

**Documentation of statistics for  
Innovation in the public sector 2014**

## **1 Introduction**

The purpose of the statistics is to uncover the extent and types of public sector innovation, including the innovation activities. The survey is based on an electronic questionnaire, and is conducted according to EU and OECD's guidelines conc. innovation statistics, as described in the Oslo manual. The manual primarily concerns business enterprise sector innovation. Comparable statistics for other countries is not available.

## **2 Statistical presentation**

The purpose of the statistics is to investigate innovation in the public sector, including uncovering of the types of innovation implemented on the individual workplaces. The survey is carried out by Statistics Denmark in cooperation with the National Centre for Public Innovation and the Danish Centre for Studies in Research and Research Policy. The survey is based on an electronic questionnaire, and is carried out according to the principles of EU and OECD concerning innovation statistics as describes in the Oslo Manual, even if the manual is directed towards analyses of the business enterprise sector. Comparable statistics from other countries does not exist according to Statistics Denmark's knowledge.

### **2.1 Data description**

The purpose of the survey is to uncover the extent and types of innovation in the public sector, including also purposes, processes, effects etc. Among the questions asked are whether the latest innovation concerned new products, processes, organization or ways of communication. And whether this latest innovation was completely new or inspired by solutions developed by others, or simply a copy of solutions made by others. Also the respondents were asked who or what initiated the latest innovation (e.g. managers, employees, new legislation/regulation, economical pressure, new technology etc.).

The most important indicators are: Share of innovative public workplaces, including distribution on innovation in products, services, organization and communication with external parties.

## 2.2 Classification system

Size class of workplace, based on average number of employees in 2013.

The survey cover public workplaces within the following activities:

- Government administration and service - integrated units, 71
- Government administration and service - non-integrated units, 72
- Regions administration and service – integrated units, 74
- Regions administration and service – non-integrated units, 75
- Municipal administration and service – integrated units, 76
- Municipal administration and service – non-integrated units,, 77

Sectors are based on Dansk Branchenomenklatur 2007 (DB07), and comprises:

- Public administration etc.: activities 841100, 841200, 841300, 781000
- Defense, police etc.: activities 842100, 842200, 842300, 842400
- Education: activities 852010, 852020, 853110, 853120, 853200, 854100, 854200, 855200, 855900, 856000
- Health.: activities 861000, 869010, 869020, 869030, 869090
- Caretaking of elderly and disabled: activities 871010, 871020, 872010, 872020, 873010, 873020, 879010, 879020, 879090, 881010, 881020, 881030
- Child care: activities 889110, 889120, 889130, 889140, 889150, 889160
- Culture, sports and other activities: activities 522110, 562100, 602000, 712010, 811000, 812100, 812900, 900110, 900400, 910110, 910120, 910200, 931100, 960110

## 2.3 Sector coverage

The statistics cover the public sector.

## 2.4 Statistical concepts and definitions

Innovative: The Oslo manual (see below) definition of innovation is: "An innovation is the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organisational method in business practices, workplace organisation or external relations." Innovation is defined as a new or significantly changed way to improve activities and results. Innovations may be new or significantly changed services or products, working processes, ways of organizing work and ways in which to communicate with externals.

- Innovations must be new to the workplace, but may be developed, introduced or used by others previously.
- Innovations must be implemented during 2013-2014, but the work may have been started earlier.
- Small changes, which have not led to improved activities or results at the workplace should not be included.
- Innovations may be developed by the workplace itself or by others.

The definition of public innovation was formulated in the questionnaire as::

A new or significantly changed way to improve the activities and results of the working place. Innovations may be • new or significantly improved products • new or significantly improved services • new or significantly improved processes/ways to organize work, as well as • new or significantly improved ways to communicate med

The Oslo manual is OECD's and Eurostat's guide to collection and interpretation of innovation data. The existent regulation concerning production and development of community statistics on science and technology (No. 995/2012 of 26. October 2012) states in article 4: "It is necessary to ensure that European statistics on science and technology are consistent with other international standards. To that end, work carried out by the Organisation for Economic Cooperation and Development (OECD) and other international organisations should be taken into account. In particular, the Frascati Manual on research and development statistics, the Canberra Manual on statistics on human resources devoted to science and technology, the OECD Patent Statistics Manual, published by the OECD, as well as the Oslo Manual on innovation statistics, published jointly by the OECD and the European Commission (Eurostat), should provide a reference framework."

## 2.5 Statistical unit

Workplace.

## 2.6 Statistical population

The population is drawn from an extract of Business Enterprise Register containing units at workplace level, which were active by the end of 2013. The population is defined taking sector code, type of enterprise/institution and activity into account.

Sector code:

- 71: Government administration and service - integrated units
- 72: Government administration and service - non-integrated units
- 74: Regional administration and service - integrated units
- 75: Regional administration and service - non-integrated units
- 76: Municipal administration and service - integrated units
- 77: Municipal administration and service - non-integrated units

Type of enterprise/institution:

- 90: Fund
- 230: Government administrative unit
- 245: Region
- 250: Municipality
- 280: other types of enterprises/institutions

Subsector based on Dansk Branchekode 2007 (DB07):

- 841100, 841200, 841300, 781000: public administration
- 842100, 842200, 842300, 842400: Defense, police etc.
- 852010, 852020, 853110, 853120, 853200, 854100, 854200, 855200, 855900, 856000: Education
- 86.10 -86.90: Health etc.
- 87.00-88.10: Caretaking of elderly and disabled
- 88.91: Child care
- 522110, 562100, 602000, 712010, 811000, 812100, 12900, 900110, 900400, 910110, 910120, 910200, 931100, 960110: Culture, sports and other activities

After this, workplaces with less than 3 employees were excluded, leaving a frame population with approximately 15.300 public workplaces with 820,000 employees.

For the drawing of the sample the frame population was stratified by number of employees (3-49 employees, 50-99 employees, 100-249 employees and 250(+) employees), by Region (Region Nordjylland, Region Midtjylland, Region Syddanmark, Region Hovedstaden, Region Sjælland) and by subsector.

The total sample for the survey consists of 3,568 public workplaces.

## 2.7 Reference area

Denmark.

## 2.8 Time coverage

2013-2014

## **2.9 Base period**

Not relevant for these statistics.

## **2.10 Unit of measure**

Percentages.

## **2.11 Reference period**

2013-2014

## **2.12 Frequency of dissemination**

The survey is carried out only one time. There are no plans to continue the survey.

## **2.13 Legal acts and other agreements**

The survey is voluntary for the respondents, no legal acts are therefore required.

## **2.14 Cost and burden**

The burden on the respondents has not been calculated.

## **2.15 Comment**

[Theme page conc R&D and Innovation](#)

## **3 Statistical processing**

The statistical treatment of data primarily concerns the creation of derived variables and formatting of the data.

### **3.1 Source data**

The statistics is based on a survey questionnaire and based on responses from 1,255 public workplaces, from a sample of 3,568 workplaces among a population of approximately 15,000 public workplaces. Workplaces are randomly drawn depending on number of employees, government level (Government, Regions, Municipalities) and the activity of the workplace.

### **3.2 Frequency of data collection**

The survey will only be carried out once.

### **3.3 Data collection**

A Web-questionnaire was used for the collection of data.

### **3.4 Data validation**

No checking of data has been implemented, as the questions are all of qualitative character, where the viewpoint of the respondent is the base of the response. At the same time, the use of a web-based survey has meant that no questions could be left unanswered, and neither was it possible for respondents to give answers to questions they should not respond to (item non-response).

### **3.5 Data compilation**

The data collected has been weighted to correct for non-response.

### **3.6 Adjustment**

Not relevant for these statistics.

## **4 Relevance**

Ministries, departments, municipalities, regions, decision makers, workplaces and employees in the public sector, who have the possibility to compare the innovation activities of their workplace in comparison to others, and to get inspired for new solutions. Researchers and consultants working with innovation in the public sector will be able to use the material for analyses.

### **4.1 User Needs**

Ministries, departments, municipalities, regions, decision makers, workplaces and employees in the public sector, who have the possibility to compare the innovation activities of their workplace in comparison to others, and to get inspired for new solutions. Researchers and consultants working with innovation in the public sector.

### **4.2 User Satisfaction**

The user satisfaction cannot be estimated before the publishing of the results.

### **4.3 Data completeness rate**

Not relevant for these statistics.

## **5 Accuracy and reliability**

The survey was voluntary with a response rate of 35 per cent, and therefore the uncertainty will be higher than in a survey with a much higher response rate. Measurement errors are believed to be very small, as nearly all questions in the survey are qualitative.

### **5.1 Overall accuracy**

As the survey is based on a sample, uncertainty is attached to all the figures in the form of random variation. This applies, in particular, to the results broken down according to the most detailed industry, region and size figures, where the figures should only be regarded as normative.

### **5.2 Sampling error**

Sampling errors have not been calculated for this statistics.

### **5.3 Non-sampling error**

The 65 per cent non-response is believed to be the primary source of uncertainty.

### **5.4 Quality management**

Statistics Denmark follows the recommendations on organisation and management of quality given in the Code of Practice for European Statistics (CoP) and the implementation guidelines given in the Quality Assurance Framework of the European Statistical System (QAF). A Working Group on Quality and a central quality assurance function have been established to continuously carry through control of products and processes.

### **5.5 Quality assurance**

Statistics Denmark follows the principles in the Code of Practice for European Statistics (CoP) and uses the Quality Assurance Framework of the European Statistical System (QAF) for the implementation of the principles. This involves continuous decentralized and central control of products and processes based on documentation following international standards. The central quality assurance function reports to the Working Group on Quality. Reports include suggestions for improvement that are assessed, decided and subsequently implemented.

### **5.6 Quality assessment**

In general the quality of the statistics is assessed to be good. On one hand there has been a thorough test of the questionnaire, which should secure a good understanding of the questions. At the same time the population has been scrutinized carefully, and the electronic questionnaire has guided the respondents through the relevant questions. Finally nearly all questions are qualitative, which - according to previous experiences - result in fewer mistakes than quantitative questions.

### **5.7 Data revision - policy**

Statistics Denmark revises published figures in accordance with the [Revision Policy for Statistics Denmark](#). The common procedures and principles of the Revision Policy are for some statistics supplemented by a specific revision practice.

### **5.8 Data revision practice**

Not relevant for these statistics.



## **6 Timeliness and punctuality**

From the end of the reference period (December 2014) to the day of publication, 4,5 months have passed.

### **6.1 Timeliness and time lag - final results**

Four months have passed between the end of the reference period (December 2014) to publication.

### **6.2 Punctuality**

Not relevant for these statistics.

## **7 Comparability**

There are no comparable statistics from other countries, and there is therefore no comparable international data. The survey is the first survey in Denmark, and there is therefore no comparable data from previous reference periods. To some extent the statistics can be compared to statistics of innovation in the business enterprise sector.

### **7.1 Comparability - geographical**

There are no comparable statistics from other countries, and therefore it is not possible to make international comparisons at the time being.

### **7.2 Comparability over time**

This is a one-off survey, and comparability over time is therefore not relevant.

### **7.3 Coherence - cross domain**

The statistics may to some extent be compared to statistics on innovation in the business enterprise sector. Both statistics are compiled according to EU and OECD guidelines. Among the central variables product- and process innovation may be compared. On the other hand there is a range of crucial differences between the two statistics: Innovation in the public sector is a voluntary survey, whereas statistics on innovation in the business enterprise sector is compulsory. The reference period diverge: in the business enterprise sector survey most questions regard the latest three-year period, whereas innovation in the public sector concerns the latest two-year period. Finally there is a general and important reservation concerning comparison, that the frame conditions may very well be different in a private enterprise in a competitive market and a public sector institution with a political management.

### **7.4 Coherence - internal**

High consistency in the data, as an electronic web-based questionnaire has been used, guiding the respondents to the relevant questions.

## **8 Accessibility and clarity**

The statistics is published in News from Statistics Denmark and in the database Statbank. Danish research environments can be granted access to micro-data via 'Data for research'.

### **8.1 Release calendar**

The publication date appears in the release calendar. The date is confirmed in the weeks before.

### **8.2 Release calendar access**

The Release Calendar can be accessed on our English website: [Release Calendar](#).

### **8.3 User access**

Statistics are always published at 8:00 a.m. at the day announced in the release calendar. No one outside of Statistics Denmark can access the statistics before they are published.

### **8.4 News release**

The statistics is published in News from Statistics Denmark.

### **8.5 Publications**

See Centre for Public Innovation [Center for Offentlig Innovation](#), where examples of public innovation can be found, together with more analyses.

### **8.6 On-line database**

The Statbank, see [Danmarks Statistik](#) covers innovation in the public as well as the private sector.

### **8.7 Micro-data access**

Micro-data can be used for research.

### **8.8 Other**

Micro-data can be used for research. There are no internal exchange within Statistics Denmark or to Eurostat.

### **8.9 Confidentiality - policy**

According to [Statistics Denmark's policy concerning discretion, see [Danmarks Statistik](#).

### **8.10 Confidentiality - data treatment**

On the existing level of publication there is no need for discretion.

### **8.11 Documentation on methodology**

Before carrying out the survey, Statistics Denmark prepared a project to analyze the relevant population etc. This project is published by Centre of Public Innovation, see [Center for Offentlig Innovation](#).

### **8.12 Quality documentation**

Results from the quality evaluation of products and selected processes are available in detail for each statistics and in summary reports for the Working Group on Quality.

## **9 Contact**

The administrative placement of these statistics are in the division of Business Development. The person responsible is Helle Månsson, tel. +45 39 17 31 13, e-mail: [hej@dst.dk](mailto:hej@dst.dk)

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