Statistics Norway

Statistisk sentralbyrå

IT strategy for Statistics Norway 2014–2017
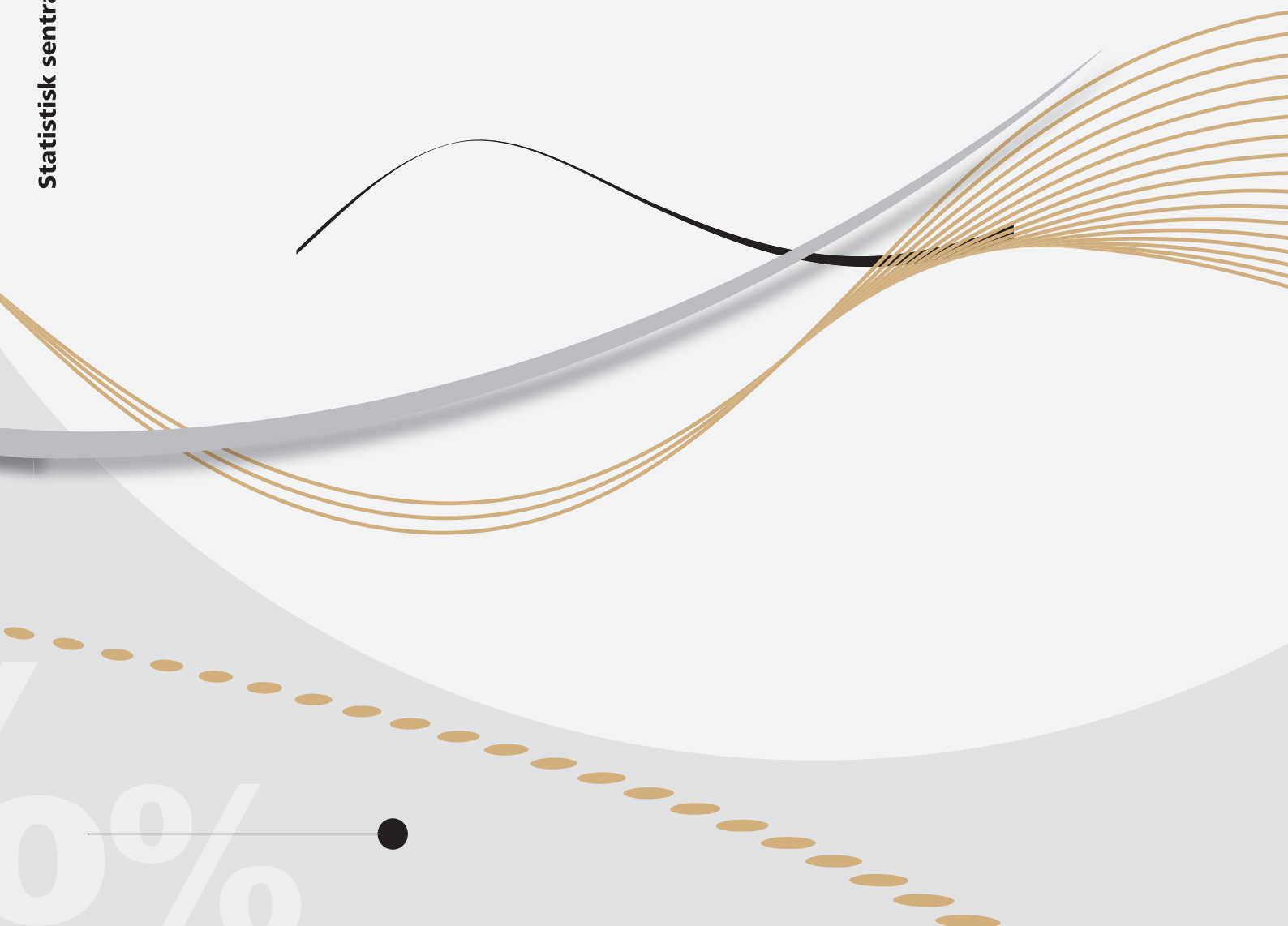
IT strategy for Statistics Norway 2014-2017

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Symbols in tables	Symbol
Category not applicable	.
Data not available	..
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Less than 0.5 of unit employed	0
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Preface

The IT strategy shows how IT will help Statistics Norway to achieve its goals in Strategy 2014-2017 (http://www.ssb.no/en/omssb/styringsdokumenter/strategier).

IT solutions shall help to show that Statistics Norway is modern and user-friendly. Statistics Norway's solutions shall, as far as possible, make use of technology that users expect to see or are accustomed to using, and the high quality of the IT solutions shall underpin the credibility of Statistics Norway's statistics and analyses. IT shall facilitate effective work processes in the production of statistics, analysis and research and in the administration and management of Statistics Norway's activities.

Statistics Norway shall increase its efforts to develop common IT solutions that support the work processes in the production of statistics. This means that Statistics Norway shall also prioritise development of systems that improve the organisation and coherence of its data. This opens up for efficient reuse and dissemination of Statistics Norway's data for further analysis and research, both internally and externally. The development of new solutions shall be based on national and international standards, and shall, to the greatest extent possible, utilise technology that has already been developed and proven. Furthermore, Statistics Norway will reuse systems from sister organisations. The extent of customised solutions shall be reduced.

In order to facilitate prioritisation in accordance with strategic goals, Statistics Norway shall improve the governance of IT so that IT resources are developed and utilised optimally. This requires a governance model with clear decision making, effective coordination and management guided compliance.

Statistics Norway shall develop sufficient capacity in IT function through strict prioritisation of tasks, development of internal IT expertise and outsourcing of services where the market can deliver best.

The IT strategy has been approved by the Board and executive management. The IT strategy applies to all IT in Statistics Norway, regardless of where IT operations, application management or development occurs. The strategy shall apply for the period 2014-2017.

Statistics Norway, 3 November 2014.

Hans Henrik Scheel

Contents

1. Statistics Norway's needs

Statistics Norway's *Strategy 2014-2017* describes key developments that affect Statistics Norway, the goals of its activities and how these are to be achieved.

1.1. Key developments

Focus is placed on the following developments in Statistics Norway's strategy:

- Increasing globalisation with financial activities across country borders
- Growing demand for new statistics in new areas
- Obligations in accordance with the EEA Agreement
- New technology for collecting data and disseminating statistics
- New data sources
- Changing attitudes to and guidelines for data protection
- Increased competition in the statistics market

In general, international standardisation work and increasing digitalisation in the public and private sectors entail new requirements, including more digital interaction with other institutions and greater reuse of data and information. The need to supply more data and use new data sources will to increase.

1.2. Strategy and goals of the activity

Statistics Norway is the central body responsible for covering the need for statistics on Norwegian society. Statistics Norway's strategy includes the following main goals for the activity:

1. Statistics Norway shall be society's leading supplier of facts.
2. The statistics shall meet the needs of users.
3. Relevant research and analysis shall enhance the value of statistics.
4. Statistics Norway shall participate in the international cooperation to improve statistics.
5. Statistics Norway shall have easy access to data sources.
6. Statistics Norway shall be an effective and knowledge-based organisation.

Statistics Norway has a unique position through the Statistics Act, which also sets the framework for Statistics Norway to fulfil its role in society. Statistics Norway has many international obligations, where the requirements set by the EEA Agreement in particular are demanding and require extensive resources. The international cooperation also provides us with knowledge and new opportunities. Statistics Norway shall ensure data protection by holding good control of the data and preventing loss and misuse. Effective use of IT in all areas of the activity is essential for Statistics Norway to achieve its goals.

1.3. Prerequisites for IT to help Statistics Norway to achieve its goals

Statistics Norway's ability to prioritise internal and external user needs and send unambiguous IT orders are a fundamental prerequisite for optimum management and utilisation of its IT capacity. There also needs to be a good balance between business resources and IT resources in the cooperation to develop and improve Statistics Norway's IT solutions and services. A prerequisite for achieving the objectives in this strategy is therefore to build up sufficient business expertise and resources with regard to the ordering of IT services and work in IT development projects.

In order to develop comprehensive solutions that support the production of statistics and cooperation in Statistics Norway, expertise must be developed in designing and managing a comprehensive enterprise architecture. This entails developing principles, methods and models that describe how work processes are

organised, whereby each IT solution works as part of a whole and not separately. There is a particular need to increase Statistics Norway's expertise and capacity related to information architecture, i.e. websites, applications and different types of information services process and present information in accordance with over-arching data structures and models. This is a prerequisite to ensure good coherence between data and metadata and to simplify reuse of data internally and externally.

In order to realise the strategy, the ability and capacity for implementation in the development, ongoing operation and management of Statistics Norway's IT solutions will need to be increased. This also requires better planning processes, stricter prioritisation and close follow-up of the benefits of investing in new solutions.

1.4. IT function's contribution to realising Statistics Norway's strategy

IT will contribute to the realisation of the business strategy in the ways and areas explained below.

Statistics Norway shall be society's leading supplier of facts

- Statistics Norway must define the IT function's core activities and establish sufficient capacity in these areas.
- IT shall help Statistics Norway to communicate in line with external users' expectations on the most important digital platforms in use. This applies to communication with respondents, customers and users of Statistics Norway's data, statistics and analyses.

The statistics shall meet the needs of users

- IT shall help to make Statistics Norway's data, statistics and analyses easy to access, well documented and suitable for reuse and further processing.
- Adjustments to statistics as a result of changes in the users' needs shall mainly be carried out by personnel specialised in that area, without the need for special IT development assistance.

Relevant research and analysis shall enhance the value of statistics

- IT shall contribute to effective access to data for research and analysis, whilst ensuring data protection and confidentiality.

Statistics Norway's shall participate in the international cooperation to improve statistics

- IT shall contribute to an effective dissemination of statistics in accordance with international standards and obligations.
- IT shall participate in national and international cooperation in order to reduce the cost of IT development and reuse IT solutions that are used elsewhere.

Statistics Norway shall have easy access to data sources

- IT shall build expertise and capacity in order to utilise the potential to retrieve data from new sources. This shall be done in close cooperation with the statistics and methods environment in Statistics Norway.
- IT shall develop better and more integrated metadata systems to help to enable data to be collected and reused across different sources and collection channels to a greater extent.

Statistics Norway shall be an effective and knowledge-based organisation

- A clear and effective management model shall be established for IT development and operations respectively in Statistics Norway.

- IT shall conduct capacity planning and report resource usage in such a way that at any time it is clear what IT resources Statistics Norway has at its disposal in different systems and areas of expertise.
- IT shall work closer with all departments in Statistics Norway and give advice on how IT solutions can support their needs and to what cost.
- IT shall contribute to the development of common solutions that ensure standardisation and automation of work processes, use the best statistical methods and create consistent quality indicators and link metadata and data in the production of statistics in order to ensure good storage and reuse of data.
- The IT function shall help to reduce the vulnerability of IT solutions by designing solutions so that IT resources and internal users of the IT solution can be more easily rotated and used across specialist areas and processes.

2. IT management

Statistics Norway shall establish a management model for IT at the strategic, tactical and operational levels. The model shall define roles, responsibilities and meeting arenas that ensure effective processes for how Statistics Norway prioritises and follows up the IT function. The management model shall include the planning, prioritisation and implementation of IT development projects and ongoing IT operations and application management.

The current management model shall be improved so that:

- The IT development capacity is used optimally in line with multidisciplinary prioritising of development needs;
- Processes for reporting, processing and prioritising any needs for changes are clear and effective;
- A clear distinction is established between IT development and IT operations/application management;
- Statistics Norway has strict priorities within the ordinary budget, but still has the ability and capacity to handle large, earmarked initiatives when necessary;
- Consequences of changes are systematically accounted for and included in the planning of changes;
- The benefits of changes are planned and identified, and the realisation of benefits is followed up.

Statistics Norway's management shall have a collective responsibility for compliance with the management model. As part of the continuous improvement work, any bottlenecks and unsuitable processes shall be removed or improved. A management document for IT shall be drawn up that stipulates responsibilities, meeting arenas and decision-making processes for managing and prioritising needs at the tactical and operational levels of management. The management document shall replace the current cooperation agreements.

2.1. Direction for IT finances

The IT function in Statistics Norway shall be financed by two budgets. IT development shall have its own budget managed by the director of portfolio management, while the budget for IT operations and application management is administered by the IT director.

IT expenditure shall be reported in order to obtain an overview of costs for the various IT services and enable comparisons with other institutions or with the market. This is an important prerequisite in the assessment of whether to outsource services.

3. IT deliveries

3.1. IT services

The Department of IT provides operation, application management and development services to all departments in Statistics Norway. The services can be categorised as follows:

1. Infrastructure services in the form of platform operation. This mainly covers networks, servers, data storage and middleware.

2. Services and applications related to general leadership, administration, case work and cooperation.

3. Services and applications that support the main processes in Statistics Norway's business process model.

The provision of services from IT shall be described in a common catalogue for services that clearly explains which quality requirements are applicable to the various services. In association with the catalogue for services, a complete up-to-date list of the products managed by the IT function will be kept. It should also be possible to agree on specific quality requirements related to the respective products.

The IT function is responsible for providing services of the right quality for all three service areas, even though parts of the service production are carried out by external contractors. The greatest competition for external provision of services is within areas 1 and 2.

3.2. Cohesion and context

The IT function develops and manages a complex infrastructure and a large portfolio of IT solutions and tools. IT is an area that is subject to rapid development, and new challenges and opportunities are constantly emerging. There is a growing need to:

- Use new data sources, in that more and more information is collected directly from public registers, external data systems and increased electronic interaction.

- Ensure the coherence of a layered IT infrastructure, with a large number of different products and suppliers.

- Ensure the coherence of a portfolio with many different solutions that provide the basis for comprehensive work processes.

- Acquire knowledge about new technological capabilities, internal and external user needs and statutory requirements from Norwegian and European authorities.

The overall approach to this should be addressed by describing Statistics Norway's enterprise architecture, which shows how Statistics Norway's work is organised, how work processes are put together and how IT solutions are utilised. The IT function has a particular responsibility to ensure that Statistics Norway's IT solutions are, to the greatest extent possible, developed and managed in accordance with a coherent and approved architecture in order to avoid systems that do not communicate, solutions that create vulnerability and unwanted technological or functional dependencies.

Principles and target pictures for the development and management of Statistics Norway's enterprise architecture shall be developed and approved. The IT function is responsible for ensuring that all choices of technology and software are in line with this.

3.3. Streamlining the production of statistics

The scope of common solutions has increased significantly in recent years with regard to the data collection, the processing of data and the dissemination of statistics. The solutions are broadly applied and cover substantial parts of the work processes in these areas. The purpose of the common solutions is to make statistics personnel as self-reliant as possible in their efforts to implement and modify the production system for statistics.

Development of a new platform for statistical analysis and table production has begun. Statistics Norway will develop this further in the direction of a comprehensive and broadly applied solution that can streamline analysis further and lay the foundation for more multidisciplinary analyses where desired. In connection with the Electronic Dialogue with Employers project, common solutions are being further developed so that the requirements for processing of register-based statistics will also be met. The potential for developing common solutions to cover the processing of Statistics Norway's macroeconomic statistics is to be explored. Common solutions shall be developed in accordance with international standards, "off the shelf" products or solutions from statistical agencies in other countries will be used wherever possible. Developments in this field shall therefore remain a high priority.

Updated targets shall be set for the development of common solutions. The foundation for specific planning and prioritisation of projects and deliverables will be stipulated in an overall action plan that is updated on an ongoing basis and based on the strategy.

3.4. Management of business applications

A significant proportion of deliveries and services from the IT function includes support for business applications that are designed to produce specific statistical products. Many of these applications have originally covered all the work processes necessary to create each product. Today's business applications are often limited to the work processes "prepare" and "analyse", particularly in regard to table production and ad-hoc assignments. Business applications shall be reviewed in order to obtain a clearer picture of the potential benefits from standardisation. A priority plan shall therefore be drawn up to reduce the scope of business applications as much as possible. New developments and changing needs shall be kept to a minimum in order to free up as many resources as possible for the development of common solutions.

3.5. Data and metadata

Good descriptions of Statistics Norway's data, methods and processes are fundamental to the understanding of statistics and reuse of data. These metadata shall be systematically stored during the production of statistics, and be well integrated with Statistics Norway's data and statistical products. Further development of an effective and comprehensive system that ensures this shall be prioritised.

Statistics Norway's description of data shall be based on national and international standards and models. This will make it easier for Statistics Norway to apply solutions developed by other producers of statistics or generally available software based on the same standards. Statistics Norway's statistical definitions and classifications shall be easily available for external use.

Further development of the metadata systems will help Statistics Norway to disseminate open data with adequate documentation for reuse. Good metadata systems are also necessary for Statistics Norway's data archive to be harmonised and structured. This in turn will help Statistics Norway to effectively provide data for research and analysis.

3.6. Risk management

Risk management is the cornerstone of an effective and predictable management and operation of IT solutions. In order to estimate the resources needed for daily operations, we must define what is deemed an acceptable risk based on systematic risk assessments. Risk in this context is the ability to correct errors within an acceptable time frame and the ability to manage the changes that are needed in order to ensure continuous operations and production. Risk management should be balanced between the need for functional and technical improvements. Furthermore, trends that will affect the balance of risks must be identified at an early stage so that action is taken at the right time.

The resources required to operate and manage Statistics Norway's IT solutions within acceptable risk are the bedrock of the IT function. Only when the resource requirements are clarified can resources be released for development and multi-disciplinary, prioritised changes.

Risks and measures related to data security and data protection shall be given a special focus and linked clearly to Statistics Norway's security team and internal controls.

3.7. Outsourcing of services

The IT function is responsible for delivering IT services to the whole of Statistics Norway, regardless of whether the services are supplied internally or externally. A strategy shall be devised indicating what the IT function should deliver internally and what should be delivered by a third party (sourcing strategy). Key principles as a basis for a sourcing strategy are:

- Which services can be considered for outsourcing?
  - All services can, in principle, be considered for outsourcing, but this must be assessed in light of Statistics Norway's core expertise and core processes.
  - Statistics Norway shall not build capacity or expertise where the market can provide competitive services.

- How should Statistics Norway assess and prioritise outsourcing of services?
  - Every service that is considered for outsourcing must be subject to an impact assessment with regard to cost, quality of service and risk.
  - Every service that is considered for outsourcing must be delivered in a way that fits with Statistics Norway's enterprise architecture.
  - Professional suppliers and more than one relevant supplier must be found for every service that is considered for outsourcing.
  - The number of suppliers must be kept at an appropriately low level.

- How shall Statistics Norway best organise and facilitate outsourcing of services?
  - Sufficient internal expertise and capacity to manage suppliers must be available for every service that is considered for outsourcing.
  - Statistics Norway shall be responsible for assembling and integrating services from several suppliers (internal and external) in a seamless manner for customers.

- Other key principles:
  - The agreements in public procurement in central government shall be applied.
  - It must be easy to adapt the scope of the agreement for every service that is considered for outsourcing.

A strategy and plan shall be drawn up for outsourcing IT services that will be based on a separate mandate.

3.8. Expertise and capacity

What capacity the IT function should have in order to contribute to the development of Statistics Norway depends on the priorities and choices made by Statistics Norway's top management. This applies to both the scope of the right expertise internally and the scope of services purchased externally. Statistics Norway's IT expertise needs to be strengthened in the following areas where we currently have little or no expertise:

• Architecture
• Information modelling
• Developer expertise
• Management and planning
• Security and risk management

Statistics Norway does not currently have enough capacity in terms of the IT developer expertise necessary, at an adequately rapid pace, to complete work on the development of common solutions. When too much time is spent on development, an inappropriately large share of the resources disappears on essential maintenance and adaptation of old solutions.

The following is necessary in order to increase capacity:

• Changes that require more resources than is available for necessary maintenance should be subject to a common prioritisation process across the organisation;
• The IT department shall clearly describe which areas of expertise need to be prioritised, and always have an overview of available capacity in these areas;
• Employees shall be redirected to new tasks within the prioritised IT areas and given the necessary training within the areas where this is little or no IT expertise;
• Stimulate an attractive and competent IT professional environment through the use of modern tools and development methods.

IT resources that are currently closely related to the management and development of the specific business applications shall, in future, work more on effective management and organisation of data for the common solutions. Where no relevant common solution exists, the responsibility for building the necessary IT skills or for outsourcing these services must be specifically agreed to.

Proposed measures are stipulated in the action plan for IT.

3.9. Organisation

The following principles apply to the organisation of the IT function:

• There shall be a clear distinction between development and operations/application management.
• It shall be clear how to communicate with IT on various matters.
• It shall be clear how the organisation of IT supports the IT management model.
• There shall be a close relationship with the internal owners and the users of the IT solutions.
• It shall be clear how the resources are used.
• There shall be a clear responsibility for deliverables and expertise development.

The management organisation of and the work in the IT function can be divided into four main processes:

• IT management
  ➢ Strategic planning and development
  ➢ Continuous planning of IT activities
  ➢ Systematic gathering, assessment and follow-up of the requirements for IT
  ➢ Risk management and quality assurance of IT services and solutions

- IT development
  - ➢ IT's role in project and portfolio management
  - ➢ The processes within systems development for analysis, design, building, testing and delivery of solutions to operations and application management
- Delivery of services and ongoing operations and application management
  - ➢ Best practice based on ITIL processes
- Support processes
  - ➢ Financial management
  - ➢ Resource planning
  - ➢ Supplier management

The strategic management of IT through portfolio management of IT development projects is organised into a separate unit and business function that also addresses the overall architecture work. The IT department's internal organisation will be developed with a view to ensuring predictable deliverables, good dialogue with internal users and efficient operations and application management. Implementing a management model and improvement of resource and capacity management is essential for good management of the IT department, which moreover shall be managed in line with an appropriate implementation of the best models and practice for operation and delivery of IT services.

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