer needed to submit their tax return.

From 2017, such automatic processes were described as the primary track in legislation, and not as an exception to the manual track. From and including 2020, most wage-earners and pensioners can use a new dialogue-based tax return. It reflects the fact that nearly everyone now uses their mobile phone, tablet or computer to review and process their tax return. In a digital dialogue, taxpayers are asked specific, relevant questions based on what the Tax Administration knows and the actions taken by the taxpayer. Each taxpayer must actively consider the questions and can answer them there and then. The innovation lies in the transition from correspondence to a digital dialogue with the taxpayer. The intention is to actively involve the individual taxpayers in their tax affairs and ensure that the tax return is as complete and correct as possible before submission.

Source: Ministry of Finance

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rules of the game or people's expectations. In the private sector, Airbnb challenges the rules of the hotel market, while Vipps does the same in the banking market. These players create added value for their customers through cooperation in value-adding networks. In the public sector, hospitals and libraries, among others, are undergoing radical changes. With the help of technology, hospitals are moving parts of their services into the patient's home.[10] Libraries have gone from being places to find, lend and return books to social arenas for experiences, creative activities and knowledge sharing. Going forward, new technology such as artificial intelligence can lead to radical changes that will have a huge impact on the way the public sector works.

The public sector has come a long way with incremental innovation. In the Government's view, incremental innovation will not always be sufficient if we are to utilise the possibilities offered by new technology such as artificial intelligence and data sharing. Nor will it be enough as regards the

challenges facing the public sector, where changes are taking place more rapidly than previously assumed. The COVID-19 pandemic has demonstrated that it is possible to develop solutions faster together.

3.1.4 Transformative innovation

Transformation or transformative innovation means whole-system changes in an area. One example is the transition to a greener society and economy ('the green transition'), and meeting the ambitious global and national climate targets, which will require substantial changes on the part of the population, businesses, the public sector and organisations. Transformative innovation will always include an element of radical change and it will require experimentation, research and changes in many areas at once. Local, regional, national and international efforts must be coordinated.

The public sector can be a driving force for transformative innovation, among other things by setting a direction for research and innovation efforts, clearly communicating needs and possibil-

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[10] Report No 7 to the Storting (2019–2020) *National Health and Hospital Plan 2020–2023*

ities, and expecting innovative approaches to known challenges. This approach to innovation is often referred to as the third approach to or the third-generation of innovation policy.[11]

Digital transformation means changing the fundamental ways in which organisations and enterprises perform tasks with the help of technology. This approach can lead to a need to change the organisation, transfer responsibility, rewrite regulations or redesign processes.[12]

3.1.5 Several types of innovation work together

Service and product innovation is what many people associate with innovation. The public sector can innovate in relation to its own services, as illustrated by Asker Welfare Lab (Box 10.2). The public sector can also purchase or co-create innovative products and services, as in the case of innovative procurements (Chapter 11).

Product and service innovation can give rise to a need to change work methods. Home healthcare services rather than hospital care, for example, require doctors and nurses to work in new ways. This is *process innovation and organisational innovation*, which means new or changed work methods and processes within an organisation.[13]

Implementing or starting to use an innovation can also trigger a need for changes in the formal and informal framework of the organisation in question, such as decision-making and governance regimes, budgeting and reporting procedures, the funding system and informal procedures, norms and values. When libraries become social arenas, it can for example be more useful to measure the number of people attending events rather than the number of books borrowed.

Several institutions from different sectors or levels of the public administration can be part of the same innovation project, for example both a hospital and a municipal home nursing care service. That gives rise to a need for simultaneous change, or innovation, in several organisations and at several levels of the public administration. Disagreements between professions may also play a part in the process. Understanding this

complexity is of great importance if the implementation of public sector innovation is to be a success.

3.2 Well positioned for innovation

Norway is well positioned for public sector innovation. There is high educational attainment, high use of digital services and products, and a high level of trust between citizens, the public sector and public authorities. The Norwegian labour market model, characterised by extensive cooperation between the social partners, is often seen as a precondition for the good results achieved: a well-functioning labour market, a good working environment, low unemployment and high labour force participation. That puts us in a good position for public sector innovation.

In the Innovation Barometer surveys for the central and local government sectors, 74 per cent of municipalities and 85 per cent of central government agencies report that they have introduced at least two innovations in the past two years.[14] That is approximately on a par with our Nordic neighbours (Figure 3.4).

Public sector innovation takes place within a political framework, where the top-level leaders are government ministers and elected politicians in the Storting, the municipalities and the county authorities. The core values of public administration are democracy, the rule of law, professional integrity and efficiency.[15] Transparency, accountability and verifiability promote these values.

3.2.1 Sectors and administrative levels

The government administration is organised according to thematic areas. That means that each minister is responsible for matters that fall under their ministry and subordinate agencies. The advantages of this division of responsibilities is that responsibility is assigned to experts in that specific field and that roles and responsibilities

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[11] Kuhlman and Rip (2018) *Next Generation Innovation Policy and Grand Challenges*. Science and Public Policy 45 (4): 448–454

[12] Ministry of Local Government and Modernisation (2019) *One digital public sector. Digital strategy for the public sector 2019–2025*

[13] Halvorsen et al. (2005. *On the differences between public and private sector innovation*. Publin Report no D9

[14] Difi (2018) *Innovation Barometer for the central public sector 2018*. Report KS (2020) *Innovation Barometer 2020*. The Innovation Barometers are innovation surveys conducted among central and local government agencies. In 2020, the local government sector barometer covered health and care services, children, young people and education services, the social sector, the technical sector and the culture sector. The survey in 2018 covered the health and care sector and children, young people and education services.

[15] White paper on the central government administration, democracy and community. (Meld. St. 19 (2008–2009) *Ei forvaltning for demokrati og fellesskap*)

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An innovative public sector
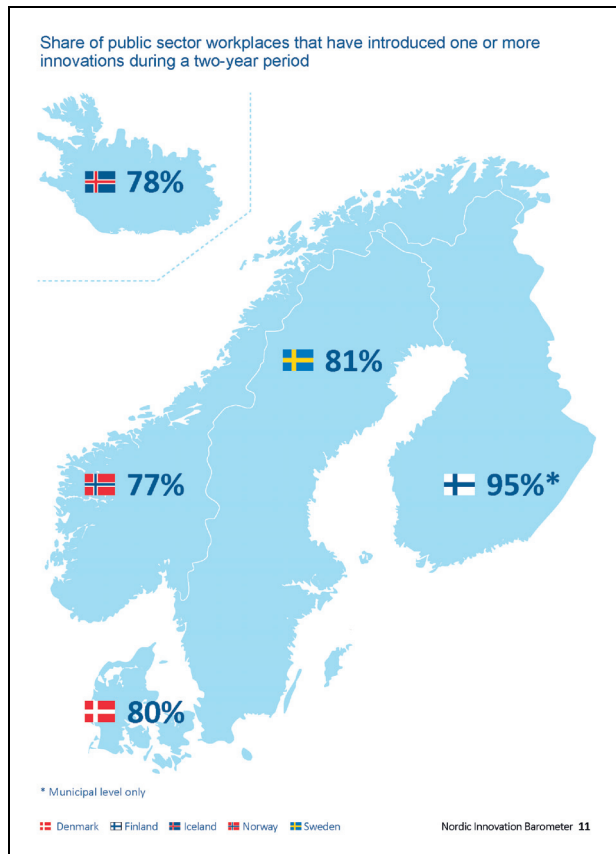
Figure 3.4 Innovations in the past two years

Proportion of managers reporting that their organisation/workplace has introduced one or more innovations in the past two years. The type of innovations is not specified. The figure for Norway is a weighted average of the state and municipal results.

Source: *Measuring New Nordic Solutions, Innovation Barometer for the Public Sector.* Report 2019.

are clearly assigned. On the other hand, a rigid interpretation of sector responsibility can be an obstacle to necessary coordination and innovation.

Innovation often requires efforts by and coordination between several different administrative levels and sectors. At the same time as the public sector and Norway are well positioned for innovation, it has been pointed out in several contexts that the conditions for cooperation are demanding. This is especially the case when investments come from one sector, while the benefits are seen in another.

3.2.2 A diverse local government sector

There were 356 municipalities in Norway as of the end of 2020. The municipalities are diverse in terms of population, size, location and expertise. About half of the municipalities have a population

of less than 5,000, while more than 120 have fewer than 3,000 inhabitants. Twenty municipalities have a population of more than 50,000.

The municipalities have wide-ranging authority and a high degree of local autonomy.[16] In recent years, municipal autonomy has been strengthened, both through the inclusion of a provision in the Norwegian Constitution and through the new Local Government Act of 2018.[17]

The local government sector is responsible for many different tasks, including basic welfare services and local societal development. The municipalities' duties have increased significantly in recent years. At the same time, the challenges facing society have become more complex, and increasing demands are made of the local government sector as a service provider and development agency.[18] There is a constant need for development and innovation in municipal services, including core areas such as health and care services and schooling, and technical services such as water and wastewater management. Norwegian Water has estimated the investment costs for municipal water and wastewater facilities up until 2040 to be approx. NOK 280 billion.[19]

The municipalities are the most important planning authority, with responsibility for public and land use planning at the local level. All stakeholders in the local community should be involved in the preparation and implementation of the plans.[20] Digitalisation will play a significant role in all service areas going forward.

Work on innovation in the local government sector

Municipalities and county authorities work on innovation in connection with service provision, the exercise of authority, societal development and as a democratic arena. There are differences within the sector in terms of which municipalities report innovation activities. According to KS's Innovation Barometer for 2020, the most innovative municipalities are medium-sized or relatively

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[16] White paper on the local government reform (Meld. St. 14 (2014–2015) *Kommunereformen – nye oppgaver til større kommuner* (Reform of the municipality-structure – new tasks for larger municipalities)

[17] Adopted by the Storting in spring 2016

[18] White paper on regional policy (Meld. St. 5 (2018–2019) *Levende lokalsamfunn for fremtiden – Distriktsmeldingen* (Future Vibrant Communities

[19] Rostad (2017) *Finansieringsbehov i vannbransjen 2016–2040* ('Need for funding in the water industry' – in Norwegian only). Norwegian Water. Report 223/2017

[20] White paper on regional policy (Meld. St. 5 (2018–2019) *Levende lokalsamfunn for fremtiden –Distriktsmeldingen)*

big (a population of 20,000–50,000), centrally located, have a low proportion of 'free' revenues and large enterprises with many employees, and are more often situated in Eastern Norway than anywhere else in the country.[21]

Municipalities in rural areas have small populations and greater geographical distances. The capacity for innovation and new ways of working is weaker in small rural municipalities than in big, urban ones.[22] Small rural municipalities can also find it difficult to recruit and retain sufficient competence to be able to develop and deliver services.

The Norwegian Association of Local and Regional Authorities (KS) is the organisation for all local authorities in Norway. All municipalities and county authorities are members. The organisation acts as a development partner for municipalities and county authorities, as a lobby organisation vis-à-vis the central authorities and as a party to negotiations with local government trade unions. KS has devised a number of educational instruments relating to innovation and it contributes actively to partnerships tasked with promoting innovation in the local government sector. In 2019, together with municipalities and county authorities, KS established a partnership for radical innovation. KS also administers several relevant digitalisation schemes, for example Digifin (Box 6.3).

Evaluations show that municipalities that have been merged are now better equipped to meet future challenges relating to service production and business and societal development.[23] Larger expert communities also provide added assurance that the decisions made are the correct ones. The municipalities are now in a better position to ensure equal treatment and due process protection, especially in child welfare services, technical services and specialised health services.

The break-even analysis that was conducted in connection with the ongoing local government reform shows great variation between the municipalities in their performance of key tasks. A substantially higher proportion of small municipalities consider their own capacity to be poor.[24]

Small municipalities with a population of less than 3,000 do not have sufficient expertise to meet the need for more specialised services, either in their own organisation, via intermunicipal cooperation or through private suppliers.[25]

The municipalities engage in widespread collaboration, among other things in formalised intermunicipal partnerships or in networks, for example on digitalisation (Box 6.4).

Local government reform and innovation

Reforms and structural changes can provide a basis for both digitalisation and innovation. When municipalities merge, they need to agree, for example, on which systems, procedures and practices the new municipality will use. That allows room for new ways of thinking. At the same time, reform does not automatically lead to innovation. Reform processes can be challenging, and extra effort is often needed to achieve innovation in large reorganisation processes, while also retaining what works well. A number of the municipalities that have been or will be merged in the ongoing reform have innovation on their agenda for the merger process (see example in Box 3.3).

Regional social development by the county authorities

The county authorities' role in regional social development is about setting the strategic direction for social development, mobilising the private sector, the cultural sector and local communities, and coordinating public contributions and the use of policy instruments.[26] Social development thereby offers opportunities for promoting innovation in both the public and private sector, among other things through collaborations and public procurements. Box 11.5 shows an example of this.

3.2.3 Risk aversion and incentives

The public sector manages our shared resources and safeguards citizens' rights. Errors in the pub-

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[21] KS (2020) *Innovation Barometer 2020*

[22] Telemarksforsking (2020) *Små distriktskommuners deltakelse i innovasjonsvirkemidler* ('Small rural municipalities' participation in innovation policy instruments' – in Norwegian only). Report 540

[23] Brandtzæg 2009 in Telemarksforsking (2020) *Små distriktskommuners deltakelse i innovasjonsvirkemidler*. (Small rural municipalities' participation in innovation policy instruments' – in Norwegian only.) Report 540

[24] Borge et al. 2017 in Telemarksforsking (2020) *Små distriktskommuners deltakelse i innovasjonsvirkemidler.* (Small rural municipalities' participation in innovation policy instruments' – in Norwegian only.) Report 540

[25] Brandtzæg et al. 2019 in Telemarksforsking (2020*) Små distriktskommuners deltakelse i innovasjonsvirkemidler.* (Small rural municipalities' participation in innovation policy instruments' – in Norwegian only.) Report 540

[26] White paper on regional policy (Meld. St. 5 (2018–2019) *Levende lokalsamfunn for fremtiden – Distriktsmeldingen)*

Box 3.3 Innovation in the new Øygarden municipality

From 1 January 2020, Fjell, Sund and Øygarden were merged to form Øygarden municipality. The municipalities have each had their own fragmented, differently organised services for vulnerable children and young people, and their next of kin. As part of the merger process, they wanted to develop a new comprehensive service for this vulnerable group.

Based on the service design method and process guidance, they set out to work together and develop the new service jointly.

The coordination of new municipal services for vulnerable children and young people in Øygarden is an example of how large-scale organisational changes, such as a merger of municipalities, can provide fertile ground for new ideas about how tasks can be carried out in the best interests of citizens.

Source: Norwegian Digitalisation Agency

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lic sector can have negative, and at worst, serious consequences.

Many municipalities point to the focus on operational matters as the greatest barrier to innovation.[27] The desire to ensure efficient operations can reduce willingness to try something new. Risk aversion is also related to the political responsibility of public agencies, which are followed up through control mechanisms such as state supervision of the local government sector by the Office of the Auditor General.

Unlike private enterprises, public agencies are not at risk of being outcompeted if they fail to modernise. At the same time, the risk of not making changes can be greater in the long term, for example by becoming outdated and losing people's trust.

Public sector innovation is one of the Government's main strategies for addressing the challenges facing society and seizing opportunities in the years ahead. At the same time, innovation

must not be at the expense of individual people's rights, public exercise of authority or citizen's due process protection and equal treatment. That would be negative for both the affected citizens and for trust in public authorities.

3.3 Innovation in a time of crisis

Crisis preparedness and response is about being able to deal effectively with a crisis and the challenges it brings, also when it is impossible to predict how the crisis will develop. Among other things, it is about having capacity and a culture of, and training in, innovation and swift change.

3.3.1 The COVID-19 pandemic

While work on this white paper is being completed, Norway and the world is in the midst of a crisis. The coronavirus SARS-CoV-2, which causes the disease referred to as COVID-19, has led to a pandemic. Vulnerable groups, such as elderly people and people with underlying illnesses, are particularly hard hit. The authorities in Norway and many other countries have implemented extensive measures to reduce the spread of the infection and the burden on the health service. There is still considerable uncertainty associated with the new virus, and more knowledge and research is needed going forward.

COVID-19 and the stringent infection control measures have led to major changes in how people live, work and interact with others, also internationally. The situation is challenging because the authorities are required to make important and radical decisions based on information that changes by the hour. At the same time, challenges relating to Norway's national security persist or grow. The situation requires innovation and new solutions at a time when traditional cooperation mechanisms are being challenged. The capacity to change seems to be in place even under changing circumstances.

Lessons learned from the pandemic have demonstrated a potential to accelerate digitalisation in many sectors, such as the health and care sector. The benefits will be there also after the pandemic has passed, and they will have more wide-reaching implications than just for crisis management. It is too early to say how the crisis will affect society and our surroundings in the long term and which solutions and changes will work in a normal situation.

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[27] Menon (2018) *Nåtidsanalyse av innovasjonsaktivitet i kommunesektoren* ('Present-day analysis of innovation activities in the local government sector' – in Norwegian only). Publication 88/2018. No corresponding survey has been carried out in the state sector.

3.3.2 Examples of innovation during the COVID-19 pandemic

Research

The EU has announced funding of EUR 164 million for the development of innovative solutions that can help to deal with the pandemic. The Research Council of Norway has announced an emergency call for proposals for collaborative and knowledge-building projects, and public-private innovation projects, to help the fight against COVID-19. The Trond Mohn Foundation and the Norwegian Cancer Society have also contributed substantial funds.[28]

Rapid sharing of research results helps to give countries the best possible foundation for evidence-based decisions. The Institute of Public Health (FHI) has an overview of scientific publications from all over the world, with detailed subgroups that make it easy to locate relevant publications on specific topics. The overview shows where research is lacking, which can stimulate new, important studies. FHI collaborates with McMaster University, Canada.

Digital health service solutions

The use of video consultations with GPs has soared during the pandemic. In the week before 12 March 2020, when stringent infection control measures were implemented, the average number of daily video conversations between GPs and patients was 142. During the following weeks, an average of between 4,000 and 5,000 video conversations were conducted every day. Physiotherapists, psychologists and other health personnel have also made increasing use of video consultations during the pandemic.[29]

Joint solutions such as helsenorge.no offer quality-assured health information and the possibility of using administrative services to book appointments, renew prescriptions, request e-consultations and send messages to doctors. Several million people have used these services during the pandemic. Helsenorge.no has also played a decisive role in the introduction of new digital solutions for the health and care sector. The platform helps to overcome barriers to, and encourages more use of, digital solutions in patient care.

The health authorities receive input from many small and large contributors on digital solutions that can support work on the pandemic. All input is collated by the Directorate of eHealth and assessed in light of needs and challenges in the health and care services. The input is considered by working groups comprising representatives of the Institute of Public Health, the Directorate of Health and the Directorate of e-Health, or others where relevant. As of 8 April 2020, a total of 283 proposals had been received and 10 measures had already been introduced or implemented.

New digital tools introduced in a crisis or emergency response situation must be simple to use. In most cases, this means that the initiatives must be linked to existing solutions. Many of the good suggestions received will therefore be more relevant at a later date, when the crisis is no longer acute.

Infection tracing, and the possibility of contacting everyone an infected person has been in contact with, is an effective strategy for reducing the spread of infection. Many countries have developed digital tracing systems. At the same time as infection tracing plays an important role in limiting the pandemic, many of the systems are challenging in relation to privacy and personal data considerations. In Norway, the Institute of Public Health has launched the Smittestopp app, developed by the research institution Simula.

The national welfare technology program contributed to a joint procurement of electronic pill dispensers for 57 municipalities. The dispensers reduce the need for manual distribution of medication and thereby help to prevent infection, while also rationalising the work of health personnel.

The pandemic has also strengthened joint digitalisation efforts between the Institute of Public Health, the Directorate of Health, the regional health authorities, KS, the Directorate of eHealth and Norsk Helsenett SF. The same applies to cooperation with the supplier market.

Digital offices and teaching

Many people in Norway and the rest of the world are working from home during the crisis. Meetings are held by telephone and video, and conferences are digital to a much greater extent than before. The technology has been available for a long time, but the skills and extent of its use have increased considerably in a very short space of time.[30] In addition, all schoolchildren have been

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[28] Forskningsradet.no (The Research Council of Norway) and press release of 3 April 2020

[29] The website ehelse.no reports that, in March, 33 per cent of all consultations were digital, compared to 3 per cent in January and February.

[30] See, inter alia: nrk.no/kultur/korona-gir-boom-for-teknologien-1.14952712

remote schooled at home for a number of weeks. The situation has been challenging for pupils, teachers and parents alike, but it has contributed to a great deal of learning and sharing of experience between teachers on digital platforms.

Higher education courses are also taught digitally. The Faculty of Law at the University of Oslo was quick to establish digital teaching, and it conducted an evaluation after only a few weeks to find out how it was working. A resource bank for digital teaching was established, containing guidance for teachers on how to conduct lectures, courses and student supervision. In cooperation with colleagues at OsloMet – Oslo Metropolitan University, the Centre for Experiential Legal Learning (CELL) also set up a Facebook group for a digital initiative in higher education. It has served as a platform for sharing tips, advice and digital seminars on how to use digital teaching.

Collaboration with the business sector

Several countries are organising 'hackathon' events, where new solutions are discussed and developed in a short space of time. The organisation Design and Architecture Norway (DOGA) hosted a hackathon in Norway between 27 and 29 March 2020. The ideas were judged on the basis of their originality, feasibility and importance.[31] The first prize went to the team *Makers against COVID-19*, which developed a face shield for healthcare workers that is easy to disinfect and can be used multiple times. The visor can be 3D-printed, and this job can be performed by a network of makers all over the country to ensure that health services have enough in stock. The solution thereby comprises both the visor itself and a

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[31] Hackthecrisisnorway.com

Box 3.4 Compensation scheme for substantial loss of income as a result of the pandemic

In spring 2020, a large number of businesses experienced a sudden fall in turnover as a result of the pandemic and the infection control measures that were implemented. A temporary support scheme was introduced for enterprises experiencing a substantial fall in turnover, cf. Proposition No 70 to the Storting (Bill) (2019–2020). Through this scheme, enterprises can apply to the State for compensation for loss of turnover as a result of the pandemic and infection control measures. NOK 30 billion has been allocated for grants through the scheme, cf. Prop. No 127 to the Storting (2019–2020). The scheme is managed by the Norwegian Tax Administration.

It took just three weeks from the Tax Administration was given the task of preparing work on the technical solutions for the grant scheme until the scheme was open for applications. In these three weeks, the Tax Administration established new solutions for receiving and processing applications, and tools for production follow-up and case processing. Interfaces were also developed with the Tax Administration's existing accounting and payment solutions, Altinn reporting solutions and an application and guidance portal that was developed in parallel by Finance Norway and DNB. Application processing and control is largely based on auto-

mated solutions with sophisticated rule and determination engines and artificial intelligence. Although a large number of Tax Administration staff have been involved in establishing the compensation scheme, the technical solutions were developed by a relatively small number of developers using agile development methodology. Technology and business development took place in parallel with the development of regulations to govern the scheme. This resulted in a very short time frame for the implementation of changes and testing of solutions. Parallel development of regulations and solutions and close dialogue between different Tax Administration disciplines helped to achieve short learning loops and the possibility of quickly making adaptations during the process.

The technical solutions on which the compensation scheme is based were the result of extraordinary efforts to resolve extraordinary challenges. And even though it would not be justifiable to organise the work in the same way under normal circumstances, work on the compensation scheme has resulted in both technology development and valuable lessons about efficient work methods and cooperation under great time pressure.

Source: Ministry of Finance

production and distribution solution that can also be used for other products.

Over the course of a few days, the Norwegian Defence Materiel Agency (NDMA) helped to develop a solution for safe helicopter transport of COVID-19 patients. The Norwegian company Epi-Guard has developed EpiShuttle, an isolation unit for the transport of infected patients, and teamwork with the search and rescue service and Kongsberg Aviation Maintenance Services, among others, meant that aircraft with isolation units could be taken into use in record time.[32]

Several private companies have developed new solutions in response to new needs in society. The sailmaker Gran Seil in Bærum has started making surgical gowns out of spinnaker fabric, and the Janus factory is developing a washable wool face mask.[33]

Private enterprises that already cooperate with the public sector to promote coordination and efficient use of resources have become more important. Nyby, Luado and Friskus are examples of matchmaking platforms that help to match needs with available resources, for example welfare tasks with available resource persons or activities in municipalities, voluntary activities, organisations and clubs and citizens.

3.3.3 Learning from crises

The instructions for work on civil protection and emergency preparedness require all ministries to evaluate incidents and hold drills, and ensure that the results and learning points are followed up.[34] Translating findings from investigations into

measures and change processes can be challenging. It is nonetheless important, also with respect to the possibilities for public sector innovation. Two examples of crises Norway has experienced in recent years are the terrorist attacks on 22 July 2011 and the unprecedented influx of asylum seekers in 2015.

The 22 July Commission, which was tasked with reviewing and assessing the public sector's response to the attacks, concluded that there were shortcomings in emergency preparedness and that it was necessary to learn more from exercises/drills and follow through on plans. In the Commission's opinion, the lessons learned concerned leadership, collaboration, culture and attitudes, rather than a lack of resources or a need for new legislation or organisation.[35] This largely tallies with the drivers of innovation identified in this report.

An important lesson learned from the asylum crisis is that an innovative solution in one area, for example simplified on-site registration of refugees and asylum seekers, can be demanding in other parts of the asylum process. New solutions can be expedient in a crisis situation, but turn out to be less than optimal and have unintended consequences once the crisis has ended.

The Government believes it is important to learn from crises, and, in consultation with the Storting, it has appointed an independent commission to conduct a thorough, comprehensive review and evaluation of the authorities' handling of the COVID-19 pandemic.

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[32] Forsvaret.no

[33] *Teknisk ukeblad* 17 March 2020, janus.no/munnbind

[34] *Instructions for the Ministries' work with civil protection and emergency preparedness*, issued on 1 September 2017.

[35] NOU 2012: 14 Report from the 22 July Commission

4 Framework conditions for innovation

Figure 4.1

Framework conditions comprise the formal systems that set the terms for day-to-day work in the public sector, such as governance, funding, laws and regulations, forms of organisation and requirements for official studies and reports. These framework conditions can enable public sector innovation, encourage and facilitate innovation, or limit the possibilities. Dedicated policy instruments for fostering innovation in the public sector are described in Chapter 5.

4.1 Governance

4.1.1 The current situation

State governance of the local government sector

Governance through framework funding forms the basis for state governance of the local government sector. This means avoiding detailed regulation of organisational matters in municipalities and county authorities, and generally avoiding detailed regulation of how tasks are addressed. However, the central government has a legitimate need to govern the local government sector. Such governance must therefore be based on national goals and considerations, such as equality, equitable treatment and sustainable development. *Framework funding* is the main principle for governance of the local government sector, since it is a precondition for giving the municipalities freedom to make local and individual adaptations to the services they provide. *Governance through framework funding* (section 4.2) and *legal framework management* (section 4.3) also help to give the

municipalities the flexibility they need to implement good and innovative solutions within and across sectors, and across administrative levels.

Governance in the state sector

Performance management is a fundamental principle of governance in the state sector.[1] Performance management aims to shift the focus of governance from issuing detailed instructions about resource use, activities and individual tasks to achieving the desired user and societal impacts. The purpose of performance management is to give public agencies freedom of action to carry out their tasks, based on the expectation that the result will be best when those who know the situation best have freedom to decide how to go about achieving the goals. When performance management works as intended, it gives public agencies freedom to find the best solutions for users and citizens.

In 2018, the Agency for Public Management and eGovernment (Difi) looked at how the ministries govern and facilitate innovation in subordinate agencies.[2] Ministries and subordinate agencies agree that trust and freedom of action to address tasks are important prerequisites for innovation. In general, the agencies state that the ministries govern in a way that facilitates and

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[1] Dfo.no

[2] Difi (2018) *Departementenes styring og tilrettelegging for innovasjon i underliggende virksomheter* ('The ministries' governance and facilitation of innovation in subordinate agencies' – in Norwegian only). Memo 2018:5

allows for innovation. In the Innovation Barometer survey among top executives in the state sector, two out of three respondents state that the ministry facilitates the use of innovative work methods in their organisation.[3]

At the same time, a survey of the ministries' role in promoting restructuring shows that strategic governance is weak, and that the civil service appears to play a defensive role in relation to initiating and facilitating restructuring.[4]

The experience report from the *program for better governance and management in the state sector (2014–2017)* shows that several central government agencies believe that they are subject to too detailed regulation and therefore lack the room for manoeuvre required to address tasks in new ways and cooperate with other actors.[5] Several executives stated that they do not always have the freedom of action they need. Detailed regulation, increased reporting and control impede managers and employees who want to find the best solutions for society at large and for users, often across sectors and levels.

The number of management requirements that apply to central government agencies was reduced by 24 per cent from 2012 to 2015. A research project at the University of Oslo (UiO) showed that, after this reduction, a significant number of agencies were still subject to a high degree of both activity management and performance management. This applied first and foremost to large organisations of major political importance.[6] On assignment for the Ministry of Local Government and Modernisation, master's degree students taking political science at UiO updated the study using data from letters of allocation from 2020. The review shows that the reduction has been reversed and the level has increased since 2015. In the letters of allocation from 2020, each organisation has on average two more goals and key performance indicators than it had in 2015. The corresponding number for activity

requirements is seven more. However, if the findings from that year are compared with the results from 2012, the number of goals and key performance indicators has decreased. The number of activity requirements is about the same as in 2012.[7]

4.1.2 Assessment of the situation

Governance of the local government sector

In the last few decades, the municipalities have been assigned an increasing number of tasks through special laws. At the same time, however, there has been a tendency towards more detailed regulation, particularly in welfare-related fields, for example through procedural and competence requirements set out in laws and regulations.[8] Statutory rights have increasingly been introduced in areas such as home nursing, practical assistance and training, home help services and respite measures. The purpose of this is to strengthen users' due process protection and strengthen the requirements for good services in these areas. However, detailed regulation of this kind entails a great deal of additional work and ties up more of the municipalities' resources. Implicitly, this means giving lower priority to other areas, although this is not explicitly stated.

Staffing norms are also intended to ensure good and equitable services in selected areas across municipalities. However, they also tie the municipalities or agencies to fixed solutions. The costs can be extremely high and can limit interest in investing in new and innovative solutions that can provide equally good or better services with fewer staff.

Governance in the state sector

If the public sector is to succeed in carrying out complex, cross-sector tasks for the population, mutual trust and transparency are prerequisites, as is a common understanding of the problem and how tasks and services are interconnected.

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[3] Difi (2018) *Innovation barometer for the public sector 2018.* Report

[4] Difi (2019) *Departementene i førersetet for omstilling?* ('Ministries in the driver's seat as regards restructuring?' – in Norwegian only). Report 2019:3

[5] The Ministry of Local Government and Modernisation (2018) *Program for bedre styring og ledelse i staten 2014–2017* ('Program for better governance and management in the state sector 2014–2017' – in Norwegian only). Experience report

[6] Askim et al. (2019) *Quasi-contractual ministry-agency steering of state agencies: Its intensity, modes and association with agency characteristics.* International Public Management Journal

[7] Ministry of Local Government and Modernisation (2020) *Etatsstyring i praksis: En analyse av departementenes tildelingsbrev til underliggende virksomheter (2012–2020)* ('Agency governance in practice: An analysis of the ministries' letters of allocation to subordinate agencies (2012–2020)' – in Norwegian only). Report

[8] NIBR (2019) *Nasjonal standardisering vs. Lokal autonomi: rammestyring i prinsipp og praksis* ('National standardisation vs. local autonomy: governance through framework funding in principle and practice' – in Norwegian only). Report 2019:12

It can be difficult to strike a good balance between, on the one hand, ensuring room for manoeuvre and incentives for innovation and, on the other, setting delivery, performance and reporting requirements.[9] It is also the Government's goal that central government agencies should not be subject to more performance and management requirements than necessary.

Moreover, it is not necessarily sufficient to give central government agencies freedom of action to innovate. It is also important that the ministries monitor whether the agencies make use of this freedom, and that the ministries are able to assess the agencies' innovation competence and capacity. This means that the ministries themselves need to have sufficient expertise in governance, innovation, innovative work methods and digitalisation, and that innovation is included in the governance dialogue.

An important part of the governance of agencies is to motivate them to innovate, support them in taking necessary risks in innovation projects when required, and contribute to ensuring that the innovations have the desired impact and benefits. The ministries can also use the agency governance dialogue to collect and spread good examples of innovation, and to establish contact between agencies where expedient.

4.1.3 The way forward

Governance of the local government sector

The Government's goal is to reduce detailed central government regulation and to decentralise more power and authority to local communities and their elected representatives. Framework funding will continue to form the basis for the State's governance of the local government sector. In 2018, the Government submitted a proposal for a new Local Government Act, which largely entered into force in autumn 2019. It codifies the municipalities' self-government by stipulating that each municipality and county authority is a separate legal entity with its own elected leadership that the government administration cannot control or instruct unless authorised by law. It also codifies some important principles relating to the national authorities' relationship to local self-government. Enshrining these principles in law helps

to underline the municipalities' freedom of action, and to support and emphasise the municipalities' overall responsibility.

Governance in the state sector

The Government maintains its commitment to trust-based performance management as a fundamental principle in the state sector, and it will endeavour to reduce the number of performance goals and activity requirements, since this will increase freedom of action and incentives for innovation both within and across organisations and sectors. However, the Government acknowledges that there is still a potential for improvement with respect to how performance management is practised. It can be difficult, for example, to set good impact goals and it can be challenging to measure the impact of efforts. In collaboration with the subordinate agencies, the ministries must assess how performance management is practised in the state sector, and whether this practice provides sufficient freedom of action and incentives for innovation. The Government will reverse the increase in the number of performance goals, key performance indicators and activity requirements that has taken place since 2015.

The ministries will facilitate a long-term approach and collaboration across sectors and levels of the public sector, and with actors outside the public sector. To support the ministries and agencies in this work, the Norwegian Agency for Public and Financial Management (DFØ) is developing its guidelines and services in areas including performance management, agency governance, corporate governance, coordinated and long-term management, and strategy, as well as competence-raising measures for managers.

4.2 Financial structures and incentives

4.2.1 The current situation

The budget system in the state sector is based on the principle of framework funding, meaning that public agencies receive an allocation that they use within the limits and guidelines set out by the Storting. This allows them to prioritise and reallocate. The combination of a predictable budget process, known procedures and deadlines and the freedom provided by framework funding allows for the planning and implementation of projects and other changes that require cross-sector collaboration.

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[9] Difi (2018) *Departementenes styring og tilrettelegging for innovasjon i underliggende virksomheter ('The ministries' governance and facilitation of innovation in subordinate agencies' – in Norwegian only)*. Memo 2018:5

Innovation projects can entail risks and costs that come in addition to ordinary operations. Most innovation and development measures must be funded within the existing budgetary limits that apply to the local government sector and central government agencies. This means that funds must be reallocated within the municipality's or agency's own area. The Regulations on Financial Management in Central Government and the current budget procedures allow for flexibility, including the possibility of exceeding operating allocations for investment purposes. Ordinary central government administrative bodies are entitled to exceed operating allocations by up to five per cent for investment purposes if they make a corresponding saving during the course of the next five financial years. Interest is not charged on the amount, and the saving does not have to start until the third year after the investment. This system can help to ensure that development projects, including innovation and digitalisation projects, can be covered within the agency's ordinary budgetary limits. See also the description of social impact bonds (Chapter 11) as an example of alternative funding solutions.

Innovation Barometer surveys of the central and local government sectors have shown that limited financial resources are seen as both impediments to and drivers of innovation. The Norwegian Association of Local and Regional Authorities' (KS) also points out that the most innovative municipalities have a small share of 'free' revenues adjusted for expenditure needs.[10]

The new Local Government Act states that, within the bounds of national fiscal policy, municipalities and county authorities should have 'free' revenues that provides financial freedom of action. The principle of framework funding means that a municipality's income from the state, together with tax revenues, is largely 'free' revenue that it can use within the limits set out in laws and regulations. This enhances the possibility of using resources in accordance with local priorities and cost factors, based on the municipality's proximity to and knowledge of the local community's needs, possibilities and challenges. The system of framework funding fosters innovation since the benefits of service development and rationalisation go to the municipality. Earmarked funding only comprises about six per cent of the local government sector's overall income. A significant

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> **Box 4.1 Program funding under the Nordic 0–24 collaboration**
>
> The Government has established a project under the Nordic 0–24 collaboration to improve cross-sector follow-up of vulnerable children and adolescents, and their families. As part of the collaboration, the Government has initiated a program funding pilot, where parts of existing grant schemes aimed at vulnerable children and adolescents are merged into one program. The objective is to make it easier for municipalities to apply for funding for measures that include more than one sector, and to adapt the measures to the local situation. One important goal is to increase freedom of action at the local level.
>
> The pilot encompasses five grant schemes and twelve municipalities in Trøndelag, Innlandet, Vestfold and Telemark counties. The pilot will run until the end of 2022.

number of earmarked grants are nonetheless allocated to the local government sector.[11]

Earmarked funding is often aimed at specific user groups, issues or activities and can thereby stimulate measures within more or less delimited areas. It is a requirement for earmarked grants that calls for applications are issued, and the municipalities normally have to apply for the funding and report how it is used. Application processes and reporting are resource-intensive for both the applicant and administrator. The administrative requirements, for example, mean that municipalities with relatively good overall finances utilise earmarked funding best.[12]

Funding earmarked for stimulating innovation can provide incentives to test new solutions. It can also help to clarify that innovation is something that takes place outside normal activities rather

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10 KS (2020) *Innovation Barometer 2020*, Difi (2018). *Innovation barometer for the public sector 2018.* Report

11 *Områdegjennomgang av øremerkede tilskudd til kommunesektoren* ('Area review of earmarked grants allocated to the local government sector' – in Norwegian only). Expert group report, December 2017.
Proposition No 105 to the Storting (2019–2020) *Kommuneproposisjonen 2021* ('Local government sector proposition 2021' – in Norwegian only), Annex 5

12 Håkonsen & Løyland 2011; Hagen 2020 in Telemarksforsking (2020) *Små distriktskommuners deltakelse i innovasjonsvirkemidler* ('Small rural municipalities' participation in innovation policy instruments' – in Norwegian only). Report 540

than as an integrated part of them. The framework for the individual grant schemes can affect whether applicants see innovative and cross-sector solutions as possibilities. Program funding tested under the Nordic 0–24 collaboration (Box 4.1) is an example of a funding model that is more flexible than many sector and topic-specific grant schemes.

4.2.2 Assessment of the situation

During the process of preparing this white paper, several bodies stated in their input that it is difficult in practice to prioritise innovation and development projects, particularly those that require cross-sector collaboration, and where the expenses and gains fall under different areas.

The system whereby the Government and the Storting consider the national budget as an overall whole is intended to facilitate projects in which expenses and gains fall under different areas or sectors. It nevertheless seems to be challenging to achieve this in practice.

The Government has incorporated earmarked funding for around NOK 3.6 billion in the framework allocation for the local government sector in 2020, but there is still a potential to further incorporate and simplify this.

4.2.3 The way forward

The Government will continue its work on incorporating and simplifying earmarked schemes. This will give the municipalities and county authorities greater financial freedom of action, and lead to less bureaucracy in the state sector and in municipalities. Local freedom of action is a precondition if the municipalities are to be able to work on innovation and locally-adapted solutions.

The Government will continue its work of clarifying how the ministries and agencies can utilise the opportunities and freedom of action offered by the budget system with regard to prioritising innovation and development projects within and across agencies, organisations and sectors. The Government will include important innovation projects in the annual budget proposition going forward. Highlighting the issue in this way can help to develop a culture of innovation and provide a better overview and learning across ministries and sectors.

4.3 Laws and regulations affect freedom of action

4.3.1 The current situation

Research and innovation barometer surveys have shown that laws, regulations and other regulatory frameworks can both promote and impede innovation.[13] Both the scope and design of the regulatory framework affect freedom of action.

Laws that require that something be done in new ways using new policy instruments and other technical solutions could create new needs and thus foster innovation. New environmental requirements that can foster innovation because the previous solutions are no longer suited to the requirements are one example of this. Some laws and regulations also directly encourage or contribute to innovation, for example by providing for exemptions from ordinary requirements or where exemptions or pilots can be used precisely in order to test new solutions (Chapter 9).

The proposal for a new Public Administration Act contains a detailed description of automated case processing and when this may be an option.[14] If such a provision is adopted, it has the potential to foster innovation in a number of areas.

Laws and regulations can help to ensure due process protection, equal treatment and equitable services for citizens throughout the country. However, too detailed statutory regulation can impede or limit innovation. For instance, explicit and detailed statutory requirements can reduce the possibility of deciding priorities locally, or reduce incentives to invest in new and innovative solutions that can provide better services with fewer staff. Laws and regulations can also be an obstacle to introducing new or digital solutions if the wording of the legislation does not take account of this. It was described earlier in this chapter how strong statutory regulation, such as statutory rights or staffing norms, can have a negative impact by tying municipalities or agencies to predefined solutions.

There are also many laws and regulations that regulate frameworks and conditions for the public sector, and thus also for innovation in the public sector. In addition to national laws, regulations

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[13] Difi (2018) *Innovation Barometer for the public sector 2018.* Report, KS (2020) *Innovation Barometer 2020,* DeVries et al. (2016), *Innovation in the Public Sector: A systematic review and future research agenda.* Public Administration, volume 94, issue 1

[14] Official Norwegian Report (NOU) 2019:5 *New Public Administration Act*

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and other regulatory frameworks, there are some international frameworks, regulations and rules that have an impact on freedom of action and thereby impede innovation and rationalisation. To develop the public sector in the best interests of citizens, cooperation between sectors and administrative bodies can be both decisive and necessary. The Public Administration Act regulates the case processing and administrative decisions made by most state and municipal administrative bodies. In the proposal from the Law Commission on the Public Administration Act, the need for collaboration was included in the provision relating to the purpose of the act:

> The Act shall facilitate good, trustworthy and efficient case processing in the public administration. It shall safeguard considerations for individuals and society. To fulfil the purpose of the Act, the administrative body shall act impartially and collaborate with other bodies.[15]

4.3.2 Assessment of the situation

Although laws and regulations in Norway are generally technology-neutral and open for innovation, a great deal of the regulatory framework has not kept up with developments and can thereby impede innovation. Developments are unfolding quickly and the legislation is not necessarily adapted to new opportunities that arise. It can also be challenging that regulations are interpreted too strictly, resulting in opportunities for innovation not being taken.

Discretionary provisions in legislation are necessary to provide for local self-governance, and can allow room for innovation. However, discretionary provisions can also make it difficult to introduce automated case processing. It is therefore decisive to strike a balance between several considerations and concrete assessments of the needs in each individual case when drafting laws and regulations. Innovation, digitalisation, local self-governance and the Norwegian legislative tradition, whereby acts are not too long or detailed, are among the factors that must be addressed in the work on developing regulatory frameworks.

4.3.3 The way forward

The Ministry of Local Government and Modernisation has received input on certain specific obstacles to digitalisation in the regulatory framework, and efforts are being made to gain an overview of and address these obstacles. The fact that there do not currently appear to be many concrete obstacles to digital communication does not mean that the regulations facilitate digitalisation and innovation. The digital strategy for the public sector stated that the Government will review the regulations to remove obstacles to digitalisation.[16] This review will be based in part on the work on seamless public services (Chapter 6). It is also necessary to define the principles and characteristics of digitalisation-friendly rules and regulations. The Government will establish a national resource centre for data sharing based at the Norwegian Digitalisation Agency. The centre will have cutting-edge expertise in the relationship between the law, technology and business and administrative processes. It will play a key role in the work on digitalisation-friendly and clear regulations. The Government expects that considerations for digitalisation-friendliness and the need for freedom of action and innovation in the public sector will be weighed against each other in this work.

The coronavirus pandemic has made it necessary to speed up digitalisation in many areas. This includes the courts of law, which had fallen behind in terms of the possibility of using electronic communication and signatures. Interim regulations have now been adopted for the use of electronic signatures.[17] There has been a sharp rise in the number of telephone and video consultations with GPs, and the pricing system for electronic consultations was changed to make it easier for GPs to use this method without being in physical contact with their patients. A number of legislative amendments have also been adopted in connection with the pandemic to improve the possibilities for digital contact. They includes temporary regulations that provide for exemptions from the provisions requiring physical attendance at exams and teaching, and at meetings of limited liability companies and foundations. Experience from the exemption provisions could form the basis for permanent legislative amendments in certain areas.

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[15] ibid

[16] Ministry of Local Government and Modernisation (2019) *One digital public sector. Digital strategy for the public sector 2019-2025*

[17] Provided for in *the Temporary Act to remedy the consequences of the outbreak of COVID-19 etc.* (the Coronavirus Act)

4.4 Framework for decision-making in the State

4.4.1 The current situation

Innovation often entails learning from our mistakes and successes through incremental development and experimentation. This is not in opposition to conducting official studies or evidence-based hypothesis testing. However, it may entail new requirements for how study and coordination processes are carried out in the public sector, including awareness of and structured reviews of risks and uncertainty.

In the public sector, the Instructions for Official Studies and Reports and the Norwegian State Project Model and pertaining quality assurance scheme form the framework for studies of new initiatives and large-scale projects.

The Instructions for Official Studies and Reports are joint instructions for the ministries and subordinate agencies in the government administration. The instructions are intended to ensure a good basis for decision-making on measures by central government. When the new instructions entered into force in 2016, the objective was to make it easier to comply with the requirements. Clear minimum requirements were established in the form of six basic questions that all official studies and reports must address.[18] The purpose is to ensure thorough assessments of how a problem can be solved and which alternatives are relevant.

The new instructions set out clearer requirements for early involvement of affected parties. This is intended to counter silo and sector thinking and encourage ministries and agencies to coordinate measures to a greater extent. The instructions have also led to greater flexibility through the principle of proportionality. This means that the thoroughness and scope of a study must be in proportion to the expected impact of the measure to be studied. An economic analysis must be conducted of measures with significant impacts, while a less extensive study is sufficient for less wide-ranging measures. The combined effect of these changes to the instructions should

ensure that the regulations are better adapted to the need for innovation.

The Norwegian State Project Model is a joint framework for studies, planning and external quality assurance of major central government investment projects. The goal is to avoid wrong investments and ensure good control of costs and benefits throughout the projects' planning and implementation. It aims to contribute to the most efficient use of public resources. Investment projects with an estimated total expenditure of NOK 1 billion (over NOK 300 million for digitalisation projects) are subject to the requirements.

4.4.2 Assessment of the situation

Studies must be carried out in accordance with the instructions even if it has already been decided at the political level to implement a measure. The Norwegian Agency for Public and Financial Management has mapped the status of studies conducted in the public administration in 2019 and looked at developments since the new instructions entered into force in 2016. The survey shows that there is still great room for improvement when it comes to compliance with the instructions. As in 2016, the biggest shortcoming identified in the studies was the absence of alternative measures, where around 70 per cent only study one measure.[19] There is also insufficient use of socio-economic analyses. According to the ministries, the most important reasons for inadequate studies are time pressure, political requirements and a lack of resources, while subordinate agencies emphasise the availability of resources, expertise in their own organisation and the need for coordination.

4.4.3 The way forward

Official studies of central government measures must not be an obstacle to innovation, but must stimulate new thinking at an early stage and allow room for innovation during the process. Central government executives play a key role and must ensure that the their organisations have sufficient resources and expertise to conduct studies. A culture for innovative thinking must be established. As well as addressing challenges and grasping opportunities within the organisation's own area

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[18] The six questions are: What is the problem, and what do we want to achieve? Which measures are relevant? Which fundamental questions are raised by the measures? What are the positive and negative effects of the measures, how permanent are they, and who will be affected? Which measure is recommended, and why? What are the prerequisites for successful implementation?

[19] The Norwegian Agency for Public and Financial Management, Report 2020:1 *Tilfredstiller statlige utredninger utredningsinstruksens krav?* ('Do official studies and reports satisfy the requirements of the Instructions for Official Studies and Reports?' – in Norwegian only)

of responsibility, interdisciplinary collaboration and coordination with other bodies is also important. It is also important to work on culture and management to ensure a sufficiently broad basis for decision-making. The Government has therefore asked the Norwegian Agency for Public and Financial Management and the Norwegian Digitalisation Agency to implement competence-raising measures and develop relevant guidelines. They will be further developed in step with needs and experience from the aforementioned review of official studies.

The Government has lowered the cost threshold for which digitalisation projects, pursuant to the Norwegian State Project Model, are required to conduct an official study – from NOK 1 billion to NOK 300 million. This threshold value is lower than for other investment projects since digitalisation projects of this size are considered to be at least as complex and risky as physical infrastructure projects with far higher costs. At the same time, assessments and quality assurance must also take into account that digitalisation projects are characterised by rapid technological change, great opportunities for innovation and continuous service development.

To support the work on assessing, planning and quality assuring digitalisation projects, the Ministry of Finance, in cooperation with other ministries, has developed dedicated guidelines for digitalisation projects in the Norwegian State Project Model. The guidelines help those involved in assessment and quality assurance to understand how to interpret the requirements in the context of digitalisation, including whether the distinctive characteristics of digitalisation projects can be taken into account. Better studies and quality assurance of digitalisation projects, combined with better guidelines, will provide a better basis for choosing the right projects and enable projects to yield greater benefits.

4.5 Forms of organisation and innovation

4.5.1 The current situation

How the public administration is organised must be adapted to needs and possibilities.[20] This applies to the internal organisation of each public sector body, between bodies and levels of administration, and how they are organised geographically. Innovation, digitalisation and rationalisation are drivers for new solutions and requirements

that affect the organisation and development of public agencies. There has been a trend in recent years towards greater use of functional organisation in central government agencies. Most regional offices of central government agencies were previously organised as separate entities, with all disciplines and support functions present in each location. Several large agencies have now transitioned to a function-based structure. Regional offices have become functional centres

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Box 4.2 Establishment of Nye Veier AS

Nye Veier AS has been in operation since 1 January 2016. The company plans, builds, manages and maintains selected stretches of road. It prioritises developments on the basis of their socio-economic profitability. This leads to competition between projects to reduce development costs and increase the benefits. Nye Veier estimates that the development costs for the stretches of road included in its start-up portfolio can be reduced by 20 per cent.[1] The establishment of Nye Veier AS has resulted in competition with the Norwegian Public Roads Administration, which also estimates that it can achieve significant potential cost reductions in future road projects. In connection with the transfer of responsibility for the administration of county roads from the Norwegian Public Roads Administration to the county authorities from 2020, the remaining parts of the Norwegian Public Roads Administration's organisational model changed from a regional organisation to functional organisation based on divisions. The new organisation has bigger and more specialised environments that are better equipped to address increasingly complex tasks and make good use of new technology. The Norwegian Public Roads Administration's investment in digitalisation reduces costs and makes services for users more accessible via self-service solutions.

[1] Proposition No 1 (2019–2020) to the Storting from the Ministry of Transport

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[20] Difi Report 2019:4: *Digitalisering, kompetansebehov og effektivisering gir desentral konsentrasjon. Om utvikling i lokaliseringen av statlige arbeidsplasser ('Digitalisation, competence needs and rationalisation lead to decentralised concentration. About developments in the localisation of central government jobs' – in Norwegian only)*

that specialise in one area and provide services for the whole country. Examples include the Norwegian Tax Administration, the National Archives of Norway, the Norwegian Public Roads Administration, the Norwegian Agency for Public and Financial Management and the Norwegian State Educational Loan Fund.

Since the 1990s, the public sector has used the market to strengthen and rationalise service provision in a number of areas. Former monopoly sectors have been deregulated and entities hived off as independent legal entities. Corporate governance, with more overall and less detailed management, has thus replaced traditional agency governance. The establishment of Nye Veier AS is one example of this (Box 4.2). The changes have led to better and cheaper services and are in themselves innovation at the structural level. They have also provided a basis for innovation at agency level. Other examples of deregulated markets are in the telecommunication, postal and power sectors. Enterprises hived off as separate companies include Posten Norge AS, Telenor ASA, Avinor AS, Statnett SF and Statkraft AS.

4.5.2 Assessment of the situation

Requirements relating to innovation and restructuring, more efficient administration and user-oriented services challenge the way in which we address tasks and existing forms of organisation. Digitalisation, artificial intelligence and automation enable services and solutions that did not seem conceivable just a few years ago. This provides opportunities for, but also requires, a more cohesive public administration. It is also the case that many societal challenges and new opportunities affect several sectors and administrative levels simultaneously. This can challenge traditional work methods and forms of organisation in the public administration and necessitate a more whole-system approach and cooperation across sectors and administrative levels.

4.5.3 The way forward

Innovation, digitalisation and intractable problems appear to be changing the forms of organisation we need. More knowledge is needed about the organisational changes taking place in the public administration, and about the impact these changes have on innovation and efficiency. The Government will therefore initiate a project to assess whether it is necessary to make adaptations to existing models for how the central gov-

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Box 4.3 New organisational models can foster innovation

The City of Oslo organises its home-based services in small, interdisciplinary teams in accordance with a trust-based model. The objective is to ensure greater continuity in relations between users and staff, to empower staff and help to create more security and better quality services. The services are allocated and carried out according to the principle: *What is important to you?,* and the staff are authorised to adapt the services to each user's needs.

The model was initially introduced as a pilot project in four city districts. An evaluation of the pilot shows an increase in user satisfaction, and that the staff felt that the changes had a positive impact on their work. Based on the City of Oslo's experience of handling the COVID-19 pandemic in spring 2020, there is also a positive correlation between small, interdisciplinary teams and the possibility of preventing the spread of infection. This effect will be subject to further evaluation.

All the 15 city districts in Oslo have now introduced this trust-based model in home-based services, but have chosen different organisational solutions.

Source: Eide et al. (2018) *Tillitsmodellen hovedpilotering i Oslo kommune* ('Main pilot of the City of Oslo's trust-based model' – in Norwegian only)

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ernment organises its activities and whether completely new models are needed.

The Government will also monitor the benefits generated by the recent reforms, including in the transport and communications sector. It is the Government's goal that resources are allocated to the right measures, and that these measures are implemented with optimum efficiency. One important aspect of the transport and communications sector reforms has been the facilitation of less detailed policy regulation, more competition and greater operational freedom in the organisations. The reforms have also made it possible to test whether a different form of organisation and different framework conditions can lead to more rapid, efficient and whole-system development of parts of the national road network.

More organisations are trying out other ways of organising their activities than formal hierarchies, since such hierarchies can limit their capacity for change in an increasingly complex and unpredictable reality. The City of Oslo has introduced a model that has led to increased user satisfaction and greater satisfaction among employees (Box 4.3). The Government wants more public sector bodies to try out alternative forms of organisation that better facilitate innovation and new ways of thinking.

4.6 The Government's aims

The framework conditions for the public sector must allow for freedom of action and incentives for innovation.

The Government will:

- continue with trust-based performance management as a fundamental principle in the state sector and endeavour to reduce the number of performance goals and activity requirements to which central government agencies and organisations are subject
- reduce detailed central government regulation and simplify earmarked funding schemes in the local government sector
- review and update laws and regulations with a view to making them technology-neutral and digitalisation-friendly, and prioritise laws and regulations that are relevant to the work on seamless services across sectors and administrative levels. This must be done without creating new obstacles to public sector innovation.
- mention important innovation projects in the annual budget proposition.

5 Policy instruments for innovation
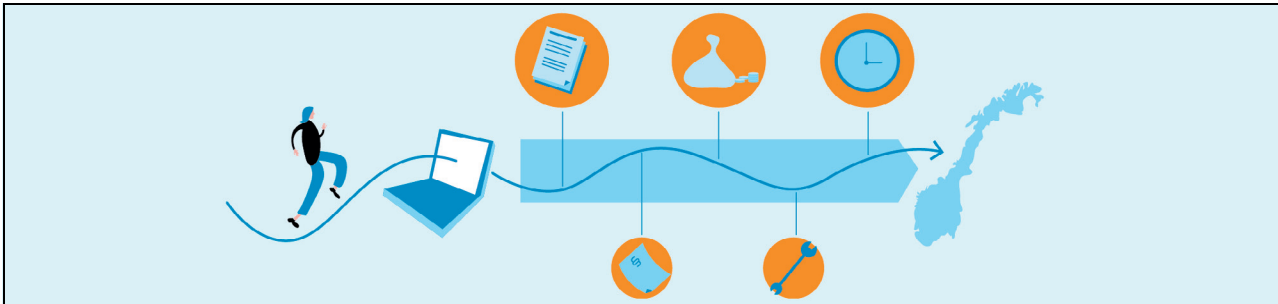
Figure 5.1

Each county authority, municipality and public agency is responsible for finding new and better ways of fulfilling its social mission, if possible in cooperation with others. In some cases, they may need support in the form of expertise, research or funding. Dedicated policy instruments have therefore been established for public sector innovation.

5.1 The current situation

5.1.1 Agencies and policy instruments for public sector innovation

Several public agencies administer policy instruments and have special responsibility for ensuring that the public sector initiates, implements and achieves results through their innovation efforts. Figure 5.2 provides an overview of public agencies and policy instruments. KS has also developed a number of educational instruments relating to innovation and it contributes actively to partnerships tasked with promoting innovation in the local government sector (section 3.2). Several sectors have also developed their own innovation policy instruments, including the healthcare sector (Box 5.1).

The Government and ministries play an important role as drivers of innovation through their responsibility for policy formulation, goals, frameworks and policy instruments for innovation. Being a driving force for innovation entails setting goals, allowing freedom of action and providing incentives for innovation in subordinate agencies, and working to diffuse learning both within and

between ministerial areas. The Ministry of Local Government and Modernisation is responsible for developing the central government and local government administration, including innovation and digitalisation in the public sector. The Government has also established a digitalisation committee chaired by the Prime Minister. The other committee members are the ministers responsible for particularly important digitalisation initiatives. The committee will be forward-looking and will organise the Government's digitalisation efforts in a way that ensures good coordination and progress.

Innovation Norway is the central government and county authorities' policy instrument for achieving profitable business development throughout the country. Innovation Norway also administers several policy instruments that involve joint participation by the private and public sectors. Innovation Norway aims to ensure that Norwegian businesses contribute to addressing major societal challenges. To achieve this, the instruments and schemes must strengthen public-private sector collaboration to ensure that the projects succeed in implementing and scaling up new technology. Innovation Norway does this through schemes such as innovation partnerships, innovation contracts and clusters (Chapter 11), in addition to the Pilot-T and Pilot-E schemes in cooperation with the Research Council of Norway. It awards innovation funding to stimulate business and industry and meet demand from the public sector, and the projects receive process guidance and can draw on the organisation's expertise.

The main objective of *Design and Architecture Norway (DOGA)* is to use design-driven innovation to increase the competitiveness of business and industry and modernise the public sector. DOGA's work includes developing educational tools for innovation, and it is a partner in the StimuLab scheme administered by the Norwegian Digitalisation Agency (Chapter 8).

The National Program for Supplier Development is an independent driving force that encourages more public organisations to use innovative procurements (Chapter 11). It is a partnership comprising over 30 municipalities, county authorities, central government agencies and research and education institutions. The Ministry of Local Government and Modernisation, the Ministry of Health and Care Services, and the Ministry of Trade, Industry and Fisheries allocate funding to the program. Several of NHO and KS's regional offices have regional contact persons. The steer-

ing committee for the program comprises representatives from NHO, KS, the Norwegian Agency for Public and Financial Management (the Norwegian Digitalisation Agency until autumn 2020), Innovation Norway and the Research Council of Norway.

The Regional Research Funds scheme was established in 2010. It provides funding for research and innovation projects using allocations from the Ministry of Education and Research. Several of the funds have prioritised funding research for and in the public sector, and they were among the first to fund this kind of project (Chapter 12).

The Research Council of Norway has overarching responsibility for ensuring that research communities can play a key role in developing a more knowledge-based and innovative public sector. The Research Council awards funding for, provides guidance about and creates arenas for
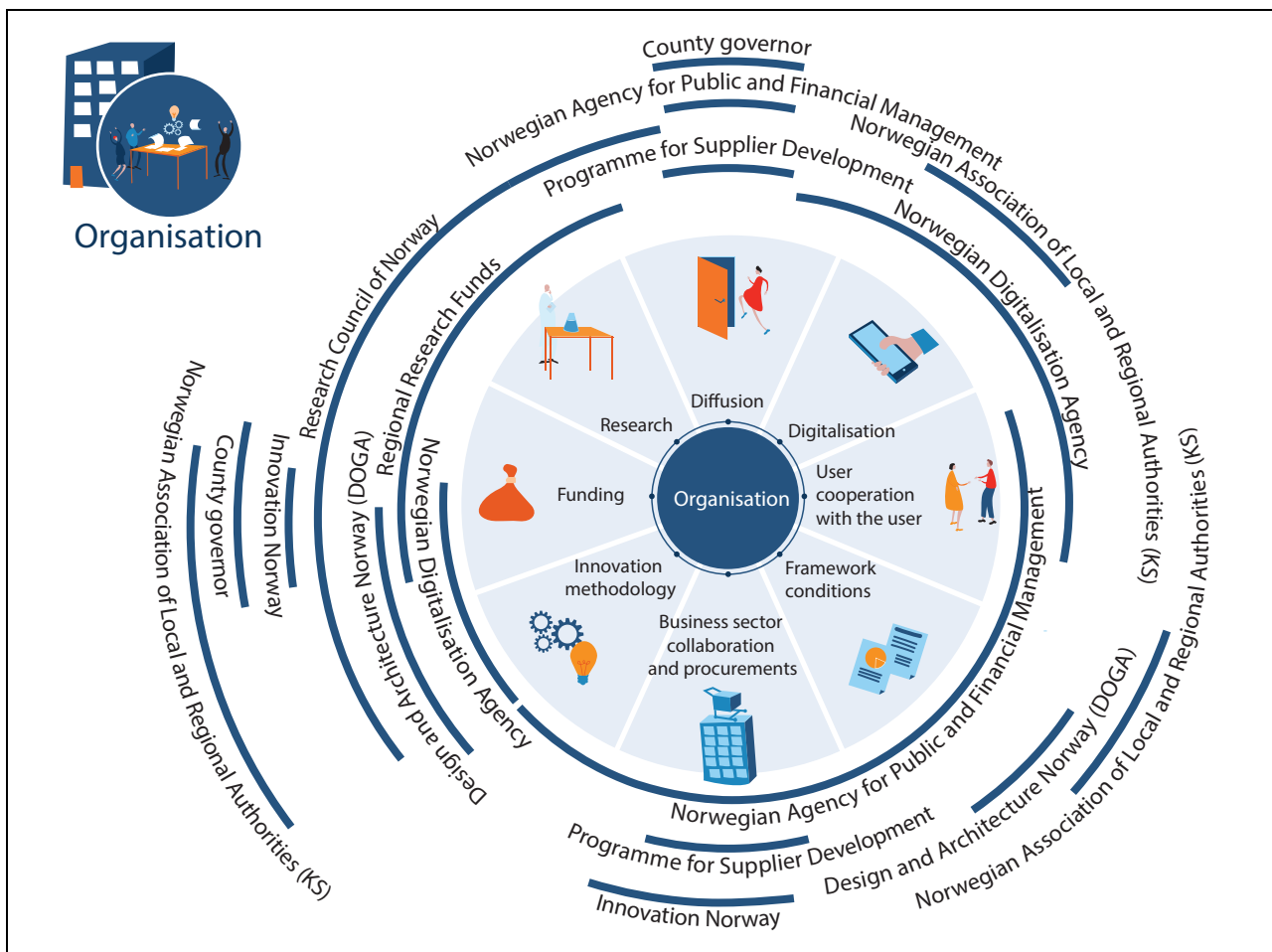
Figure 5.2 Overview of agencies and policy instruments

Overview of agencies that administer policy instruments for public sector innovation and the types of instruments available.

Source: The Ministry of Local Government and Modernisation in cooperation with the Norwegian Digitalisation Agency, DOGA, Innovation Norway, the Norwegian Agency for Public and Financial Management, the Research Council, the National Program for Supplier Development and KS. Design: Halogen AS

research and innovation. Public sector innovation is an express priority area in the Research Council's strategy for 2018–2023. The Research Council administers research and innovation funding in key areas of the public sector, such as health, education and welfare, transport and digitalisation, public sector PhDs and research-based innovation in the local government sector (Chapter 12). It issued the first call for proposals for pre-commercial procurement projects in 2019 (Chapter 11).

The Norwegian Digitalisation Agency is the Government's primary tool for digitalisation in the public sector. It contributes to achieving expedient digitalisation of society at large. The agency is also a driver of public sector innovation efforts, generating knowledge in the field, taking part in innovation collaborations and providing expert input for policy development relating to public sector innovation. Is also administers several instruments, including the Innovation Award, the stimulation scheme for innovation and service design (StimuLab) (Chapter 8) and the co-funding scheme for digitalisation projects (Chapter 13). The Norwegian Digitalisation Agency was established on 1 January 2020. It consists of the former Agency for Public Management and eGovernment (Difi), Altinn and parts of the Brønnøysund Register Centre.

The Norwegian Agency for Public and Financial Management (DFØ) is an expert body for governance, organisation and management in the central government. It is tasked with stimulating whole-system development in these areas. It has been assigned administrative responsibility for the Regulations on Financial Management in Central Government and the Instructions for Official Studies and Reports, and it provides joint services to the public administration relating to finances. DFØ is responsible for several policy instruments, such as competence-raising measures for employees and managers, and e-learning infrastructure in the state sector. In the second half of 2020, it was also assigned responsibility for public procurements, including innovative procurements. DFØ is thereby responsible for important framework conditions and policy instruments relating to public sector innovation.

The county governors are the central government's representatives in the counties. They administer discretionary project funding for municipal innovation and renewal projects. The objective of the discretionary funding is to support the local government sector in testing new

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Box 5.1 Policy instruments in the healthcare sector

National welfare technology program

Welfare technology can help the elderly to live at home for longer, and increase their quality of life and sense of security. It also has a large potential to improve the utilisation of resources in the care sector. Since its establishment in 2013, the Government's investment in welfare technology through the National Welfare Technology Program has helped to increase innovation activity in municipal health and care services. The program is led by the Directorate of Health in cooperation with the Norwegian Directorate of eHealth, and KS. The goal of the program is to integrate welfare technology in health and care services in Norwegian municipalities. So far, the initiative covers more than 90 per cent of the population who live in municipalities that have participated in projects, for example the implementation of technology that increases security and independence, testing of medical distance follow-up and technology to help children and young people with disabilities. In 2020, the Min-istry of Health and Care Services initiated a process to assess how the development and implementation of welfare technology could be best facilitated in the municipalities.

InnoMed

InnoMed is a national competence centre for needs-driven service innovation in the health and care sector. It was established by the Ministry of Health and Care Services. InnoMed stimulates increased activity, for example, by using health innovation tools. To link the competence service more closely to the services, responsibility for InnoMed was transferred to the regional health authorities in 2019 in cooperation with KS. InnoMed focuses on how challenges related to collaboration within and across service levels can be addressed. Efforts are also being made to scale up and expand InnoMed to include more competence areas, such as service design, law and innovative public procurements. This expansion will be based on the competence needs of the services.

solutions and to stimulate local modernisation and innovation work.

EU, EEA and EFTA

The EU member states' collaboration on innovation and development of the public sector is part of several policy areas. The EU has several policy instruments for public sector innovation that are also relevant to Norway. The EU Framework Program for Research and Innovation makes substantial investments in public sector innovation (Chapter 12). Digitalisation is also a focus area in which Norway works closely with the EU.

5.1.2 Status of the use of policy instruments for public sector innovation

In the Innovation Barometer survey for the local government sector, around 60 per cent state that they have only used funding from their own budget for innovation work. Furthermore, 16 per cent have used special grants or innovation funding from the municipality or county authority, while 15 per cent have used Norwegian public support schemes or grants.[1] Correspondingly, in the state sector, around 11 per cent have utilised public support schemes or grants.[2] All in all, most innovations are funded by financial means the

organisations already have at their disposal. There is also great pressure on established policy instruments. When support and funding is announced through schemes such as StimuLab, FORKOMMUNE and Innovation Partnerships, far more good applications are received than funding is available for.

Large municipalities participate more often in central government innovation and digitalisation schemes than small municipalities. Among the small rural municipalities, most have participated in projects with support from the country governor's discretionary project funding and the National Welfare Technology Program. The proportion of such municipalities with funding from the Regional Research Funds scheme is also significantly higher than for the Research Council's program FORKOMMUNE (Figure 5.3).

Small municipalities are more dependent on collaboration to participate in large-scale innovation and development projects and are more often partners than principal applicants.[3]

5.1.3 The Nordic countries' work on public sector innovation

On assignment for the Ministry of Local Government and Modernisation, the Nordic Institute for Studies in Innovation, Research and Education

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[1] KS (2020) *Innovation Barometer 2020*
[2] Difi (2018) *Innovation Barometer for the public sector 2018*. Report

[3] Telemarksforsking (2020) *Små distriktskommuners deltakelse i innovasjonsvirkemidler* ('Small rural municipalities' participation in innovation policy instruments' – in Norwegian only). Report 540
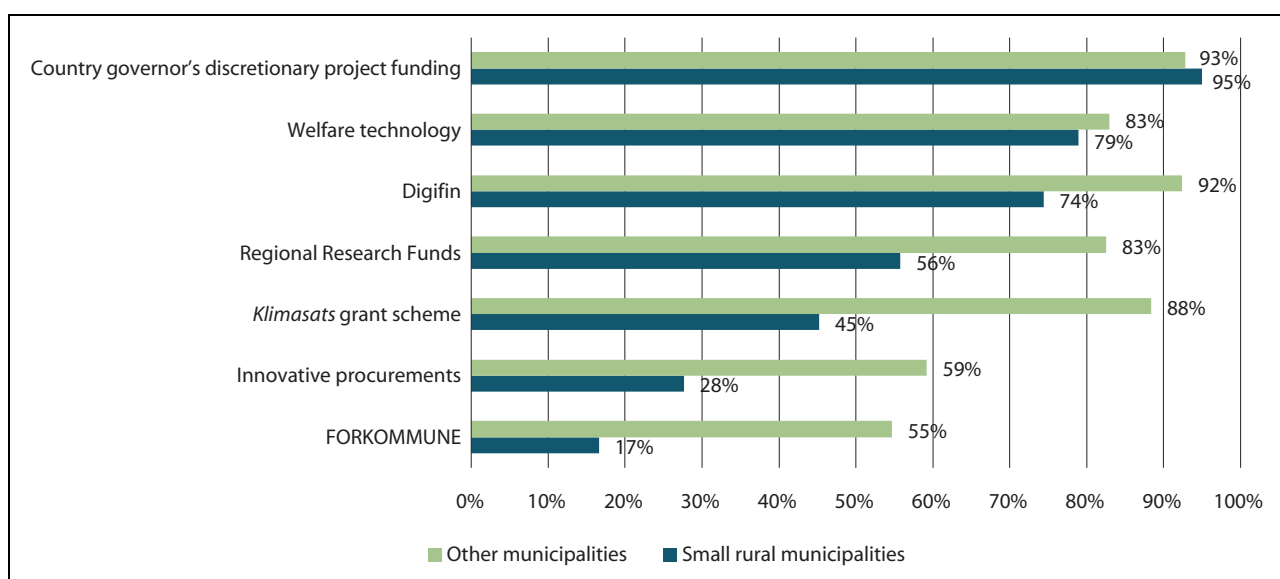
Figure 5.3 Share of municipalities that have participated in various schemes

Source: Telemarksforsking (2020) *Små distriktskommuners deltakelse i innovasjonsvirkemidler* ('Small rural municipalities' participation in innovation policy instruments' – in Norwegian only). Report 540.

(NIFU) and Rambøll Management Consulting have carried out a survey of the Nordic countries' innovation policies.[4] The following information about the Nordic countries is based on this survey.

Iceland: Integrated and flexible approach to public sector innovation

To stimulate challenge-driven innovation, Iceland has developed a policy-driven budgeting system since 2016, whereby budgets are grouped thematically rather than at the sector or ministerial level. Iceland has a strategy for innovation in the private and public sector
(2019–2030) and is testing *Innovation meet-ups*, a scheme in which the private sector presents potential solutions to public sector problems or societal challenges. The Icelandic government has an *Improvement Agency* based at the Ministry of Finance, which helps public sector bodies to work better and more closely together, and a *Future Committee* chaired by the Prime Minister that gives advice about technology development, climate change and demographic changes.

Finland: Top-level support and experimentation

Since 2008, Finland has had a national innovation strategy for both the public and private sectors. Responsibility for innovation rests with the Prime Minister and the Office of the Prime Minister. *Experimental Finland* was one of the Prime Minister's main projects during the period 2015–2019. Its goal was to foster experimentation in the public sector (Chapter 9). The program *Design Finland* aims to increase the country's competitiveness and improve user experiences and efficiency in the public sector.

Sweden: A broad approach

The National Innovation Council, which is chaired by the Prime Minister, has an overarching program for work on facilitating innovation in Sweden across the public and private sectors. Sweden does not have one overall strategy for public sector innovation. In line with Norway's approach, responsibility for innovation is divided between several central and local government agencies.

Vinnova has the clearest responsibility for innovation efforts in the public sector. It funds research and innovation initiatives, including *testbeds* and *innovation platforms,* and work on assignments, or missions, in the field of health-promoting and sustainable transport and food.

The Ministry of Finance has appointed a *Delegation for Trust-Based Public Management* whose remit is to discuss public agencies' freedom of action to engage in innovation. The Government prepares a *research and innovation proposition* every four years.[5] The Government has established *a Committee for Technological Innovation and Ethics* (KOMET), which is tasked with conducting analyses, mapping needs for regulatory adaptations and submitting policy development proposals to the Government.

Denmark: Innovation as a work method and systemic reforms

Denmark appears to be pursuing two main tracks in its public sector innovation work. One track involves introducing new tools and work methods in public bodies, while, in the other, political and top-down public reforms are introduced with the aim of modernising the Danish public administration. Denmark had a dedicated Minister for Public Sector Innovation under the Ministry of Finance during the period 2016–June 2019.

The National Centre for Public Sector Innovation (COI) was established in 2014. It receives funding from and is under the authority of the Government, Local Government Denmark (KL) and Danish Regions (DR).[6] COI works to generate and diffuse knowledge about public sector innovation. It has developed common resources such as an innovation barometer, innovation awards, podcasts, example collections and guides.[7] Denmark has also implemented initiatives such as *the Coherence Reform (Sammenhængsreformen)* and *the free commune experiment.* (Chapter 9).

A lot of research and innovation in Denmark is funded by private funds or foundations, such as the Carlsberg Foundation, the A.P. Møller Fund, the 15 June Fund and the Novo Nordic Fund.

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4   Nordic Institute for Studies in Innovation, Research and Education (NIFU) and Rambøll Management Consulting (2019): *De nordiske landenes strategier for innovasjon i offentlig sektor* ('Public sector innovation strategies in the Nordic countries' – in Norwegian only). Report

5   Equivalent to the Norwegian Long-term Plan for Research and Higher Education

6   KL is a special interest – and employer organisation for Danish municipalities, while Danish Regions has an equivalent role for the five Danish regions. KL and DR together are therefore equivalent to KS in Norway.

7   www.coi.dk

5.1.4 Area review of business-oriented funding instruments

In 2019, the Ministry of Trade, Industry and Fisheries and the Ministry of Finance conducted an area review of business-oriented funding instruments. The objective was to assess how funding channelled through the funding instruments can facilitate the highest possible value creation and profitable jobs. Policy instruments for public sector innovation have not been included in this review, but a number of agencies are part of both the business-oriented funding instrument system and public sector innovation system. Any changes resulting from the area review could therefore also be significant for public sector innovation. The review indicates that the policy instrument system works well, but that it is also complex. This is evident from the overlap between agencies and policy instruments, and interfaces that could be clearer.[8] The external party behind the review recommends consolidation and simplification.

5.2 Assessment of the situation

Lack of a whole-system approach and difficult to navigate

There are a number of agencies and policy instruments in Norway tasked with supporting public agencies' work on innovation. The policy instruments target funding, research, competence, innovative methods and collaboration between users and businesses, including innovative procurements. The instruments have been developed over time and in several organisations. This shows that innovation is an important topic for many actors. Reviews and evaluations show that the policy instruments and policy agencies achieve results and that the users value their expertise.[9] However, the broad scope and diversity of instruments also gives rise to challenges. When preparing this white paper, the Ministry of Local Government and Modernisation was in close dialogue with the policy agencies and users of the policy instruments. Based on this input, the Ministry's view is that many of the policy instruments for public sector innovation target the early phases of the innovation process, while fewer instruments are available during the implementation phase. The National Program for Supplier Development has given feedback on similar experiences: that many of the policy instruments for innovative procurements target the early phase of the procurement process, while instruments for the development and implementation phases are lacking.

A number of public sector bodies have stated that they find it difficult and time-consuming to navigate the available policy instruments for public sector innovation.[10] Nor is it straightforward to see how the instruments are interrelated and complement each other.

Policy instruments for individual projects and incremental innovation

Comparative studies show that Norway's tools and support schemes are primarily tailored to the needs of individual organisations, and that we do not take a systemic approach to public sector innovation to the same extent as our Nordic neighbours.[11] The OECD organisation Observatory of Public Sector Innovation (OPSI) has pointed out that Norway has low awareness of what kind of innovation the policy instruments are intended to stimulate.[12] OPSI therefore recommends Norway to introduce a system-based portfolio approach to public sector innovation. This means an approach in which the policy instruments complement one another and foster several types of innovation, including incremental and radical innovation. It is difficult to achieve radical innovation, and OPSI therefore recommends actively prioritising policy instruments that can promote it. OPSI also recommends Norway to give one organisation responsibility for driving public sector innovation and promoting the portfolio approach.

[8] Deloitte (2019) *Områdegjennomgang av det næringsrettede virkemiddelapparatet. Helhetlig anbefaling om innretning og organisering av det næringsrettede virkemiddelapparatet ('Area review of business-oriented funding instruments. Overall recommendation on the approach to and organisation of the business-oriented funding instrument system' – in Norwegian only)*. Report

[9] Menon (2017) *Midtveisevaluering av Nasjonalt program for leverandørutvikling* ('Midway evaluation of the National Program for Supplier Development' – in Norwegian only). Publication 66/2017, Difi (2017) *Innovasjon i offentleg sektor – både heilskap og mangfald* '(Innovation in the public sector – both the totality and diversity' – in Norwegian only). Report 2017:1

[10] Difi (2017) *Innovasjon i offentleg sektor – både heilskap og mangfald.* '(Innovation in the public sector – both the totality and diversity' – in Norwegian only). Report 2017:1

[11] Nordic Institute for Studies in Innovation, Research and Education (NIFU) and Rambøll Management Consulting (2019). *De nordiske landenes strategier for innovasjon i offentlig sektor ('Public sector innovation strategies in the Nordic countries' – in Norwegian only)*. Report

[12] OPSI (2019) *Insights and Questions from OECD Missions to Inform the Norwegian White Paper on Public Sector Innovation.* Report

Reasons for low participation in schemes by small municipalities

The research institute Telemarksforskning has looked at small rural municipalities' participation in national policy instruments for innovation and digitalisation. In the survey, the municipalities point out that a municipality's size, and thereby its expertise and capacity, limits its ability to participate in innovation and development projects.[13] The professional environments are small, and fixed-term project manager positions can come to an end towards the end of the project period when new solutions are about to be implemented and the benefits realised. It is also a challenge that small municipalities have relatively few employees, who work as generalists with broad areas of responsibility. They therefore lack the capacity to keep abreast of national developments. Recruiting relevant expertise is also highlighted as a challenge.

The fact that small rural municipalities tend to a greater extent to participate in schemes adapted to regional challenges and needs indicates that how the schemes are designed may play a role in determining which municipalities make use of them. However, familiarity with the schemes and collaboration with larger municipalities also plays a role. The ministries will assess the measure in light of the findings from Telemarksforskning's survey.

5.3   The way forward

Norway has many expedient policy instruments for public sector innovation. However, the Government also believes that a more holistic-system and coordinated approach is needed with greater emphasis on the user perspective. This means that the policy instruments, both individually and together, will be adapted to users' needs, and that they will be made available in a user-friendly way. The objective of the policy instruments is to help to find solutions to public sector and societal challenges, and ensure that the public sector grasps new opportunities. They also need to address small rural municipalities' need for innovation and development. This will require policy instruments that take regional differences into account and

ensure that innovations are diffused to municipalities with different points of departure. The changes require a clearer system and portfolio perspective, as regards both the policy instruments and the agencies that administer them. Figure 5.4 illustrates the desired situation with a whole-system approach and a user-oriented service.

This white paper is the first step towards establishing a cohesive national policy for public sector innovation. It is thereby a contribution to the work on developing a cohesive innovation system for the public sector.

5.3.1   Council for public sector innovation

The Government will establish a council for public sector innovation to ensure that, together, the policy agencies provide good comprehensive services to users and use resources in the most effective way possible. The council will consist of representatives of organisations that administer policy instruments for public sector innovation, and of municipalities and central government agencies that are part of the target group for the policy instruments. Since there are interfaces between policy instruments targeting the public sector and the private sector, it must be considered whether representatives of the agencies that administer the business-oriented funding instruments should also be included. The purpose of this collaboration would be to coordinate efforts in this area, ensure that measures and policy instruments support adopted policies, and create a common understanding of the knowledge and development needs in a long-term perspective. The council should endeavour to take account of all types of municipalities and entities in its assessment of the policy instruments. The innovation council can provide advice on the development of the Government's policy for public sector innovation, and important policy areas for public sector innovation, such as the Long-term Plan for Research and Higher Education. The council will adopt a long-term perspective and facilitate continuous development of the ecosystem for public sector innovation. The Minister of Local Government and Modernisation is responsible for coordinating innovation policy in the public sector, and the Ministry of Local Government and Modernisation is a driving force for development in this field. The Ministry will be responsible for appointing, developing and running the council. The council will be evaluated before a decision is made on whether to continue with it.

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[13] Telemarksforsking (2020) *Små distriktskommuners deltakelse i innovasjonsvirkemidler* ('Small rural municipalities' participation in innovation policy instruments' – in Norwegian only). Report 540

The Ministry also recognises the importance of informal and open collaboration between policy agencies, KS and representatives of the target group for policy instruments in the state sector and the municipalities. Through the work on the white paper, an informal network was established between the Ministry of Local Government and Modernisation, policy agencies and KS. The purpose of continued collaboration would be to strengthen the relationship between agencies and policy instruments, identify any blind spots and development needs, and to develop joint initiatives and projects. The Ministry of Local Government and Modernisation and the Norwegian Digitalisation Agency will take responsibility for further developing the network collaboration. Since this is an informal network, however, managing and developing the collaboration will be a collective responsibility.

The two collaboration forums must be seen in conjunction with and cooperate with each other, as well as with KS's partnership for radical innovation. The partnership aims to develop and implement prioritised and necessary system innovations in important areas of society, such as social exclusion, future welfare systems and climate and the environment. The Strategic Council for Innovation and Research has been established as part of the program. It consists of senior executives from municipalities and county authorities with broad, strategic competence in innovation and research. The Council will carry out strategic assessments, decide priorities and choose the direction for the program, as well as discussing choices of innovation topics and the composition of the innovation portfolio.
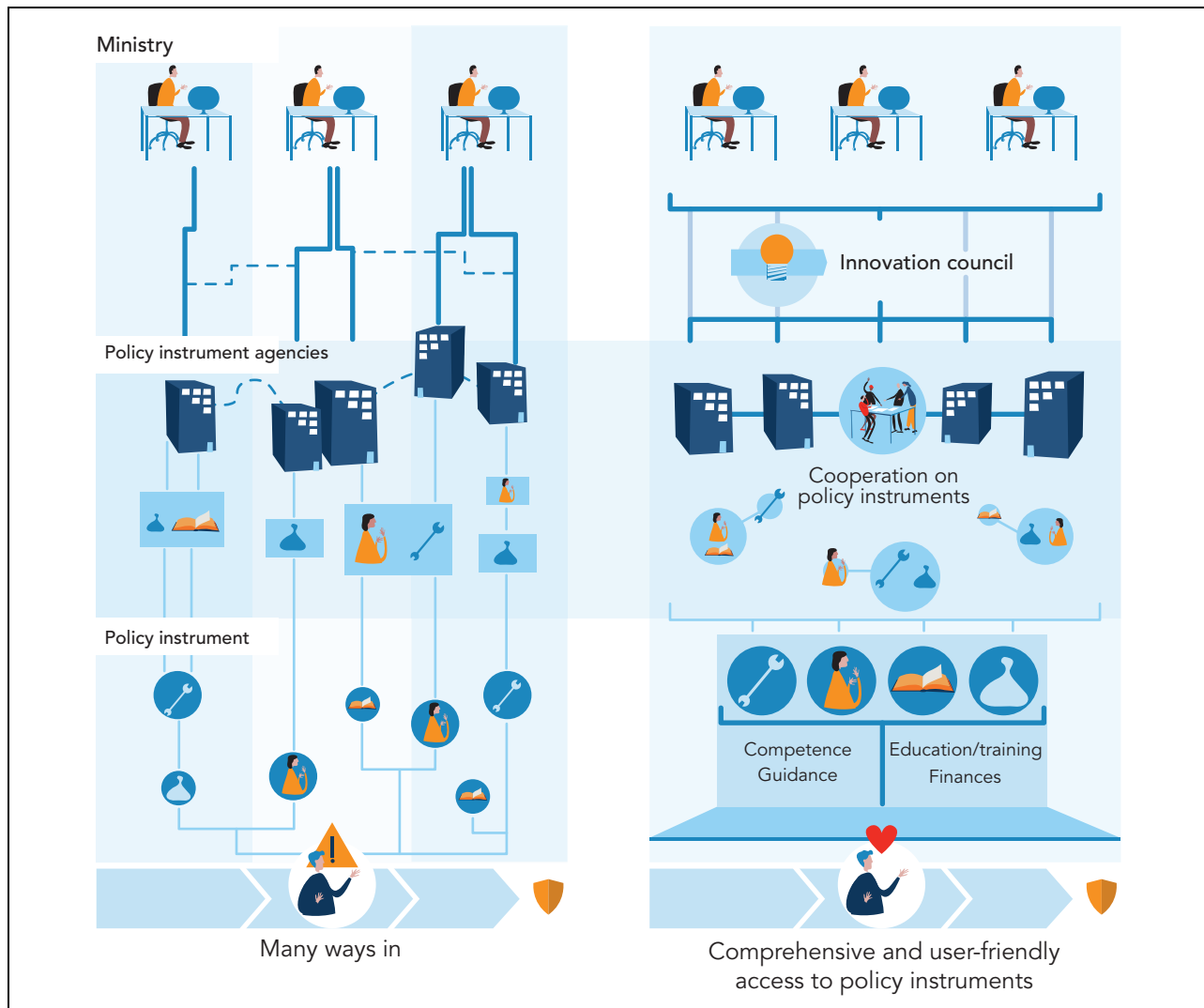
Figure 5.4 A whole-system and user-oriented service

Illustration of envisaged situation with comprehensive and user-friendly development and access to instruments.
Design: Halogen AS

5.3.2 Comprehensive and user-friendly access to policy instruments

Instruments that our target group do not know about are of little value. The Government will therefore endeavour to make policy instruments for public sector innovation available in a more comprehensive and user-friendly way. This work must be seen in conjunction with existing solutions and ongoing work. The Ministry of Trade, Industry and Fisheries is working on a digital portal for businesses that want to apply for research and innovation funding, and the Norwegian Agency for Public and Financial Management is working on a digital overview of central government grants for the voluntary sector.

5.4 The Government's aims

Policy instruments for public sector innovation must be adapted to user needs and contribute to more innovation, more radical innovations and the diffusion of successful innovations.

The Government will:

– establish a council for public sector innovation comprising representatives from policy agencies, central government agencies and the local government sector
– make policy instruments available in a comprehensive and user-friendly way.

6 Digitalisation and new technology
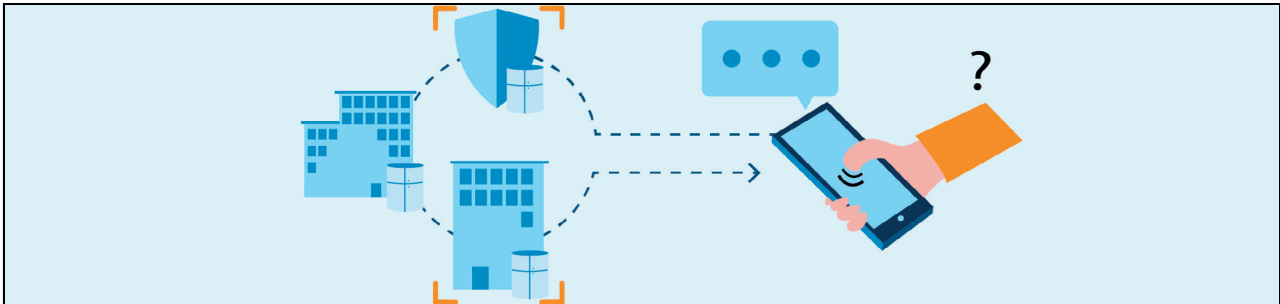
Figure 6.1

Digital technology affects all areas of society in many different ways, both in terms of how people carry out their day-to-day activities and how organisations solve their tasks. Digitalisation means using digital technology to change services, processes and work methods.[1]

There are potentially huge gains to be made from digitalisation, for the general public, businesses and the public sector alike. Digitalisation can also create new business models and change value chains in a short space of time. Digitalisation is expected to increase and have a great impact on how society, business and working life are perceived and function in the years ahead. Whether the public sector succeeds in taking advantage of digitalisation will be of great importance.

6.1 The current situation

6.1.1 Good digital infrastructure

Norway has a good basis for further digital development, a good, competent business sector, a proactive public sector with sophisticated digital services, and a population that is keen to start using new technology.

Digital development is taking place at a rapid pace, and new technologies are emerging that affect everyone, such as increasingly powerful smartphones and communication infrastructure with greater capacity. There are still substantial differences between densely populated and rural areas in terms of the availability of fibre-optics, but the possibility of transmitting huge quantities of data through fibre-optic cables is rapidly increasing all over the country.[2] New 5G-based broadband services will be important to achieve the goal of providing broadband for everyone, and Norway's first 5G pilot project started in 2018 (Box 6.1). This is necessary to be able to handle the digitalisation process.

Considerable development is also taking place in sensor technology, referred to as the internet of things, as more and more things are connected to the internet. Computer power is becoming cheaper and more easily available through the use of cloud services and data centres, which amplifies this trend.

6.1.2 Exploiting new technology

Technological innovations, such as cars, electricity, computers and smartphones, have freed up resources and contributed to economic growth. New technologies are now emerging more rapidly than ever. Technologies also work better together

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[1] Osmundsen et al. (2018) *Hva er digitalisering, digital innovasjon og digital transformasjon? En litteraturstudie* ('What are digitalisation, digital innovation and digital transformation? A literature study' – in Norwegian only). NOKOBIT vol. 26, no 1. The source uses the term 'socio-technical structures' for what we refer to as services, processes and work methods

[2] The National Communications Authority (Nkom) conducts an annual survey of broadband coverage in Norway

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Box 6.1 5G pilot project

Norway and Scandinavia's first 5G pilot project was officially launched at Kongsberg in November 2018, under the auspices of Telenor and several partners. Among the applications tested are self-driving buses connected to a 5G network and solutions for emergency communication, ehealth and drones. Telia opened a 5G pilot in Oslo in December 2018, and many 5G pilots have started up since then, from Svalbard in the north to Herøya in southern Norway. In March 2020, Telenor launched commercial 5G in Norway by opening a 5G network in Trondheim. New 5G-based broadband services will also be important to achieve the goal of providing broadband for everyone.

Box 6.2 Artificial intelligence

Artificial intelligence (AI) is a collective term for information technology centred around machine learning and reasoning and robotics. AI systems perform actions, physically or digitally, based on the interpretation and processing of structured or unstructured data, to achieve a given target. Some AI systems are also capable of adaptation by analysing and considering how previous actions have impacted the surroundings. Technological development in the field has accelerated in recent years. Examples of the practical application of AI today include:

– Computer vision, or the ability to identify objects in images, which is used, for example, for face recognition.
– Recognition of patterns or deviations, which is used, for example, to uncover banking and insurance fraud.
– Natural language processing (NLP), which is used, for example, to sort and classify documents and information, to extract relevant elements from large quantities of information, and in intelligent assistants and chatbots.
– Robotics, which is used, for example, for smart industrial production and to develop autonomous craft such as cars, ships and drones.

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and can be used to solve increasingly complex tasks.

Artificial intelligence (AI) is an example of a technological area undergoing rapid development (Box 6.2). In early 2020, the Government presented its National Strategy for Artificial Intelligence. According to the strategy, the Government will facilitate world-class AI infrastructure in Norway in the form of digitalisation-friendly regulations, good language resources, fast and robust communication networks, and sufficient computing power. It will facilitate data sharing within and across industries and sectors. Some municipalities have already started using chatbots to enable them to respond efficiently to enquiries from the public.

6.1.3 Seamless digital services

Collaboration across sectors and administrative levels is necessary to succeed with the digitalisation of Norway. Developing seamless digital services with a user-centric focus requires the agencies to think beyond their own organisation, and it opens for new ideas about how the services should be provided. One of the lessons learned from ongoing development work across organisational boundaries and administrative levels[3] is that it is demanding to find good models for the opera-

tion and management of the innovation under development.

In their follow-up of the white paper *Digital Agenda for Norway* (Meld. St. 27 (2015–2016)), the Government and KS developed the digital strategy *One digital public sector* (2019–2025).[4] One of the most important measures in the strategy is about establishing seamless digital services for seven defined life events. One ministry has been assigned responsibility for work on each of the respective life events. One of the tools for succeeding with the development of seamless digital services is data sharing.

Service provision that involves many independent entities, often at different administrative levels, necessitates new forms of permanent coop-

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[3] Including projects in the co-funding scheme and StimuLab, the DigiFin scheme and work on the Health Analysis Platform (HAP)

[4] Ministry of Local Government and Modernisation (2019) *One digital public sector. Digital strategy for the public sector 2019–2025*

eration, including clear and sustainable funding models and a clear division of responsibility for enforcing relevant rules and regulations. Such cooperation is strengthened through good alignment between and co-governance with the ministries and directorates involved.

Through strategic management of digitalisation and increased attention to innovation, the ministries can follow-up subordinate agencies' overall digitalisation and innovation efforts when carrying out concrete tasks. Being a driving force entails setting requirements relating to, and following up, challenges, possibilities and measures across sectors and central government agencies. Going forward, extensive innovation efforts will be required to be able to solve complex tasks in smart ways.

Seamless digital services relating to seven life events

The goal of the digitalisation strategy is to develop seamless digital services with a user-centric focus. The strategy identifies seven life events that will be given priority in the coming work. Three of the events relate to important situations that almost everyone experiences during their lifetime, namely childbirth, death and inheritance. Three of the life events can make life easier for vulnerable groups: caring for a seriously ill child, losing or finding a job, and being new in Norway. Seamless digital services for starting and running a business or voluntary organisation will also make day-to-day activities easier for the public and voluntary sectors. The seven selected life events will not be an obstacle to seamless digital services being developed for other life events.

6.1.4 Digital ecosystems and innovation

The digitalisation strategy describes a national ecosystem consisting of common solutions, data sources, architectures and various individual components that can lower the threshold for innovation and service development in the individual organisations.

The emergence of digital ecosystems is important for digital innovation, not least public digital platforms such as Altinn. Further development can take place either by reusing the public sector information that is available on these platforms or through public-private partnerships where such platforms are part of solution for the business sector.

Sector strategies have been developed to make public sector information available in more

areas, including the strategy for the disclosure of public information from the transport and communications sector, the strategy for open culture data, the strategy for the disclosure and sharing of research data, and the national geodata strategy.

6.1.5 Digitalisation in the local government sector

The Government wants to ensure that the municipalities invest in innovation and digitalisation, and that citizens experience local authorities that are efficient and that have new ideas about how to provide the best possible services. Development work in the local government sector does not necessarily mean that all municipalities must engage in innovation and the development of new technology and work methods themselves.

The DigiFin financing scheme (Box 6.3) was established to enable the local government sector to collectively develop more common digital solu-

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Box 6.3 The DigiFin scheme

The DigiFin financing scheme was established to enable the local government sector to collectively develop more common digital solutions. The scheme makes it possible to develop better citizen services faster and at a lower cost.

The Ministry of Local Government and Modernisation has contributed NOK 125 million in 2017 and 2018 to the financing of the scheme, which is administered by the Norwegian Association of Local and Regional Authorities (KS). It is a condition that the local government sector contributes at least as much. Most county authorities and municipalities have already paid their share to participate in the scheme based on their population.

Potential beneficiaries of the scheme are municipalities, county authorities and KS. Municipally owned enterprises and intermunicipal companies may also receive support if the municipality or county authority participates in the application.

The projects that have received support from the scheme to date include *Digihelse* for digital dialogue with the health service, *Digisos* for digital social services, and *Min side* for access to mail, property and building applications.

Box 6.4 Regional digitalisation networks

Since all municipalities have responsibility for the same statutory tasks, intermunicipal collaboration is particularly useful. In the counties of Vestland, Rogaland, Agder, Trøndelag and parts of Viken, regional networks have been established to provide better services for citizens and businesses. Corresponding cooperation agreements on digitalisation and innovation are being established in several other counties, in addition to the various intermunicipal arrangements that have already been established.

The digitalisation collaboration established in the former Hordaland county has served as the inspiration for several other networks. A total of 33 municipalities joined forces to establish a joint secretariat and expertise in innovation, strategic ICT and digitalisation. They coordinated their efforts with the City of Bergen's expert groups in the area.

In Rogaland, 26 municipalities have established a corresponding arrangement, among other things to ensure that they are better equipped to host and implement national and regional projects.

The DigiTrøndelag network was established to facilitate increased digitalisation collaboration in Trøndelag county and build bridges between municipalities and with joint projects at the national level. The members of the network are the municipalities in Trøndelag, the county authority and KS. The network facilitates the exchange of information, competence building and implementation of national and, if relevant, regional solutions in Trøndelag.

Since 2015, the municipalities in Agder county have worked together on e-health through a regional coordination group. The network was established in a strategic decision by the group of chief municipal executives in Regionplan Agder, and the members work on both joint procurements and the introduction of digital solutions. The municipalities in Agder county are in the process of establishing a regional network structure that will encompass all digitalisation and innovation in all sectors.

The county authorities already work well together in the field of digitalisation, and some have also played an important role in relation to the municipalities with regard to regional cooperation. Sharing and the reuse of resources and experience will ensure better and more efficient implementation of projects.

The KommIT council, a national strategic advisory body to KS, was established in 2016 to coordinate digitalisation work in the local government sector. The council plays a decisive role in the local government sector's coordination efforts. It will contribute to the development of common solutions and safeguard the interests of the local government sector. The KommIT council and its subordinate committee aim to strengthen the local government sector's joint efforts in the area.

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tions. The scheme makes it possible to develop better citizen services faster and at a lower cost.

Many municipalities also join forces in regional digitalisation networks to provide better services for citizens and businesses (Box 6.4). Collaboration can also be challenging, however, for example in relation to cost allocation and developing and implementing new solutions more or less simultaneously. The division of costs and responsibilities between the central and local government can also be demanding. The Government is therefore in close dialogue with the local government sector about this.

6.2 Assessment of the situation

Digitalisation plays a decisive role in value creation, reorganisation of the public sector and in individuals' everyday lives and independence. The need for intersectoral solutions is great because of the huge potential that lies in cooperation across societal sectors and structures. This makes digitalisation an important policy area, which is also why comprehensive national policies and strategies for digitalisation and artificial intelligence have been developed in recent years.[5] The Innovation Barometer surveys show that both central and local government agencies emphasise new technology as the most important driver of innovation.

INDUSTRIAL REVOLUTIONS

1ST	2ND	3RD	4TH	5TH
18-19th Century in Europe and North America, featuring steam engines	1870-1914, featuring steel, oil, electricity, and combustion engines	1980s Digital Revolution, featuring personal computers and the internet	21st Century advance of AI, big data, robotics, IoT, blockchain and crypto	Responsive 21st Century connection of frontier tech to purpose and inclusivity

Figure 6.2 Industrial revolutions

Source: Eerden (2020) *A Davos POV About 5th Industrial Revolution*

There is a clear link between digitalisation and innovation, both directly and indirectly: directly through innovative work methods, services and products that are already digital, and that can therefore be scaled up and diffused more quickly than corresponding physical innovations, and indirectly in that digitalisation creates opportunities for innovation in other both digital and non-digital services and products.

The public sector must make increasing use of new work methods and actively test new solutions and utilise new technology and new digital possibilities. Data will be a key resource in future value creation, in both the private and public sectors.

The public sector must focus on inclusive digitalisation. Universal design of ICT is an important tool in this work. Many digital services require a lot of users in terms of perception, orientation, sight, hearing, reading skills and competence in various areas. The public sector therefore needs to develop digital services and ICT solutions that everyone can use. The goal of universal design is to achieve genuine equality and ensure equal participation in society. Good user involvement in the planning and development of digital services is decisive to take account of universal design considerations. Public agencies must therefore ensure the necessary diversity in the user participation processes in connection with digitalisation.

High-quality digital infrastructure throughout the country is an important precondition for digitalisation. 5G infrastructure will be important, among other things to achieve full-scale realisation of the internet of things, with a capacity exceeding the limits of today's technology. This can pave the way for new applications in the public sector, for example relating to health and care services and smart cities.

It has been claimed that we are heading towards a fifth industrial revolution. The fourth industrial revolution, which is considered to be ongoing, is characterised by digitalisation, automation, robotisation and machine learning. The fifth industrial revolution uses technology to promote sustainability and human needs (Figure 6.2).[6]

The public sector is in continuous transformation. Better utilisation of data in the public sector is necessary to be able to handle this transition and achieve policy goals. Combined with enabling technologies such as artificial intelligence, data play a key role in the public sector's successful transition, in cooperation with the private sector, academia and the research communities.

A number of conditions need to be in place in order for the public sector to exploit the potential for innovation that digital transformation offers. First, public agencies need the right legal and financial framework conditions to be able to take advantage of the opportunities and develop their organisation, management and culture (Chapters 4 and 7). Furthermore, staff and management need to have the right competence (Chapter 8).

6.3   The way forward

Public services and the exercise of authority must be adapted to changes in society as they arise, and the central and local government sectors must start to grasp the possibilities new technology and digitalisation offer. The Government therefore

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[5]   Ministry of Local Government and Modernisation (2019) *One digital public sector. Digital strategy for the public sector 2019–2025*, Ministry of Local Government and Modernisation (2020) *National Strategy for Artificial Intelligence*, Report No 27 to the Storting (2015–2016) *Digital agenda for Norway– ICT for a simpler everyday life and increased productivity*

[6]   See inter alia Eerden (2020): *A Davos POV About 5th Industrial Revolution*

wants citizens to experience a public sector that has new ideas about how to provide optimum services efficiently, and that invests in innovation and digitalisation as tools to that end.

6.3.1 Data-driven economy and innovation

The huge growth in data represents an important resource for Norway going forward. It will therefore be important to make sure that Norway has the best framework conditions for exploiting the value of these data. The Government has initiated work on a white paper on data-driven economy and innovation. The plan is to submit the report at the turn of the year 2020/21. The white paper is the Government's contribution to a better and more efficient public sector, increased value creation in the Norwegian economy and more profitable jobs. Among other things, it will address data sharing within and between the public and private sectors, and how Norwegian businesses can create value and become more competitive through improved utilisation of both public and private data. Important issues will be how to strike a balance between private enterprises' ownership of their own data and society's need for access to information and knowledge, and how to ensure that the such data benefit the common good.

There are multiple reasons for facilitating reuse of public sector information, including that such data can be used to develop value-increasing services and products. That is why Norway has had regulations on the reuse of public sector information for nearly two decades. Key elements of the regulations are based on EU regulations, which were recently revised to include more innovations and widen the scope of application. The revised directive is EEA-relevant and, once implemented, will also entail amendments to Norwegian law. The amendments are related to both technological and organisational development, but also social development in general and an understanding of the inherent value of data.

Both compliance with the only-once principle[7] and implementation of the PSI Directive[8] are conditional on data sharing. The work on life events and the realisation of seamless services across administrative areas and levels will entail considerably more data sharing than at present.

Box 6.5 Use of synthetic data for tax purposes

The Norwegian Tax Administration is developing a solution to generate synthetic data based on the National Registry. Instead of giving developers and testers access to people's personal data, they can test the system using fictitious test data. The Tax Administration is also part of an interdisciplinary collaboration that has come up with a search solution called *Tenor testdatasøk*. Tenor is a tool that can be used to search for and find synthetic test data. The public and private sectors will have access to the National Registry's test subjects from Tenor.

Privacy considerations often limit service innovation based on data. Developing and testing new solutions based on data collected for other purposes is demanding. Many organisations therefore use synthetic data generated for test purposes[9] to test new service concepts, analyse correlations and generate new knowledge, without risking privacy violations (Box 6.5). The Government will establish a regulatory sandbox – an arrangement to make it possible to test new solutions within a given framework – for personal data protection under the Norwegian Data Protection Agency's area of responsibility (Chapter 9).[10]

6.3.2 Quality of data

The development of a more data-driven public sector means that high-quality data and efficient data management will become more important. Efficient collection methods, restrictions on use and quality assurance of data are areas of interest in the innovation context. We use considerable resources on collecting data through, e.g., Earth observation, aerial photography, weather data, log data, sensor data etc. Innovative technology such as artificial intelligence can be used to make data capture, information management and further processing of data more efficient.

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[7] Principle referred to in Report No 27 to the Storting (2015–2016) *Digital agenda for Norway*, that users only have to provide information to the authorities once

[8] The PSI Directive is an EU directive on the reuse of public sector information (2003/98/EC)

[9] The data are synthetically generated and not just made up of anonymised data, which means that individual re-identification is impossible

[10] Ministry of Local Government and Modernisation (2020) *National Strategy for Artificial Intelligence*

6.4   The Government's aims

The Government wants the public sector to utilise the innovation opportunities offered by digitalisation and new technology to carry out its tasks in new and innovative ways.

The Government will:

– facilitate increased use of artificial intelligence in the public sector

– facilitate rapid rollout of 5G and high-speed broadband in all parts of the country
– submit a report to the Storting on the electronic communications market
– submit a report to the Storting on data-driven economy and innovation
– continue to facilitate the disclosure of public sector data for further processing and value creation purposes
– further develop the national resource centre for data sharing in cooperation with public and private sector stakeholders.

7 Culture of innovation

Figure 7.1

An innovation-friendly culture is an important pre-condition for innovation. In this report, culture is understood as the overall behaviour in a work-place, and is thus a combination of, among other things, skills, attitudes and values. Politicians, managers and employees are all culture bearers and play an important role in developing an inno-vation-friendly culture.

7.1   The current situation

In general, an organisation will both influence and be influenced by its skillsets, culture and structure. Striking a balance between innovation and new ways of thinking, on the one hand, and operation and control, on the other, is challenging. A culture characterised by openness, curiosity, risk management, flexibility and development will have more room and capacity for innovation than a culture characterised by close-mindedness, control and complacency with the status quo.

Innovation is often about finding new approaches to a problem or new ways of organis-ing the work. That requires a culture character-ised by curiosity, openness and courage, and the ability to learn from failures and successes. Politi-cians, managers and employees play an important role in this process.

7.1.1   Culture of innovation

The Innovation Barometer surveys emphasise that an *organisational culture* that is open, willing to take risks, seeks new ideas, recognition and

cooperation helps to foster innovation.[1] This cor-responds to the lesson learned in the insight phase of the work on this report: that competence in innovation is important, but not as important as a culture and capacity for change. The innovation climate in the state sector was one of the topics in the state employee survey for 2018.[2] A total of 46 per cent of the respondents said that they work in a good or very good innovation climate. The 'very good' proportion varied between the ministries, from 6 to 19 per cent.

Before work on this white paper started, no common description existed of the characteristics of an innovation-friendly culture in the Norwegian public sector. Surveys addressing innovation, reorganisation and the innovation climate, such as the innovation barometers and the state employee survey, show that there is high awareness of the issues, but that implementation is challenging.

A culture of innovation and change can also differ significantly between two public sector bod-ies that are otherwise governed, organised and financed under the same framework conditions. This means that there is not one set answer to how a public agency should build an innovation culture. Each organisation must build an innova-tion-friendly culture by systematically identifying and enhancing skills and practices that lead to innovation, and reducing activities that are an obstacle to innovation.

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[1] Difi (2018) *Innovation Barometer for the public sector 2018*. Report KS (2020) *Innovation Barometer 2020*

[2] Difi and Rambøll (2018) *State employee survey 2018*. Boo-klet: Innovation climate in the state sector

7.1.2 The role of managers

Managers have a particular responsibility for strategic and systematic efforts devoted to innovation, culture, change and competence, and for giving employees room to ask questions, come up with new ideas and work in new ways.

The Innovation Barometer surveys for the central and local government sectors emphasise *managers* as the most important driving force behind recent innovations.[3]

The state sector's program for better governance and leadership (*Program for bedre styring og ledelse*) focused on implementation and results orientation. A leadership poster (*God ledelse i staten*) was developed under the 'better governance' program (Box 7.2). The poster shows overall expectations of managers in the state sector, and important characteristics of good governance in the central government. A management development and mobility initiative for state employees called *the mobility program* was also initiated under the program. The mobility program is currently being piloted.

The state employee survey from 2018 shows that managers in the state sector have a high awareness that change and reorganisation are important tasks in the next three years. As many as 72 per cent of employees regard their manager as supportive when mistakes occur.[4]

The Employer Monitor of the Local and Regional Authorities 2019 shows that managers at municipal and county authority level are concerned with developing innovation competence and capacity, learning skills and a change culture among themselves and their employees. At the same time, they report that reorganisation processes and the ability to innovate and create are among employers' greatest challenges.[5]

7.1.3 The role of politicians

The public sector is subject to political control at both the local and central level. Politicians therefore play a key role in innovation, as they define the framework and influence the freedom of action for innovation through strategies, regulations and decisions concerning formal organisation (Chapter 4), as well as through their important role as culture bearers.

Almost 80 per cent of the mayors surveyed in KS's political innovation barometer for 2020 said that the primary task of politicians is to initiate local government innovations. The majority believe that the administration facilitates politically initiated innovation. At the same time, 70 per cent say that they have insufficient knowledge to initiate innovation in their municipality or county authority. The proportion who agreed with this statement is higher in the smallest municipalities (80 per cent) than in the biggest municipalities (just under 60 per cent). A corresponding survey has not been carried out at the national level.

7.1.4 Cooperation between the social partners, and the role of employees

The Norwegian labour market is characterised by short chains of command and high trust between managers and employees. Employee participation in innovation requires close dialogue between managers and employees, based on mutual trust.[6]

The Norwegian labour market model, characterised by extensive cooperation between the social partners, is often seen as a precondition for the good results achieved in the form of a well-functioning labour market, a good working environment, low unemployment and high labour force participation. Workers in Norway enjoy a high degree of independence and responsibility compared with many other countries. Direct participation and co-determination are two important components that facilitate influence and involvement. This fosters broad, extensive engagement on the part of individual employees and has a considerable potential for employee-driven innovation and creation.

Bipartite cooperation between the social partners, i.e. employers and employees, is formalised. Employees have a unique insight into and knowledge about their own discipline, and involvement at an early stage ensures that initiatives have broad support. The social partners and individual employees play key roles in innovation by ensuring that new solutions are initiated, carried out and create added value. Employees have ideas, knowledge and experience based on their own area of responsibility and are closest to the issue at hand and thereby also the solution. The Innovation Barometer for the local government sector

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[3] Difi (2018) *Innovation Barometer for the public sector 2018.* Report, KS (2020). *Innovation Barometer 2020*

[4] Difi and Rambøll (2018) *State employee survey 2018.*

[5] KS (2019) *Employer Monitor*

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[6] Ministry of Trade, Industry and Fisheries (2012) *Håndbok i medarbeiderdrevet innovasjon* ('Handbook in employee-driven innovation' – in Norwegian only)

(2020) showed that employees played a key role in 86 per cent of the newest innovations.

Employee-driven innovation is a collective term for employees' active participation in the development of new solutions.[7]

7.2 Assessment of the situation

7.2.1 Culture of innovation

The Government wants all public agencies to work systematically on developing a culture of innovation. A description of what characterises an innovation-friendly culture in the Norwegian public sector has not previously existed. Such a description would give public agencies a good basis for assessing whether the culture in their organisations promotes innovation. We have therefore endeavoured to develop such a definition in connection with this report. The characteristics of an innovation-friendly culture in the Norwegian public sector are presented in section 7.3.1 and Figure 7.2.

7.2.2 Leading for innovation

Leading for innovation and new ways of thinking requires managers to devise procedures and structures that support the development of new ideas and new forms of collaboration. The purpose is to facilitate agility and capacity for change, in addition to ensuring control and operational reliability. Developing new ideas into concrete solutions requires freedom of action, flexibility and risk management.

Managers have to strike a balance between fulfilling the organisation's social mission and maintaining uninterrupted operations, on the one hand, and meeting increasing expectations of cooperation with other parties to achieve common goals, on the other. Good relations and trust are decisive if results are to be achieved across administrative boundaries that go beyond the organisation's own mission and area of responsibility.

Making needs rather than solutions the point of departure means that the end result is unknown when an innovation project starts. It is therefore important that managers and politicians document whether the expected effects have been achieved. Addressing needs that are not necessarily possible to fulfil is particularly demanding.

The innovations, i.e. the new solution, will be implemented in organisations that are already in ordinary operation, and many people are likely to feel that things they thought worked well are going to be changed. In other words, the tasks managers face when an organisation is to become more innovative are far from easy.

7.2.3 Politicians as leaders

There are aspects of the role of politicians that can make support for innovation demanding. Among other things, the benefits of innovation processes can be difficult to identify or only materialise long after. This can favour projects that produce visible benefits in the short term. Politicians are elected based on a political manifesto, which means that they may have a high threshold for involving citizens in policy development.[8] Democratic processes must be respected when cooperating with citizens, organisations and businesses. This requires transparency about the process, who participates and what opportunities or challenges the process is based on. Stringent transparency requirements apply in the Norwegian public administration, and they should be equally high in innovation processes.

Innovation entails a certain risk, and the solution may be quite different to what was initially envisaged, since the process starts by defining needs rather than solutions. It can be difficult to communicate this aspect of innovation to the public, and politicians may therefore be reluctant to initiate or support innovation processes. Challenges like the ones described above underline the need for transparency about the process, about the fact that the end result is unknown when the process starts and about the possibility that the desired effect may not be achieved within a set deadline.

The key role of politicians in innovation highlights the importance of their being aware of the opportunities and challenges inherent in such processes. These are among the topics of KS's training program for elected representatives, which is offered to all municipal councils, county councils and district councils in each electoral period. The program aims to strengthen the motivation, understanding of roles and confidence of elected representatives in order to address challenges and create opportunities in their respective local authorities. A handbook for elected repre-

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7   Ibid

8   Sønderskov (2019) *Lokalpolitikernes holdninger til borgerdeltagelse: En propp for demokratisk innovasjon? ('Local politicians' attitudes to public participation: an obstacle to democratic innovation?' – in Norwegian only)* PhD dissertation, Inland Norway University of Applied Sciences

sentatives, called *Tillit* ('Trust'), has been produced as part of the program. One of the topics it addresses is innovation and the role of elected representatives in innovation processes.

7.2.4 Involvement of employees and employee representatives

Employees at all levels and with different expertise and professional backgrounds are involved in innovation.

To make use of employees' commitment to innovation, they must be shown trust and given responsibility. They must also be given an opportunity to see the bigger picture, to enable them to propose solutions that are aligned with the organisation's goals, strategies and budget. Managers can ensure this through general information and involvement, and through local-level cooperation between the social partners.

Employee representatives can play an important role in innovation in several ways, including as discussion partners for the management or their members, and by providing information about and making preparations for upcoming change processes.[9] Box 7.1 shows an example of cooperation between the social partners for the purpose of innovation and reorganisation.

7.3 The way forward

7.3.1 Culture of innovation

The Government wants to ensure that all public agencies can work systematically on developing an innovation culture. The figure *Characteristics of an innovation culture* (Figure 7.2) was developed as a compass and tool for the public sector's efforts to increase the pace of innovation.

The figure illustrates skills, ways of thinking and practices that foster innovation. It can form the basis for public agencies' discussions of what characterises the status quo, and which changes are most important to begin with in order to develop a more innovation-friendly culture.

Each of the characteristics is important in itself, but they also build on each other. As the figure shows, innovation is driven by skills, curiosity, openness and courage.

Curiosity is the desire to seek out new knowledge and learn new things, and to explore possi-

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[9] Ministry of Trade, Industry and Fisheries (2012) *Håndbok i medarbeiderdrevet innovasjon* ('Handbook in employee-driven innovation' – in Norwegian only)

> **Box 7.1 Tripartite cooperation in kindergartens and nursing homes**
>
> In 2019, SINTEF and the Norwegian Union of Municipal and General Employees completed a project on tripartite cooperation and employee-driven reorganisation (*Trepartssamarbeid om medarbeiderdrevet omstilling)*. The organisations involved in the project developed new ways for managers and employees to work together on development. Several of the organisations also noted a substantial reduction in sickness absence during the project period.
>
> The cooperation shows that, in order to build capacity for innovation and ensure that change projects lead to lasting change in practice, we need structures where employees become involved in translating change requirements into good work processes. The system of employee participation, as laid down in law and agreements, is an example of such a system.
>
> The knowledge and experience generated by the project can benefit the whole local government sector.
>
> Source: SINTEF (2019) *Trepartssamarbeid som drivkraft i kommunal tjenesteutvikling* ('Tripartite cooperation as a driving force in municipal service development' – in Norwegian only). Report 2019:01412

bilities and incompatibilities. It means investigating an issue from many sides and creatively exploring and considering new solutions to the same problem before reaching a conclusion. Curiosity takes courage and an open mind.

Openness entails the ability to see things in new ways, allowing you to change course as you proceed. It requires empathy, flexibility and reflection. Sharing knowledge and experience, exchanging ideas and giving feedback are important elements of an innovative culture. Both managers and employees must recognise initiative, because it creates engagement and generates new initiatives.

To challenge the status quo, you need *courage*, which also requires perseverance. Doing something new, or doing something in a new way, takes us out of our comfort zone. It can take quite some time from an innovative idea arises or a change process is initiated until new practices have been

54 **Meld. St. 30 Report to the Storting (white paper)** 2019–2020

An innovative public sector

SEEING OPPORTUNITY AND LEADING THE WAY

Looking ahead
Creating narratives
Creating enthusiasm
Creating room for action
Demonstrating value

Challenging the status quo
Persevering
Implementing

COURAGE

CURIOSITY

Seeking learning and knowledge
Exploring possibilities and incompatibilities

Culture for innovation

OPENNESS

TRUST AND WILLINGNESS TO TAKE RISK

Comfortable with distress and uncertainty
Empowering employees
Choosing new ideas

Being empathic
Being flexible
Reflecting
Sharing
Recognising initiative

LEARNING AND CHANGING PRACTICES

Experimenting
Acknowledging and learning from mistakes
Evaluating and measuring results and effects
Identifying and changing inexpedient practices

COOPERATION AND PARTICIPATION

Being a team player
Learning from others
Involving users, stakeholders and external parties
Mediating and building bridges

Characteristics (skills, mindsets and practices) that foster innovation

Figure 7.2 Characteristics of an innovation culture

Source: Ministry of Local Government and Modernisation (2020)

established. It is important is such situations to stay positive and believe that change is possible.

The figure shows four practices that can foster innovation: 1) seeing opportunities and leading the way, 2) trust and willingness to take risk, 3) cooperation and participation, and 4) learning and changing practices.

Seeing opportunities and leading the way. Solving a problem is not just about the here and now. It is also about what the solution can mean for, and in, the future, and in a larger context. Telling a convincing story creates enthusiasm and demonstrates the value of potential solutions. Stories can thereby create room for manoeuvre. A forward-looking attitude facilitates discussions about possible ways forward (Chapter 8).

Trust and willingness to take risk. Doing something different than today, or doing something in a different way, can entail risk and uncertainty. Risk

management is about having an overview of risk factors, implementing measures to reduce or eliminate risk, and determining what is an acceptable level of risk. Trusting that the solution can be improved and trusting one's partners is also necessary. All chains of command require trust, for example managers' trust in their employees. This sometimes means engaging in a closer dialogue to maintain trust and deal with risk. The employees, often together with the users or citizens, are the ones closest to the problem and thereby also to the potential solution. Delegating responsibility to and supporting employees will give them more freedom to take the initiative. Managers must also choose to make use of the new ideas that emerge.

Cooperation and participation. Innovation often takes place in cooperation with and through the involvement of users, other citizens, stakeholders and external parties. A multitude of

voices leads to a diversity of knowledge, perspectives and experience that enriches the scope of solutions. Many societal challenges the public sector must help to resolve are complex and require solutions across disciplines and sectors. Mediation and bridge building, rather than the cultivation of distinctive features and differences, may be required to find common goals and solutions. This requires team players who are interested in learning from others and who incorporate other people's perspectives and knowledge.

Learning and changing practices. A change only becomes an innovation when it is utilised and generates added value. That requires learning and changing practices. In this context, learning is both about understanding what the problem is and learning whether a solution may or may not work. Once a solution has been developed, evaluated and implemented, it will be necessary to change established practice.

The Government encourages all public agencies and municipalities to work on developing an innovation culture, and it will develop tools that help them to measure the innovation culture and use the results to develop initiatives in the organisation. Tools will also be developed for measuring the maturity of the culture across public agencies.

7.3.2 Leading for innovation

Managers are responsible for developing their organisation through procedures and structures that foster innovation. This also entails developing employees, the capacity for change and a culture of innovation.

Several guides and descriptions seek to promote good public sector leadership (Box 7.2). The elements of a *culture of innovation* tally with and supplement them, and must also be seen in conjunction with other management tools.

Managers must put their organisation in a position to fulfil its social mission and to do so even better than last year. Their superiors will, in turn, follow up that they achieve this. Managers therefore need to continuously work on skills, culture, structures and procedures that support better quality, results and more efficient operation.

Change competence must be built into the role of manager, so that first-line, middle and top-level managers are prepared for and confident in their work on innovation. Several municipalities, including Asker, Bærum and Trondheim, have organised comprehensive management training programs for all local government managers, specifically with innovation and innovative work meth-

ods in mind. This has also resulted in increased change competence. The programs were developed and implemented internally in the municipalities, and independently of each other.

Strategic competence management is essential to ensure the right skillsets and is a managerial task. Strategic competence management[10] involves planning which skills the organisation needs now and will need in future, and how they can be built and developed, including through transfer of competence, mobility, reskilling and recruitment. The Government has facilitated mobility through the state sector mobility program, which is being piloted in 2020 in a collaboration between the Norwegian Agency for Public and Financial Management and the Norwegian Government Security and Service Organisation. The mobility program facilitates increased mobility between organisations, sectors and administrative levels, through strategic competence collaboration and the exchange of skills and resources at the organisational level. This can help to achieve better cooperation, a culture for sharing and capacity for change.

The Government has given priority to competence work and digital learning in the state sector through the competence management tool *Virksomhetsplattformen* and the initiative *På nett med læring*. The digital tools work in tandem with the organisations' strategic competence development and management. The organisations can share competence-raising measures with others on the platform.

E-learning courses in change management and competence management are available, but no resources have been developed that address innovation specifically, neither for managers nor employees. The Norwegian Agency for Public and Financial Management and the Norwegian Digitalisation Agency will cooperate on developing competence-raising measures for managers relating to innovation and digitalisation.

7.3.3 Cooperation between the social partners for increased innovation

Cooperation between the social partners will continue to be an essential part of the Norwegian labour market going forward. The ambition is to use tripartite and bipartite cooperation as a tool to enhance work on public sector innovation.

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[10] Lai (2004) *Strategisk kompetansestyring*, Fagbokforlaget (Strategic competence management)

Box 7.2 Culture of innovation and related management tools

The management poster in Figure 7.3 (*God ledelse i staten*) is intended to promote a results orientation and implementation capability. The poster must be seen in conjunction with a culture of innovation (Figure 7.2). Seeing opportunities and leading the way is both about helping to develop and implement policy and about exercising freedom of action and breaking down missions into goals and strategies. Innovation is not just about coming up with new ideas; the ideas must also be utilised. This is about quality and results, which are key elements of the management poster. In relation to innovation, the poster lacks a description of risk and learning dimensions.

Good leadership in the state sector

Good leadership contributes to the public administration's implementation capacity, to achieving results for society and having attractive, modern workplaces. The public administration promotes **democracy** and **the rule of law** and stands for **professional integrity** and **efficiency**.

State sector managers:

Clarify the task and translate it into goals and strategies

Clarify responsibility, roles and requirements in their own organisation

Are accountable for results achieved and the quality of services

Facilitate and implement political decisions

Demonstrate trust in and continuously involve and develop their organisations

Promote cooperation and efficient division of duties

Figure 7.3 Management poster – Good management in the state sector

The guide to good management practices (*Guide til god ledelse*) was developed by KS as a tool for reflection for local government managers. The guide emphasises that leadership is essential to innovation and development in the local government sector, and the importance of building a culture for creation and learning. The hallmarks of good management emphasised in the guide are demonstrating implementation capability to achieve good results, creating trust through clear roles, facilitating mastery and motivation and creating an organisational culture characterised by a good working environment and high ethical awareness. The guide also emphasises the interplay between change orientation, task orientation and relations orientation as basic management skills.

The Norwegian Digitalisation Agency has defined *seven leadership skills required to succeed with digital transformation*. They are: citizen centricity, rewarding and motivating, working across organisational boundaries, trying and failing, storytelling, plotting the course and challenging the status quo. Many of these skills are relevant to innovation and tally with the characteristics of an innovation culture.

Source: Regjeringen.no/KMD, KS (2018) *Guide til god ledelse* and the Norwegian Digitalisation Agency

7.4 The Government's aims

Innovation requires a culture of curiosity, openness and courage, and the ability to learn from failures and successes.

The Government will:

– help to enable all public agencies and municipalities to work systematically on developing an innovation culture

– further develop management programs that support innovation, digitalisation and change in the public sector
– facilitate increased mobility for managers and employees both within and between sectors, through the mobility program
– continue to use cooperation between the social partners as a tool to enhance innovation efforts in the public sector.

8 Competence in innovation

Figure 8.1

Having the right competence helps to achieve more public sector innovation. It is therefore important that public agencies recruit and develop the necessary competence through strategic competence management. Universities and other higher education institutions must offer study programs that give e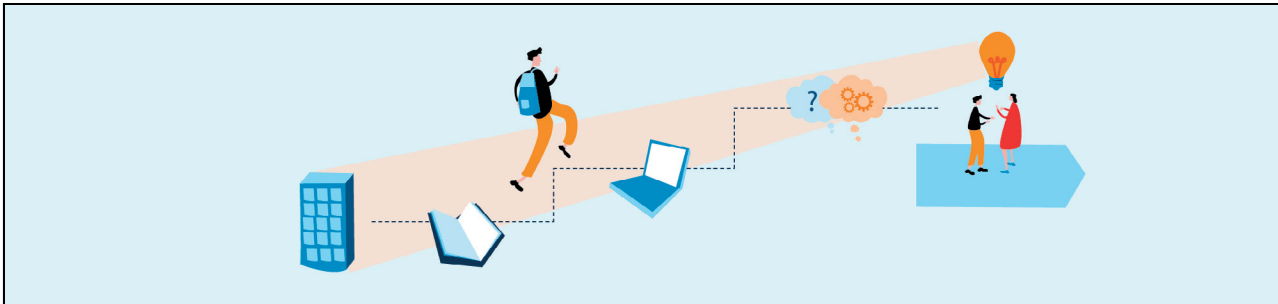mployees the competence they need to address current and future challenges, and to identify new opportunities. Together with other providers, the educational institutions must offer good basic education programs and continuing and further education in cooperation with the social partners.

8.1 The current situation

Competence is a comprehensive concept. This report uses the same definition as the Norwegian Committee on Competence Needs, which states that competence is a combination of knowledge, understanding, skills, qualities, attitudes and values.[1]

The need for competence in the public sector is met by mobilising, renewing and further developing employees' existing expertise, or by recruiting new capable employees that the organisations need today and in the future. Both approaches are part of public agencies' strategic competence development and management.

Renewing and further developing existing competence can take place through education, training, work experience, continuous competence development in the workplace and through various forms of further and continuing education.[2] In other words, the skills needed to achieve innovation are covered by the education sector, through central and local government programs and through practical experience of various methods that foster innovation. Because technology is one of the enablers of innovation, technology skills are also important to be able to increase the pace of innovation.

The Government has given priority to competence work in the state sector and has facilitated digital learning, among other things through the competence management tool The Business Platform (*Virksomhetsplattformen*) and the learning initiative Online with learning (*På nett med læring*); see Chapter 7.

8.1.1 Competence through higher education

High quality and good cooperation between the labour market and research and education institutions are key factors if we are to achieve modernisation, rationalisation and innovation in public agencies. There is currently extensive collaboration between the universities and other public and private institutions involved in research, innovation and education. The Government wishes to

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[1] NOU 2018: 2 *Fremtidige kompetansebehov I – Kunnskapsgrunnlaget* ('Future skill needs I – Evidence basis' – in Norwegian only)

[2] Fafo (2013) *«Saman om» kompetanse og rekruttering – en kunnskapsstatus* ('Together for competence and recruitment – a knowledge status' – in Norwegian only). Fafo report 2013:3

further develop this partnership. Higher education in Norway should be based on research. The role of research is discussed in Chapter 12.

Higher education institutions must help to ensure that society has access to qualified labour, and many public sector employees have attended Norwegian educational institutions. The University and University Colleges Act and the national qualifications framework for higher education make it clear that the institutions shall contribute to innovation and that candidates at all levels of education must be familiar with innovation processes. Students at master's degree level must also be capable of contributing to innovation. Most higher education institutions facilitate and support various forms of student innovation. This prepares students for their role as agents of change in the future healthcare sector, school system or other public sector activities. This will enable sustainable development of society and public sector innovation.

In the long-term plan for research and higher education (2019–2028), the Government emphasises that the public sector must start utilising new research-based knowledge, new work methods and new forms of organisation.[3] There is no set recipe for innovation, but both research and systematic learning from practice show that some methods and tools are particularly suited to finding new, innovative solutions.

A council for cooperation with working life (Råd for samarbeid med arbeidslivet (RSA)) has been established to contribute to more and better collaboration between higher education institutions and the labour market. Most state-owned higher education institutions have incorporated job relevance, either directly or indirectly, in their development agreements with the Ministry of Education and Research.

8.1.2 Work methods and skills that foster innovation

Although some new work methods and tools have been introduced in recent years, the public sector must make more use of work methods that foster innovation. This requires knowledge of how to use these methods and in what situations they are useful. In a Menon report on innovation activity in the local government sector, more than 40 per cent of those interviewed indicated that competence is a barrier to achieving more innovation.[4]

Competence can be acquired through education, courses and other knowledge-enhancing measures, combined with experience. Relevant courses and programs are available, but they have not been systematically presented or collated.

The work methods presented below are not exhaustive, and must be seen in conjunction with, for example, a culture of innovation (Chapter 7), the use of big data in innovation (Chapter 6) and trials (Chapter 9).

Design

In human-centred design, needs form the basis for how problems or possibilities are understood. Design is based on a way of thinking that can be summarised in the following sentence: *What and for whom, rather than how.*

Service design is a specialisation concerned with improving the experience of a service and enhancing its added value. System-oriented design uses visualisation to capture the complexity of systems. Both approaches have been applied in the public sector in recent years.

Several different guides to, or roadmaps for, design-driven innovation have been developed. The roadmap for service innovation (*Veikart for tjenesteinnovasjon*) is KS's toolbox for creating better services for the inhabitants in a municipality, while Design and Architecture Norway (DOGA) has developed a guide to design-driven innovation (*Guide for designdrevet innovasjon*) for both private and public sector organisations. The Swedish Association of Local Authorities and Regions has developed the website *Innovationsguiden.se* as a guide to design-driven public sector innovation. It combines an online tool with courses and assistance in innovation processes.

The Norwegian Digitalisation Agency and DOGA have jointly developed StimuLab, a scheme for stimulating innovation and service design. The aim of StimuLab is to support and stimulate user-oriented public sector innovation through the use of service design, testing and experimentation. The scheme is intended to strengthen the public sector's capacity for and competence in innovation by supporting individual innovation projects and contributing to competence-raising and sharing of experience across organisational boundaries. StimuLab offers fund-

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[3] Report No 4 to the Storting (2018–2019) *Long-term plan for research and higher education 2019–2028*

[4] Menon (2018) *Nåtidsanalyse av innovasjonsaktivitet i kommunesektoren* ('Present-day analysis of innovation activities in the local government' – in Norwegian only). Publication 88/2018.

Box 8.1 Digital administration of driving entitlements

The digital administration of driving entitlements is an example of the challenges and possibilities that lie in cross-sector collaboration. Every year, between 200,000 and 300,000 people apply for renewal of their driving licence, or right to drive, for example because they have reached the age of 80. Losing the right to drive is something many people see as a major interference in their lives.

The process for renewing driving entitlements involves several rounds of paper-based, manual case processing and personal attendance by the applicant. The Directorate of Public Roads, the Directorate of Health, the Directorate of eHealth, the National Police Directorate, the county governors and all the country's GPs and opticians have key roles and responsibilities in this process.

The biggest challenge lies in the assessment of the medical requirements that form the basis for the right to drive, and in the division of responsibility between the actors involved. Efforts had been ongoing for ten years to address the complexity and inefficiency of the process, which had been reported as a 'time thief' to the public administration, before the directorates established a project. Since 2018, the project has received support and funding under the StimuLab scheme. Through a process based on design methodology and an open, explorative approach to the issue, roles and responsibilities, the organisations involved managed, in the course of nine months, to come up with the concept for a possible solution. The program for digital administration of driving entitlements was established in order to realise the concept. The program is financed by the directorates, with support from the Norwegian Digitalisation Agency's co-financing scheme, and will develop a digital solution for communicating the GP's conclusion on the medical certificate to the Norwegian Public Roads Administration. The potential gain is estimated to have a net present value of NOK 940 million over ten years.

The project has also identified a potential for using a new framework for information sharing that can simplify the introduction of national e-health solutions.

Source: Norwegian Digitalisation Agency

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ing and interdisciplinary guidance to understanding problems and defining needs, and to ensuring support for the process in the organisation and committing it to investing the necessary resources and efforts in the process, the delivery and the subsequent implementation. The funds are spent on acquiring competence in the market, and the aim is that the projects that are recruited will result in new and improved services, processes or systems. Projects that require collaboration between several parties and involve complex issues that cannot be resolved alone are given priority under the scheme. Box 8.1 shows an example of a StimuLab project.

Agility

In work methods based on agile or lean processes, self-organised teams carry out the innovation work, with rapid testing and implementation of partial solutions during the process. In these processes, the same team works on needs, solutions, testing and implementation.

ICT projects are increasingly moving away from large projects and instead addressing challenges in incremental steps using technology that enables smaller elements to build on each other in several ways. This work method provides greater flexibility for change and can be useful in other areas as well.

Foresight

To look into the future is a practice that fosters innovation. The OECD argues that those who will succeed with public sector innovation are those who manage to envisage and act on the basis of discussions about and assessments of the future. Expanding on why and how we understand the future gives us more choices. Openness and broad collaboration are decisive for good foresight processes.[5] There are a variety of different foresight methods.

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[5] OECD (2019), Public Value in Public Service Transformation: Working with Change, OECD Publishing, Paris

Futures literacy is one of the methods used by UNESCO, for example. Being *future literate* means being prepared for the future and thereby taking a more long-term, strategic approach.

Strategic foresight, or *scenario development*, recognises that there are a range of plausible developments and discusses them in the form of scenarios. Strategic foresight enables us to identify, understand and respond to trends and describe different possible futures.[6]

In its work on this white paper, the Ministry of Local Government and Modernisation has developed four scenarios for the public sector in 2040. The scenarios were developed to initiate strategic dialogues that create preparedness for change, but do not express the Government's wishes or fears. The scenarios have been published in a separate report.[7]

UNESCO and the OECD are making active efforts to enhance the ability of society to develop knowledge about the future effects of technology, to be able to steer it towards the desired development.

Nudging and behavioural science

Nudge theory is a concept that originated in behavioural sciences, psychology and behavioural economics. The idea is that small changes in how choices are presented can influence the choices we consciously or unconsciously make, without direct regulation through legislation being required.

There are examples of knowledge from behavioural sciences being used to alter behaviour in relation to pension saving, consumer issues, internal efficiency in organisations, and tax collection. Many countries have used behavioural science concepts in policy-making, including the Behavioural Insights Team in the UK. In Norway, some public agencies have started applying this knowledge and these methods, but their application is not widespread and not very systematic. In spring 2013, the Norwegian Tax Administration and the Norwegian School of Economics (NHH) conducted a trial where groups of citizens received differently worded letters about declaring income earned abroad in their tax returns. The experiment showed that taxpayers were more likely to declare larger sums if the letter subtly appealed to

their moral obligation to pay tax. Fewer of those who received a letter warning about the risk of getting caught reported their foreign income.[8]

Plain language

Plain language is about adapting the text to the user, which contributes to more efficient public administration and better and more user-friendly services. User centricity is a principle that fosters innovation, which means that plain language and innovation work go hand in hand. The Norwegian Digitalisation Agency and the Language Council of Norway are working together on measures to stimulate user-friendly language in the central government.[9] They are also working with KS on plain language in the local government sector and are liaising with, among others, the University of Oslo, which has a focus on plain legal language and a bachelor's degree program in plain language. Tromsø municipality has developed a user manual for plain language in service design. The guide contains eight steps to developing user-friendly services and can be used by the whole public sector.[10]

Skedsmo municipality's work on plain language has changed both the method of communication and organisation of a public service. It started with a desire to improve information about the allocation of, and process of moving into, assisted living facilities, but resulted in a change to the work process. One of the outcomes of the process was a reduction of waiting times for people in need of assisted living facilities from five months to five weeks.

Digital competence can foster more innovation

Both employees and managers need digital competence. This includes a strategic understanding of technology, the ability to link technology with systems understanding, ecosystem understanding, procurement competence and competence in digital tools, methods and user skills.

Surveys show that managers and employees in both the private and public sector lack the skills required to identify and utilise the possibilities technology represents.[11]

Statistics Norway's survey of ICT use in the public sector showed that three out of four central

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[6] Government Offices of Sweden. Strategic foresight

[7] Ministry of Local Government and Modernisation (2019) *Scenarioer for offentlig sektor i 2040* ('Scenarios for the public sector in 2040' – in Norwegian only). Report

[8] Norwegian Tax Administration

[9] Klarsprak.no, difi.no, sprakradet.no

[10] KS.no

[11] IT in practice, 2018

Box 8.2 The Ulstein Model

Ulstein was the first municipality in the country to teach all pupils programming. Together with Volda University College, the municipality has created the Ulstein Model, whereby all teachers in the municipality receive training in the use of digital tools and resources in teaching. Møre og Romsdal county authority has supported the technology initiative. The organisation *Lær Kidsa Koding* ('Teach kids coding') has been an important partner in the project.

The Ulstein Model is part of the municipality's comprehensive investment in innovation and new thinking, for which it was nominated for the 2019 innovation award. The municipality emphasises digitalisation for the future, but also takes innovative approaches in health and care services, technical services and the central administration. Co-creation and dialogue with the public, volunteers, businesses and public agencies are requirements in the project.

Source: Ulstein municipality

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government agencies that had tried to recruit ICT specialists in the past year had experienced problems. The corresponding percentage among municipalities is 36 per cent.[12] There are major variations, however, in the public sector as regards how many organisations have difficulties finding competent candidates. The need for specialists also seems to increase in step with size. Municipalities with many inhabitants, and central government agencies with many employees, usually try to hire candidates with high ICT expertise.[13] In 2019, Ulstein municipality was nominated for the innovation award for its comprehensive innovation work, which included a focus on coding in schools (Box 8.2).

Because digitalisation takes place across sectors, areas of responsibility and national borders, it creates new dependencies and vulnerabilities that the public authorities need to deal with.

Again, competence is key, especially in relation to information security.

8.2 Assessment of the situation

Public agencies must take a strategic approach to competence development and devote attention to competence profiles in connection with both recruitment and employees' competence development. One of the main goals of the state's employer strategy is that central government agencies take action to address future skills needs.[14]

To enable professional practitioners to meet the challenges facing society, it will also be important to further improve the quality of higher education.[15] Norway needs to produce graduates who are not only capable of entering the profession as it currently is, but who also have the ability to adapt, to develop further, utilise new knowledge, reflect on their own professional practice and thereby also contribute to knowledge development in their field in the years ahead. Public services are dependent on each other and need to be coordinated in relation to users with complex needs. Students and staff at several higher education institutions have therefore joined forces across disciplines and professions to practise this skill.

The Norwegian Digitalisation Agency and the Norwegian Agency for Public and Financial Management have a number of tools at their disposal that are relevant to innovation. One example is *Prosjektveiviseren*, a project template for managing digitalisation projects in the public sector. It was not developed with innovation specifically in mind, however, and may therefore require some adaptation. The current offer of guidance, courses and instruments that can foster innovation and innovative work methods is fragmented. In the same way as other policy instruments for public sector innovation, the services are best viewed in conjunction with each other (Chapter 5). Offers of further and continuing education should be developed and presented in a more coherent manner.

The digital strategy *One digital public sector* emphasises that increased digital competence is about both recruitment and developing the skills of employees and managers. It is difficult to pre-

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[12] Statistics Norway (2019) *Offentlig sektor sliter med rekruttering av IKT-spesialister* ('Public sector struggling to recruit ICT specialists' – in Norwegian only). Article

[13] Ministry of Local Government and Modernisation (2019) *One digital public sector. Digital strategy for the public sector 2019–2025*

[14] Ministry of Local Government and Modernisation (2020) *Arbeidsgiverstrategi 2020–2023 for det statlige tariffområdet* ('Employer strategy 2020–2023 for the collective agreements in the state sector' – in Norwegian only)

[15] Report No 4 to the Storting (2018–2019) *Long-term plan for research and higher education 2019–2028*

dict what skills we will need in the future. The development has gone from the strong technology focus of the 1980s and 1990s, via digitalisation in the 2000s, where the focus was on improving existing processes with the help of digital technology and data, to the present situation, where the focus is on digital transformation, whereby digitalisation is increasingly integrated in an organisation's core activities. Future skills are largely about knowing how the organisation can make use of the inherent possibilities technology offers.[16]

The following types of competence will be needed:
– Basic digital competence: competence the whole adult population needs to function in education, working life and society in general.
– Occupational and professional digital competence: that employees have the specific skills they need to do their jobs, including a good understanding of what digitalisation means in relation to the performance of their work.
– Specialised digital competence: competence in developing new sophisticated solutions – information scientists, ICT security experts, specialists in legal informatics, digital business development etc.

8.3   The way forward

Job relevance in higher education

The Government aims to present its white paper on job relevance in higher education some time in spring 2021. The report will set out four main goals:
– a stronger connection between the labour market and higher education
– strengthening new ways of thinking and innovation skills in higher education
– enhancing the quality of practical training in health and social care programs and teacher education programs
– better interfaces between the labour market and higher education institutions

One example of how to work on the job relevance of education is the university-municipality partnership in Agder. In partnership with the University of Agder, Kristiansand municipality has taken national responsibility for developing competent child welfare workers and an efficient child welfare service capable of meeting future challenges.

Strengthening of teacher education programs

A lasting strengthening of the teaching profession is important if we are to be well equipped to address future challenges, and knowledge and skills will be increasingly important in this context. Schools and kindergartens help to shape future members of society. They are important agents of change in the public sector, both directly and indirectly. Schools and kindergartens can directly influence processes, ways of communicating and organisation in cooperation with other parties. Schools and kindergartens can also contribute indirectly to innovation by encouraging children to look for new solutions and ways of communicating. These are skills they will take with them into the labour market.

In 2017, the basic teacher education programs (GLU) were elevated to master's degree level. The GLU reform is a step in the direction of more innovation and more research-driven development of teacher education programs and schools. The programs emphasise how student teachers can contribute to innovation processes relating to the school's activities and facilitate the involvement of representatives of the labour market, society and the cultural sector. Furthermore, the students will help to further develop schools as an institution for formative education and learning in a democratic, diverse society. It is a goal that teachers graduating from the programs are capable of acting innovatively. In 2019, ten public sector PhD positions were earmarked for teachers (see section 12.1 for a description of the Public Sector PhD scheme). Increasing the number of teachers with a PhD is a long-term measure aimed at strengthening the teaching profession and anticipating changes in society that require high expertise in the public sector.

In 2017, the Government launched a national strategy for teacher education programs (*Lærerutdanning 2025, Nasjonal strategi for kvalitet og samarbeid i lærerutdanningene*). The strategy was accompanied by an innovation scheme under which kindergartens, schools, municipalities and county authorities can apply for funding to test and evaluate the effect of measures together with researchers. The scheme is part of the Research Council's Program for Research and Innovation in the Educational Sector (FINNUT). Close collaboration between the teacher education programs and the professional field is the key to joint, mutual development and ensures high quality. The strategy was also followed up through partnerships between the teacher education pro-

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[16] Ministry of Local Government and Modernisation (2019) *One digital public sector. Digital strategy for the public sector 2019–2025*

gram and schools and school owners, or kindergartens and kindergarten owners, on clinical testing of high-quality practical training.

Further and continuing education

Employees must be offered continuing and further education to enable them to maintain and update their skills in a life-long learning process. In the most recent long-term plan for research and higher education, the Government therefore announced that higher education institutions are expected to initiate cooperation with service providers on further and continuing education.[17]

In spring 2020, the Government presented the white paper *The Skills Reform – Lifelong Learning* (Meld. St. 14 (2019–2020)). The reform has two objectives. The first is that no one's skills shall become obsolete, meaning that everyone will be given an opportunity to renew and supplement their skills to enable them to work longer. The other is to close the skills gap, i.e. the gap between what skills the labour market needs and what skills employees actually have. The report describes a number of measures aimed at helping tertiary vocational colleges, universities and university colleges to develop flexible further education programs that are in demand in the labour market. Among other things, the Government will invest in competition-based schemes to increase the capacity for further education programs and flexible study programs in the higher education sector. The reform also facilitates increased collaboration between the educational institutions and the labour market on the development of educational provision.

In 2020, Oslo School of Architecture and Design, BI Norwegian Business School, and Design and Architecture Norway (DOGA) opened D-box, the National Centre for Transforming Public Services. D-box is tasked with developing programs that meet the need for continuing and further education among public sector managers and employees (Box 8.3).

Digital competence

A lack of skilled labour will be a challenge in Norway in the time ahead, both a lack of people of working age, especially in rural areas, and lack of the right expertise. One of the most important projects for the Government in the next four years

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Box 8.3 D-box – the National Centre for Transforming Public Services

D-box is intended to be a strategic arena for user-centred development and interdisciplinary competence building in the public sector. D-box will meet the need for service innovation across disciplines and sectors, using design methodology as a key approach.

The centre aims to provide authorities and managers with the knowledge required to make evidence-based decisions on user-centred innovation, and to make expedient use of the market and research communities. D-box aims to be a driving force in the field of service innovation at the national and international level, and to help to increase the capacity for innovation.

Source: Design and Architecture Norway (DOGA)

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is therefore a competence reform for the labour market. The goal is to ensure that everyone is qualified for a labour market that is changing in step with digitalisation and new technology. Digital competence in particular may become a major challenge, and higher education institutions play a key role in this context.

As part of the Government's national AI strategy, the Norwegian University of Science and Technology (NTNU) has developed a Norwegian version of the online course *Elements of AI*. The Government encourages all public agencies to let their employees take the course, and will make it available on the central government's joint digital learning platform. Municipal and county authorities also have access to the course through the learning platform *KS Læring*. The Government will develop a strategy for digital competence in the public sector. KS and other relevant parties will be involved in this work.[18]

Digitalisation is also a key instrument for raising the quality and relevance of research and higher education, and ensuring that the higher education sector is equipped to realise the ambitions in the long-term plan. The digital strategy for the higher education sector (*Digitaliseringsstrategi for universitets- og høyskolesektoren for 2017–2021*)

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[17] Report No 4 to the Storting (2018–2019) *Long-term plan for research and higher education 2019–2028*, section 5.3

[18] Ministry of Local Government and Modernisation (2019) *One digital public sector. Digital strategy for the public sector 2019–2025*

sets a clear direction for this work. The Government expects all higher education institutions to raise digitalisation to the strategic level and to develop goals and measures for the digitalisation of research and education. In addition to digital competence of relevance to the field, students must acquire more general ICT and digital judgement skills that are relevant across disciplines. Digitalisation makes it possible to carry out research more efficiently and creates new opportunities for developing methods, cooperation and development in new and existing fields. Digitalisation also provides opportunities for sharing research data and results in new ways, although it also gives rise to new challenges relating to data security and correct processing of data.

8.4 The Government's aims

To achieve innovation, public agencies must recruit and develop skills that foster innovation, and education must be adapted to innovation and the needs of the labour market.

The Government will:

– help to ensure that study programs and further and continuing education leads to increased innovation competence. The Government expects educational institutions to take the initiative til collaborate on further and continuing education.
– present a white paper on job relevance in higher education in spring 2021
– continue with and develop StimuLab and encourage exploration of innovative working methods in the public sector
– develop a strategy for digital competence in the public sector in cooperation with KS
– encourage public agencies to let their employees take the online course *Elements of AI*, which is now available in Norwegian.
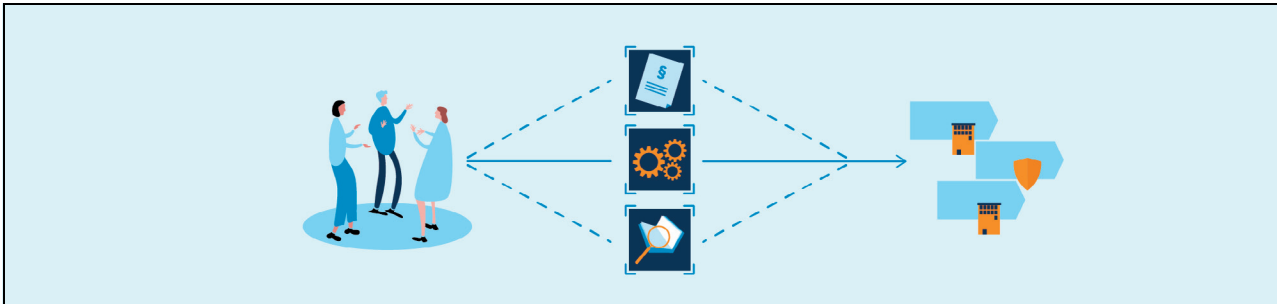
9 Trials and testing

Figure 9.1

9.1 The current situation

Innovation can be complex and entail risk. Trials and experimentation can be expedient approaches to managing these aspects of innovation.

Trials are often carried out within a defined time frame and a delimited area, where those involved are able to test the effect of new solutions in a realistic environment. In this way, the costs and risks can be reduced compared with a situation where all municipalities or public agencies have to do the same. Using control groups and/or impact evaluations makes it possible to identify which solutions have the desired effect and which should be discontinued. In larger studies, it will be necessary to include researchers in this work. This will enable everyone involved to generate knowledge and learning that others can use, and form the basis for assessing whether or not the solutions should be implemented and spread on a larger scale.

Different concepts and methods exist for testing new solutions. In the Nordic context, the terms trial and experimentation are often used interchangeably. In this white paper, the term trial is primarily used about testing new solutions.

Trials have be conducted for a long time in Norway, but no comprehensive overview of trials, test schemes or lab activities in the public sector is currently available. Concepts and schemes are also under development, both in Norway and the rest of the world.

9.1.1 Legal framework for testing new solutions

All types of trials and testing of new solutions established in the public sector are subject to the same laws and regulations that regulate public bodies. Some trials are conducted pursuant to relevant statutory provisions that regulate trials since they, on certain conditions, provide for the possibility of granting exemptions from applicable laws or regulations. Some statutory provisions allow for dispensations from other requirements in order to be able to test new things.

In many cases, it is possible to try new solutions without needing an exemption from laws or regulations, for example testing new ways of organising a public body's internal work or new digital solutions that make case processing more efficient. In the cooperative development program *Sammen om en bedre kommune* ('Together for a better municipality'), municipalities tested the use of alternative rota systems to increase the proportion of full-time positions. The percentage of a full-time position was an indicator measured before, during and at the end of the program. The municipalities reported which solutions they tested and the results they achieved. The testing did not require a legal exemption, although some alternative rota systems required approval from the social partners.

Regulatory sandboxes

The term *regulatory sandbox* is used to describe ways of testing new technologies, statutory regu-

lations and business models within a given framework. The concept regulatory sandbox is especially common in the financial sector, where selected institutions have been given an opportunity to test given products, technologies or services on a limited number of customers and for a limited period under close follow-up by the supervisory authority. It can also concern more extensive measures carried out under close follow-up and guidance from, for example, the supervisory authorities in a specific area. The Financial Supervisory Authority of Norway accepted applications for a regulatory sandbox for financial technology from December 2019 (Box 9.1).

Exemption clauses

Another way of testing new solutions is to use exemption provisions in applicable laws relating to, for example, requirements concerning organisations or their activities. The Act relating to the

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Box 9.1 Regulatory sandbox for fintechs

The Financial Supervisory Authority of Norway accepted applications to participate in a regulatory sandbox for financial technology from December 2019. The regulatory sandbox gives fintech firms an opportunity to test new innovative products, technologies and services under follow-up by the Financial Supervisory Authority. The purpose of the sandbox is to enable technological innovation and give innovative firms a better understanding of regulatory requirements and how the regulatory framework can be applied to new business models, products and services. The sandbox is also intended to improve the Financial Supervisory Authority's understanding of new technological solutions in the financial market.

The deadline for applications for admission to the first round was 12 February 2020, and 12 applications were received. In April, the Authority decided to accept two projects for the sandbox, from Quesnay AS and Sparebank 1 SR-Bank, respectively. Quesnay's project will develop solutions for use in obliged entities' anti-money laundering work, while Sparebank 1 SR-Bank wanted to develop a solution for a digital customer adviser.

Source: Ministry of Finance

Testing of Autonomous Vehicles is an example of a law that provides for the possibility of testing new solutions. Another example is Section 25 of the new Harbour and Fairways Act, which provides for new technology such as self-driving, autonomous ships. The section opens for the possibility of being granted permission for autonomous coastal voyages and exemption from the pilot requirement. We have long experience of codified exemptions of this type from other requirements in a law. It is a useful means of enabling testing that avoids having to go via the Pilot Schemes in Public Administration Act or trial provisions in special laws.

Some special laws have separate provisions relating to trials. One example is the Education Act, which permits deviations from the rules for a fixed-term educational or organisation trial. The Election Act contains a special provision on trials when holding elections. The Child Welfare Act contains a trial provision that allows exemptions from the statutory duty of secrecy in several special laws.

In some cases, it may be relevant to amend laws or regulations to include a special trial clause in the sector regulations based on specific cases and expert assessments, in a manner that makes trials possible.

The Pilot Schemes in Public Administration Act

The most important act relating to formal trials is the *Pilot Schemes in Public Administration Act* (Act No 87 of 27 June 1992). The purpose of the Act is, through pilot schemes, to develop functional and efficient forms of organisation and operation in the public administration, and an appropriate division of duties between public administrative bodies and between public administrative levels. The Act is intended to improve the public provision of services to citizens, and ensure the best possible use of resources and good democratic forms of government.

It allows the state, county and municipal administrations to conduct pilot schemes upon application. It allows them to depart from the main rules for how public agencies are required to organise their activity and perform their duties. It also allows them to depart from the provisions concerning the division of duties between these bodies.

The pilots must be appropriate and professionally well founded. They apply for a period of up to four years, although it is possible to extend the period. The pilots must aim to achieve the purposes set out in Section 1 of the Act, which states

that the aim is to test whether the scheme is sufficiently expedient that a permanent scheme is desirable. The pilot must also include a good evaluation scheme.

Pilot schemes will not be approved if they entail departing from the fundamental provisions of the Local Government Act with respect to the organisation of municipalities and county authorities or rules of procedure, or that would otherwise entail restricting the rights or extending the duties of any individual. Nor will pilot schemes with substantive new content be approved pursuant to the Pilot Schemes in Public Administration Act, i.e. pilots that entail an out and out dispensation from the law.

More detailed rules must be adopted for how the individual pilot scheme is to be conducted. The municipal council must adopt regulations for pilot schemes in the local government sector, which must then be approved by the Ministry.

9.1.2   Examples and experience

Conducting trials is not a new endeavour in Norway or the other Nordic countries. Trials have been carried out in the local government sector in areas including direct elections of mayors, granting extended powers to the mayor, voting rights

for 16-year-olds and the political organisation of municipalities. The trials relating to direct election of mayors and voting rights for 16-year-olds were discontinued and not proposed for continuation as permanent solutions. The trial concerning granting extended powers to mayors resulted in new provisions being introduced in the Local Government Act of 2018. The trial concerning the political organisation of municipalities was one of the main reasons why the Local Government Act of 1992 introduced the possibility of municipalities using a parliamentary model rather than the alderman model.

The trials relating to elections that have been carried out in recent elections have formed an important basis for considering whether the solutions should be introduced across the country (Box 9.2).

The Ministry of Local Government and Modernisation started a trial in 2019 of anonymous job applications in the state sector. The trial aims to document whether the use of anonymous applications leads to more immigrants being invited to a job interview and offered a position with a public sector employer. All ministries have selected one subordinate agency to participate in the trial. The trial started in spring 2019 and was concluded in 2020, with a subsequent evaluation. The trial

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Box 9.2 Trials relating to elections

The trial project that involved sending a text message and letter to remind voters to vote in elections was implemented in connection with the local elections in 2015 and the parliamentary election in 2017. A random selection of voters received a reminder by text message encouraging them to vote. The messages were sent during the last few days before and up to election day, and came from valg.no (the Norwegian Directorate of Elections) or the City of Oslo.

More detailed letters were sent by the county governor to a random selection of voters from immigrant backgrounds. There were three variants of this letter. All contained practical information about how to vote and a general encouragement to exercise voting rights, while one paragraph of the letters varied. The purpose was to see how the wording of the encouragement to vote influenced voter participation.

Both initiatives had an impact on voter participation, first and foremost in the local election.

The effect was greatest for young people under the age of 30 who received a text message and voters from immigrant backgrounds who received a letter. In connection with the trial in 2017, another trial was implemented in cooperation with the Norwegian Children and Youth Council, in which young adults phoned first-time voters to encourage them to vote. This measure had no effect.

All voters received a text message in connection with the local election in 2019. All voters from immigrant backgrounds also received a letter encouraging them to exercise their voting rights. The measure will be evaluated, and the evaluation will form the basis for deciding whether to use this kind of encouragement to vote in connection with future elections.

Source: Ministry of Local Government and Modernisation

forms part of the Government's integration reform. The purpose of the integration reform is to increase immigrants' participation in small and large communities in society. The most important aim of the reform is to help more people into employment.

Experimental Finland

In 2016, the Finnish government established the program *Experimental Finland*, with the objective of promoting an experimental culture in the public administration. The initiative, based at the Office of the Prime Minister, comprised three priority areas:

– to express a clear political wish for a more experimental public sector
– to organise training in experimental work methods
– to conduct experiments in strategic areas for the Government

Many different experiments were conducted and they resulted, among other things, in a guide on how to support projects that conduct trials. The different parts of the program have now been continued in another form, now that experimentation has come to form a larger part of the public administration's work methods.

Free commune experiment in the Nordic countries

Since the mid-1980s, free commune experiments have been conducted a total of six times in Sweden, Denmark, Norway and Finland.[1] The term 'free commune' has been used to denote municipalities that are granted exemption from selected laws and regulations through a special legal provision. The free commune experiments have been based on the premise that the generation, testing and diffusion of innovations take place at the intersection between state governance and local autonomy. In contrast to most other development programs that allow for trial and error, the free commune program includes legal procedures for being granted exemption from laws that regulate local services.

In Norway, the Storting decided as early as 1986 to carry out a free commune experiment where selected municipalities were able to test new ways of organising their services. By January 1991, a total of 63 trials had been approved. The scope of the trials varied and some municipalities conducted more than one trial.

In 1989, Grimstad was granted free commune status to test coordinated management of social welfare measures, national insurance and labour market measures for young people. Løten and 12 other municipalities later tested similar schemes. These were also referred to as the coordination trials. Lessons learned from these municipalities were used when designing the Norwegian Labour and Welfare Service (NAV) Reform.

Experiences from the free commune trials were mixed. They triggered engagement and stimulated development and renewal work in general. However, it was difficult to transfer the experiences to reform measures and it was not easy to identify unequivocal causal relationships based on the experience of individual municipalities. The Pilot Schemes in Public Administration Act was in part based on lessons learned from the free commune trials. This became a general, permanent trial law that replaced the Free Commune Act and that also applied to the central government and state-initiated trials in the local government sector.

Denmark has conducted almost continuous free commune trials since 2012. The current trials apply during the period 2016–2020. The trials in Denmark are based on an agreement between the Government and KL.[2] Unlike previous free commune experiments, municipalities under the current trial are organised into thematic networks. Eight networks have been selected, each with one overall theme, and 44 municipalities are participating. The idea is that more unified trials comprising more municipalities will make it easier to obtain and systematise knowledge and to follow up and spread the results to all municipalities. It will also be easier to monitor the development within each specific theme.

Lab activities

Many countries have established innovation labs for the public sector in the last decade. A lab is a space, physical or methodological, where testing, experimentation and measurement can take place under controlled conditions. The purpose of the lab activities is to find new ways of developing services, solutions and policies. The labs have used new methods such as design thinking and service

[1] Hjelmar et al. (2018) *Turning Innovation into Evidence-based Policies: Lessons Learned from Free Commune Experiments.* Scandinavian Political Studies, Vol. 41 – No 4

[2] KL – Local Government Denmark is the interest organisation for Danish municipalities

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design (Chapter 8), trials and big data analysis. Activities in the labs are often based on user needs within a framework that allows freedom to explore or test the solutions before they are potentially taken into use. There are thereby no clear distinctions between trials and lab activities.

In Sweden, the Government has tasked the innovation authority Vinnova with introducing experimental work methods through the *policy labs* initiative. They define a policy lab as a random or established group of actors with different expertise, who apply and develop innovative methods with a view to changing the regulatory framework. The policy labs use user-centred skills and methods to test, experiment and learn aspects of policy development.[3]

Policy Lab in the UK is introducing new policy development techniques to agencies across the public sector, helping to design services around people's experience, and using data analytics and new digital tools. Regulatory change is therefore not at the core of its activities.[4] A shared goal in Sweden and the UK is a more transparent, user-centred and agile public sector.

Helsinki Design Lab in Finland promotes what they call strategic design, which helps decision-makers to see the big picture and create whole-system solutions. This is similar to the role of StimuLab in Norway.

Examples of lab activities in Norway include Norwegian Battle Lab and Experimentation in the Armed Forces (Box 9.3), United Future Lab Norway in Ålesund (Box 9.4), StimuLab (Chapter 8), and TRD 3.0 – a collaboration between Trondheim municipality and the Norwegian University of Science and Technology (NTNU) (Box 12.2).

Box 9.3 Norwegian Battle Lab and Experimentation

Norwegian Battle Lab and Experimentation (NOBLE) was established in the Norwegian Armed Forces to strengthen operative capability through concept development and experimentation. NOBLE is responsible for a large proportion of the Armed Forces' annual innovation and experimentation activities and plays an important role in their joint operative development. NOBLE works closely with all branches of the Armed Forces, in particular the Norwegian Joint Headquarters, to develop interoperability, concepts, tactics and procedures for the application of weapons systems and capabilities.

Source: Ministry of Defence

Box 9.4 United Future Lab Norway

Ålesund municipality has established Northern Europe's first smart city lab in cooperation with the UN. It is called United Future Lab Norway and forms part of the new municipality's investment in innovation and technology. It is based on interdisciplinary collaboration and will be developed as a partnership between participants from the public sector, academia, interests groups, industry and commerce. United Future Lab Norway currently has around 30 partners and several stakeholders.

United Future Lab Norway's objective is to develop and implement sustainable projects in areas such as education, health, infrastructure, mobility and energy, as well as supporting and promoting new projects. Through NTNU Campus Ålesund and the Norwegian Maritime Competence Center, United Future Lab Norway has unique access to technological infrastructure, research and development communities and competence networks.

The network also collaborates with the Offshore Simulator Center and AugmentCity at Campus Ålesund. The company provides simulator training for industries including the oil industry, and has developed a digital 'twin' of Ålesund in collaboration with the municipality. The twin is a three-dimensional digital copy of the real-life version of Ålesund that can visualise elements such as traffic developments, water supply and power consumption, and thus also different consumer patterns. This can in turn be used to improve, e.g., housing plans or the fire service's emergency routes.

Source: Ålesund municipality

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[3] Vinnova.se
[4] Policy Lab, GOV.UK

9.2 Assessment of the situation

Many things must be taken into account when planning a trial, in part because the public sector exercises authority, and citizens' due process protection and equal treatment must be adequately addressed. The Pilot Schemes in Public Administration Act sets out some limitations, for example that trials must not entail a restriction of rights or extension of duties for any individual pursuant to applicable legislation. This is fundamental to maintaining trust in the public authorities. Trust in the public sector will be a key part of experimentation and trials in general. On the one hand, limited trials or experiments are a good way of testing new ideas before they introduced on a larger scale. On the other, too many trials with solutions that turn out to be inexpedient could also weaken trust in the public sector.

When the results of a trial are good, it should be possible to implement the new solutions and share the lessons learned. In cases where a trial does not have the intended effect, the lessons learned should be applied in further work and shared with other actors considering similar trials. To achieve this, experiments and trials must undergo thorough evaluation. Furthermore, potential implementation and diffusion should be facilitated from the offset. There are several examples of successful innovations in the public sector that are not scaled up and diffused. When many trials with positive outcomes are conducted without being implemented and without leading to permanent change, the result can be fatigue in the organisation.

It is important to develop a good system for trials, and a trial must sometimes be allowed to work for a certain period, often several years, in order to be able to conclude on its effect. When a trial has ended, it must also be evaluated. It can sometimes be expedient to attempt to gain experience more quickly than through a formal trial. It can be challenging to identify unequivocal causal connections between models and results. It is therefore not necessarily possible to draw general conclusions based on trials in one or a few municipalities or agencies that are applicable to all similar municipalities or agencies.

In some cases, trials can be so controversial or complicated that it can be difficult to reach agreement between the affected bodies as regards the project, its evaluation and any resulting reforms. It can also be challenging to identify which, if any, laws and regulations must be amended, or whether exemption from legislation is necessary

at all. This is exemplified by the experience from the ongoing Danish free commune scheme, where it was concluded that a number of applications for trials would not be possible to follow up.[5]

9.3 The way forward

The Pilot Schemes in Public Administration Act has been in force for nearly 30 years. However, the Act has been used less frequently in recent years. Some municipalities have applied, but some of the applications have been for trials that do not require exemption from statutory provisions. The Government will consider whether it is necessary to make amendments to the Pilot Schemes in Public Administration Act that could, among other things, improve the possibility of innovation and new ways of thinking in the public sector. In spring 2020, the Ministry of Local Government and Modernisation put out to tender an official study to evaluate the Pilot Schemes in Public Administration Act and assess the potential need for amendments. One of the aims of the amendments must be to contribute to more trials. The study should also assess what freedom of action the Pilot Schemes in Public Administration Act provides and whether potential amendments are relevant for testing new solutions based on artificial intelligence.

A government-initiated measure for more testing of new solutions can call attention to and foster the use of experimentation and trials both with and without legal exemptions. It can help to generate new ideas and mobilisation for the testing of new solutions. At the same time, experience and research show that trials must have a clear and rigorous evaluation system in place in order to be able to transfer potential solutions to others, and that plans for how the lessons learned can be diffused should be in place from the outset. The Government will look at how the public sector can use trials more systematically to test new solutions to major societal challenges.

The Government will establish a regulatory sandbox for data protection under the Data Protection Agency's area of authority, as described in the strategy for artificial intelligence.[6] The Gov-

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[5] Vive (2018) *Frikommuneforsøg 2016–2020. En status på forsøg, evalueringsdesign og implementeringsforhold ('Free commune experiments 2016–2020. Status of experiment, evaluation design and implementation' – in Danish only).* Memo

[6] Ministry of Local Government and Modernisation (2020) *National Strategy for Artificial Intelligence*

ernment takes a positive view of establishing regulatory sandboxes in more areas if there is demand for this.

9.4   The Government's aims

Trials and regulatory sandboxes are examples of ways of testing new solutions in practice.

The Government will:

– look at the need to amend the Pilot Schemes in Public Administration Act in ways that could improve the possibility of innovation and new ways of thinking in the public sector
– assess how the public sector can use trials more systematically to test new solutions to major societal challenges
– establish a regulatory sandbox for data protection under the Data Protection Agency's area of authority, as described in the strategy for artificial intelligence.
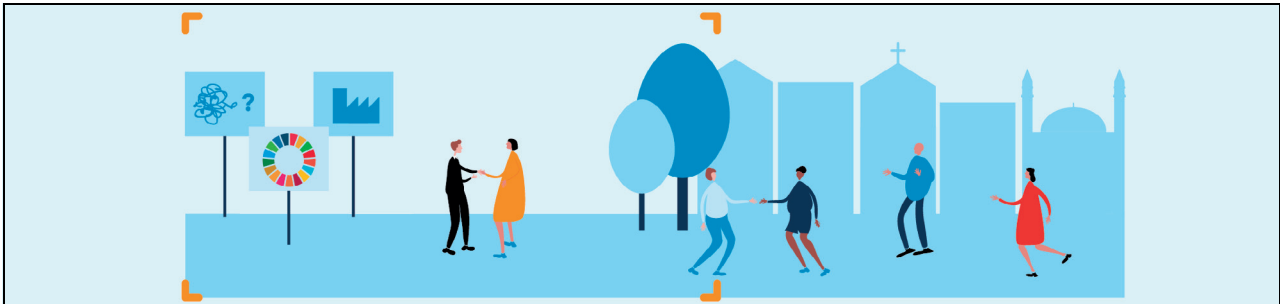
10 Innovation collaboration

Figure 10.1

Together with research groups, business and industry, civil society and citizens, public agencies can think differently, grasp opportunities and find new solutions to both large and small challenges. Allowing new voices and perspectives to become part of the development of the welfare society can help to create new opportunities and new ways of understanding and addressing the challenges society faces. This can result in better solutions for citizens and strengthen our democracy.

10.1 The current situation

One question in the Innovation Barometer surveys concerns who the respondents cooperated with on their most recent innovation. Both central and local government respondents stated that they mainly cooperate with other public sector representatives. Around 20 per cent of the central government agencies and 15 per cent of local government respondents stated that they cooperated with private enterprises, while around 15 per cent stated that they cooperated with users or citizens.[1]

10.1.1 Democracy and innovation

New and alternative forms of involvement and participation are subject to international debate on the state of democracy. The OECD's report *Governance at a Glance* shows that developments in many countries have been inspired by the open government principles of transparency, accountability and citizen engagement.[2]

Transparency about problems and issues, processes and results and, not least, how citizen involvement takes place, promotes trust. Transparency is also a precondition for citizens being able to hold the authorities accountable for their actions and decisions. This is important, not least in the context of innovation.

Norway was one of the prime movers behind the Open Government Partnership, which was established in order to strengthen cooperation between citizens and the public administration. The idea behind the Open Government Partnership is that the best way of creating a more open, well-functioning and user-friendly public administration is open, honest and broad collaboration between the public sector and civil society. Norway's fourth Open Government Partnership action plan contains a total of eight commitments and has been developed in a collaboration between the ministries and civil society.[3]

There are many ways to involve citizens in innovation. Several of them have been tested in Norway. The common denominator is engaging citizens in new ways and including more people in discussions about issues that are important for local communities or the development of society.

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[1] *Measuring New Nordic Solutions, Innovation Barometer for the Public Sector.* Report. Available at innovationbarometer.org

[2] OECD (2019) *Governance at a Glance.* Report

[3] Ministry of Local Government and Modernisation, 2019: *Fourth Norwegian Action Plan – Open Government Partnership (OGP)*

Box 10.1 Involvement of children and young people

A number of municipalities have found innovative ways of involving children and young people in urban and public planning.

Barnetråkk has now become a digital tool and teaching scheme. It was developed by DOGA, the Ministry of Local Government and Modernisation and the University of Bergen. *Barnetråkk* lets children tell planners, local authorities and politicians how they use the areas in which they live and what they want to be done differently. Through the scheme's digital tools, children and young people can register and map how they use their local area in a simple way. It has been implemented in 185 municipalities.

The City of Stavanger has involved children and young people in the development of its city centre plan. The local authorities involved pupils from lower and upper secondary schools through a development workshop that also involved using the computer game Minecraft. The planners had uploaded the municipal plan proposal to the game in advance. The children explored their surroundings and were able to change them as they pleased. In the last part of the workshop, the children were given 3D VR headsets and a games console and wandered around a virtual 3D model of Stavanger city centre and the plan proposal. The places the children visited were registered, as well as their comments and responses. The involvement project resulted in more open city spaces being included in the plan proposal, and the location of play areas was considered in connection with future city centre development projects.

Source: Regjeringen.no/KMD

Citizens are a resource and possess know-how and experience that elected authorities can learn from. They also have both ideas and opinions that can be important for decision-makers to be aware of. The new citizen participation schemes take place within the framework and on the basis of representative democracy.

Examples of schemes that have been tested are the Citizen Panel in the City of Bergen, which has provided advice in concrete cases. The Local Community Committee in Sandefjord municipality has contributed to developing activity schemes and good environments for children and young people to grow up in. *Gjestebud*, a system of informal discussion meetings, has provided input to major planning processes in Svelvik, Tjeldsund and Hammerfest municipalities. Tromsø municipality has involved citizens in political matters and case development through the project *Smart Demokrati*. A number of municipalities also involve children and young people in urban and public planning (Box 10.1).

10.1.2 Co-creation of service development with citizens

Citizens have high expectations of the public authorities. User centricity is not about meeting these expectations at all costs, but about letting the citizens' needs be at the core of developing the services the public sector provides.

User participation is a key principle enshrined in a number of Norwegian laws, including the Patients' Rights Act, the Health and Care Services Act and the Labour and Welfare Administration Act. The objective of user participation is to improve the quality of services by giving users genuine influence over the choice and design of public services. User participation means that services are as far as possible designed in cooperation with users and that strong emphasis is placed on what users want. When citizens or users take part in developing or implementing services, their experience-based knowledge can complement the public administration's professional know-how. This system was used, for example, in the development of Asker Welfare Lab (Box 10.2).

Self-service solutions offered by public agencies such as NAV, the Norwegian Tax Administration and local authorities are examples of citizens performing services themselves. They allow citizens to perform tasks previously carried out by the public services, making them more accessible and efficient for the public.

10.1.3 The voluntary sector

Volunteering plays a strong role in Norwegian society. Civil society efforts, communal work and non-profit organisations are a fundamental aspect of our culture both nationally and in local communities. In 2018, the Government presented its

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Box 10.2 Asker Welfare Lab

Experience from Asker municipality and Asker Welfare Lab shows that co-creation with users and other affected parties is both relevant and effective in the development of services.

In 2013, Asker became a pilot municipality in the Norwegian State Housing Bank's testing of service design methodology for the development of user-centred social housing services. Asker initiated an open and inclusive process that emphasised understanding user needs. Insight from this work showed that users of social housing services had complex needs that could not be met exclusively by the social housing services offered by the municipality.

In response to this conclusion, the municipality established Asker Welfare Lab, which is a new type of collaboration model where services for families or young people with difficult living situations are coordinated in a long-term perspective. Through Asker Welfare Lab, the municipality has gone from the idea of welfare being an expense to welfare being seen as an investment.

The families or residents involved in the Welfare Lab have complex needs and will require municipal services for a long time. The participants are first assigned an investment team. The team is composed of staff from the services that are relevant to the specific person or family's situation. The team has budget funding at its disposal, and the members have been granted decision-making power by their respective agencies. This means that the team can act quickly and with less bureaucracy.

The example shows that good citizen involvement and an investment perspective on welfare tasks can help the public sector to shift its focus from repair to prevention.

To illustrate the change in a citizen's life situation as a result of the measures, an investment journey was devised that included the stages unbearable, vulnerable, stable and sustainable. These categories encompass combinations and degrees of challenges within the areas of housing, employment, schooling, networks, finances, health and the conditions children grow up in. Asker municipality aims to help as many citizens/families as possible to achieve a stable or sustainable life situation.

The consultancy firm PwC has developed a model to calculate the benefits of Asker Welfare Lab. Based on the success criteria on which the model is based, they believe that Asker Welfare Lab is profitable.

The lab has also inspired others. An example is the collaboration between the Country Governor of Oslo og Viken and the local municipalities, where the regional administration provides coordinated and cohesive support through the Welfare Pilot in Oslo og Viken. Among other things, they are testing the use of direct investment in the municipalities and delegating more authority to members of expert groups from their respective agencies.

Source: Asker municipality, PwC (2019) *Følgenotat til videreutviklet effektmodell for Asker Velferdslab* ('Memo on the further developed effect model for Asker Welfare Lab' – in Norwegian only), the County Governor of Oslo og Viken

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white paper on the voluntary sector, which aims to enhance civil society's possibility of participating in social development and contributing to work on resolving societal challenges.[4]

There are numerous examples of non-profit organisations and dedicated volunteers in the voluntary sector contributing to new solutions for society. The voluntary sector is diverse, with participants ranging from large organisations with wide-ranging activities to small and medium-sized organisations in the fields of sports, culture and outdoor life. Many non-profit service providers also welcome voluntary effort and activities. Around half of those who define themselves as social entrepreneurs are non-profit organisations, foundations or non-profit limited liability companies that are entitled to register in the Register of Non-Profit Organizations.[5] A survey of social entrepreneurs in Norway showed that around 40 per cent of social entrepreneurs were organised as a non-profit organisation.[6]

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[4] White paper on the voluntary sector (Meld. St. 10 (2018–2019) *Frivilligheita – sterk, sjølvstendig, mangfaldig – Den statlege frivilligheitspolitikken*)

[5] Kraglund and Enjolras (eds.) (2017) *Norsk frivillighet: Utviklingstrender og samfunnseffekter* ('Norwegian volunteering: Development trends and effects on society' – in Norwegian only)

Local authorities play an important role as active partners for non-profit organisations and volunteers. However, only about five per cent of the respondents in KS's Innovation Barometer survey from 2020 state that they have cooperated with non-profit organisations on innovation.[7]

In the digitalisation strategy, *starting and running a non-profit organisation* is identified as one of seven life events.[8] The measures under this life event aim to simplify and coordinate communication between the voluntary and public sectors. The Register of Non-Profit Organizations has an important function in this process. It facilitates non-profit organisations by ensuring that they only have to report information to the public sector once and facilitates the use of digital solutions. These efforts must be seen in conjunction with the simplification reform, which is an express goal of the white paper on the voluntary sector. It states that it must be simple for non-profit organisations to apply for, receive and report on public funding. Efficient administration and digitalisation are among the policy instruments used to achieve simplification.[9]

10.2 Assessment of the situation

Public sector innovation entails taking a whole-system approach across different administrative levels and sectors. Collaboration with non-public sector parties, such as voluntary or non-profit organisations, research communities, social entrepreneurs, the private sector and, not least, citizens enhances innovation work. Collaboration introduces new perspectives and opportunities to the development of the public sector and thereby enhances innovation capacity.

KS's and Difi's innovation barometers show that innovation collaborations are common. The Government believes, however, that there is an untapped potential for collaboration both within the public sector and with other parties, particularly the voluntary sector.

Opportunities and the challenges facing society change over time. This means that the public sector's need for tools, roles and work methods also changes. Modernisation and innovation can create a need for new ways of working and collaborating.

10.3 The way forward

10.3.1 Democracy and innovation

Public agencies work in accordance with laws and regulations that require that affected parties be heard when a matter is under preparation.[10] They are also under the authority of politicians, who are elected by citizens every four years. Citizen involvement between democratic elections can be a supplement to representative democracy. It can compensate for the distance and differences between elected representatives and the public.

The Government will continue to invest in the Open Government Partnership and other initiatives that promote innovation through co-creation.

At the same time, representative democracy within the bounds of its formal framework must remain the principal arrangement. New arrangements for citizen participation must be based on and implemented within this framework.

New ways of involving citizens must take place within the regulatory framework. The Local Government Act contains certain provisions that explicitly provide for citizen participation between elections, such as citizen proposals and referendums. However, the way in which this takes place must not be in conflict with what is otherwise regulated by law and is intended to support the ordinary election system, elected representatives and elected bodies.

The Local Government Act sets out some limitations, but gives municipalities and county authorities a high degree of freedom to organise their own activities in both their political work and the public administration. The Ministry of Local Government and Modernisation encourages municipalities and county authorities to explore these possibilities.

As a local democratic measure to improve citizen inclusion, many have proposed appointing what are known as task committees. There is no clear definition of a task committee, nor is it a type of body that is specifically described in or regulated by the Local Government Act. A task com-

6   Eimhjellen and Loga (2016) *Utvikling av sosialt entreprenørskap i Norge* ('Development of social entrepreneurship in Norway' – in Norwegian only). UniResearch Rokkansenteret. Report 9/2016

7   KS (2020) *Innovation Barometer 2020*

8   Ministry of Local Government and Modernisation (2019): *Digital strategy for the public sector 2019–2025*

9   White paper on the voluntary sector (Meld. St. 10 (2018–2019) *Frivilligheita – sterk, sjølvstendig, mangfaldig – Den statlege frivilligheitspolitikken*)

10 E.g. the Public Administration Act and Instructions for Official Studies and Reports

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An innovative public sector

mittee must therefore be established and organised within the general legal rules for the organisation of elected bodies that apply to committees established by elected representatives in the local government sector.

10.3.2 The voluntary sector

The voluntary sector can form an important part of society's overall development capacity and can contribute to public sector innovation. The Government acknowledges the voluntary sector's important role in societal development. The Government's policy goals for the voluntary sector include broad participation and that the sector should be strong, independent and grow from the bottom up.[11]

A study conducted by the Norwegian Institute for Urban and Regional Research (NIBR) concluded that dedicated volunteers can and should be defined and acknowledged as parties that can contribute to development to a much greater degree than is currently the case in many municipalities. Volunteers increase the municipalities' development capacity and the overall capacity of the local community.[12]

The voluntary sector and commercial enterprises can overlap to some extent. Some social entrepreneurs intersect with the voluntary sector, for example in the services they provide or in that they employ or engage volunteers as part of their business model. Non-profit organisations provide services that compete with commercial enterprises, for example in the area of substance abuse and health and care services. The Norwegian Digitalisation Agency is developing a guide for the health and social services that will describe how to facilitate non-profit actors participating in public tendering processes.

10.3.3 Collaboration models

The Government would like to see public agencies cooperating more to address complex challenges facing society, grasp new opportunities and provide seamless services to the public. The Government has established a Nordic 0–24 collaboration to ensure better services for children and young people (Box 4.1) and healthcare communi-

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> **Box 10.3 Healthcare communities**
>
> One of the main measures outlined in the white paper *National Health and Hospital Plan 2020–2023* (Meld. St. 7 (2019–2020)) aimed at creating more seamless health and care services is the establishment of 19 healthcare communities. Representatives of health trusts, local authorities, local GPs and users will come together in the healthcare communities to plan and develop the services. The Government and KS have entered into an agreement on the establishment of healthcare communities and the guiding principles that will apply. Four vulnerable patient groups have been identified for prioritisation in the healthcare communities: children and young people, people with multiple chronic illnesses, people with severe mental illness and substance use problems, and frail elderly people. The healthcare communities can be good arenas for creating and diffusing innovation projects.

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ties to create more seamless health and care services (Box 10.3).

Knowledge and awareness that the choice of collaboration model should be linked to the purpose of innovation efforts can make collaborations more effective. In connection with this white paper, InFuture conducted a survey of collaboration models used in innovation projects. This showed that most collaborations are fairly traditionally organised, and that this does not always support the intended innovation.[13] Work on the seven life events (Chapter 6) may entail new and constructive collaborations between public agencies and administrative levels. Learning from work in these areas and enabling experience to be transferred to others are important aspects of efficient service development.

10.4 The Government's aims

Collaboration introduces new perspectives and opportunities to the development of the public sector, and enhances opportunities for innovation.

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[11] White paper on the voluntary sector (Meld. St. 10 (2018–2019) *Frivilligheita – sterk, sjølvstendig, mangfaldig – Den statlege frivilligheitspolitikken*)

[12] NIBR (2014) *Ildsjeler og lokalt utviklingsarbeid* ('Dedicated volunteers and local development work' – in Norwegian only). Report 2014:2

[13] InFuture (2019) *Dynamiske modeller for samarbeid om innovasjon i offentlig sektor* ('Dynamic models for cooperation on public sector innovation' – in Norwegian only). Report

The Government will:

– promote transparency and citizen involvement in the development and implementation of policies
– continue its work on the seven life events and address users' need for better and more seamless services across sectors and administrative levels, and learn from this way of working. The work will also result in learning about different forms of collaboration.
– facilitate better user involvement and co-creation of services with citizens and the voluntary sector, including by continuing work on framework conditions.

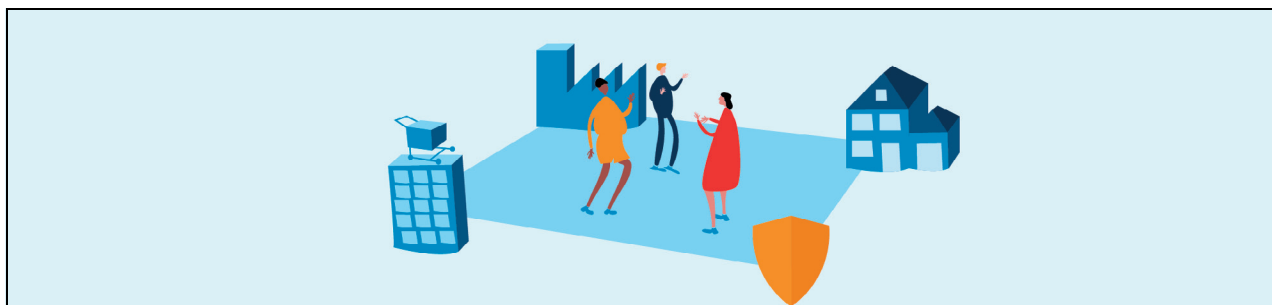# 11 Innovative procurements and industry partnerships

Figure 11.1

To be able to address major societal challenges, realise the potential offered by new opportunities and develop more innovative solutions, it is important that public agencies seek new forms of collaboration. The business sector is a key partner of the public sector in connection with procurements, partnerships and other forms of collaboration. To exploit the full potential of the business sector, the public sector should collaborate with established enterprises and utilise the innovative drive of start-ups and social entrepreneurs.

11.1 The current situation

11.1.1 Division of roles between the public and private sectors

The public sector provides administrative and welfare services to the population and the business sector. Some services are produced by the public sector and some are purchased, while some deliveries are a combination of self-produced services and procured goods and services. Looking to and collaborating with businesses on solutions does not mean that the public sector will become like the business sector. It is about how private enterprises, with their work methods and framework conditions, can help the public sector to achieve its objectives. In Norway, discussions are taking place in several areas about when solutions should be procured from the private sector and when the public sector should develop and produce its own solutions, including in relation to ICT and digitalisation. How far should the public sector go in producing services in-house? The digital-isation strategy emphasised that, in principle, the public sector should not do what the market can do better. The public sector shall play a leading role by communicating needs and entering into dialogue with the market on possible solutions. Innovation and cooperation with the business sector are not objectives in themselves, but tools to promote better goal attainment in the public sector. At the same time, business development and competitiveness in the business sector can also be a positive side effect of work on public sector innovation. Stimulating business development is otherwise a task assigned to the business-oriented policy instrument system.

11.1.2 Public-private partnerships and collaborations

Equal, mutual partnerships between public and private actors have become more common and received widespread attention in recent years. Private actors can be involved in physical or digital arenas, through long-term collaborations or short-term projects. An example of a long-term collaboration is the *Inn på tunet* program, in which farms are used as venues for adapted, quality-assured welfare services. There are about 400 such approved farms throughout Norway. They offer adapted services for children and young people, education, training and work practice, and health and care services. In the Innovation Barometer surveys, about 20 per cent of central and local government agencies state that they have collaborated with private enterprises.[1]

Box 11.1 Smart, sustainable cities and local communities

Smart cities and communities are about developing and introducing new solutions that make cities and local communities better places to live and work. This often entails using technology and digital solutions, as well as collaboration between the public sector, business sector, organisations and research institutions.

The roadmap for smart and sustainable cities and communities in Norway defines smart cities and communities as places that focus on people, while using new technology, innovative methods, collaboration and co-creation to become more sustainable, attractive, productive and resilient.

The roadmap sets out eight principles for smart, sustainable cities and local communities. They are: 1) place people in the centre, 2) focus on the big picture, 3) prioritise climate and the environment, 4) promote inclusion and co-creation, 5) focus on next generation businesses, 6) share and use open data, 7) develop competencies and embrace change, and 8) act local, think global.

Stavanger Smart City is an example of a smart city initiative. It sees the Smart City approach as a new way of working in the municipality and carries out small and large projects relating to health, art and democracy.

Smart solutions are not just relevant for towns and cities; rural and local communities also need an innovative approach to, for example, welfare solutions and public transport. Transparent rural communities can serve as 'living labs' where new solutions are tested and citizen participation plays a central role. The EU has put this on the agenda through the Smart Villages initiative.

Source: City of Stavanger, Roadmap for smart and sustainable cities and communities in Norway, Vestland county authority

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Examples include initiatives where public and private parties collaborate on the smart cities and communities of the future (Box 11.1). The county authorities have long experience of collaborating on regional development with a range of different representatives from the business sector, the social partners, policy instrument agencies, NAV (the Norwegian Labour and Welfare Administration) and research and educational institutions. The county authorities are expected to contribute to good analyses of challenges and to ensuring that the parties involved pull in the same direction. These partnerships can be arenas for joint efforts to address societal challenges. KS, Innovation Norway and Ferd Social Entrepreneurs are testing local arenas to find innovative solutions to societal challenges (Box 11.2).

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[1] Difi (2018) *Innovation Barometer for the public sector 2018, KS (2020) Innovation Barometer 2020*

Box 11.2 Pilot for local arenas for cooperation

KS, Innovation Norway, SoCentral and Ferd Social Entrepreneurs are testing regional arenas for municipalities, social entrepreneurs, private enterprises, non-profit actors and citizens for the purpose of addressing local challenges. They believe that physical meeting places, whether local or regional, can make it easier to establish contact between resources and society, and to lower the threshold for co-creation across sectors and the traditional dividing lines in society.

In the organisers' experience, thorough preparation is necessary in order to turn such meeting places into arenas for co-creation. This involves defining a specific, local challenge, creating a knowledge base that gives the participants a shared point of departure, and identifying and inviting representatives of all target groups. Genuine co-creation is dependent on clearly defined local needs and an open dialogue about possible solutions in which all participants play an equal part. For example, meetings have been organised on the topic of how local actors can co-create a society that fosters increased participation by young people, where exclusion and dropout rates are reduced and where new communal values are established in the municipality.

Source: KS, SoCentral

Box 11.3 Fellestjenester Bygg facilitates – the market delivers the solutions

In 2014, the Norwegian Building Authority (DiBK) launched the *ByggNett* strategy, with the goal of facilitating the digital construction sector of the future. The sector was fraught with challenges, and the regulations were complicated. Around 40 per cent of building applications received by municipalities had shortcomings or errors that meant that the case officer had to ask the applicant for additional information. A number of measures have been implemented to digitalise the building application process and address these challenges. One of the initiatives was *Fellestjenester Bygg*, a digital platform based on common components that checks building applications against the applicable regulations and ensures a good flow of information between all the parties involved. The system uses Altinn to carry out automatic checks of building appli-

cations before they are forwarded to the right municipality. *Fellestjenester Bygg* was developed in close cooperation with the industry. DiBK has facilitated digital use of the regulations and built the infrastructure, while it is the industry that has developed the end-user solutions. The goal has been to create an attractive market for commercial service providers that wish to develop good solutions for applications from both professional and public users. So far, five suppliers in the market have developed digital solutions for submitting building applications. Several of the solutions are adapted to different groups of applicants, such as architects and plumbers. A solution has also been developed for digital neighbour notifications, resulting in great gains for private and professional applicants.

Cooperation can boost innovation, but it can also challenge the roles of both the private and public sectors. Awareness and openness are required on both sides to ensure good, transparent processes and decisions.

An increasing number of cluster projects in the business sector include public agencies, for example the Norwegian Tunnel Safety Cluster, in which municipalities, the fire service and the company Nye veier work together to ensure safer road tunnels.[2] The public sector can also make arrangements for the business sector to deliver solutions, by developing platforms such as *Fellestjenester Bygg* (Box 11.3).

11.1.3 Innovative procurements

Every year, the public sector purchases goods and services for a total amount of NOK 560 billion.[3] How this money is spent has a bearing on how green, digital and innovative the public sector will be. The Government would like public procurements to contribute to innovation and the restructuring of the Norwegian economy. Public procurers have a great potential to contribute to innovative thinking and development in the supplier market, by demanding new and better solutions.[4] The description and size of the desired procurement

will largely determine what type of commercial providers can offer solutions.

New, simpler procurement regulations entered into force on 1 January 2017.[5] The regulations set out important requirements and framework conditions for how competitive tenders for public contracts are to be carried out. Overall, the new regulations are much simpler and more flexible than the previous regulations.

Innovative public procurement is a way of fostering innovation through procurements (Box 11.4). The National Program for Supplier Development has analysed the benefits achieved by 15 of the innovative procurements it has assisted in. The analyses show savings of a total of NOK 429 million, in addition to the creation of 390 new jobs.[6]

Status of the use of innovative procurements

The use of innovative procurements has shown a positive trend during the past ten years. Since work on innovative procurements started in Norway in

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[2] tunnelcluster.no

[3] Digdir.no

[4] Report No 27 to the Storting (2016–2017) *A greener, smarter and move innovative industry*

[5] The new regulations comprise the Public Procurement Act, the Public Procurement Regulations and the Concession Contracts Regulations. Some amendments were also made to the Regulations relating to the Public Procurement Complaints Board.

[6] White paper on public procurement (Meld. St. 22 (2018–2019) *Smartere innkjøp – effektive og profesjonelle offentlige anskaffelser*)

Box 11.4 What is innovative public procurement?

Innovative public procurement[1] is a method that facilitates the establishment of collaborative relationships with the market for the purpose of developing new, improved solutions in close contact with users and the surroundings. In an innovative procurement process, public clients enter into dialogue with the market in advance to communicate their needs rather than stipulating detailed requirements specifications. Through dialogue with the market, suppliers learn about the public client's needs and challenges, while the client gains insight into how a competitive tender can be designed to enable the procurement of innovative solutions.

The public procurement regulations define the framework within which competitive tenders for public contracts are to be carried out. As a method, innovative procurement is therefore about how public procurers can realise the potential for innovation within a framework that also promotes predictability and openness. In the white paper on public procurement, the Government distinguished between procurements that facilitate innovation and procurements that actively seek innovation, by introducing the following two categories:

Innovation-friendly procurements are procurements that facilitate innovative solutions without making this a requirement. A relevant example of this is the state-owned railway company Bane NOR, which challenged the market to develop new drone services that enable faster observations to be made in the event of unforeseen incidents, avalanches or landslides. The technology was available, but had not been used for that purpose before.

Procurements of innovation are procurements in which the client actively seeks a product or service that is not available on the market. An example of this is the municipal enterprise Bergen Vann KF, which initiated a development project to create new technology for cleaning drinking water reservoir tunnels. Removing sludge is currently an expensive and dangerous process, and the new method will open up for completely new possibilities.[2]

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[1] The terms innovative public procurements and innovative procurements mean the same and are used interchangeably in this document.

[2] White paper on public procurement (Meld. St. 22 (2018–2019) *Smartere innkjøp – effektive og profesjonelle offentlige anskaffelser*)

2010, the proportion of public agencies that have defined innovation as a goal in their procurement strategies has increased from 6 per cent in 2011 to 30 per cent in 2018. The proportion of organisations that have actively sought innovative solutions in the past few years is 27 per cent, while about 40 per cent state that they engage in supplier dialogue before initiating competitive tender procedures.[7]

It is more difficult to estimate figures for procurements of innovation, where the client actively seeks a product or service that is not available on the market. The use of procurement procedures for the purpose of promoting new solutions and innovation could be a relevant indicator. Data extraction from tenders announced through the Doffin base in 2019 suggests that about one per cent of the procurements were carried out based on an innovation-friendly procedure.[8] Although the procedure is not the only factor influencing

innovation, this is an indication that the public sector is not doing enough to exploit the possibilities for innovative solutions offered by the regulations.[9] The public sector still lacks good statistics for systematically measuring and monitoring developments in innovative public procurements.

Electric ferries are one area where the public sector has played a leading role and made innovative purchases of great importance to the development of new technology. The world's first electric ferry, 'Ampere', saw the light of day in 2015 and was built as a result of a development contract. In connection with its development, there was close cooperation between the participants in the competitive tender, the Norwegian Public Roads Administration as client and the Directorate for Civil Protection and Emergency Planning and the Norwegian Maritime Authority as the authorities

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[7] Difi and Rambøll Management Consulting (2018) *Modenhet i anskaffelser* ('Maturity in procurements' – in Norwegian only). Report

[8] Extractions from Doffin of competitive tenders under the Public Procurement Regulations based on the 'innovative partnership' and 'competitive dialogue' procedures

[9] ibid

Box 11.5 The world's first electric express boats in Trøndelag?

Trøndelag county authority aims to see the world's first emission-free express boats in operation in Trøndelag. In 2017, Trøndelag and ten other county authorities challenged Norwegian and international industry to develop the world's first zero-emission express boat. The initiative received support under the PILOT-E scheme, which is a collaboration between the Research Council, Innovation Norway and Enova. The goal is to accelerate the transition to a greener economy by offering a fast track from concept to market. The year after, 5 groups consisting of 19 companies were awarded a contract for developing and demonstrating that zero emission maritime transport is possible. The groups presented their solutions in autumn 2019. They all concluded that emission-free express boats are feasible. A company called Flying Foil AS was established as a result of this work. The county authorities will continue their dialogue with the funding agencies, the supplier industry and other important partners leading up to the next call for tenders.

Trøndelag is building on previous experience of innovative procurements. In 2015–2016, Sør-Trøndelag county authority carried out a procurement process for climate-friendly ferries that resulted in four new hybrid ferries. The tender not only resulted in new ferries, it also led to Siemens deciding to locate its new maritime battery factory in Trondheim, as well as patenting a unique high-output charging system suitable for places with little available power.

Source: Trøndelag county authority, NRK

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responsible for safety. This partnership has given the Norwegian maritime industry a better foundation for realising other low and zero-emission projects.[10] Several counties are now working on developing electric express boats (Box 11.5). This represents an important follow-up of the Government's action plan for green shipping, which cements the ambition of halving emissions from domestic shipping, encourages zero and low-emission solutions in all vessel categories, and identifies requirements in public procurements as a possible instrument for other segments of the shipping industry as well.

Barriers to innovative procurements

Experience and reports from Norway and other countries show that there are barriers to innovative procurements. Four main barriers were identified in a study conducted by Menon Economics in 2016 (Figure 11.2). The barriers are interrelated and mutually reinforcing.

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[10] Insight articles on the green transition at regjeringen.no/KLD

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1 Limited competence

32 % believe that procurement organisations lack the necessary competence

3 Lack of coordination

43 % believe that a lack of interaction between procurement organisations reduces innovation capacity

2 Fear of making mistakes

37 % believe that public procurers' fear of making mistakes/risk aversion impedes innovation

4 Weak alignment/leadership

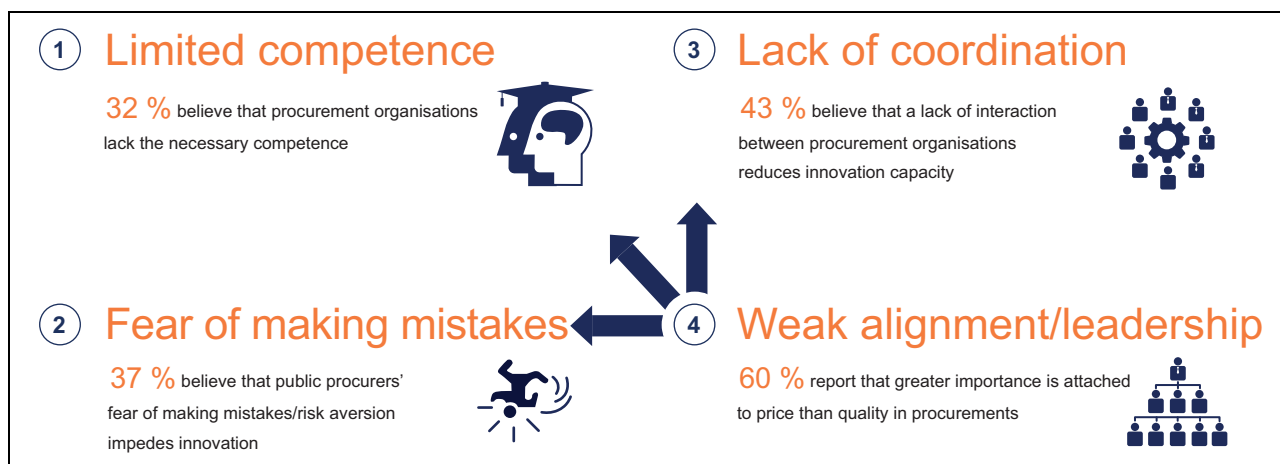60 % report that greater importance is attached to price than quality in procurements

Figure 11.2 Four main barriers to innovative public procurements

Source: Menon (2016) *Utredning om insentiver/ordninger for risikoavlastning for innovative offentlige anskaffelser* ('Study of risk relief incentives/schemes for innovative public procurements' – in Norwegian only). Report 12/2016

Knowledge lacking about innovative procurements. As clients, public agencies have too little insight into the procurement regulations, especially about the possibilities for innovation. There is also a lack of specific expertise, which makes it difficult to stipulate relevant, good criteria for a procurement. In addition, the organisation of procurement functions in small entities means that time and resources are not devoted to utilising the possibilities that exist. In Norway, each public agency carries out its own procurements, which means that there are approximately 3,000 clients. Some clients have big, professional procurement functions, while others have limited resources and little knowledge about public procurements. It can also be a challenge that the organisation's procurement personnel are not sufficiently in contact with the service in question, which means that the description of the assignment or the order does not sufficiently meet the organisation's needs.

Risk aversion among public sector employees. Public procurers are afraid of making mistakes. One reason for this is that they are unsure about the regulations, and therefore choose the familiar path. Another is a lack of incentives. Public sector actors do not see the upside of seeking new solutions. They may perceive suppliers as aggressive and on the lookout for errors in public competitive tender procedures.

Lack of coordination. There are challenges as regards the diffusion of best practice and coordination between administrative levels and sectors. The procurement units are often small, with limited capacity to diffuse and coordinate best practices. Taken together, this means that the public sector is unable to realise economies of scale.

Weak support and leadership. It can be difficult to ensure support for innovative procurements in an organisation. The reasons could be weak incentives for taking ownership of the process, time pressure, and that the budget and myriad different performance indicators distract attention from innovative procurements.

In 2016, KS commissioned a report that looked at the diffusion of innovative procurement processes in Norwegian municipalities.[11] The report indicated that there was a lack of systematic work on the sharing and diffusion of solutions between municipalities. The municipalities seemed to be more concerned with ensuring that the innovative procurement process was carried out in accordance with the procurement regulations. Correspondingly, there was very limited experience of coordinating procurement processes across municipalities.

Measures to achieve innovative procurements

In order to succeed with innovative public procurements, public agencies must master both procurement and innovation methodology. Several parties help public agencies to carry out innovative procurement processes, such as the National Program for Supplier Development, Innovation Norway, the Research Council and the Norwegian Digitalisation Agency (the Norwegian Agency for Public and Financial Management from the second half-year 2020).

The National Program for Supplier Development helps public sector clients with innovation methodology, and to spread good examples and help other clients with the same needs to coordinate their dialogue with the market. Zero-Emission Construction Sites is an example of such an initiative. It started in the City of Oslo's municipal agency Omsorgsbygg and has spread to several other countries. An important measure to ensure more diffusion is that the program mobilises several municipalities with the same needs to carry out a dialogue and development process.

The Program for Supplier Development has led to the establishment of a partnership between the central government, local authorities, businesses and research institutions that is regarded as unique. Norway is one of the first countries to systematically implement the Pre-Commercial Procurement and Innovation Partnership procedures.

Innovation contracts[12] are grants for demanding innovation projects in small and medium-sized Norwegian enterprises that require cooperation with a client in the public or private sector. The funds can be allocated to both public agencies and private actors. The enterprise is awarded a grant to reduce risk and to ensure that the project culminates in a market-ready product or a solution or service that customers need. The pilot customer is a reference customer and an important agent for ensuring that the process results in a solution that matches their challenge or need. Innovation contracts aimed at the public sector are pre-commercial partnerships where good solutions do not

[11] Menon (2016) *Spredning av innovative offentlige anskaffelser i norske kommuner* ('Diffusion of innovative public procurements in Norwegian municipalities' – in Norwegian only). Publication 13/2016.

[12] Formerly *Industrial and Public Research and Development Contracts* (R&D contracts)

already exist in the market. The grant scheme is administered by Innovation Norway.

Innovation Partnership is a procurement procedure that was introduced in Norway through the new Public Procurement Act of 2017. *Innovation Partnership* is another scheme administered by Innovation Norway, which facilitates the whole innovation process from needs clarification to the purchase of completely new solutions. The aim of the scheme is to address societal challenges by developing new, scalable solutions through close public-private cooperation. A public actor owns and leads the innovation processes, and invites businesses by announcing a call for tenders through the tender portal. The scheme includes options to procure turnkey solutions, both for the project owner and for associated enterprises, and is designed in accordance with the statutory procurement procedure. With this scheme, Norway is the European country with most ongoing projects under the Innovation Partnership procedure. The scheme has also shown that it paves the way for start-ups (Box 11.6).

The Research Council awards funding for *pre-commercial procurements,* which are procurements of innovation where both businesses and research organisations are invited to resolve a specific challenge. Pre-commercial procurements are covered by the exemption in the procurement regulations for certain R&D contracts.

The Norwegian Digitalisation Agency (the Norwegian Agency for Public and Financial Management from the second half-year 2020) is the body responsible for public procurements, including innovative procurements. The Agency administers the regulations, develops written guidance material and grants support for the implementation of innovative procurements.

The Innovation Partnership scheme and the Program for Supplier Development were evaluated in 2019. In its final evaluation, Menon concluded that the program has been and continues to be an important contributor to innovative procurements and innovation in the public sector.[13] Furthermore, the report points out that the program plays a role in raising the level of innovation in procurements.

The evaluation of the Innovation Partnership scheme emphasises results in the short term, since it is too soon to measure any long-term value

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[13] Menon (2017) *Midtveisevaluering av Nasjonalt program for leverandørutvikling ('Midway evaluation of the National Program for Supplier Development' – in Norwegian only).* Publication 55/2017

Box 11.6 Purchasing robots from a start-up

In 2018, the City of Stavanger entered into an innovation partnership with the start-up Innocom AS. The municipality wanted patients in short-term respite care in nursing homes to be more physically active, resulting in increased recovery and more people living at home longer.

Innovation Norway's Innovation Partnership scheme made it easier for the municipality to choose the most innovative solution, even though it was provided by one of the smallest, least established enterprises. Innocom AS was formed after the founding entrepreneur participated in a workshop in 2017, at which the City of Stavanger presented the challenge it needed help to address. Together, the municipality and the start-up developed a robot that makes it easier to follow up and motivate more patients to be active – a solution tailored to the municipality's needs. The robot can remind patients to eat their breakfast or take their medicine, show them workout videos and set up video conversations between health personnel and patients. The City of Stavanger has purchased several activity robots that are now being introduced in local nursing homes.

Source: Innovation Norway

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creation effects. The evaluation shows that both public and private participants are very satisfied with the scheme and would recommend it to others. Public-private cooperation is challenging, and the evaluation proposes making a simpler process possible in some projects.

Another measure that was initiated to strengthen the procurement discipline was the decision by the Norwegian Digitalisation Agency, NHO, LO, Virke, KS and the higher education sector in 2017 to establish *Anskaffelsesakademiet* ('the procurement academy'). The academy was established for the purpose of educating public procurers, by contributing to the establishment of national research-based higher education programs in public procurement. It also develops and diffuses new knowledge through research, cooperation and knowledge sharing between the pub-

lic administration, businesses and academic institutions.

11.1.4 Start-ups

New, cheap technology, especially cloud-based services, provides new market opportunities for start-ups. We are therefore seeing a rapid increase in new market players, which in some cases have the potential to transform entire industries. This type of transformation based on new technology has already taken place in areas such as entertainment, retail and finance. Innovative start-ups and technological solutions also have the potential to save a lot of resources in the public sector, and the ability to offer new, better solutions. The Government wishes to pursue an industrial policy that provides good framework conditions for a wide spectrum of entrepreneurs and start-ups. Norway is one of the most equal countries in the world, but women and men are not equally represented in the entrepreneurship context. Among other measures, the Government has therefore presented the *Action Plan to Increase Entrepreneurship among Women* in 2019.

If the public sector is to find the best solutions offered by suppliers, it needs to know the market. An increasing number of central and local government agencies have acknowledged this, and are currently looking into the possibility of cooperating with start-ups. In 2018, 43 per cent of clients stated that they engage in early dialogue with the market in connection with new procurements.[14]

Instruments to promote the use of start-ups

Several other countries have established new instruments to facilitate cooperation between the public sector, start-up environments and GovTech providers. GovTech refers to digital technology the public sector can use to perform its tasks, for example infrastructure, tools and ICT solutions. CivTech is a term used synonymously with GovTech. It emphasises technology that involves citizens. Examples of such instruments are the CivTech Program in Scotland, Start Up in Residence in Amsterdam and the Netherlands, and the GovTech program in Denmark (Box 11.7). The instruments differ in their design, but they contain common components such as simpler, more adapted procurement processes and compe-

tence-raising measures for both the public agency and the suppliers.

11.1.5 Social entrepreneurs

It is characteristic of social entrepreneurs that they focus their efforts on a social cause where there is an unmet need, propose new solutions to challenges, and involve users, employees and other key stakeholders. They are driven by social results, but also by a business model that can make the business viable and sustainable. They collaborate across disciplines and types of organisation.[15] Social entrepreneurs can contribute to public sector innovation.

Social entrepreneurs often operate under different assumptions than bigger players in the market when dealing with public sector clients, and often need more information about the organisation's business operations, tender design, public policies etc. Social entrepreneurs can use expert and advisory services for start-ups, but dedicated tools and guidance documents have also been developed for social entrepreneurs. Among other things, Innovation Norway has a dedicated guide for social entrepreneurs on its website, and the Ministry of Local Government and Modernisation has developed an inspirational leaflet for cooperation with social entrepreneurs called *Veier til samarbeid* ('Roads to collaboration'). In cooperation with a number of different parties, Ferd Social Entrepreneurs has developed a legal guide for public sector clients who wish to purchase goods and services from a social entrepreneur. The guide was developed for use by public sector clients in their dealings with social entrepreneurs, making it easier for the parties to find opportunities for collaboration. The guide explains the legal room for manoeuvre for clients in the procurement regulations.[16]

Innovative funding schemes

In many cases, social entrepreneurs may have too little documentation that their solutions are effective for the public sector to want to work with

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[14] Difi and Rambøll Management Consulting (2018) *Modenhet i anskaffelser* ('Maturity in procurements' – in Norwegian only). Report

[15] Nordic Council of Ministers (2015) *Social entrepreneurship and social innovation.* Report
[16] Ferd Social Entrepreneurs (2018). *Veileder for offentlige oppdragsgivere i møte med en sosial entreprenør. Hvordan slippe sosiale entreprenører inn i en offentlig anskaffelsesprosess* ('Guide for public clients in dealings with social entrepreneurs – how to give social entrepreneurs access to a public procurement process' – in Norwegian only)

Box 11.7 Programs for the use of start-ups in other countries

CivTech in Scotland

The CivTech program started in Scotland in 2015, based on the following findings:

- The public sector is unable to exploit the development that is taking place in start-ups.
- There is a need for more innovation in both the private and public sectors.
- There is a need for more agile digitalisation processes.
- Public procurement processes take too long, and too many procurements involve detailed specifications.

The program is a framework that includes assistance and expertise. It matches public sector expertise with private sector creativity to solve real problems, develop new solutions and offer better, quicker and simpler services. Co-creation with citizens plays a key role in the approach, as does support from academia and private investors.

The Scottish Environment Protection Agency has used the program to develop a flood alert system for small river systems. Scotland has effective alert systems in place for the big cities, but needed small-scale solutions for use in smaller places and to notify people of floods in local rivers. The company RiverTrack developed a robust measurement and alarm system that monitors water levels based on acoustic sensors and innovative design.

Start-Up in Residence in Amsterdam and the Netherlands

Start-up in Residence is an initiative by Startup Amsterdam and the City of Amsterdam's own innovation unit – Chief Technology Office Amsterdam. The purpose of the program is to build bridges between the public sector and start-ups. It is based on a similar program in the USA. The program has also been established in other cities and municipalities in the Netherlands.

The public agencies involved in the program experience challenges relating to sustainability, mobility, the circular economy, public health and digitalisation. The program matches challenges with start-ups that can contribute to innovation and new solutions. Public agencies are the first customers.

Under the auspices of the program, entrepreneurs try to address the challenges in cooperation with staff from the participating public agencies. This gives them influence over the solutions proposed by the start-ups. The whole process takes place within the bounds of the procurement regulations, based on simplified, unbureaucratic procurement processes. Among other things, the program offers

- assistance for public agencies to identify suitable issues and describe them, so that start-ups can offer matching solutions
- an adapted, simplified and unbureaucratic procurement process
- an accelerator process, which is a period of collaboration to learn about each other's work methods and process, in which a pilot is developed

The public agency considers whether it wishes to realise and start using the results of the pilot, depending on whether it meets expectations and the cooperation works satisfactorily. The program has contributed to developing an app that motivates locals and tourists to make full use of the city's geographical area, and software that citizens and employees can use to find both formal and informal care and support services.

GovTech in Denmark

In Denmark, the Ministry of Industry, Business and Financial Affairs has launched the GovTech Program together with an organisation called PUBLIC. The goal of the program is to get start-ups to find solutions to public sector challenges. Introducing new technology and public sector innovation also helps to create new growth opportunities for start-ups. The program helps to identify challenges and selects start-ups to develop matching solutions. The program teaches start-ups how the public sector works, including procurement practices. Barriers to start-ups and small and medium-sized suppliers are identified in cooperation with the public agency. Denmark is working on putting in place an accelerator program for start-ups. It is a continuation of the GovTech program and includes physical arenas for a complete ecosystem for cooperation between the public sector and start-ups, and a public investment fund.

Source: Norwegian Digitalisation Agency

Box 11.8 Social impact bonds providing services for young people

Lier municipality wishes to improve its preventive life skills services for children and young people. They see a particular need to offer better services to young people who are struggling to cope with their lives and risk dropping out of upper secondary school. The local authorities wanted to establish a partnership with the social entrepreneur *Trygg av Natur*, which organises nature schools for pupils with various adaptation problems or other life-coping challenges. The partnership has been prevented by the fact that Lier municipality does not have the finances to pay for the service without knowing that it will be effective. Bridge financing, or social impact bonds, is an instrument that enables the municipality to test the pilot project without too much risk. The social investor Ferd Social Entrepreneurs fully finances the *Trygg av Natur* initiative

for three years. If the parties have achieved the agreed objectives by then, the municipality will take over funding responsibility, undertake to continue the initiative under its own auspices and refund part of the investment. In other words, the municipality does not run a risk if the measure does not work as intended.

The short-term goal of the initiative is for teachers and students to report improvements relating to life skills, reduced stress and pressure. The long-term goal is a lower drop-out rate from upper secondary school for students who have attended the nature school. Both the short-term and long-term goal will be evaluated based on pre-defined indicators.

Source: Ferd

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them. This is the reason for new funding support solutions, such as social impact bonds and bridge funding. *Social impact bonds* are performance-based contracts between multiple parties, usually public authorities, investors, foundations and private or non-profit service providers. The purpose of social impact bonds is to find new ways of solving social problems.[17] Private investors finance a social program with quantifiable, pre-defined outcomes, and receive payment from the authorities if the outcomes are achieved. Social impact bonds thereby reduce the risk for the public agency. *Bridge financing* is another term used for the same concept. Such funding schemes are under development in both Norway and other countries.[18]

The Directorate of Labour and Welfare administers a grant scheme that aims to encourage the development of social entrepreneurship to combat poverty and social exclusion. The Directorate has joined forces with the Directorate of Norwegian Correctional Service to carry out a pilot project involving the use of social benefit bonds. The main purpose is to test social benefit bonds as a model for the development and funding of new

measures to prevent recidivism. Lier municipality has used funding support to procure innovative services for young people (Box 11.8).

Forms of organisation and labelling schemes

Social entrepreneurs can be associations, cooperatives, foundations or limited liability companies with not-for-profit or normal articles of association.

There is no separate legal framework or form of incorporation for social entrepreneurship or social entrepreneurial activities in Norway. On assignment from the Ministry of Labour and Social Affairs, the University of South-Eastern Norway has mapped schemes in six European countries. The results do not indicate that a separate form of incorporation for social entrepreneurs will resolve the challenges they are facing.[19]

11.2 Assessment of the situation

The full potential for public-private cooperation on innovation has yet to be realised. This is true for both cooperation through partnerships and other

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[17] Also called social benefit bonds

[18] Kobro (2019) *Sosialt entreprenørskap – Økt synlighet og større handlingsrom* ('Social entrepreneurship – Increased visibility and greater freedom of action' – in Norwegian only). Report

[19] Kobro et al. (2017) *Statlige rammevilkår på ramme alvor. Sosialt entreprenørskap i norsk offentlig kontekst* ('Government framework conditions. Social entrepreneurship in the Norwegian public context' – in Norwegian only). USN series of publications, leaflet 14/2017

new forms of collaboration, but also for innovative procurements and partnerships with start-ups and social entrepreneurs. Among other things, innovative procurements have proven to be a good way of stimulating the market for low-emission solutions. Public innovative procurements of zero-emission vessels are one example. They have resulted in a large proportion of electric ferries on ferry crossings in Norway, thereby also enabling technology development and other market opportunities. It can be assumed that there is a huge potential for further stimulating low-emission solutions through public procurements, for example in the construction, transport and retail industries. Experience shows that public clients often specify in detail the solutions they want when they put assignments out to tender, instead of defining the problem to be solved or the effect they wish to achieve. In addition, the procurement processes are often prolonged and time-consuming. This means that start-ups and other small enterprises with innovative solutions to public needs rarely come into consideration. To achieve a more modern public sector, public sector clients need to define their needs and actively invite innovative solutions. The Government believes there is already some freedom of action in the regulations and budgetary framework that could be better utilised.

11.2.1 Innovative procurements

Innovative public procurements are one important driver of innovation. Through innovative procurements, the public sector can become a stronger engine for innovation in society.[20] Innovative procurements have a positive impact on the public sector as client, the business sector as supplier and people in general. Norway is among the leaders in the field in Europe when it comes to investments in innovative procurements.

The public sector lacks good statistics for monitoring developments in innovative public procurements. There is a need for relevant target figures and pertaining indicators to document the effects of innovative procurements.

Assessment of measures to achieve innovative procurements

The goal of an innovative procurement process is to arrive at a new solution that effectively meets needs and generates added value. Realising this goal requires facilitation from the planning stage through to implementation, and, if relevant, diffusion of the new solution. The measures currently available are primarily aimed at the planning stage, the development stage and, in part, the diffusion of developed solutions. Figure 11.3 provides a simplified overview of how the measures are currently designed. The whole policy instrument system is involved in the planning stage. If new solutions are to be taken into use, efforts are also needed after the development stage. In innovation partnerships, the procurement is part of the procedure, but not the actual implementation. A similar challenge was identified in the evaluation of the Program for Supplier Development, which proposed putting more effort into following the process all the way through to the actual procurement, implementation and upscaling.[21]

Having more parties involved in promoting innovative procurements also gives rise to a need to coordinate measures and activities. The various agencies in the policy instrument system currently work well together. There is nonetheless a potential for a clearer division of roles and more cooperation to avoid duplication of efforts, better utilise the overall resources and be more user-friendly. It can be difficult for both public procurers and suppliers to understand who does what in the policy instrument system.

The instruments need to be further developed, while at the same time building on what works well in the current ecosystem for innovative public procurements. If public procurements are to lead to change and restructuring, we need to develop more professional, robust procurement functions with sound expertise and enough resources to effectively address these tasks.[22]

11.2.2 Start-ups and social entrepreneurs

Stringent requirements of suppliers, highly detailed specifications of solutions and long procurement processes are unsuitable for procuring solutions from start-ups and social entrepreneurs.

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[20] Menon (2017) *Midtveisevaluering av Nasjonalt program for leverandørutvikling ('Midway evaluation of the National Program for Supplier Development' – in Norwegian only).* Publication 55/2017

[21] ibid

[22] White paper on public procurement (Meld. St. 22 (2018–2019) *Smartere innkjøp – effektive og profesjonelle offentlige anskaffelser)*
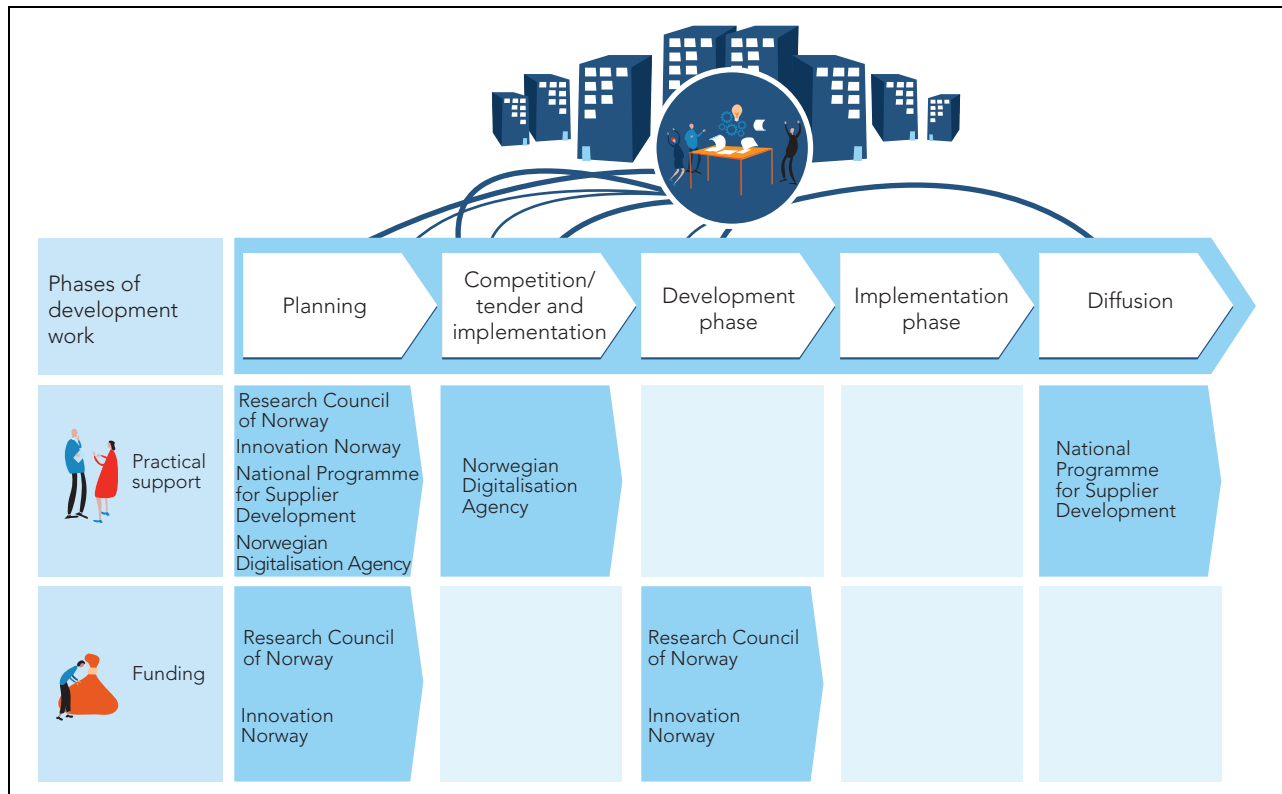
Figure 11.3 Current measures for achieving innovative procurements

Source: National Program for Supplier Development. Design: Halogen AS

Purchasing niche solutions developed by these environments can carry an increased risk, for example relating to whether the companies have the implementation capacity needed to deliver the solution. That companies of this type often go into liquidation or end up being acquired by other companies is another risk. Carrying out a procurement from such market players therefore requires closer follow-up of suppliers and good risk management. If the supplier goes into liquidation, it will affect the delivery to the public sector. In addition, many public agencies know little about what start-ups and social entrepreneurs have to offer, how they work and what it takes to get them involved in procurement processes. We therefore need more knowledge about these types of companies in the public sector, and support for procurement processes adapted to this target group.

11.3 The way forward

The Government believes that the public sector should not do what the market can do better, and it would therefore like to see the public sector making even better use of the resources available in the business sector. To be able to address the big societal challenges of our time, the Government believes that new types of collaboration between the public and private sectors should be explored.

If the private sector is to be part of developing good, innovative solutions for the public sector, they need access to test facilities for trying out new technology, new products and new solutions. The white paper *The health industry – Working together on value creation and better services* (Meld. St. 18 (2018–2019)) points out that steps must be taken to increase the possibilities for trial and testing of information solutions and welfare technology. Access to data, systems and users to test and validate products based on actual needs is important to enable suppliers to develop good solutions.

Test arenas that facilitate public-private cooperation on the evaluation of e-health solutions will provide important insights into what works and what needs to be improved. One example is the test centre I4Helse, a centre for innovation and service development in healthcare technology, located at the University of Agder (Campus Grim-

stad). It brings together representatives of education, development, business, research and innovation to create new, innovative health services in an environment with good test facilities. The centre works closely with hospitals and local authorities, and provides good conditions for practice-based, user-centred service development.

Several arenas for testing and verifying digital health solutions may be needed. In cooperation with the health industry, regional health authorities and municipalities can facilitate test environments for the development, piloting and quality assurance of e-health solutions. The Government also encourages the public sector and businesses to work together on test environments for the development, piloting and quality assurance of innovative solutions in other areas that will benefit citizens.

11.3.1 Innovative procurements

The Government wants public procurements to be a driving force for innovation and restructuring of the Norwegian economy.[23] To achieve this, a larger proportion of the approximately NOK 560 billion the public sector spends on procurements must go to facilitating innovation, and the level of innovation in each procurement must be increased. The Government therefore encourages public agencies to actively assess whether their procurements have the potential to contribute to innovation and should be carried out as an innovative procurement.

The white paper on public procurement (Meld. St. 22 (2018–2019)) identified a need for better access to data and statistics on public procurements, and the Government will therefore ensure that more data are extracted from Doffin and made accessible as the basis for statistics on public procurement. Various indicators show a positive trend in the use of innovative procurements, but the statistical basis does not provide adequate control information. It is not sufficient to look at the frequency of certain keywords in tender documents. A more comprehensive assessment is needed. The Ministry will therefore continue working on establishing a better data basis.[24] In this context, it can also be relevant to consider whether it is possible to measure the

extent to which procurements help increase the market share for low-emission solutions, since innovative procurements are an important tool in the work on the green transition. The Government is preparing an action plan for increasing the proportion of green and innovative procurements.[25] The Government will consider whether targets should be set for innovative procurements, and, in such case, what they should be.

The Government will strengthen guidance and continue with measures aimed at achieving innovative procurements. In the white paper on public procurement (Meld. St. 22 (2018–2019)), the Government announced that the National Program for Supplier Development will be further developed and that the program design will be assessed based on the results of the review of industry-oriented policy instruments. The Government will also continue to focus on risk relief through innovation contracts, innovation partnerships and pre-commercial procurements.

As a way of addressing the challenges relating to procurement expertise in the public sector, the white paper stated that the Government, in cooperation with the municipalities and county authorities, will look into coordinating county and municipal-level procurements. Another important step taken by the Government was to decide to assign responsibility for the disciplines of public procurement, management, organisation and governance to the Norwegian Agency for Public and Financial Management in the second half-year 2020. The Government believes this will make it possible to achieve important synergies between these disciplines, in addition to developing better competence-building services for public sector managers and procurers.

Small rural municipalities have carried out fewer innovative procurements, and have not incorporated innovative procurements in strategic governing documents to the same extent as other municipalities.[26] The Program for Supplier Development is working to upscale the use of innovative public procurements all over the country, among other things in cooperation with the county authorities and the city municipalities.

The Government will also implement several measures aimed at providing a better user experience and greater coherence between the meas-

[23] Report No 27 to the Storting (2016–2017) *A greener, smarter and move innovative industry*

[24] White paper on public procurement (Meld. St. 22 (2018–2019) *Smartere innkjøp – effektive og profesjonelle offentlige anskaffelser)*

[25] ibid

[26] Telemarksforsking (2020) *Små distriktskommuners deltakelse i innovasjonsvirkemidler* ('Small rural municipalities' participation in innovation policy instruments' – in Norwegian only). Report 540

ures, such as establishing an innovation council and considering how the measures can be made available as a user-friendly package (Chapter 5).

11.3.2 Program for innovative procurements from start-ups

The Government will take steps to ensure that the public sector makes better use of the opportunities start-ups represent, and will therefore establish a program for this purpose. The Norwegian Digitalisation Agency (the Agency for Public and Financial Management from the second half-year 2020) will be given chief responsibility for developing and running the program, which will facilitate cooperation between public agencies and start-ups by

1. identifying and collating public sector needs and challenges
2. developing procurement methodology adapted to new operators in the supplier market
3. advising projects and assisting in the practical execution of procurements
4. facilitating development cooperation adapted to the client's needs

5. offering competence-building packages for start-ups and public clients

The core of the program will be that public agencies formulate challenges and needs that start-up environments and other innovative actors can develop solutions to, for example social entrepreneurs. In order to succeed, a new procurement methodology is needed that is adapted to the new supplier markets, as well as clear guidance that clarifies the regulations. There is also a need for support and guidance in how to secure the transition from experimentation and testing of new solutions to subsequent procurement and upscaling.

The public sector and start-up companies need to learn more about each other and how to cooperate, and they need guidance and assistance in the practical execution of the procurement process. The program will also help to link start-ups with existing policy instruments for business development and growth, for example from Innovation Norway and private initiatives established to support start-ups.

The design and development of the program must be seen in conjunction with other policy instruments for innovative procurements. For example, the National Program for Supplier
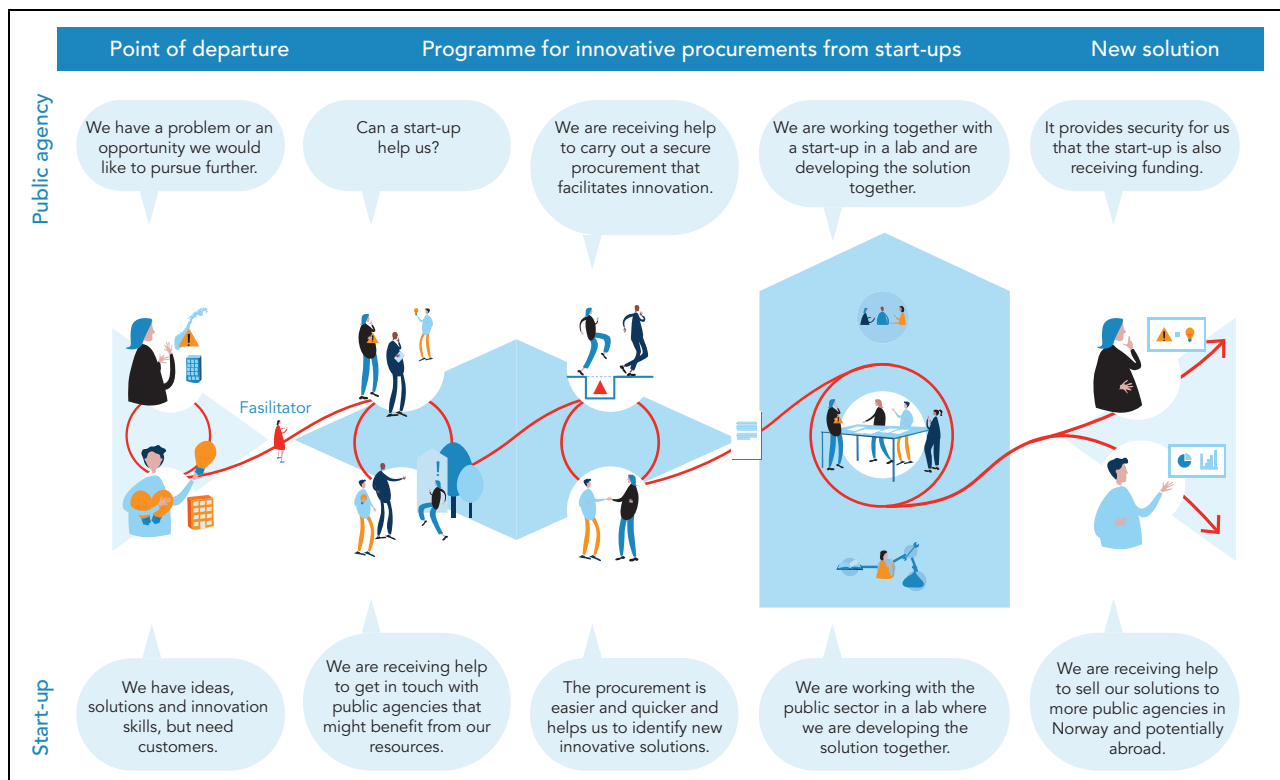

Figure 11.4 Program for innovative procurements from start-ups

The figure shows the plan for the program for innovative procurements from start-ups, illustrated as a service journey.
Design: Halogen AS

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Development and Innovation Norway both have experience of linking public sector bodies with start-ups through their policy instruments. Lessons learned from the work on social entrepreneurs can be relevant in the further development of the program. The Government will also develop a marketplace for cloud services, and will consider whether this solution can also facilitate digital diffusion of newly developed solutions for the public sector.

The Government is concerned with improving the conditions for the use of social entrepreneurs, and wishes to enable them to address societal challenges. This involves, for example, facilitating purchasing, grants and legal framework conditions. The program for start-ups will be one important measure, but it is also about making the opportunities that exist better known, both among social entrepreneurs and in the public sector. The Ministry of Local Government and Modernisation has therefore developed an inspirational leaflet on cooperation with social entrepreneurs[27] that describes ways of cooperating with social entrepreneurs and how to measure the benefits. More knowledge is needed about this field, however. The Ministry will therefore, in cooperation with the Centre of Competence on Rural Development, KS and Innovation Norway, take the initiative to explore barriers to and opportunities for social entrepreneurship in small municipalities. In addition, the Directorate of Labour and Welfare is mapping the scope of and lessons learned from

cooperation between the Labour and Welfare Administration and social entrepreneurs.

11.4 The Government's aims

Public-private cooperation can contribute to more innovation, more radical innovation projects, a speedier transition to a low-emission society and the diffusion of successful innovations.

The Government will:

– explore new types of cooperation between the public and private sectors
– encourage the public sector and businesses to work together on test environments for the development, piloting and quality assurance of innovative solutions
– encourage public agencies to actively consider the need for innovation when making a procurement, and whether it should be carried out as an innovative procurement
– ensure that more data are extracted from Doffin and made accessible as the basis for statistics on public procurement
– strengthen guidance and continue measures to achieve innovative procurements
– assign responsibility for the disciplines of public procurement, management, organisation and control to the Norwegian Agency for Public and Financial Management
– establish a program for innovative procurements from start-ups
– develop a marketplace for cloud services, and consider whether the solution can also facilitate digital diffusion of newly developed solutions for the public sector.

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[27] Ministry of Local Government and Modernisation (2017) *Veier til samarbeid. Sosiale entreprenører som samarbeidspartnere i offentlig sektor – eksempler og ideer.* Inspirational leaflet

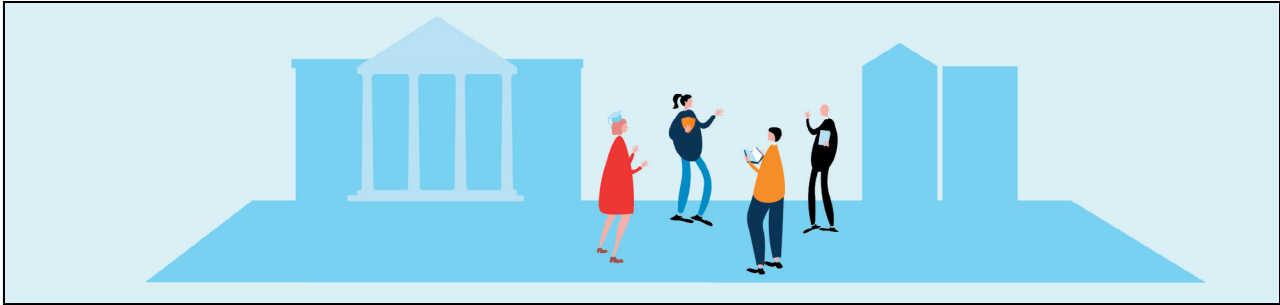# 12 Collaboration with research environments

Figure 12.1

Research can contribute both directly and indirectly to innovation. Research can generate new knowledge about needs, expectations, trends, changes in framework conditions and how these changes take place. It can be a driving force for innovation by developing new, smart solutions, and can provide insight into new and existing solutions, development processes and how innovations can be used on a larger scale.

12.1 The current situation

Public sector innovation has received increasing attention in the research sector. The Government has highlighted public sector innovation in both the long-term plans for research and higher education, and the Research Council of Norway developed a strategy for public sector innovation in 2017.[1] Research projects are funded by the Research Council and the Regional Research Funds, universities and university colleges and hospitals on the basis of the public sector's needs.

The research sector comprises universities and university colleges and the institute sector. Research institutes work closely with public agencies through assignments and thereby learn about the public sector's needs and challenges. Through cooperation with the business sector, they also become aware of new innovative solutions. The Government's strategy for a cohesive institute policy (2020) describes ambitions for the institute sector's contribution to a sustainable transition.

The Innovation Barometer surveys show that around 13 per cent of local government agencies and 11 per cent of central government agencies state that they collaborated with research and development (R&D) environments when carrying out or developing their latest innovation. To the question who or what led to the initiation of the latest innovation, 7 per cent of local government agencies (2020) and 3 per cent of central government agencies (2018) responded that it was an education or research institution.[2]

A number of agencies participate in international projects and cooperate with other countries to resolve problems they would otherwise have had to address alone. The EU funds a large portfolio of innovative projects in which the public sector collaborates with research groups and in some cases the business sector and other partners.

Both local and central government agencies experience pressure on both time and resources. There is rarely time to identify and read relevant research as part of their day-to-day work.[3] At the same time, many feel that the research environments and public sector know too little about each other and that better mutual knowledge would provide mutual benefits.[4] Employees in the public sector are knowledgeable about their own areas and have insight into processes that researchers

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[1] Report No 7 to the Storting (2014–2015) *Long-term plan for research and higher education 2015–2024*, Report No 4 to the Storting (2018–2019) *Long-term plan for research and higher education 2019–2028*, the Research Council of Norway (2018) *Strategy for innovation in the public sector 2018–2023*

[2] Difi (2018) *Innovation barometer for the public sector 2018*. Report, KS (2020) *Innovation Barometer 2020*

have less knowledge of, while researchers can be learning partners and help to identify and deal with challenges and possibilities in new ways.[5]

12.1.1 Research collaboration programs

There are regional, national and international research programs under which the public sector can participate in and lead projects. Previously, the public sector has largely been the subject of research, while public agencies are now involved in or initiate all phases of innovation and research processes. There is power in having a say in decisions on which challenges will be the subject of innovation, or about what topics research will be conducted on.

Research programs in Norway

Research and Innovation in the Municipal Sector (FORKOMMUNE) is the Research Council's program for this area. The program has supported innovation and knowledge-building projects since 2018 to generate innovation in different parts of the local government sector. Through collaboration with research environments, the sector will gain access to national and international knowledge about needs and expectations, development trends, changes in framework conditions and how these changes take place. The research environments also provide access to systematic methods for mapping and compilation, and conducting trials and testing.

Since 2019, the Research Council has announced funding in portfolios rather than programs. This enables broad calls for proposals for public agencies that wish to collaborate with research environments in areas such as health and welfare services, transport, urban planning, digitalisation, education and bioeconomy. In March 2020, the Research Council awarded NOK 210 million to 33 projects led by the public sector, including for sustainable mobility, and simulation and artificial intelligence in emergency medicine.

They received 110 applications in response to the call.[6] In May 2020, the Research Council announced a further NOK 200 million for projects that involve the public sector identifying its challenges and developing solutions in collaboration with researchers.

Other Research Council programs also provide funding for innovation and knowledge-building projects for the public sector. They include research and innovation programs for the education sector (FINNUT), health, care and welfare services (HELSEVEL), the transport sector (Transport 2025) and ICT and digital innovation (IKTPLUSS). Major reforms, such as the NAV Reform and the Coordination Reform, have been the subject of dedicated evaluations in the form of research programs. The Research Council has developed a map showing how municipalities and county authorities collaborate with researchers through the Research Council and the EU's activities.[7]

The *Public Sector PhD* scheme was established in 2014 and has so far granted funding to 166 projects. The scheme's overall objectives are to increase long-term, relevant knowledge-building and research efforts in the public sector, increase researcher recruitment in the public sector and increase cooperation between academia and the public sector. NAV is one of the agencies that have used this scheme and, at the end of 2019, it had nine employees taking a PhD.

Through the *Regional Research Funds*, the county authorities fund research and innovation projects using funding from the Ministry of Education and Research. Several of the funds were quick to offer research funding and pre-project funding for public sector innovation. A larger proportion of both small and large municipalities have participated in Regional Research Fund projects than in FORKOMMUNE projects.

International research collaboration

Increased internationalisation is one of four overarching aims of Norway's research policy, and Norway has participated in the EU framework programs for research for some time. The focus of the research and innovation program Horizon 2020 (2014–2020) is on addressing societal challenges in collaboration with, among others, public agencies.

[3] Telemarksforsking (2020) *Små distriktskommuners deltakelse i innovasjonsvirkemidler* ('Small rural municipalities' participation in innovation policy instruments' – in Norwegian only). Report 540, Thune (2019) *Forskning og forvaltning. En pilotundersøkelse om bruk av forskningsbasert kunnskap i offentlige organisasjoner* ('Research and administration. A pilot survey of research-based knowledge in public organisations' – in Norwegian only). Report, University of Oslo

[4] The insight phase of work on the white paper

[5] NTNU (2019) *How Universities Contribute to Innovation: A Literature Review-based Analysis*. Report

[6] Forskningsradet.no, published 18 March 2020

[7] See forskningsradet.no

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Box 12.1 The public sector in Horizon 2020

In the project CityLoops, Bodø municipality is cooperating with Nordlandsforskning AS and Iris Produksjon AS, with partners from six European countries. The airport in Bodø is to be moved, thereby making space available to build a brand new urban district. The project aims to find solutions to reusing polluted soil from the airport area and contribute to creating a market for the reuse of building materials and soil. It will utilise brand new simulation tools and involve citizens in the planning process. The project has been granted funding under Horizon 2020's Innovation Project scheme.

Source: Research Council of Norway

Participation in a Horizon 2020 project gives public agencies financial support to boost their innovation efforts. They also build international networks and expertise that provide benefits over and above the areas the projects concern. Box 12.1 shows an example of a Horizon 2020 project that the public sector is participating in.

The framework program *Horizon Europe 2021–2027* will start up in 2021. The proposed goals for Horizon Europe are to support innovative solutions in the business sector and society at large to address global challenges, promote all forms of innovation and help to bring innovative solutions to the market. Horizon Europe is a continuation of Horizon 2020. One important change is the introduction of *missions*[8] (section 12.3.5) for research and innovation.[9]

12.1.2 Research mobilisation

There are many reasons why the number of public agencies collaborating with research environments is not higher. Lack of experience of research collaborations and developing applications for such collaborations is one of them. The Research Council offers training to businesses

and public agencies that wish to learn more about structuring research and innovation projects, through the project workshops it organises across the country.

The county authorities mobilise and qualify small and medium-sized enterprises for research-based innovation through policy instruments such as competence brokering and pre-projects.[10] Several county authorities, including Trøndelag, Nordland and Møre og Romsdal, have used these instruments in their work to increase collaboration between municipalities and research environments.

Norway also carries out extensive mobilisation work for Horizon 2020. The Research Council plays a leading role in this context. They have national contact points for all the thematic areas and offer courses, assistance in writing applications, financial support to applicants and regional thematic networks. Innovation Norway, the ministries, county authorities, clusters and networks also mobilise and assist in this work.

FINN-EU is a network between KS, the Association of Norwegian Research Institutes (FFA) and the Norwegian Association of Higher Education Institutions (UHR) that endeavours to highlight opportunities for the local government sector in Horizon 2020. The network organises activities and arenas. In 2019, the Research Council and the FINN-EU network announced that tailored guidance was available through eight workshops. They are offered to municipalities and county authorities that are particularly motivated to apply for funding from Horizon 2020 or Horizon Europe (2021–2027).

12.1.3 New forms of collaboration

Universities, university colleges and institutes collaborate with the public sector in many ways. New forms of collaboration have been developed and tested in recent years, such as centres, cluster collaborations and various forms of agreements on long-term cooperation, including collaborations on education.

The formation of centres, such as the Centres for Research-driven Innovation, can involve public agencies. The Centre for Connected Care is an example of this in the healthcare sector. An increasing number of industry clusters also include both research groups and public agencies.

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[8]   *** (fotnote overflødig på engelsk)

[9]   The Research Council of Norway (2019) *Indikatorrapporten om det norske forsknings- og innovasjonssystemet 2019* ('Indicator report on the Norwegian research and innovation system 2019' – in Norwegian only)

[10] The policy instruments are part of the Research Council of Norway's Program on Research-based Regional Innovation (FORREGION)

Box 12.2 Collaboration with universities and university colleges

Collaboration with NAV (the Norwegian Labour and Welfare Administration)

In 2019, NAV entered into strategic cooperation agreements with OsloMet – Oslo Metropolitan University, Inland Norway University of Applied Sciences, the University of Tromsø and NTNU. The purpose is to strengthen existing knowledge environments that wish to collaborate with NAV and to ensure a well-founded, coordinated collaboration centred around research.

A shared ambition to raise the quality and relevance of research in areas related to NAV is an important basis for the agreements. The higher education institution must engage more expert environments in the collaboration than those that have traditionally conducted research on NAV and the labour and welfare field. It is also an objective that the institution develops projects of sufficiently high quality to receive funding from the Research Council or EU programs. The cooperation agreements have support from the top level of their respective organisations. Innovation is a topic in several of these collaborations.

Source: NAV

Trondheim university city – a partnership between the municipality and research environments

In 2018, NTNU and Trondheim municipality entered into a four-year pilot collaboration under the name University City TRD3.0. The goal is to give Trondheim and the country as a whole long-term access to knowledge, expertise and technology of strategic importance to the development of good, sustainable communities. Modelled on the use of the term 'university hospital', it is a common goal to promote research, education and innovation that address complex societal challenges, with high requirements as regards quality and efficiency. The work is organised around five thematic areas: health and welfare, youth and education, urban development, smart city, and innovation. University City TRD3.0 came about in response to raised expectations that the importance and relevance of research to public sector innovation should be highlighted. The collaboration between NTNU and Trondheim municipality is about the local authorities taking a clearer role as agenda setter when formulating problems, and about collaboration across disciplines and services, innovative use of technology and developing the city as an attractive and efficient living lab. Lessons learned from this work also contribute to the development of new models for more integrated collaboration between cities and universities. Knowledge about what this work method entails will be developed, demonstrated, evaluated and openly shared. This will be of major importance to sustainable restructuring and value creation as we enter the last decade of the UN 2030 Agenda.

Source: SINTEF

Examples of such agreements are University City TRD3.0, in which Trondheim municipality and NTNU are testing new types of collaborative constellations between a university and a municipality, and NAV's collaboration agreements with four universities and university colleges (Box 12.2). NTNU has also cooperated with the Norwegian Public Roads Administration on research and education for some time. A similar collaboration is Kunnskapskommunen Helse Omsorg Vest, a knowledge collaboration between the City of Bergen, the University of Bergen, the Western University of Applied Sciences, the research institute NORCE, Helse Bergen health trust, Haraldsplass Deaconess Hospital and the Norwegian Institute of Public Health.[11]

12.2 Assessment of the situation

The Innovation Barometer surveys show that collaboration with research environments is relatively limited. More and better research is needed

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[11] The Research Council of Norway (2019) *Indikatorrapporten om det norske forsknings- og innovasjonssystemet 2019* ('Indicator report on the Norwegian research and innovation system 2019' – in Norwegian only)

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within several public sector areas on the effects and content of both the services themselves and the structures in which they are integrated. The same applies to state and municipal services and how they interrelate.[12]

The Government considers it important that the public sector steps up cooperation with research environments on public sector innovation. It is also important to further investigate how research environments can be more closely linked to the public sector so that innovation needs and topics for research can be identified and followed up. Research should also be involved in innovation work, including on trials, digitalisation, benefits realisation and diffusion, competence raising, innovative public procurements and collaboration with business and industry, the voluntary sector and the population at large. Research results in large amounts of knowledge that it is not always easy for others to access or make use of. Collaboration with research environments, ideally over time, gives public agencies easier access to a broad national and international knowledge base.

At the same time, not all innovation work in the public sector needs to involve research collaboration. Much innovation is not research-driven and, even when innovation *is* based on research, it may concern new ways of applying existing knowledge. When initiating innovation projects, it can therefore be useful to consider the benefits of involving research groups in relation to, for example, resource use and the need for swift progress and implementation.

12.3 The way forward

In October 2018, the Government launched the updated *Long-term plan for research and higher education 2019–2028*.[13] The long-term plan aims to help realise the Government's prioritised projects and provide predictability for research and education environments. The overarching goals of the long-term plan are to
– enhance competitiveness and innovation capacity
– address major societal challenges

– develop academic and research communities of outstanding quality

High-quality research and education are key factors in achieving modernisation, rationalisation and innovation in the public sector. In the long-term plan, the Government emphasises that the public sector must carry out continuous development and innovation work and utilise new, research-based knowledge and new work methods and forms of organisation.

Trials are an area where research collaborations can be of great importance. A research partnership can ensure that trials are based on research and generate learning and a basis for assessing how well the trials actually worked. The development of new products, solutions and services may require research, which is why researchers are involved in pre-commercial procurements and other innovative procurement processes.

12.3.1 Data for research and open access to research

Public agencies generate large amounts of data, and Norway has good-quality register data on many areas of society. Access to such public data for researchers, and public and private sector actors who wish to reuse the data, can be both complicated and demanding in terms of resources. The Government aims to make it easier to gain access to these data and make it possible to link them across disciplines and levels, provided that personal data protection and information security are safeguarded.[14] One solution under development is the Health Analysis Platform. The Government will develop a white paper on data-driven economy and innovation (Chapter 6).

Open access to scientific publications will promote research and society's use of research results. Open access will grant researchers, the business community and the population at large access to the most up-to-date knowledge, which they can quickly employ.

The Research Council has joined the international coalition, cOAlition S, which is behind *Plan S*. The objective of Plan S is that all research funded by the participating organisations must be made immediately available through open access. Research articles are to be made available via open journals, publication platforms or open

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[12] Report No 4 to the Storting (2018–2019) *Long-term plan for research and higher education* 2019–2028, the Research Council of Norway (2018) *Strategy for innovation in the public sector 2018–2023*

[13] Report No 4 to the Storting (2018–2019) *Long-term plan for research and higher education 2019–2028*

[14] ibid

archives. The use of public data and access to research publications must take place within the bounds of copyright rules and relevant rules for database protection.

12.3.2 Research projects, long-term collaboration and partnerships

Public sector employees need knowledge and skills that promote new ways of working and cooperating. The Government will therefore help to raise the quality and relevance of research and education in general, and, in particular, to boost research in areas of strategic importance to the public sector.[15] Among other things, the Government will present a white paper on job relevance (Chapter 8).

There must be more collaboration between research institutions and public agencies. This requires more types of both short and long-term collaborative constellations. It will be particularly interesting to follow and learn from the experience gained from these collaborations with national and international research projects and long-term collaboration agreements. Collaborations of this kind can also help to increase cross-sectoral research and innovation. Universities, university colleges and the institute sector will have different points of departure for participating in the various types of collaboration. This must also be taken into account when evaluating them.

12.3.3 Knowledge summaries as a tool for innovation

National and international research must be made more readily available to the public administration, the business sector and the general public. Compiling research results and developing knowledge summaries constitute an important part of this effort. Knowledge centres in different areas have been established to fulfil this role, including in the healthcare and education sectors. The Norwegian Institute of Public Health, for example, produces knowledge summaries relating to the healthcare and welfare sectors. It may also be expedient to establish similar functions in other areas. Both public agencies as contractors and research environments as suppliers need more expertise in knowledge syntheses. There are many complex cross-sectoral challenges, for instance between health and the environment.

The impact of measures must also be documented. Follow-up research can keep track of measures to ensure that they provide the right help to individuals while also being sustainable for society.

Newly qualified graduates, knowledge summaries and more use of research results, for example through developing thematic guidelines, are important channels for quickly integrating knowledge into services.[16]

12.3.4 Intersectoral research and innovation

Norway's sector principle for research means that each ministry is responsible for research within its area of responsibility. This means that all the ministries contribute to the implementation of a common research policy. The investment in Norwegian state-funded research comprises the sum of the ministries' contributions. In addition to industry-funded research, this should reflect society's research and knowledge needs.[17]

Society's research needs increasingly cut across traditional dividing lines between sectors. The ministries that have a coordinating role across areas have a particular responsibility for maintaining an overview of society's knowledge needs within their respective areas. The Ministry of Climate and Environment, for example, has special responsibility for research on climate and the environment, the Ministry of Trade, Industry and Fisheries for research by business and industry, and the Ministry of Petroleum and Energy for energy research. The Ministry of Education and Research has overarching responsibility for the Norwegian research system, including basis funding of the higher education sector. It also has sector responsibility for research that falls under its areas.

What are known as '21-processes' under the Digital 21 project are a policy instrument used to stimulate research and innovation collaborations between sectors and organisations in areas including health, *HelseOmsorg21*, and children and adolescents, *BarnUnge21*. These are processes driven by the parties involved, in which participants from research institutions, the public administration, business and industry and special inter-

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[15] ibid

[16] Report No 4 to the Storting (2018–2019) *Long-term plan for research and higher education 2019–2028*

[17] The Ministry of Education and Research (2017) *Veileder for sektoransvaret for forskning* ('Guidelines to sector responsibility for research' – in Norwegian only)

Box 12.3 Research on water and wastewater

The water and wastewater industry, in collaboration with the Norwegian University of Life Sciences (NMBU), has established a national centre for water infrastructure. The centre is a collaboration between NMBU, Norwegian Water, a number of large municipalities, and industry organisations and suppliers in the water and wastewater field. NOK 20 million was allocated in start-up funding over the Ministry of Education and Research's budget. The centre will contribute to enhanced quality and efficiency in all parts of the water and wastewater industry through education, experience sharing, research and technology development.

NOK 5 million has been earmarked in the national budget for a program for technology development in the water industry for up to five years, provided that the municipalities and supplier industry contribute at least an equivalent amount. The objective of a technology development program in the water industry is to achieve a safer water supply in terms of health, and a more secure supply of drinking water in a cost-effective, sustainable way.

The municipalities are responsible for providing their inhabitants with satisfactory water and wastewater services. By providing funding over a five-year period, the central government will contribute to developing sustainable technological solutions with a view to a faster and more cost-effective renovation of outdated water mains. The program is under development in dialogue with KS, Norwegian Water, the supplier industry and the National Association of House Owners in Norway.

Source: Proposition No 1 to the Storting (2019–2020) from the Ministry of Health and Care Services

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est organisations work together to develop research and development strategies.

It can be challenging to realise solutions to cross-sector challenges, not least when it is unclear who has or should be the principal owner. In can be difficult in practice to get others to prioritise resources for use in areas they do not consider to be at the core of their sector.[18] The Research Council plays a key role in developing calls for proposals across ministries and conducting portfolio management across sectors.

Water and wastewater is an example of an area with little research funding, but where the public sector has significant needs going forward. The City of Bergen is participating in a large research project about surface water with funding from Horizon 2020. When allocating funds for public sector innovation in summer 2019, four projects received funding from the Research Council for projects on a safer and more effective water supply.[19] The Government also wants to establish a program for technology development in the water industry (Box 12.3).

12.3.5 The missions approach

Missions are a cross-sectoral approach to challenges that the EU is introducing in the upcoming Horizon Europe framework program. The core of the missions approach is to select a societal challenge that many sectors will need to cooperate on to resolve. Based on a description of a problem or challenge, the desired tangible improvements and solutions are defined within a specified time horizon. The participants then define expedient policy instruments to achieve the given objectives.

The idea is that joining forces to achieve ambitious, overarching goals provides momentum and a dynamism that can pave the way for large-scale innovations. Missions seek to combine such ambitious goals (top-down) with broad engagement and efforts (bottom-up). They can therefore facilitate more radical innovations in collaborations between the public, private and voluntary sectors. The EU is preparing the research and innovation program Horizon Europe (2021–2027). In the program, missions are used as an approach to the major societal challenges: cancer, climate change, oceans, cities, and soil health and food.

Norway is achieving impressive results as a participant in the EU Framework Program for Research and Innovation, Horizon 2020, and is also considering participation in Horizon Europe.

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[18] ibid

[19] *100 millioner til innovasjon i det offentlige ('NOK 100 million for public sector innovation'* – in Norwegian only). Press release from the Research Council of Norway published 14 June 2019

12.4 The Government's aims

Research and collaborations with research environments can contribute to more knowledge-based management and policy development, more radical innovation projects and the diffusion of successful innovations.

The Government will:

– encourage greater collaboration between the public sector and research environments

– step up grants for research and higher education that modernise, improve and streemlines the public sector, and that can contribute to better and more efficient services and measures for the population

– increase the availability of research by stimulating open research dissemination, more open data and more knowledge summaries.

13 Realising value and diffusing innovation
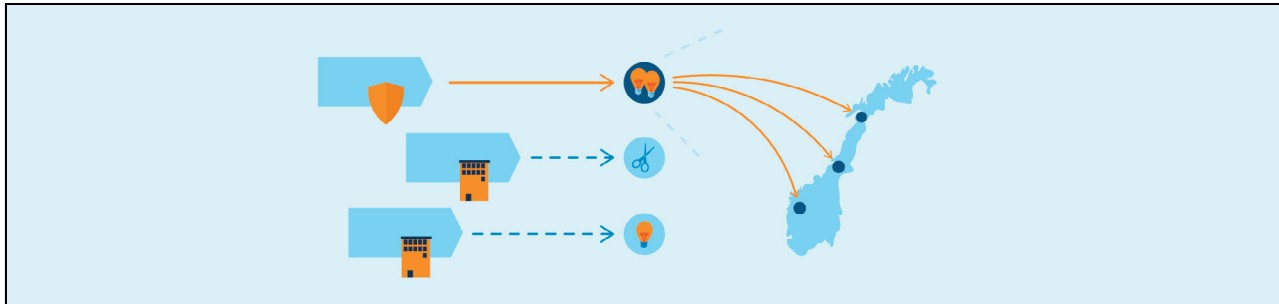
Figure 13.1

Innovation is not a goal in itself in either the public or private sector. Innovation creates added value for citizens and society, and more people should be able to utilise innovations that have proven to add value.

13.1 Realising benefits

13.1.1 The current situation

Innovation creates added value for society and its citizens by raising the quality of and providing services that are better suited to the public, new solutions to intractable problems or greater employee satisfaction and trust in the organisation. Innovation can also generate financial gains, for example by increasing efficiency or productivity, or reducing costs in the short or long term.

The most common benefits of innovation identified in the Innovation Barometer surveys for the central and local government sectors were enhanced quality in the local government sector and greater efficiency or productivity in the central government sector.[1] Other benefits are greater employee satisfaction, citizen influence and added value for the business sector (Figure 13.2). At the same time, one out of five municipalities have attempted to implement changes that have not led to improvements.

The National Program for Supplier Development can cite benefits for public agencies that have carried out innovative procurements with support from the program. PwC's study of the benefits of Asker Welfare Lab indicates that the lab was profitable during the study period, and that significant future savings for society are also possible (Box 10.2).

It is essential to have a good decision-making basis from which to choose the measure that will generate the greatest benefits for society. It also provides a good basis for the actual realisation of the expected benefits. The Norwegian Agency for Public and Financial Management's (DFØ) guidelines stress that positive impacts for all affected groups in society, both qualitative and quantitative, must be included. The benefits of each project must be assessed, and the assessment must take into account that benefits can be generated later on and not necessarily in the same sector as where efforts were invested.

Deliveries and effects of innovation work must be followed up, evaluated and documented. This is about closely monitoring the use of public funds and gaining knowledge about the solutions that actually work and whether they should be more broadly utilised.

In order to realise the benefits of an innovation, the changes or solutions must be implemented and incorporated in day-to-day operations. It may be necessary to carry out organisational changes and to restructure work processes. Implementation can be difficult without dedicated resources, activities and processes.[2] Some things

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[1] Difi (2018) *Innovation Barometer for the public sector 2018.* Report KS (2020) *Innovation Barometer 2020*

[2] OECD Observatory of Public Sector Innovation (2018): *How do we Make it Happen? Implementing Public Sector Innovation.* Report
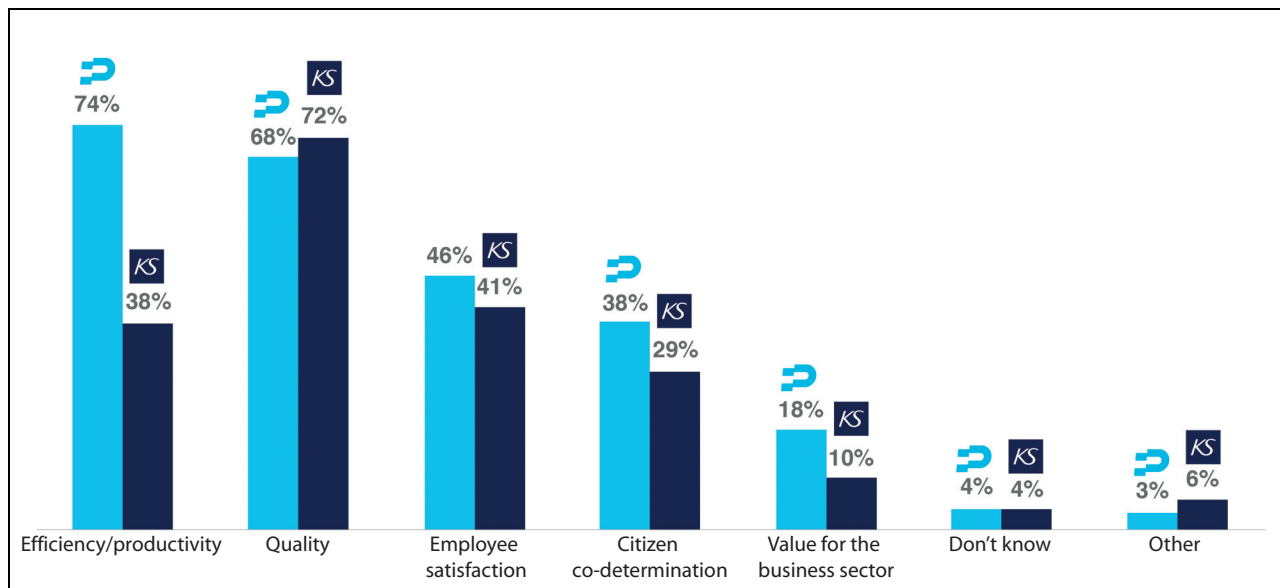
Figure 13.2 Effects of innovation work in the central and local government sectors

The figure shows the effects of innovation reported in central government (marked with the Difi logo, now the Norwegian Digitalisation Agency) and the health and care, and education and training sectors in local government (marked with the KS logo).
Source: Ipsos and Difi (2018) *Innovation Barometer for the public sector 2018. Overall results*. Report

may have to be unlearned, and some workers may have to change their area of expertise or the tasks they perform.[3] The challenges inherent in such changes are often underestimated. Succeeding with benefits realisation is largely about expertise and management, a culture of innovation, implementation and changing practice, follow-up of impact development and evaluation.

Implementation is most successful when it has been well studied and planned, with continuity from the start of the development until the change has been implemented. Among other things, This means involvement at the right level and at the right time, and continuously ensuring support for the work in the organisation. The participation and involvement of employees is essential to effectively implement the solutions.

13.1.2 Assessment of the situation

Those performing innovation work are often recommended to identify the need and the causes of the problem they seek to solve and to let the solutions be unknown when starting the work. In such

case, benefits assessments prior to start-up must be linked to the expected benefits of solving the problem and not the expected benefits of a given solution. This leads to a different approach to risk and benefits than in projects and development

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Box 13.1 Tools and guidelines for benefits realisation

Tools and guidelines are available for the realisation of benefits that specifically address innovation to varying degrees. They include
– *Prosjektveiviseren*, the Norwegian Digitalisation Agency
– *Veileder for gevinstrealisering*, DFØ
– *Guide for analyse av lønnsomhet og effekter av innovasjonsprosjekter*, Menon
– Roadmap for service innovation, KS
– *Gevinstkokeboka*, KS
– *Verktøy for helseinnovasjon*, InnoMed
– *Veileder for evaluering av innovasjonsprosjekter*, COI Danmark

Source: The Norwegian Digitalisation Agency, the Norwegian Agency for Public and Financial Management, Menon (2017) *Innovasjon i offentlig sektor og samfunnsøkonomisk lønnsomhet en guide, utvalgte eksempler og en kartlegging av effektstudier* ('Public sector innovation and economic profitability: a guide, selected examples and a survey of impact studies' – in Norwegian only), KS, InnoMed, COI

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[3] In innovation work, this is commonly known as creative destruction. Schumpeter (1942) in Fuglesang & Rønning (2013) *Spredning av innovasjon i kommunene – inspirasjonsnettverk og reduksjon av usikkerhet* ('Diffusion of innovation in the local government sector – inspiration networks and reducing uncertainty' – in Norwegian only), in Teigen, Aarsæther and Ringholm (eds.) *Innovative kommuner* ('Innovative municipalities' – in Norwegian only)

processes in which the solution is known. The innovation process will be characterised by risk and uncertainty as regards the effect. At the same time, the objective of examining the need and testing several solutions is also to arrive at a solution that actually meets the needs and thereby genuinely resolves the challenge and provides the biggest possible net gains. Even if the benefits have been identified and quantified in a pre-project study, they can still be difficult to realise. It has also proven particularly challenging to realise benefits related to budget cuts. A number of rural municipalities state that they experience less flexibility in realising benefits through downsizing because staffing is already at a minimum level. In this case, benefits realisation is first and foremost about increasing the quality of services and laying the foundation for handling more tasks with the same staffing level.[4]

The effects of innovation may be seen after some time, in another organisation or in another part of society than the area in which efforts are invested. In such case, the expected benefits cannot be linked to the organisation or area of responsibility in question, and the innovation efforts must instead be seen as an investment in resolv-

ing common societal challenges. This is based on the assumption that both local and central government see development as something that takes place across sectors and entities., The *Program for public health work in the municipalities (2017–2027)* started up in 2017. Among other things, the program offers grants to municipalities that develop new initiatives within the scope of the program objectives and based on the challenges they are facing and their goals and plans. The program will help to increase cooperation between sectors at the central and local government level, and is an example of long-term thinking across sectors and levels of administration.

Preventing social exclusion is a topic that clearly demonstrates the importance of assessing benefits in the long term. Innovations in preventive work can result in significant savings for society, but the relationship between the specific effort and the benefit can be difficult to demonstrate and quantify. Figure 13.3 has been developed for KS by Rambøll AS. It illustrates the consumption of public services, benefits and costs over the course of a working life (18–58 years) for the average population and for those who fall outside the labour market. The figure illustrates the potential benefit of preventing exclusion, both for individuals and society. This formed the basis for KS developing a calculation model known as 'out-

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[4] Telemarksforsking (2020) *Små distriktskommuners deltakelse i innovasjonsvirkemidler* ('Small rural municipalities' participation in innovation policy instruments' – in Norwegian only). Report 540
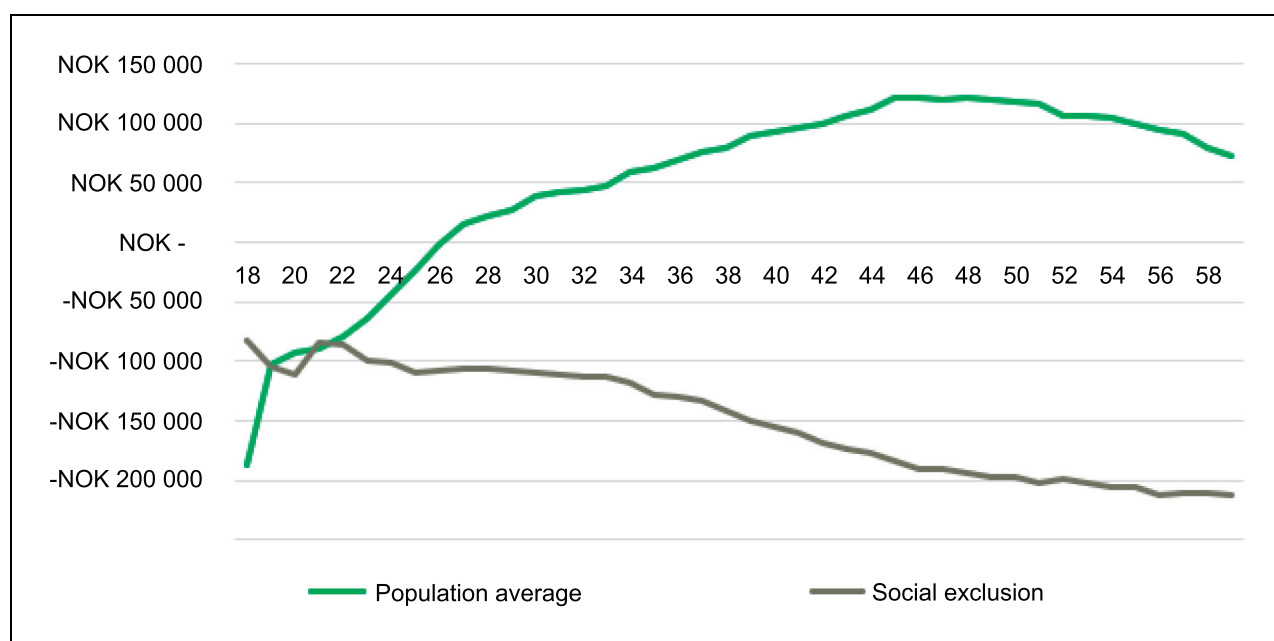

Figure 13.3 Consumption of public services, benefits and costs over the course of working life (18–58 years) for the average population and for those who fall outside the labour market

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Box 13.2 Outsider accounts

The calculation model known as outsider accounts shows the potential effect on public sector budgets of preventing selected target groups from becoming excluded. The accounts are a tool for visualising what investment in prevention can entail in the long term in terms of reducing expenses, both internally in the municipalities and between administrative levels.

It is based on target groups with a higher than average risk of exclusion. It shows how the costs of social exclusion are distributed between administrative levels and sectors. The municipalities and county authorities can use the tool to calculate the costs of social exclusion.

The outsider accounts were developed by KS in cooperation with Rambøll AS, municipalities and county authorities.

Source: KS

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sider accounts' in collaboration with municipalities and county authorities (Box 13.2).

13.1.3 The way forward

Competence-raising, experience transfer and support

Benefits realisation is challenging and requires structured and continuous follow-up, as well as expertise and awareness on the part of both employees and management. The Norwegian Agency for Public and Financial Management defines critical success factors for successful benefits realisation as follows:

- recognise that responsibility for the realisation of benefits rests with the organisation's management and not the project
- identify at an early stage the benefits of the measure and the prerequisites that must be in place in order for the benefits to be realised
- recognise that the benefits will not be realised of themselves and that sufficient resources must therefore be allocated to work on realising benefits

The point about identifying benefits at an early stage is challenging for innovations where the solution is not necessarily known during the initial

phase of the project. Regardless of the choice of solutions, it is important to base the process on what problems or needs are to be addressed. It is necessary to improve expertise in and guidance on benefits realisation in general, and particularly in relation to innovation and digital transformation. This also applies in the ministries.[5]

For innovations to work as intended, the solutions must be implemented and the desired benefits achieved. If, for example, internal time-savings are identified as a benefit in the pre-project study, the benefits realisation work might entail realising the time benefits in the form of greater user satisfaction, budget cuts or the re-allocation of resources.

Realisation of gains in the co-funding scheme

A co-funding scheme for digitalisation projects has been established in the state sector. The goal of the scheme is to increase the implementation of profitable digitalisation projects, use common resources more efficiently and realise a greater share of the potential benefits of digitalisation. The scheme requires projects to submit a plan for realising gains before funding can be allocated (Box 13.3). The plan must show expected gains in both the organisation in question and in other local and central government agencies. The Government regards the co-funding scheme as a good example of how requirements should be made of planning and work on realising and repaying gains when the project has received funding, and will consider setting similar requirements for innovation projects in other contexts.

13.2 Diffusion of knowledge, experience and innovations

Innovation diffusion takes place when a finished and implemented solution that has generated added value in one place is implemented and creates value somewhere else.[6] Upscaling is related to diffusion and is about increasing the use of a developed system or solution, such as digital solutions or innovative procurements. An alternative approach to diffusion is to include more actors

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[5] See also the Ministry of Local Government and Modernisation (2019) *One digital public sector. Digital strategy for the public sector 2019–2025*

[6] COI and Resonans A/S (2015) *Spredning af offentlig innovation. Hvad kan vi lære af forskningen?* ('Diffusion of public innovation. What can we learn from research?' – in Danish only). Report

Box 13.3 Realisation of gains in the co-funding scheme

All projects that apply for funding under the co-funding scheme for digitalisation projects in central government agencies must submit a binding plan for the realisation of gains. A dedicated template is available to applicants. The plan must show expected gains in both the organisation in question and in other local and central government agencies. It must show both the gross and net gain. Net gain means the gain resulting from the new solution after the deduction of fixed operating expenses.

The requirement is that 50 per cent of the applicant organisation's net gain must be realised as a budget cut, meaning a reduction in the organisation's budget. The same is required of other central government agencies with net gains of more than NOK 5 million. The estimated economic benefits of the project often depend on a sufficient number of entities using the solution. This can include agencies, municipalities, businesses and citizens. The plan for the realisation of gains must describe the measures designed to achieve the gains. Downsizing, reassignment of personnel and tasks, changes to work processes and information measures and training for those who will use the solutions are examples of such measures. Organisations must also describe how they will follow up and quantify the realisation of gains, for example through statistics documenting use, questionnaire surveys etc.

Source: Digdir.no

Figure 13.4 Sources of innovation

The figure shows the percentage of innovations in the Nordic countries that are the first of their kind, inspired by others or copied from others, i.e. using something that has been developed by others.

Source: *Measuring New Nordic Solutions, Innovation Barometer for the Public Sector*. Report 2019

from the outset of an innovation process. This has become more widespread in recent years.

13.2.1 The current situation

If an innovation is to have diffusion potential, the innovative organisations must dare to think that what they are developing could prove useful in other contexts. It is easier to diffuse successes than to diffuse lessons learned from what did not work as well. At the same time, there is much to be learned from processes that did not work.

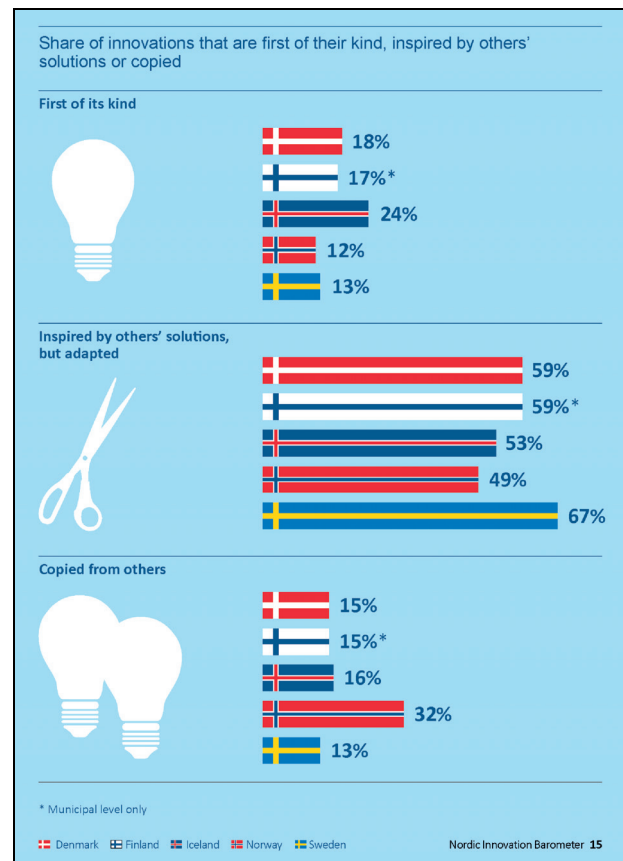The Digitalisation Council's assessment, after having advised 55 projects in more than 40 agencies and 15 ministerial areas, is that public agencies can become better at learning from each other's mistakes and successes. The Council underscores that learning from each other is a challenge it sees time after time.[7]

The Innovation Barometer surveys for the central and local government sectors show that eight out of ten of the most recent innovations involve the reuse of ideas developed by others.[8] This can either be the result of being inspired by someone else's solution, but making material adaptations to suit one's own organisation (49 per cent), or of simply copying someone else's solution (32 per cent). Norwegian public agencies use solutions developed by others more often than agencies in Sweden, Denmark, Finland and Ice-

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[7] Digitalisation Council (2019) *Experience Report 2019. Den gode historien ('The good story')*

[8] *Measuring New Nordic Solutions, Innovation Barometer for the public Sector*. Report 2019

land (Figure 13.4). The Productivity Commission nonetheless estimated a large rationalisation potential if solutions are taken into use by or adapted to suit more municipalities.[9]

Many diffusion activities, policy instruments and actors

The Innovation Barometer surveys for the central and local government sectors show that the diffusion of innovations most often takes place through networks and at conferences.[10] An important objective of many both formal and informal professional networks is the diffusion of innovation. KS is making active efforts to establish and manage networks in fields relevant to the local government sector, and it has also established a partnership for radical innovation. The Norwegian Digitalisation Agency manages an innovation network comprising central government agencies, including KS. Both KS and the Digitalisation Agency participate in the Nordic Innovation Hub, a collaboration between institutions in the Nordic countries on public sector innovation.

Websites and databases such as the Norwegian Digitalisation Agency's website *Lær av andre* ('Learn from others'), the Directorate of Health's thematic pages about welfare technology and the National Program for Supplier Development's website, which has an overview of all results and implemented projects, aim to diffuse lessons learned, information and knowledge about innovation projects in the whole public sector. Good examples are also spread through articles in the media and trade magazines and can motivate others to make use of similar solutions. Many municipalities and public agencies also use their own websites to publish their results and experiences from innovation work. The municipalities also report on their use of the county governors' discretionary project funding in the Ministry of Local Government and Modernisation's search portal and database ISORD.[11] In 2018, the county governors allocated around NOK 139.5 million to a total of 294 projects, and ISORD thereby functions as a database for innovation projects in the local government sector.

Diffusion of innovation can be challenging

Using and adapting solutions developed by others can be challenging.[12] Some innovations are more difficult to diffuse than others because they require more adaptation of an entity's work methods or organisation. A solution such as upgrading a ventilation system, where children can remain on the school premises during the construction period, requires few changes to the school's normal activities.[13] Asker Welfare Lab's investment approach to families with complex needs (Box 10.2), on the other hand, entails a change of mindset in the organisation, the authority granted to staff and relations between management and employees. It requires more of an organisation to make use of this kind of innovation. Similarly, experience from the National Welfare Technology Program shows that the implementation and diffusion of welfare technology solutions can be demanding when they take effect across local government sectors and entail establishing new patterns of collaboration and a new division of responsibility.[14]

A precondition for making successful use of innovations developed by others is that the circumstances and conditions that apply to the developers of the innovation are easily transferable to the organisation that wishes to utilise it. Different preconditions and local variations mean that innovations need to be adjusted and adapted. Such adjustments can also make the innovation more generalised and thus more suitable for adaptation by adding or removing certain elements.[15]

A researcher, Rogers, has summarised how and how quickly an innovation can be diffused, depending on

– *the innovation's characteristics*, i.e. the advantage of implementing it, whether it is suitable in a new context, its complexity, how easy it is to

[9] Official Norwegian Report (NOU) 2016:3 *Ved et vendepunkt: Fra ressursøkonomi til kunnskapsøkonomi* ('At a turning point: From resource economy to knowledge economy' – in Norwegian only)

[10] Difi (2018) *Innovation Barometer for the public sector 2018.* Report, KS (2018) *Innovation Barometer 2018*

[11] ISORD – integrated application and reporting database, available at prosjektskjonn.fylkesmannen.no

[12] Teigen, Håvard, Ringholm & Aarsæther. (2013) *Innovatør frå alders tid* ('Innovator since time immemorial' – in Norwegian only), in Teigen, Ringholm & Aarsæther (eds.) *Innovative kommuner* ('Innovative municipalities')

[13] The example is an innovative procurement conducted with support from the National Program for Supplier Development

[14] Directorate of Health (2020) *Velferdsteknologi til barn og unge med funksjonsnedsettelser – erfaringsrapport fra 4 års utprøving* ('Welfare technology for children and adolescents with disabilities – experience report from a four-year trial' – in Norwegian only). Report

[15] Røhnebæk & Lauritzen. (2019). *Kommunal innovasjon som oversettelse.* ('Municipal innovation as translation'), in Tennås Holmen & Ringholm (eds.) *Innovasjon møter kommune* ('Innovation meets municipality' – in Norwegian only)

test and how easy or difficult it is to see its effects
–   *time* – the more time that passes, the more people will start using the innovation
–   *the parties* that use the innovation, whether they have a tradition for utilising innovations and do it quickly, are hesitant or somewhere in between
–   *the social system* and the context in which the innovation is diffused
–   *the communication channels* through which the innovation is diffused[16]

Diffusion costs

Diffusion work can be costly in terms of both time and money for the organisation that shares its experiences. Several innovations in the Norwegian public sector have received both national and international attention. For some of the organisations, this means spending a great deal of time sharing their experiences.[17]

A lack of expertise in documenting the effects can result in a lot of tacit knowledge that does not generate benefits for others and can be a barrier to diffusion.[18] The evaluation of the FORKOMMUNE program highlighted great variation in the municipalities' work on diffusing innovation. The evaluation also described unsystematic work during start-up of the development phase, in part because many organisations did not have procedures in place for checking whether others had implemented similar projects. Bærum municipality has addressed these problems in its latest innovation strategy (Box 13.4). Small municipalities with limited capacity to innovate themselves can benefit greatly from others' innovations, but also feel that they have limited capacity to make use of them. They appear to need process guidance in relation to the implementation work, among other things. Furthermore, solutions developed for municipalities with a large population may be poorly suited to rural municipalities, and it can be

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> **Box 13.4 Bærum municipality – not best practice, but next practice**
>
> Bærum municipality is in its second innovation strategy period. The goal of the previous strategy period was to establish a visible innovation culture. In 2018–2020, they have focused their efforts on systematic innovation work by implementing and diffusing new and better solutions. Employees must actively seek solutions that are effective, and the organisation must facilitate the diffusion of good solutions both within and outside the organisation. The municipality documents innovations that generate substantial benefits. It promotes new innovations, innovation learned from others and the best mistake of the year by awarding an internal innovation prize. It diffuses information through social media and websites, and innovation and diffusion are discussed at meetings and other events. The municipality has also developed a catalyst program to enhance work on benefits realisation and diffusion.
>
> Source: Bærum municipality, Innovation Strategy 2018–2020

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easier to utilise solutions they have played a role in developing themselves.[19]

13.2.2 Assessment of the situation

The purpose of diffusing innovations is to get maximum value out of each successful innovation. It is less costly to use innovations developed by others than to develop your own. The process of utilising and adapting an innovation can also improve and further develop the original innovation.

There are currently many arenas and opportunities for diffusing innovations in the public sector. Programs, initiatives and guidelines, secondments, procurements and cooperation with other bodies all contribute to diffusion. At the same time, the number of websites and databases aimed at diffusion can make the process of mapping and

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[16]   Rogers (2003) *Diffusion of Innovations* (5th ed.). Referred to in COI (2015) *Spredning af offentlig innovation. Hvad kan vi lære af forskningen? ('Diffusion of public innovation. What can we learn from research?' – in Danish only)*.

[17]   Menon (2016) *Spredning av innovative offentlige anskaffelser i norske kommuner* ('Diffusion of innovative public procurements in Norwegian municipalities' – in Norwegian only). Publication 13/2016

[18]   Menon (2018) *Nåtidsanalyse av innovasjonsaktivitet i kommunesektoren* ('Present-day analysis of innovation activities in the local government sector' – in Norwegian only). Publication 88/2018

[19]   Telemarksforsking (2020) *Små distriktskommuners deltakelse i innovasjonsvirkemidler* ('Small rural municipalities' participation in innovation policy instruments' – in Norwegian only). Report 540

obtaining information more demanding than necessary for the target groups. It is also necessary to make existing web portals more accessible and user-friendly.[20]

Municipalities that make active efforts in relation to diffusion see a need for better infrastructure and platforms. Little support and relief is available in connection with diffusion, and this work can therefore be to the detriment of an organisation's own development work. A lack of incentives for diffusion contributes to uncertainty about the extent to which an organisation that has implemented a public sector innovation is responsible for diffusing it.[21]

13.2.3 The way forward

Diffusion through joint projects

The challenges related to diffusion have led to more focus on the advantages of taking part in an innovation process from the outset. A number of municipalities, county authorities and central government agencies have cooperated on developing solutions based on common needs, through innovative and innovation-friendly procurements and in other partnerships with the business sector. These kinds of collaborations mean that more people can be involved in the experience and maturation process that takes place during the development phase. Partners can draw on each other's expertise and reduce risk by jointly participating in the procurement.[22]

A similar approach to the diffusion of innovation forms part of the basis for KS's partnership for radical innovation (section 5.3). The regional digitalisation networks (Box 6.4) and the DigiFin scheme (Box 6.3) also provide opportunities for diffusion through participation.

13.3 The Government's aims

The Government will ensure that methods, expertise and guidance related to innovation work and benefits realisation are further developed. The benefits of successful innovations must reach more people.

The Government will:

– further develop the provision of competence-raising measures, experience transfer and support for work on benefits realisation in the area of innovation and digitalisation in the ministries
– assess whether some policy instruments for innovation should require a plan for the realisation of gains modelled on the co-funding scheme for digitalisation projects in the state sector
– facilitate learning from and the diffusion of experiences from innovation processes
– facilitate the benefits of innovation being highlighted and realised in the form of better services or lower costs.

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[20] Menon (2018) *Nåtidsanalyse av innovasjonsaktivitet i kommunesektoren* ('Present-day analysis of innovation activities in the local government sector' – in Norwegian only). Publication 88/2018
[21] ibid

[22] Menon (2016) *Spredning av innovative offentlige anskaffelser i norske kommuner* ('Diffusion of innovative public procurements in Norwegian municipalities' – in Norwegian only). Publication 13/2016

14 Impacts

To address the challenges the public sector is facing, this white paper emphasises creating new solutions by mobilising society's combined resources in new ways, utilising new technology and new work methods, ensuring good framework conditions and supporting research, innovation and development work.

Many of the measures described in this white paper are ongoing initiatives or measures that will result in benefits in the form of better quality, reduced costs and time savings.

New measures discussed in this white paper that require allocations will be covered within the budgetary framework that applies at all times or come with a proviso as regards when they can be implemented.

The white paper's contribution to attainment of the UN Sustainable Development Goals

Norway has a responsibility for helping to achieve the UN Sustainable Development Goals (SDGs) by 2030, and innovation is a prerequisite for this. The purpose of this white paper is to increase public sector innovation. It can therefore contribute indirectly to better achievement of all the SDGs.

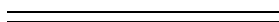Several of the SDGs emphasise the importance of technological development and research to achieving sustainable development, including SDG 11 on sustainable cities and societies. The white paper emphasises the public sector's role as a driver of such innovative and sustainable solutions.

SDG 17 Target 17 is about stimulating and promoting well-functioning partnerships in the public sector, and between the public and private sectors and civil society. The significance of such partnerships is emphasised in this report, particularly in the chapters about cooperation with citizens, the business sector and research environments. The importance of developing effective, accountable and transparent institutions at all levels (Target 16.6) and ensuring responsive, inclusive, participatory and representative decision-making at all levels (Target 16.7) is emphasised in the chapters on framework conditions, a culture of innovation and innovation collaboration.

The Ministry of Local Government and Modernisation

r e c o m m e n d s :

that the recommendation from the Ministry of Local Government and Modernisation of 23 June 2020 concerning An Innovative Public Sector should be submitted to the Storting.