eGov in Denmark
Standards in action
ISO TC211 Copenhagen, May 2018
Lars Storgaard, Agency for Data Supply and Efficiency
Main state authorities (eGov)

Population (1 000): 5,748,769 inhabitants (2017)
GDP at market prices: 288,373.5 million Euros (2017)
GDP per inhabitant in PPS (Purchasing Power Standard EU 28 = 100): 124
GDP growth rate: 2.2% (2017)
Inflation rate: 1.1% (2017)
Unemployment rate: 5.8% (2017)
General government gross debt (Percentage of GDP): 36.4% (2017)
General government deficit/surplus (Percentage of GDP): 1.0% (2017)
Area: 42,895 km²
Capital city: Copenhagen
Official EU language: Danish
Currency: DKK
Source: Eurostat (last update: 8 February 2018)
REGIONAL TASKS IN DENMARK

The regions have the main responsibility for the provision of health services. The regions operate the public hospitals.

The regions are also responsible for tasks within the areas of public transport, tourism, education and soil pollution.
Municipal Responsibilities

- **Health care** including rehabilitation, home care, prevention of abuse, dental care, and promotion of health
- **Social services** such as care for elderly and disabled, psychiatric treatment, social psychiatry, placement of neglected children, and specialised education
- **Employment** stimulation targeted businesses as well as unemployed citizens whether or not they are part of an unemployment-insurance system
- **Integration** of refugees and immigrants e.g. through mandatory introduction programs that focus on culture, language, and labour-market entrance
- **Industrial and economic development** at both a strategic and an operational level, aiming at stimulating growth
- **Labour-market involvement** regarding the Danish model of flexicurity, active labour market policies, local employment strategies, operation of job centres, and taking actions based on agreements from the two- and tripartite system of negotiation
- **Administration and digitalisation** such as providing and disseminating a number of administrative tools and best practices regarding good administrative behaviour
- **Technology and the environment** covering supervision, sector planning, and preparation of regulations regarding constructions, roads, transportation, drains, recreational areas, drinking water, waste, and waste-water management
- **HR and staff** management at a local level e.g. taking demographic changes and foreseeable challenges into account in proactive and sustainable ways
- **Managing the economy** of the municipalities, based on local tax impositions, general grants from the state, and a system of financial agreements between the government and Local Government Denmark
- **Primary schooling** that is free of charge and compulsory to everyone within the schooling age
- **Child care** available to all citizens in urban as well as rural areas

Common strategy for digitization in municipalities
The vision for digital management is that digital technologies are systematic used to innovate and change organizations and work processes to increase service quality and efficiency.

Digitization must help to create an efficient and coherent public sector with high quality of service, where citizens and businesses are at the center.

Digital capabilities need to be exploited even better. The public sector must deliver a better, more coherent and efficient digital service to citizens and businesses.

2011-2015
High-quality and cohesive core data ensures that the authorities can serve citizens and companies quickly and easily.

2016-2020
Public sector digitization creates value and growth, it provides efficiency improvements and it secures the confidence of Danish people in the digital society.
17 years of digital strategies

2001
DIGITAL COLLABORATION

- Digital signature
- Citizens can send emails to public authorities
- Digital communication by the authorities

2004
EFFICIENT PAYMENT AND INTERNAL DIGITISATION

- NemKonto (mandatory default citizen's account for payments from the authorities and eInvoicing)
- Virk.dk (digital public services web portal for businesses) and Sundhed.dk (web portal providing personal access to all own health data)
- Secure government email systems

2007
COMMON INFRASTRUCTURE

- NemID (eID solution), NemLog-in (federated user management and log-in to online public services etc.), Elndkomst (digital reporting of income)
- Digital Post (digital mailbox for messages and communications from public authorities), NemSMS (text message reminders from the authorities), Borger.dk (digital public services web portal for citizens)
- Authorities must use common IT infrastructure

2011
DIGITAL COMMUNICATION

- Digital Post made mandatory for individuals and businesses
- Online self-service solutions made mandatory for individuals and businesses
- Dissemination of digital welfare services
- The Basic Data Programme
A STRONGER AND MORE SECURE
DIGITAL DENMARK

Digital Strategy
2016-2020

The Government /
Local Government Denmark /
Danish Regions /
VISION AND GOALS

Vision: Public sector digitisation creates value and growth, it provides efficiency improvements and it secures the confidence of Danish people in the digital society.

Digitisation can provide better quality in public services and it can lead to a more cohesive and efficient public sector that creates value for individuals and for businesses.

Denmark has come a long way in the digital transition of the public sector, but a lot of work still lies ahead.

This Digital Strategy 2016-2020 sets three ambitious, but realistic, goals for the development of a more digital public sector in the years to come:
DIGITAL SOLUTIONS MUST BE EASY-TO-USE, QUICK AND ENSURE HIGH QUALITY

1. A USER-FRIENDLY AND SIMPLE DIGITAL PUBLIC SECTOR
2. BETTER USE OF DATA AND QUICKER CASE PROCESSING
3. BETTER AND MORE COHESIVE WELFARE SERVICES

DIGITISATION MUST PROVIDE GOOD CONDITIONS FOR GROWTH

4. BETTER FRAMEWORK FOR THE BUSINESS COMMUNITY
5. PUBLIC-SECTOR DATA AS A GROWTH DRIVER
6. AN EFFICIENT UTILITIES SECTOR

SECURITY AND CONFIDENCE MUST BE IN FOCUS AT ALL TIMES

7. THE PUBLIC SECTOR PROTECTS DATA
8. ROBUST DIGITAL INFRASTRUCTURE
9. DIGITISATION FOR EVERYONE
SECURITY AND CONFIDENCE MUST BE IN FOCUS AT ALL TIMES

FOCUS AREAS

7. THE PUBLIC SECTOR PROTECTS DATA

8. ROBUST DIGITAL INFRASTRUCTURE

9. DIGITISATION FOR EVERYONE

8.1 GOOD DATA AND EFFICIENT DATA SHARING

A common public sector IT architecture will be developed to set the framework for sharing data between authorities. Among other things, public authorities will be able to use this architecture in their work on standardising and improving data, and when they need to share data with, or use data from, other authorities in connection with case processing, for example. The architecture consists of joint management of public architecture principles and guidelines as well as common frameworks for how to create and share good data.

8.2 ROBUST OPERATION OF THE COMMON INFRASTRUCTURE

The collaboration on operation of crucial common public sector IT infrastructure systems will be strengthened and their mutual dependencies will be mapped. A common public sector communication platform will be developed, on which authorities and other stakeholders can find information about the current operating status.
Good data and efficient data sharing

- Focus on semantic.
- Focus on connection to legislation.
- Focus on business-approved-models.
- Focus on traceability.
- Focus on re-use of concepts and core models between authorities.
Catalogue of conceptual-and logical data models - models to be re-used
A common public-sector digital architecture

Citizens and businesses shall experience that treatment and service that involves different parts of the public sector is delivered more coherently than it is today. The government, together with the municipalities and the regions has agreed on a Digital Strategy for 2016-2020, which sets ambitious goals for continued digitisation of the Danish public sector. Goals which are to support coherence in the public-sector service delivery to citizens and businesses.

Therefore, as part of the Digital Strategy 2016-2020, local, regional and central governments have agreed to establish a common public-sector architecture to facilitate secure and efficient data sharing and processes across public organisations.

8 principles for digitization projects:
### Principle 1: Architecture is managed at the proper level in accordance with the common frameworks (management)
- AR 1.1: Manage the architecture at the proper levels and manage coherently
- AR 1.2: Optimise the architecture according to both project and common objectives
- AR 1.3: Use the common documentation framework to describe the architecture
- AR 1.4: Make sure the project architecture is reviewed
- AR 1.5: Ensure sufficient skills for architecture work

### Principle 2: Architecture promotes coherence, innovation and efficiency (strategy)
- AR 2.1: Use and expand the common public-sector architecture
- AR 2.2: Use open and international standards
- AR 2.3: Avoid dependencies on suppliers and proprietorial technologies
- AR 2.4: Build ready-for-change and with the user as the starting point
- AR 2.5: Make data and solutions available to the private sector

### Principle 3: Architecture and regulation support each other (legal)
- AR 3.1: Take legal obligations into account with regards to sharing and reusing data and IT systems
- AR 3.2: Contribute to digitisation-ready legislation

### Principle 4: Security, privacy and trust is ensured (security)
- AR 4.1: Meet requirements for information security and protection of privacy
- AR 4.2: Use common architecture for information security
### Principle 5: Processes are optimized cross-organisationally (tasks)
AR 5.1: Design coherent user journeys
AR 5.2: Optimise cross-organisational processes according to common goals

### Principle 6: Good data is shared and reused (information)
AR 6.1: Share and reuse data
AR 6.2: Use common rules to document data
AR 6.3: Give data the quality requested
AR 6.4: Display information on data sources, definitions and data models

### Principle 7: IT solutions collaborate effectively (application)
AR 7.1: Design and display interfaces according to common integration patterns and technical standards

### Principle 8: Data and services are supplied reliably (infrastructure)
AR 8.1: Supply data and services in accordance with agreed service goals

---

**Good intentions or strict rules?**

**Review of projects in scope of digitization strategy**
Geodata content from NMCA

- Cadastral Parcels
- Administrative Units, Named Places and Addresses
- Basic topographic features including:
  - buildings and structures
  - roads and railways
  - watercourses, lakes and seashore
- Digital Elevation Model
- Digital Topographic Maps
- Orthophotos
THE DATA DISTRIBUTOR

Enriched Data

LOOKUP

DATA DISTRIBUTOR

UPDATING

Basic Data

PERSONER

VIRKSOMHEDER

FAST EJENDOM

ADRESSER, VEJE OG OMRÅDER

LANDKORT OG GEOGRAFI
Models Rules for Basic Data
"ISO 19103 and 19107 has be used. Standard data types shall come from ISO/TC 211 Harmonized Model."
29 maj 2018
The aim is… interoperability
‘interoperability’ means the possibility for spatial data sets to be combined, and for services to interact, without repetitive manual intervention
NO STANDARDS
NO INTEROPERABILITY

- Data should only be collected once
- Data should be maintained where this can be done most effectively
- It should be easy to get an overview of the available data and internet services
- Principles of infrastructure: Spatial Data Infrastructure builds on these five principles, which may also be illustrated using the Infrastructure Model (see page 33).
- Data should be combinable, regardless of their source
- There should be clear conditions which assure that data can be utilised by many users in many contexts

- Resource provider
- User

GEODATA-INFO.DK

W3C

ISO

OGC

Making location count.

18. januar 2019
Side 21
Our SDI-content can be used for different frameworks / initiatives
Drivers

ISA² Programme

A Reusable INSPIRE Reference Platform (ARE3NA)

ELISE

European Location Interoperability Solutions for e-Government
JUST PUBLISHED: 2018 edition of #eGovernment factsheets covering 34 European countries 🇪🇺🇬🇷🇩🇪🇫🇮🇫🇮🇭🇳.#eGov factsheets offer a comprehensive overview of activities related to implementation & delivery of #digital #publicservices ➡ europa.eu/!uP34ft
In this page you will find the eGovernment factsheets published by the European Commission’s National Interoperability Framework Observatory (NIFO), which is operating with the support of the ISA and ISA² Programmes. The following factsheets are published here:

- eGovernment Factsheets 2018

Country Profile ............................................................................................................................................................... 1

eGovernment Highlights .................................................................................................................................................. 7

eGovernment Strategy ....................................................................................................................................................... 9

eGovernment Legal Framework ........................................................................................................................................ 11

eGovernment Actors ......................................................................................................................................................... 15

eGovernment Infrastructure .............................................................................................................................................. 20

eGovernment Services for Citizens .................................................................................................................................. 25

eGovernment Services for Businesses .............................................................................................................................. 31
Percentage of individuals using the internet for interacting with public authorities in Denmark

Percentage of individuals using the internet for obtaining information from public authorities in Denmark

Source: Eurostat Information Society Indicators

Source: Eurostat Information Society Indicators
• Technology drivers
  • Service Oriented Architecture (SOA)
    • heterogeneous it-environments consisting of loosely coupled systems
  • Standards (it and data)
    • interoperability

• Business drivers
  • Civil
    • eGovernment
    • INSPIRE
  • Military
    • Network Based Operations (NBO)

• eGovernment is by far the most important business driver for a SDI
• Making a business case for an infrastructure is difficult
• SDI is a shift in paradigm – that is a business challenge
• Governance involving high level management is a must
• It’s all about cooperation – think about your role
• Interoperability is not easy – the community needs to be educated