

United Nations University Operating Unit for Policy-Driven Electronic Governance  
(UNU-EGOV)

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## Digital transformation of social security administration and services: A comparative analysis of Australia, Canada, Denmark and France

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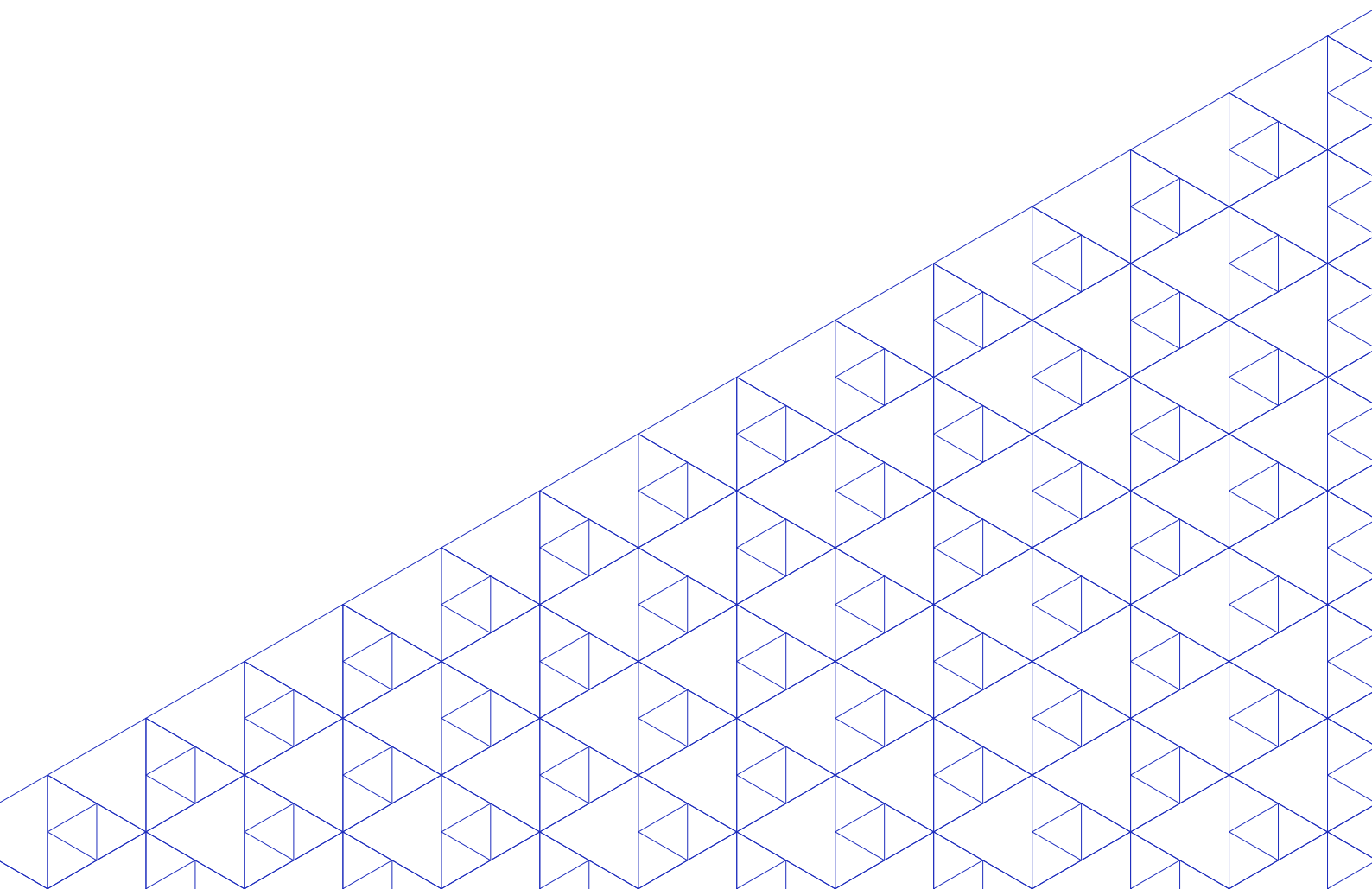
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# ► Digital transformation of social security administration and services: A comparative analysis of Australia, Canada, Denmark and France

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## Abstract

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The digital transformation of social security administration and services is complex and multifaceted. It requires careful consideration of various factors, such as the legal and regulatory frameworks, technological infrastructure, and social and cultural norms. This comparative analysis examines the digital transformation of social security administration and services in four countries - Australia, Canada, Denmark, and France - and identifies the key drivers, challenges, and key lessons learned.

The comparison finds that the four countries have adopted different approaches to digital transformation, reflecting their unique political, economic, and social contexts. However, some common themes and trends emerge from the analysis.

Two key drivers are identified in all four countries. The first driver of digital transformation is motivated by a desire to improve the efficiency and effectiveness of social security administration and services. This is particularly important as populations are ageing, demand for social services is rising, and competition for limited public sector resources is increasing. The innovative application of technology is opportunities to streamline processes, improve productivity and reduce costs while enhancing the quality of services.

A second driver is a desire to enhance the quality of services and expansion. Digital technologies can enable more personalized and responsive services, as well as provide users with greater control over their data and interactions with social security agencies, and user experience and increase citizen engagement. From an initial focus on economic efficiencies, the four countries combined this with a desire to improve the user experience, increase user engagement in creating and testing new services, and include new beneficiaries.

These drivers are enabled by a number of facilitating factors, including inter-agency and cross-governmental governance, coordination models setting and monitoring the strategic direction of the digital transition. The legal and regulatory framework and the associated standards facilitating efficient identity management, system interoperability and data exchange are key enablers, as are design, usability and accessibility standards for all public sector service solutions, websites, portals and apps. The service production and delivery ecosystems may be unique to each country. Still, they are all anchored in a network of specialized and unified service portals enabled by standards, system integration and connectivity, data exchange, electronic identities and signatures. Similarly, all countries actively address public sector capacities for technology to encourage innovation and change management – but in combination with traditional capacities and activities such as administrative burden reduction.

A number of critical challenges to digital transformation are identified in the comparative analysis. Common to the four countries are concerns around data privacy and security, digital exclusion, and resistance to change from stakeholders such as employees, clients, and policymakers. These challenges require careful management and mitigation strategies to ensure that the benefits of digital transformation are realized while minimizing the risks. Similarly, data capture, management and quality assurance across service and organizational silos is a significant improvement area acknowledged in all four countries.

Service and organizational silos continue to be a challenge. While consolidation, coordination and active collaboration are seen in both social security and the public sector service production and delivery ecosystems in all four countries. Federal countries like Australia and Canada are challenged by a relatively higher degree of fragmentation between central, regional and local authorities and service offers due to the national governance model. In comparison, France is challenged by more traditional public sector and social security silos. A cross-governmental, holistic and user-centric approach to digital transformation is thus crucial. Business and user needs

and perspectives of all stakeholders are required but must balance the opportunities and risks of digital technologies.

Anchored in the comparative analysis digital transformation of social security administration and services in Australia, Canada, Denmark and France, a set of key lessons can be synthesized:

- Develop a clear vision and digital transformation strategy aligned with broader policy goals and stakeholder needs. Channel strategies, usability and active opt-out models facilitate the use of online services.
- Build and continuously update a robust and adaptable technological infrastructure supporting a wide range of digital services and applications in an agile whole-of-government ecosystem.
- Establish a digitization ready legal and regulatory framework, with regular impact assessment complemented with relevant standards and compliance mechanisms.
- Establish clear data governance and quality assurance processes and apply once-only and single-sources of truth principles for data management and sharing.
- Establish clear policies and guidelines around data privacy and security while ensuring appropriate safeguards are in place to protect sensitive information.
- Engage with stakeholders, including clients, employees, policymakers, and other partners, to ensure that their needs and concerns are addressed and that they are involved in the design and implementation of digital services.
- Provide training and support to employees and users to ensure they have the skills and knowledge to use digital services effectively. Build multi-faceted capacities to manage innovation, change and risk in organizations successfully.
- Monitor and evaluate the impact of digital transformation on key outcomes, such as service quality, efficiency, and user satisfaction, and use this feedback to inform ongoing improvements and refinements. Link strategic objectives with operational performance indicators for benefits realization.

## About the authors

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### United Nations University Operating Unit on Policy-Driven Electronic Governance

**UNU-EGOV** is a policy-oriented think tank dedicated to Electronic Governance located in Guimarães, Portugal.

UNU-EGOV is a core research centre bridging theory and practice, research and public policies.

As part of the UNU system, UNU-EGOV is an innovation enhancer and a solid partner within the UN system and its Member States, with a particular focus on sustainable development, social inclusion, and active citizenship.

UNU-EGOV strives to cement its role as an international reference of excellence in this area, bringing together multidisciplinary and multicultural teams around complex problems and emerging challenges. It is a multidisciplinary organization of scholars interested in and dedicated to studying and examining the development and impact of “digital governance and government” (Electronic Governance or EGOV) to propose sound policy-driven research. EGOV fosters the use of digital technologies to enhance and support public operations and policies, citizen involvement and participation, develop sustainable cities, and provide an inclusive public service.

Such as private industries, the public sector is investing and using more and more analytics, mobility, emerging technologies, social media, and smart devices to transform their comprehensive service delivery. These are changing the external relationship with citizens and other stakeholders, as well as the internal business processes and operations, to take benefit of the new technological capabilities. However, while digital transformation presents new opportunities, it also creates new challenges.

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## Acronyms

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ACOSS	Agence Centrale Organismes Sécurité sociale
ATP	Arbejdmarkedets TillaegsPension
ABS	Australian Bureau of Statistics
AIHW	Australian Institute of Health and Welfare
APSC	Australian Public Service Commission
CNAF	Caisse Nationale d'allocations familiales
CNAV	Caisse Nationale d'Assurance Vieillesse
CRA	Canada Revenue Agency
CIA	Central Intelligence Agency
CEPP	Committees on Enterprise Priorities and Planning
FMT	Core finance
DIGST	Danish Agency for Digitisation
DA	Data analytics
DIPA	Data Integration Partnership for Australia
DHS	Department of Human Services
DSS	Department of Social Services
DM	Deputy Minister
DMC	Deputy Minister Committees
DTA	Digital Transformation Agency
DTPSMC	Digital Transformation and Public Sector Modernisation Committee
EGDI	E-Government Development Index
eID	Electronic Identification
eIDAS	Electronic identification and trust services
EA	Enterprise Architecture

ESDC	Employment Social Development Canada
EARB	Enterprise Architecture Review Board
EC	European Commission
EIF	European Interoperability Framework
EU	European Union
DSO	Government's Digital Skills Organisation
GTMI	GovTech Maturity Index
ICT	Information and Communications Technology
IM-IT	Information Management and IT
DINUM	Inter-Ministerial Directorate for Digital Affairs
DITP	Inter-Ministerial Directorate for Public Transformation
ILO	International Labour Organization
ISSA	International Social Security Association
ITU	International Telecommunication Union
IOP	Interoperability
LOSI	Local Online Service Index
MOHRSS	Ministry of Human Resources and Social Security
SGMAP	Modernization of Public Action
INSEE	National Institute of Statistics and Economic Studies
NIR	Numéro de sécurité sociale
OSI	Online Service Index
OECD	Organisation for Economic Co-operation and Development
PM&C	Prime Minister and the Cabinet
PSC	Portfolio Steering Committee
SANDIA	Service Administratif National d'Identification des assurés
SSC	Shared Service Canada

SIRH	Strategy for Human Resources
STAR	Styrelsen for Arbejdsmarkedet og Rekruttering
SNGI	Système national de gestion des identités
TOOP	The Once-Only Principle Project
TBC	Treasury Board of Canada
TBS	Treasury Board of Canada Secretariat
UDK	Udbetaling Danmark
URSSAF	Unions de Recouvrement des Cotisations de Sécurité Sociale et d'Allocations Familiales
UN	United Nations
UNDESA	United Nations Department for Economic and Social Affairs
UNU-EGOV	United Nations University Operating Unit for Policy-Driven Electronic Governance
WCAG	Web Content Accessibility Guidelines
W3C WCAG	World Wide Web Consortium International Web Accessibility Guidelines

## ► Introduction

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This comparative analysis of the Digital Transformation of social security administration and services is based on a set of individual case studies of Australia, Canada, Denmark and France and associated stakeholder and expert interviews.

The comparative analysis consists of seven parts:

- The context of the four countries, digitisation and social security.
- Approaches to Governance, intergovernmental collaboration and coordination in relation to technology for the digital transformation of social security and social assistance.
- Approaches to the legal and regulatory framework and standards relating to the digital transformation of social security and social assistance.
- Key back-end service production ecosystems for social security administration and services.
- Key front-end service delivery ecosystems for social security administration and services.
- Skills and capacities within social security entities and for social security clients and customers.
- Approaches to expanding inclusion and coverage.

Each section will outline key elements in each country's approach before analysing their perceived impact.

The analysis concludes by summarising lessons learned from the four approaches and their respective experiences.

## ► 1 CASE CONTEXT

The four country cases in this analysis have a number of similarities and differences. Australia, Canada and France are medium countries by population, whereas Denmark is a relatively small country. By territory, Australia and Canada are amongst the largest in the world, with an average population density substantially lower than in Denmark and France. That said, all four countries have a high level of urbanisation density. With the exception of Canada, one official language dominates the country. Several secondary and minority languages are nonetheless prevalent. All are high-income countries with a corresponding standard of living and a more consistent GDP growth rate (Ozols & Meyerhoff Nielsen, 2018a). All four are members of the UN and OECD. Denmark and France are also members of the EU.

► **Table 1: Socio-economic data (CIA - Central Intelligence Agency, 2021)**

	Australia	Canada	Denmark	France
Population (July 2021 est.)	26,141,369	37,943,231	5,894,687	68,084,217
Territory (km <sup>2</sup> )	7,741,220	9,984,670	43,094	643,801
Population density (2020) <sup>1</sup>	3	4	146	123
Official language	English	English and French	Danish	French
Life expectancy / median age (2021 est.)	83.09 / 37.5	83.62 / 41.8	81.45 / 42	82.39 / 41.7
Urbanization (%) of total population (2021)	86.50%	81.70%	88.2 % (2019)	81.20%
GDP (PPP) (USD, 2020 est.)	1.54 trillion	1,742 trillion	326,2 billion	2,832 trillion
GDP per capita (PPP) (USD, 2020 est.)	59,934.10	45,900	55,900	42,000
GDP growth rate (%) (2019 est.)	1.50%	1.66%	2.85%	1.49%
Unemployment (2019 est.)	5.10%	5.67%	3.05%	8.12%
Imports (billion USD (2020 est.))	275.13 billion	510.29 billion	170.33 billion	803.66 billion
Exports (billion USD (2020 est.))	342.2 billion	477.31 billion	191.53 billion	746.91 billion

<sup>1</sup> The World Bank (2021). Accessed 1-15 November 2021: [https://data.worldbank.org/indicator/EN.POP.DNST?end=2020&locations=AU-CA-DK-FR&name\\_deforssc=false&start=1961&view=chart](https://data.worldbank.org/indicator/EN.POP.DNST?end=2020&locations=AU-CA-DK-FR&name_deforssc=false&start=1961&view=chart)

Public sector governance approaches also differ in the four countries. Australia and Canada are both federal countries and part of the Commonwealth of Nations. Denmark and France are unitary states. The head of state in Australia, Canada and Denmark is a non-elected constitutional monarch. They all have an elected head of government. In France, the President is elected and is de facto head of state. He appoints a prime minister who is in charge of most of the internal affairs.



While half the countries are federal, all have three-tier public sectors with a central, regional and local level of government and services delivery. Both Denmark and France are influenced by a supranational level (EU). The key difference is to be found with respect to decision-making mandates and service delivery responsibilities.

In Australia and Canada, over 90% of services are provided by Federal and Provincial governments, including social security. In the Danish context, more than 80% of services are delivered by local government, but for social security, 90% is delivered by specialised central government entities. Like Denmark, some 80% of services are delivered by the French local government, while the majority of social security services are delivered by the central government. Table 2 provides additional information.

► **Table 2: Socio-economic data (CIA - Central Intelligence Agency, 2021)**

	Australia	Canada	Denmark	France
Structure	Complex federal system and governance model.	Complex federal system and governance model.	Centralised unified state with a three-tier public sector.  EU level influence and overseas territories.	Three-tier public sector.  EU level influence and overseas territories.
Division	Commonwealth, or federal, government, plus 6 state governments and 10 territories, 537 local councils of which some 55% are regional, rural, or remote councils.	Federal, 10 provincial and 3 territorial governments and 5,162 local authorities	Central government, 5 regions and 98 municipalities.  Centralised but with high level of regional and local government autonomy, decision-making, and service delivery responsibilities.	Central government, 18 administrative regions (13 in Europe), 101 departments (96 in Europe), divided into 332 arrondissements, 34,965 municipalities.
Digital Service Delivery	Federal government, state government, local authorities.  Some 90% of services provided by Federal and State governments including 90+% of social security.	Federal government, provincial government, local authorities.  Some 90% of services provided by Federal and Provincial governments including 90+% of social security.	Central, regional and local government.  Inter-collaboration for service delivery.  Some 80% of services delivered by local government. Some 90% of social security is by the central government.	Central, regional and local government.  Inter-collaboration for service delivery.  Some 80% of services delivered by local government, with a majority of social security being delivered by the central government.

Early forms of social security have been sporadic in all four countries. The public sector provided social security and welfare services expanded during the 1960s.

While definitions, semantics and the extent of coverage varies in the four countries, social security benefits areas and services found in all four countries include:

- Family, e.g. child benefits, child care, maternity/parental benefit.
- Health, e.g. public healthcare, sickness benefit, home care service, and benefits to care for close relatives.

- Incapacity, e.g. industrial injuries (accidents at work and occupational diseases), disability pensions, and alternative flexi-job schemes (flexible or alternative work schedules and jobs as a result of injury or disability).
- Old-age, specifically old-age pension, early retirement, surviving dependents.
- Unemployment benefits.

As a rule, citizens and permanent residents are eligible for social security benefits. However, additional qualifying conditions may apply in both Denmark and France. However, additional qualifying conditions may apply in both Denmark and France, particularly for nationals of any EU country as well as of the European Economic Area (i.e. Iceland, Norway, Liechtenstein and Switzerland). Similarly, overseas territories and autonomous areas are covered in Denmark or France, or if a claimant lived in the respective country and gained entitlements in the past (e.g. pension). In Australia, the federal level sets the parameters for a given social security area, including legal, regulatory, and operational parameters. This includes eligibility and type of benefit (financial or non-financial). States are responsible for many welfare services. While in Canada, eligibility for social assistance is linked to citizenship and permanent residency. It is also inclusive of indigenous persons, refugees and refugee claimants. Then, each province and territory have different eligibility criteria, programmes and administrative rules, benefits levels, and provisions concerning special types of assistance.

With respect to financing, social security benefits are generally financed through income taxes, employers' and/or employee contributions. Similarly, all four countries set minimum benefits established for potential recipients, with top-ups often applied to help out low-income or marginalised recipients (e.g. single parents, low-income pensioners etc.).

In terms of organisation, specialised authorities at the central government level define the parameters for a given area of social security, including legal, regulatory and operational parameters. These include eligibility, type of benefit (financial or non-financial), strategic and operational key performance indicators, and who is responsible for managing a given benefit. With respect to the digital transformation of social security, the eligibility criteria and assessment method is of particular relevance. Subjective assessment and eligibility criteria require a human evaluation and value judgement, and often in-person consultation to identify the most appropriate combination of financial and non-financial benefits for a given individual and their context. By contrast objective assessments and eligibility criteria are binary and may be automated to a greater extent.<sup>1</sup> This differentiation is particularly prevalent in central government and for high-volume, high-frequency social security benefits, but also other forms of government services.<sup>2</sup>

At an operational level, most high-volume, frequently requested social security services are managed by single centralised government agencies in Australia, Canada and Denmark. These include many family benefits (e.g. child support, maternity/parental leave), various pensions, and unemployment benefits managed by, e.g. Service Canada, Service Australia, and by ATP and Udbetaling Danmark (UDK, Payment Denmark) in Denmark. It is worth noting that this approach is found at the central government, or Federal, level in both Australia and Canada, but does not include the regional and local levels due to the federal nature of both countries. In Denmark, this approach consolidates most social security services at the central government level for all three levels of government. On the contrary, the French approach allocates social security services across the three levels of government but within single entities or service silos. What all four countries have in common is that consolidation is most often found for social security benefits based on subjective assessment and eligibility criteria.<sup>3</sup>

<sup>1</sup> See the Danish case study for further detail.

<sup>2</sup> See the Australian and Canadian case studies for further detail.

<sup>3</sup> See the French case study for further details.

Benefits allocations based on objective assessment and eligibility criteria are generally provided in collaboration with other specialised agencies, authorities, and regional or local authorities. Examples include non-financial benefits for, e.g. seniors and incapacitated people, where, e.g. the Danish ATP and UDK often work hand in glove with local authorities, or unemployment benefits provided by Styrelsen for Arbejdsmarkedet og Rekruttering (STAR, Danish Agency for Labour Market and Recruitment) in collaboration with the national network of government job centres, and local authorities for non-financial jobs and career development.

Furthermore, all four countries are among the most digitally connected societies globally, with high rates of internet use and good availability of high-speed infrastructure. The sheer territorial size of Australia and Canada nonetheless means that some rural and remote communities do not enjoy the same quality and reliability of connections as urban and more densely populated areas.

► **Table 3: Connectivity and use of the Internet by households and Individuals (ITU, 2021)**

	Australia	Canada	Denmark	France
Population covered by a mobile-cellular network (2020)	99%	100%	100%	99%
Population covered by at least a 3G mobile network (2020)	99%	100%	100%	99%
Population covered by at least 4G mobile network (2020)	99%	99%***	100%	99%***
Households with Internet access at home (2020)	86%*	91%	93%	84%
Mobile-cellular subscriptions per 100 inhabitants (2020)	108	96%	123	111%
Active mobile broadband subscriptions per 100 inhabitants (2020)	126	84	137	99%
Fixed broadband subscriptions per 100 inhabitants (2020)	35	42	44	47%
Individuals using the Internet (% of the population) (2020)	87%*	95%**	97%	83%***

\* 2017 data, \*\* 2018 data, \*\*\* 2019 data

Another essential element for the high online service take-up is the country's general ICT skills. Data shows that 65% of the population in Denmark possess basic ICT skills, while 56% have standard ICT skills. While basic and standard ICT skills are lower in Canada, 30% of Canadians have Advanced ICT skills, which is a percentage higher than in Denmark and France. While comparative data for Australia is not available, alternative sources indicate that Australians have similar

ICT skills levels as those seen in Canada, Denmark and France<sup>4</sup>. This provides ample opportunities for governments in all four countries to move towards the digital-by-default principle for public service delivery.

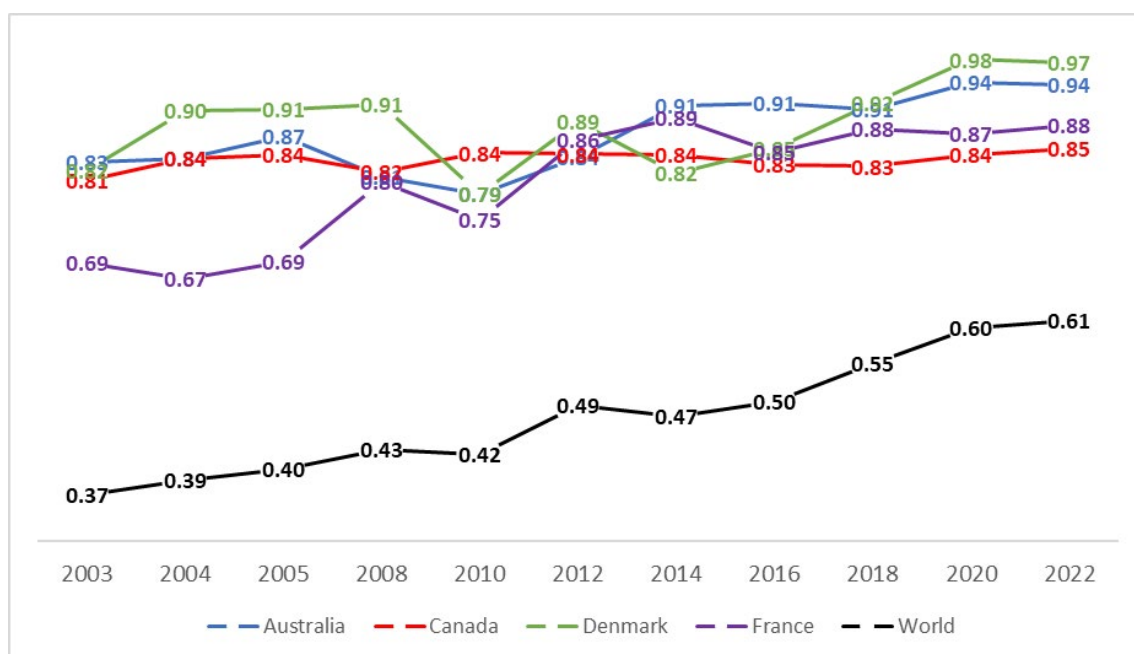
► **Table 4: Basic, Standard, and Advanced ICT skills 2019 (ITU, 2021)**

	Australia	Canada <sup>1</sup>	Denmark	France
Basic ICT skills	N/A	32%	65%	53%
Standard ICT skills	N/A	30%	56%	33%
Advanced ICT skills	N/A	30%	14%	6%

<sup>1</sup> Data source WEF, 2017, <https://www.weforum.org/agenda/2017/02/a-quarter-of-adults-can-t-use-a-computer/>.

Australia and Denmark lead the world in providing government services and information over the Internet, according to the 2018 and 2022 E-Government Development Index (EGDI) and its surveys (UNDESA, 2018, 2022). The EGDI measures preconditions for the digital transformation of the public sector, including availability of telecommunication and internet infrastructure (i.e. access to the Internet), human capacities including education and skills levels (i.e. the ability to use the internet) as well as the supply of online information, data and transactional services for citizens and businesses (i.e. availability of online public sector content). Denmark, the country occupying first place on the EGDI in 2022, has consistently been among the Top-10 countries assessed by UNDESA. Australia as well progressed constantly and ranked in the top three. In 2022, it slipped to seventh despite a score of 0.94. Canada has a stable EGDI score of 0.84. However, it has been dropping position since 2010 to reach 32nd in 2022. France used to be in the top-10 countries but is dropping as well to 19th place in 2020 and 2022.

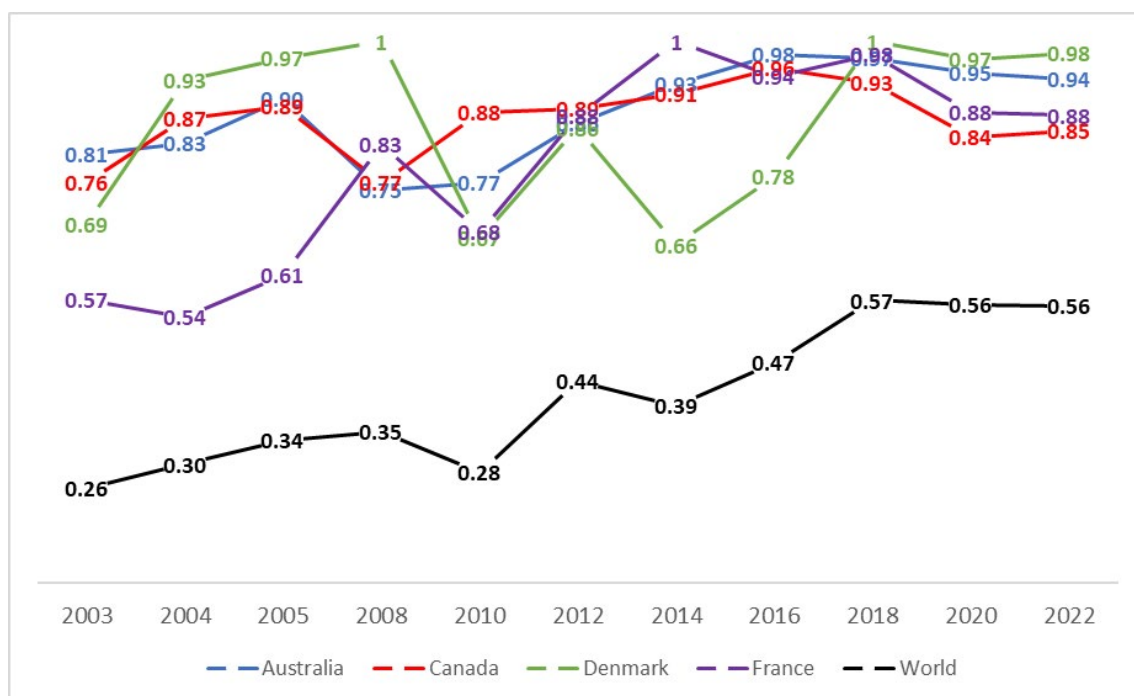
► **Figure 1: EGDI scores from 2003 to 2022. for Australia, Canada, Denmark, France and the World average (UNDESA, 2022)**



<sup>4</sup> Data source Government of Australia, <https://www.nationalskillscommission.gov.au/reports/state-australias-skills-2021-now-and-future/chapter-7-emerging-skills/digital-skills-australia-and-internationally>.

While Denmark observed significant drops in its Online Service Index (OSI) scores, measuring the availability of key information, data and services online, between 2010 and 2014, it has consistently high OSI scores, as shown in Figure 2.

► **Figure 2: OSI scores from 2003 to 2022 for Australia, Canada, Denmark, France and the World average (UNDESA, 2022)**



As a precondition of digital transformation, the availability of reliable and affordable infrastructure, and the skills to use the internet is met in all four cases analysed. All four cases have focussed on establishing a Whole of Government back office and front-end ecosystem for online service delivery. The federal nature of Australia and Canada have resulted in a more fragmented ecosystem, particularly between the levels of government. Social security services are highly consolidated at central government level as illustrated by Centrelink, OneGC (One Government Canada) and Shared Service Canada. Similar examples are also emerging at the regional level in both countries. In France, social security is highly integrated across levels of government but less consolidated across social security service areas. Denmark by comparison has been inspired by the Australian Centrelink model but has consolidated both central government social security services, and those previously provided by local authorities, in ATP and Udbetaling Danmark. The motivating factors include economies of scale, cost efficiency and productivity, but also a need to ensure uniform and equitable interpretation of legal and regulatory frameworks, and eligibility criteria.

Political and popular adversity to national ID systems and schemes also means that electronic identification (eID) is voluntary in both Australia and Canada thus restraining the take-up of online services requiring electronic identification and signature (eSignature). In contrast, Denmark and France have national eID and eSignature schemes aligned with EU policies and standards.

Some of the key digital drivers of social security include channel strategies encouraging users to use online channels rather than paper, in-person or telephone-based requests for information or services. Digital-by-default strategies are applied in all four countries. While all four countries focus on eliminating the paper channel and encourage online self-service, this is based on a voluntary opt-in approach in Australia, Canada and France. Denmark by comparison have, since 2012, had an active opt-out approach, requiring people to request an exemption from online

service use. Exemptions are granted either permanently or for a two year period (renewable) if a person has no internet access, limited digital literacy or finds themselves in a unique situation not addressed by online information or services. In all four cases these principles apply to social security services as well as public services in general. Table 5 summarises the digital literacy and competencies, social security and digital drivers in the four cases analysed.

► **Table 5: Social security Australia, Canada, Denmark and France digital drivers**

	Australia	Canada	Denmark	France
Digital literacy skills and competencies	Standard ICT skills	Basic and standard skills	Dominant standard skills	Basic ICT skills 53%
Digital social security	Digital-by-Default, Whole of Government concept and associated ecosystem of digital platforms and solutions. Service Australia	Multi-channel strategy, moving from siloed Services and verticals to a Whole of Government concept and associated ecosystem of digital platforms and solutions.  OneGC platform and Shared Service of Canada	Mandatory digital-by-default, Whole of Government approach across all levels of government. Shared infrastructure, such as national portals, eID solutions, digital communication, data exchange.	Digital-by-Default, Whole of Government concept and associated ecosystem of digital platforms and solutions.
Digital drivers of social security	eID and eSignatures, digital posts, and other infrastructure components.  Mainly focus on levels of government. Active opt-in model.	Single eID to access federal government and Platform Service Canada .  Mainly focus on levels of government.  Active opt-in model.	Single eID and eSignature, digital post and other infrastructure components.  Integrated Whole of Government approach.  Active opt-out model	Single eID .  Mainly focus on levels of government.  Active opt-in model.

Summarising the key lessons learned, it is clear that the digital transformation of social security has evolved over time in all four cases analysed. Australia, Canada and Denmark are considered early movers for the application of ICTs and coordination of eGovernment development, with a continuous and consistent focus on ICT investments in the public sector. Similarly, all four countries continue to invest in innovating social security services. The main challenges faced in the digital transformation of social security are linked to the integrated governance described in the upcoming section.

In Australia, Canada and Denmark, the digital strategies have followed a trajectory similar to that of other global leaders. For Australia and Denmark this meant starting with the implementation of a base infrastructure (internal digitalisation and digital signature), and the development of shared infrastructure, such as national portals, as the digital entrance to the public sector eID solutions, and communication platforms (Ozols & Meyerhoff Nielsen, 2018b). In Canada, the onset of the digital transformation in social security coincided with a period of austerity, whereas this further accelerated digitisation in Australia and Denmark. The political and administrative objective, in Canada, is to increase social assistance control and a reduction in federal social and health expenditures were key drivers. Several reforms related to childcare benefits, access to housing and other service were adopted. In this context, several digital transformation measures were adopted to support the austerity policies. The digital transformation strategy of social security in France is independent of the national eGovernment strategy as such. That said, several key ministries are involved in both the national government strategy and the digital transformation strategy of social security. France is currently accelerating its digital transformation and its online

service delivery, demonstrating important progress in the Local Online Service Index (LOSI) and social security service delivery with the integration of emerging technology.



## ► 2 GOVERNANCE

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An analysis of the national approach to the governance of digital transformation for the public sector in Australia, Canada, and Denmark finds that social security is incorporated into national digital transformation strategies. France, by contrast, currently has a specific social security strategy complementing the national digital transformation strategy.

Australia and Canada have a similar distribution of mandates and responsibilities with respect to social security and the digital transformation of the public sector. In both countries these responsibilities are mainly anchored at the federal level. In Australia, the social security ecosystem is highly centralized at the federal level and has a high degree of consolidation at the operational level. In Australia, the Federal Government is responsible for developing and implementing a digital transformation strategy at the national level, as well as a number of key social security services managed by Centrelink (a programme of Service Australia). Each of Australia's six states and two mainland territories, in turn, develop their own tailored electronic government (eGovernment) and digital transformation strategies, and have similar approaches to governance and intergovernmental coordination and cooperation. The key actors in Australia are the Department of Human Services (DHS) which is responsible for the service delivery of social policies developed and implemented by the Department of Social Services (DSS). Centrelink operates within the DHS. In addition to Centrelink, DHS governs the Australian healthcare programme Medicare, and together with the Digital Transformation Agency (DTA), co-manages the myGov internet portal through which citizens can access government services online.

Canada has a similar federal system and governance model to that of Australia. The decision-making power is distributed across the federal, ten provincial and three territorial governments. Provinces are mainly responsible for social security and social assistance such as health care, employment, social protection and insurance matters. In Canada, governance is anchored in the Treasury Board, the Deputy Minister (DM) and Assistant Deputy Minister Committees on Enterprise Priorities and Planning (CEPP). Jointly these stakeholders set priorities and act as the oversight bodies for all federal Information Management and IT (or IM-IT) investments. CEPP will also provide oversight on Shared Service Canada (SSC) service delivery - which anecdotally is inspired by its Australian counterpart. In support of the enterprise approach, a new GC Enterprise Architecture Review Board (EARB) has been established to further the "whole of government as one enterprise" vision.

Among the four countries, Denmark has the most centralized approach to digital transformation, covering all the social security service areas and all levels of government. It has a three-tier public sector consisting of five regions and 98 municipalities, with a high level of local government autonomy, decision-making, and service delivery responsibilities (Ozols & Meyerhoff Nielsen, 2018c). Service responsibilities were decentralized with this structural reform in 2007 and again for social security in 2010. The ATP Group is Denmark's largest pension and processing company and administers the national public pension systems and its investment portfolio. ATP acts as the pension provider, investor and administrator of welfare benefits for almost all citizens and companies in Denmark. In short, ATP manages Denmark's universal Lifelong Pension system, also managing the investment portfolio to maximize returns on pension funds (including investments in bonds, equities, property and infrastructure). As a result, a public procurement process led to the establishment of a new centralized service entity i.e. UdbetalingDanmark (UDK) which consolidated a number of social security areas previously managed by local authorities. UDK is anecdotally inspired by Australia's Centrelink but was formed out of vastly different service outcomes and productivity levels across the 98 municipalities operating within the nationally set framework.



France, by comparison, has a more siloed approach to social security. The general social security scheme in France is managed by a network of national, regional, and local institutions. Social security is organized to actively address and mitigate risk and administered by representatives of employers and employees under the supervision of the different ministries in charge of social security (the Ministry for Solidarity and Health and the Ministry of Economy, Finance, and Economic Recovery). In practice, social security falls under the dual supervision of the Department of Social Security (DSS) and the Ministry of Economy and Finance. They have piloted the aims and management agreements for the main roadmaps for social protection organizations. At the same time, the General Secretariat for the Modernization of Public Action (SGMAP) has since 2021 supported social security transformation projects. This support has recently been expanded to include the implementation of an open and once-only data approach across the family and health service areas.

► **Table 6: Governance of social service programmes**

	Australia	Canada	Denmark	France
Vision	Prime Minister and the Cabinet (PM&C)	Treasury Board of Canada Secretariat (TBS) and the Deputy Minister Committee (DMC)	Danish Agency for Digitisation (DIGST) and the Portfolio Steering Committee (PSC)	Ministry for Solidarity and Health  Ministry of Labour, Employment, Vocational Training, and Social Dialogue
Strategy	Prime Minister and the Cabinet (PM&C)	TBS and the DMC	DIGST and the PSC	Ministry for Solidarity and Health  Ministry of Labour, Employment, Vocational Training, and Social Dialogue
Implementation of action plan	Department of Human Services (DHS) and Department of Social Services (DSS)	CIO for the DMC	DIGST  Programme and project steering committees  PSC for escalation	ACOSS, URSSAF, CNAV, CNAF, National Inter-occupational Union for Employment in Industry and Commerce
Implementation of individual initiatives	PM&C hosts the Digital Transformation and Public Sector Modernisation Committee (DTPSMC)	DMC committees  Individual Ministries and authorities	Programme and project steering committees  Individual Ministries and authorities	Primary Sickness Insurance Funds. Local Family Allowances Funds, Regional employment agencies, etc.
Monitoring and measurements	DTPSMC	CIOB of the TBS	Individual Ministries and authorities but reporting to DIGST and the PSC on key operational and strategic objectives and pre-defined key performance indicators.	Ministry for Solidarity and Health  Ministry of Labour, Employment, Vocational Training, and Social Dialogue

In terms of digital governance, the four countries all have central national visions underpinned by strategies, action plans, steering committees, working groups etc. Denmark has the most centralized and Whole of Government focus to date. Australia and Canada also have strong governance

models in place at the Federal level. With the governance related to the digital transformation of social security, the Australian DTA is mandated to provide strategic leadership on Whole of Government and shared ICT and digital services. This includes financing (including funding sources) and capability development; deliver policies, standards, and platforms for WoG and shared ICT and digital service delivery; provide advice to agencies and the Government on ICT and digital investment proposals; and to oversee significant ICT and digital investments, assurance policy and framework, and the Whole of Government digital portfolio. In Canada, governance has been identified as one of the most critical challenges with respect to the successful digital transformation of the Canadian public sector. Inconsistency with respect to a governance model has impacted the social security and assurance service; for instance, due to the lack of data held by federal government ministries. Since 2018, the Government of Canada has introduced multiple changes to digital governance and management practices to set the foundation for a digital government across all ministries, adopting a Whole of Government approach.

Whether governance is centralized or not in the four countries, de facto implementation and operations are centrally managed by the relevant competent authorities. Australia and Denmark have the most consolidated approaches to date. For social security Australia's Centrelink and Denmark's ATP/UDK are prime examples. Canada follows a similar approach with Service Canada being responsible for Federal government services and increasingly consolidated models in place at provincial level. In France, the organizational division of social security is complex. Ministries and entities involved in social security affairs have their own digital governance defined autonomously. At the national level, two primary directorates are mandated to coordinate public administration reforms and the digital transformation of government services in the French context. First, the Inter-Ministerial Directorate for Digital Affairs (DINUM) plays an essential role in coordinating all Digital initiatives and the actions of all Directorates for Digital Affairs in Social security-related entities. The Inter-Ministerial Directorate for Public Transformation (DITP) is mandated to coordinate the implementation of the Public Action 2022 Programme and provide support to all government authorities in transforming their services.

Summarising the key lessons learned, the Australian and Danish approaches to digital transformation of the public sector and social security demonstrated the greatest impacts to date. This is partly due to an earlier start but also a more coordinated approach, including specialization and consolidation.

Steering committees and working groups, particularly, are positive tools for monitoring, compliance, troubleshooting/escalation, and solving cross-sectorial challenges. There is evidence of Canadian and French social security agencies increasingly following similar models as those found in Australia and Denmark. ICT driven innovation revolves around processes, services, and products, rather than organizational change in all four countries.

Australia, Canada and Denmark have all consolidated services in key service centres for social security, particularly at the national level. Australia has been an early mover, with Denmark and Canada both being inspired by the economies of scale and cost savings achieved. Denmark has gone further than Australia and has both consolidated central government services and centralized social security services previously delivered by local authorities. France, by contrast, has increased the number of service centres nationwide, but with social security operating in its own silos.

## ► 3 LEGAL AND REGULATORY FRAMEWORKS, STANDARDS

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The analysis of Australia, Canada, Denmark and France finds that all four countries have the relevant legal and regulatory framework and standards in place. Australia and Canada are to date focused on the Federal level, with States and Provinces more sporadically linked to legal and regulatory frameworks.

Australia has had a significant focus on the legislative and regulatory issues related to digital transformation in social security-related matters since 2019. In adopting digitalization-ready legislation, the country ensures the catalytic role of the legislation by adopting a number of sector-specific privacy-related legal acts, including telecommunications, criminal records, data matching, anti-money laundering, eHealth systems, Medicare and pharmaceutical benefits scheme, and the Personal Property Securities Register (Office of the Australian Information Commissioner, 2019).

Similarly, in Canada, every Canadian Province and territory has its social assistance system, legislation, regulations and its policies. The current legislative frameworks do not enable the effective sharing of information across departments, and the government's current IT environment needs updating to support an accurate "one-stop-shop" service approach. Since 2018, the Government of Canada co-created Digital standards with the public and key stakeholder groups. The Treasury Board Secretariat Policy on Service and Digital introduced an integrated set of rules for how public sector organizations should manage service delivery, information, data, IT, and cybersecurity in the digital era.

While approaches vary, the Danish and French legal and regulatory frameworks are heavily influenced by EU-level recommendations and regulations. Key examples include electronic identification and trust services (eIDAS)<sup>5</sup> for eID, the European Interoperability Framework (EIF)<sup>6</sup>, once-only for data reuse and large scale pilots for cross-border services such as The Once-Only Principle Project (TOOP)<sup>7</sup>, the General Data Protection Regulation (GDPR)<sup>8</sup> for privacy, and Web Content Accessibility Guidelines (WCAG).<sup>9</sup> In Denmark, the central government is responsible for enacting relevant legal parameters, regulations, and standards. Denmark's EU membership means that the central government is required to enact relevant EU laws and regulations. EU-level recommendations and rules influence Denmark's legal and regulatory framework with respect to digitization. However, Denmark may adopt its own model and approach if it is aligned with EU recommendations. In terms of standards, the Danish Government integrates international standards. Laws, regulations, and standards are applicable at all levels of government and for all service areas, including social security (DK case).

The French regulatory social security framework is heavily influenced as well by mandatory and unified EU supranational rules. To facilitate the single European markets, including the movement of labour, a more uniform legal framework across the EU member states is key. This includes a deepening and strengthening of the EU Digital Single Market. The social security legal framework regarding the use of digital technology is aligned with the national regulatory framework, and enables digital transformation.

<sup>5</sup> eIDAS - electronic identification and trust services - <https://digital-strategy.ec.europa.eu/en/policies/eidas-regulation>

<sup>6</sup> EIF - European Interoperability Framework, <https://joinup.ec.europa.eu/collection/nifo-national-interoperability-framework-observatory/european-interoperability-framework-detail>

<sup>7</sup> TOOP - The Once-Only Principle Project, <https://www.toop.eu/>

<sup>8</sup> GDPR - General Data Protection Regulation, <https://gdpr-info.eu/>

<sup>9</sup> WCAG - Web Content Accessibility Guidelines (WCAG), <https://www.w3.org/WAI/standards-guidelines/wcag/>

Table 7 summarizes Australian, Canadian, Danish and French legal and regulatory frameworks.

► **Table 7: Social security digital transformation-related legal acts in Australia, Canada, France and Denmark**

	Australia	Canada	Denmark	France
General eGovernment legislation	No.	No.	Yes.	Yes.
eID, eSignature and Public Key Infrastructure (PKI) legislation	Yes.	Yes.	Yes.	Yes.
Access to Public Sector Information	Yes.	Yes.	Yes.	Yes.
Security, Data Protection and Privacy legislation	Yes.	Yes.	Yes.	Yes.
Re-use of Public Sector Information	Yes.	Yes.	Yes.	Yes.
eCommerce legislation	Yes.	Yes.	Yes.	Yes.
eCommunication legislation	Yes.	Yes.	Yes.	Yes.

Australia and Canada do not have a general eGovernment regulation. They both developed specific standards for key digital enablers and used voluntary opt-in approaches to eID/eSignature, digital post, eService use etc. In Australia, the federal government is responsible for enacting relevant standards. These complementary policy documents focus on improving the overall Whole of Government concept and associated ecosystem of digital platforms and solutions. However, they lack a once-only policy or standard focusing mainly on National Data exchange and any usability framework. Despite the lack of general regulation, Canada introduced digital standards to provide guidance for public servants to develop open, agile and user-focused digital services and the new Digital Operations strategic plan.

Denmark deviates from many of its European and global peers by having a strong focus on Whole of Government approaches to key infrastructure and components, also shared with the private sector (e.g. eID/eSignature, digital post, data sharing). This focus has benefitted social security actors in a number of ways. Specifically, the legal and regulatory framework establishes a common reference context for all public sector actors and associated services. Internal standards do not need to be maintained, as national standards are adopted. For instance, common usability, Enterprise Architecture (EA), and Interoperability (IOP) standards mean that challenges with respect to front-end design are minimized for end-users as there is a common look-and-feel across government websites and online services (incl. style of communication and language use), that technical, semantic and organizational interoperability is streamlined, therefore minimizing the complexity of systems integration and data exchange and reuse. Denmark has a legally defined opt-out.

France has successfully rolled out all major key enablers, such as Digital ID, the National Public Key Infrastructure (PKI) schemes for managing secure two and three factor online authentication (with eID) and eSignatures, Single-Sign-On (SSO) etc. Key information and social security services are available online. The once-only principle is increasingly applied, with the supporting infrastructure and data exchange platforms being put in place. France uses a voluntary opt-in approach to eID/eSignature, digital post, eService use etc. Table 8 summarizes the availability of the key enablers and standards in the four countries.

► **Table 8: Availability of the key enablers and standards in Australia, Canada, France and Denmark**

	Australia	Canada	Denmark	France
Electronic ID and Signature	No.	No.	Yes.	Yes.
Public Key Infrastructure (PKI)	Yes.	Yes.	Yes.	Yes.
Single Sign-On (SSO)	Yes.	Yes.	Yes.	Yes.
National data exchange platform	Yes.	Yes.	Yes.	Yes.
Once-only principle	Yes.	Yes.	Yes.	Yes.
Digital post	Yes.	Yes.	Yes.	Yes.
Usability service standards	Yes.	Yes.	Yes.	Yes.
Interoperability standard	Yes.	Yes.	Yes.	Yes.

Summarizing the key lessons learned, the analysis finds that legal and regulatory frameworks, and associated standards are well developed in all four cases. While Australia and Canada do not have specific legislation guiding eGovernment development, this is deemed to be the result of legislative practices and political preference rather than a hindrance to the digital transformation of the public sector and social security.

With respect to standards, Australia and Canada deviate from Denmark and France in three ways. First, Denmark and France are heavily influenced by EU level regulations and standards. As a result, the legal and regulatory frameworks, standards and key digital technologies (e.g. eID, eSignature, data formats and exchange mechanisms) have a high degree of cross-border compatibility and interoperability – at least in theory. Large scale EU pilots are increasingly focusing on cross-border recognition of identities and signatures, as well as data exchange etc. Second, the federal nature of Australia and Canada results in some fragmentation in the practical application of some standards. Third, partly due to their federal nature, but particularly due to public and political adversity to national ID schemes, neither Australia nor Canada have national standards for eIDs and eSignatures. While multiple voluntary opt-in eIDs exist in both countries, this contrasts with Denmark and France, which both have unique national identification numbers connected to both analogue and digital identification and signature schemes. As a result, Australia and Canada are reliant on voluntary opt-ins to eIDs and eSignatures, which in turn have resulted in a slower and lower take-up of both public sector and social security and services online, limiting the return on investment in such service solutions. Similarly, challenges are seen in France due to the voluntary take-up of the national eID and eSignature solutions. Denmark, in contrast, stands out by developing, maintaining and rolling out eID and eSignature solutions in a public-private partnership with the banking sector. From a user-perspective this ensures a uniform login and signature experience across all public sector and financial services online – even if the backend security layers and systems are separate. Similarly, the application of an active opt-out approach and promotional activities have, since 2012, dramatically increased the percentage volume of both public sector and social security services online. To date, the Danish approach has resulted in the largest relative volume of users' social security and public sector eService use in the four cases.

With respect to the ecosystem of digital infrastructure and enablers such as eIDs, eSignatures, core registries and data exchange infrastructure, Australia and Denmark stand out. This is partly due to earlier starts, but also a more coordinated approach, including specialization and consolidation in relation to key enabling components for interoperable solutions and data infrastructure. There is also evidence that both Service Canada and ATP/UDK in Denmark are inspired by Centrelink, which is part of the Australian welfare system organizational structure responsible

for the service delivery of social policies developed and implemented by the Department of Social Services. In addition, the existence of steering committees and working groups are also positive tools for monitoring, compliance, troubleshooting escalation, and solving cross-sectorial challenges.

## ► 4 BACK-END SERVICE PRODUCTION ECOSYSTEM

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With respect to back-end service production, the four countries followed different trajectories with different characteristics. Denmark and France have centralized approaches for the back-end and for identity management (IDM). Both countries have single national identifiers for citizens/residents, businesses, and various items. The same applies to government entities. In the Danish context, for example, each public sector entity is responsible for its own service portfolio. While regional and local authorities enjoy a large degree of local autonomy and decision-making power, this must be conducted within the framework and parameters defined by the relevant central government ministry or agency. This includes legal and regulatory frameworks, strategic direction and performance objectives etc. including in the areas of digitization, social security and welfare services managed by regional and local authorities, or sub-contractors and partners from the private sector. Denmark also has a consolidated set of registers based on the single source principle. The country has established an ecosystem of specialized portals and complementary service or entity-specific websites. Interestingly, with the creation of UDK, ATP chose a channel strategy, meaning that their service portfolio is only available from the national portals and nowhere else.

Similarly, France has established a centralized model for back-end service delivery by adopting general frameworks and standards mandatory for all public bodies. The national one-stop-shop portal [service-public.fr](http://service-public.fr) provides information about all services by the national government (only), life journeys and events, the procedures and all relevant information for these services, including the information, forms and links to the social security services. In contrast to Denmark in particular, but also Australia and Canada, French social security services continue to be offered across all channels - although paper-based requests are discouraged in practice. However, each entity is responsible for service production and delivery within its mandate and jurisdiction. The back-end is considered the weak point of the digital transformation of social security service in the French context.

Australia and Canada have fragmented approaches to back-end services between Federal, provincial and municipal levels. The fragmented approach is mainly due to their Federal nature, and a lack of coordination and integration between levels of government. Today both countries are moving toward a Whole of Government approach in digital architecture. In Australia, to move toward WoG architecture, the government established a WoG Architecture Taskforce, managed by the DTA. The Government of Canada currently plans to set up "OneGC" as a long-term vision to provide a service through a diversity of platforms, devices, or partners. The Government of Canada is incorporating a wide range of approaches to achieve OneGC by developing common services such as digital identity, or using emerging technologies, whether digital by design or not. My Service Canada Account is an example of this.

The four countries build on national legislation, regulation, and standards. Currently, Denmark is the only country pursuing a joint cross-government approach across the public sector and different service areas, including the social security service. Moving towards a true Whole of Government approach, Denmark has established an ecosystem of specialized portals, complementary service or entity-specific websites into which social security services are embedded. Underpinning the portals are a number of common national standards and infrastructure components such as Digital design and web-accessible guides, requirements and toolkits; eID and digital signatures infrastructure, NemLog-in as a central part of public infrastructure, the Danish eIDAS infrastructure, also known as the eID-Gateway, and Electronic payments. To facilitate the roll-out, various initiatives have been adopted to improve interoperability and coordination via steering committees.



Australia has focussed on issues like creating reliable infrastructure, digital literacy, institutional capacity building, cooperation and collaboration, establishing platforms and websites for online services, system developments for back-office efficiency, the rollout of key enablers like digital ID and digital signatures, interoperability and standards, and digitization-ready legislation. The Key enabling factors of digital transformation for the back-end consist of the existence of national eID or other eID solutions recognized for public services, single sign-on, official digital post, the once-only principle, and the national data exchange platform – although there is currently no legal or regulatory foundation for the once-only principle.

Unlike Australia and Canada, Denmark and France are heavily influenced by regulations and standards coming from the supra-national level, i.e. the European Union institutions such as the European Commission, the Council of Ministers, and the European Parliament. Similarly, regional and local authorities in Denmark and France are strongly influenced by the central government level. In France, social security branches have adopted several relevant standards governing the back-end ecosystem, including interoperability and data exchange, web accessibility, and security. Social security legislation and regulation limit automated processing. Regulatory and organizational silos and fragmentation limit the exchange and reuse of data, while subjective and non-binary assessment criteria result in more resource-consuming manual processing. Table 9 summarizes the approaches for each of the four countries being analysed.

► **Table 9: Availability of the key enablers of back-end service production ecosystems in Australia, Canada, France and Denmark**

	Australia	Canada	Denmark	France
Platform	Mainly Federal level data distributor, basis registries, key infrastructure and common services, various reference models and architecture underpinned by standards, guidelines and toolkits.	Mainly Federal level OneGC, data distributor, basic registries, government backbone (central government only), various reference models and architecture underpinned by standards, guidelines and toolkits.	Cross governmental, data distributor, basis registries, key infrastructure and common services, various reference models and architecture underpinned by standards, guidelines and toolkits.	Mainly central government or service silo data distribution, basis registries, key infrastructure and common services, various reference models and architecture underpinned by standards, guidelines and toolkits.
Common services	My Services on gov.au and Service Australia through Centrelink.	My Service Canada Account.	My Overview account on borger.dk, virk.dk, sundhed.dk and skat.dk incl. cross linkages where relevant. eID, Digital Post, NemKonto, NemSMS. Basis Data Programme, Data Distributor.	'Service-Public.fr' as a national one-stop platform allows users for increasing levels of personalization through the "my page" section.



	Australia	Canada	Denmark	France
Integration	Data Integration Partnership for Australia (DIPA), a Whole of Government collaboration of over 20 Commonwealth agencies (1 July 2017 to 30 June 2020). The Australian Bureau of Statistics (ABS) and Australian Institute of Health and Welfare (AIHW) deliver the core technical infrastructure to support DIPA. Centrelink for social security.	Canada Revenue Agency (CRA), My Account and Employment Social Development Canada (ESDC).	IBID.	Regulation of July 2019 aims at an in-depth transformation of social security and improved inclusivity. Transformation of workflows and renewal of Management and working methods. National Identification Management System, identification data of insured persons. Common National Directory of Social Protection, data on insured persons, their benefits and social security bodies, Single Career Management Directory, career data for the retirement of socially insured persons, all pension schemes. Monthly Resource Facility, Data on the resources of insured persons, for means-tested benefits.

	Australia	Canada	Denmark	France
Authentication	Yes, opt-in eID or login/password provided to citizens, businesses/employees, government/employees.	Sign-in Canada and GCPass for citizens and business/employees.	eID and eSignature for citizens, for businesses and employees, government employees' rights, and power-of-attorney can be given.	National system for identities (Système national de gestion des identités, SNGI), incl. The social security number (Numéro de sécurité sociale, NIR), registration number for the allocation of social benefit rights. Second treatment cycle depending on the person, incl. born in France (NEF) collection of NIR from INSEE while those born outside France NHF. Allocation of the NIR by the SANDIA within the CNAV Service for the Identification of the Insured.
Social security back-office programmes	Service Australia specifically Centrelink has been responsible for the issue e.g. for payments of subsidies, myGOV account is necessary for the service. Most payments are now through the government wide single touch payment system.	Core finance (FMT), Security screening, NextGen HR and Pay, Enterprise procurement and the Cloud-brokering service.	Internal ATP/UDK programmes for process, service and organizational optimization, incl. simplification, use of cloud, core infrastructure, personalization and proactive service delivery. Linked to digital strategy and goals plus mandates for ATP/UDK.	See above, some uncertainty.

Summarising the key lessons learned, the progressive focus on specific levels of government or service areas is identified as the most common approach to the digital transformation of social security. Key elements are identified in all four countries analysed, including specialized and unified one-stop portals and consolidated shared services. The degree of consolidation and unification varies.

A key enabler of the transition from online information provision to transactional services are eIDs and eSignature schemes. The more uniform the service experience is across different service areas the better, as illustrated by e.g. the Danish government's partnership with the banking sector for eID, eSignature, digital post and even payment solutions. By contrast, the lack of unified national solutions and voluntary opt-in take-up have slowed the use of both online social security and government services in general in Australia, Canada and France.

The use of Whole of Government approaches allowing consolidation, and collaborative approaches for social security have been predominant in Australia and Denmark. Australia, Denmark – and to some extent Canada – also exhibit a higher and continued focus on process, service and organizational innovation over time. Innovation is often combined with administrative and legislative simplification, consolidation, and digitization to increase cost-efficiency and productivity for a more integrated and Whole of Government approach to service production and delivery.

The Danish case is the most consolidated and unified, both when it comes to one-stop portals, as well as shared service centres and social security organizations. Australia and Canada have a high degree of unification and consolidation of both public and social security services, but as a result of their federal structure this is mainly on the central government level, with some fragmentation vis-à-vis other levels of government. The French case deviates by being consolidated across the different levels of government, but not necessarily between social security services or other government service areas. Unification and consolidation have increased over time in all four cases analysed.

## ► 5 FRONT-END SERVICE DELIVERY ECOSYSTEM

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In the four countries analysed, the digital transformation of the front-end service delivery ecosystem is associated with the availability of specialised portals for citizen access. This requires an important coordination, consolidation and integration of service delivery processes and related data.

When it comes to **channel strategies**, the Australian government has ensured front-end service delivery to individuals through several measures. This includes a strategic move towards eliminating paper-based communication channels and establishing end-to-end digital services with the application of digital-by-default principles and digital-first communication, as well as shared service centres like Centrelink. Social security is part of this Federal government ecosystem and is not treated any differently than other service areas. Similar patterns are also seen at the regional level.

In Canada, the digital transformation of social security at the provincial level remains siloed with little inter-organizational coordination. The front-end service provided by the Federal government is more integrated. The success at the Federal level is realized through a multi-channel strategy to ensure inclusiveness across various population groups and geographical communities. Strategic transformation is managed by the Canada Revenue Agency (CRA) and Employment Social Development Canada (ESDC). These two entities are responsible for providing information to the public on the programmes of the Government of Canada and other Government departments. Service Canada integrates into the portal together with most of the social services, assistance and a portal for pension and benefits.

In Denmark, the front-end service delivery ecosystem is centred on several specialized national portals and standards. Like Australia and Canada, social security in Denmark is part of this national ecosystem and is not treated any differently than other service areas. While mandated social security organizations are responsible for their specific service portfolio at the strategic, organizational and operational level, they must do so within the national strategic framework for digital transformation managed by DIGST. In contrast to the majority of countries globally, the national portals in Denmark cover all levels of government. These are in turn interlinked, creating a digital ecosystem which in turn links out to non-digital channels such as call centres and physical service centres. Key for social security and welfare services are the citizen (borger.dk) and business (virk.dk) portals, as well as the specialized health portal (sundhed.dk for users and health professionals) and the public sector job portal (jobnet.dk).

Like the other three countries analysed, investment in front-end service improvement has been a key priority in France. It is considered the most successful aspect of digital transformation of the French social security provision. Competition between branches encourages them to innovate. Online service quality and levels of user satisfaction are rewarded, and their solutions and experiences are widely communicated to their peers. France has established an ecosystem of specialized portals for service delivery focusing on Websites and portal statistics, data exchange between social security branches and other public services and Service accessibility and usability. Table 10 outlines the key service delivery portal ecosystem availability in Australia, Canada, Denmark and France.

► Table 10: Availability of specialized portal ecosystem in Australia, Canada, Denmark and France

	Australia	Canada	Denmark	France
General channel strategy	Social security channel strategy promoting digital and call centre focussed on Service Australia / Centrelink. Part of the national strategy.	Social security front-office business programmes and services promoting digital and Service Canada, but also for pensions, employment insurance, payments, grants and contributions.	Social security channel strategy promoting digital and call centre. Paper and physical access points do not exist for ATP/UDK. Part of national strategy.	Social security channel strategies promoting digital and call centre for various services and entities.
Citizen and business portal(s)	Yes, but separate at Federal level and State level.	Yes, but separate at Federal level and Provincial level.	Yes, unified across government levels.	Yes, but mainly central government.
Health portal	Yes	Yes	Yes, separate health portal but accessible from citizen and business portals too.	Yes
Jobs and vacancy portal	Yes	Yes	Yes	Yes
Legal repository, consultation, government gazette sites.	Yes	Yes	Yes	Yes

With respect to **specialized national portals and social security**, these are accessed through the national citizen and business portals in Australia, Canada and Denmark. These three countries are adopting the digital-by-default strategy. In Australia, [australia.gov.au](http://australia.gov.au) is a central platform for linking to information and services provided by Australian federal government agencies, States, Territories, and Local Governments whereas myGov Home consolidates national platforms. Often, the latter platform is linked to separate States' or Territories' central platforms. In addition to specialized citizen and business portals, the online ecosystem consists of a number of specialized and complementary platforms and portals. In Canada the Service Canada portal is consolidating all the social security and other welfare and social assistance services. Like Australia, lacking a unique identifier (analogue and digital), a voluntary opt-in approach is pursued in Canada. As in Australia, Canadians may access key services with a single sign-in on "My Account", "My Service Canada" and "Tell us once" experience. The geographical size of Canada has led to service centres being opened in rural areas to facilitate access to social security as well as an Automated Benefits Application for beneficiaries. Interestingly, physical service centres for greater inclusion have also been implemented by French social security entities.

In Denmark, ATP and UDK took the strategic decision to integrate their service portfolios into the national portals in 2011. Together with the strategic targets of all high-frequency, high-volume services being digital-by default and used by 80% of all end-users for 80% of all service requests, this led to a dramatic increase in online service usage. In practice, the high volume and frequency that social security services are used, has been a key driver of behavioural change in Denmark by consolidating all the information and self-service functions on portals for ease of use.

France has taken a slightly different strategic approach to front-end social security services. The approach to social security service design - continual, ongoing analysis of user-experience and user-journeys identifying pain points (based on indirect feedback loops and statistics) - is similar to those found in the other three countries analysed. That said, organizational fragmentation is seen with multiple portals for social security; with services displayed by type of entity and function, including [mesdroitssociaux.gouv.fr](http://mesdroitssociaux.gouv.fr), [urssaf.fr](http://urssaf.fr), [pole-emploi.fr](http://pole-emploi.fr), [caf.fr](http://caf.fr), [info-retraite.fr](http://info-retraite.fr) or [ameli.fr](http://ameli.fr).

In addition to online service delivery, France offered social services for citizens through local and regional branches (e.g. employment centres). Currently the government is trying to consolidate service delivery online through the national service-public.fr portal where general social security service information is integrated and from where social security services may be accessed.

With respect to the **service experience**, the analysis finds that the four countries have established continuous improvement cycles, measurement and monitoring frameworks, but mainly within individual organizations rather than across government services – whether social security related or not. Australia has implemented a special Digital Service Standard to ensure a user-centric, monolithic, integrated, and Whole of Government brand experience across online service offers including social security and welfare offers. Anchored in user-centric service design and international web accessibility standards (i.e. W3C WCAG) it defined frameworks and mechanisms for evaluation and measurement of the users' satisfaction from design and testing, to continuous service improvement.

Canada currently has a federal design guide. Provinces like Alberta and Ontario have adopted their own standards and frameworks, although with similar objectives and approaches linked even more closely to innovation and service improvement, with the inspiration for these coming from the Federal Government and abroad (e.g. the United Kingdom and USA). Service Canada is currently taking initiatives to evaluate and assess user satisfaction. Some organizations are regularly measuring and monitoring satisfaction. From the online service perspective, user satisfaction assessment in Canada remains a regulatory challenge, as the collection of data from end-users is deemed problematic in relation to data protection and privacy. As a consequence, user-satisfaction and user-behaviour surveys and data is rarely collected directly.

In the Danish context, a cross-governmental design standard has since 2013 been mandatory for all government websites and services, no matter the service areas or level of government. ATP and UDK have been the key drivers behind common look-and-feel, more intuitive and user-centric design initiatives – including the design standard developed for the digital-by-default drive between 2012-2015 – with inspiration from both the United Kingdom and Australia. User interviews, focus groups and user testing is conducted by many social security agencies including ATP, UDK and STAR. Agile development principles and continual improvement cycles are applied to various extents and direct user-engagements are often applied (in particular during design and development, or where pain points are identified). Similarly, social security actors focus on data analytics for identification of behavioural patterns and trends.

Social security organisations in France are increasingly improving user interfaces using data analytics<sup>10</sup>. Data mining is a key tool in identifying user behaviour, user needs, patterns and trends and fraud detection. Data is also used to measure and monitor service delivery and user satisfaction.

Summarizing the key lessons learned, all four cases exhibited well-developed and increasingly uniform user-experience. All four countries have improved the level of digital service use. That said, the highly consolidated approach seen in Australia and Denmark has resulted in economies of scale and bodes well for the ability for process and service innovation, redesign and the creation of more holistic services across various service areas. On the other hand, this highly consolidated approach may lead to less flexibility over time. Australia and Denmark demonstrated strong channel strategies for Centrelink and ATP/UDK. Both have led to higher take-up of digital and telephone channels, especially combined with the mandated closure of paper, and even physical, channels. Pedagogically the active opt-out approach – communicated as "compulsory" or "mandatory" – led to greater use of, and return on investment in, online services. This is seen with respect to eID/eSignature, digital post, online self-service across various service areas (incl. social security, taxation, business services) in all four cases analysed. That said, there is some

<sup>10</sup> Data analytics (DA) is the process of examining data sets in order to find trends and draw conclusions about the information they contain. Increasingly, data analytics is done with the aid of specialized systems and software.

evidence of this being a challenge to more vulnerable population segments such as seniors and those with low educational attainment levels.

## ► 6 SKILLS AND CAPABILITIES

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The four governments all invest in the development of civil servants' skills and capabilities, including within social security organizations. One significant challenge the four governments analysed all face remains the public sector's ability to attract and retain talented employees.

In Australia, the Department of the Prime Minister and Cabinet has partnered with the Australian Public Service Commission (APSC), other Australian Government entities, and the private and academic sectors to develop a holistic approach to improve overall data skills and capability across the public sector. Senior executives are tasked to encourage employees to take advantage of learning and development opportunities.

The Government of Canada has designed a strategy to attract IT and tech staff with the competencies and interest in working on short-term projects through the Interchange Canada programme. Canadian authorities also offer a variety of opportunities for up- and reskilling in combination with digital skills training. Skills and capabilities in focus include innovation, change management, agile methods, and usability.

In Denmark, the public sector mimics private sector practices both with respect to hiring, firing, training, and career advancement. A key focus has been to establish an innovation culture, as pertains to personal development to attract and retain IT and tech skills. In relation to social security, ATP / UDK have a more diverse and more private sector inspired approach to service production and service delivery when compared to most other Danish central government departments.

Despite French policies and initiatives to attract and retain highly skilled professionals to work in the public sector and investment for current staff to update and re-skill their capacities, attracting and retaining IT-skilled civil servants remains a challenge. With the renewal of the Strategy for Human Resources (SIRH) in 2022, the French government and social security organizations continue to focus on improving the employee experience through training, digital literacy and collaboration, and leadership development, among other skills.

Social security organizations in all four countries emphasise the need for multi-competence skill sets to successfully apply technology and data in the back-end and front-end. Key is the understanding of both technology and processes. In particular, the link between business processes, the legal and regulatory framework, as well as subjective vs. objective decision-making criteria are important in social security, welfare, and health services.

The Australian Government has adopted a multifaceted approach to improving digital skills and capacities within the public sector, including social security and welfare service entities. The approach combines traditional academic learning and on-the-job professional training. The Government's Digital Skills Organisation (DSO) has, since 2021, undertaken trials to test new approaches to design digital qualifications and training to reduce the skills gap. Special emphasis was given to entry-level data analysts, to ensure their qualifications are fit-for-purpose, improve the skills pipeline and bring residents into the digital workforce. Federal Government emphasises the importance of digital skills across government.

In Canada, Digital and IT workforces of the Government of Canada are recruited and managed separately and in silos, leading to inconsistent and sometimes limited professional development, greater outsourcing, and weak integration of roles and functions. To overcome the situation, the government of Canada is looking into actions to rethink civil servant digital skills, reviewing the limitation in linking digital skills only to computer science, introducing diversity in Digital skills as a competitive advantage and key to talent creation and adopting accountability and metrics to support more flexibility for creating valuable work arrangements.



In Denmark, many strategic initiatives have adopted flexible contractual practices aligned to private sector human resource management, i.e. no life-time employment guarantee. Similarly, profiles and capacities related to innovation, the ability to identify and proactively address end-user and internal pain points, and value creation for the end-user and the organization is increasingly sought for internal staff or contracted in when needed. With respect to innovation, there are still some organizations which are regarded as being too risk averse, too "siloed" or too focused on existing business processes, services and organizational settings. For instance, the personalization of services, consolidated personal overviews of service interactions, permits and financial engagements (e.g. MyPage and MyOverview) initiatives have been considered since 2010, but have not as yet lived up to their conceptual potential due to a lack of prioritization or limited capacities to deliver such solutions.

In France, the different social security branches have created several initiatives to attract and retain IT skills, such as recruiting interns while they are studying. Multiple programmes and initiatives have been implemented in the last five years to provide technical and financial support for capacity building and to promote innovation across the social security branches.

In short, either government or individual social security organizations have, in all four countries, established strategic initiatives with respect to skills and capability development, with a focus on both traditional competencies and those required to drive the innovative transformation of the public sector and social security. Table 11 summarizes the key elements identified in the four countries analysed.

► **Table 11: Activities to attract and retain tech-skills in Australia, Canada, Denmark and France**

	Australia	Canada	Denmark	France
Measures for skills and capacity development	<ul style="list-style-type: none"> <li>• Mobilize an integrated investment plan to address significant gaps or limitations in digital capabilities.</li> <li>• Exploit opportunities to share capabilities across all levels of government and with our partner ecosystem.</li> <li>• Invest in expansion of the digital ecosystem while also leveraging research and expertise from academia, industry, and government and not-for-profit sectors.</li> <li>• Maintain a proactive, forward-looking view of emerging needs and evolving the Strategy accordingly.</li> </ul>	<ul style="list-style-type: none"> <li>• Enable career development.</li> <li>• Promote digital literacy and collaboration.</li> <li>• Modernize the information and data management professions.</li> <li>• Strengthen leadership development.</li> <li>• Expand open government training and outreach.</li> <li>• Assess public service skills and analyse future needs.</li> <li>• Digital Academy.</li> </ul>	<ul style="list-style-type: none"> <li>• Attract and retain ICT professionals.</li> <li>• Establish a culture of innovation and continuous improvement.</li> <li>• Promote diverse and more private sector inspired approach to human resource management, service production and service delivery.</li> </ul>	<ul style="list-style-type: none"> <li>• Administration Publique 2022 focused on preparing senior civil servants to support and steer digital technologies to create public value, namely in the context of France's strategy for the future of public service.</li> <li>• Various French public organizations are piloting initiatives to strengthen capacity to lead the digital transformation.</li> </ul>

Summarizing the key lessons learned, all four countries, with varying degrees, emphasise mixed skills and capacities and "classical" civil servant profiles such as law, public administration, political science and accountancy. Australia, Canada, and Denmark embed capacity development as a key focal area within each strategic cycle. France has a specific national strategy for digital skills development (2020). However, it is too early to assess the impact of the skills and competencies initiatives in the digital transformation strategy for social security and for government digital transformation in general.

All four countries analysed have embedded the principles of continued skills and capacity improvement of their employees into the public sector and social security organizations, especially those related to the digital transformation of the public sector, including innovation and change management. Various IT and tech skills related to cloud solutions, data management, AI-enabled data analytics for fraud detection, predictions, decision-making, and chatbots are highly sought after by social security organizations in all four countries; when these cannot be attracted or retained in adequate numbers, they are sought in the private sector (through procurement).

To facilitate an emerging innovation culture within social security and the public sector in general, all four countries continue to use strategic pilot-projects, partnerships (e.g. in strategies), and shared innovation facilities (e.g. innovation labs) or teams. Launched in 2002, the Danish MindLab (as a shared service) is one of the earliest global examples of a designated innovation lab. Australia and Canada are also determined to improve innovation and creativity, with multiple innovation centres and teams existing across the public sector and social security in both countries. France set up a competition and award system to encourage innovation and creativity among social security actors.

## ► 7 EXPANDING INCLUSION AND COVERAGE

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The four cases analysed presented several challenges to expanding coverage and inclusive social security with the help of digital technologies. Ageing populations and the Covid-19 pandemic added a layer of complexities to the plight of vulnerable populations. The pandemic itself and the resulting lockdown challenged social security service delivery models and the volume of services to be provided. It also challenged access to health and educational services. This contrasts with the years 2022 and 2023 where there has been a rapid resumption of economic activity, resulting in labour shortages in key sectors, including IT and tech, and an excess demand for housing in the four countries due to pent-up demand caused by the pandemic. Furthermore, global instabilities are leading energy and food inflation. The combination of these factors has added further pressure to various types of social security. The accelerated pace of the digital transformation of public sector services in general and social security in particular has resulted in specific challenges around digital inclusion, and exclusion.

In Australia the digital transformation of public sector services in general and social security in particular has led to specific challenges around digital inclusion (and exclusion); notably around automated income assessments for eligibility determination. To ensure the inclusiveness of services to regional, rural populations, remote servicing is provided by Services Australia. Services are provided through a mix of agents, access points, service centres, and visits by remote servicing teams and mobile service centres. In particular, attention is paid to service delivery for people of diverse ethnic backgrounds.

Canada is experiencing a challenge to the country's principle of universal coverage at the federal and provincial level. The ageing population is the dominating challenge, with the need for assistance and care increasing. The digitalization of social services and assistance during Covid-19 particularly exacerbated these social inequities, increasing the consequences of the situation due to the digital gap among Canadians' abilities to access digital technologies. To increase productivity and cost efficiency, Canada continues to apply technology in social security, and is striving to become a world leader in inclusive digital service provision. To do so, the focus is on innovating the health system, automating eligibility and payments of some federal transfer income schemes such as elderly and child benefits, reducing the digital health divide and provision of Internet connection to families receiving Canada Child Benefit.

Denmark has, since the 1990's, had a strategic focus on addressing digital divides and digital inclusion. Past policies and initiatives have resulted in a highly connected and digitally literate population. Denmark has adopted different initiatives for excluded groups. Essentially a combination of communication, usability and a degree of "force" is applied to facilitate a shift from analogue to digital service channels. Tools included an active opt-out approach and communication around "mandatory" self-service to ensure that those individuals who can, also use social security and other services in practice. Channel strategic tools and incentives eliminating paper, physical letters and emails, in favour of faster and cheaper online and telephone based contact points have been key. Communication, usability, assistance and free digital literacy training is offered. Call centres, municipal service centres, municipal libraries and Job Centres, are key alternatives to online self-service, as well as for help and assistance in providing digital skills training.

In France, digital inclusion with respect to social security has only recently gained traction in political deliberation. The government launched a plan for inclusive digital technology in 2018. For social security, the challenges of digital inclusion are considered in the management agreements between operators (funds of social security and "pole emploi") and social security organisations. However, no measurable objectives and performance indicators are outlined. Caisse Nationale d'allocations familiales (CNAF) and Caisse Nationale d'Assurance Vieillesse (CNAV) have developed

several digital inclusion programmes.<sup>11</sup> For example, to ease the user-interface and the need to navigate an opaque digital maze, CNAF has created a network of administrative mediators that applicants can go to if they have any concerns about the rejection of a benefit, or questions about deadlines, payments or the size of a financial benefit.

Summarizing the key lessons learned, all four countries have strived for universal coverage in social security throughout their recent history. They are all challenged by various socio-economic factors caused by the Covid-19 pandemic, and a need to increase public sector productivity and cost-efficiency. Ageing populations are of particular concern in Canada, Denmark and France. Digital exclusion has been a common theme in all countries at various stages of recent history. Denmark prioritized digital inclusion since the 1990s. In Canada and France digital inclusion in social security is a more recent strategic focus. Based on the experiences in the four cases, a mixed approach of digital and non-digital channels for service delivery and assistance, and user-friendly service design combined with initiatives for digital skills development with non-social security partners has proven successful in expanding access and increasing inclusion.

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## ► LESSONS LEARNED

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The four cases analysed may be classified as social security institutions with highly capable administrations and services. All four cases see digitization of both service production and service delivery as key to increasing access to social security and inclusive services, as well as the productivity and cost-efficiency of the public sector. All four cases are influenced by ageing populations, particularly in Canada, Denmark and France.

With respect to the digital transformation of the public sector, and in social security, the four countries have similar trajectories. All are pioneers and leaders in government and public service IT adoption, and digital transformation. The four countries successfully implemented electronic and digital government and are consistently ranked at the top globally on various international benchmarks, including the EGDI, GTMI etc. The four countries are in their own unique ways innovators for digital service delivery and citizen participation.

Australian, Canadian and Danish social service digital transformation is formulated at the state level, in the national digital transformation strategy. In the most recent Danish strategy, the government is working on consolidating social services and increasing transparency for citizens. It also establishes the foundation of data sharing and collaboration through sectors. This is evident across central government, as well as at the regional and municipality levels.

The federal nature of Australia and Canada means that the connection between the central government, and the regional and local governments is more fragmented compared to the joint cross-governmental approach in Denmark or the French approach in which the social security silos cut across national, regional, and local levels. This is reflected in various ways in each of the four cases. While all four countries are striving towards a cross-governmental, coordinated approach to governance and intergovernmental collaboration, it is with various degrees of collaboration and reach across horizontal and vertical layers of government. A degree of formal cross-governmental collaboration and coordination is seen in Denmark, while the central, regional and local government levels often operate without formal coordination or collaboration in Australia and Canada. Similarly, for the strategic approach to the digitization of social security, in Australia, Canada and Denmark social security must align and comply with common strategies, standards, and components developed by central government actors. In these countries central government remains open to the participation of the private sector in its innovation ecosystem. In short, social security does not operate in a vacuum but is seen as an integral part of the Whole of Government service portfolio. In France, by contrast, efforts for digital transformation fall on social security itself, which also tends to work in silos rather than as part of the Whole of Government service portfolio.

The approach to governance, coordination and collaboration is also evident in the degree of specialization and consolidation of key functions and service areas, social security and welfare services in each of the four cases. Except for France, Australia, Canada and Denmark have all adopted or are adopting a Whole of Government digital strategy. The result is that the central government layer is increasingly integrated in all four countries. Again, the federal nature of Australia and Canada has resulted in more fragmentation with respect to regional and local authorities and their provision of social security and welfare services. Similarly, the more siloed approach in France sees a high degree of vertical integration of social security to overcome this, but social security remains horizontally siloed compared to the three other countries analysed.

Social security in Australia, Canada and Denmark seems to have a higher degree of front-end uniformity and centralization than in France. The three countries' social security organizations have seemingly also driven national strategic directions and levels of ambitions for online service use, back-office digitization, automation and data re-use.

When it comes to online service adoption Australia and Denmark have been early movers with respect to digital-by-default standards and channel strategies. In Australia and Canada, the federal nature and limited coordination and collaboration with regional and local authorities results in different degrees of online service use. France has overcome the fragmentation situation related to the central government strategy integration. Denmark deviates once more with a joint- and cross-governmental approach. Similarly, in 2012 Denmark chose a more centralized and unique active opt-out approach to online services, resulting in proportionally higher "degrees of digitization" compared to the other three cases analysed, who all apply an opt-in approach.

With respect to user-centric social security delivery, all four cases apply various user-centric design approaches. All have usability and design standards, but France is the only one that adopted the ISSA guidelines on service quality.<sup>12</sup> Denmark has a nationally mandated design standard, while Australian and Canadian equivalents are fragmented due to the federal nature of both countries. That said, state and provincial design standards are often inspired and aligned with the central government objectives, as seen in e.g. Alberta and Ontario.

At a legal and regulatory level, France and Denmark have a higher degree of maturity compared to Australia and Canada. The former two countries have been early adopters of standards and digital service regulations, including web accessibility, data and privacy regulation. These regulations are strongly influenced by EU recommendations and regulations, but are also aligned to the international standards and UN charter. Anecdotal evidence indicates that the EU experience is influencing both Australia and Canada, not least with respect to interoperability, data and privacy protection. By comparison Australia's Centrelink has inspired both Denmark and Canada in their consolidation of social security, exemplified by UDK and Service Canada.

The key lessons of the Australian case are linked to the government's consolidation of social services and increasing focus on Whole of Government and user-centric service production and delivery ecosystems. The Centrelink service played an exemplary role for several social security services and public service digital governance worldwide.

Three main lessons can be taken from the Canadian case. First, Canada realized early on the need for digital governance to facilitate the digital transformation of both the public sector and social security. To overcome this situation, the country instituted a more collaborative, consolidated and integrated digital governance service delivery and a Whole of Government approach. Second, good practices of Digital Government in Canada are mainly linked to the early adoption of a continuous user-centric approach to reach a real level of success today. Third, the Government of Canada is also adopting a robust strategy for expanding coverage, increasing inclusion, and eradicating poverty.

The main lessons to be learned from the Danish case are linked firstly to several key enabling factors, which are the adoption of relevant tools for monitoring, compliance, troubleshooting/escalation, and solving cross-sectorial challenges through steering committees and working groups. Secondly, Denmark focusses strongly on Whole of Government approaches to key infrastructure, sharing components with the private sector (e.g. eID/eSignature, digital post, data sharing), and has successfully adopted a real cross-government implementation to date, with mandated shared enablers (e.g. eID), platforms (portals), strategies and standards. At the front desk level, Denmark's approach is a unique model of the Whole of Government case with design and web accessibility standards (WCAG AA), including indirect co-creation, alongside mandated user-tests and integrated user-journeys. Thirdly, a culture of innovation played an important role in the Danish digital transformation success facilitated through strategic pilot-projects, partnerships (e.g. in strategies), and shared innovation facilities (e.g. innovation labs) or teams.

<sup>12</sup>

ISSA Guidelines: Service Quality, <https://ww1.issa.int/guidelines/sq/174846>

Among the relevant achievements made by the French government are a robust and successful front-office service delivery system, combining digital and physical elements for inclusive service in remote regions and rural areas in the country. As well as this, the French government equipped the digital service delivery with adequate tools for assessment, monitoring and continuous improvement. Finally, France has clearly identified issues related to fragmentation and put in place initiatives for better consolidation and integration through the central government portals.

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