Digital Government Review of Sweden

Enabling government as a platform
through a data-driven public sector

Key findings

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OECD Digital Government
and Open Data Unit
Digital Government Project

1. Background

The OECD *Digital Government Review of Sweden* builds on the experience and knowledge acquired by the Reform of the Public Sector Division of the OECD Directorate for Public Governance through similar projects conducted over the past 15 years in a number of OECD member and partner countries.
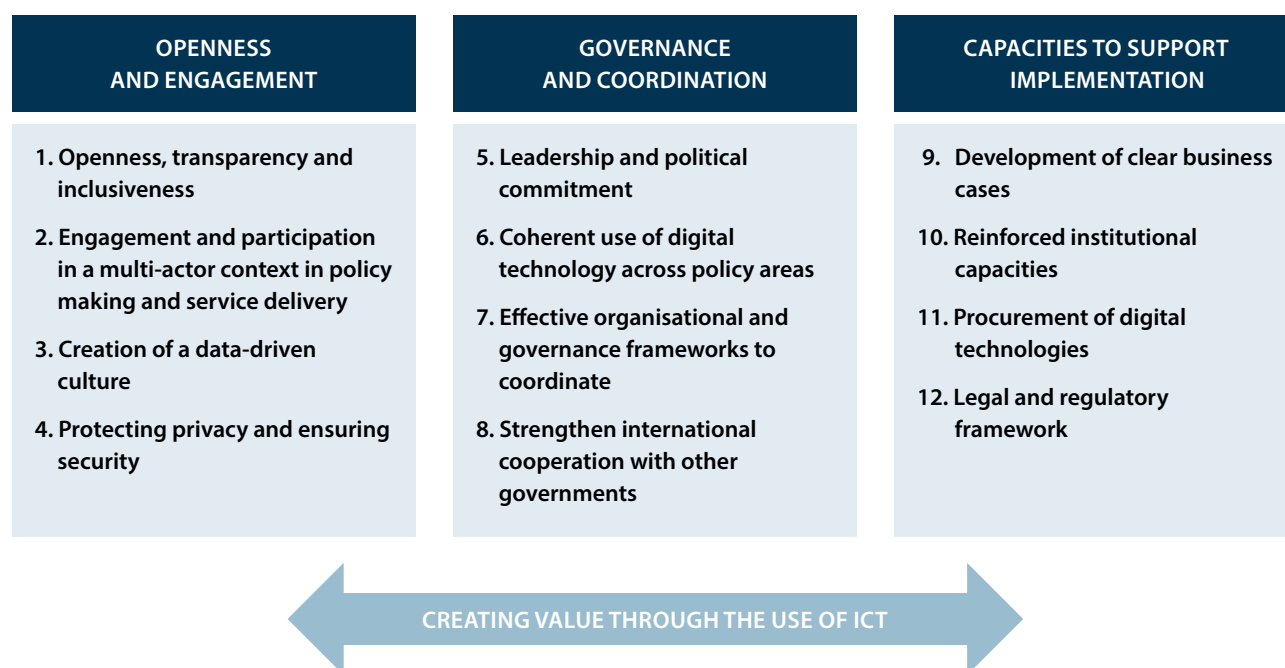
The Review also draws upon the close collaboration between the OECD and the Swedish Government, including the participation of Sweden in the OECD Working Party of Digital Government Officials (E-Leaders), the OECD Expert Group on Open Government Data, and the 2016 OECD comparative project on Digital Government Strategies for Transforming Public Services in the Welfare Areas. This collaboration enriches the assessment and results of the Digital Government Review that will include strategic policy recommendations to support the digital transformation of the Swedish public sector. The information gathered in the context of this Review will equally feed into the OECD Comparative Country Project on Data-Driven Public Sectors.

The *OECD Recommendation on Digital Government Strategies* contains twelve key recommendations grouped in three main pillars (Figure 1.1) to support countries in realising the digital transformation of the public sector, and therefore serves as an overall analytical framework for this review. The Recommendation was adopted by the Council in 2014, and applies to all the OECD member countries, as well as to non-OECD members that proactively adhere to it.

The aim of the Digital Government Review is to assist the Swedish government in its efforts to take the full benefits of digital technologies and data to boost public sector intelligence and act as a platform for public value co-creation and sustained public trust.

The purpose is to create a context that is propitious for the digital transformation of the Swedish public sector and places data at the core of this process. The OECD Review provides strategic policy recommendations to the Swedish Government to boost and reboot digital and data-driven government improvements based on OECD best practices.

Figure 1. **OECD Recommendation on Digital Government Strategies**

OPENNESS AND ENGAGEMENT	GOVERNANCE AND COORDINATION	CAPACITIES TO SUPPORT IMPLEMENTATION
1. Openness, transparency and inclusiveness	5. Leadership and political commitment	9. Development of clear business cases
2. Engagement and participation in a multi-actor context in policy making and service delivery	6. Coherent use of digital technology across policy areas	10. Reinforced institutional capacities
3. Creation of a data-driven culture	7. Effective organisational and governance frameworks to coordinate	11. Procurement of digital technologies
4. Protecting privacy and ensuring security	8. Strengthen international cooperation with other governments	12. Legal and regulatory framework

CREATING VALUE THROUGH THE USE OF ICT

Non-OECD members: Colombia, Costa Rica, Egypt, Kazakhstan, Lithuania, Morocco, Romania, Russia

Source: Elaboration based on the Recommendation of the Council on Digital Government Strategies, 2014

Developed by the OECD Secretariat with the contribution of national peers, the Review addresses three thematic axes for digital government in Sweden: governance, data-driven public sector and open government data (See Figure 1.2).

Figure 2. **Thematic axes**
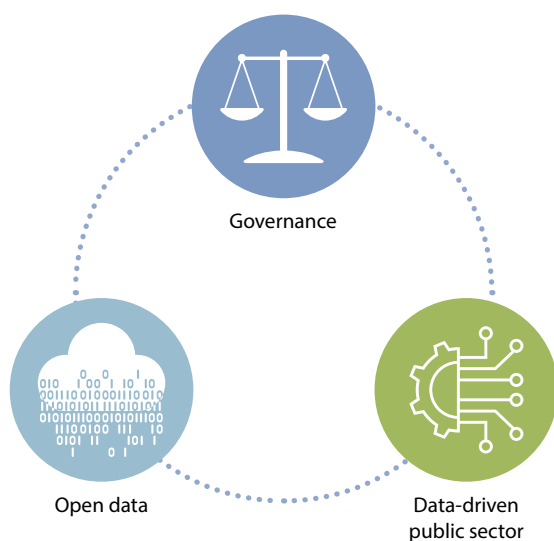
The current document presents the key findings of the OECD Secretariat following the two missions to Stockholm in November 2017 and March 2018.

The peer review mission (November, 2017) was conducted with the participation of the following peers from OECD governments:

- Ms Pauline Ferris, Government Digital Service, Cabinet Office, and Ms. Eleanor Stewart, Foreign and Commonwealth Office, United Kingdom;

- Mr Oli-Pekka Rissanen, Ministry of Finance, Finland;

- Ms Andrea Barenque, National Digital Strategy Coordination, Mexico.

During the peer review mission, interviews were held with key stakeholders of the Swedish digital government ecosystem: representatives from the national, regional and local levels of government, as well as from the private sector, civil society and academia.

The preliminary findings of the Review – covering governance for digital government, digital skills, data-driven public sector, data governance and open government data – were discussed during the March mission with representatives from the public, private and third-sectors.

The discoveries and key findings presented in this document are further explored, analysed and articulated in the full OECD Digital Government Review of Sweden.

INCREASING AND SUSTAINING PUBLIC TRUST IN GOVERNMENT: A driver for advancing digital government efforts

Sustaining the welfare state and increasing the levels of public trust in the Swedish government and the public sector could provide an incentive to sustain government efforts to advance digital transformation. Public sector reform and digital transformation are needed to address social challenges (e.g. migration, urbanisation) and sustain and increase the levels of public confidence.

For example, leveraging digital technologies and data to improve user and data-driven public services, for public engagement and multi-stakeholder collaboration in service design and to enhance government openness are meaningful ways to operationalise government reform and enable "government platform" – one of the six core dimensions of a digital government (see Box 1.1).

Whereas in Sweden public sector efficiency (e.g. delivering efficient public services through streamlined processes) has been driving e-government efforts, such a focus should be understood as mean towards broader policy outcomes that can contribute to public value co-creation.

Views from public sector stakeholders, collected by the OECD within the frame of this Review, point to the need to move away from a strict focus on processes, productivity, and internal efficiency (a New Public Management model) towards the construction of a public sector environment where these outputs are only a means to an end. This requires using the success of the Swedish government in terms of financial stability as a platform to enable a digital innovation culture, increase trust and deliver public value to its citizens.

According to data from the Gallup World Poll, the levels of public trust in governments decreased by an average of 2% across OECD member countries between 2007 and 2015 (OECD, 2017c). This trend has not changed as data for 2016 point to the fact that trust levels show a decline of three percentage points since 2007 (OECD, 2017b). In Sweden, levels of public confidence in government decreased 7% between 2007 and 2016 (*idem*).

Box 1. **THE SIX DIMENSIONS OF A DIGITAL GOVERNMENT**

Helping governments understand their advance towards Digital Government is essential, as this supports a strategic deployment and use of digital technologies and data towards more innovative, open and efficient governments thus strengthening the conditions for social inclusion, economic progress and national competitiveness. This strategic focus is consistent with the digital transformation of public sectors taking place in OECD countries, encompassing the shift from an e-government to a digital government approach. This shift can be characterised through six dimensions:

- **User-driven:** The extent to which governments are adopting approaches and taking actions to let the citizens and businesses (i.e. users of the services) determine their own needs which drive the design of policies and public services.

- **Proactive:** The extent to which a government reaches out to the public without waiting to react to formal requests. This includes: i) data disclosure (in open format), with the exception of data that the government is required to protect due to privacy or security; ii) service delivery to the users before they are request; iii) Governments proactively seeking feedback directly from citizens about the quality of services and making it mandatory for service providers to use smartphones and creates dashboards for citizens to view real-time information on service delivery (this is what is normally referred to as proactive governance).

- **Data-driven:** The extent to which a government informs and approaches the design, delivery and monitoring of public policies and services through the management and use of data.

- **Digital by design:** The extent to which a government embeds the full potential of digital technologies right from the start when formulating policies and designing services, which implies mobilising new technologies to rethink and reengineer internal processes and simplify internal procedures in order to deliver the same efficient, sustainable and citizen-driven services, regardless of the channel used by the user to interact with the public authorities.

- **Government as a platform:** The extent to which governments use technologies (and data) to harness the creativity of people in groups and create collaborations to jointly address policy challenges.

- **Open by default:** The extent to which a government discloses data in open formats (with the exception of data the government is required to protect due to privacy or security risks) only subject to (at the most) the requirement that users attribute the data and make their work available to be shared as well, and the extent to which a government uses digital technologies to open up its processes (e.g. policy making and services design).

Source: OECD, Issues paper on the Digital Government framework, (forthcoming).

The OECD work on public trust (OECD, 2017c) has identified six areas that can help governments to restore, sustain and/or increase levels of public trust in governments, including:

- the reliability of governments to minimise uncertainty in the economic, social and political environment,

- government responsiveness to public service delivery,

- opening up government,

- better regulation,

- increasing public sector integrity, and

- working towards an inclusive policy making.

In this light, investing efforts in digital government (see Box 1.1) can contribute to increasing public trust in governments by defining and implementing efforts that enable "government as a platform" and address policy issues related to the abovementioned policy areas.

Enabling "government as a platform" includes actions such as technical efforts (e.g. shared services and common enablers), developing a problem-solving mind set, collaborative approaches and increased citizen engagement by crowd-sourcing knowledge, enabling spaces for collaboration, digital innovation and public value co-creation (See Figure 1.3). Collaborative approaches can contribute, for instance, to improved design of user-driven policies and services.

BUILDING ON DIGITAL MATURITY AND A TRADITION OF PUBLIC SECTOR TRANSPARENCY AND EFFICIENCY

Sweden has an opportunity to build on a digitally mature society and public sector, and on a long standing tradition of public sector transparency to foster a digitalised, data- and user-driven administration governing on public value and trust.

Sweden finds itself among the most advanced OECD countries regarding the level of digitalisation of its society

and economy. This is illustrated by various international rankings, amongst which the European Commission Digital Economy and Society Index (DESI) where the Country ranks 3rd among 29 EU countries (EC DESI, 2017) (Figure 1.4). Sweden has also set an ambitious policy goal in terms of broadband connectivity (98% of households and firms should have access to 1 gigabit per second by 2025) (OECD, 2018). Broader efforts in terms of digitalisation and connectivity are explored in recent OECD work such as the OECD *Going Digital in Sweden* policy review.[1]

Sweden especially distinguishes itself from other countries regarding the use of internet by its citizens (2nd rank). It has one of the most digitally savvy populations in Europe when it comes to familiarity with the internet and the adoption of this medium in their daily lives. Indeed, the country has launched several reforms of the education system, including the National Digitalisation Strategy for the School System in 2017, which aims to build new digital skills among Swedish students (OECD, 2018).
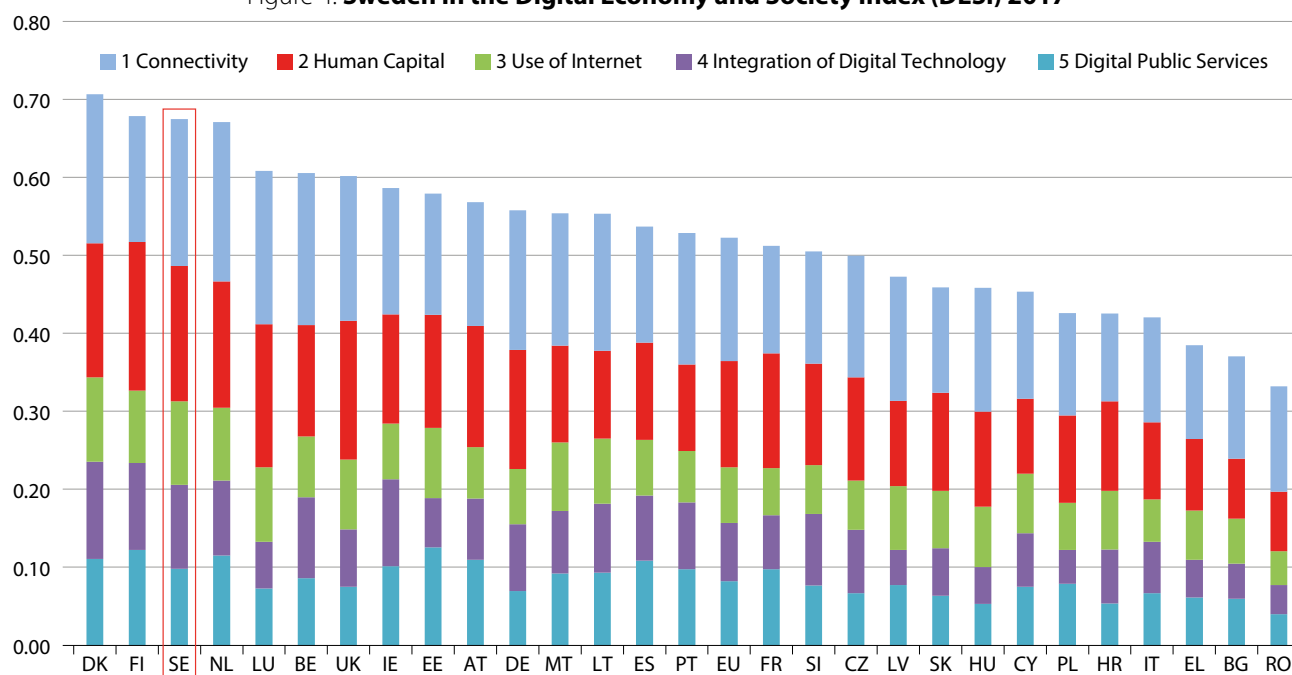
The mature digital skills in Sweden are also reflected in the employment market as demonstrated by a high proportion of ICT specialists as a percentage of all occupations (88%), especially relative to other OECD countries (50%) (OECD, 2017a). The digital maturity of the Swedish society and administration are complemented by a long-standing tradition of public sector transparency dating back to the 18th century (See Section 4).

The Government of Sweden has the opportunity to build on previous digitisation efforts that led to a good maturity of e-government as well as on a culture of public sector transparency to advance the digitalisation of its public sector. This could fully enact the shift towards digital government. For this to happen, the government will need to step up its ambitions from making the best possible use of ICT and data in existing policy making and service delivery processes, thus leveraging digital technologies to transform internal and external processes, and enable public value co-creation.

Figure 3. **Government as platform: A digital government perspective**
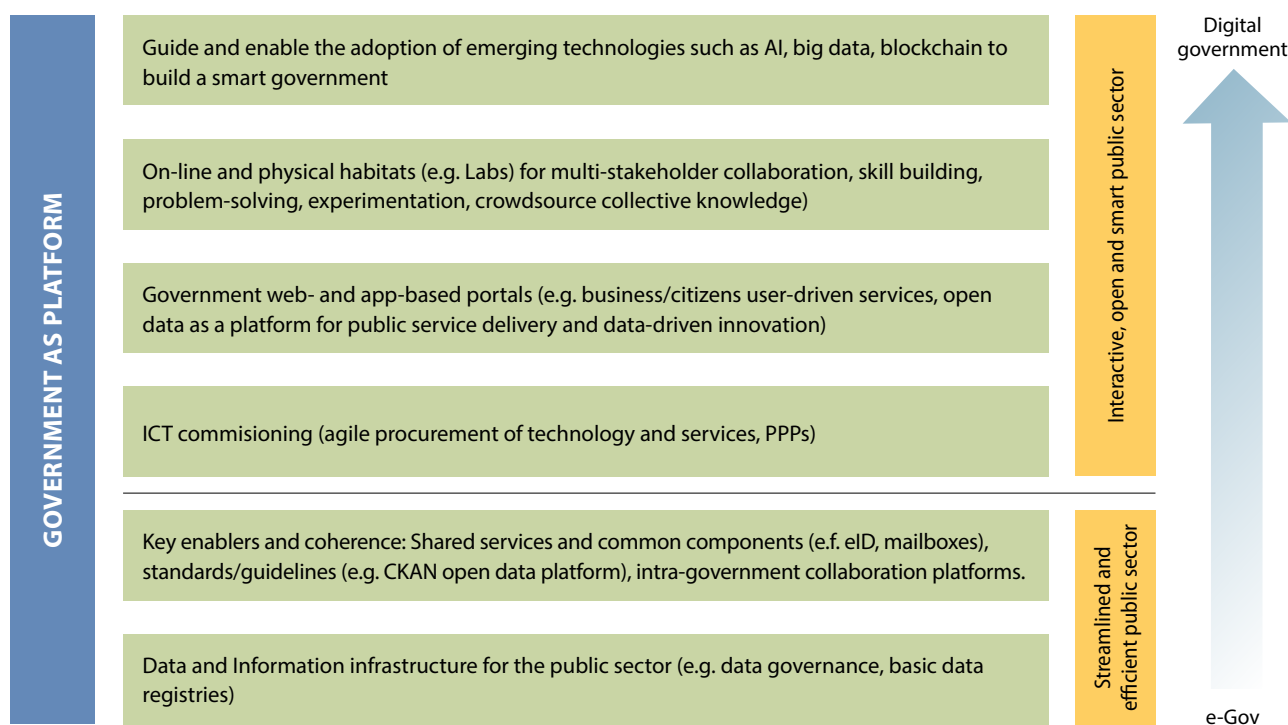
Source: Author with research from different sources, including Brown et al. (2017), *Appraising the impact and role of platform models and Government as a Platform (GaaP) in UK Government public service reform: Towards a Platform Assessment Framework (PAF)*, Government Information Quarterly, Volume 34, Issue 2, 2017, Pages 167-182, ISSN 0740-624X, https://doi.org/10.1016/j.giq.2017.03.003; Margetts, H., & Naumann, A. (2017). *Government as a Platform: What can Estonia Show the World?*. Working Paper funded by the European Social Fund. University of Oxford. https://www.politics.ox.ac.uk/materials/publications/16061/government-as-a-platform.pdf ; O'Reilly. Tim (2011), *Government as a Platform*, Innovations: Technology, Governance, Globalization; Volume 6, Issue 1, Winter 2011, p.13-40. https://doi.org/10.1162/INOV_a_00056 ; Ubaldi, B. (2013), *"Open Government Data: Towards Empirical Analysis of Open Government Data Initiatives"*, OECD Working Papers on Public Governance, No. 22, OECD Publishing, Paris, http://dx.doi.org/10.1787/5k46bj4f03s7-en ;and, UK Government Digital Service (GDS, 2018), Government as platform, Accessed 6 of April, 2018. Available at: https://governmentasaplatform.blog.gov.uk/about-government-as-a-platform/.

Figure 4. **Sweden in the Digital Economy and Society Index (DESI) 2017**

Legend: ■ 1 Connectivity ■ 2 Human Capital ■ 3 Use of Internet ■ 4 Integration of Digital Technology ■ 5 Digital Public Services

X-axis: DK FI SE NL LU BE UK IE EE AT DE MT LT ES PT EU FR SI CZ LV SK HU CY PL HR IT EL BG RO

Source: European Commission (2017), *Digital Economy and Society Index 2017 – Sweden*, https://ec.europa.eu/digital-single-market/en/news/digital-economy-and-society-index-desi-2017

The conditions should be put in place for creating a smart and innovative government that fully supports the digital transformation of the Swedish public sector. This approach entails adapting the governance framework for digital government, developing a more strategic approach to the management and use of public sector data, and taking actions to foster an open data ecosystem.

LEVERAGING E-GOVERNMENT ADVANCES: Common enablers and shared services in Sweden

The agencies for tax, social security and pensions are examples of institutions that have a large portfolio of advanced digital services. Several agencies collaborate around user-centric portals like Verksamt, and 1177. However, evidence collected for this review shows some policy challenges still persist in terms of digital infrastructure and common enablers in Sweden. This hinders advancement towards a full implementation of core digital government aspects such as the *once-only principle*. These challenges include:

- The lack of a sound public sector digital infrastructure (e.g. including a weak soft infrastructure in terms of governance, regulations and policy levers) for the public sector had led to unstructured and incoherent efforts at the agency level. Decentralisation efforts (with strong

agencies and weak miniseries) and the lack of cross-ministerial processes and central guidance led to siloed actions, lack of and the development of fragmented IT solutions and digital services implemented by agencies (a "tangled" IT infrastructure)

- eID and mailbox services are mainly driven by private sector solutions (e.g. BankID and KIVRA). While one could argue that these market solutions may help meet quite rapidly growing and changing citizens' expectations – in terms of quality, responsiveness and timeliness of public services – key stakeholders from the public sector expressed their concerns in this regard, arguing this may increase the dependence of the Swedish public sector on private solutions and negatively impact its agility to adjust. The existence of public integrated and shared solutions developed by the Swedish government could help tackle this worry.

Action should be taken to address the remaining challenges in term of IT infrastructure, shared services and common key enablers. This is necessary to keep building a solid basis for the digital transformation of the public sector and enabling the Swedish government to act "as a platform" with a holistic approach on core e-government measures to more radical digital government transformational efforts.

2. Strengthening the institutional governance for digital government in Sweden

INTRODUCTION

The social values within the Swedish public sector resemble the ones of the Swedish society. These values favour consensus, collaboration, equality, inclusion, and temperate mind-set, impacting overall interactions, and contribute to a public sector social culture where decision-making processes are characterised by agreement and the avoidance of conflict.

This culture impacts how the Swedish government and its public sector co-ordinates policy making, and underlines the high level of autonomy and freedom that agencies have in regard to policy implementation once consensus is reached. This tenor, while socially and professionally of unquestionable value, may affect the agility of evolving towards more integrated approaches and clear steering essential for digital government to grow.

The social values described above provide an important baseline to foster collaborative approaches in discussing and driving change in the Swedish public sector, to engage a broader range of actors, and transform the government into a platform for value co-creation. Nevertheless, on the other hand, they can also hinder efficient decision-making, interfere with the need of clear and solid policy leadership, and create organisational barriers for making collaboration happen.

Finding the right balance between encouraging collaboration and enforcing coherent action at the agency level is a key challenge for the Swedish government. Governance arrangements should be adjusted within the organisational consensus-based ethos of the Swedish public sector.

The continuity of efforts has helped advance *e-government in Sweden*. The instability of institutional arrangements – inadequate for digital government – has led to uncoordinated previous IT efforts at the agency level (See Section 1.3) and to individual sectors agendas.

The institutional set-up for e-government has ranged from agency-led to council-based governance models since 1980. These changes have been implemented in the pursuit of finding the adequate institutional governance model and driven by the need to improve inter-institutional coordination leveraging on the consensus-based culture within the Swedish public sector.

Sweden has an excellent starting position to implement the paradigm shift from e-government to digital government. However, one of the areas that will require actions to support this move, and leverage the important achievements accrued so far, include finding the right institutional governance model for digital government in order to align efforts and ensure coherent policy implementation.

Evidence collected for this review shows a wide consensus among stakeholders about the necessity of stronger leadership and coordination efforts to enable the significant transformation required to enable a full evolution towards digital government. Continuing with the modus operandi that has established a functional e-government won't be sufficient to advance digital government efforts in the country.

Forcing digital and data-driven transformation initiatives to fit in the current legacy organisational doctrine and working culture of the Swedish public sector put at risk the agility of such initiatives. Thus digital innovation efforts confront slow decision-making processes and risk-adverse, but powerful and independent, agencies. It is important to ensure any new developments in terms of governance reforms are accompanied by reengineering efforts to change old ways of working and enable space for digital innovation, experimentation and collaboration.

ESTABLISHING AN EFFICIENT INSTITUTIONAL MODEL FOR DIGITAL GOVERNMENT IN SWEDEN

Institutional governance and leadership are among the most relevant challenges to advance the digital government and open government data agendas in Sweden. Yet, the country is undergoing a reorganisational process in relation to the institutional governance for digital government which provides a privileged opportunity to address some of the persisting governance challenges.

The coordination of the digital government programme is now under the responsibility of the Division for Digital Government (DDG), a body within the Ministry of Finance. As a result, digital government is now located under the public administration policy umbrella, namely under the responsibilities of the Minister of Public Administration, a position within the Ministry of Finance (MoF), while the Ministry of Enterprise is responsible for the digitalisation of economic and industrial activities and business innovation.

In 2017 the Ministry of Finance determined the creation of a digitalisation agency by September 2018 with the responsibility of supporting the ministry towards the implementation of a more cohesive and co-ordinated approach in relation to the digitalisation of the Swedish public sector. The creation and funding model of the agency have been included as part of the set of projects of strategic relevance identified in the 2018 Budget Bill (*Budgetpropositionen för 2018*) of the Swedish government.

The creation of the new agency should be viewed in light of the potential value this new body will bring in terms of increasing the capacity of the government to act as a driver of change and supporting the digital transformation of the Swedish public sector.

The opportunities brought by such a process should be capitalised on to avoid repeating previous mistakes. Acknowledging and learning from failure would help to foresee policy scenarios, identify alternative solutions, and overcome upcoming potential policy coordination challenges.

The creation of the new agency opens a window of opportunity to empower and equip such a body with the right soft and hard policy levers and human capital. This is needed to set a body with the capacity and ability to carry out its policy steering and cohesion role, address the resistance of agencies to cede to a certain extent their freedom of action, navigate – with a collaborative and co-creation approach – the Swedish public sector, and use the consensus-based culture as lever to drive change.

The OECD missions to Stockholm in November 2017 and March 2018 found evidence that in terms of digital government and open data, strategic leadership is unclear.

Strategic leadership and guidance appear vague in regard to the definition and co-ordination of the digitalisation of the public sector, and of the digital government agenda in particular, thereby resulting in the lack of clear direction for policy implementation.

The appointment in February 2018 of a Chief Digital Officer by the Swedish Prime Minister and the Minister of Housing, Urban Development and Information technology (within the Ministry of Entrepreneurship) is evidence of how other policy areas related to digitalisation have identified and address the need for clear leadership to steer strategic

decisions within specific domains. Such clear leadership role does not exist in relation to the digital government agenda.

Swedish stakeholders seem to agree on the need to balance the current decentralised and vertical policy implementation model with a clear high-level strategic leadership. Yet, in practice the definition of such centralised leadership role for digital government would require to be consented and agreed upon among all relevant political and institutional players in order to reduce the risk of institutional resistance and favour cooperation and support.

The digitalisation agency will require empowerment in order to exert its coordination role in a more efficient fashion and enforce the uptake and observance of policy guidelines and standards when needed. Sweden's culture of consensus and the tradition of using regulatory instruments, such as letters of instruction, provide an ideal starting point to balance the need of motivating change, engage actors, and enforce a single vision for digital government.

The MoF's current activities towards the creation of the new agency in charge of coordinating the implementation of the digital government agenda (an institutional model already tested in Sweden) creates high expectations among public sector stakeholders. Yet, it also raises questions in terms of role, responsibilities and capacities of this body to be able to effectively lead the digital government agenda and coordinate systemic efforts, and the powers such an agency may – or should – have to achieve this mandate.

As a policy implementation coordination body, the new agency should not only be adequately equipped in terms of human capital (strategic, managerial and technical) and financial resources, but it should also be able to count on the political support, as well as on clear and strong leadership. These characteristics will play a key role to ensure its success to navigate the cultural complexity of the Swedish public sector, capitalise, rather than overlap, on the value of the currently existing inter-institutional coordination mechanisms – such as the eSAM – and foster common policy ownership and engagement across the administration.

Regulatory instruments such as the instruction letters are not properly used by the MoF to guide cross-sectoral policy implementation by agencies in line with digital government objectives.

There is a window of opportunity to use the financing model of the agency as a policy lever to support the digital transformation of the public sector.

The funding model of the agency has been included among the strategic projects identified in the 2018 Budget Bill (*Budgetpropositionen för 2018*) of the Swedish government.[2] The Swedish government allocated a budget of 102 million Swedish crowns (roughly 10 million euros) in the 2018 Budget Bill. According to the provisions of the bill, these funds should be used to cover the management expenses of the new agency, coordinate and support inter-agency digitalisation efforts, the national digital infrastructure and open data (SWE, 2017).

As a result, the use and allocation of financial resources for the development of the digital infrastructure and open data would contribute to tackle legacy challenges and to increase control over high-risk and strategic ICT projects. For instance, to align all agencies efforts in terms of updating the IT infrastructure for the public sector and solve challenges in terms of the use of common building blocks (eID, soft infrastructure) (See Section 1), data governance (See Section 3) and open data (See Section 4).

Challenges remain in terms of the efficient use, monitoring and ex-ante and ex-post evaluation of ICT investment by public agencies and the role the new agency will play in this regard.

Evidence from the OECD mission to Stockholm points to the fact that while the organisational culture within the public sector is highly driven by efficiency, this coexists with deficiencies in terms use of common business case methodologies across public sector institutions (e.g. only major agencies like tax and employment are strong in terms of developing cost-benefit analysis), common standards for project management, and tools for ex-post investment evaluations and intervention (e.g. in the scenario of failed projects, only the leading agency can decide on its cancellation).

The new digitalisation agency is expected to take a leading role in terms of the prioritisation, assessment, monitoring and evaluation of digital projects and ICT investments in the public sector. By April 2018, these tasks were responsibility of the MoF's Swedish National Financial Management Authority (ESV).

The Swedish Government created an expert group on IT investments during the second half of 2017 in an effort to guide investments on ICT projects but this body plays an advisory role as it does not count on enforcement powers nor on policy levers to steer public sector digitalisation. It is also intended to provide advice only for those projects with a budget of, or superior to, 20 million Swedish Krona (approx. 2 million euros).

In light of the above, the role of the new agency should be supported by efforts aimed to systematise the use of mechanisms improving strategic approaches to financial decisions (such as the use of common business cases) as common practice. These efforts would help to enforce compliance with digital government policy guidelines and strategic objectives set by the government; and steer public sector digital innovation through conditioned project funding.

The effective human capacity dedicated to digital government related policy-making within the MoF has increased from three to 15 people between 2015 and 2017. This will be complemented by the agency's workforce. Yet, staffing the agency with the right human capital will require special efforts to ensure the agency's mandate, working methods, culture, and job profiles are sufficiently enticing to attract and retain the desired skilled labour force.

The Swedish government's decision to locate this new body outside Stockholm (in the city of Sundsvall) is an opportunity to reach and engage non-governmental actors located outside Stockholm (e.g. the open data ecosystem) and decentralise digital government efforts, but it has also raised questions in terms of the potential negative impact of this location in terms of its attractiveness for potential employees and its capacity to enable inter-institutional engagement and coordination in an efficient fashion.

The capacity of the agency to perform its duties will also draw upon its human capital and the capacity these human resources will have to provide technical and strategic support and effectively communicate its message at all levels (from technicians to managers and politicians).

Building the overall competencies of the agency will be critical to keep up with the high expectations, enable it to fulfil its mandate, and accomplish the goals of the digital government agenda. Connecting the demand for specific skills within the agency with the goals of the digital government agenda is fundamental to goal delivery.

Skills and competency frameworks should be conceived as tools to connect the agency's skills demand and the agency overall readiness to achieve overarching policy goals. This would help identify the skills needed in-house and determine when outsourcing might be preferable. Such an approach should not be exclusive to the agency, but would benefit the whole public sector if broadly adopted as it would support alignment between the digital transformation agenda and public employment strategies.

THE 2015-2018 DIGITAL FIRST AGENDA

As a cross-policy instrument, the 2015-2018 Digital First agenda addresses digitalisation from different perspectives therefore ranging from broadband access to digital skills and digitalisation as a tool to fight climate change. It results from the on-going global evolution towards digital states capable of effectively transforming and drawing upon digital technologies and data as strategic assets to collaborate and engage with citizens, design and improve the delivery of data- and user-driven public services and policies, anticipate citizens' needs, and enhance the value of the government as a platform.

The Swedish Digital First agenda has five core areas of work covering digital government efforts See Figure 2.1):

Despite the clear and comprehensive vision reflected in the Digital First agenda, evidence collected within the frame of this review shows that in terms of digital government, the agenda stands more as a policy statement issued by the Ministry of Finance rather than a vision widely shared, owned and recognised, or even known, by public entities.

The development of the agenda fell short in relation of grounding the vision for digital government in a well-structured long-term strategy, with the value of a policy level, developed and implemented in coordination and collaboration will all relevant stakeholders from the public sector.

Swedish stakeholders recognise the lack of a strategic approach in defining objectives and limited clarity in terms of co-ordinated policy implementation – underpinned by insufficient cross-government communication channels – and a focus on processes more than on outcomes. The need to prioritise policy goals and act upon the achievement of these priorities was underlined by stakeholders within the context of this review

The Swedish government is falling short in terms of setting formal channels to reach out to and communicate with the public sector digital ecosystem. Sweden often fails to acknowledge key public officials as part of the digital ecosystem and as a valuable source of knowledge to spur public sector collective intelligence.

Communication strategies are in many instances limited to one-way information provision. Communication is not identified as a means towards policy buy-in and engagement and public officials are mainly informed about policy goals and expectations in line with a "do-deliver-and-comply public administrator mind-set". This hinders the possibility of engaging actors and identifying key partners and allies across the broad public sector from early stages of policy definition.

Absence of clear stewardship and leadership, associated with the overall government agenda, appears to be another missing element which may explain the reason for having too many goals and ambitions but too few focused, strategic, coordinated and cohesive actions.

Figure 5. **Digital First agenda: Core areas of action**
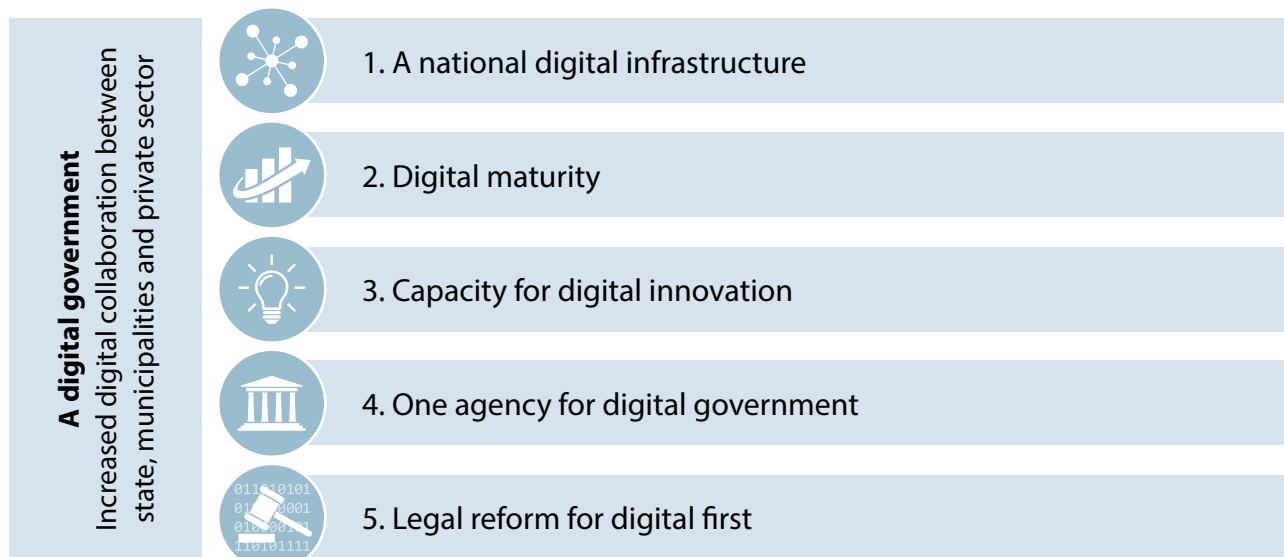
The 2015-2018 Digital First agenda appears to have been developed through a process that was not particularly inclusive and open, and this may explain the low levels of awareness and ownership among public officials. In this light, the role and leadership of the new agency will be key to address these deficits and spur on engagement and interinstitutional coordination and collaboration.

During the second OECD mission to Stockholm in March 2018, stakeholders expressed their views on the strong focus of the agenda on processes rather than on outcomes, and the need to prioritise policy goals and act to deliver these priorities in order to strengthen the basis for digital government actions.

Stakeholders also pointed out the lack of a strategic approach in terms of the instrumentation and implementation of the digital government policy, and the lack of clarity in terms of what is expected from them.

A more inclusive policy-making process would also help crowdsourcing and embedding public officials' inputs in policy goals, when defining priorities and co-creating the content of the agenda in itself. As a whole, this process would contribute to increasing policy ownership among public officials.

Finally, it is unclear how the digital government agenda has taken into consideration the need to develop skills and competencies and how the agenda is linked to broader public sector employment strategies.

INTER-INSTITUTIONAL COORDINATION AND CULTURE OF COLLABORATION

There are some examples of inter-institutional co-ordination mechanisms already in place in the context of digitalisation and digital government in Sweden, namely:

- **the Prime Minister National Innovation Council**, chaired by the Prime Minister and integrated by the Ministers of Finance, Education, Enterprise and Foreign Affairs and representatives mainly from the private sector. The NIC's activities have a strong focus on business innovation and competitiveness. This body only acts as an advisory body with no enforcement powers.

- **the Digitalisation Council** is integrated by 10 high-level representatives from the public sector (including Vinnova, SALAR and Stockholm's CIO), private companies such as Google, and the academia. It provides advice in terms of digitalisation, and proposing and evaluating new projects. It responds to the Minister for Housing, Urban Development and Information Technology. Evidence collected within the framework of this review points to the fact that this body's mandate is not strong enough.

- **the eSAM**, which is integrated by 21 general directors from public sector agencies and a representative from the SALAR (See below). Five institutions integrate the eSAM Secretariat. In line with the Swedish culture, while joint potential actions in terms of digitalisation are discussed by all members, implementation falls at individual agencies' level.

- **SALAR**, an organisation for regional governments comprises representatives from all 21 regions and all municipalities in Sweden.

Even though the above mentioned examples provide a space for well-grounded inter-institutional cooperation the capacities fall short in terms of weight and mandate when it comes to supporting effective implementation.

The verticality of the Swedish public sector hinders coordinated policy implementation. Additionally, the political value of external bodies such as the Prime Minister National Innovation Council is not fully capitalised e.g. in light of the commitments of the 2017 Nordic Ministerial Declaration (which includes topics related to digital government).

Bodies like eSAM offer a solid basis for discussing and fostering cooperation and collaboration. The eSAM is, essentially, the continuation of the E-delegation *de facto but* it also inherited some of its problems and challenges and has no enforcement powers.

Evidence collected by this review points to the focus of the eSAM being an e-government rather than a digital government approach. This results in slow decision making and actions, and in the overall tendency to resist government-led change. However, public institutions' current motivation to participate (institutions are part of eSAM voluntarily) is a fact of high value if the

agency aims to find a balance between enforcement and intrinsic motivation. Cases like eSAM offer a solid basis for discussing and fostering cooperation, but this is not sufficient to steer coordinated actions and efficient implementation.

Even within such a consensus-based culture, achieving digital transformation requires coordinated and focused strategic decisions for which moving beyond discussions, under a clear leadership, is pivotal to take actions addressing systemic challenges in a coordinated and collaborative fashion.

Final users and citizens have had no involvement in these coordination fora thereby limiting the adoption of user-driven approaches for policy making. Most commonly, practices around users' needs are still grounded on an e-government user-centred approach where those needs are assumed but not explored, and are not placed at the core of problem solving and policy design processes.

GOVERNMENT AS A PLATFORM: Towards collaboration for value co-creation

The new agency should play the role of a broker to coordinate actions and enable collaboration towards the achievement of policy goals and facilitate multi-stakeholder value co-creation.

The agency is expected to contribute to the achievement of the goals of the digital government agenda. In this light, and based on the budget allocation for 2018-20 (including ring-fenced funds for open data and the national digital infrastructure), it will play a key role to address key policy challenges [for instance in terms of the public sector IT infrastructure (Section 1.3) and open data (Section 4)] currently limiting the possibility of advancing a "government as a platform" approach in the Country. In this context, the role of the agency will be pivotal to overcome problems related to fragmentation and duplication of efforts at the agency level, enforcement of common guidelines and standards, streamlining of data sharing based on available data registries, improvement of public sector data governance and infrastructure, and use of open government data to contribute to data-driven innovation.

Yet, the need for more efficient coordination related to digital government across the public sector in Sweden seems to be the main driver behind the creation of the new

agency. What appears to be missing is a real ambition to use the new body as a driver, enabler and platform for digital innovation, value co-creation and collaboration.

Discussions with key stakeholders held within the framework of this review in 2018 mostly underlined the role of the new agency as an inter-institutional coordination body. Some actors expressed the need to create dynamic spaces (either physical or digital) for risk-controlled experimentation, digital- and data-driven innovation, multi-stakeholder engagement, and problem-solving collaboration. Others expressed the urgent need to "start building a beta version" of a smarter and agile government, and provide a platform where officials can build, experiment and test ideas in risk-controlled environments. The role of the new agency should be capitalised on in this respect.

The role of the new agency should also focus on its strategic value as an enabler and platform for creativity, and providing digital and data-driven innovation, multi-stakeholder collaboration and value co-creation within the public sector. The Agency can be pivotal to "start building a beta version" of a smarter and agile government.

The culture of consensus could be leveraged as an opportunity for collaboration and value co-creation. But as only a few actors embrace this perspective, it is not fully capitalised and is still seen as a challenge in terms of decision-making by most stakeholders.

It is vital to capitalise on the consensus-based culture of the public sector to bring actors from all sectors on board, drive change, motivate problem-solving creativity, and enable risk-controlled environments for experimentation.

Many cultural factors related to equality (no hierarchic management models), teamwork mentality, public officials' high education levels, networking co-operation and digital skills are recognised as important preconditions to scale-up existing cases of experimentations e.g. curiosity-driven public officials who are willing to experiment with new ways of doing things. These are indeed cultural traits that contribute to the readiness (capability) of the Swedish public sector to move towards a digital government. The agency should assist to put this capability and willingness into action and help scale-up existing initiatives. This implies overcoming some cultural challenges related to a state of complacency, an increased focus on facts/efficiency than on experimentation

and innovation, and emphasis on big IT projects, rather than on a more incremental mind-set that can be used to experiment with small initiatives than can later be scaled-up.

Organisational culture within the Swedish public sector emerged both as an enabler and barrier for digital and data-driven innovation. Some aspects of the Swedish public sector seem to create a skill- and cultural-base that can be used to leverage digital innovation, but this culture may also obstruct creativity and reward compliance with the status-quo.

Unwritten social codes e.g. avoid causing discomfort to others or unpleasant social and work environments (*Dålig stämning* as it is known in Swedish), are evident. However, this results from public officials' self-reticence to express their opinion for the sake of cordiality.

This context may result in an organisational culture that punishes creativity and rewards compliance. External factors affecting digital innovation related to the role of the media as an ally for potential media criticism can deter experimentation by public officials.

Creating safe spaces for experimentation and ideas exchange is urgent in order to move from a bureaucratic mind-set to an environment driven by risk-controlled entrepreneurship.

Across the broader public sector, there is a missed opportunity to enable public sector agencies to play a more proactive role in fostering data-driven and digital public sector innovation. In general terms and despite the availability of some isolated efforts, data-driven and digital innovation is still occasional, siloed and sometimes unknown.

There is no natural traction for digital and data-driven innovation due to a risk-averse and compliant organisational ethos. Even Vinnova, a key agency in this regard, seems to be playing more of an administrative (e.g. managing funds and grants for innovation projects such as labs) and passive role, rather than being a convener and promoter of public sector innovation, e.g. identifying and soliciting champions to create capacities to foster public sector innovation, speed up innovation procurement processes.

In this light, the new digitalisation agency will find it challenging to go beyond co-ordination responsibilities in order to facilitate and adopt dynamic, agile, multi-stakeholder collaboration approaches, and capitalise on the consensus-based culture of the public sector. However, this would help bring actors from all sectors on board and drive change by enabling spaces that motivate and reward creativity.

3. Leveraging data for public sector digital innovation and intelligence

There is a need to take immediate action, drawing upon the current favourable national and Nordic-Baltic regional political context and support towards Artificial Intelligence. This environment creates the right conditions for the use of emerging technologies in the public sector and the capitalisation of government data as a driver of AI-driven business models.

In May 2018, the Swedish government published a political statement highlighting Sweden's goal of becoming a leader in Artificial Intelligence (AI). The statement, called National Guidance for Artificial Intelligence *(Nationell inriktning för artificiell intelligens)*, addresses key issues such as the need to develop capacities and skills among citizens to use AI, and the need to maximise the benefits of AI in the public sector. It also underlines the importance of education, research and business innovation by enabling the right context for the adoption and use of these technologies *(Regeringskansliet, 2018)*.

The political relevance of this guidance complements the Nordic – Baltic Declaration on AI[4] published in May 2018 by the digitalisation ministers from the Nordic and Baltic region.[5] It was issued by the Nordic Council of Ministers for Digitization 2017-2020 (MR-DIGITAL), and also stresses the need of developing skills among stakeholders for the use of AI. Additionally the declaration argues for enhancing access to data, reducing regulatory burdens, and governing the use of AI actions, through the definition of common standards and guidelines (Nordic Council, 2018).

Enabling the right data governance frameworks and improving the state of key enablers, such as the shared data infrastructure, for the public sector remains a key challenge for the Swedish public sector.

The National Guidance for AI is clear in regard to the value of government data as a propeller of AI-based business models and digital innovation. It underlines the public sector's advantage in terms of its data assets and the value they can have for AI- and data-driven public sector efficiency. The importance of making government data publicly available for external stakeholders' reuse is also considered in the guidance (See Section 4).

Capitalising on the value of government data for an AI-driven smart public sector would require first addressing remaining legacy challenges – such as data fragmentation – in order to ensure the interoperability of data and systems, greater data integration, and seamless data access.
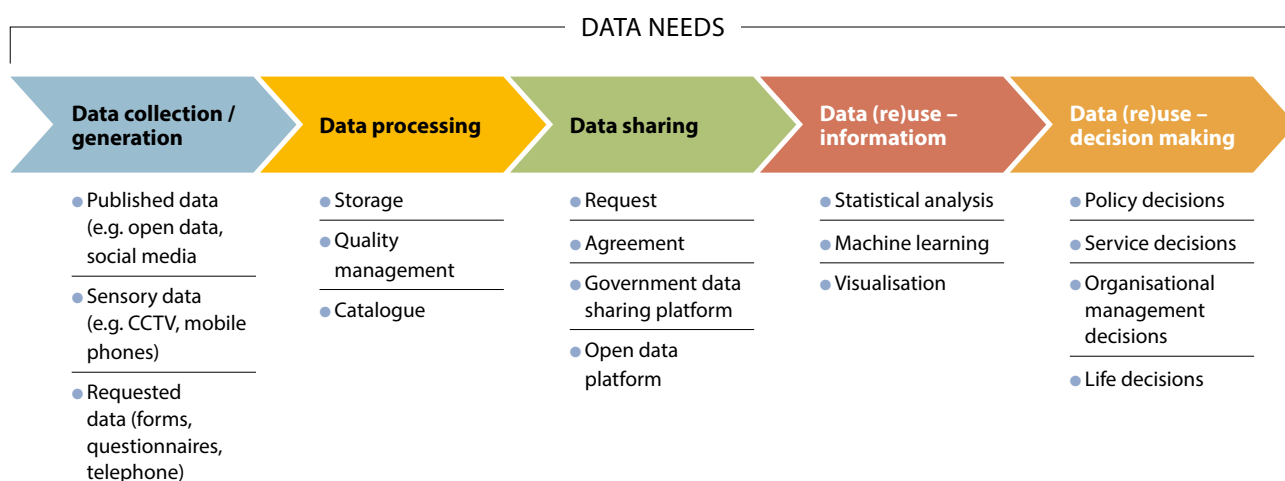
DEFINING A DATA GOVERNANCE MODEL FOR A DATA-DRIVEN PUBLIC SECTOR

For Sweden to become a world leader in using artificial intelligence to "strengthen Swedish welfare and competitiveness"[6] the basics should be set first. In this light, the Government's willingness to capitalise on the value of artificial intelligence for the public sector calls for the design and implementation of a data policy for the public sector, the implementation of efficient data management models and the redevelopment of existing data-sharing organisational processes and practices.

Clarity regarding the definition of the data strategy as well as the data policy goals are paramount. The availability of a central data policy for public sector data governance is fundamental to move towards a data-driven public sector. Data policies and strategies set the overall vision and case for taking action and prepare the ground for data governance structures and tools; this then supports policy implementation and inter-agency data processing and re-use (e.g. regulations, guidelines and standards).

Results from the review survey indicate that Sweden currently has neither a single public sector data policy[7] nor possesses a government-wide information and/or data governance model to guide the management, sharing, and use of data within and across public sector institutions.

An overall vision and coherent strategic approach to data governance across the public sector could help the government of Sweden to leverage data as a key strategic asset at each stage of the policy cycle. If the opportunities offered by the use of AI and government data within the public sector are to be captured, all institutions should own and know about this government-wide vision.

Figure 6. **Public sector data value cycle**

DATA NEEDS

Data collection / generation	Data processing	Data sharing	Data (re)use – informatiom	Data (re)use – decision making
• Published data (e.g. open data, social media	• Storage	• Request	• Statistical analysis	• Policy decisions
• Sensory data (e.g. CCTV, mobile phones)	• Quality management	• Agreement	• Machine learning	• Service decisions
• Requested data (forms, questionnaires, telephone)	• Catalogue	• Government data sharing platform	• Visualisation	• Organisational management decisions
		• Open data platform		• Life decisions

Source: OECD Working Papers on Public Governance, "A data-driven public sector: Enabling the strategic use of data for productive, inclusive and trustworthy governance", Paris, forthcoming.

The opportunities of data reuse to improve the government's foresight capacities, its effectiveness to design and deliver services and to monitoring performance depend first of all on a coherent strategic approach to data governance at the central government level (OECD, forthcoming).[8]

Some institutions do have their own formal public sector data policy in place, though most of them focus on publishing institutional data as open data.[9] For instance, the Swedish Environmental Protection Agency has an internal data policy but the main focus of the policy is still on government data reuse outside of the agency, rather than within (See Section 4).[10] This situation reflects the general understanding of data-driven public sector across most agencies in Sweden, and mirrors the situation in other OECD countries where data policy efforts are at large limited to the online public release of government data as open data, and initiatives are therefore all in line with that purpose rather than with the idea of enabling public sector institutions to use data as key strategic asset.

To develop a sustainable approach towards the governance of public sector data will require a clear leadership, cross-government coordination and collaboration.

There needs to be a shift in vision across public organisations: from focusing on institutional goals to focusing on joint efforts leading to benefits for the public sector as a whole. Currently, when implemented, these initiatives remain at the agency and sectoral level with no coordination across agencies thus missing out the opportunity for synergies.

Despite a long tradition of collecting, storing and managing structured datasets, most institutions do not share the same understanding of data as an asset. By ensuring central leadership and data stewardship across leading agencies the Government can facilitate escalation of efforts, synergies and the implementation of coherent measures in line with central data governance and management guidelines.

MANAGING AND SHARING DATA IN THE SWEDISH PUBLIC SECTOR

Data governance arrangements rely on a legacy of organi-sational and transactional working methods and operating business model. This leads to stagnated development of a data-driven public sector and to fragmented efforts.

For instance, the Swedish Strategy for Environmental Data Management offers a series of recommendations for all authorities and organisations to jointly manage environmental data so as to leverage it as an asset to improve environmental protection. Institutions signing the strategy commit to follow the recommendations to manage the environmental data they possess.[11] There are currently around 40 signatories, such as the Medical Products Agency and the Swedish Forest Agency.

The Swedish Strategy for Environmental Data Management addresses key elements of data governance models, including for instance open standards, data management structures and the definition and use of master data catalogues.

There are some agencies in Sweden that have a specific unit dedicated to data analytics and conduct data analytics activities.[12] Results of the survey administered across the public sector within the frame of this review indicate that the Ministry of Finance uses data analytics to detect fraud and evasion[13] and the Swedish Pensions Agency has also been using data analytics for simulation studies on how proposed policy changes might affect the pension system.[14] In both cases, this reflects trends also observed in other OECD countries where the use of technology and data is at the core of these areas of work.

Such initiatives indicate the importance of central guidelines, standards and recommendations to create a common strategic approach and collaboration to promote a data-driven transformation of the public sector. However these initiatives remain siloed and reflect the lack of data integration in the public sector beyond specific policy sectors. This highlights the need to further advance sharing, scaling-up and learning from these efforts. In addition, technological evolution and the fast-paced production of data in recent years would require redefining long standing processes in order to ensure the adoption of new technologies for data re-reuse.

TEARING DOWN BARRIERS: Skills and fee-based business models

In order to build a data-driven public sector, Sweden will have to overcome some important barriers. The current legal framework and fee-based model of some institutions are the main barriers to data sharing and data-driven initiatives across the Swedish public sector.

For some agencies, charging a fee when sharing government data a substantial part of their revenues. Interviews during the OECD peer review mission to Stockholm revealed that the business model for some institutions is based on fees from public sector data.

For instance, for the Swedish Mapping, Cadastral and Land Registration Authorities, fees form a substantial

part of the budget and financing of the organisation. The Swedish Cadastral Authority *(Lantmäteriet)* has noticeably struggled to release open government data due to its fee-based business model. Survey results also indicate that the Ministry of Enterprise and Innovation and the Ministry of Health and Social Affairs also charge a fee for some of the data they share to some public institutions. In both cases, these ministries are required by law to do so.[15]

Evidence from the OECD mission informs that data across public sector institutions is perceived as a service, rather than an asset that can generate public value if provided free of charge. Therefore, the current funding model of public sector organisations in Sweden is by default opposed to the requirements of a data-driven public sector model and to the release of government data as open data (See Section 4).

The legal framework and the business model of organisations perpetuate siloed thinking and encourage an agency-based approach with strong emphasis on data ownership, as opposed to data sharing. This will need reviewing.

The current level of awareness and the data skills of civil servants are also important obstructing elements to the use of government data for improved policy making, service design and delivery, and organisational management. The knowledge base, both in terms of awareness and digital skills, of public servants is insufficient to foster a data-driven public sector.

Evidence from the OECD mission to Stockholm and from the survey administered for this review across public sector organisations indicates that at large, few agencies have taken concrete actions to use data to develop new ways of working and to manage the data value cycle accordingly. Results from the survey also highlight that, for most organisations, data is not used for economic and societal sensing and trend spotting to inform the policy agendas.[16] Additionally, data does not seem to have been used to engage societal stakeholders regarding the delivery of policies and services, or again to adapt public services based on data analysis of citizen needs, preferences and use patterns.[17]

Few initiatives have been implemented to increase the digital skills of public servants, e.g. few agencies have offered training to public officials on data analytics to develop and stimulate innovative policymaking. Training

occurring across public sector institutions has tended to focus on personal protection laws and other regulations relating to data protection.[18]

Dealing with the panorama of digital skills required to promote data-driven initiatives is essential if Sweden is to build the right capacities to leverage on the use of data across the public sector. Public sector organisations could invest furthermore in their units or departments dedicated to data analytics and through tests and experiments initiate further data analytics activities.

Initiatives such as the Skills360 Hackathon organised by the Swedish Agency for Government Employers could be implemented with a particular emphasis on digital skills to build the knowledge foundation towards a data-driven public sector.[19] Furthermore, such events could also focus on providing practical training on the reuse of government data by civil servants.

Barriers to a data-driven public sector are not so much technical but rather cultural, where the culture of data ownership, as opposed to data sharing, undermines efforts to adopt new approaches aligned to a data-driven public sector.

The institutional level survey revealed that, for most institutions, the main barriers to the use of data within the

agency are the insufficient awareness among managers and senior policy makers of the benefits of data-driven initiatives and the insufficiently skilled human resources on data management and use.[20]

The Government of Sweden needs to promote awareness of the value of government data reuse within the public sector. There seems to be no basic understanding about the potential value of data across public agencies in Sweden, so creating awareness will constitute the first step in building capacities for a data-driven public sector.

Prior to the provision of technical training to exploit the value of data, the Swedish government could consider educating its public sector on the importance of data as a key strategic asset. Theoretical understanding of the benefits of a data-driven public sector for foresight, delivery and performance could be prioritised before practical training on the means to achieve it is provided.

Furthermore, investments will have to be made to improve the organisational culture and capacities for a digital government and in particular to move towards a data-driven public sector. Initiatives to increase awareness of the value of government data reuse within the public sector will have to be implemented and the subsequent capabilities to leverage data will have to be provided.

4. Open Government Data in Sweden: From transparency to proactive openness, user engagement and public value co-creation

Sweden's commitment to advance digital government in the country – supported by the creation of the new digitalisation agency in 2018 – proves the willingness to progress the digital transformation of the public sector. In this context, open government data is placed as one of the core areas of work the new agency will focus on. Yet, results from the 2017 edition of the *OECD Open, Useful and Re-usable data (OURdata) Index (See Figure 4.1) reflect how Sweden is lagging behind in terms of open government data in relation to other OECD member and partner countries thus ranking below the OECD average. These results were confirmed by OECD Secretariat during both missions to Sweden (November 2017 and March 2018).*

THE GOVERNANCE FRAMEWORK FOR OPEN DATA IN SWEDEN

The current model for open government data in Sweden results from the constant exchange of roles and responsibilities in terms of open data between the Ministry of Finance (MoF) and the Ministry of Ministry of Enterprise and Innovation (MoE).

Between 2011 and 2016 the promotion of open government data (OGD) was the responsibility of the MoE under the leadership of Vinnova (the Swedish innovation agency). Before this period, open government data fell under

Figure 7. **2017 OECD Open, Useful, Reusable Government Data (OURdata) Index**
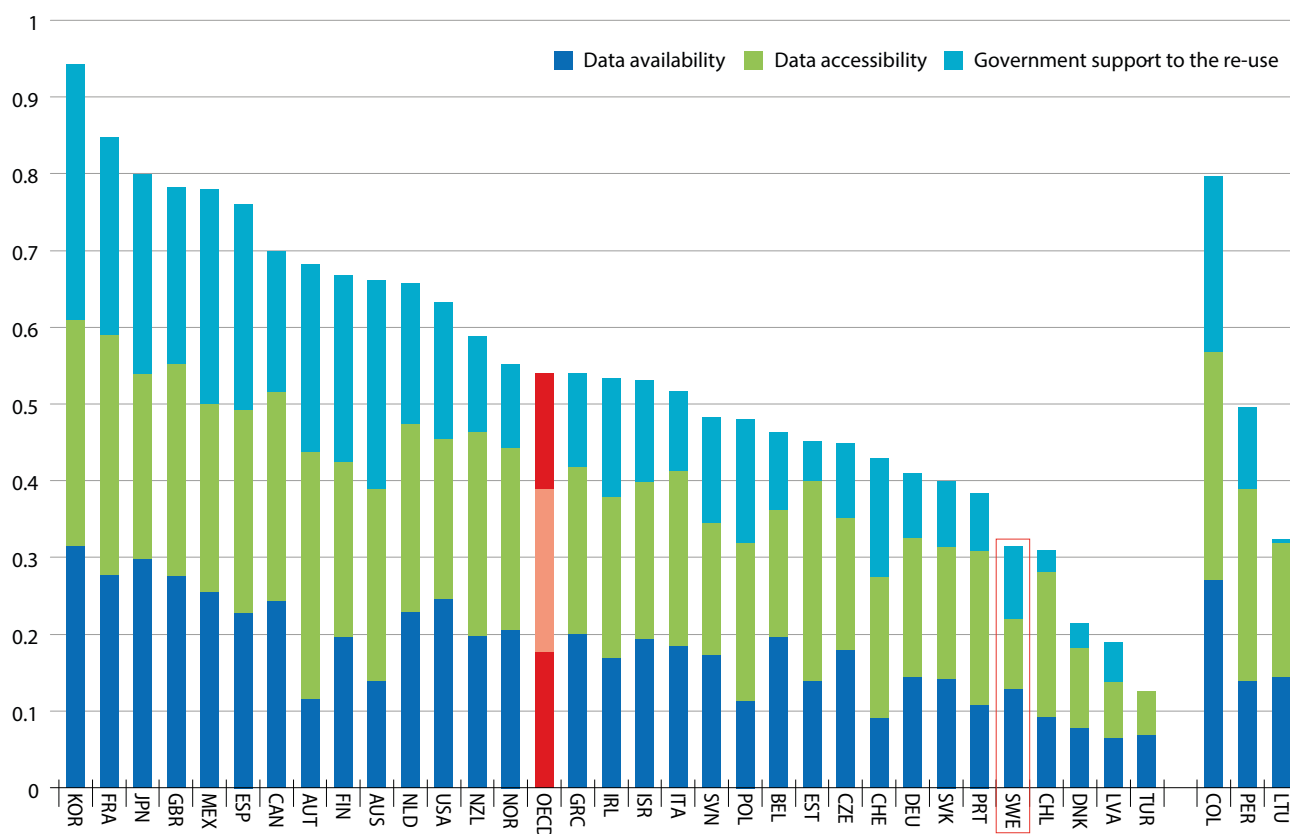
Note: Data for Hungary, Iceland and Luxembourg are not available.

Source: OECD Open Government Data Survey 3.0.

the responsibilities of the MoF. However, in 2016, the responsibility for PSI and OGD returned to the the MoF.

The same year, the promotion of open data efforts across the public sector was integrated into the mandate of the National Archives agency (Riksarkivet) within the Ministry of Culture. The Riksarkive's task was set for a time period covering from 1 July 2016 to 31 December 2018.

The Riksarkivet's responsibilities in terms of open government data include the management of the open data portal, and the development and provision of guidelines, on-line tutorials (e.g. www.vidareutnygjande.se) and support for metadata and data publication (e.g. sandbox.oppnadata.se).

The responsibilities for open government data will be transferred to the new digitalisation agency once this body starts activities in the second half of 2018.

While the efforts of the Riksarkivet have produced policy outputs in terms of data publication, the instability in terms of institutional governance has led to a lack of sustained and clear leadership for open government data in Sweden. The role of the new agency has to be capitalised on in this respect.

Leadership for open data in Sweden is unclear and is limited to technical and not strategic policy action resulting in the lack of a common vision for open government data across the broad public sector. While it would be necessary to ensure that hand-holding and capacity building efforts are sustained once the promotion and coordination of open data efforts is transferred to the new digitalisation agency, the vacuum in terms of strategic leadership needs to be tackled as well.

Evidence from the OECD mission to Stockholm in November 2018 indicates a common agreement between public agencies on the need for a stronger institutional leadership to steer efforts in this field, and provide a consistent and coherent of vision of open data's potential across the administration. These are advantageous conditions for open data to flourish in Sweden.

Leveraging the existence of inter-institutional bodies to advance coordination and enable collaboration, under a clear leadership and in line with central policy goals, would be critical to advance open government data. This would help avoid the creation of new coordination bodies that would add to complex governance structures therefore facilitating policy ownership and adoption.

Evidence collected within the framework of this review shows coordination bodies' (e.g. the eSAM) lack of general knowledge and awareness on what open data really is, since the benefits were not clear for agencies (from a data publisher perspective). In this light, the responsibilities, composition, and expertise of these bodies and their sub-groups would have to be reconsidered in terms of their role within the framework of open data policies.

Open data by itself contemplates the potential allocation of ring-fenced funds as part of the overall funding for the agency for 2018-20 (roughly 2 million euros per year). This funding is both a political and policy statement from the Swedish government in relation to its willingness to renew its vision and commitment for open data.

Recent OECD work on open data shows this is not a common practice among OECD countries therefore opening a window of opportunity to use these funds to deliver quick wins in the short and mid-term term, but also to build a solid culture for open data in the long run through the implementation of capacity building exercises among public sector institutions.

Despite the achievements in terms of open data publication, Sweden lacks a formal open data policy. Open data is currently more a set of – often siloed – open data initiatives developed by a small group of public sector organisations than a whole-of-government effort.

Results from the OECD Open Government Data survey 3.0 (2017) showed that, together with four other countries, Sweden is one of the few OECD member and partner countries not having a formal open data policy in place. While the acknowledgement of open data as a key element of data-driven innovation in the Swedish Digital First agenda aims to help address this issue, under the leadership of the new digitalisation authority, the challenge for the Swedish government would be to build policy ownership across the broad public sector and the external open data ecosystem. This would also require defining a clear open data strategy in order to move from ideals to strategic and coherent action.

Sweden enjoys a long public sector transparency culture dating back to the 18th century. Yet, while access to public sector information as a citizens' right is well anchored in the Swedish public sector ethos, such a positive legacy hinders the proactiveness of open government data efforts in the country.

Open data is not yet fully conceived as a proactive and dynamic government policy but rather as one authorising a passive behaviour from public sector organisations expected to react to citizens' requests. If any, most relevant actions result from the influence of extrinsic factors such as EU directives instead of internal drivers across the public sector.

Sweden is struggling to balance the need and demand for a stronger government role in terms of digital government and open data with the independent and autonomous role of agencies in terms of policy implementation. In this line, the Swedish government faces the challenge of exploring how to use hard policy levers such as laws and regulations to define mandatory actions to be implemented by agencies while also drawing upon the collaborative culture within the Swedish public sector to achieve coherent policy results.

USING OPEN DATA TO ENABLE GOVERNMENT AS A PLATFORM FOR PUBLIC VALUE CO-CREATION

Open data can be used to build a bridge in terms of using technology for the achievement of specific policy goals (problem-solving data publication), while satisfying the needs of valuable government data from users (data demand). By balancing data supply and data demand approaches, governments enable data infrastructures drawing upon the value of data as an asset for business models from the private and social sector. As a result, this data infrastructure enables governments as platforms for public value creation in collaboration with the open data ecosystem. This requires taking strategic measures to ensure the availability and accessibility of open government data prior to its publication.

Open government data availability and accessibility in Sweden

Pillars 1 and 2 of the OURdata Index focus on setting the right context in order to help governments and public sector organisations prepare for data publication and ensure the usefulness of OGD for users. In this light, results for pillars 1 and 2 indicate that, by December 2016, Sweden was lagging behind vis-à-vis other OECD countries in terms of the definition of overarching formal requirements for all ministries and agencies to provide government data open by default, and promoting and guiding public sector institutions to run consultations with users to inform them on open data plans and prioritise data publication.

User-driven data publication and user engagement are absent from most public organisations mind-set. Government offices appear notoriously driven by transparency approaches (e.g.

using FOI requests as the main driven to publish data) in their open data efforts which impacts their own understanding on what open data is.

Data discoverability and availability are fragmented as a result of different access points for open government data. In the case of the publication of strategic data assets decisions result again more from exogenous and extrinsic factors (such as EU directives) and not by the Swedish public sector's endogenous and intrinsic motivation. For instance, the Geodata portal – a good practice resulting also from EU directives – could be further connected to central open data efforts in order to increase the discoverability of open data.

Results from the OECD missions to Stockholm in November 2017 and March 2018 indicate that while a firmer approach may be needed to guide agencies and ministries to open up data, such an approach should be supported with a clearer business case and driver for data publication, particularly when the realisation of benefits resulting from opening up government data is not clear for the data provider.

The Swedish open data portal oppnadata.se has been conceived as a mere data publication platform, missing its value as a platform for multi-stakeholder collaboration

and engagement, and public value co-creation. From this perspective, it works more as a data access website than as a platform for community exchange, collaboration, and knowledge crowdsourcing.

The portal lacks basic functions such as feedback sections and forums for discussions. As a result it also lacks more advanced functions such as the possibility of enabling the portal as a user-driven platform where users can add datasets than can be used by other users from the ecosystem, register their own organisations as data publishers, and engage in discussions with other users centred on their datasets.

The goals with regard to open data fall short and are limited to a publication-oriented and not a strategic goal-oriented mind-set driven by demand. Discussions remain technical (e.g. centred on data architecture and infrastructure matters) and not focused on the value of data *as* infrastructure and as a strategic asset for the policy cycle and value creation by the broad society.

For-profit business models of some agencies are used as an argument to resist advancing open data efforts, instead of being a driver to disrupt organisational models and identify data-driven solutions to reduce costs and contribute to organisational efficiency, and improved public service delivery. This funding model arises as a key challenge to be overcome by some public sector organisations (See Section 3).

Most agencies and the Swedish government are failing to connect the publication of open data to the creation of specific public value therefore also limiting their ability to explore how organisational barriers can be overcome. Evidence collected for the purpose of this review points to a skills deficit with regards to open government data; a scenario aggravated by the lack of data stewardship and a vision in most public agencies.

Data reuse in Sweden: Acknowledging the value of the ecosystem

Enabling government as a platform drawing upon the use of data as infrastructure requires the definition and implementation of coherent efforts to encourage data reuse. These efforts aim to capitalise on the value of open government data as an input of the businesses' and civil organisations' value chains.

Some relevant examples of public sector organisations taking the lead to advance open data efforts across different policy sectors are evident.

- The **Swedish Environmental Protection Agency (***Naturvardsverket)* **developed an open up guidance model**[21] to support the publication of environmental data in line with its institutional open data policy. In 2016, *Naturvårdsverket launched its data management strategy drawing upon their vision* of the value of environmental data as a resource for society. It stresses the need of making environmental data not only available but discoverable, accessible, easy to understand, free of charge, and published in a timely fashion while easing inter-agency data management models and data-sharing processes (See Section 3).

- The **Swedish University of Agricultural Sciences** (SLU) whose efforts have focused on making forestry data available and drawing on its value to foster collaboration between different actors from the private, academic and public sectors.[22] The SLU has also started a Forest Data lab.[23] The Swedish LifeWatch initiative (SLW) led by the Swedish Species Information Centre (*ArtDatabanken*, a

unit within SLU) is working to build a data infrastructure by making all Swedish biodiversity data available in open and standardised formats.

- The **Swedish Transport Agency** (*Transportstyrelsen*) has taken relevant actions to draw upon the value of open data for improved urban mobility. The *Joint forces for Open Traffic Data* project of this agency has the goal of setting a common vision and shared actions for open transport data involving relevant actors involved on public transportation.

- At the local level, the **SALAR** (the Swedish Association of Local Authorities and Regions) has implemented some open data initiatives in areas such as health, waste management, noise pollution, and linked data.[24] Efforts at the local level are also taking place across different regions and municipalities such as Helsingborg, Gottenburg and Linköping, and in the context of the East Sweden Hack Initiative.[25]

Yet, most public sector organisations are disconnected from the broad open data ecosystem and self-identify as data access gatekeepers and data owners instead of custodians of public data and active actors within the open data ecosystem – a role that is contradictory to the active discussion around private sector and civic innovation and the

needed active commitment of the public sector. As the benefit of embarking on open data is not clear for most agencies, there is neither incentive nor intrinsic motivation to do so.

Results from Pillar 3 of the OURdata Index (measuring governments' efforts to encourage data reuse) and the OECD missions to Stockholm point, in general terms, to a disconnection between most public sector bodies, including the Ministry of Finance, and the external vibrant tech ecosystem in the Country.

The central government's efforts to understand the main barriers in terms of data reuse for businesses and civil society organisations appear insufficient. Even initiatives to develop partnerships with business incubators to support the re-use of open data by companies and start-ups are out of the scope of government's activities in Sweden.

When engaged, most public sector organisations have a strong compliance approach to guide data publication while user engagement and a problem-solving approach (*publish with purpose*) appear insufficient through the whole open data cycle (from identifying and preparing data for publication to feedback loops on demand and re-use).

The organisation of *Hack for Sweden* event stands as one of the most relevant examples in terms of stakeholder engagement. However, earlier versions of the event failed to connect policy issues with data-driven solutions engaging the ecosystem.

The current general context for open data in Sweden underlines that building and maturing an open data community within the public sector, and reaching the external open data ecosystem, are challenges that need to be addressed urgently if the country wants to become an Open Data champion.

In this regard, it is necessary to build open data networks integrated by public officials with an interest or already working on open data, and acknowledge the value of the external ecosystem not only as data users but also as partners to co-find solutions. Both are quintessential elements of successful open data initiatives. These efforts should aim to set the basis for further OGD reuse, multi-stakeholder collaboration, and the design and implementation of problem-solving open data initiatives towards public value co-creation across different policy sectors

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2. For more information see: http://www.regeringen.se/4a6e13/contentassets/79f6d27416794f0bb146c792e02b65fc/budgetpropositionen-for-2018-hela-dokumentet-prop.-2017181.pdf

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5. Denmark, Estonia, Finland, the Faroe Islands, Iceland, Latvia, Lithuania Norway, Sweden, and the Åland Islands.

6. More information is available here: https://www.regeringen.se/pressmeddelanden/2018/05/fardriktning-for-artificiell-intelligens-beslutad/

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8. Information is based on the OECD Working Papers on Public Governance, "A data-driven public sector: Enabling the strategic use of data for productive, inclusive and trustworthy governance", Paris, forthcoming.

9. Based on data from Question 40 of the Institutional Level Survey for the Digital Government Review of Sweden

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12. Based on data from Question 44 and Question 55 of the Institutional Level Survey for the Digital Government Review of Sweden

13. Based on information provided by the Ministry of Finance for Question 55 of the Institutional Level Survey for the Digital Government Review of Sweden

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15. Based on data from Question 50 and Question 50a of the Institutional Level Survey for the Digital Government Review of Sweden

16. Based on data from Question 57 of the Institutional Level Survey for the Digital Government Review of Sweden

17. Based on data from Question 59 and Question 60 of the Institutional Level Survey for the Digital Government Review of Sweden

18. Based on data from Question 64 of the Institutional Level Survey for the Digital Government Review of Sweden

19. More information is available here: http://skills360.se/

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24. For more information see: https://oppnadata.skl.se

25. For more information see: http://eastswedenhack.se

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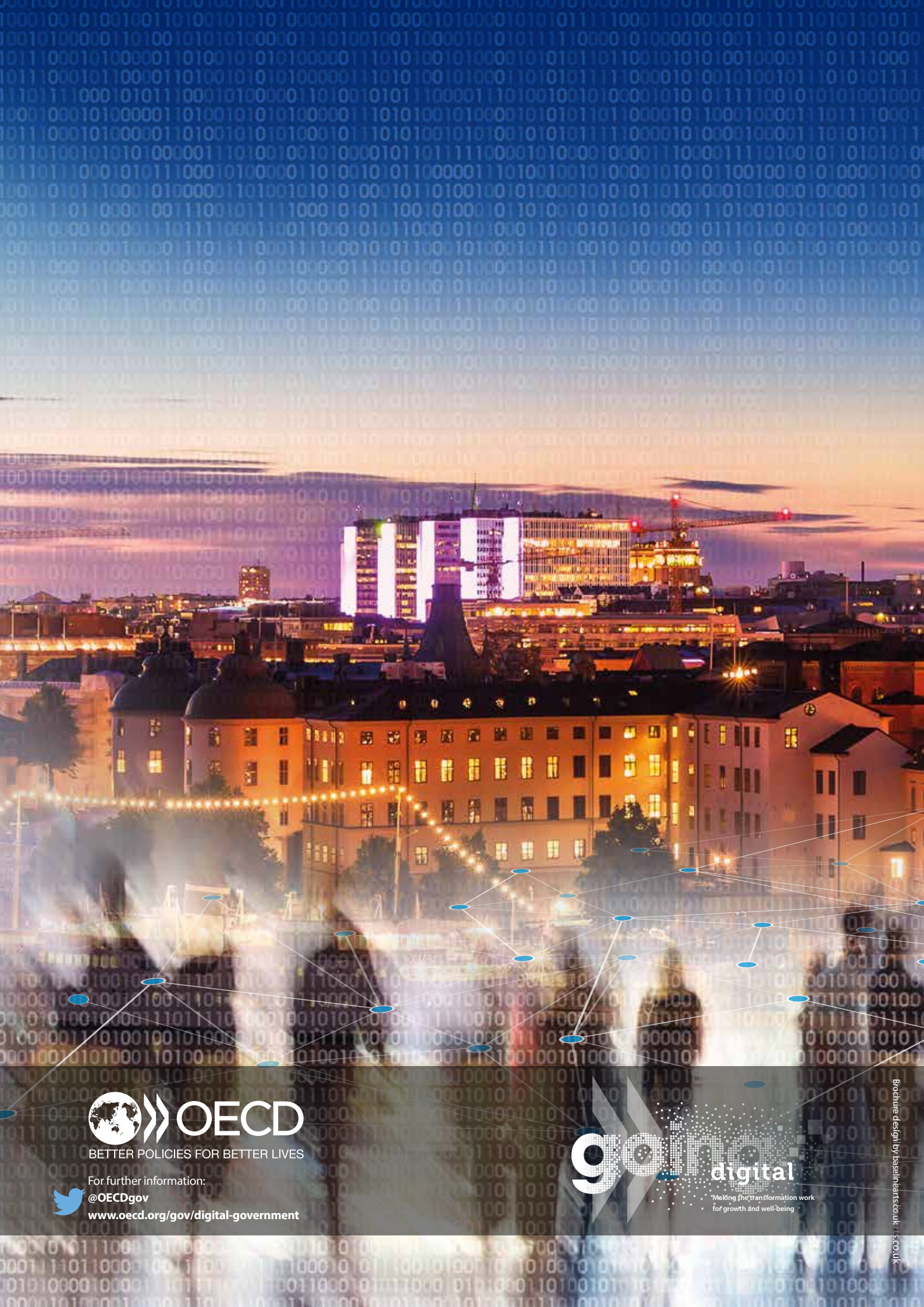

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