The Research Council
of Norway

Work programme
2013–2018

Work programme 2013 – 2018

Research Programme on Societal Security and Safety –SAMRISK II

Contents

1. Summary

The Ministry of Justice and Public Security took the initiative to establish the *Research Programme on Societal Security and Safety (SAMRISK II)* and requested that the Research Council of Norway administer the programme. The SAMRISK II programme will run for five years, from 2013 through 2018, and will have a total budget of NOK 100 million.

The major challenges imposed on society by the events of recent years have led to growing recognition of the need to enhance knowledge and understanding about societal security and safety. The SAMRISK II programme will build on the body of knowledge compiled under the Research Programme on Societal Security and Risk (SAMRISK) (2005–2010), and generate new knowledge and a deeper understanding of the capability within society to deal with and maintain critical societal functions and safeguard the life, health and basic values of citizens during and immediately following events involving major stressors, regardless of the cause of the crisis. The programme will develop a knowledge base to help to shed light on vulnerabilities and dilemmas and to better equip society to maintain and manage societal security and safety at all levels.

Research questions in the field of societal security and safety may be both national and global in nature and involve a wide array of disciplines, thus entailing an interdisciplinary focus. Activities under the SAMRISK II programme will incorporate user perspectives and focus on the involvement of relevant affected parties in the research projects.

Research activities under the SAMRISK II programme will further enhance research quality and promote theory and methodology development in the field of societal security and safety for use in policy development and practice. The programme will also serve to strengthen research groups in the field and increase researcher recruitment. The SAMRISK II programme seeks to expand the general understanding and knowledge of societal security and safety by focusing on communication with and between researchers in various disciplines, the population at large and various stakeholders, including the political authorities and government administration, special interest organisations, and actors in working life, the business sector and the media.

The programme revolves around the overarching theme of societal security/safety and resilience, which is divided into three main thematic priority areas. The first is *Social structures, values and trust*, which focuses on acquiring knowledge about the significance of social structures, values, trust, the media and the legal system for societal security and resilience. The second thematic priority area is *Cooperation, management and organisation*, where key topics are coordination of resources, decision-making systems and instruments, and the vulnerability of critical infrastructure. The third thematic priority area is *Changing threats and risks*, which focuses on developing knowledge for risk assessment and related methods in light of new forms of organised crime, climate change, complexity and increasing interdependencies.

Activities under the SAMRISK II programme will encompass both basic and applied research in order to generate knowledge about fundamental aspects of societal security

and safety as well as to develop the knowledge base and models for managing future crises.

2. Background

According to its mandate, the new *Research Programme on Societal Security and Safety (SAMRISK II)* is to generate new knowledge and a deeper understanding of the risk and threats facing society as well as the capability within society to deal with and maintain critical societal functions and safeguard the life, health and basic values of citizens during events involving major stressors:

- *Incidents and accidents* leading to explosions, train derailment, pollution etc., and which may be the result of inattentiveness, lack of skill, overwork/overload, material fatigue etc.
- *Natural disasters* such as extreme weather events, earthquakes, avalanches/landslides and forest fires leading to floods, tidal waves and damage to critical infrastructure etc.
- *Intentional acts* intended to cause damage, generate fear, take revenge or achieve political or financial gains.

Research activities under the programme are intended to enhance resilience, prevention, preparedness, search and rescue services, crisis management, and learning. The Research Council of Norway's five-year Research Programme on Societal Security and Risk (SAMRISK) was concluded in June 2011. The SAMRISK programme generated a good deal of new knowledge, but also identified a significant need for new research in the field of societal security and safety. The need for continued research was further brought to the fore by a series of intentional and unintentional events that occurred in 2011, including the terrorist attacks and a variety of natural disasters and accidents.

The report of the 22 July Commission (Official Norwegian Reports 14:2012) provided a review of the terrorist attacks of 22 July and an evaluation of how these were handled by Norwegian society. The report concluded that key functions within the Norwegian preparedness system had been inadequately equipped to manage the crisis.

In a letter dated 21 August 2012, the *Division for Society and Health* at the Research Council appointed a programme planning committee comprised of 12 experts and headed by Professor Tore Bjørgo. The committee members represent a wide range of research environments and user groups in the field of societal security and safety. The committee asked for written submissions on research needs and proposed research topics for the new programme. A large amount of input was received, providing a comprehensive foundation for the committee's independent review and discussions on what to give priority. Other main sources in these efforts included the report of the 22 July Commission; Meld. St. 29 (2011–2012) white paper on societal security, Ministry of Justice and Public Security (Norwegian only); and the final report of the SAMRISK programme. The outgoing SAMRISK programme board identified a range of topics and areas where there is a need to further develop or acquire new knowledge, with particular emphasis on:

- risk, critical infrastructure, learning and risk assessment;
- violent extremism and acts of terrorism;
- information and communication activities, the mass media and social media;
- the relationship between security and safety and societal values such as openness, trust and democracy;
- supervisory bodies and exercise of authority.

Target groups and research perspectives

The primary target groups for the activities of the SAMRISK II programme are:

- Political bodies and government authorities at all levels;
- Agencies and organisations with responsibility for societal security and safety in addition to critical infrastructure;
- Research and education environments;
- The public at large, organisations and service providers in the security market.

Activities under the SAMRISK II programme will encompass both basic and applied research. *Basic research* will look at the relationship between social change, societal preparedness and a dynamically evolving threat landscape. Relevant perspectives include the role and function of technology in society; different understandings of security and safety; the relationship between security, policy and society; economics; human rights; law; protection of personal privacy; ethics and values; and whether a "Nordic model" for societal security and safety exists.

Applied research will look at how Norwegian society can better target its activities towards current threats to societal security and safety; the extent to which various sectors employ risk management as a management principle; and the extent to which this risk management leads to the desired results. Key, relevant knowledge challenges in relation to societal safety and security include the comprehension of the impact of management, culture, organisational structure, values and technologies. It is also important to gain knowledge about; obstacles to the use of planning and available knowledge, prevention methods, operative methods and procedures. Additionally there is a need to develop and implement relevant technologies. Addressing knowledge challenges relating to societal security and safety will require multidisciplinary perspectives and collaboration between research environments with differing orientations.

Responsibility for societal security and safety follows the sectoral principle, so research results generated under the programme may be of use within several different sectors. This is reflected in the range of ministries that have allocated funding to launch the programme: the Ministry of Justice and Public Security, the Ministry of Transport and Communications, the Ministry of Defence, and the Ministry of Education and Research (cross-sectoral funding).

SAMRISK II place strong focus on internationalisation, as many of the threats to societal security and safety are of a global nature, such as cyber attacks, pollution, pandemics and international crime. This requires a shift in the established work methods and mind-sets of traditional public security institutions, as well as in the design of research initiatives in the field. Current threats to societal security and safety are components of and/or characterised by diverse global networks, and must therefore be addressed with global

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measures, both within the legislative sphere and with regard to security measures. Examples here include international conventions and transnational police, preparedness efforts, and the market for security products and services. Research projects under the new programme should therefore incorporate an international component, both in terms of research topics, scientific networks and partners and in terms of using Nordic and European research infrastructures such as NordForsk's Nordic Societal Security Programme and security research under the new EU Framework Programme for Research and Innovation, Horizon 2020. Cooperation within the framework of bilateral research agreements between Norway and other countries may also be of relevance here.

Scientific perspectives

Research questions in the field of societal security and safety involve a wide array of disciplines and thus entail an interdisciplinary focus. Norway has several research groups conducting activities in this field, but they are relatively small and need more resources in the form of both finances and personnel. There has been no national funding for societal security research in Norway since the conclusion of the SAMRISK I programme in 2011. The Security theme of the EU Seventh Framework Programme (FP7) has served as an important funding arena for Norwegian research groups in the period from 2011. Researchers in Norway have been awarded a total of NOK 240 million in the course of FP7's seven-year programme period. Thus, in the past few years Norwegian research on societal security and safety has had more of an international than a national perspective. A new Norwegian research programme on societal security and safety will encourage more nationally oriented research and place greater focus on issues of national importance.

In addition to the launch of the SAMRISK II programme, two new initiatives with a supranational focus are being established: EU societal security research under Horizon 2020 and one or more Nordic Centres of Excellence for joint Nordic societal security research under the auspices of NordForsk. The three initiatives will complement one another and together will enhance focus on knowledge development in the field.

Although Norway has national research groups and individual researchers in the field of societal security and safety, there is a clear need to expand and strengthen these groups independently and to cultivate collaborative relationships nationally and internationally. Norway is also dependent on involving affected actors in knowledge development and implementation. Establishing dynamic arenas as meeting places for representatives of the research community, trade and industry, the public administration and society at large is vital to advances in the field.

3. Objectives of the programme

3.1. Primary objective

The Research Programme on Societal Security and Safety (SAMRISK II) will generate new knowledge and a deeper understanding of the capability within society to prevent for crisis, and to be able to deal with and maintain critical societal functions and safeguard the life, health and basic values of citizens during and immediately following events involving major stressors, regardless of the cause of the crisis.

The programme will develop a knowledge base to help to shed light on vulnerabilities and dilemmas and to better equip society to maintain and manage societal security and safety at all levels.

3.2. Secondary objectives

Research activities under the SAMRISK II programme will:

- Further enhance research quality and promote theory and methodology development;
- Encourage researcher recruitment;
- Increase internationalisation in research and promote greater inter- and multidisciplinarity;
- Enhance the knowledge base for use in policy development and practice;
- Promote cooperation between the research community, education institutions and the field of practice;
- Promote learning and the dissemination of knowledge;
- Enhance understanding of societal security and safety;
- Promote critical reflection on various effects of security and safety measures;
- Strengthen communication with and between researchers in various disciplines, the population at large and various stakeholders, including the political authorities and government administration, special interest organisations, and actors in working life, the business sector and the media.

4. Thematic priority areas: societal security/safety and resilience

The SAMRISK II programme encompasses various types of stressors that may be caused by deliberate acts, incidents and accidents, or natural disasters.
Figure 1 illustrates how theory and concepts can be developed for the various phases of societal security and safety efforts in relation to deliberate acts, accidents and natural disasters.

Figure 1. Various causes and phases.

Cause	Identify	Prevent	Manage	Recover
Deliberate acts				
Incidents and accidents		Learning		
Natural disasters				
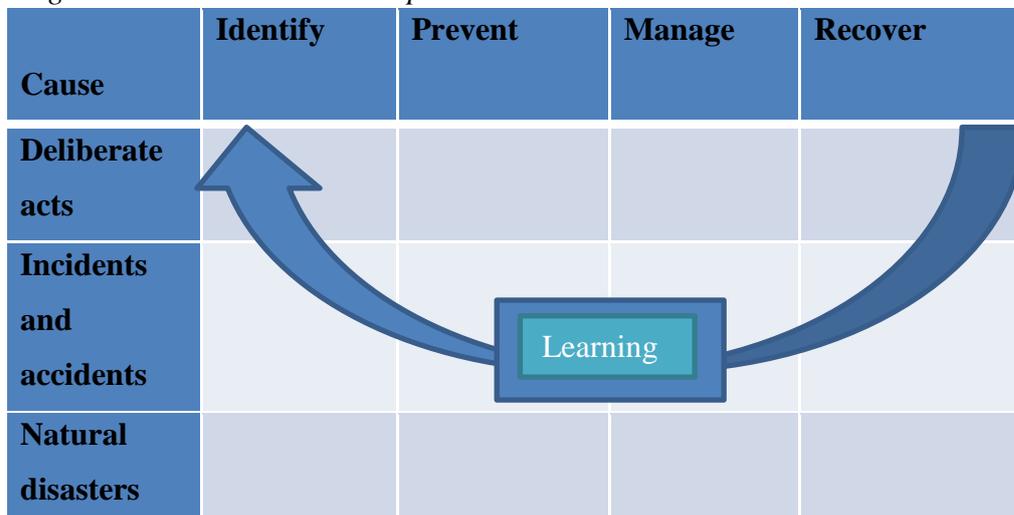
The SAMRISK II programme will also focus on involving various actors in knowledge development and management of unwanted events. In cases where it is necessary for knowledge development and implementation, research projects should incorporate user perspectives and focus on the involvement of affected parties as participants. Research projects should also give due consideration to gender perspectives, when relevant.

Research on societal security and safety aims to identify vulnerabilities and establish strategies for managing undesirable events. Certain undesirable events can be predicted, planned for and trained for, while others are so unpredictable that dealing with them requires an intrinsic flexibility within society at large. A society in possession of this inherent flexibility with regard to handling undesirable events is a resilient society.

In this context, the term resilience refers to *the capability of a society to manage both expected and unexpected events. A resilient society is resistant to breakdown, with the capacity to endure and maintain basic structures and functions during and following a stressor, strain or shock.* A resilient society is capable of taking action based on learning from previous events and has the necessary flexibility to tackle the unforeseen. The concept refers to large-scale management and the involvement of affected parties at the level of the authorities, organisations and the general public, with focus on developing a common strategy for managing undesirable and unknown events.

Resilience is rooted in societal functions and values. Societal functions can be destabilised by various stressors, including natural disasters, accidents and malicious acts. The safety and security of society are threatened when critical functions fail. Critical societal functions comprise technical infrastructure with varying degrees of vulnerability and the social functions that underlie society's ability to act as an active and living entity capable of solving problems. Research on societal resilience must address both the material and the immaterial dimensions. Critical societal functions encompass the functions that fulfil the fundamental needs of the society and the population. (Cf. Meld. St. 29 (2011–2012) white paper on societal security.)

Knowledge is needed about the relationship between societal resilience and social structures, cultural values and rapid social change. What are the most important social structures for sustaining a resilient society? Which changes in social structures, trust and cultural values can have an impact on the resilience of a society?

4.1. Social structures, values and trust

A society's values, social structures and institutions play an important role in determining how the society manages crises and reacts to security measures. A resilient society is often characterised by strong, integrated and diverse cultural environments and a high level of trust, both in other people and in key institutions. Nevertheless, there is a need for knowledge, also in a comparative perspective, on how cultural conditions, values and different social and ethnic groupings, as well as changes in these, affect the resilience of a society. Below is a list of relevant research topics that can shed light on issues within this thematic area.

4.1.1. Trust

Trust is essential to experiencing a feeling of safety and security as individuals and collectively as a society, regardless of whether it involves trust in friends and acquaintances, family, teachers, superiors, the community, the authorities or the state. A distinction is often made between personal and interpersonal trust on the one hand, and trust in institutions on the other. Both types of trust can have implications for societal resilience, and conversely the security situation can have an impact on trust. Societal security and safety address not only what is actually happening, but also what could happen and how secure we are in knowing that our society can manage undesirable events in the future. Thus, it becomes vital to gain a deeper understanding of the factors that promote confidence in the future and the steps that must be taken to ensure that citizens experience their society as safe and secure. Knowledge is needed about the ways in which various aspects of security agencies such as the police and the armed forces and a range of other social groupings and institutions at the local, regional, national, Nordic, European and transatlantic levels help to enhance trust. Greater insight is needed into what trust comprises as well as into the relationship between trust and societal security and safety, and how this relationship can be strengthened.

4.1.2. Social structures

A well-functioning, well-organised society is an important prerequisite for a safe and secure society. There is a need to know more about the relationship between societal resilience and social structures, values and institutions and about how rapid social change may affect societal security and safety. Which social structures and values are crucial to sustaining a resilient society, and how do changes in social structures and values affect societal security and safety? Do different types and segments of society have the same capability to tackle a crisis situation?

4.1.3. Media and communication

The media and other communication channels may help to strengthen or weaken the underlying view of safety and security in a society by influencing perceptions of crisis management and the potential for action. The interplay between the media and other societal institutions and the media's role in the context of resilience have been little explored and communicated. What part does the media play in building trust and enhancing resilience and safety? What is the significance of freedom of information, freedom of expression and freedom of the media for the performance of key societal tasks? The media play a key role in crisis and risk communication as information channels, disseminators and interpreters of crises. The cooperation between the traditional news media and the new social media has in some cases been extremely important to spreading information, for example in connection with the terrorist attacks on 22 July, but little is known about the mechanisms at work. What role can the social media play as a communication channel in connection with future crises? How do the authorities and the public use these media? To what extent may the social media serve to generate new threats to societal security and safety, for example through the spread of erroneous information, rumours or by inciting unrest?

4.1.4. State governed by law

The rule of law, the right to a fair hearing and fair procedure, and the perception that the state satisfactorily administers the rule of law, may bolster societal resilience in the face

of crises or threats. More knowledge is needed about the complex relationship between the rule of law, human rights and societal resilience. In addition, more research needs to be conducted on the efficacy of various instruments such as e.g legal in enhancing security and resilience. Legal governance may be exercised through legislation, agreements, licensing schemes, requirements for internal control, automating the application of law etc. Research activities should generate insight into the instruments and strategies that are available and their respective strengths and weaknesses. What roles do the various legal instruments play, and how can these influence societal security and resilience? Research activities should also generate insight into the role of the political system, the political parties and participatory democracy in notions of security. How do various types of security measures affect the population's perceptions of threats, and can these measures alter the population's behaviour? Surveillance and the compilation of large data sets for preparedness and commercial purposes pose new challenges to a state governed by law with regard to the protection of personal privacy.

4.1.5. Dilemmas relating to surveillance and prevention

Preventing and averting punishable offences such as terrorist attacks and criminal acts is to a great extent dependent on the ability to stop such acts at the stage of preparation and attempt, and to reduce the motivation and capacity to carry them out. Averting such acts requires that the police, security services and others are equipped to discover threats in time to implement effective measures. There is a clear need for more knowledge on how to detect risk and prevent undesirable acts, while at the same time giving due consideration to dilemmas relating to the need to balance surveillance and security measures on the one hand and protection of personal freedom and privacy on the other.

An important research question to explore is whether security and freedom are per definition mutually exclusive. Or, it could be claimed that freedom is dependent on a certain degree of safety and security and that a sense of safety and security is predicated on freedom. How do various surveillance and protection measures influence the population's perception of threats, security, control and freedom? When do control, surveillance and other protection measures cross the line and become seen as an encroachment on personal freedom, and how does this influence the degree of acceptance? What are the potential negative or unintended consequences of the various measures?

4.2. Cooperation, management and organisation

Societal security and safety is a complex field with correspondingly complex knowledge needs. Tasks extend across administrative levels, ministerial spheres and the purviews of individual agencies, thereby involving a wide array of interests, resources and expertise. There is a *multilevel governance problem* linked to the involvement of actors at and relations between the municipal, regional, national and supranational levels, which in addition entails specialisation relating to:

- *purpose* (societal security and safety), where the Ministry of Justice and Public Security has an overall coordination responsibility;
- *sector*, where the principle of sectoral responsibility entails that each ministry has responsibility for societal security and security within its particular sphere;
- *territory*, where the Offices of the County Governors have special responsibility for coordinating societal security considerations across sectors in their respective

counties. At the same time, the management lines from the ministries to the County Governors represent a vertical specialisation with regard to purpose, and the County Governors also have a horizontal coordination function vis-à-vis the municipalities.

Crisis management requires coordination between actors and the involvement of actors at different levels and in different sectors. Larger-scale crises often extend across both geographical and organisational boundaries and pose challenges to traditional management principles, management forms and assigned responsibilities. Knowledge about the types of *management tools and other instruments* that can be used in societal security efforts is therefore essential for all phases of activity, whether dealing with preparedness planning for, or the identification, management or recovery of, important societal functions.

From a multilevel (risk governance) perspective, preparedness and crisis management will be viewed in the light of a constellation of actors ranging from the government ministers to search and rescue personnel and other operative personnel at the sharp end of activities. Vertical relations between agencies at different levels are essential in this context. At the same time, crisis management demands planned and unplanned horizontal coordination between agencies and personnel at the same level. More knowledge is needed to understand the prerequisites for, and implications of, various models of cooperation and coordination. It is necessary to examine the fundamental characteristics of the political system and the public management and financing system as well as the relations within and between the public authorities with strategic and operational responsibility in the area of societal security and safety. Greater insight is also needed into the significance of broader actor participation in risk assessment and crisis management. To what extent are key actors involved in developing the knowledge base and handling events?

Societal security and safety encompass numerous actors at different levels with different responsibilities and tasks, often with diverging aims. Reducing risk for one group may result in increased risk for another. To what extent are democratic representativeness and fairness integrated into societal security and safety issues? How does cooperation and coordination between actors in the private and public sectors function, and how is the coordination between responsible parties in civil society and the military? Below is a list of relevant research topics that can shed light on issues relating to cooperation, management and organisation.

4.2.1. Coordination of public resources

Recent official studies and reports on the public authorities' responsibility for societal security and preparedness identify challenges relating to a lack of unified planning and implementation, unclear distribution of responsibility and a lack of coordination across sectors and administrative levels. At the same time, there is disagreement and uncertainty regarding which organisational forms and instruments should be used to address these problems. Thus, there is good reason to look more closely at the conditions for prevention, preparedness planning, crisis management and learning at the local, regional and national/central levels and between various sectors. Developing knowledge about civil-military cooperation in societal security efforts is particularly important here. What are the inherent limitations and opportunities of civil-military cooperation, and what shapes these relations? Research on the forms of coordination and practices employed,

the new forms of cooperation and coordination emerging, and how these function in an operative context is crucial. Operative cooperation and interaction encompass many aspects of preparedness and crisis management, such as the actors involved, organisational structures, work practices (culture/climate), technology and forms of communication etc. Comparative studies that generate new knowledge and learning will be of particular relevance here.

The responsibility for coordination activities lies with the Ministry of Justice and Public Security, which is to ensure that societal security and preparedness efforts are coordinated and integrated across sectoral boundaries. An important element of the ministry's coordinating role is to be a driving force for preparedness efforts in other ministries. More knowledge is needed about how the Ministry of Justice and Public Security can adequately fulfil its coordinating role and what must be done to strengthen civil-military crisis management efforts.

4.2.2.   Decision-making systems and instruments

The sectoral principle entails that each sector is responsible for societal security and safety in its own sphere. This has led to the emergence of different decision-making mechanisms, instruments and concept in connection with societal security and safety. These differences are reflected in legislation and directives, planning documents, performance and risk management, monitoring and training exercises as well as in various financial and educational instruments. How extensive are the differences between the various sectors, and what is the significance of these differences for societal security and safety in a unified perspective? There is a need for a knowledge base on functioning decision-making systems and coordination systems, as well as an understanding of the relationship between regulations and improvisation, of how pratice and coordinated training function, and of how learning from events and exercises can be incorporated into decision-making.

4.2.3.   Complex critical societal functions and infrastructure

Critical infrastructure encompasses complex facilities and systems that are crucial to maintaining ordinary operations in society, fulfilling society's basic needs and providing a feeling of safety and security.[1] Examples of such infrastructure include the power grid, and telecommunications, transportation, and water and sewage networks. Critical infrastructure may be described as a network of networks that are essential to the provision of energy, food and drinking water, and to maintaining law and order, financial security, and more. The infrastructures are integrated components of various services, and several infrastructures may be incorporated into a single critical societal function.

Developments in society are resulting in growing interdependencies between various critical infrastructures. A disruption of the power grid causing a major power outage, for example, could lead to a disruption of various electronic communication systems, which in turn could lead to a breakdown in control systems for other infrastructures. Such cascade effects will have ramifications for an array of critical societal functions, such as emergency communications, health services and financial services. A complicating factor is that many areas are linked together across sectoral and national boundaries. At the

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[1] Meld. St. 29 (2011–2012) white paper on societal security, Ministry of Justice and Public Security (Norwegian only).

same time, new requirements are being imposed for prevention and management of undesirable events. Moreover, the various infrastructures are owned, monitored and operated by different actors, and the lines of responsibility and communication between them is unclear. This adds to the complexity of the situation, and may increase the level of risk in connection with large-scale events. Society will be dealing with a set of particularly complicated and pressing challenges if infrastructure is subject to concurrent events or events that spread from one system to another (cascading events). Connections between operating systems and standard ICT systems make them vulnerable to cyber attacks with potentially major impacts on critical infrastructure. Malware designed to damage critical systems has been detected and linked to government actors. This is a serious and rapidly growing threat to societal security and safety.

The interdependencies between various infrastructures that may lead to cascading events are the result of physical, logical and organisational linkages, control structures, and more. Control systems for critical infrastructure are ICT-based, which is a source of dependency and vulnerability. Knowledge about the effects of the interdependencies and interaction between critical societal functions and critical infrastructures is crucial to societal security and safety. There is a need for more knowledge about the interaction between technological, human and organisational factors, and the knowledge base for assessing mutual dependency in a larger perspective must also be expanded. Greater insight is needed on how best to organise crisis and preparedness management across infrastructures (and societal functions), with regard to responsibility, roles, coordination, capacity for action, back-up solutions etc. There is a particular need for knowledge and solutions about how to maintain continuity in the event that critical infrastructure is hit by concurrent threats that lead to a (very) long-term disruption.

4.3. Changing threats and risks

Terrorist attacks, sabotage, cyber attacks and profit-motivated criminal acts which have the potential to cause major damage are all events that can be characterised as deliberate acts. Human will and intention underlie these conscious acts to damage human life, buildings or other items of value. This type of act is different from other criminal acts (traditional crime) because it has much greater potential to wreak havoc and can spread fear among the population and because its purpose is often to strike/paralyse the authorities, societal infrastructure and/or legal business activities to achieve political aims. Certain forms of profit-oriented organised crime can also be so damaging at the societal level that they pose a threat to societal security and safety.

Climate change and weather-related factors are giving rise to new vulnerabilities that are not identified with existing risk analysis methods. Changes in the climate influence and reinforce other factors, thereby generating greater uncertainty regarding possible undesirable events.

Traditional quantitative risk analyses do not adequately capture ongoing changes and the complex nature of today's society. A threat picture hallmarked by new types of crime, climate change and growing interdependencies within society calls for new methods of risk analysis.

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4.3.1. Risk, understanding of risk and acknowledgement of risk

There is a need for knowledge about risk assessment relating to the various components of societal infrastructure and that can provide tools for integrated risk assessment of society as a whole. Research activities must also generate knowledge about how we can best direct attention towards, monitor, manage and learn from unpredicted, undesirable events. How can undesirable, deliberate acts or other undesirable events be discovered and handled, and how can they be discovered at a stage which enables us to prevent a risk from evolving into an undesirable event, while at the same time safeguarding personal freedom and promoting a feeling of safety and security?

The aim of risk research is to further develop concepts, principles, theories, methods, models and tools to better understand, analyse, communicate and control risk in the context of societal security and safety. Risk targets the future; thus, risk assessments of crises are characterised by great uncertainty. How are decisions regarding societal security taken, and how can decision-makers ensure that risk assessments are incorporated into the basis for decision-making? How can risk be assessed when the level of uncertainty is high?

4.3.2. Fundamental problems and principles of risk analysis

Research is needed to provide deeper insight into what the concepts of risk understanding and risk acknowledgement express. Risk management in our society, with priority-setting and choice of measures and preparedness solutions, is based on and addresses various ideas and principles, such as established practices, standards, follow-up of events that have occurred, risk acceptance criteria, cost-benefit analysis, and the cautionary principle. Risk management and the application of these mind-sets and approaches are challenging, particularly when there is widespread uncertainty. A key research question is: How do assessments and weighing of considerations evolve into political priorities and decisions? Risk analysis is based on prerequisites and always has limitations. To what extent do users of a risk analysis take into consideration the prerequisites for and limitations of the analysis? Research on the understanding and acknowledgement of risk can generate relevant knowledge here. It will be of particular interest to learn more about how the news media and other forms of communication influence the assessment and perception of the level of risk.

Research is also needed to develop concepts, principles, methods, models and tools for analysing and managing emerging risks.

4.3.3. Globalisation and terrorism prevention

Radicalisation and violent extremism involve actors who are willing to use violence to achieve political and religious aims. Updated knowledge is needed on the groups that may pose a threat, as well as about radicalisation processes and potential early intervention points and methods. Norway has research groups with a strong focus on international militant Islamism, but the knowledge about these international trends should be linked together with new knowledge about ideological trends and militant activities in relevant environments, combined with knowledge about the instruments available for use in terrorist acts. It is important to focus on new instruments and methods employed in such attacks. Successful terrorist acts are often characterised by the application of traditional instruments in new and unexpected ways. Cyber attack is one of the instruments used in terrorist attacks.

4.3.4. Cyber attacks and serious crime in a societal security and safety perspective

There has been a dramatic rise in cyber attacks against critical infrastructure and vital societal functions in recent years. In the white paper on terrorism preparedness (Meld. St. 21 (2012–2013)), the Ministry of Justice and Public Security states that attacks in digital space are one of the fastest growing threats to private citizens, companies and public institutions alike. As a result of society's dependence on ICT, the need for research to develop new knowledge relating to cyber attacks in a societal security perspective is even more pressing. Research is needed to enhance society's capability to discover, raise the alert about and handle serious ICT events. We need to know more about actors, modus operandi, impacts, scenarios and opportunities for prevention through protection, deterrence and other measures. This raises issues relating to jurisdiction and international police cooperation, which will also be important research topics.

Cyber attacks are a global phenomenon, so cooperation at the Nordic and international levels will be essential. Public bodies and companies must work together to ensure more systematic compilation of the information that is critical to developing a realistic threat picture. Risk is often underestimated due to a lack of systematically compiled incident data. There is a need for research related to the categorisation, registration and analysis of event data as well as how to optimise coordination and communication processes and crisis management. The human factor is crucial to preventive and reactive information security efforts and must be viewed in context with other factors.

4.3.5. Big data, profiling and surveillance-related dilemmas

Vast amounts of data are currently being compiled in an effort to fight crime and deliberate acts. In addition, larger international companies collect enormous amounts of data from the Internet activity of the public at large, and in certain cases share this information with the intelligence service to fight crime. Thus, there is a need for research on dilemmas relating to the application of new technology for knowledge collection and risk management, including research on how the application of these technologies affects the balance between surveillance and security measures on the one hand, and personal freedom and privacy on the other.

There is a need for knowledge about the factors that influence the choice of instruments used to prevent and combat deliberate acts, where focus appears to change in response to specific events, crises, international agreements and new knowledge. More research is also needed on how the use of covert surveillance technology may be regulated, and thus be made subject to legal control and political governance. Such knowledge will better equip the police and intelligence services to prevent and avert events that could cause serious societal damage before they take place, while at the same time safeguarding the rule of law as well as the privacy and legal rights of the individual. A relevant comparative perspective here would be to study how other countries address these challenges and how the Norwegian statutory framework and police practice in this area can and should be delimited in relation to or coordinated with legislation, control and enforcement in other countries. This topic is well-suited to inter- and multidisciplinary projects that examine both normative and empirical consequences.

5. International cooperation

Participation in international research cooperation, at international conferences and in international researcher networks, research stays abroad, visiting researcher grants and dissemination in recognised scientific fora all comprise important activities under the SAMRISK II programme. The programme will seek to qualify researchers for participation in international programmes and encourage cooperation with participants in international programmes, primarily under the auspices of NordForsk and the EU.

Contact with NordForsk will be facilitated by Director of the Department for Welfare and Education at the Research Council, Eivind Hovden, member of the SAMRISK II programme board, Bengt Sundelius, and programme coordinator Berit Berg Tjørhom.

Access to EU security research activities will be facilitated by May-Kristin Ensrud, who is the Norwegian delegate to security research under the EU framework programmes, and by Berit Berg Tjørhom, who is the National Contact Point (NCP) for and an expert in EU security research.

The SAMRISK II programme shares a thematic interface with several programmes and activities at the Research Council, including ICT research activities towards 2025 (IKT2025), the Research Programme on Democracy and Governance in Regional Context (DEMOSREG), the Research Programme on Safety and Security in Transport (TRANSIKK), the Climate Programme (KLIMAFORSK), the Programme on Russia and the High North/Arctic (NORRUSS), the Programme on the Cultural Conditions Underlying Social Change (SAMKUL), and the Research Programme on Welfare, Working Life and Migration (VAM). The Research Council should lay the foundation for the establishment of joint arenas and exchange between the programmes.

6. Strategic priorities and funding instruments

The SAMRISK II programme will employ *Researcher Projects* as a funding instrument for achieving programme objectives. Researcher Projects should include cooperation between several researchers and research groups and incorporate doctoral and/or post-doctoral research fellowships. They should also incorporate funding for cooperation with users, as well as planned dissemination measures such as publications, meetings, seminars, webpages, social media, courses, and participation at national and international conferences. Funding for internship, research stays abroad and stays for visiting researchers may be sought within the framework of the project.

It is a programme objective to ensure that the research carried out is of relevance to personnel working with societal security and safety in practice in government institutions and bodies, public and private enterprises, and NGOs. Civil rights organisations are also of relevance in this context. Grant proposals must therefore specify the relevance of the project to the sector in question and/or to promoting civil rights. Projects must also attach importance to dissemination activities and contact with users that can benefit from the research results. Proposals must describe how cooperation with other researchers, users and other interest groups is planned organised, and should ordinarily include users as a reference group. To ensure that cooperation activities are effective, it may be necessary to

set aside funding for this specific purpose. Grant proposals must also include a plan for scientific and popular scientific dissemination activities.

Design of the research projects
There is a need for researcher recruitment within several of the programme's thematic areas. Projects involving both researchers and research fellows will therefore be encouraged. In general, research projects should take a multidisciplinary approach in order to adequately address the challenges in the field of societal security and safety.

Provided that research activities are of high scientific merit and are relevant relative to this work programme, the programme will encourage the concentration of activities in large or medium-sized projects to ensure development and continuity. Funding will primarily be awarded to Researcher Projects with a two-to-four-year timeframe and a total budget of roughly NOK 3–10 million. The programme will seek to promote researcher recruitment and achieve a good gender balance.

Comparative research studies will be encouraged in order to generate new knowledge about Norwegian principles, models, systems and practice compared with other countries' systems and experience with prevention, preparedness, crisis management, recovery and learning in the wake of major crises or disasters. The experience of countries outside of Europe may be particularly relevant here.

In order to boost the overall quality of the research, promote multidisciplinarity when it is called for, and increase the relevance and benefit of the research to society, the programme will seek projects incorporating wide-ranging user participation, cooperation with users and information exchange between participating researchers and other research environments. Cooperation on researcher training and dissemination activities targeting user groups will also be encouraged.

7. Knowledge-sharing and dissemination activities

Communication and dissemination of research results will be an ongoing activity under the SAMRISK II programme. Communication and knowledge-sharing play a vital role in societal security efforts, where the achievement of targets depends on the participation of and contact with various actors, in terms of both data collection and implementation of new knowledge.

Target groups	Activities
Political bodies and the public authorities at all levels	Opinion pieces Participation at meetings Organisation of seminars Workshops Social media
Government agencies and organisations responsible for societal security and safety as well as critical infrastructure	Opinion pieces Presentations at seminars Workshops
Research and development groups	Scientific articles in peer-reviewed journals Chapters in anthologies Participation and contribution at conferences Dissemination of research through teaching and educational activities
Society at large	Opinion pieces National Science Week in Norway Social media

8. Organisation

Programme board and programme administration

The Department of Welfare and Education under the Division of Society and Health has the overall administrative responsibility for the SAMRISK II programme and is responsible for appointing the programme board. The programme is led by a programme board, whose activities are at all times to comply with the overall principles and guidelines for the establishment, operation and conclusion of research programmes as set out by the Research Council. The programme board acts on behalf of the Research Council, and is responsible for ensuring that the programme achieves its stipulated objectives and is implemented as efficiently as possible in relation to plans for programme activities, within the framework approved by the division research board. The SAMRISK II programme was launched to help to solve the challenge of maintaining societal security and safety. This is an area that will require interdisciplinary input. The programme board therefore comprises experts from a wide array of disciplines to be able to view the activities under the SAMRISK II programme in an overall, integrated perspective.

The programme board consists of the following members:
- Dr Grete Myhre (chair), former head of the Accident Investigation Board Norway
- Professor Willhelm Agrell, Lund University
- Associate Professor Karen Lund Petersen, Centre for Advanced Security Theory, University of Copenhagen
- Professor Bengt Sundelius, Swedish Civil Contingencies Agency
- Dr Maria Kjærland-Haga, Statoil ASA
- Senior Adviser May-Kristin Ensrud, Ministry of Justice and Public Security
- Assistant Director General Anders R. Hovdum, Ministry of Transport and Communications
- Associate Professor Elisabeth Staksrud (deputy), University of Oslo
- Senior Adviser Hans Myhrengen (deputy), Ministry of Defence
- Senior Adviser Ivar J. Knai (observer), Norwegian Directorate for Civil Protection

The programme administration consists of:
- Senior Adviser Berit Berg Tjørhom
- Senior Executive Officer Bjørg Bergenhus

9. Timeframe and funding

The SAMRISK II programme will run from 2013 through 2016. The programme will have an annual budget of NOK 20 million and ministry funding for five years, for a total budget of NOK 100 million

The allocating ministries are: the Ministry of Justice and Public Security (NOK 13 million), the Ministry of Education and Research (NOK 4 million), the Ministry of Transport and Communications (NOK 2 million), and the Ministry of Defence (NOK 1 million).