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DIGITALISATION AND AI IN PUBLIC ADMINISTRATION

International examples and best practices

Jeremias Kortelainen, Juha Ronkainen, Mikko Wennberg, Lea Konttinen, Jenni Ala-Peijari and Henna Hiilamo

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Authors: Jeremias Kortelainen and Mikko Wennberg from Owal Group, Juha Ronkainen from Gofore and Lea Konttinen, Jenni Ala-Peijari and Henna Hiilamo from Sitra.

Owal Group and Gofore working group: Jeremias Kortelainen, Mikko Wennberg, Taru Aihinen, Olli Oosi, Ruska Sinkkonen and Tiina Koivula from Owal Group, and Juha Ronkainen and Markus Hemminki from Gofore

Sitran working group: Jenni Ala-Peijari, Henna Hiilamo, Lea Konttinen, Ville Aula and Antti Lehtinen

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Foreword

Public administration is undergoing a major transformation. Societal changes, economic pressures and rising expectations from citizens are challenging the traditional operating models. To meet these expectations, administration must improve its productivity and impact. Here, digitalisation and artificial intelligence play a key role. The future of administration will be built on comprehensive digital platforms where data, automation and AI support both efficiency and transparency.

New technologies are shaking up structures, but above all, they are opening up opportunities to build more efficient, open and proactive administration. International experiences show that digital solutions and AI can increase productivity, strengthen trust and facilitate interaction between citizens and other stakeholders. Many countries are already making strides to provide citizens with essential services and opportunities for participation – clearly and accessibly through a single interface.

The role of AI in administration can range from handling routines to analysing regulation, supporting citizen dialogue and crisis management. Used correctly, AI helps shift from reactive to proactive and data-driven decision-making. However, technology alone is not enough. The real change comes from leadership, political decisions and the ability to renew operating methods rapidly.

This report brings together international examples and practical lessons on the use of digitalisation and AI in various areas of administration, such as monitoring government programmes, legislative drafting, project management and citizen interaction. Diverse examples from Latvia, Estonia, Germany, South Korea, India, France and the United Kingdom show that these solutions are united by the pursuit of interoperable and user-centred systems. At the same time, data security, privacy and ethical guidance are emphasised, forming the foundation for trust in the digital society.

The report continues Sitra's work to renew decision-making. It provides tools for policymakers and civil servants to develop administration. The study was carried out in cooperation with experts and international partners, to whom we extend our warmest thanks.

We hope this report, while primarily produced for the Finnish administration, will also inspire others to become more digitally efficient and effective. We wish to have a competent and capable administration that serves its citizens and strengthens trust in democracy through openness.

Lea Konttinen
Lead Specialist
Democracy Innovations Programme, Sitra

Summary

New technologies, especially digitalisation and AI, offer the public sector keys to address challenges of productivity and scarce resources, increase transparency and strengthen citizens' trust and opportunities for participation.

This study presents international examples where public administration has been reformed through project management, process digitalisation and operational efficiency. For example, in chapter two, we describe through case studies how top-level state administration elsewhere has utilised digitalisation and the development path that has led to this.The thematic content relates to the core functions of top-level state administration – such as projects and their management – which serve as key tools for implementing and monitoring strategic objectives, allocating resources, legislative drafting and operational development.

The study also describes the changes and opportunities brought by AI in state administration now and in the future. In the third chapter we focus on the possibilities of AI utilisation and the most advanced administrative solutions at present. The aim is for the examples to provide lessons for reforming Finland's top-level state administration and public administration more broadly .In project management and process development, the emphasis is on common operating models, system compatibility and clear digital architecture. Internationally, several examples and development paths can be identified that enable the integration of project management and legislative process phases into a more unified whole.

A significant trend in legislative drafting is the structuring of information, which enables the preparation and modification of laws in different systems and improves interaction with stakeholders. This increases openness and efficiency and allows citizen participation without requiring separate resources for interaction.

Technological innovations such as AI are already in use in many countries and are fundamentally changing administrative practices. AI offers opportunities for process automation and decision support, but its utilisation requires a functional data infrastructure and long-term development work.

AI will revolutionise the capacity of state administration. It is not merely improving current practices, but is creating an entirely new administrative logic. The development is moving towards a more unified, transparent and efficient administrative model where citizens can participate in and influence legislation and decision-making more effectively. AI brings new opportunities that must be considered in the development of state administration.

Digitalisation and AI in public administration require ecosystemic and cross-administrative cooperation, where different actors join forces to develop common solutions. Common operating models and high-quality data (structure, metadata) enable efficient use of information, automation as well as transparent and reliable decision-making.

The future digital state administration will not be based on individual applications or systems, but on broad-based reform, where technology, change management, operating methods and competence are intertwined. Digital development at the top level of state administration brings benefits to policymakers, civil servants and citizens alike. Digital development should be seen as an investment, with some benefits realised immediately and broader impacts becoming visible over time.

Tiivistelmä

Uudet teknologiat, erityisesti digitalisaatio ja tekoäly, tarjoavat julkiselle sektorille avaimia vastata tuottavuuden ja niukkenevien resurssien haasteisiin, lisätä läpinäkyvyyttä sekä vahvistaa kansalaisten luottamusta ja osallistumismahdollisuuksia.

Tässä selvityksessä esitellään kansainvälisiä esimerkkejä, joissa julkishallintoa on uudistettu muun muassa hankehallinnan, prosessien digitalisoinnin ja toiminnan tehostamisen keinoin. Selvityksen toisessa luvussa kuvataan esimerkkien avulla, miten muualla maailmassa ylin valtionhallinto on hyödyntänyt digitaalisuutta ja millainen kehityskaari tähän on johtanut. Temaattiset sisällöt liittyvät ylimmän valtionhallinnon ydintoimintoihin, kuten hankehallintoon ja hankkeisiin, jotka toimivat keskeisinä työkaluina esimerkiksi strategisten tavoitteiden toteuttamisessa ja seurannassa, resurssien kohdentamisessa, lainvalmistelussa ja toiminnan kehittämisessä.

Lisäksi selvityksessä kuvataan tekoälyn tuomia muutoksia ja mahdollisuuksia valtionhallinnossa nyt ja tulevaisuudessa. Selvityksen kolmannessa luvussa tarkastellaan tekoälyn hyödyntämisen mahdollisuuksia ja tämän hetken pisimmällä olevia hallinnon ratkaisuja. Selvityksen tavoitteena on, että esimerkeistä on mahdollista saada oppeja Suomen ylimmän valtionhallinnon ja laajemmin julkishallinnon uudistamiseen.

Hankehallinnan ja prosessien kehittämisessä painottuvat tarkastelun perusteella yhteiset toimintamallit, järjestelmien yhteensopivuus ja selkeä digitaalinen arkkitehtuuri. Maailmalta voidaan tunnistaa useita esimerkkejä ja kehityskulkuja, jotka mahdollistavat hankehallinnan ja sen osana lainsäädäntöprosessin eri vaiheiden kytkeytymisen nykyistä yhtenäisemmäksi kokonaisuudeksi.

Merkittävä trendi lainvalmistelutyössä on tiedon rakenteistaminen, joka mahdollistaa lakien valmistelun ja muokkaamisen eri järjestelmissä sekä parantaa vuorovaikutusta sidosryhmien kanssa. Näin voidaan lisätä avoimuutta ja tehokkuutta sekä mahdollistaa kansalaisten osallistuminen ilman, että vuorovaikutukseen tarvitaan erillisiä resursseja.

Teknologiset innovaatiot, kuten tekoäly, ovat jo käytössä monissa maissa ja muuttavat hallinnon toimintatapoja perusteellisesti. Tekoäly tarjoaa mahdollisuuksia esimerkiksi prosessien automatisointiin ja päätöksenteon tukemiseen, mutta sen hyödyntäminen edellyttää toimivaa datainfrastruktuuria sekä pitkäjänteistä kehitystyötä.

Tekoäly tulee mullistamaan valtionhallinnon kapasiteetin. Kyse ei ole vain nykyisten toimintatapojen parantamisesta, vaan kokonaan uudesta hallinnon toimintalogiikasta. Selvityksen perusteella kehitys kulkee kohti yhtenäisempää, läpinäkyvämpää ja tehokkaampaa hallintomallia, jossa kansalaiset voivat osallistua ja vaikuttaa entistä paremmin lainsäädäntöön ja päätöksentekoon. Tekoäly tuo uusia mahdollisuuksia, joiden huomioiminen on valtionhallinnon kehittämisessä välttämätöntä.

Julkishallinnon digitalisaation ja tekoälyn hyödyntämisessä tarvitaan ekosysteemistä ja poikkihallinnollista yhteistyötä, jossa eri toimijat yhdistävät voimansa yhteisten ratkaisujen kehittämiseksi. Yhteiset toimintamallit ja laadukas data (rakenteisuus, metadata) mahdollistavat tiedon tehokkaan hyödyntämisen, automaation sekä läpinäkyvän ja luotettavan päätöksenteon.

Tulevaisuuden digitaalinen valtionhallinto ei perustu yksittäisiin sovelluksiin tai järjestelmiin, vaan laaja-alaiseen uudistamiseen, jossa teknologia, muutosjohtaminen, toimintatavat ja osaaminen nivoutuvat yhteen. Ylimmän valtionhallinnon digikehittäminen tuo hyötyjä niin päättäjille, virkahenkilöille kuin myös kansalaisille. Digikehittäminen tulisi nähdä investointina, jossa osa hyödyistä konkretisoituu välittömästi ja laajemmat vaikutukset tulevat näkyviin pidemmällä aikavälillä.

Sammanfattning

Ny teknologi, särskilt digitalisering och artificiell intelligens, ger den offentliga sektorn verktyg för att möta utmaningar kring produktivitet och de krympande resurserna, öka transparensen samt stärka medborgarnas förtroende och möjligheter till delaktighet.

I denna utredning presenteras internationella exempel där den offentliga förvaltningen har förnyats bland annat genom projektledning, digitalisering av processer och effektivisering av verksamheten. I utredningens första del beskrivs med hjälp av exempel hur centralförvaltningen i andra länder har utnyttjat digitalisering och vilken utvecklingsbana som lett fram till detta. De tematiska innehållen berör centralförvaltningens kärnfunktioner, såsom projektledning och projekt, som fungerar som centrala verktyg till exempel för att genomföra och följa upp strategiska mål, resursallokering, lagberedning och verksamhetsutveckling.

Utredningen beskriver också de förändringar och möjligheter som artificiell intelligens medför för statsförvaltningen nu och i framtiden. I utredningens andra del granskas möjligheterna att utnyttja artificiell intelligens och de mest avancerade administrativa lösningarna för närvarande. Syftet är att exemplen ska ge lärdomar för att förnya Finlands centralförvaltning och, mer allmänt, den offentliga förvaltningen.

Vid utveckling av projektledning och processer betonas enligt analysen gemensamma verksamhetsmodeller, systemens interoperabilitet och en tydlig digital arkitektur. Internationellt kan man identifiera flera exempel och utvecklingslinjer som möjliggör att projektledning och olika skeden av lagstiftningsprocessen kopplas samman till en mer enhetlig helhet än tidigare.

En betydande trend inom lagberedningsarbetet är strukturering av information, vilket möjliggör beredning och ändring av lagar i olika system samt förbättrar interaktionen med intressenter. På så sätt kan öppenhet och effektivitet ökas samt medborgarnas deltagande möjliggöras utan att separat resurser behövs för interaktionen.

Teknologiska innovationer, såsom artificiell intelligens, används redan i många länder och förändrar förvaltningspraxis i grunden. Artificiell intelligens erbjuder möjligheter till exempel för automatisering av processer och stöd för beslutsfattande, men dess utnyttjande förutsätter en fungerande datainfrastruktur och långsiktigt utvecklingsarbete.

Artificiell intelligens kommer att revolutionera statsförvaltningens kapacitet. Det handlar inte bara om att förbättra nuvarande arbetssätt, utan om en helt ny verksamhetslogik för förvaltningen. Enligt utredningen går utvecklingen mot en mer enhetlig, transparent och effektiv förvaltningsmodell där medborgarna kan delta och påverka lagstiftning och beslutsfattande i allt högre grad. Artificiell intelligens medför nya möjligheter som måste beaktas i utvecklingen av statsförvaltningen.

Digitalisering och utnyttjande av artificiell intelligens i offentlig förvaltning kräver ekosystembaserat och tväradministrativt samarbete där olika aktörer förenar sina krafter för att utveckla gemensamma lösningar. Gemensamma verksamhetsmodeller och högkvalitativ data (struktur, metadata) möjliggör effektiv användning av information, automatisering samt transparent och tillförlitligt beslutsfattande.

Framtidens digitala statsförvaltning bygger inte på enskilda applikationer eller system, utan på en omfattande reform där teknik, förändringsledning, arbetssätt och kompetens integreras. Digital utveckling av centralförvaltningen ger fördelar för såväl beslutsfattare och tjänstemän som medborgare. Digital utveckling bör ses som en investering, där en del av nyttan realiseras omedelbart och de bredare effekterna blir synliga på längre sikt.

1 Introduction

The rapid pace of digital development and economic pressures are challenging public administration to reform in Finland and globally. The use of technology is no longer an option, but a necessity for establishing effective and sustainable administration. The development and implementation of new technologies are reshaping the structures and modes of operation of public administration, opening up opportunities to rethink public-sector processes, improve practices, and enhance effectiveness. It is no longer just about technology, but about comprehensive organisational change driven by change management. To succeed in this, clear prioritisation, renewal of organisational culture, abandoning old practices and broad participation are required.

Historically, technological innovations have been the propellors of major administrative developments. The writing and archiving laid the foundation for administrative continuity; the printing press enabled the wide dissemination of regulations and administrative instructions; the industrial revolution and the birth of bureaucracy in the 19th century standardised administrative practices; and digitalisation, from the late 20th century onwards, introduced electronic administration and freed services from the constraints of location.

AI is the next such transformative force. It is not just a continuation of administrative digitalisation, but a fundamental rethinking of administration. AI changes administrative practices. Its utilisation is closely linked to other digital developments in administration, as the realisation of AI's benefits requires a functional data infrastructure.

The leading digital nations are characterised by long-term development of technological infrastructure and promotion of information flow.

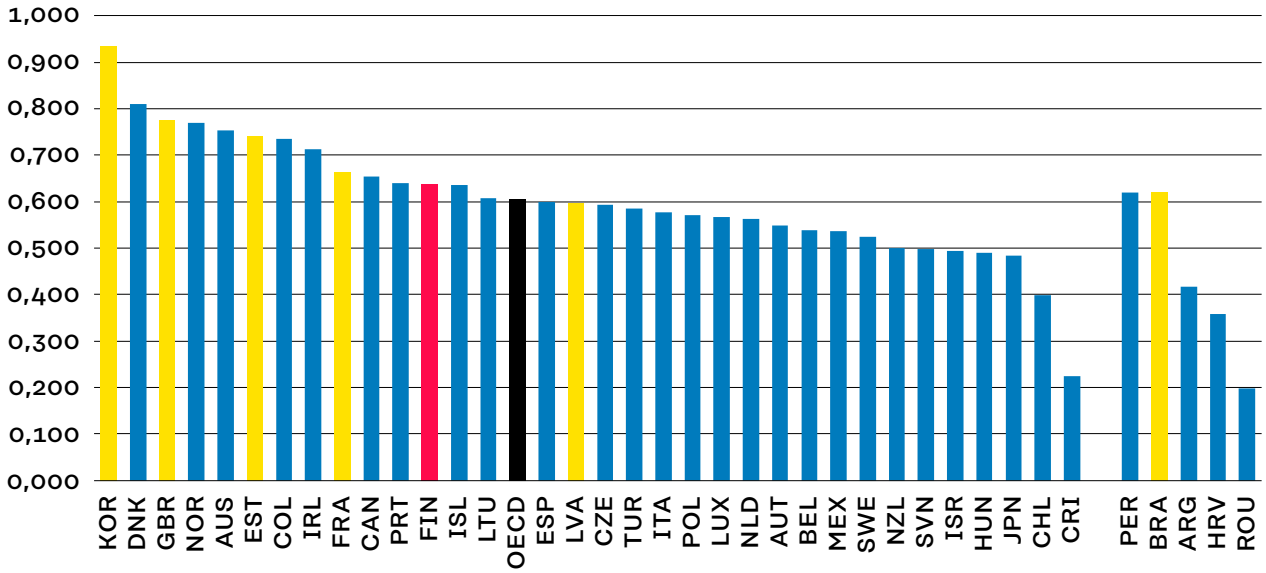
Investing in digitalisation and AI is an investment whose benefits are visible both in the short and long term. The opportunities of AI cannot be separated from other digitalisation and development of practices in public administration. The digitalisation of administration and the adoption of AI bring tangible benefits to the citizens as well. Chatbots can provide the citizens with important information in plain language and in different languages. Process efficiency can speed up the handling of matters for the citizens and businesses. The most significant benefit, however, may arise from the changing organisational culture.

For example, handling citizen feedback has previously required such extensive resources that it has actually resulted in fewer consultations. The ultimate benefits of efficiency are not only improved administrative effectiveness, but also better opportunities for participation, better services and a stronger democracy.

In international comparison, Finland ranks closer to the average than the leading countries on the OECD's public administration digitalisation index (OECD 2025a). Civil servants and political decision-makers balance between scarce resources, growing tasks and citizens' expectations. Technological innovations can help address economic challenges and strengthen trust and opportunities for participation, if we find a common will and the best ways to use the innovations.

Figure 1. Pioneer countries in the study based on the Digital Government Index. Countries examined in the study are marked in yellow. The figure shows OECD countries and those in the accession process.

The index consists of six components, with only minor differences between the countries analysed: gigital by design, data-driven public sector, government as a platform, open by default, user-driven and proactiveness.



This publication has collected examples from several countries that advance the renewal of administrative practices and the comprehensive reform of the government by developing project management and leadership, process digitalisation and operational efficiency. Particular attention is paid to solutions related to monitoring the implementation of the government programme, project portfolio management, planning and communication of legislative projects, data visualisation and the use of AI in these areas. The examples show that data- and AI-based administration is not just a vision for the future, but structured data and AI are already concretely in use in public administration.

Chapter 2 of the study describes the best digital solutions in use internationally. Based on Sitra's preliminary study we reviewed Brazil, South Korea, the European Commission and the European Parliament (EU), India, Latvia, France, Germany, Estonia, the United Kingdom and the United States (state-level ready-made programmes). In this study, pioneering means individual good solutions that could serve as examples for development. These include for example common administrative platforms and stakeholder interaction channels.

Chapter 3 examines the possibilities of AI utilisation and the most advanced administrative solutions at present. Examples were selected from the United Kingdom, United Arab Emirates, Albania, New Zealand and Ukraine. Finally, based on the study and background materials, we will present some lessons for Finland.

The examples in Chapter 2 are based on written sources and interview material. Chapter 3 on AI opportunities relies mainly on written sources, supplemented by UK interviews. The document analysis utilised a wide range of case country and organisation materials, such as legislation, official websites, official statements and guides, news databases and previous research and studies. Expert interviews deepened the understanding of each case country and organisation. Key experts representing a

wide range of organisations and perspectives relevant to public administration digitalisation were invited to the interviews. In total, 17 interviews were conducted with 26 experts participating. The interviews were conducted between March and August 2025.

The publication is intended as a basis for discussion and as a resource for civil servants, decision-makers and anyone interested in developing public administration. The report does not offer a ready model, but visions and options to illustrate the opportunities and limits of digitalisation and AI in administration. We hope the study helps to discuss the principles by which digital technologies and AI can be integrated into the core of administration, or even build administration so that AI is not merely seen as a technology or tool, but as the foundation for renewal and new ways of thinking.

This means that the opportunities of digitalisation and AI are examined already at the early stages of decision-making, process and service design, not just at the implementation stage.

This report has been translated from a Finnish-language publication that was published in October 2025. In addition to this publication, Sitra has produced an unpublished background report in May 2025, "Management of Public Administration Projects and Opportunities for Digitalisation – International Comparative Study". The background report was updated in October 2025 with a section on AI. The background report contains more detailed descriptions of the country-specific examples in this study and also other examples.

2 International pioneering examples of digital solutions

2.1 Solutions for monitoring government programmes, project portfolio management and legislative project planning

The core functions of central government include the government programme, project portfolio and project management, with legislative projects being the most significant type of project. Project management serves as the main tool for implementing the strategic objectives of central government, allocating resources, supporting legislative processes and developing operations. In administration, projects are not only operational entities – they are also structures through which the government programme is implemented, development is managed at the portfolio level and transparent monitoring is ensured. The development of project management enables increased efficiency and impact at all levels of government.

A unified, transparent and user-oriented comprehensive solution for central government project management and legislative drafting requires shared operating models, system interoperability and a clear digital architecture. The opportunities provided by platforms that connect information systems and facilitate the flow of information are not limited to improving efficiency and quality of preparation; at best, they can serve as preparation tools that connect different levels and actors within government, support the monitoring of objectives and government programmes, and act as platforms for communication and citizen engagement. In the future, the integration of artificial intelligence into these platforms may further expand their applicability and enhance productivity.

In many countries, the impetus for developing government operations has been the need to modernise outdated, siloed, and inefficient processes. Depending on the stage of development, the need may have focused on the digitalisation of the entire administration and public services, as in India, or on integrating fragmented administrative processes and information systems. The drivers of development include practical needs such as improving efficiency and replacing outdated systems, as well as broader societal goals like promoting democracy and transparency. For example, in South Korea and India, there is a trend towards consolidating information from all levels of government onto a single platform.

Transition towards platform governance

Platform governance refers to a model in which public administration operates as an ecosystem and a digital platform, enabling participation, co-creation and service provision by various actors, such as citizens, businesses and communities. In this model, public administration not only provides public services but also digital infrastructures and shared service platforms that support interaction and cooperation between public administration, citizens and the private sector.

One of the most well-known examples of this is Estonia's e-Estonia model. Estonia offers a wide range of digital public services and infrastructures, including democracy services such as electronic voting and the opportunity to participate in and comment on legislation via co-creation platforms.

South Korea, a pioneer in digital platform governance, is aiming for the entire administration to function as a unified ecosystem that effectively utilises data, artificial intelligence and shared service platforms for the benefit of the state, businesses and citizens by integrating information from all regional levels.

EXAMPLE: SOUTH KOREA

In accordance with its national digitalisation plan, South Korea has set the objective of developing into a digital platform government, efficiently utilising data collected by all public institutions through a single platform. Their primary target is to create an administration that functions both as a digital platform and as an innovation partner and, they also aim to provide data-driven solutions for policy measures.

Platform governance brings benefits not only at the state level but also for businesses and citizens. From the citizens' perspective, it is important that services and their management are consolidated in one place and on a single website, via a dedicated hub. From the state's point of view, the key is to remove institutional barriers, centralise information, and leverage artificial intelligence and data analytics to support knowledge-based and efficient administration. For businesses, it is essential to offer better access to information and services to the private sector, enabling the development of innovative services in cooperation with the public sector. The hub is also planned to utilise generative artificial intelligence in the future.

With an easy-to-use mobile application, South Korea facilitates the use of services and interaction between the administration and the public. This also includes the provision of proactive services, meaning that the administration supplies information to people proactively.

South Korea's Public Information Sharing Centre (PISC) serves as a data platform that covers the entire administration, enabling the sharing of information between ministries and agencies. This information-sharing model has succeeded not only in integrating data but also in reducing carbon dioxide emissions by over one million tonnes, thus supporting sustainable development goals (Cheong & Cho, 2024; Dongyub 2025; Ministry of Science and ICT 2025).

Shared platforms in administration standardise the legislative process

Some of the most promising examples of improving internal administrative processes are initiatives focused on shared platforms. These include Latvia's TAP portal, Estonia's Co-Creation working environment, and Germany's legislative drafting and management platform, E-Gesetzgebung. In addition to these, the general trend in other reviewed countries is towards the standardisation of information systems and the improvement of information flow. Instead of project management tools, the initial focus may also be on unifying internal communication and the tools in use, for example on software vendors' platforms.

To date, none of the countries examined has adopted a comprehensive project management solution encompassing all processes and stakeholders. Nonetheless, there is significant potential for such integration, as existing systems in various countries currently address distinct aspects of the overall process. A recurring theme in the best examples is the standardisation and development of the legislative process. Differences, on the other hand, lie in how broadly different actors (e.g. government, parliament, stakeholders, the public) and process phases (preparation, decision-making, communication) are covered by the systems.

The working environments of governments and parliaments are typically separate, although there are indications of moves towards shared platforms, for example in Germany. This is partly due to the justified need to separate executive and legislative powers. However, such separation can also lead to less than optimal solutions from the perspective of process and project management, where the flow of information is interrupted when moving from preparation to decision-making.

From the perspective of political decision-making and citizen and stakeholder engagement, this is not desirable, as it complicates access to information and the monitoring of progress.

In Latvia, the TAP portal is entering its second phase of development. The main objectives are to strengthen system security and improve preparedness for crises. The analytics features of the portal are also being enhanced: the system will be integrated with the Latvian state archive; the accessibility of the public section will be improved; and opportunities for public participation will be expanded. The use of artificial intelligence is being considered for the next phase of the TAP portal. The identified potential areas for development include process analysis and optimisation, as well as the structuring and analysis of policy reports that are currently in document form.

EXAMPLE: TAP PORTAL, LATVIA

A legislative drafting and management tool that utilises structured data. The tool has a public section published online and an internal user environment for civil servants from different administrative sectors. The main purpose of the portal is to serve as an environment for managing legislative projects, but it is also used to manage government activities and projects. The portal is the most advanced example among the countries reviewed of a solution that combines the legislative process and project management.

Previously, legislation and its preparation in Latvia were dispersed across different ministries' systems and their control environments.

The purpose of the TAP portal is to modernise government decision-making and ensure opportunities for public engagement in the preparation of legislative proposals. Latvia also aims is to streamline the workflow of laws under preparation. The TAP portal is a centralised platform jointly used by the government and all ministries, containing internal administrative functionalities and integrations with other necessary systems. Instead of the traditional document-based case management, the TAP portal uses structured XML data. Rather than handling documents, tasks, comments, processes and changes are targeted at structured data elements at the database level. This method enables automation to support processes, and there is no need to spend time on the formal requirements of documenting legislative changes.

For updates to existing laws, the TAP portal utilises structured legislation produced by Latvia's official publication Latvijas Vēstnesis and an algorithm developed to extend structuring to all sub-sections of the existing legislation.

The public section of the TAP portal publishes all new laws under preparation and updates to existing laws. After strong authentication, individuals and organisations can comment on legislative changes under preparation during the consultation phase.

Once a bill is ready after government and ministerial preparation, the bill drafts are transferred to the Latvian parliament for consideration. The parliament uses its own system, into which the TAP portal is integrated. However, the system and the parliamentary processing stages do not utilise structured data; they are traditional case management systems where officially approved and signed legislative initiatives are handled in document form.

Individuals, NGOs, and official organisations can, after strong authentication, comment on ongoing legislative projects in the public section. However, the TAP portal focuses solely on tasks and measures under government consideration. The TAP portal also publishes minutes of government meetings and preparatory meetings of the heads of ministries' chanceries, as well as related materials.

EXAMPLE: CO-CREATION WORKING ENVIRONMENT, ESTONIA

A preparation and management environment for national and EU legislation that utilises structured data, replacing the current ministry-specific preparation systems as well as the existing publication and commenting environment for draft bills. The system is in a pilot phase. It is an example of a working environment that integrates the various stages of the legislative process, covering multiple phases of handling.

Legislative reforms in Estonia are prepared within each ministry's own document and case management systems until they are ready for the first round of publication and handling, after which they proceed to government consideration. Draft bills prepared by ministries, as well as the national handling of EU laws, are published in the EIS portal where, after strong authentication, the public and stakeholders can comment on the drafts before government consideration. Although the EIS portal is a shared publication and commenting platform for all ministries, it is relatively old and does not include the functionalities of process management.

After the open commenting round, the legislation moves to the government's own customised eCabinet system which has been in use since 2000. This system enables the scheduling and content management of government meetings, internal commenting and electronic handling – including remote participation. After government consideration, the draft bills move to parliamentary handling. For this purpose, the parliament has a separate publication and process management system, EMS, distinct from the EIS portal. EMS is also a relatively old system, facing maintenance challenges as it nears the end of its lifecycle. The systems in use were so technically and functionally outdated that their renewal was not considered reasonable.

Both environments are document-based and do not utilise structured data. For this reason, new documents are generated at different stages of handling, which are stored in different systems.

The new Co-Creation working environment is intended to replace internal preparation phase of the current process within ministries, public commenting and parliamentary handling phases with a single comprehensive solution. The environment covers the preparation of national legislation and also the preparation of EU legislation. The environment utilises structured data, so that all handling phases and changes are recorded at the level of individual data fields.

When the preparation of a legislative amendment begins, a dedicated workspace is created for the amendment, into which the structured, current law is loaded from the files of the Estonian state publisher Riigi Teataja, ready to be edited in structured form. Each established workspace has its own user rights and process management interface.

EU legislation is currently PDF-based, but the system has implemented structural commenting and handling of PDF text fields so that the PDF documents can be processed using the same system logic and functionalities as the structured data of national legislation. The working environment is currently in voluntary pilot use in several ministries.

Legislative preparation and management typically involve numerous stages. In Estonia, legislative drafting usually begins at the responsible ministry, where a legislative initiative is either created from scratch for a new law or as an amendment or modification to an existing law – in which case the old law is loaded as the starting point for preparation and changes are targeted at the relevant sections. In some countries, draft bills are published for public and stakeholder comments before government consideration. After government handling, the law moves to the parliament and its committees, which often involves several stages. Once the law is approved and confirmed, it is published by an official body for the public, businesses, authorities and the judiciary. It is important for the entire process to maintain a comprehensive audit trail covering all stages, so that the legality and fairness of the legislative preparation and handling processes can be independently verified.

Custom or off-the-shelf solutions in use cover typically only one part of these stages, and no solution has been identified that covers all the stages of the legislative process described above. Often, the preparing ministry has its own systems and any public commenting and consultation rounds are carried out in its own publication environment. The government handling usually has its own environment, as does the parliamentary handling. There are also separate environments for publishing laws and previous versions, which may include other publication functionalities, such as for court precedents and international agreements.

The trend in legislative drafting, handling and publication is shifting from traditional document-based handling to XML-based solutions. This enables the preparation, modification and supplementation of laws in different systems, as well as interoperability between systems. For example in the United Kingdom, the preparation, supplementation and publication of statutes in a structured format has been developed making information accessible to experts, the public and researchers, even though the preparation is partly carried out in the ministries' own systems and document templates.

EXAMPLE: LEOS, THE EUROPEAN COMMISSION

An open-source system for drafting legislative texts that enables multiple drafters to work simultaneously. The tool can be adopted at the local level, and the system clearly demonstrates the benefits of drafting legislation in a structured format. This ready-made system would be easy to adopt. For example, Spain has implemented the system

LEOS is a web-based tool that supports legislative drafting, version control, process management, as well as collaboration and commenting in legislative drafting. It is being further developed as an assistant drafting tool for the entire legislative lifecycle. The tool is being developed with "smart functionalities", such as checking, change tracking, linguistic support, legal assistance, automatic drafting, legal practices and policy dimension. The system utilises the Akoma Ntoso XML data model standard, which aims to support data exchange and interoperability between EU member states and EU institutions.

LEOS is intended for use by all member states, EU institutions and agencies. It is in use in Spain and Slovenia and being tested by EU authorities. A preliminary study has been conducted for further development of the solution regarding possible AI utilisation.

There is particular interest in the smart functionality that can identify and manage obligations, rights, permits and penalties in legal texts. This feature could significantly improve the ability of drafters and officials to prepare legal documents more efficiently.

LEOS has demonstrated the possibility of creating standardised, open legislative materials (Leventis et al. 2021).

Currently, LEOS is not directly integrated with the EUR-Lex system, the official portal for legal documents of the European Union. However, documents produced by LEOS are compatible with the EUR-Lex requirements. There has been discussion in the EU about comprehensive digitalisation of legislative processing ("Legislation Lifecycle Management"), in which systems such as LEOS and EUR-Lex are hoped to work together more seamlessly in the future.

EXAMPLE: E-GESETZGEBUNG, GERMANY

A legislative drafting and management environment that streamlines the drafting of legislation done in ministries and government handling by utilising structured data, process management and drafting assistance modules. The system is still under development, but it reflects well the identified set of challenges that can be solved with a unified system.

In Germany, the fragmentation of IT systems used in federal lawmaking has been recognised. In 2014, the then federal government launched the Digital Administration 2020 programme. As part of the programme, the development of a new electronic legislative working environment, E-Gesetzgebung, was started in 2016. The aim was to eliminate gaps in data transfer and processing between ministries, the Bundestag and Bundesrat, and the office of the Federal President by creating a new customised environment. The goal was to move from the current document-based legislative drafting and handling to the using structured data and related process management. The system utilises the international XML standard LegalDocML/Akoma Ntoso.

The system includes the federal government platform, an editor, the Bundestag and Bundesrat platforms and a legislative portal. The federal government platform is an environment for applications related to the electronic and seamless mapping of the federal legislative process. This includes the electronic drafting, commenting and coordination of draft regulations up to their submission to the federal government. With the web-based e-legislation editor, draft regulations and bills can be created, edited and commented on sequentially, seamlessly and in a legally compliant manner. The Bundestag platform enables, among others, the creation, submission and approval of templates; the creation and management of Bundestag and committee print products; as well as the preparation and monitoring of these print products in plenary sessions and Bundestag committees. The Bundesrat platform enables receiving templates from constitutional bodies and the extraction of necessary information for use in the Bundesrat-specific processes and documents, the identification of relevant committees through the distribution procedure, as well as the preparatory print materials and result documents. In the 2021 coalition agreement, the goal was set to create a legislative portal intended to serve as a starting portal and key source of information for people who want to know about ongoing legislative projects. The portal would replace the current ministry-specific communication solutions for legislative progress.

EXAMPLE: LEGISLATIVE SUPPORT SYSTEM, SOUTH KOREA

The government's legislative support system is a centralised electronic platform that supports the South Korean government in all stages of legislative work, from drafting bills to their publication. The system promotes transparency and participation, and it is an example of a well-established and long-standing tailored solution developed for the needs of public administration.

The system in use in South Korea is designed to digitalise and manage government legislative procedures. Its functions include, for example, drafting and reviewing bills, public pre-announcement, publication and provision of legal information (Ministry of Government Legislation 2024). The system integrates all stages of legislation into one that actually consists of three smaller, interconnected systems (support, participation and drafting/editor). The overall development of the system lasted more than a decade.

The legislative support system brings together the main tools to support the legislative process. It includes management of the legislative plan, drafting and editing of bills, preliminary consultation, impact assessments and handling of proposals, and at the same time provides up-to-date information on legislative news and guidance. The system enables stakeholder consultation, collection of opinions and automatic creation, checking and publication of documents. Information can be transferred in real time via an API between different systems and for public sharing. However, authorities using separate operating systems must enter the data separately. The system has made civil servants' work more efficient, reduced the time needed to prepare bills and decreased the number of errors, which has eased the administrative workload.

The above examples of shared administrative platforms are also the best examples of project management and its tools covering the entire administration. Ministries in different countries widely use various commercial solutions to support project management, but their use is limited to certain tasks. The context involves a diverse array of tasks and projects, so any shared tool must have outstanding capabilities to meet these varied needs.

There are plenty of commercial solutions for project portfolio management, but they are primarily designed for the business world. The suppliers of these solutions do not mention any government or chancellery as customers who would use their project portfolio management tools for managing the entire government or government programme project portfolio. Instead, ministries or large public administration agencies use commercial project portfolio management solutions for internal portfolio management within ministries and agencies only to some extent.

Commercial project portfolio management solutions vary in functionality, with some being highly modular and allowing the customer to use only the functionalities they wish to utilise. Others are more monolithic and include all functionalities in the solution, allowing relatively little customer-specific configuration.

The key functionalities of the tools are mapping and prioritising projects based on various metrics, as well as allocating resources at the portfolio level. The tools support planning and monitoring of project schedules, as well as budget and financial management. They can also be used to monitor the progress of key project indicators and manage risks systematically. The portfolio-wide reporting and analytics features provide an overall picture of the status of projects, while integrations with other systems enable automatic data exchange, which enhances comprehensive management.

Tools and visualisations for monitoring policy objectives

Internationally, the monitoring of government programmes or policy objectives still appears to be rather unsystematic. There are individual examples of dashboards based on data collected via a common platform, but the possibilities for automation have so far been used only to a limited extent.

There are no ready-made software solutions solely for monitoring government programmes; governments use, for example, Microsoft Excel, in which the actions according to the government programme and the related sub-actions are entered. Updating an Excel file is decentralised to all ministries, as are the responsible persons for each action. Typically, a single Excel file maintained by the government is updated at an agreed pace, which varies from monthly to twice a year. However, there are positive examples: Estonia uses Microsoft's Power BI solution to publish the maintained Excel file as a web version for easier navigation.

Another possible way to monitor government programmes is to publish the current situation on a website. In this case, the tools for monitoring government programmes are general content management systems (CMS) intended for maintaining websites, which are integrated with the government's tailored systems and database applications or case and document management solutions – for example for linking documents. Here as well, updating the monitoring of government programme actions is scheduled, for instance monthly for the responsible ministries and their responsible persons. Although the publication methods for monitoring government programmes vary, both solutions require manual updating for publication and do not use ready-made or tailored solutions for internal government work.

Monitoring government programmes or policy objectives has been complicated by the changing targets of governments. When a new government takes office, it may prioritise different monitoring tools, and in general, political programmes can vary greatly in scope. Monitoring at the level of legislative planning could be a natural way to develop monitoring as policy objectives – regardless of the form of the programme – largely turn into legislative projects.

For example, monitoring the progress of coalition agreements in Germany has long been very difficult. To improve the situation, in 2022 Chancellor Scholz's government established a monitoring portal for the progress of the government programme, which was published on the government's website and linked to the content of the ministries' own websites. The portal monitored the progress of the coalition agreement according to its seven main points, not only the progress of legislative initiatives related to them but also the action plans, funding programmes and the progress of reports produced by the government. The publication system was based on the FirstSpirit content management system by the American company Crownpeak.

Each responsible ministry updated the status of each action in the database of the

background system once a month. However, Germany's new government has not opted for a similar monitoring portal.

There have also been initiatives for broader monitoring of policy actions in the United Kingdom where the Performance Platform that collected information on the progress of objectives in different administrative sectors was discontinued in 2021. The challenge was the insufficient automatic transfer of data, which led to double entries and thus to an increasing workload in the ministries. The example shows that automatic data transfer is an important incentive for making the monitoring platform work. This could be solved with common platforms and broader use of AI.

EXAMPLE: MONITORING THE ESTONIAN COALITION AGREEMENT

In Estonia, when the government is formed, the coalition parties create a very concise coalition agreement, which is published on the website of the Government Office. The coalition agreement considers and includes the content of the long-term action plan of the national strategy. The latest agreement for 2025 contains four top-level areas and a total of 28 sub-areas for sectoral plans. The preparatory groups of the coalition parties form a more detailed action plan from the coalition agreement which is then documented in an Excel file.

The completed Excel file is saved on the Government Office's server, and each ministry is responsible for reporting the progress of its own actions in a monthly update. Updating the file is straightforward and quick. The progress and current status of the Excel file are published as a Power BI view on the Government Office's website. The logic and operation of the Power BI tool do not need to be updated when a new coalition agreement is formed; only the underlying Excel file is updated according to the actions and responsibilities of the new agreement. The target groups for the Power BI view are people, NGOs, the media and government employees.

Monitoring the coalition agreement is an example of a simple and easily adoptable way to improve the visibility of decision-making preparation and progress for different stakeholders.

EXAMPLE: SISGE, BRAZIL

SisGE (Sistema de Gestão da Estratégia) is a strategy management system and a key tool for the ministry responsible for the development of administration and public services (Ministério da Gestão e da Inovação em Serviços Públicos MGI) in planning and monitoring strategy. The system is the first stage in the ministry's monitoring and evaluation process. Monitoring data is entered monthly, and reports are generated for publication on the strategy dashboard. The data entered into SisGE automatically generates Microsoft BI reports for the strategy dashboard (MGI 2023). SisGE is currently integrated into the MS SharePoint environment. The use of the system is also intended to be expanded to other ministries.

SisGE is also an example of a simple way to improve the monitoring of preparation.

EXAMPLE: DARPAN DASHBOARD AND PRAYAS FLAGSHIP PROGRAMME MONITORING, INDIA

For monitoring programmes at different levels and sectors of administration, the National Informatics Centre (NIC) has implemented the Darpan Dashboard, which is intended as a tool for both administration and the public. Registered users can view data at a more detailed level. The dashboard presents real-time data on key indicators of projects and programmes. The data is presented in comparative graphs, numerically and as percentages, and it is available to senior officials in central government for planning, evaluation and monitoring. The data is updated according to the frequency of data collection for each project or programme, that is daily, weekly or every two weeks. Regular updating of the data takes place at a predetermined interval via web services or APIs. Each sector is responsible for publishing and managing its own data. Darpan is primarily a common tool for collecting and visualising data for all levels of government, and it is not directly linked to project management for legislation or political programmes.

PRAYAS (Pursuing Excellence in Governance) is a monitoring system that enables the administration to visualise the progress of flagship programmes on a single platform. It uses data collected in a predefined format and at an agreed frequency via APIs from the IT systems of different programmes. The system produces information on the implementation and coverage of programmes and enables comparison by sector, responsible ministry, state, district and different time periods. In 2024, the system monitored 146 government programmes and over 700 indicators.

The examples from India illustrate the possibilities created by improved data flow through the integration of public administration information systems for enhancing transparency both within administration and externally.

2.2 Solutions for stakeholder interaction and communication

The principles of openness and interaction are strongly reflected in the strategic objectives of public administration digitalisation, even though practical needs within administration might be the ones primarily guiding development. Features that enable interaction and communication are included in the platforms developed in Estonia, Latvia and South Korea, for instance.

The development of digitalisation and information systems in administration improves opportunities for more open and efficient preparation, as well as interaction with people and stakeholders. An integrated system that consolidates data from various sources and information systems can enhance interactive processes. For instance, activities such as collecting statements become more efficient, as they no longer necessitate significant independent resource allocation.

Finnish ministries have often faced criticism for conducting overly narrow consultations, a challenge made harder by tight deadlines. A system that includes built-in statement collection or functional AI tools could significantly change practices in this respect.

Internationally, when interaction and communication in administrations are being improved, the prevailing political system must be taken into account as a reality. Governments do not always have an interest in sharing information openly and neutrally – rather they might emphasise their own achievements and downplay those that have not been achieved. In the material of this study, this has been highlighted when government programmes are communicated. In many countries, communication and its methods are tied to the will of the government in power, and practices may change when the administration changes.

There are also cloud-based interaction software solutions on the market that enable more open, participatory and efficient dialogue, as well as targeted project communication. The operating principles of these platforms are based on multichannel communication, survey solutions, user-friendly digital services and data analytics, which support participation in decision-making.

The solutions underline accessibility, real-time interaction and the use of AI in feedback analysis. So far, these platforms have become more common at the local government level and, to some extent, at the level of states and government agencies. National governments have not yet adopted these solutions for increasing citizen interaction in their own projects. The use of ready-made solutions has been the greatest in the United States and Canada, but some solutions have also been adopted in Europe, for example in the United Kingdom and Belgium. Ready-made solutions for citizen interaction are often part of a broader platform package offered to local governments, where local government can also provide direct digital services, for example for processing various permits and applications.

EXAMPLE: VIE-PUBLIQUE.FR, FRANCE

The site serves as the French government's main communication channel, combining information dissemination, participation and digital communication. The site includes, among others, a wide range of articles, reports, infographics, podcasts and videos aimed at the public, which deal with French and European politics. Vie-publique is an example of a significant investment in clarifying complex government information for the public with plain-language summaries, for instance about legislation or budgets.

Modern digital tools are used for information sharing, such as infographics and interactive visualisations, which can present even complex processes in an understandable form. In addition to the information bank, the site includes a section that monitors the progress of legislation, as well as a platform that enables participation and the expression of opinions.

EXAMPLE: VOXIT

Voxit (formerly Polis) is a digital participation platform that enables large-scale and constructive citizen dialogue in real time. It aims to promote democracy by providing participants with an easy tool for low-threshold participation. The tool increases participants' understanding of the perspectives added by other participants. The administration benefits from the platform especially as a tool for preparing decision-making, because the platform shows which issues participants agree or disagree on. Voxit uses machine learning to form opinion groups and thus helps to find consensus instead of polarisation.

The platform is being developed in Finland by the open-source Voxit community which includes, in addition to companies, members from public administration organisations and the third sector. The platform was originally developed by the US-based Computational Democracy Project as an open-source platform, which has been used and developed in administration in Taiwan, Finland, the Netherlands and the United Kingdom. The Finnish Innovation Fund Sitra has supported the development of the platform, administrative capabilities and cooperation between different actors to embed the platform as a support for decision-making at different levels of administration, in municipalities, wellbeing services counties and ministries.

Voxit has been used, for example, in the preparation of the rural policy report by the Ministry of Agriculture and Forestry in Finland. The development of Voxit in Finland is coordinated by COSS in the open-source Voxit community.

EXAMPLE: DECIDIM AND BRASIL PARTICIPATIVO

Decidim is an open-source platform originally developed in Barcelona to support participatory democracy. Its operating principle is based on involving people and communities in decision-making through digital processes as well as traditional meetings, emphasising openness and traceability. The solution has been developed according to the open-source principle, enabling use without licence fees. The further development and release of new versions is guided by the Metadecidim community that is open to participation worldwide.

Decidim offers modular functionalities, such as submitting proposals, surveys, participatory budgeting and meeting management. The functionalities can be tailored to different participation processes. Users of the platform include Federative Repubulic of Brazil, the City of Barcelona, the Catalonian regional government, the French Senate, the City of Helsinki, the City of New York and the European Commission, which use Decidim for participation in strategic planning and decision-making.

Of the countries reviewed, Brazil's Brasil Participativo platform offers people the opportunity to directly influence government plans and budgets. The platform is part of a broader effort to strengthen participatory democracy in Brazil. It provides concrete tools for influencing public decision-making. People's opportunities to directly participate in the legislative process through Brasil Participativo are still limited, as the platform does not currently allow participation in legislative drafting. However, the open-source platform could technically be expanded to cover participation in the legislative process. The aim of the federal digital government strategy (EFGD) is to promote digital participation in public decision-making and digital services. The related initiative aims for the platform to have 3,000,000 active users by 2027.

The development of digitalisation and information systems in public administration also improves the conditions for communication aimed at the public and stakeholders, such as companies, organisations and other ministries, regarding projects and, more broadly, the progress of the government's objectives.

Decision-makers also benefit from increased transparency. Better visibility, for example, into the implementation of the government programme and, more generally the progress of legislative drafting, improves the ability of members of parliament to do their work. The above-mentioned interaction platforms are a significant part of communication activities, and the importance of various portals seems to be emphasised in the development.

Ready-made software solutions are also used in citizen and stakeholder communication in other areas of administration, especially when the administration publishes open data. The published visualisations can be nationwide, focused on a particular area of ministry competence, agency-level communication solutions, or presentations at the state or municipal level. Furthermore, various levels of administration make extensive use of internal visualisations produced by ready-made software for decision-making and monitoring the situation. The use of visualisation software increased significantly during the Covid pandemic when ready-made software was used to publish up-to-date information of the pandemic to the public.

The increasing use of various chatbots can also be seen as a measure to strengthen communication. AI can already make extensive administrative document material much more accessible than before.

EXAMPLE: EUR-LEX AND LEGISLATIVE TRAIN SCHEDULE

EUR-Lex is the official portal of the European Union, providing free access to EU's legal documents.

EUR-Lex is based on a massive document database containing millions of documents, all indexed and metadated. It supports all 24 official EU languages (advanced language management, versioning and content linking between different language versions). The system is connected to other legislative process systems, such as the OEIL (the European Parliament database), PreLex (the Commission's internal legislative monitoring), EU Vocabularies (e.g. EuroVoc, corpora, vocabularies). In addition, APIs enable machine retrieval and analysis of information. The development has been a response to growing needs for transparency and easier access to information.

It is possible to monitor the progress of legislative projects in the EUR-Lex system, or more specifically in the EU Law Tracker and in OEIL (Legislative Observatory). The main purpose of EUR-Lex is to archive legal documents, and it serves as the official source. OEIL enables monitoring of the political progress of the legislative process (rapporteurs, votes, parliamentary handling). The EU Law Tracker collects the progress of the legislative process from different sources and also serves as a monitoring and notification tool.

The European Parliament's visual Legislative Train Schedule is a tool for monitoring the progress of the EU legislative process for the main legislative projects. It allows the public, decision-makers and experts to see how different legislative initiatives progress in the EU institutions, such as the European Commission, the Council and Parliament. In the tool, a train represents a particular policy area (for example climate change, digital single market, immigration, etc.). The train carriages represent individual legislative proposals or initiatives, and on each carriage, the status of the legislative proposal or initiative is shown (proposal submitted, Parliament's position ready, trilogue negotiations underway, adopted, etc.). The developed tool is an example of monitoring progress based on policy objectives.

EXAMPLE: MONITORING THE LEGISLATIVE PLAN, SOUTH KOREA

South Korea has a website that allows people to visually monitor the progress of legislative reforms in relation to the legislative plan (categories: normal, requiring attention, delayed) (Government Legislative Plan). The website outlines the legislative reform process in South Korea in a detailed, step-by-step manner, including the estimated timeframe associated with each phase. It further offers comprehensive information regarding the responsible parties for preparation, relevant background, key content, and the current status of ongoing preparations. In the same system, people can propose ideas and report conflicting laws.

3 Artificial intelligence as a public sector reformer

This chapter opens perspectives on how artificial intelligence can be used to reform the activities of the highest levels of government and presents examples of the uses and applications of AI in public administration. It also introduces possible directions and prerequisites for adoption, such as information security and data protection issues.

The rapid development of artificial intelligence is constantly creating new opportunities for both the public and private sectors to enhance operations. AI can free up experts' time for more demanding tasks, allocate resources more precisely, support better decision-making, and increase interaction with citizens. In the future, services will not only be produced for people, and already now, planning must consider the needs of various AI agents acting on behalf of people.

AI is not a single solution but part of a broader digitalisation development that renews administrative practices and strengthens interaction with citizens. Success is built on a strong digital foundation: clean and interoperable data, functional APIs, security, standards, and up-to-date legislation. When these prerequisites are in place, AI can support safe, sustainable, and effective administration.

However, merely using technology is not enough for successful application of AI. Success requires strong change management, new ways of working and developing staff skills. A culture is needed where AI is a natural part of everyday life and decision-making. At the same time, we must ensure that its use is ethical, transparent and safe, and we maintain citizens' fundamental rights and trust in administration.

3.1 Opportunities and future visions of artificial intelligence

The opportunities of AI for government, especially from the perspectives of legislative drafting and project management, can be approached from two basic premises. Firstly, AI can increase administrative capacity by freeing up resources, streamlining processes and creating space for human judgement. Secondly, AI can change the basic logic of administration by creating a new model of governance, the so-called agent state. In the agent state model, AI agents are not just support tools for administration but built-in parts of its operational, regulatory and institutional structures. The perspectives are interconnected, however, they represent two very different levels and significance of change. In the agent state model, it is not just about improving current practices but about an entirely new logic of administration.

The opportunities can be structured into seven themes. The first six themes describe how AI can increase administrative capacity. These themes are administrative productivity; quality of services and processes; structuring information and managing complexity; quality and efficiency of the legislative process; citizen interaction and new forms of democracy; innovation and research; and adaptive regulation. The seventh theme is the vision of the agent state.

A new era of productivity

AI can revolutionise the capacity of government. The productivity benefits brought by AI do not just mean resource savings but a new kind of opportunity to build administration that is simultaneously efficient, reliable and inclusive.

Civil servants and political decision-makers constantly balance limited resources, growing tasks and citizens' expectations. AI can help solve this challenge in a new way: it eases the administrative burden, speeds up processes and frees up time for tasks with greater societal value.

Increasing capacity also changes the dynamics of the entire system. Estimates suggest that AI could free up as much as 25–40 per cent of staff working time in government, which would mean a billion-euro resource shift from routine administrative tasks directly to improving service quality and strategic decision-making (Tony Blair Institute 2024). This is not just a technical saving but a fundamental change in the operating conditions of administration. The change could, for example, free up more resources for citizen interaction or improve responsiveness in unexpected crisis situations.

In the short term, the greatest benefits arise in routine but resource-intensive tasks. The term "boring magic" refers to a situation where AI may not create spectacular innovations but handles dull routine tasks efficiently. Concrete examples of this include experiments in the Central Uusimaa Wellbeing Services County in Finland (Keusote 2024), where AI assistants have streamlined internal administrative processes, organised documents, and made employees' everyday work easier. The aim has been to free up professionals' time from routine tasks. Experiences show that AI does not need to be perfect or fully autonomous to produce benefits.

Even simple AI agents can reduce workload and increase capacity. The working time freed up by AI should not be viewed merely as a saving. The freed capacity can be directed, for example, to developing new services, expanding citizen interaction, strengthening democracy, conducting broader and more thorough impact assessments or improving crisis preparedness. In this way, the productivity benefits of AI can be turned into qualitative improvements.

Traditionally, productivity has been mainly viewed quantitatively: for example by counting how many decisions, statements or customer events administration can produce. AI enables a broader perspective on productivity, which also considers quality, impact and legitimacy. For instance, productivity can be seen as an ability to create value for citizens and manage societal complexity (Berlin Global GovTech Centre 2025). When AI handles a large part of the basic administrative work, the division of labour in administration changes. Civil servants' roles focus on tasks requiring value-based judgement and institutional understanding. AI, in turn, handles information organisation, routine decisions and technical analysis. This creates a division of labour, where people and AI work together, each in their area of strength.

Improving the quality of services and processes

AI not only improves productivity but can also be used to develop the quality of public services and administrative processes. Quality refers, among others, to the clarity, reliability, accessibility and perceived fairness of decisions and services. AI can strengthen the ability of administration to produce clear and consistent service processes that are easily accessible to citizens, organisations and businesses. Improving quality is not just a technical issue – it also requires societal commitment.

The clarity and accessibility of services are key factors for the comprehensibility,

reliability and approachability of administration. AI can act as a new kind of interface that translates complex regulations into plain language, provides personal advice in the user's own language and guides users step by step through administrative processes. The logic of AI operations can be designed to consistently follow the same rules in different situations, reducing handler dependency and increasing process predictability. At the same time, AI can produce plain-language justifications for decisions made.

Digital AI-assisted services speed up transactions, shorten waiting times and reduce errors, which in turn can improve equality. Services operate regardless of time and place, and if desired, proactively around the clock, strengthening the individual experience and trust in administration. Trust is also supported by open interaction between administration and citizens, the ability to handle complex policy issues and clear communication about evidence-based decision-making (OECD 2024).

In crisis situations, AI can simulate policy actions and assess crisis resilience in a versatile way. It enables the production of impact assessments and scenarios to support decision-making, real-time situational awareness, identification of weak signals and automation of recommendations, for example during a pandemic, energy crisis or cyberattack.

Structuring information and managing complexity

Modern administration operates amid a vast mass of information. The data quantity related to legislation, policy and project management is large, as well as diverse and rapidly changing. The biggest problem for decision-makers is not the lack of information but moulding it into an understandable and usable form. AI offers a breakthrough here: it enables the composition of manageable entities from complex materials, on the basis of which decisions can be made more quickly, justifiably and transparently. For example, cross-checks, simulations and real-time impact assessments can revolutionise how legislation is prepared and how projects are managed.

Complexity is a major challenge in today's administration. Current legislative drafting and decision-making processes largely rely on decentralised expert working groups, extensive consultation rounds and manual information review. This causes three major problems:

- Sluggishness: processing large amounts of information takes months or even years.
- Inconsistency: different authorities make different interpretations of the same material.
- Lack of transparency: it is difficult for citizens to justify what decisions are really based on.

With AI, however, information processing is systematic, fast and clear. One of the most significant applications of AI is cross-checking laws and other regulations. For example, AI can analyse a legislative proposal in relation to previous regulation and identify inconsistencies, compare national regulations to international models and find systematic gaps and overlaps. This brings a new level of legal coherence. AI can act as a continuous "law inspector" supporting the work of officials and decision-makers.

AI can also be used to build simulations that test the effects of laws or policy actions before they are implemented. This idea has received support for example in the Democracy-in-Silico project, where AI agents model political processes in a virtual environment (Srinivasan & Patapati 2025). Simulations can produce practical scenarios about how a new tax model would affect different income groups, for instance.

AI can be widely used in official communications as well. It can produce

visualisations from difficult-to-understand data in real time, plain-language summaries, language versions or for example interactive question-and-answer interfaces.

Managing complexity is also important in crisis situations, where the amount of data multiplies and data management becomes critical. AI can act as a crisis analyst, combining real-time monitoring (e.g. health and safety data), forecasts of future developments, and recommendations for decision-makers. Perhaps, during a pandemic, AI could model the effects of different restriction measures, assess economic consequences and provide clear recommendations based on data rather than just intuition.

AI supporting the legislative process

The legislative process is one of the most complex and critical functional entities in government. It is both a democratic process where representative institutions make decisions on behalf of people, and a technical process where regulations are prepared, reviewed and implemented. AI can affect the process in many ways: it can speed up the process, improve its accuracy and reliability and increase people's participation. In this way, it can also strengthen the legitimacy of democracy.

Although AI can renew the practices of legislative work, it does not remove politics from it but supports it by making the process faster, more accurate and more participatory. This, in turn, can increase people's trust in the system.

In the legislative process, possible uses for AI include pre-processing legislative materials, producing summaries of consultations, enhancing information retrieval and producing summaries from extensive materials (Penttilä et al. 2024). In an experiment by the Ministry of Transport and Communications, legislative drafters highlighted the possibilities of AI in speeding up background research, drafting legal texts, interacting with stakeholders and assessing the impacts of laws.

Legislative drafting can take years, as it is slowed down by, among others, complex consultation procedures, heavy impact assessments and extensive political negotiations. AI can significantly shorten preparation, for example by analysing draft regulations and quickly identifying problem areas, as well as compiling the key findings from consultation feedback into entities. AI can also help compare proposals to previous regulations and international practices. In this way, the duration of the political part of the process can remain unchanged, but a higher-quality knowledge base for discussion is obtained more quickly.

The reliability of the legislative process can be improved with AI. Legislation often contains inconsistencies, contradictions or ambiguities. AI can act as a continuous inspector that detects these problems before preparation progresses. AI agents integrated into the legislative process can identify conflicts between regulations, locate gaps in regulation and assess impacts on different population groups (Berlin Global GovTech Centre 2025). In this way, the legislative process can be developed to be more consistent and reliable.

One challenge in administration is the delay in information: decision-makers often receive information about the progress of preparation only after a long delay. AI can solve this by collecting and analysing data in real time, identifying budget and schedule deviations at an early stage and by providing decision-makers with almost real-time situational pictures without heavy manual processes.

The legitimacy of the legislative process is not solely based on speed and accuracy but on the process being open and understandable. When the operation of AI solutions can be monitored and explained, their use as part of democracy is more easily accepted.

Citizen interaction and new forms of democracy

The legitimacy of democracy is not only founded on representative institutions but also on people's experience that their voice is heard and decision-making is transparent. Current forms of participation, such as consultation rounds and hearings, are often slow, laborious and reach only a small part of the population.

AI can expand and diversify public hearings. Traditional consultations often reach only a limited group of experts and interest groups and the direct participation of the wider public is often minimal. AI can process thousands of comments and summarise them into understandable entities. In addition, interactive AI assistants can offer people the opportunity to discuss draft bills, ask questions and get explanations. This makes administration more participatory and inclusive and strengthens new participatory democracy (Berlin Global GovTech Centre 2025).

AI can open up a new scale for citizen and stakeholder interaction. It can enable broad, individual and real-time participation. The potential of AI in producing summaries of consultation feedback has been recognised in Finland, and it has been tested with the Poro language model in an experiment by the Prime Minister's Office (Silo AI 2024).

Traditionally, civil servants manually review the feedback accumulated in consultation processes, which usually limits the number of statements to tens or hundreds. AI can scale this to thousands or even millions of comments and summarise the most relevant issues for decision-making. Key themes, minority views, and differences in opinion across groups or regions can be identified from feedback, highlighting both consensus and disagreement.

Different actors can be offered AI assistants with whom they can discuss draft bills, ask for clarifications, and formulate feedback. This significantly lowers the threshold for participation. For example, a draft bill on climate policy could be made available through an AI agent, from which one could ask, for instance, how the law would affect household energy costs, relate to EU regulation or what it means for those living in rural areas. AI could respond individually and help people formulate their own stance, making participation both more meaningful and informative.

AI can also support deliberative processes such as citizen panels and assemblies. It can provide participants with background information in an understandable form, structure discussions, highlight key arguments and help a group identify shared views and disagreements. In this way, deliberative democracy can be developed to be more scalable and accessible.

Representative democracy operates in electoral cycles. AI can bring continuous interaction to democracy, where people can give feedback and participate in processes more flexibly, not just during elections or consultations. AI can also maintain, for example, a real-time "democracy dashboard", through which people's views are constantly visible to decision-makers. AI can also help find the smallest common denominators in disputes, sometimes even better and more impartially than humans (Tessler et al., 2024).

AI can improve citizen interaction by making it broader, more interactive and more continuous. It does not replace representative democracy but strengthens it. Alongside the benefits, risks must be considered: who monitors AI's responses? Will people accept the AI agent as part of democracy and whose voice will still go unheard? The use of AI requires transparency, ethical principles and common standards to manage the risks associated with its use.

Innovation, research and adaptive regulation

In the history of administration, the greatest institutional transformations have occurred when technological development has been linked to administrative structures and processes. The printing press enabled the administration of nation states, bureaucracy made it possible to manage industrial society and digitalisation created electronic administration. AI can enable the next institutional transformation: administration that is adaptive, continuously learning and based on real-time information.

Traditionally, administration relies on stability and a certain permanence. The drafting and updating of laws can be slow and depends on the law in question. Change is rapid in many fields, and legislation does not always keep pace with scientific and technological development. AI can enable regulation that is no longer static but adaptive. Rules can be updated continuously based on real-time data; impacts can be monitored with continuous metrics; and policy options can be weighed before decisions are made. The OECD (2025b) emphasises this need: "Administration must evolve with AI: it must be adaptive, experimental, and iterative rather than rigid and reactive."

AI can act as a bridge between research and administration. The transfer of scientific findings to decision-making often takes years – AI can analyse research data and bring it to decision-makers almost in real time. For example, in healthcare, AI can analyse the effects of new medical research on treatment recommendations; in environmental policy, AI can combine climate models and economic impact assessments; and in education, it can anticipate the effectiveness of pedagogical models based on research evidence. Thus, decisions can be made based on up-to-date information.

Traditionally, the effects of policy are assessed only after measures have been implemented. AI can change this so that impacts are easier to model before decisions and monitored in real time during implementation.

In addition, AI can strengthen administration's own innovation capacity. Administration can become an innovation platform and an active innovator, rather than just a regulator (for example Tony Blair Institute 2024). This can mean policy innovations such as experimental pilots and new methods for implementing policy, institutional innovations where AI agents support decision-making and data innovations where data from different sources is combined into entities for decision-making.

Roles of AI agents and future visions

Strategically, the biggest question is how the institutional structures of administration will change in the age of AI. The most significant opportunity AI brings to administration is not the streamlining of individual processes but the creation of a new model of governance. AI can help build administration that is learning, adaptive and based on real-time information. This model can be called the agent state.

In the agent state, AI agents are not separate support tools but built-in parts of administration, both at the operational and regulatory and institutional levels. This is a strategic choice: administration can either remain as it is, partly reactive, or use the opportunities of AI to move towards a new, more adaptive and proactive model of governance (Berlin Global GovTech Centre 2025).

Three scenarios for the future of the agent state can be outlined:

1. In cautious integration, AI handles routines and supports decisions but remains clearly in the background.

2. In adaptive governance, AI agents are deeply embedded in administrative processes, but humans always make the final preparation and decision.
3. In the meta-agent state, AI agents form a self-directing layer of administration, where humans act mainly as supervisors and guides.

In the latter two scenarios, learning can be based for example on continuous data analysis or AI-based situational awareness and forecasting, which allows regulation to be fine-tuned almost in real time. This enables administration that not only reacts to changes but can anticipate them and act proactively.

Adaptive regulation and real-time administration are not without problems. They involve many challenges such as legitimacy, power and responsibility, and international coordination in the case of adaptive regulatory models. Instead of challenges, AI can be seen as an enabler of good and effective administration. The requirements for official activities can also be considered the ethical basis for the use of AI. Principles related to AI, such as transparency, naturally align with the traditional operating principles of civil service and can strengthen their implementation.

When used correctly, AI supports good administration for example by reducing human errors (Paasikivi et al. 2022). The emergence of the new model of governance, the agent state, can be outlined as a step-by-step process in which the roles of AI agents change over time. Six key dimensions can be identified for the agent

1. **Current Benefits**
   In the present situation, the most significant role of AI agents is the automation of routine administrative tasks. This is not insignificant as a large part of administrative working time is spent on mundane but necessary tasks, such as document management, reporting, data cleaning and archiving. Automating administrative routines with AI streamlines processes without the need for extensive political debate.
2. **Legislation and regulatory updates**
   The next step is to connect AI agents to the legislative process. This can mean for example cross-checking agents that highlight conflicts between regulations, analysis agents that compile feedback from consultations into understandable summaries and proactive agents that suggest regulatory updates based on societal trends. In the longer term, AI agents could enable a continuous legislative process, where regulation is not static but updated in real time. However, this requires political mechanisms to ensure that final decision-making power remains with humans (OECD 2025b).
3. **Citizen agents and deliberative democracy**
   AI can also act as every citizen's personal democracy assistant: for example, it can explain draft bills in an understandable way, help citizens formulate feedback and convey views as part of a broader discussion. For instance, a citizen agent could tell a citizen that if a hypothetical environmental law is passed, it will likely increase energy costs by 5%, but in the long term, reduce healthcare costs. AI can also facilitate interaction by summarising the main points of discussions, highlighting disagreements and suggesting compromises. In this way, consultation and participation in preparation can be developed towards a more interactive dialogue.
4. **Crisis management and security agents**
   In crisis situations, agents could model the effects of different actions and indicate which option would minimise harm. AI can also act as a kind of "red team agent", testing the resilience of administration by identifying vulnerabilities and simulating threats, as

well as combining resources, priorities and implementation.

5. **Resource allocation and the level of automation in administration**
   In the future, AI agents could handle a significant part of resource allocation in administration. This could mean budget agents that monitor spending and suggest changes in real time, project agents that prioritise projects based on impact and service agents that direct resources to where the need is greatest. The long-term vision is partially automated administration, where people make strategic decisions and AI manages operational resource allocation. This can improve efficiency and reduce the need for political micromanagement.
6. **Meta-agents and self-governing administration**
   The most radical future vision relates to the so-called meta-agents, that is AI agents that control other agents and form layers of self-governing administration. Different parts of administration can be connected to each other in real time. In addition to individual processes, a meta-agent can optimise entire systems, allowing administration to function as a continuously learning ecosystem. Imagine a situation where a meta-agent notices an increase in the workload of social and health services in a particular area. It suggests reallocating the budget, shifting resources and regulatory flexibility in real time. Human decision-makers confirm the final solution, and most of the preparation has already been done.

The agent state is not a single ready-made model, but a set of possible development paths. AI agents can be routine handlers, legislative updaters, discussion partners for people, crisis managers, resource allocators or meta-agents that guide the entire operation of administration. The question is not what AI can do, but how much power we are willing to give it and on what principles. This is a political, ethical and strategic decision that will define the future of administration.

3.2 Examples of the use of artificial intelligence

AI as support for legislative work

The use of AI has already become integrated into knowledge work – and legislative drafting and decision-making are no exception. AI has been used in legislative work, among others to support preparation by searching and compiling background materials and legislative documents, analysing extensive legislative materials, harmonising national and international legislation, assessing the impacts of legislative changes, and clarifying legal language. AI can also be used to ensure the consistency of the regulatory base and better regulation. It can be applied as support for policy-making, for example by anticipating political reactions or weighing policy options and supporting analytical, evidence-based decision-making.

In April 2025, the United Arab Emirates (UAE) announced that it would be the first country in the world to build an AI-based legislative system. The announcement was made by the country's Vice President and ruler of Dubai, Sheikh Mohammed bin Rashid Al Maktoum, who emphasised that the aim of the new system is to speed up the drafting and evaluation of laws and improve accuracy. The government established a separate unit, the Regulatory Intelligence Office, to oversee development and implementation. The UAE estimates that the use of AI could shorten the legislative process by up to 70 per cent and significantly reduce administrative costs.

At the heart of the implementation is a model in which an AI-based system trained on Arabic legal materials compiles a vast database of federal and local laws, court decisions and public administration services, and their data. Based on these statistics, AI analyses how the existing legislation affects the population and the economy. The system is intended to identify gaps, conflicts and development needs, as well as propose changes to existing regulations or even entirely new laws. At the same time, AI is able to compare practices in other countries and adapt them to the UAE.

In addition, the system is intended to be able to simulate different scenarios and proactively propose changes, shifting regulation from a reactive model towards proactive guidance. This approach differs from the traditional parliamentary model where legislative drafting may be delayed due to political disputes. The UAE's intention is to move from political processing to data analysis, logical reasoning and concrete problem-solving.

A key part of the reform is also the linguistic accessibility of laws: laws drafted with AI are intended to be written clearly and understandably in several languages, most particularly Arabic and English. This is essential in a country where only about 10 percent of the population are nationals and where people from around 200 different nationalities live. With AI, the administration aims to bring legislation closer to the people.

The reform has attracted a lot of international attention and also critical views. Experts have warned about reliability issues with AI and called the initiative extremely bold. AI systems can hallucinate, that is produce erroneous or inconsistent results that may be logical to AI but difficult for humans to understand. In addition, the decision-making process of AI may remain opaque to users and may include biases based on training data. For this reason, experts have emphasised that final decision-making power and oversight must remain with humans to ensure justice, context and the fundamental rights.

Albania became the focus of international attention in December 2023 by adopting an exceptionally ambitious approach to its EU accession negotiations. The country announced a partnership agreement with OpenAI and the use of its AI solutions to accelerate the alignment of its legislation with the EU's extensive regulatory framework. In February 2025, Prime Minister Edi Rama presented an AI module developed for this purpose, which operates as part of a digital platform built for European integration and membership.

With the help of the AI module, the entire EU regulatory base, which covers about 280,000 pages, is analysed. AI not only translates documents into Albanian but also systematically identifies what changes national legislation needs to be compatible with EU requirements. The system further assesses the impacts of changes, detects overlaps and highlights how national and European regulations can complement each other. This approach streamlines the process and enables Albanian legislators to focus on political and administrative issues, rather than spending most of their time on technical document comparison.

Historically, countries seeking EU membership have had to spend considerable time and resources manually aligning their legislation. When Croatia joined the Union in 2013, the process took about seven years.

Albania aims for the same goal with a much more ambitious timetable. The technical compatibility of national legislation with EU legislation is intended to be achieved by 2027. The reform has attracted attention in Europe and more broadly internationally, as it combines technological innovation and a political integration goal in a unique way. Albania's aim is to create a real-time system that enables the immediate transfer of EU legislation into the national legal system. At the same time, it serves as an

example for other countries seeking ways to accelerate the administratively heavy convergence process. If Albania succeeds in its goal, it could serve as a model for future accession candidates and show that the EU's regulatory package can be incorporated into the national legal system more efficiently and transparently with the help of AI.

The UK Government's Incubator for AI (i.AI), in collaboration with the Ministry of Justice, the Government Legal Department and the National Archives, is developing the Lex system. It is designed to streamline legislative work and make legislative materials easier to understand. The Lex prototype includes two key AI-assisted features. The first is a semantic search that enables users to find contextually relevant legislative materials much more efficiently than traditional search methods – which are often limited to simple keyword searches. In practice, this means that drafters could search for "regulations on taxation of immigrants elsewhere" or ask to "tell about legislation concerning drone flights near airports", and receive precise answers in the search results.

The second core feature of the system is the AI-assisted drafting of explanatory notes for government bills. An explanatory note is a text specific to UK legislation, prepared during the drafting process aiming to clearly and practically explain the background, objectives and key content of a legislative proposal. It helps the reader understand why a new bill has been drafted, what its various sections mean and what effects they are expected to have. Currently, producing these notes is manual work, but with the new functionality, bill drafters will save working time.

The Lex system has been trained to understand the specific legal terminology of the UK. To achieve this, the project is developing open embedding models to ensure that the AI accurately masters the nuances of legal language, making the legislative drafting process even more precise. These embedding models are open-source software, which can be reused in other UK legislative AI initiatives.

Another AI tool being developed by i.AI alongside Lex is called Parlex. With Parlex, users can predict how members of the UK Parliament might react to proposed bills. By analysing parliamentary debates from both the House of Commons and the House of Lords over previous years, Parlex provides insights into how Parliament might respond to a new bill if it were debated tomorrow. The tool helps policy professionals assess parliamentary opinion on specific issues and determine whether a proposal is likely to be well received or face significant opposition. For previous bills, users can see which members of Parliament have spoken on the topic and view a summary of their views, categorised according to whether they supported or opposed the bill. This gives legislative experts the opportunity to understand the political climate and anticipate possible challenges or support for a bill before it is formally proposed. This allows a parliamentary handling strategy being built for the bill.

In New Zealand, the drafting of new laws, except for tax legislation, is centrally managed by the Parliamentary Counsel Office (PCO). The office is an independent expert agency to which various ministries and authorities provide political instructions for new or amended laws, on the basis of which the PCO drafts a bill that meets the required formal standards for the government. The PCO is also responsible for the official publication of approved laws. Due to the centralised nature of the authority, the PCO also develops new solutions centrally to streamline the entire legislative process in New Zealand.

The PCO has carried out several development experiments utilising AI, aimed at making it easier to update laws or draft new ones. In connection with updating laws, a similar experiment was conducted for tracking and managing changes, which has

been recognised in the categorisation of smart functionalities of the EU's LEOS programme. In New Zealand's legislative process, the production of explanatory notes for laws is used, similar to the UK. For this purpose, the PCO has carried out an experiment functionally similar to the UK's Lex AI platform. The PCO has also conducted an experiment to improve the plain language and accessibility of legislative drafting. This experiment is similar to the United Arab Emirates' goal of improving the clarity of legislative language.

AI supporting government and ministry work

The use of generative artificial intelligence among government employees has significantly increased recently, and various solutions targeted at specific use cases have been adopted in different parts of the world.

In the United Kingdom, the Incubator for AI (i.AI) has developed the generative AI tool Redbox that aims to streamline civil servants' work, especially in handling, summarising and editing text materials. Redbox is not an internet-connected search engine; its main purpose is to provide a secure cloud environment for processing public and confidential (Official Sensitive) material using large language models. The tool is intended to facilitate routine tasks such as summarising documents, rewriting, translating, grouping themes and converting vague notes into coherent sentences. Another use case identified by users is handling extremely large materials, which has previously been considered impossible to do manually. Although the tool is in beta stage, it had about 2,000 users in the UK Cabinet Office, the Department for Science, Innovation and Technology and the Prime Minister's Cabinet (Downing St. 10) as of February 2025.

To find the most suitable solution to users, Redbox offers a choice of from several commercial language models, such as GPT-4o, GPT-4o-mini, Claude-3 Sonnet, Claude-3 Haiku and Gemini. The language models are trained for use by the UK government, and the solutions are implemented in a secure and closed AWS environment where source materials entered by users are stored for 30 days. Data protection has also been strengthened so that the environment is located in the UK, and the source materials entered by users are not even accessible to system administrators.

In May 2025, the UK government published a suite of AI applications for civil servants called Humphrey. Redbox and the previously introduced Lex and Parlex are part of this suite. In addition to these, the suite includes Consult and Minute tools. Consult classifies, combines and summarises thousands of statements collected in connection with legislative proposals or other public projects using AI, to compile feedback. Minute is an internal government tool that securely produces meeting minutes, records speeches and creates memos.

Scout is an AI-based tool developed by i.AI to enhance the monitoring and management of major government infrastructure and IT investment projects. The tool analyses hundreds of project documents and produces summaries and observations to identify potential risks and problems at an early stage.

In the Netherlands, the Ministry of Defence had established the use of ChatGPT, but it was recognised as too risky. To enable staff to use AI in their work while managing risks, the Ministry of Defence published its own AI solution called DefGPT in November 2024. The new solution enables secure and controlled access to AI without the risk of confidential information leaking to outsiders. In practice, a closed environment has been created where AI can be used for the specific needs of the defence sector.

In the next development phase, DefGPT will be able to process confidential documents and utilise intranet information. The development of AI in the Netherlands is

guided by the Ministry of Defence's own AI and data science roadmaps, promoting gradual expansion to new areas of application.

The Dutch Ministry of Justice and Security has adopted its own internal AI assistant called Robin. Its aim is to support the processing of government information and internal processes in a secure and trusted cloud environment. The solution is built in an internal trusted cloud environment and offers users the means to upload and process confidential files. Robin is being agilely developed through multidisciplinary team collaboration, continuously expanding its areas of application.

Pair is an AI platform developed for Singaporean authorities, based on ChatGPT technology. Pair is tailored for the needs of the public sector and is approved to securely process government's Restricted, Sensitive and Normal classified information. Pair currently includes four different functionalities. Pair Chat is an AI assistant that works like ChatGPT and supports document uploads for conversations. Pair Intern is a simpler AI assistant that works without an internet connection in conjunction with an email application. Pair Search is a semantic search tool for legislative materials in Singapore. Pair Search is publicly available and is not limited to internal government use. Pair Noms that is still in beta stage is a tool for compiling meeting notes and transcribing meeting recordings, supporting documentation of confidential meeting materials. As of June 2025, Pair and its tools had over 64,000 active users.

AI supporting parliamentary work

In the Finnish Parliament and many other parliaments, AI is already used for information retrieval, compiling information, document processing, speech recognition and producing video and summaries. In some parliaments, chatbots have been built to provide citizens with information about parliamentary activities in several languages.

One of the significant benefits of AI applications is the ability to analyse large text documents, summarise them and extract key points. This helps both legislative drafting and decision-making for example by comparing regulatory texts, obtaining historical information in concise form and better understanding the impacts of legislative proposals.

Alongside the opportunities of AI, its risks must also be recognised. In drafting legal texts and amendments, even small errors can have major consequences. Therefore, in these cases, AI should be used only under human supervision.

The OECD (2025c) report confirms that the potential of AI in parliamentary work exists: especially in regulatory planning, analysing draft bills, handling citizen feedback and conducting impact assessments. Realising the benefits requires parliaments to ensure data availability and quality. The information produced by systems must be traceable and humans must act as verifiers of the information produced by AI. Many parliaments are in a pilot phase, testing the use of AI in limited tasks and gathering experiences before AI is adopted for broader functions.

AI in citizen services

AI chatbots and automatic production of language versions have typically been among the first application areas of AI in public services, as they facilitate citizen communication and improve accessibility. For example in Denmark, the Kommune-Kiri chatbot used in Roskilde municipality is a concrete example of a system where content on over 1,600 topics has been automated and about 92% of citizens'

questions have been successfully handled via chat.

The UK government, in turn, is planning AI agents (agentic AI) that could act on behalf of citizens, handling everyday matters such as filling out forms and applications and booking appointments.

One advanced example of a national digital service platform is the internationally renowned Ukrainian Diia. Through Diia, citizens and businesses can access nearly two hundred different public services online. Diia also utilises AI, which enables personalised services. In September 2025, Diia launched Diia.AI, described as "the state's first AI agent". It provides official documents and services via chat. Diia.AI understands natural language, so users can request help in their own words for their situation and receive services, not just advice or instructions. For example, users can obtain an income certificate via chat. Diia.AI is thus an AI agent integrated into government services. It can handle up to millions of simultaneous requests (Ministry of Digital Transformation of Ukraine, 2025).

Prerequisites for the use of AI

The challenges associated with the use of AI, especially large language models, in the application areas examined are very similar to those faced by public administration in developing AI for public services. The most important internationally recognised challenges relate to information security and data protection, vendor dependency, the suitability of generic large language models for the intended use, and ensuring the timeliness and quality of the data and information used by the model.

In addition, the openness of document materials, structured format and metadata are key prerequisites for their use in AI systems.

Information security and data protection

Several challenges related to information security and data protection have been identified in the use of AI in public administration worldwide.

- **Risk of data leakage:** During the training and use of models, confidential or sensitive information may leak, especially if data is processed in cloud services or environments managed by third parties.
- **Protection of personal data:** Personal data may be processed unnecessarily or without proper legal basis, which can lead to violations of the EU General Data Protection Regulation (GDPR).
- **Reliability of content:** The content produced by models may be erroneous, misleading or manipulated, which can undermine the quality of decision-making and public trust.
- **Lack of transparency:** The operation of language models is often difficult to explain, which complicates the justification of decisions and the clarification of responsibility issues.
- **Dependency on third parties:** Risks related to service providers and their infrastructure may expose systems to external security threats.
- **Cyberattacks:** Models may be vulnerable to input manipulation (prompt injection), model poisoning or other attack techniques aimed at maliciously influencing the operation of the model.

These challenges are generally addressed by using either private cloud environments or on-premises solutions that can manage the information security and data protection challenges associated with large language models. When models and related data processing are implemented in a closed and controlled environment, the risks of data leakage and sensitive information being transferred to external service providers are reduced.

Using a local or restricted network makes it easier to meet the GDPR requirements, as data flows and processing are known and manageable. Private cloud and on-premises solutions improve transparency and control as the production of logs, management of access rights and auditing are facilitated, while reducing the influence of external actors. Closed environments can also utilise customised protection mechanisms, reducing the risk of input manipulation and model poisoning. The downside, especially with on-premises solutions, is a significant reduction in the performance of the model used.

Vendor dependency

Internationally, governments have recognised the vendor risk associated with large language models, which arises especially when technology, infrastructure and updates are strongly tied to a single service provider. Vendor risk can bind the user to a one company's solution. If the model is deeply integrated into processes, switching to another can be technically and financially very challenging. Vendor risk also creates uncertainty in long-term cost estimates, as the provider may change pricing or terms of use. Given that large language models are fairly new technology, the stability of the provider's business must also be assessed. Similarly, technical failures or restrictions arising from international politics and its development may cause disruptions to service availability. If the chosen solution is a closed system, it may limit the client's own development work and the implementation of necessary integrations. Managing these risks requires procurement strategies such as the use of open interfaces and standards and the identification and use of alternative or parallel providers. Procurement contracts must also clearly address data ownership and use, information security standards and possible contract termination.

Suitability of generic language models for the intended use

When utilising AI, it is important to consider how suitable general-purpose large language models are for demanding processes such as legislative drafting. The European Union (EU) has published numerous reports and studies on how AI can assist legislative processes (AI-based solutions for legislative drafting in the EU 2024). Although leading generative AI large language models such as GPT-5, Claude or PaLM 2 are constantly evolving, their ability to process and produce legislative text is still limited. This raises the question of whether these language models can be used in legislative drafting without additional measures.

Experiments however show that when models are trained and fine-tuned with carefully selected material, even smaller models can understand specialised terminology. Thus, generic models used as-is do not yet meet the needs of legislative drafting. But when properly tailored, their performance improves significantly. The difference between a fine-tuned and a generic model depends on the use case, so careful development and planning of training is important. When these challenges are addressed, language models have the potential to significantly improve the efficiency and impact of legislative work.

Updating the data of the trained model

A basic feature of large language models is that the data used to train their basic versions is collected together before training, which is a very resource-intensive process in terms of data processing. Once training is done, new data generated and available after fine-tuning is not included in the reasoning logic of the model. The same principle applies to a tailored and trained language model for a specific application. Thus, for example in the legislative process, a selected

language model does not have new legislative material generated after fine-tuning in its reasoning logic. Various solutions have been developed to address this problem, each with its own advantages and disadvantages.

In principle, three different solutions have been identified for updating a production-trained language model:

- Regular fine-tuning and retraining with new material
- Retrieval-Augmented Generation (RAG)
- Parameter-efficient fine-tuning (PEFT)

Addressing the different options in detail does not serve the purpose of this study. In general, it can be stated that regular fine-tuning and retraining updates all the parameters of the production model and is therefore the best in terms of performance and simplest in architecture. The downside is that the functionality of the already approved production model may change and hallucinations may increase significantly. In addition, regular fine-tuning requires significant data processing resources and is therefore expensive.

In retrieval-augmented generation, it is possible to use a smaller language model, with only new materials being updated continuously, leading to significantly lower maintenance costs. The downside is that the architecture of the solution becomes more complex, requiring for example the integration of a search engine. In addition, the performance of the solution slows down as the search process must be included in the production of each response.

The advantage of parameter-efficient fine-tuning is that only about one per cent of the parameters of the original production model are updated, which requires much less computing resources for updating. Similarly, the quality of the results produced by the original approved production model is likely to remain better than in continuous fine-tuning. The disadvantage is that the model still requires a large original solution. If a lot of new information accumulates very quickly, maintaining the architecture can become complex.

For a trained and tailored language model, it is also important to consider how updating the chosen solution to a new version is implemented. It is possible that parameter files from the old trained and tailored language model can be copied to the new version, but if the architecture of the new model differs significantly from the older version, the entire fine-tuning training and production approval may need to be done again. As fine-tuning training is computationally resource-intensive, it is important to be prepared for the resulting update costs.

Currently, the technical limitations or challenges encountered in the use of AI are due to the fact that the technology is new and developing rapidly. As its use becomes more widespread, more lessons are learned about model development, updating and fine-tuning.

4 Lessons for Finland

The study has examined, through international examples, how digitalisation and artificial intelligence can be used to enhance public administration and decision-making, as well as strengthen citizens' opportunities for participation. The focus has been on the development of legislative processes, project management, monitoring of government programmes, citizen interaction and the utilisation of AI and digitalisation in public administration in selected countries.

Next, we will present the identified similarities, successes and lessons, which could be useful for Finland in reforming administration and strengthening knowledge-based, human-centred decision-making.

1 The need for ecosystemic development and change management

Countries at the forefront of digitalisation have carried out long-term technological and organisational development work, and they have boldly experimented with the use of AI. International examples show that solutions are developed so that service provision and data movement across organisational boundaries – between the state, municipalities, companies and research institutes – are possible. Individual agency or municipal projects alone are not sufficient to meet the needs of complex societal challenges or those of the people; instead, broader cooperation and shared platforms are required. Development should be carried out within individual organisations and functions as well as across the entire ecosystem, both within administration and between organisations. The AI transformation is changing the operation of public administration – and the main drivers of this successful transformation will be change management, top-level support and political commitment.

2 AI changes the logic of administration

Systems that utilise AI and AI agents can speed up processes, reduce workload and improve the quality of decision-making. They enable allocating resources to tasks that have greater impact. They also support the capacity of administration to respond flexibly to changing situations. With advanced AI agents, it is possible to create a new operating model in which agents can observe, decide and act independently or in cooperation with humans. This changes the logic of administration. Agents can automate routine tasks; combine information from different sources; simulate policy options; and offer people individual, real-time and proactive services. Ethical and legal questions related to AI must be considered in the development work, but they should not hinder experimenting new technologies, identifying new use cases, or deployment.

3 Data and processes in order

The productivity benefits arising from digital tools and the adoption of AI will only be realised when data quality and processes are in order. For this reason, efforts should be made to improve data quality and adopt shared practices and processes across organisational

boundaries. Information should be handled in a structured form, and its usability for different purposes should be enabled. Information that moves seamlessly between information systems, different levels of administration and organisations enables effortless decision-making and better services.

Interoperability also reduces duplicate work, speeds up processes and facilitates the use of up-to-date information for the benefit of both administration and people. Interoperability also supports proactive and transparent decision-making and information production.

4 Services and participation from a single interface

Countries at the forefront of digitalisation offer all key services – from transactions to information retrieval and participation – through a single, clear and accessible interface that also includes democracy services. When transaction and participation services are integrated into the same service package and available through strong authentication, people's understanding of participation opportunities increases, the threshold for participation is lower, and the experience of influence strengthens. Building participatory administration also requires that communication is easily understandable, in plain language, and that key content – such as decision summaries and participation opportunities – are available in different languages. This can be achieved for example through automatic and real-time translation technology. Thus, citizens are not just service users but developers and influencers, and information about decision-making is quickly accessible and understandable to all, including businesses and other stakeholders.

Digital AI-assisted services speed up transactions, shorten waiting times and reduce errors, thus likely increasing equality. Services operate regardless of time and place, and if desired, proactively around the clock, strengthening the individual experience and trust in administration. Open interactions between government officials and citizens, effective management of complex policy challenges, and transparent communication regarding decisions grounded in evidence all help to foster trust.

5 Digitalisation and the adoption of ai in public administration require productivity investments and skills

The public sector's adaptation to the AI transformation, the adoption of AI technologies, the renewal of practices and processes, and the strengthening of digital infrastructure require resources and financial investments. These investments are productivity investments, from which benefits follow both in the short and long term. In central government, for example, it should be possible to standardise operations and acquire shared information systems and AI solutions. In addition, strengthening the capabilities that support the use of AI creates a foundation for administration that can renew itself and respond to changing needs. Decision-makers, civil servants and citizens need new skills so that they can use AI effectively, safely and reliably.

Glossary

Agentic Artificial Intelligence (Agentic AI)
Agentic Artificial Intelligence refers to an operational model or system in which AI can act autonomously to achieve defined objectives. It integrates capabilities such as observation, reasoning, learning and decision-making, allowing the system to plan and execute actions independently within predefined boundaries and without continuous human supervision.

Artificial Intelligence (AI)
A general term for a field of computing that develops systems capable of performing tasks that typically require human intelligence – such as learning, reasoning, prediction and language comprehension. In administration, AI can be used to automate routine tasks, analyse complex materials and assess the impacts of decisions.

Automation
The execution of functions and processes using technology without manual intervention. In administration, automation speeds up processing and reduces errors, for example in the management of forms, statements or documents. Artificial intelligence may be included as part of automation.

Autonomous Agents, AI Agents
Advanced artificial intelligence applications that can operate independently and make decisions based on defined objectives without ongoing human supervision. In the future, autonomous agents may participate in tasks such as resource allocation or drafting legislative proposals.

Chatbot
A conversational programme that automatically responds to users' questions. In administration, chatbots can facilitate information retrieval, automate routine interactions and improve the accessibility of services.

Citizen Interaction
Citizen interaction refers to the active participation of individuals in public decision-making and policy preparation. This can occur through commenting platforms, consultations, discussion tools and other structured formats. Digital solutions can broaden the possibilities for interaction.

Dashboard
A dashboard is a graphical user interface that aggregates and presents data in a clear and easily understandable format. It enables the monitoring and analysis of various data sources in one place.

Data Infrastructure
The technical and organisational structures required for the collection, storage, management and use of data. A functional data infrastructure is a prerequisite for leveraging artificial intelligence and automation.

Digital Administration
An administrative model in which decision-making, services and processes are carried out digitally. The aim is to enhance efficiency, increase transparency and strengthen opportunities for participation.

Digitalisation
The widespread adoption of information technology and digital solutions across society. In public administration, it refers to digitalisation of services, renewal of processes and a more efficient use of information.

Generative Artificial Intelligence
An application of artificial intelligence that not only analyses existing information but is also capable of producing new content, such as text, images, audio or software code. In public administration, it can be used to support document drafting, summarisation or interaction.

Interface (API)
A programming interface that enables data transfer and interoperability between different systems. Interfaces allow for example the sharing of legislative project information between systems and users.

Large Language Model (LLM)
A specific form of generative artificial intelligence trained on vast text corpora. LLMs (Large Language Models) can produce and structure text in complex contexts. They may be used for example to support legislative drafting, compile statements and summarise materials for decision-making.

Legislative Process
A step-by-step procedure through which legislative proposals are prepared, considered by the government and parliament, and ultimately published and implemented. The process can be enhanced with digital platforms and structured data.

Legislative Project / Regulatory Drafting Project
An individual project in which a new law or amendment to existing regulation is prepared. In Finland, such projects are published for example in Hankeikkuna and Lausuntopalvelu.

Meta-Agent
An artificial intelligence agent capable of creating, improving, coordinating and directing other AI agents.

Modularity
Refers to an information system or software design where the overall system is built from distinct modules or components. Modularity allows for flexible development and makes it easier to swap out components when needed.

Monitoring of Government Programmes
Tools and practices used to track the progress of actions within a government programme. Monitoring may include for example ministry reports and visual summaries for the public.

Plain Language
A way of presenting complex information in a simpler and more understandable manner. In public administration, plain language increases people's ability to follow decision-making and understand legislation.

Platform Governance
A model in which public administration operates as a digital platform and ecosystem. In this model, the administration provides shared infrastructures, interfaces and data repositories that enable collaboration between the public and private sectors, as well as citizens, supporting data-driven decision-making.

Project Management
A systematic approach to planning, implementing and monitoring administrative projects. Project management ensures that projects progress according to schedule and support strategic objectives.

Project Portfolio Management
The management and prioritisation of a collection of projects. Portfolio management helps allocate resources and monitor the implementation of the government programme.

Shared Administrative Platforms
Digital environments that bring together the functions of various ministries, agencies and stakeholders. Shared platforms standardise processes and reduce duplication of work.

Statement Service in Finland
The Statement Service (*Lausuntopalvelu.fi*) is an electronic platform used by Finnish public authorities to request statements and allow individuals and organisations to comment on legislative projects. It is an essential tool for public participation in lawmaking.

Structured Data
Structured data refers to information stored in a systematic and machine-processable format, such as databases, spreadsheets or XML standards. Structured data enables data integration, automation and more precise analysis.

Visualisation
Visualisation refers to the graphical representation of data, processes or decisions to support understanding, communication and decision-making. In public administration, visualisations help stakeholders and citizens follow administrative activities, interpret complex information and engage more effectively in governance.

Interoperability
Interoperability refers to the ability of different information systems, organisations and administrative levels to work together and exchange data seamlessly. Interoperability is a primary objective in the digitalisation of administration.

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Appendix: Summary by country

Country	Solutions for the Monitoring Government Programme	Solutions for Managing the Project Portfolio	Solutions for Planning/Managing Legislative Projects	Solutions for Project Communication	Solutions for Data Visualisation	AI Solutions
Latvia	Excel file updated manually twice a year and published on the government's website.	Projects linked to government decisions in the TAP portal; otherwise, in ministries' own systems.	TAP portal for preparation by all ministries, stakeholder comments and government handling.	Government TAP portal for legislative projects and other government measures open for comment.	Not in use.	Not in use. Preliminary plan to streamline legislative processes or explain the impact of laws to citizens.
France	Info.gouv.fr/ politiques-prioritaires – a central reporting and monitoring platform enabling citizens to track the implementation of the government programme in practice.	Vie-publique.fr – not a PPM tool but a site publishing and visualising PPM-related data for citizens (e.g. which projects the government is implementing, their progress and link to the programme).	Ministry-specific internal solutions. Public sites provide access to all legislative documents: assemblee-nationale.fr (process description) and legifrance.gouv.fr (publication and archive of laws).	Ministry-specific internal communication solutions. Vie-publique.fr serves as an information and communication portal for the public.	Linked open data system for monitoring legislative materials. Third-party tools for data utilisation. Official parameterised documents, video portal with search features and fragmented public interfaces available.	AI mainly used for routine tasks such as translations (*Albert* chatbot). Strong investment in AI expertise and initiatives, especially for generative AI.
Germany	Monthly manually updated website (previous government).	Ministry-specific internal solutions.	Ministry-specific preparation management. Electronic legislative development environment (E-Gesetzgebung) under development.	Legislative project progress communicated on each ministry's website.	Not in use.	Not in use for these purposes.
Estonia	Monthly updated Excel file. Power BI publication page.	Ministry-specific solutions.	Ministry-specific preparation, EIS system for interaction. Shared co-creation environment under development.	Websites.	Power BI page for publishing government programme progress.	Not in use for these purposes.
United Kingdom	-	Ministry-specific internal solutions. Various commercial project management tools in use.	Legislation.gov.uk – service covering drafting, publishing, maintenance and research use of legislation.	-	Ministry/agency-specific visualisation solutions such as Power BI dashboards.	AI tools developed both centrally under the Cabinet Office (i.AI) and within individual ministries. Tools are still in the pilot phase or moving towards broader adoption.

Country	Solutions for the Monitoring Government Programme	Solutions for Managing the Project Portfolio	Solutions for Planning/Managing Legislative Projects	Solutions for Project Communication	Solutions for Data Visualisation	AI Solutions
EU	No common system.	OPSYS – web-based system for managing EU external cooperation portfolio projects and programmes, used by Commission staff and Implementing Partners.	LEOS – open-source system for drafting legislative texts. Eur-Lex – official EU portal providing free access to legal documents.	No common system.	Various individual dashboards, for example DESI dashboard.	Not in use.
Brazil	SisGE – SharePoint-based tool developed for monitoring ministry goals and actions.	SisGE – same as above.	No information available.	Brasil Participativo – a tool for citizen consultation and initiatives, not specifically for legislative preparation.	Visualisation using Microsoft solutions, but no large-scale visual reporting.	Not in use.
United States	No central national platform. Example public portal: usaspending.gov – tracks federal spending and public funds.	Congress.gov – tracks the entire US legislative process, but is not a portfolio management tool.	Congress.gov hosts digital legislative materials. Various tools used at federal and state levels for legislative project management.	No unified central communication platform; communication often handled by individual agencies. Public portals like regulations.gov support citizen interaction in regulatory processes.	Tools enhancing transparency, for example Data.gov – open data portal for research and app development.	AI used for customer service bots, data analysis and translations. Federal agencies continuously develop AI-based innovations as part of digitalisation roadmap.
South Korea	120 national tasks structured as projects; progress tracked on a website where ministries report updates.	120 national tasks structured as projects; progress tracked on a website where ministries report updates.	Government Legislative Support Centre – platform supporting legislative work from drafting to publication; promotes openness and participation.	120 national tasks structured as projects; progress tracked on a website where ministries report updates.	-	No AI tools currently used for these solutions.
India	-	Gov.in – common electronic platform for administration, includes document management and work apps; potential for portfolio management, but currant usage remains uncertain.	Gov.in and National e-Vidhan Application (NeVA) – brings all legislative bodies onto a common platform, creating a large data repository. More a working platform than a management solution.	Transforming India website showcases government achievements, includes key indicators for flagship programmes.	PRAYS monitors flagship programmes, enabling comparisons by sector, ministry, state, district and time periods. MyGov Performance Dashboard provides ministry-wise metrics on key goals.	Own LLM under development to enable multilingual real-time parliamentary work and documentation.

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SITRA.FI
Itämerenkatu 11–13
PO Box 160
00181 Helsinki
Tel: +358 294 618 991