

NIFO Factsheet – Denmark

Different online sources are available that link to the NIF:

- The online collaboration platform digitaliser.dk as main reference point for the Danish NIF: <http://www.digitaliser.dk>
- The OIO architecture guide: <http://arkitekturguiden.digitaliser.dk/>
- Danish public sector digitisation strategy 'A Stronger and more Secure Digital Denmark' (2016-2020): <http://www.digst.dk/ServiceMenu/English/Policy-and-Strategy/Digital-Strategy-2016to2020>

Main interoperability highlights

The main reference point for the Danish National Interoperability Framework (NIF) is the online collaboration platform, [Digitaliser.dk](http://www.digitaliser.dk). Denmark has taken on board the concept of interoperability in specifications to be followed when developing IT architecture and standards (Cross-Government cooperation). The OIO architecture guide¹ provides information on the architecture principles, the method, standards systems and example cases. Multiple NIF related documents are stored on the Digitaliser platform: e.g. catalogues of XML interface definitions², PSI data sources, recommendations on standards and open source software projects.

Summary of the NIF

The Danish Public Sector digitisation strategy 'A Stronger and more Secure Digital Denmark' (2016 – 2020)³ intends to accompany the next steps of the Danish digitisation and to turn it into value for the public services. Being a large scale and quite holistic approach, the Danish digitisation addresses multiple themes such as the automation of public administrative procedures, a better user experience for citizens and business, digital welfare, data sharing, and others. This strategy has a practical approach to interoperability.

The OIO architecture⁴ is a common framework for public sector IT solutions. The OIO architecture methodology defines a series of activities, steps and deliverables. For each step, the objectives, actors, inputs, outputs, methodology, sample, tips and links are described. The OIO architecture guide (beta) provides information on the architecture principles, the method, standards systems and example cases.

¹ <http://arkitekturguiden.digitaliser.dk/>

² <https://digitaliser.dk/news/780754>

³ <http://www.digst.dk/ServiceMenu/English/Policy-and-Strategy/Digital-Strategy-2016to2020>

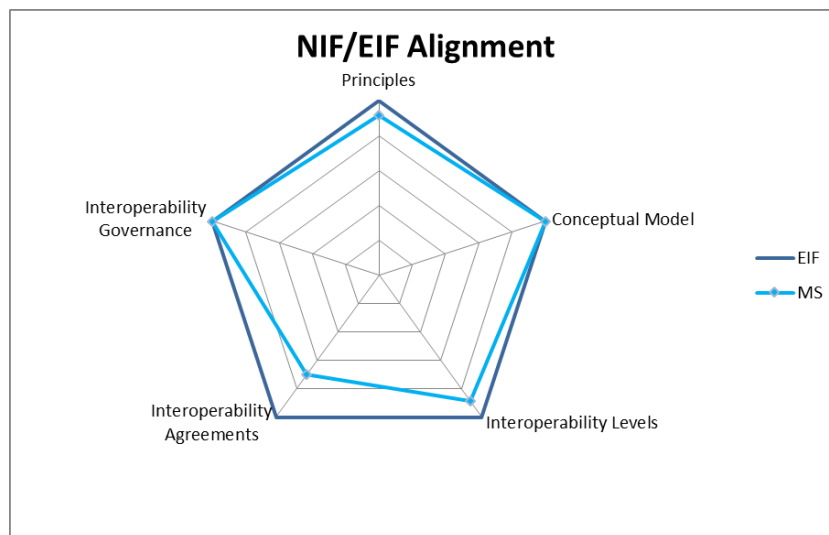
⁴ <http://www.digst.dk/ServiceMenu/English/IT-Architecture-and-Standards/OIO-architecture-framework>

Denmark puts forward a number of public services and building blocks. The public services are accessible through the Borger.dk portal⁵. The building blocks include amongst others user management and Single Sign On (SSO), eID and eProcurement.

A Steering Committee for Joint Public Cooperation (STS)⁶ has been established to ensure coordination and to prepare common framework decisions on the development of public sector digitisation.

Alignment NIF/EIF

The Danish NIF is well aligned with the EIF on all dimensions. Especially the Principles, Conceptual Model and Interoperability Governance dimensions are closely aligned with the EIF.



The Danish NIF fully aligns with ten of the twelve EIF principles. The Danish NIF partially aligns with two of the twelve EIF principles; namely the principle of multilingualism and technological neutrality and adaptability.

At the moment there is no single, general conceptual model. However the NIF contains a number of architecture artefacts along the lines of what is mentioned in the EIF. The common public reference models, Business Reference Model (FORM) and Service and Technology Reference Model (STORM)⁷ form the foundation for cross-public cooperation and support coherence across the public sector's IT portfolio. Denmark describes an architecture⁸ based on Service-Oriented architecture principles and puts forward standards for Service-Oriented infrastructure (SOA). Authentic sources are often made mandatory by law and the Digital Strategy 2016-2020 promotes heavily the improvement of these sources. User management

⁵ <https://www.borger.dk>

⁶ <http://www.digst.dk/ServiceMenu/English/Policy-and-Strategy/Digital-Strategy-2016to2020>

⁷ <http://www.digst.dk/Arkitektur-og-standarder/FORM-og-STORM.aspx>

⁸ <http://www.digst.dk/Arkitektur-og-standarder/It-arkitektur>



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(including SSO) and security standards⁹ are put in place to ensure compliance with security and privacy regulations.

The interoperability levels described in the Danish NIF are aligned with the ones described by the EIF. The Danish NIF - the OIO EA framework¹⁰ - defines five levels of interoperability:

1. Strategy that includes objectives and policies, principles and laws and regulations;
2. Business that includes organizational issues and processes;
3. Information that includes concepts, information, data models and data formats;
4. Applications that include patterns, applications and services;
5. Technology that includes technical standards, infrastructure in terms of basic software, hardware and network.

Across all these five levels, there is a governance framework that includes EA governance, contracts, security, program and project management, finance, contracts and operations. The Danish NIF defines a steering committee for Cross-Government Cooperation (STS)¹¹ to ensure coordination of the public sector digitization.

The interoperability agreements described are partially aligned with the EIF. The Reference Committee on IT Architecture and Standards (OIO Committee)¹² coordinates the public initiatives on standardization and IT architecture, and has representation from most departments as well as from municipalities and regions. The focus of the OIO Committee is on architecture, standards and technical infrastructure including formulation of principles and rules for their use.

More detailed information on NIF / EIF alignment is provided on the NIFO Community on JoinUp on the [Compare NIFs](#) page.

⁹ <http://arkitekturguiden.digitaliser.dk/node/101>

¹⁰ <http://arkitekturguiden.digitaliser.dk/node/793>

¹¹ <http://www.digst.dk/ServiceMenu/English/Policy-and-Strategy/Digital-Strategy-2016to2020>

¹² <http://www.digst.dk/ServiceMenu/English/IT-Architecture-and-Standards/Standardisation/Governance.aspx>

Example of alignment – Interoperability Governance

In Denmark, Interoperability Governance is a specific initiative in the common public sector e-government strategy, with roles and responsibilities on both the national and regional/local level.

Roles and responsibilities at national level:

- The Ministry of Finance is the main initiator of strategies and policies related to eGovernment and interoperability in Denmark. The Ministry of Finance develops initiatives concerning administration, public leadership and digitisation to improve the efficiency of the public administration in general.
- The Agency for Digitisation (merger of National IT and Telecom Agency and the Agency of Government Management) functions as a catalyst regarding the strategy shaped by the Ministry of Finance. The Agency's main responsibility is to contribute to the accomplishment of the political vision, the strategy and the understanding and development of relevant technology. Moreover, the agency coordinates the work and acts as the secretariat for the Steering Committee for joint Government cooperation (STS).
- The Ministry of Business and Growth develops, and is responsible for the IT strategy for the private sector in Denmark. The Ministry of Economic Affairs and the Interior performs certain tasks regarding IT modernization and digitisation-related issues.
- The steering committee (or STS) consists of top representatives from central ministries and from the municipalities and regions. The committee performs preparatory work for major political decisions, including the yearly economic negotiations between central and local government and the digital strategy.

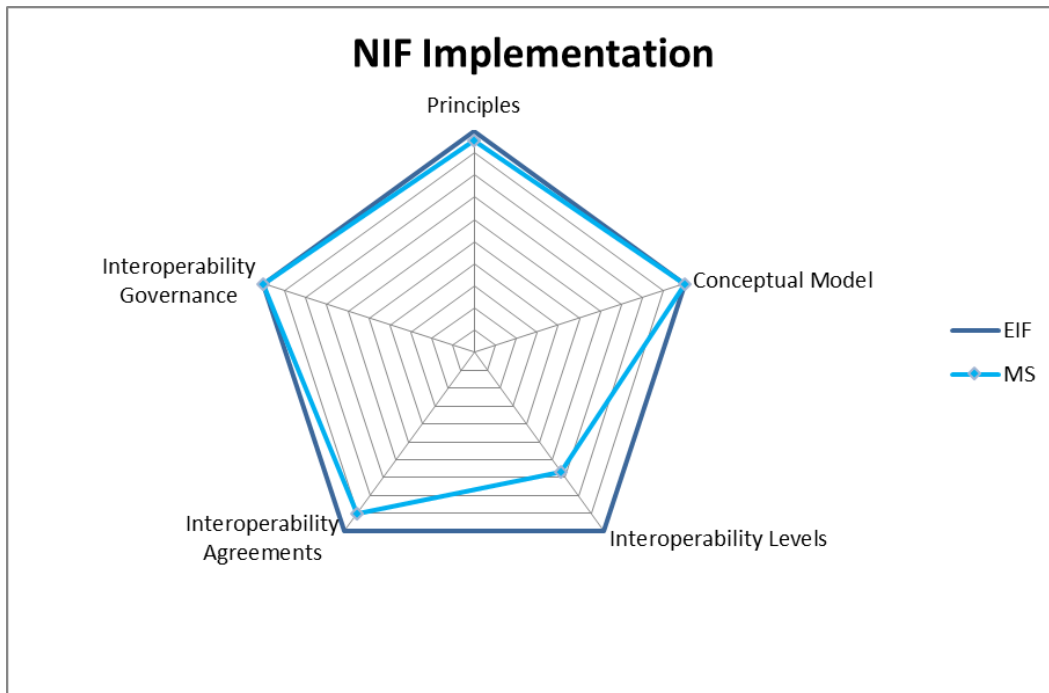
Roles and responsibilities at regional and local level:

- The Danish public sector is characterized by a high level of decentralization; however, state, regions and municipalities collaborate closely. As mentioned above, the steering committee (STS) forms an important role connecting central and local government. The sub-national governments are closely connected to the central one through legislation. However, the legislations and ICT solutions shall leave space for local adaptation. Major ICT solutions will consist of large e-government —building blocks, where each building block represents a delimited part of the digital procedure. The ICT building blocks offer the municipalities huge advantages. It becomes easier and cheaper to change the municipal services and switch suppliers¹⁰⁸. See the next figure for an overview of key players.

See <http://www.digst.dk/ServiceMenu/English/Policy-and-Strategy/Digital-Strategy-2016to2020>

Implementation of NIF

Denmark performs very well on the implementation of interoperability governance, the principles, the conceptual model and interoperability agreements, and performs well on the interoperability levels.



For every principle, a practical example is provided either as a reference to the digist.dk or arkitekturguiden.digitaliser.dk platforms.

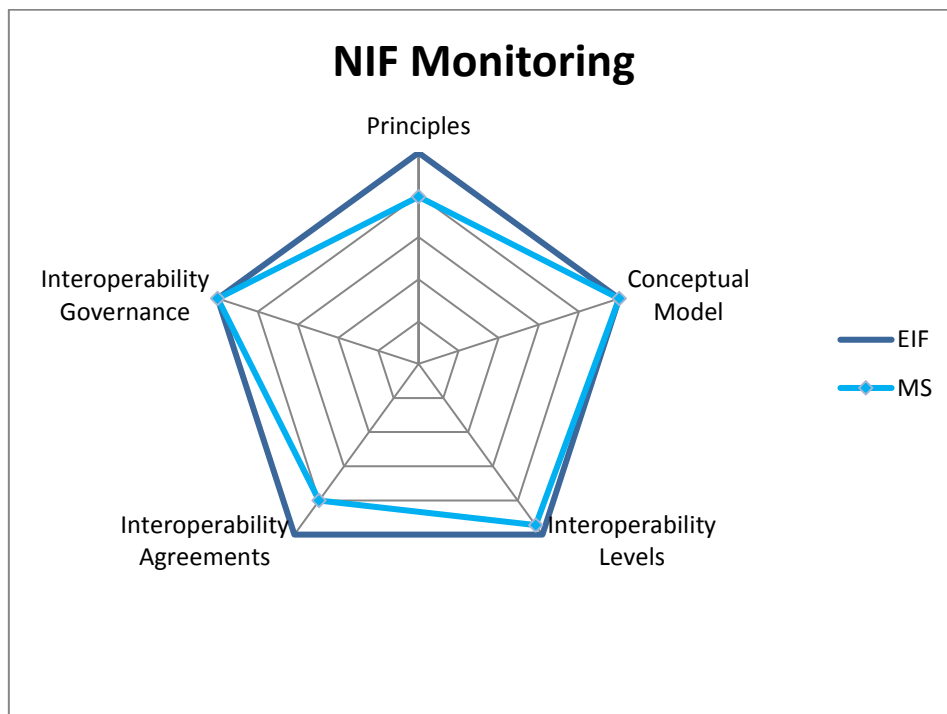
Concerning the conceptual model, the FORM and STORM reference models serve as the practical example. The architecture guidelines also contain principles referring to Service-Oriented Architecture and the interconnection of loosely coupled components.

Concerning the interoperability levels practical examples cover services such as borger.dk, NemID and SSO.

The OIO (Inter-government cooperation) architecture framework is the main source for the interoperability levels practical examples.

Monitoring of NIF

Denmark performs very well on monitoring of interoperability principles and performs well in the other categories. On a global view, Danish monitoring score has progressed on nearly all principles along 2016.



All the principles are monitored except multilingualism. Monitoring is performed by the Steering Committee for the eGovernment Strategy or the National Audit Agency.

Concerning the conceptual model, the Danish Council for It-projects monitors projects over 10 million DKR.

The Steering Committee for Data and Architecture has the responsibility for governance of the cross governmental interoperability architecture (NIF). This includes review of cross governmental projects and their solutions architecture. The requirement to share and exhibit data is a central part of this. This reflects the high score of all the aspects of all the criteria, most of which are monitored in exhaustive way to be evaluated with the best assessment.

More information on all the implementation and monitoring examples is provided on the NIFO Community on JoinUp on the [Compare NIFs](#) page.

Example of implementation/monitoring - EIF Principle 6: Administrative simplification:

In Denmark, the administrative simplification is both practically applied and monitored.

- The steering Committee for Data and Architecture has a transversal role and responsibility in monitoring many of the interoperability principles applied by the Danish public sector.
- Practical implementation: A number of laws and regulations have been simplified in order to make things easier and save money for both private business and government. The government has set up a forum with business representatives in order to suggest simplification.
- Monitoring: The National Audit Agency monitors administrative simplification. The latest report/note provides an assessment of the impact of simplification on businesses:

See for practical implementation: <http://erhvervsstyrelsen.dk/virksomhedsforum>

See for monitoring: <http://www.rigsrevisionen.dk/publikationer/2007/706/1103-14/>

Other initiatives on interoperability

End 2015, the Danish Digital Post reaches 89% of all Danes over 15 years of age¹³. Digital Post may result in savings of over EUR 100 million per year; it allows citizens to correspond electronically with public authorities. Examples include letters from hospitals, pension statements, student grant applications, and correspondence with the tax administration. Users can access Digital Post on two secure websites borger.dk and e-boks.dk. In September 2016, Denmark organised a four-week public survey on the next generation of Digital Post, the country's eGovernment messaging system. The country's [Agency for Digitisation](#) (Digitaliseringsstyrelsen) is processing the feedback returned about user experience, IT architecture, timetable and procurement approach¹⁴.

The Danish 'Open Data Innovation Strategy' initiative (ODIS)¹⁵ is about creating easier and more uniform access to public data as raw material for the private sector in the development of innovative digital products and services, useful analyses, data visualisations and data journalism. The government and Local Government Denmark have agreed on a basic data programme. As geographic basic data, a large part of the data at the Danish Geodata Agency¹⁶ is available. This includes topographic data (maps), the cadastral map and the Danish Elevation Model.

The Danish Action Plan has emphasized open data, transparency and citizens' engagement in decision-making processes. It has also led to the creation of open camps, where questions concerning openness and participation have been discussed¹⁷.

Although this process is quite informal, Denmark, Norway and Sweden (and possibly Finland) are about to cooperate together on an operational level in order to promote open data. The

¹³ <https://joinup.ec.europa.eu/community/epractice/news/denmark%E2%80%99s-switch-over-digital-post-success>

¹⁴ <https://joinup.ec.europa.eu/community/epractice/news/denmark-gathers-ideas-digital-post-update>

¹⁵ <http://www.digst.dk/ServiceMenu/English/Policy-and-Strategy/Open-Data-Innovation-Strategy-ODIS>

¹⁶ <http://eng.gst.dk/>

¹⁷ <http://www.opengovpartnership.org/blog/open-government-partnership/2015/03/24/nordic-countries-meeting-berlin-exchanging-experiences>



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countries are planning to simultaneously arrange hackathons/data events in their respective territories by July 2017.

As of March 2017, Denmark's Ministry of Justice wants to start sending court summonses using Digital Post, the country's eGovernment messaging system. To make this possible the law must be updated, and the Ministry will submit a proposal to the Parliament, it announced. The Ministry expects the change will free up time of some 25 to 30 police officers, and will speed up the court's processing of cases. If a citizen does not access the mailbox, and fails to respond to phone calls¹⁸.

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¹⁸ <https://joinup.ec.europa.eu/community/epractice/news/danish-%E2%80%99s-court-summonses-be-sent-digitally>