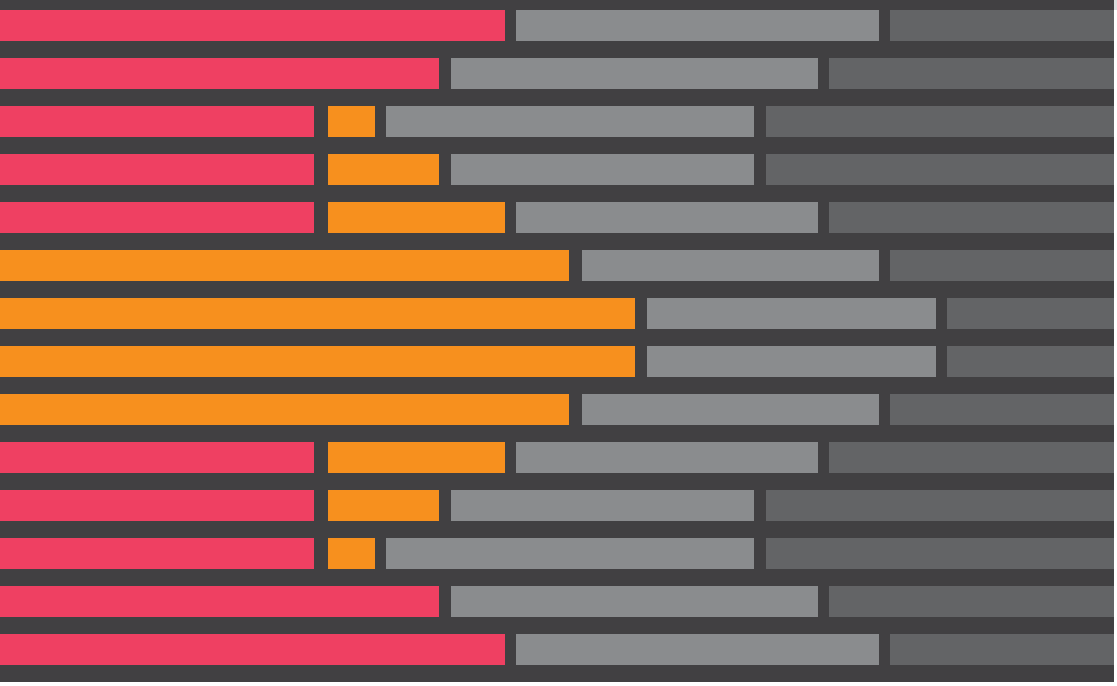
Smart government: a playbook for politicians and public managers

How politicians and public managers can foster smart government in Switzerland

Guidance produced jointly by PwC and the University of St. Gallen



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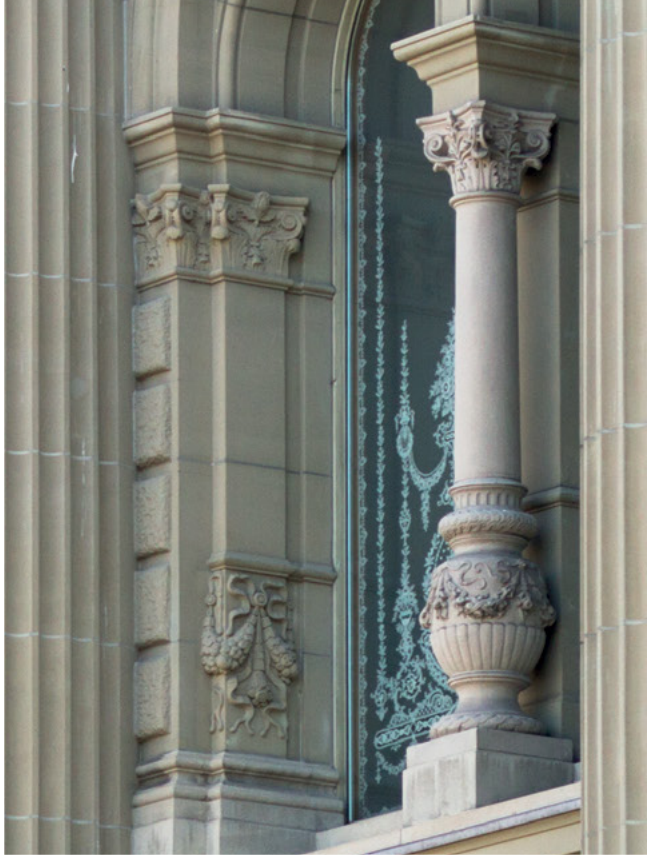
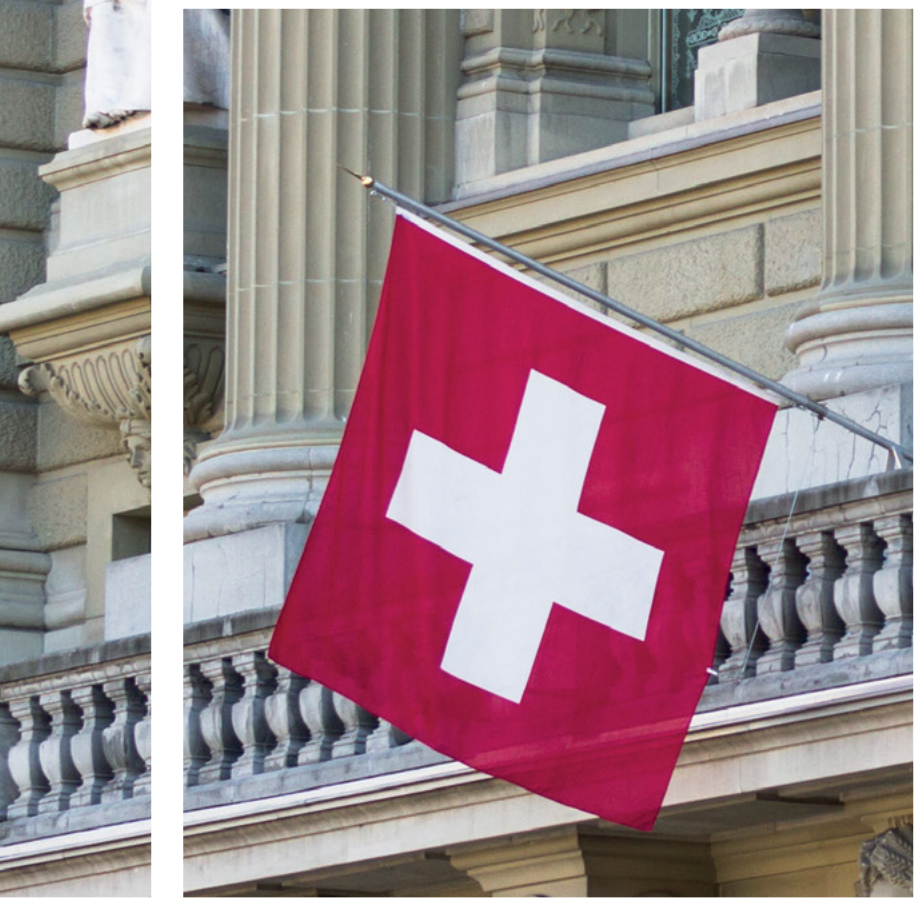
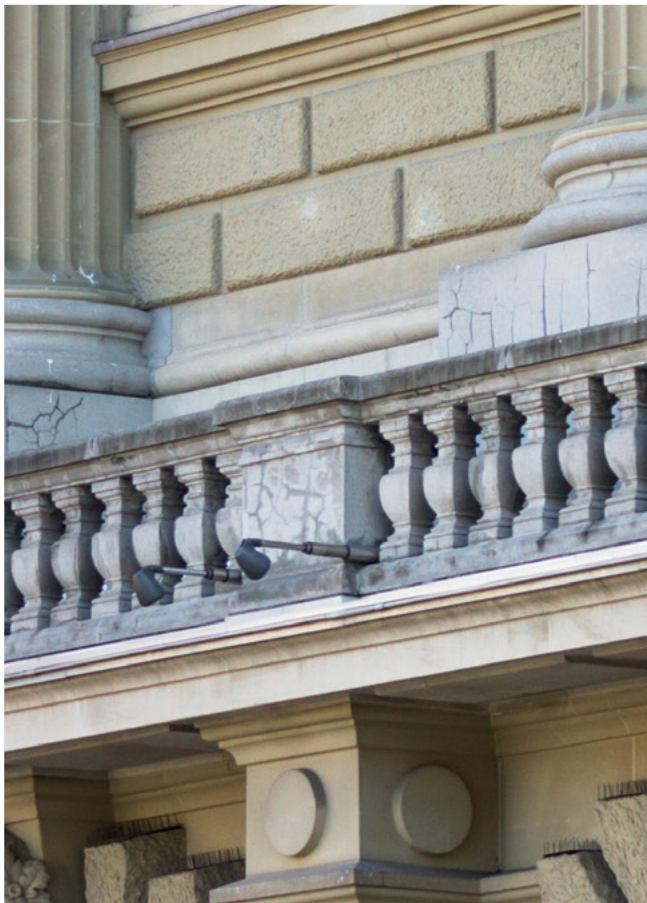


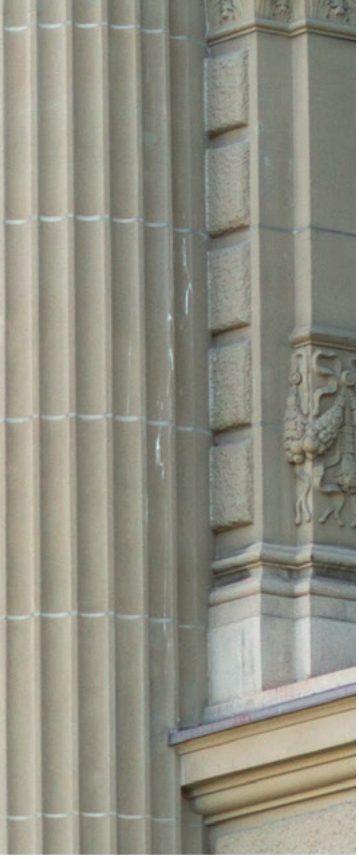

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Preface

Why is this guide so urgently needed?

Anja Wyden Guelpa:
Founder of civicLab, member of the Innosuisse Innovation Council, university lecturer and former State Chancellor of the Canton of Geneva

With digitalisation, globalisation, artificial intelligence, companies must be able to adapt constantly and cope with the ever-increasing pace of change. Their economic survival depends on it. For public authorities, even if they are less directly threatened, the capacity to adapt is no less necessary. They must provide services that meet the expectations and changing needs of our citizens, at a reasonable cost.

In addition, spending requirements in health, care of the elderly, security and education will increase in the coming years faster than the tax revenues we can expect to generate. A dangerous gap is widening.

We know that something must be done. We must act. But what do we have to do? How? Where do we start? How can we keep up with the frenetic pace of technological and societal change without suffering as a result? How do we become an agile and intelligent administration?

As State Chancellor of the Canton of Geneva for almost nine years, and before that in my role as a senior public administration official and consultant, over the last 20 years I have seen first-hand the difficulties that hinder change. I have made a commitment to putting citizens at the centre of the debate, encouraging their participation and promoting innovation.

Today more than ever, we need the courage to engage with the changing needs of our society, new technologies and methods. This way we can tackle the challenges ahead of us by:

- Facilitating better decisions in politics and public administration
- Establishing more user-friendly, effective and efficient public services and internal processes
- Enabling innovative and collaborative solutions in public administration and other sectors
- Fostering citizen engagement

Let's start the dialogue and move forward with courage and determination to make our government 'smarter'.

Why are we involved in producing this guide?

Dr. Ali A. Guenduez & Professor Kuno Schedler:
Smart Government Lab,
University of St. Gallen

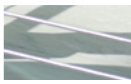
'Don't forget the humans!' If we've learned anything from the e-government initiatives of the last twenty years, it's that technology is the least of our problems. It's an enabling factor, a necessary prerequisite, but one that is generally present. If digitisation fails, the cause is usually humans. So it's time to go beyond our fascination with technology and think about concrete implementation – together with the people who will be using these technologies.

We face major challenges when it comes to exploiting new technological opportunities. Politics and public administration are not well prepared for digital change yet. They haven't kept pace with the speed of change in technology, economy and society. Often they fail to provide the necessary institutional framework (rules and regulations) to allow innovative strategies in the implementation phase. Compared with the private sector, things move at a different pace in the public sector, following their own logic. In the face of rapid development and growing complexity, it's a challenge to exploit the far-reaching potential of innovative technologies. Certain public administrations are pioneering and trying to realise the potential. But the vast majority of public administrations are still in the early stages.

Digital transformation towards smart government requires a holistic approach that includes politics and public administration in equal measure. An institutional and organisational framework must be created, and change must be tackled with appropriate strategies. Only this way will it be possible to exploit the potential of digital technologies in the public sector.

We recommend this smart government playbook to decisionmakers in politics and administration and to all other stakeholders who see their role and mission as making government smarter. We hope that it will contribute to a better understanding of factors contributing to successful smart government in Switzerland.

Management Summary



PwC has joined forces with the Smart Government Lab at the University of St. Gallen to produce this playbook. It's designed to help politicians and public managers jump-start their efforts to implement smart government by asking the right questions – questions that will enable them to shape the right strategy and vision for a new era of government/ citizen interaction. Given the difficulty of responding to the transformation sweeping all sectors, public and private, this guidance is urgently needed.

Numerous initiatives in the public sector promise to create a new model for public services by using new technologies and methods. Smart government describes the public administrations' endeavour to interact and collaborate with stakeholders, passively and actively, and to better understand their needs and environments, by connecting and integrating the physical, digital, public and private spheres – all while consistently adhering to the relevant data and privacy requirements.[1]

Smart government has enormous potential for the public administration and its stakeholders in terms of four major use cases:

Facilitating better decisions in politics and public administration

Potential:

~ **15-20 %**
savings through process efficiency

~ **30-40 %**
savings by reducing errors and fraud

~ **8-10 %** fewer fatalities

~ **30-40 %**
reduction in crimes such as assault and burglary

~ **20-35 %**
faster emergency response times

Examples:

Tennessee Highway Patrol (THP): predictive data model for traffic accidents

City of St. Gallen: Internet of Things

Establishing more user-friendly, effective and efficient public services and internal processes

Potential:

~ **50-60 %**
time savings for citizens and civil servants

~ **CHF 120 million**
annual savings for businesses in Switzerland

~ **10 times**
more trust in government authorities
faster emergency response times

Examples:

City of St. Gallen: chatbot

Swiss intercantonal solution: eMovingCH

Enabling innovative and collaborative solutions in public administration and other sectors

Potential:

~ **3-4 %**
additional economic value per year

~ **Specific case-by-case**
potential (e.g. higher service quality)

Examples:

Terravis: Swiss digital platform for mortgage, notary and land register

Bob Emploi: French digital platform for unemployment services

Fostering citizen engagement

Potential:

- Enhancing participation and active citizenship
- Ensuring a learning process
- Engaging young people in policymaking
- Ensuring innovative ideas for policymaking
- Increasing political trust and legitimacy

Examples:

petitio.ch: Swiss digital platform for local petitions

'I luag uf di': Austrian digital tool to collect citizens' suggestions and complaints

But unleashing the potential of smart government requires hard work and changes within and outside your organisation. Based on our research, we have identified certain enablers that address the required changes and eventually enhance capabilities for implementing smart government successfully in public sector organisations on a federal, cantonal and municipal level.

Smart Government enablers

Leadership and strategy

Smart government requires cross-departmental leadership and strategy prioritising and committing to concrete objectives and investments – based on a broad and challenging alignment process.

Organisational transformation

New tasks
Public administration needs to perform new tasks and give temporary impetus to centralisation to push the transformation and bundle resources.

New capabilities
Public administration needs to develop new capabilities. This requires dedicated investments.

New cultural and service design principles
Smart government requires new cultural and service design principles focusing on innovation, agility and entrepreneurship, data-driven culture, collaboration and digital solution design.

New HR approach
Public administrations must adapt their recruiting and training criteria and career models to respond to emerging new skill requirements.

Public discourse and awareness

Political commitment and public discourse
Smart government is a long-term mission entailing initial investment, certain risks and a degree of resentment. This calls for strong political commitment and public discourse.

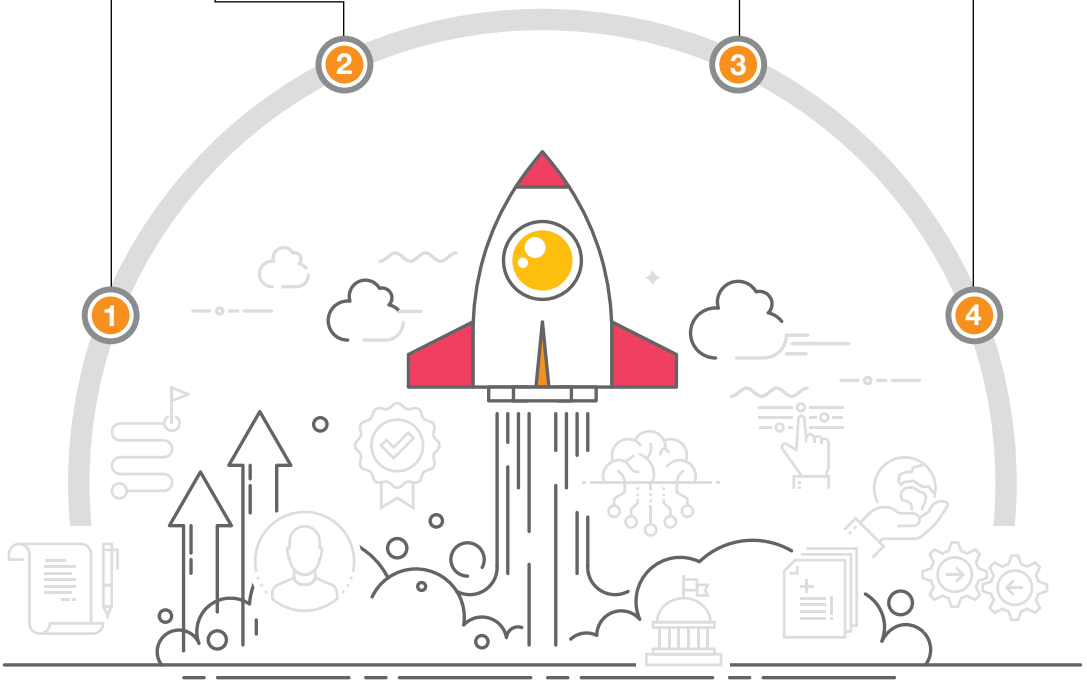
Digital awareness in society
Digital awareness is a prerequisite for smart government, and citizens must be empowered to participate in smart government solutions.

Nationwide cooperation

Clear nationwide governance
Smart government requires nationwide collaboration within the political system. Roles and mandates therefore need to be clearly defined to avoid redundancies and unaligned investment and assure legal foundations and compatible technical systems.

Regulatory alignment
Uncertainty about legal and data protection implications hinders smart government. A nationwide effort to identify regulatory needs is necessary.

IT infrastructure and standards
To scale up benefits, authorities need to intensify collaboration in procurement, design and hosting and invest more in interoperable, modular and re-usable solutions.



About the study

PwC and the Smart Government Lab of the University of St. Gallen have joined forces to reveal how politicians and public managers can make government smart.

In cooperation with the Smart Government Lab of the University of St. Gallen in Switzerland, PwC prepared a study designed to better understand smart government and how the Swiss public administration can successfully implement it. For this purpose we conducted various workshops and interviews with politicians, public managers and Swiss and international digital government experts, as well as doing comprehensive literature research and an analysis of global best practices.

We have already published the results of our study, and an extensive methodological description, in an academic article[i] entitled "Smart Government Success Factors" in the *Yearbook of Swiss Administrative Science.*[2] In the present publication we want to elaborate on our study findings from a more practical perspective and give hands-on advice for politicians and public managers.

The implications have a bearing on Swiss public administration at the federal, cantonal and municipal levels. Subject to certain constraints, they are applicable to other countries and parastatal organisations as well.

Key questions for politicians and public managers

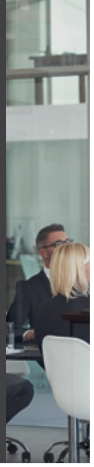
Based on the enablers we have identified, politicians and public managers can assess their organisation's capability to implement smart government, identify gaps and eventually boost the success of smart government initiatives. In the paper we suggest some key questions for politicians and public managers to get an initial idea of where the major gaps might be. This has to be followed by a detailed maturity assessment. After identifying the gaps, politicians and public managers need to prepare projects or measures to fill them. Then the real work starts.

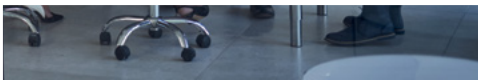
Don't fall behind and find out more how you can foster smart government in your organisation by filling out the self-assessment in the appendix. It is built on the key questions we have derived from our findings and will help you understand where the gaps in your organisation might be.

Feel free to reach out to our PwC Experts to discuss your key issues.

[i] You can access the full study here: https://ssas.ubiquitypress.com/articles/10.5334/ssas.124/

Relevance of smart government





Smart government has enormous potential for your public administration and your stakeholders – based on different concrete use cases.

Numerous initiatives in the public sector promise to create a new model for public services by using new technologies and methods: smart government.

Smart government involves utilising these new technologies and methods in an endeavour to connect and integrate the physical, digital, public and private spheres to interact and collaborate with stakeholders, passively and actively, and to better understand their needs and environments – all while consistently adhering to the relevant data and privacy requirements.

Based on this integration of spheres and a better understanding of needs, smart government realises benefits by implementing new solutions in four categories[3]:

E-government, digital government and digital transformation

E-government has been the 'first wave' of digital government, focusing on the digitisation of existing information and communication channels to citizens and other stakeholders – with internet technology being the main driver.

The term digital government is often defined synonymously with smart government. Likewise, it goes beyond e-government, and strives to re-think existing business models, services, structures and processes based on new technologies, methods, data and stakeholder needs in order to improve the effectiveness, efficiency and quality of public services. This definition is in line with Conference of Cantonal Governments (Switzerland)[4], the OECD[5] and the Tallinn Declaration[6]. But our understanding of smart government focuses more on concrete use cases, the integration of different spheres and the interaction of public administration and its stakeholders.

Smart government and digital government are both public-sector-specific sub-concepts of the cross-industry concept of digital transformation.

Facilitating better decisions in politics and public administration

Based on new ways of data gathering (e.g. the Internet of Things and Big Data) and more powerful data analysis and visualisation tools, smart government solutions are able to significantly improve certain strategic and operational decisions in both politics and public administration. As the figures below demonstrate, this eventually creates potential in terms of both efficiency and effectiveness:

Potential

- ~ 15-20 % savings through process efficiency[7]
- ~ 30-40 % savings by reducing errors and fraud[7]
- ~ 8-10 % fewer fatalities[8]
- ~ 30-40 % reduction in crimes such as assault and burglary[8]
- ~ 20-35 % faster emergency response times[8]

Use case examples

The Tennessee Highway Patrol (THP) built a predictive data model for traffic accidents and fed it with geo-tagged historical crash and drug abuse data, weather data and data about special events (e.g. sports). The model seeks out correlations between incidents and external factors like time, location and weather. Based on this data, the tool predicts potential hotspots for incidents, on which police can focus. Furthermore, the information is visualised and available for all police officers via a mobile tool. The benefits are evident: an 8 % decrease in the fatality rate and a 33 % reduction in average response time[9].

The City of St. Gallen has developed its fibre optic and the LoRa (Long Range) network to control and connect many devices (Internet of Things) such as streetlights and carpark occupancy. There are various potential applications facilitating more efficient services and better decisions. The City of St. Gallen has already developed several: dynamic streetlight management, real-time tracking of public waste containers, real-time tracking and information for public transportation, smart metering replacing conventional energy, and water meters and an intelligent parking information system[10].

Establishing more user-friendly, effective and efficient public services and internal processes

The private sector has set the bar, and citizens and companies nowadays expect public services to be as convenient as those provided by the private sector. Several key words encompass this shift: ‘once-only’[11], ‘no-stop government’[12], ‘24/7 support’ and ‘self-service’. In a nutshell, it’s about paying more attention to user experience and user journeys to make public services for citizens and companies more user-friendly, effective and efficient. This pays off for the public administration, too; for example, electronic forms and automated data retrieval can tangibly reduce the effort within public administration. Such solutions can also address services within the public administration, for example services for other teams, departments, cantons, municipalities or federal authorities.

Potential

- ~ 50-60 % time savings for citizens and civil servants[13]
- ~ CHF 120 million annual savings for businesses in Switzerland[13]
- ~ 10 times more trust in government authorities[14]

Use case examples

The City of St. Gallen plans to launch its own chatbot in 2019[15]. Citizens will be able to ask questions 24 hours a day, seven days a week, and receive answers immediately. They can reach the chatbot via Facebook Messenger, the City of St. Gallen website and app, or by voice message. Ultimately the idea is that the chatbot will not only give information, but will also handle processes directly during the request. For instance, anyone who asks the chatbot for contact details for extending the deadline for submitting their tax return can also extend the deadline directly in the conversation with the chatbot. The chatbot serves as an additional channel and will not replace the traditional channels for reaching the city administration.

The Swiss intercantonal eMovingCH[16] solution is designed to enable more convenient services for citizens and more efficient collaboration between authorities. It enables electronic relocation, reporting and processing between citizens, federal, cantonal and municipal administrations when moving to another canton or municipality. eMovingCH is already in productive use in several cantons and their municipalities. Every day, more than a hundred residents use the portal to report their relocation electronically.

Enabling innovative and collaborative solutions in public administration and other sectors

Authorities have three strong assets that are crucial when developing innovative solutions: (1) vast pools of data records, (2) direct access to citizens and companies, and (3) scalability. By sharing these assets with third parties, either within public administration (with other cantons or municipalities, for example) or with other sectors (e.g. universities and research institutes, start-ups, NGO and companies), public administration can trigger innovative and collaborative solutions in line with the 'government-as-a-platform' idea[17].

Potential

~ 3-4 % additional economic value per year[18]

~ Specific case-by-case potential (e.g. better service quality)

Use case examples

Terravis[19] is an electronic information and transaction portal for land register and cadastral survey data in Switzerland. SIX, a private company, has developed the information portal for institutional and professional users in coordination with the Swiss Confederation. It enables cross-system and cross-cantonal access to property information. Further, the platform enables seamless electronic business transactions between private organisations (banks, insurance companies, etc.), notaries and authorities in the mortgage, notary and land register sectors via a single interface. Paperless processing simplifies and accelerates the routine tasks of land registries and the processing of enquiries. As a result, there are improvements in the quality of processing, shorter lead times and better conditions for end customers. It's estimated that fully expanded Terravis platform will contribute CHF 50 million in annual efficiency gains to the Swiss economy[20].

Authorities in other European countries already use open data for social and economic benefit. The French government cooperates with the NGO Bayes Impact, which makes use of open labour market data on its open-source AI platform called Bob Emploi[21] that empowers jobseekers with data-driven, personalised advice to improve their chances of finding a job. The platform operates on the basis of extensive labour market data such as regional and seasonal demand, salary, vacancies and profiles of other job seekers. The data is linked with user information (work and contract expectations, salary range, motivation and education) captured via the questionnaire. As a result, each user is provided with personalised counselling services and materials. Bob Emploi not only enables job seekers to receive tailored support without visiting an employment office, but also leverages the labour market. The benefits are evident: 42 % of users think Bob Emploi helped them find a job and 86 % found the individual feedback provided helpful.

Fostering citizen engagement

New applications and formats, both analogue and digital, allow more direct and intense interaction and collaboration between public administrations and citizens, civil society and business. While such use cases address e-voting potential as well, the focus is more on the potential for e-participation, i.e. participation that goes beyond political rights. We find examples both in policy design and on the local level, such as stronger involvement in city planning.

Potential[20]

- Enhancing participation and active citizenship
- Ensuring a learning process
- Engaging young people in policymaking
- Ensuring innovative ideas for policymaking
- Increasing political trust and legitimacy

Currently there are no quantitative estimates of how much smart government might foster citizen engagement. Nevertheless, there is political and scientific consensus that it helps foster the above-mentioned factors, as shown, for instance, in a study by the European Parliament[22].

Use case examples

Newspapers from the German-speaking part of Switzerland (covering the cities of Zurich and Basel as well as 2,300 municipalities) launched a digital tool called petitio.ch[23] which encourages citizens to have exert a greater influence on local decisions and thus increase political participation. Any citizens who would like to enforce specific changes in their town or municipality can use the platform to build support from other people. Once a petition has collected enough signatures within 30 days of its launch, it is sent to the local authorities with a formal letter. Unlike petitions used as a regular political instrument at a national level, petitio.ch is not binding, and it does not lead to public votes as is the case with people's initiatives or referendums challenging a parliamentary decision.

The City of Bregenz in Austria has launched "I luag uf di", a web platform that enables citizens to submit suggestions for everything that can be improved in the public space, ranging from potholes and defective equipment to other concerns[24]. The message is automatically forwarded to the authorities responsible. The platform provides an overview of all requests and citizens can track the status of their requests.

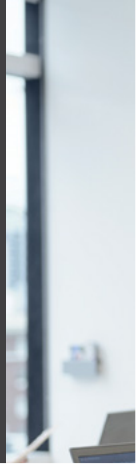
These categories are not mutually exclusive, but usually smart government initiatives adopts one major use case.

Smart government serves overarching societal goals

Even though the direct benefits of smart government are evident, in the governmental sphere it is crucial to keep in mind the overarching societal goals of any transformation programme or initiatives – especially in a case such as smart government that creates many opportunities but also entails certain risks and resentments which authorities and politics need to manage in the public discourse. We find the following societal goals most often represented in smart government initiatives:

1	Economic benefits and an increase in quality of life for society
2	Efficiency and agility in public administration
3	Relevance and steering capacity of politics and public administration
4	Transparency and trust in public administration
5	Inclusion of people
6	Reputation and attractiveness as a place to live and do business

Enablers of smart government



Unleashing the potential of smart government requires hard work and changes within and outside your organisation.

Even though we see many initiatives and attempts to implement smart government projects in public administration, we also see many of them failing. Based on our research[i], we have identified certain enablers that reinforce the ability to implement smart government.

The enablers address four different levels: (1) leadership and strategy; (2) organisational transformation; (3) public discourse and awareness; (4) nationwide cooperation.

The following illustration gives an overview of these levels and the major topics addressed.

And the sections on next page describe each enabler and illustrate how politicians and public managers can foster their organisation's ability to implement smart government.

[i] Workshops and interviews with politicians, public-sector managers and Swiss and international digital government experts, as well as comprehensive literature research and global best practice analysis

Smart Government enablers

Leadership and strategy

Smart government requires cross-departmental leadership and strategy prioritising and committing to concrete objectives and investments – based on a broad and challenging alignment process.

Organisational transformation

New tasks
Public administration needs to perform new tasks and give temporary impetus to centralisation to push the transformation and bundle resources.

New capabilities
Public administration needs to develop new capabilities. This requires dedicated investments.

New cultural and service design principles
Smart government requires new cultural and service design principles focusing on innovation, agility and entrepreneurship, data-driven culture, collaboration and digital solution design.

New HR approach
Public administrations must adapt their recruiting and training criteria and career models to respond to emerging new skill requirements.

Public discourse and awareness

Political commitment and public discourse
Smart government is a long-term mission entailing initial investment, certain risks and a degree of resentment. This calls for strong political commitment and public discourse.

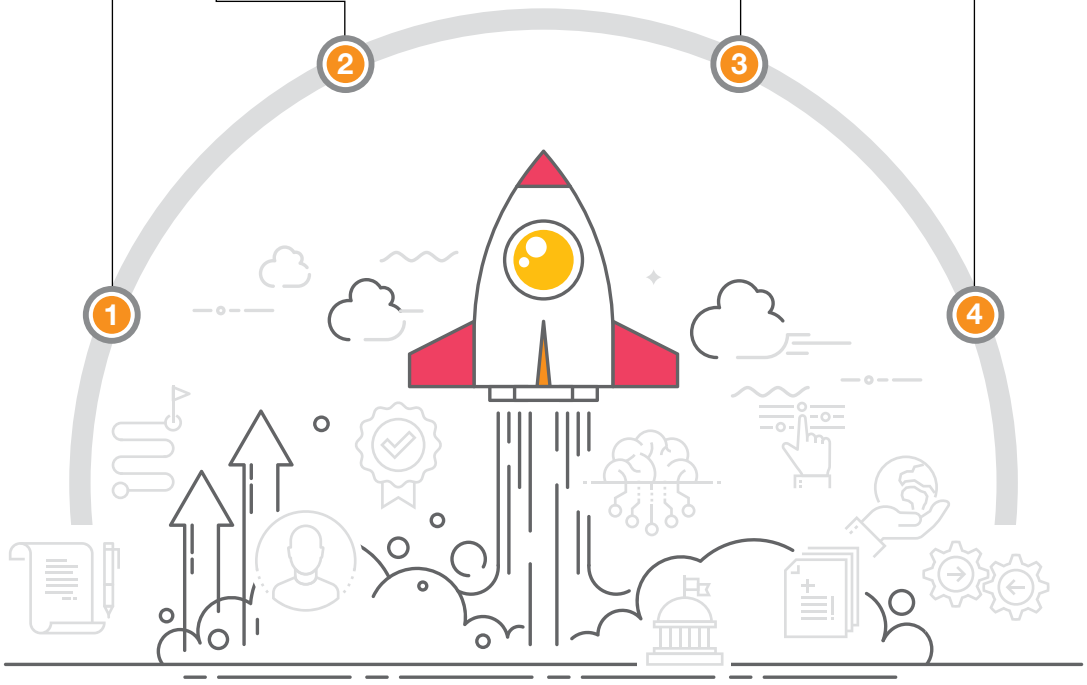
Digital awareness in society
Digital awareness is a prerequisite for smart government, and citizens must be empowered to participate in smart government solutions.

Nationwide cooperation

Clear nationwide governance
Smart government requires nationwide collaboration within the political system. Roles and mandates therefore need to be clearly defined to avoid redundancies and unaligned investment and assure legal foundations and compatible technical systems.

Regulatory alignment
Uncertainty about legal and data protection implications hinders smart government. A nationwide effort to identify regulatory needs is necessary.

IT infrastructure and standards
To scale up benefits, authorities need to intensify collaboration in procurement, design and hosting and invest more in interoperable, modular and re-usable solutions.



1. Leadership and strategy

Smart government requires cross-departmental leadership and strategy prioritising and committing to concrete objectives and investments – based on a broad and challenging alignment process.

I. Why is it relevant?

Public administration usually has a departmental focus. But smart government requires a cross-functional and process-oriented approach aligning and prioritising efforts and investments across various departments. Moreover, smart government initiatives compete with other initiatives and departmental strategies for resources and management attention. A broadly coordinated and cross-departmental[i] strategy is therefore key to the success of smart government initiatives. For the same reasons, the tone at the top is also crucial; in other words, government representatives and high-level civil servants must clearly commit to pushing and enforcing the smart government strategy across departments.

II. What needs to be changed?

Our research indicates that four factors facilitate the successful formulation of smart government strategies, and require bold leadership support.

First, smart government must be – and remain – a regular item on the agenda, and government representatives and high-level civil servants must be actively involved in and committed to smart government plans and decisions. If not, initiatives don't unfold their potential, since they lack cross-departmental alignment, embeddedness in the overarching strategy, and financial and personnel investment. Projects tend to remain small and silo-oriented.

Second, it is crucial to establish a shared understanding of the general concept, vision, strategy and responsibilities by initiating a cross-departmental and cross-state[i] alignment process in politics and administration. Such a common understanding is usually not a given when it comes to cross-functional topics like smart government, especially in a federalist and decentralised system with very heterogeneous fields of activity such as Swiss public administration. Otherwise, the risk is that the – still inherent – silo mentality will undermine the required cross-departmental and process-oriented approach of smart government. Successful authorities have often reached such a shared understanding by setting up an alignment process that includes key stakeholders from all departments and relevant state levels, as well as from politics and administration. The output of this process is a written document that public administration can also distribute to employees and the public.

Third, smart government initiatives often fail because they do no consistently formulate and prioritise strategic long-term objectives, concrete action areas, the project roadmap and KPIs. However, this is necessary to enforce the financing and implementation of measures across all levels and departments (from parliament to government agencies) and beyond legislation periods. Concrete action areas are important for politicians to be able to communicate. We found that authorities often design elaborate high-level strategies but struggle to implement because they do not define and prioritise action areas and concrete objectives – and the respective investments. Prioritising certain objectives means deprioritising others, which is why politicians and authorities often stop at this point. But a good strategy always also requires what might be seen as sacrifices. Especially in the public sector, it is a challenge to justify and defend such sacrifices because the public sector has to fulfil the expectations of manifold stakeholders, whose complaints – if they are affected by such sacrifices – are echoed in the media and by members of parliament. To facilitate broadly accepted priorities, honest public discourse about smart government is necessary (see chapter "Political commitment and public discourse" within the topic "Enablers of smart government"). Moreover, the concrete involvement of stakeholders, especially citizens, in the strategy process (i.e. co-creation) can help foster their understanding and acceptance of 'sacrifices'.

Fourth, the smart government strategy needs to be embedded in the overall strategy of the respective government body, because smart government is not a goal but a means to an end. It's about responding more effectively and dynamically to the changing and evolving needs of a population and companies, about improving results and winning active participation, thereby enabling communities to develop further.

III. Key questions for politicians and public managers

- Is there a common understanding of smart government, its implications and the vision in your organisation and with relevant stakeholders?
- Do government representatives and high-level civil servants actively contribute to smart government?
- Do government representatives and high level civil-servants work cross-departmentally on the smart government strategy and agenda?
- Is smart government a regular item on the agenda of leadership meetings?
- Do you have a dedicated smart government strategy or a dedicated section in your overall strategy?
- If yes, have the key stakeholders (departments, citizens, front-office employees, other state levels, etc.) been involved in strategy design?
- Does the smart government strategy serve the overall strategy and positioning of your organisation/community?
- Is there a concrete project roadmap with long-term objectives, committed investments and KPIs to realise the strategy?

[i] It's important to remember that cross-state level alignment is important for cantons and their respective municipalities.

2. Organisational transformation

2.1 New tasks

Public administration needs to perform new tasks and give temporary impetus to centralisation to push the transformation and bundle resources.

I. Why is it relevant?

Traditionally, organisational set-ups in Swiss public administration are organised by function, decentralised, and often hampered by silo mentalities. But smart government requires a cross-functional and process-oriented approach that coordinates, aligns and bundles certain activities and resources to realise major investments, build up new capabilities and establish a new mindset. An overarching strategy and leadership for smart government (see chapter "leadership and strategy" within the topic "Enablers of smart government") is only the first step, and needs to be underpinned by organisational changes enabling more horizontal steering and collaboration.

New tasks, which the organisation must perform either centrally or decentrally[i], reflect these changes.

II. What has to be changed?

There are four organisational tasks that must be performed for the organisational transformation – either in central or decentralised units: 1) strategic steering of resources, projects and measures; 2) coordination, knowledge-sharing and standardisation; 3) development and realisation of new services and solutions; 4) establishment and provision of new capabilities.

(1) Given that a public organisation's ability to steer, lead and control the smart government agenda across all departments is key, there is a strong preference for centralising this task. (2) The same is true for coordination, knowledge-sharing and standardisation. Especially for less digitally mature and/or fairly decentral organisations, it's important to have strong steering and systematic coordination and standardisation between departments and other state levels. For instance, a steering committee consisting of all department heads managing a long-term digitalisation programme that is supported by an expert unit located in the state chancellery (e.g. a digital office) might take over these tasks. The Canton of Zurich established a similar set-up in 2018 to implement its Digital Government Strategy[25]. Another option is to establish a digital officer, as the City of St. Gallen did in 2017[26].

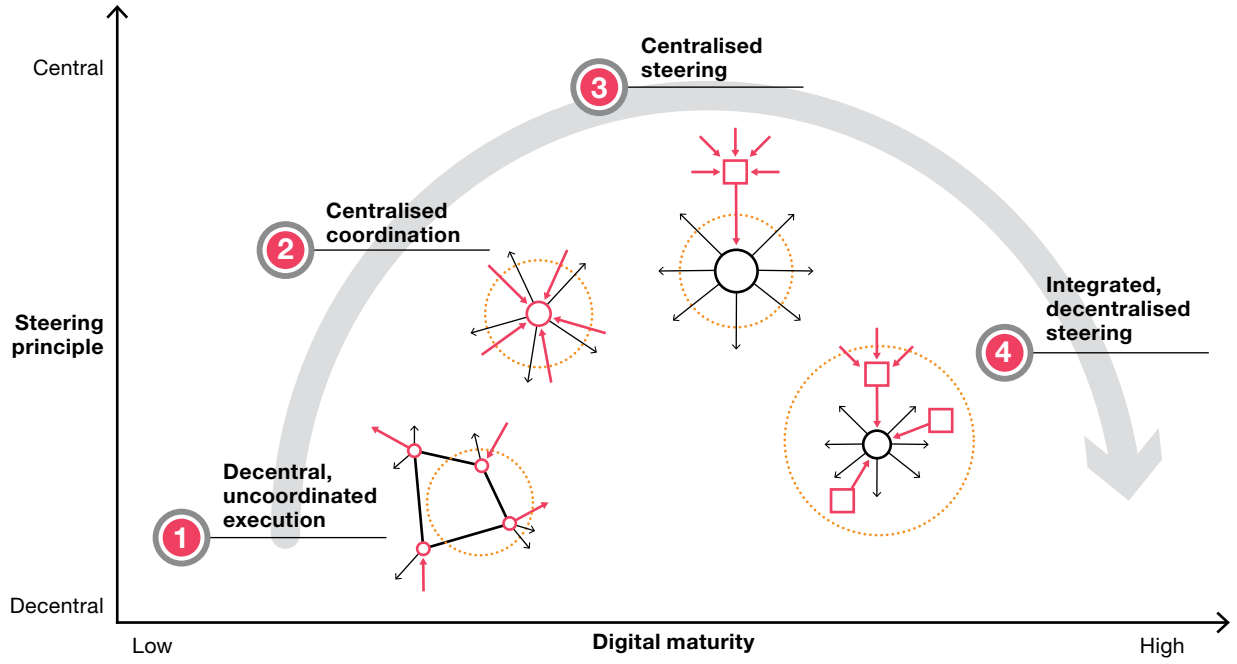
(3) In contrast, decentral units with business expertise and knowledge of stakeholders and existing processes should lead the development, execution and implementation of new services and processes, with IT/developer teams remaining responsible for the technical realisation of applications. Strategic projects and basic services that are used by all departments (e.g. electronic document management system, electronic payment service, and electronic identity) might be managed by a decentral unit but steered and coordinated via central processes.

(4) You should take a more differentiated approach to establishing and providing new capabilities (capabilities are described within the topic "Enablers of smart government"). Some capabilities (e.g. business analysis, idea creation and innovation management) affect the way of working, and after a while each unit should internalise them. After injecting initial input into decentralised units, a central provider is no longer necessary. On the other hand there are many highly specialised capabilities such as data analytics that require substantial investment, making decentral provision problematic. Establishing and providing such capabilities on a centralised basis is a valid long-term option. For instance, Boston has established an analytics unit that delivers services to other departments. It also has been proven successful for decentral units which have already developed strong competence in a certain field to be assigned to provide services to other units as well. Another option – especially for smaller communities – is to cooperate with other communities, the private sector and universities to build and provide new capabilities.

In summary, our research indicates that there is a need to push for temporary centralisation in order to bundle resources, prioritise initiatives and give impetus for change (e.g. in digital transformation programmes or digital offices)[ii]. The less digitally mature an authority, the more intense this centralisation should be. However, the more digitally mature this organisation is or becomes over time, the more competences and resources should be decentralised again. The rationale behind this is that once the digital mindset and skills have been propagated to decentral units and major overarching investments and projects have been realised, decentral units are enabled to manage, coordinate and push smart government on their own.

i Central means that one unit performs the task for all other units in the organisation as a service. These might be central units (e.g. the state chancellery), cross-sectional units (e.g. HR or IT departments) or decentralised units (e.g. the department of education or office of municipalities). De-central means that each unit performs the tasks itself.

ii A prominent example of creating central impetus of this sort is the Government Digital Service in the United Kingdom[27]. In Switzerland, Canton Zurich recently launched a digital government programme centralising certain tasks and investments.[25]



Overall, the establishment of these tasks and the respective organisational set-up has many implications for the whole authority. This makes it a highly complex transformation challenge involving factors such as governance, competences and financing new units and projects, processes and interfaces). For this reason it's important to manage the transformation very carefully to avoid culture shocks and resistance.

III. Key questions for politicians and public managers

- Have you assessed the need for organisational changes recently to get ready for smart government?
- Have you recently assessed your organisation's digital maturity?
- Does your organisation have overarching steering and coordination mechanisms and/or units for smart government (e.g. a digital office or smart government steering committee)?
- Do you have a systematic approach or a common platform for developing new solutions and services in your organisation (e.g. design principles for digital solutions, incubators)?
- Has your organisation recently launched any new solutions or services that you consider 'smart' (e.g. automation, digital service offerings like chatbots)?
- Does your organisation have a systematic approach or a common platform for developing new digital skills and capabilities in your organisation?
- Are the required organisational changes reflected in your smart government strategy or roadmap (e.g. concrete project to set-up a new unit)?

2.2 New capabilities

Public administration needs to develop new capabilities. This requires dedicated investments.

I. Why is this relevant?

Developing and strengthening organisational capabilities is at the heart of implementing smart government. Often organisations lack the necessary capabilities to sustainably push smart government. Besides fairly new skills categories such as data management, cybersecurity and user experience (UX), this also includes 'traditional' cross-cutting capabilities such as project and change management. Further, the capability to bridge business and functional knowledge (e.g. specialised knowledge such as traffic management) is often missing. On the one hand, smart government fundamentally changes the required capability sets (e.g. data analytics); on the other hand, smart government requires a much more cross-functional, multi-rational, agile and project-based approach. Consequently, a lack of know-how hinders the successful implementation of digital initiatives in the public sector.

II. What has to be changed?

The most important capabilities for implementing smart government are:

- Technology management: To make use of the new technologies required for smart government, public administration needs various skills to manage them. Technology management comprises forecasting, planning, implementing and controlling procurement, development and application of (new) technologies to create competitive advantages.

- Data management: Data management comprises all disciplines relating to managing data as a valuable resource. There are many challenges for public administration, including ensuring privacy and data security, as well as avoiding redundancies in data management that may result from federalism in Switzerland (see the 'once-only' principle).
- Cybersecurity: Cybersecurity is central to smart government applications; the Internet of Things in particular extends the target area for hackers. Consequences may be severe and could pose life-and-death risks, for instance if security systems, power grids, hospital installations or water supplies are compromised. Public administrations will have to invest in cybersecurity capabilities.
- Business analysis and modelling: This is about systematically identifying new requirements and needs and determining solutions to address them. In smart government, business analysis is closely connected to technology management, but in addition to the application of technologies also covers changes to structures, processes, and services, and eventually the set-up of business cases.[i]
- Change management: Smart government requires change management for far-reaching, rapid and frequent changes in structures, processes and business models. These changes need to be prepared and executed across departments to successfully implement new solutions. In public administrations, these tasks have been undervalued.
- User experience: UX describes all aspects of a user's experience when interacting with a product, service or facility. Especially in public administration, interactions are designed from an internal and legal perspective. Since smart government is also about improving and fostering interactions with stakeholders, UX is a key competency that public administration must develop, for instance by establishing design thinking approaches.
- Innovation management: Systematic innovation management, including identify, prototype, develop, implement and control innovations, is often lacking in public administrations. Departments should therefore be established to build this capability and support other departments, teams and employees in realising their ideas.

III. Key questions for politicians and public managers

- Are new digital capabilities well established in your organisation?
- Have you recently assessed your organisation's current state, maturity and capacity for new digital capabilities?
- Have you recently assessed your organisation's needs regarding new digital capabilities?
- Is the establishment of new capabilities reflected in the strategy, project roadmap and respective investment plans?

2.3 New cultural and service design principles

Smart government requires new cultural and service design principles focusing on innovation, agility and entrepreneurship, data-driven culture, collaboration and digital solution design.

I. Why is this relevant?

Discomfort and a lack of readiness to innovate hinder the implementation of smart government. There is therefore a great need to change the way people collaborate, share knowledge within and outside the organisation, approach their tasks and deliver services to citizens and companies. This is because smart government requires a much more cross-functional, multi-rational, agile and project-based approach. In particular, collaboration and knowledge-sharing internally and with external stakeholders (e.g. other government bodies, companies and universities) is essential to keep pace with increasingly rapid societal and technological changes. Further, smart government necessitates a new service design approach in public administration to create more citizen-centric service delivery models. It's not sufficient to merely change the organisational set-up by adding horizontal, more flexible structures and processes without changing employees' way of working and mindsets.

II. What has to be changed?

To provide guidance and sustainably embed smart government both in strategic decisions and daily work, the following principles are essential:

- Digital first and digital only: Digital first is a digital service principle for government-to-citizen and government-to-business services. Digital first means that services are so attractive in terms of, for instance, efficiency and user-friendliness that they become the first choice even though analogue channels remain open. Digital only seeks to increase efficiency and quality by digitalising and automating processes and services both within and between government bodies (government-to-government).
- Data-driven culture: It's necessary to establish a culture of applying data analytics within public administration to help predict new needs and trends and understand how to improve existing processes and dynamics. Moreover, authorities must increase their openness to the greater availability of evidence and data concerning their operations, processes and results.
- Collaboration: Collaboration in heterogeneous teams and knowledge-sharing become more important, for instance within the organisation and between the organisation, other government bodies, universities, private companies and citizens. Citizens and other stakeholders become 'prosumers' ('producers' and 'consumers') of public services. Public administration must open up to external ideas and delivery models.

[i] A business case captures the reasoning for initiating a project and demonstrates the specific business need based on a financial and non-financial cost-benefit analysis. In general, the business case should cover the project's objective, status quo, alignment with the strategy, risks, required resources, expected benefits and prospects and project plan[28].

- Innovation, agility and entrepreneurship: These values are promoted by the example of leadership, providing incentives and creating space and opportunities (e.g. innovation labs, fast-track project design and implementation) to overcome a risk-averse culture. Flagship projects build trust in the smart government agenda and foster entrepreneurship ('seeing is believing').

If necessary you can use the above-mentioned major principles as the basis for developing more specific principles (e.g. user-centricity in service design). For less mature organisations, principles that are more specific – derived from the high-level principles outlined above – provide more guidance to leadership and employees. Ultimately it's important to capture these principles in a written and binding document and promote it within the organisation.

III. Key questions for politicians and public managers

- Are these new cultural and service design principles well established in your organisation?
- Does your organisation have a written document stating the cultural and service design principles?
- Do government representatives and high-level civil servants promote new cultural and service design principles?
- Have you recently assessed your organisation's current status in terms of new digital cultural and service-design principles?
- Do your employees feel involved and engaged in smart government transformation?
- Is the establishment of these new principles reflected in the strategy, project roadmap and respective investment plans?

2.4 New HR approach

Public administrations must adapt their recruiting and training criteria and career models to respond to emerging new skill requirements.

I. Why is this relevant?

New tasks, capabilities and cultural and service design principles must be reflected in corresponding changes to the HR. The need for action is underscored by predictions about developments in the workforce: in Switzerland, estimates indicate that by 2030, 20-25 % of today's work will be automated, which would lead to between 1 and 1.2 million jobs being displaced. At the same time, digitalisation also requires new job profiles, corresponding to the creation of between 0.8 and 1 million new jobs in Switzerland[29]. The WEF estimates that only 58 % of today's skills will remain relevant, meaning that by 2022 no less than 49 % of all employees in Switzerland will require significant re- and upskilling[30]. By way of further comparison, in 1984, the half-life of an acquired competence was estimated at 30 years, while nowadays it is already only five years[31]. Estimates also indicate that types of employment will become more flexible (e.g. part-time contracts, flexible resources like contractors, and digital nomads).[30]

II. What has to be changed?

All this means that public administrations must adapt their recruiting and training criteria, accepting re-qualification and lifelong learning as increasingly important:

- First, recruiting should be adapted in line with the new capabilities required for smart government. On the one hand, public administrations must hire dedicated staff for certain highly specialised tasks such as data management and cybersecurity. On the other hand, many functional job profiles will have to be augmented with the capability categories described in the previous section: technological, methodological, social and cross-cutting skills. Job profiles are generally becoming more hybrid and multi-rational.
- Second, training should be adapted accordingly. On the one hand, the content of training should shift from merely functional towards the capability categories of technological, methodological, people and cross-cutting skills. On the other hand, re-qualification and lifelong learning are becoming increasingly important, since the half-lives of skills continue to decline.
- Third, public administration must prepare and allow less linear career paths. While public administration is currently geared to traditional career paths, non-linear careers are becoming increasingly common.

It is crucial to understand that these implications apply to both employees and the political and administrative leadership.

III. Key questions for politicians and public managers

- Do your government representatives and high-level civil servants cover the new digital skills adequately (i.e. technology management, data management, cybersecurity, business analysis, user experience, change management and innovation management)?
- Does your current workforce cover the new digital skills adequately?
- Is the demand for new digital skills reflected in your strategic workforce planning?
- Are the new digital skills reflected in your current training and recruiting approach?
- Are the new career path needs of employees reflected in your career model?
- Have you recently assessed your organisation's recruiting and training approach and career path model?
- Do your employees feel prepared for smart government?
- Does your organisation use data analytics to better assess and plan future demand for specific skills, roles and employees (i.e. people analytics)?
- Are any changes in your HR approach reflected in the strategy, project roadmap and respective investment plans?

3. Public discourse and awareness

3.1 Political commitment and public discourse

Smart government is a long-term mission entailing initial investment, certain risks and a degree of resentment. This calls for strong political commitment and public discourse.

I. Why is this relevant?

Enabling smart government is a state-wide, long-term transformation agenda across various functions and state levels – requiring initial financial and personnel investments. Moreover, smart government entails certain risks and resentments (e.g. data protection) that need to be discussed and settled in public discourse. Smart government initiatives compete with other initiatives and policy fields for these resources and political attention. This means that political alignment and prioritisation are necessary.

II. What has to be changed?

Without a strong and broad political commitment, smart government initiatives will lack the necessary resources and management attention and remain a 'paper tiger'. Politicians and public managers need to promote public discourse on smart government – explaining the benefits, defining visions, dispelling concerns and strengthening trust. Smart government has to be a regular item on the political agenda and in public discourse to which government, parliament and public managers commit.

III. Key questions for politicians and public managers

- Is smart government being addressed in the current public discourse and recent political agendas of your community (e.g. in the legislative plan)?
- Do government, parliament and public administration have a common written vision and strategy for smart government?
- Is a specific person or committee accountable for smart government in government and parliament?

3.2 Digital awareness in society

Digital awareness is a prerequisite for smart government, and citizens must be empowered to participate in smart government solutions.

I. Why is this relevant?

Citizens often don't respond to digital initiatives in public administration, aren't prepared to accept and use them, don't want to participate in them, or simply don't know about them. Citizens' lack of participation hinders successful implementation, as active and passive participation is at the very heart of smart government. Moreover, digital awareness in society is linked to political commitment and the tendencies in the public discourse on smart government.

II. What has to be changed?

There is a strong need to empower citizens to participate in implementing smart government initiatives. Creating new services and solutions is insufficient – citizens need be aware of the services and their benefits, and must know how to use them. This means that proactive and early information and the involvement of citizens (and other stakeholders) in specific smart government projects, as well as in the general public discourse about smart government, is key to digital awareness.

III. Key questions for politicians and public managers

- Do citizens use your existing digital services as much as you expected?
- Are citizens as satisfied with your existing digital services as you expected?
- Does your organisation consistently inform about the benefits and risks of smart government in general and of the particular digital services that are in place?
- Does your organisation have a consistent approach and provide regular opportunities (e.g. newsletters, public lectures) for informing citizens and enabling them to use digital services?
- Does your organisation involve citizens in decisionmaking and solution design beyond the political process (i.e. e-participation; see chapter "Fostering citizen engagement" within the topic "Relevance of smart government")?
- Is digital awareness reflected in the strategy, project roadmap and respective investment plans?

4. Nationwide cooperation

4.1 Clear nationwide governance

Smart government requires nationwide collaboration within the political system. Roles and mandates therefore need to be clearly defined to avoid redundancies and unaligned investment and assure legal foundations and compatible technical systems.

I. Why is this relevant?

Pluralist and federalist structures and processes characterise Switzerland's political system. In such a system, clear governance – including systematic coordination and clear responsibilities – is crucial to avoid redundancies, unaligned investments and legal foundations, and incompatible technical systems and data structures. This is especially true for smart government, which depends on vertical and horizontal (cross-state and within the same state level) cooperation and, to an extent, on shared standards and certain common basic services (e.g. electronic identity).

However, we have found that there is confusion about the mandates of the many actors involved in policymaking and the implementation of smart government and digitalisation in public administration (e.g. federal government, cantons, municipalities, E-Government Switzerland, and expert committees and associations such as the Swiss Conference on Informatics[32] (SIK/CSI)). This confusion is an obstacle to the clear governance that is necessary to avoid the pitfalls mentioned above.

II. What has to be changed?

To increase the certainty for public administration and avoid the negative effects, politicians – supported by public administrations – need to streamline Switzerland's smart government ecosystem. They must clarify the roles and mandates and their implementation in day-to-day business. This governance also has to be more binding on all the actors involved.

Recently the Conference of Cantonal Governments published a position paper demanding precisely this clarification of responsibilities on a nationwide level ('Cartographie des acteurs et des responsabilités dans le domaine de l'administration numérique'/'Kartografie der Akteure und Verantwortlichkeiten im Bereich Digitale Verwaltung')[3].

III. Key questions for politicians and public managers

- Do your government representatives and high-level civil servants contribute proactively to clear governance and more collaboration concerning smart government and digitalisation, for instance in relevant nationwide committees, bodies, conferences and projects (if applicable for your organisation)?
- Do your government representatives and high-level civil servants align proactively with other communities and authorities concerning smart government (if applicable for your organisation)?

4.2 Regulatory alignment

Uncertainty about legal and data protection implications hinders smart government. A nationwide effort to identify regulatory needs is necessary.

I. Why is this relevant?

Specific legal regulations are less of a challenge at the moment than broad uncertainty about the legal and data protection implications of smart government initiatives. This is compounded by the variety and complexity of different regulations that exists in the federalist and pluralist Swiss system. This uncertainty is an obstacle to implementing smart government initiatives, and may slow down their implementation.

II. What has to be changed?

Politicians and public managers need to push for the alignment and systematic analysis of regulatory needs across all state levels in Switzerland and the subsequent actions. A shared understanding of smart government among legal and technical experts is a prerequisite. In the position paper mentioned above, the Conference of Cantonal Governments also calls for such a systematic regulatory effort ('Agenda pour la réglementation et l'activité législative'/'Regulierungs- und Rechtssetzungsagenda')[3].

III. Key questions for politicians and public managers

- Do your government representatives and high-level civil servants contribute proactively to the alignment and systematic analysis of regulatory needs concerning smart government and digitalisation, for instance in relevant nationwide committees, bodies, conferences and projects (if applicable for your organisation)?
- Do your government representatives and high-level civil servants align proactively with other communities and authorities concerning the legal implications of smart government (if applicable for your organisation)?
- Does your organisation have specific guidelines that help employees clarify the legal challenges associated with smart government (e.g. data protection/security guidelines, legal checklists for smart government projects)?
- Does your organisation have a mechanism to collect, share and address the potential legal and data protection implications and uncertainty of smart government initiatives?

4.3 IT infrastructure and standards

To scale up benefits, authorities need to intensify collaboration in procurement, design and hosting and invest more in interoperable, modular and re-usable solutions.

I. Why is this relevant?

The Swiss public administration faces three primary challenges in terms of technical infrastructure and architecture: 1) heterogeneous infrastructures at the same state level (e.g. canton to canton), between state levels (e.g. municipalities to canton) and between departments and offices of the same government body; 2) many proprietary legacy systems; 3) a procurement law that hinders the re-use of solutions (a total revision of this legislation is ongoing). These challenges lead to high costs and less innovation.

II. What has to be changed?

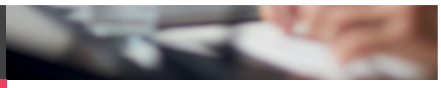
Closer collaboration, more binding use of common standards and broader sharing of solutions between authorities are key to addressing these challenges. Collaboration needs to focus on certain basic services that authorities use jointly (electronic identity, electronic signature, SEDEX[33]) and solutions that are highly scalable and re-usable and simplify use for citizens and companies (e.g. appointment scheduling, contact forms, and chatbots, payment systems and extracts from debt enforcement registers). This also includes solutions that require cross-state or inter-state exchange (eMovingCH[16]).

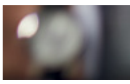
Again in line with the Conference of Cantonal Governments, we find that to enable closer collaboration, authorities will need to commit to established standards (e.g. by eCH[34]) and common platforms (e.g. SIK/CSI[32], eOperations Switzerland[35], HPi[36], eJustice[37]) to procure, develop and host solutions together (e.g. eMovingCH[16], Suisse ePolice[38], Justitia 4.0[39]). While this doesn't mean that all federal agencies, cantons and municipalities necessarily have to use the same solutions, they do need to be interoperable, modular and re-usable. Additionally, the establishment of new financing and operating models for solutions might facilitate more innovative and cost-efficient solution design and operations (regional operating agencies, public-private partnerships, licensing models, and SIK agreements for public administrations).

III. Key questions for politicians and public managers

- Do your government representatives and highlevel civil servants contribute proactively to closer collaboration concerning the procurement, development and hosting of IT systems and solutions, for instance in relevant nationwide committees, bodies, conferences and projects (if applicable for your organisation)?
- Does your organisation align proactively with other communities, authorities or existing platforms before procuring or developing a new solution (e.g. concerning common needs, joint procurement/ development, compatibility)?
- Does your organisation consistently use or plan to use established standards and common platforms to develop, procure and host new solutions?
- Do existing IT systems and solutions and ongoing IT projects within your organisation follow the principles of being interoperable, modular and re-usable?

What's next?

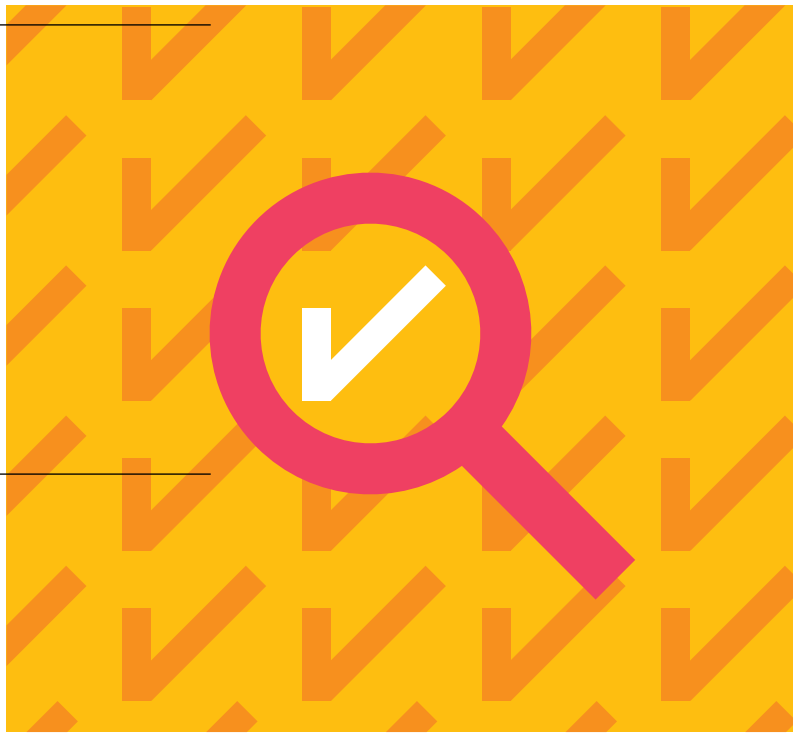




The enablers we've outlined in this paper will enable politicians and public managers to assess their organisation's capability to implement smart government, identify gaps and eventually boost the success of their smart government initiatives.
The key questions for politicians and public managers give an initial indication of where the major gaps might be. But then a detailed maturity assessment is necessary. Having identified the gaps, politicians and public managers need to prepare projects or measures to fill them. Then the real work starts.

How can PwC help?

Our experts have gathered a wealth of experience in digital transformation and smart government, both in Switzerland and internationally. They'll be happy to discuss and share this experience with you. The support we've provided to clients in public administration and other sectors in Switzerland and abroad ranges from digital maturity assessments, digital strategies, digital transformation programmes and setting up digital offices to designing and implementing new business models, service offerings and digital solutions.



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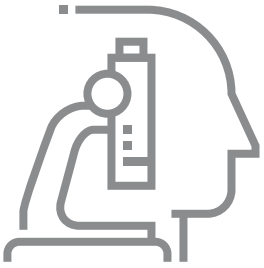
About the Smart Government Lab

In view of the conflict between the diverse requirements of the environment and rapidly developing technologies, the pressure on public administration to redesign service provision is increasing.



Digital transformation has enormous potential for public administration. Against this backdrop, in 2017 the Smart Government Lab was created to address the question of what tomorrow's public administration should look like, and how it should prepare.

In close cooperation with the City of St. Gallen and PwC Switzerland, the Smart Government Lab combines the practical experience of various players with the latest research findings. The aim is to acquire knowledge about the possibilities and challenges of digitalisation and to develop new, practice-relevant approaches that increase the innovative power of public administration and improve service provision. Together with our practice partners, we develop scenarios for the digital future and set the course for the state and public administration.

The Smart Government Lab is located at the Institute for Systematic Management and Public Governance (IMP-HSG) of the University of St. Gallen.

Endnotes and references

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[3] This chapter was not part of the research study "Smart Government Success Factors". It is based on findings of several studies, practitioners' reports and practical examples – nota bene the categories are inspired by the report *"Smart Government – How the civil service can use data intelligently"* by bitkom and McKinsey & Company (2018). We have further developed and complemented the categories based on other studies, reports and examples.

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[11] "Once-only" aims to ensure that citizens, institutions, and businesses only have to provide certain standard information to the authorities once and that this information is maintained only by one unit within the authority – while adhering to data protection regulations and the explicit consent of the users.

[12] "No-stop Government" refers to the idea that the administration automatically triggers services for which citizens and companies concerned do not need to take action.

[13] Original figures relate to Germany and have been adjusted by the Swiss GDP ratio in order to estimate the potential savings for Swiss companies – National Regulatory Council (Nationaler Normenkontrollrat) (2017). *Mehr Leistung für Bürger und Unternehmen: Verwaltung digitalisieren. Register modernisieren.*

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[32] The Swiss Conference on Informatics (SIK/CSI) is a national organisation that groups together the IT organisations of the Confederation, the cantons and the communes as well as of the Principality of Liechtenstein. The aim of the Swiss Conference on Informatics is to promote cooperation in the area of information technology and telecommunications (ICT) – Swiss Conference on Informatics (n.d.) *Die SIK stellt sich vor.* Retrieved from: http://www.sik.ch.

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[35] The purpose of eOperations Switzerland is the joint development and hosting of IT solutions for digital public services provided by the federal, cantonal and municipal authorities. In this way, the public sector saves costs and is able to launch digital solutions for companies and citizens more quickly. eOperations Switzerland provides consulting and project management services for its public customers and invites tenders for services on the market as required. Its business activity is not profit-oriented – E-Government Switzerland (n.d.). *eOperations Switzerland.* Retrieved from: https://www.egovernment.ch/en/umsetzung/schwerpunktplan/eoperations-schweiz.

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[37] The association eJustice.CH aims to promote the use of information technology to increase efficiency and effectivity in the administration of justice of the Confederation, cantons and municipalities. It brings together law-enforcement authorities and judicial authorities from cantonal and federal authorities, associations, legal users and leading service providers as well as interested private individuals – Verein eJustice (n.d.). *Der Verein eJustice.CH bezweckt die Förderung des Einsatzes von Informationstechnologie.* Retrieved from: https://www.ejustice.ch.

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[39] The ambition of the Justitia 4.0 project is to introduce electronic legal transactions including file inspection throughout all federal levels and instances, as well as to conduct the business of the judicial authorities digitally and, thus, to establish the electronic court records as the authoritative and legally valid file – Harmonisierung der Informatik in der Strafjustiz (n.d.) *Vision und Zielsetzungen Justitia 4.0.* Retrieved from: https://www.his-programm.ch/de/Projekte/Justitia-40

Self-assessment for politicians and public managers

Based on the enablers we have identified, politicians and public managers can assess their organisation's capability to implement smart government, identify gaps and eventually boost the success of smart government initiatives.

In the paper we suggest some key questions for politicians and public managers to get an initial idea of where the major gaps might be. This has to be followed by a detailed maturity assessment. After identifying the gaps, politicians and public managers need to prepare projects or measures to fill them. Then the real work starts.

This quick self-assessment should help you understand where the gaps in your organisation might be.

Leadership and strategy	agree	partly agree	disagree
Is there a common understanding of smart government, its implications and the vision in your organisation and with relevant stakeholders?	☐	☐	☐
Do government representatives and high-level civil servants actively contribute to smart government?	☐	☐	☐
Do the government and high-level civil servants work cross-departmentally on the smart government strategy and agenda?	☐	☐	☐
Is smart government a regular item on the agenda of leadership meetings?	☐	☐	☐
Do you have a dedicated smart government strategy or a dedicated section in your overall strategy?	☐	☐	☐
If yes, have the key stakeholders (departments, citizens, front office employees, other state levels, etc.) been involved in strategy design?	☐	☐	☐
Does the smart government strategy serve the overall strategy and positioning of your organisation/community?	☐	☐	☐
Is there a concrete project roadmap with long-term objectives, committed investments and KPIs to realise the strategy?	☐	☐	☐

Organisational transformation

	agree	partly agree	disagree
New tasks			
Have you recently assessed the need for organisational changes to get ready for smart government?	☐	☐	☐
Have you recently assessed your organisation's digital maturity?	☐	☐	☐
Does your organisation have overarching steering and coordination mechanisms and/or units for smart government (e.g. a digital office or smart government steering committee)?	☐	☐	☐
Do you have a systematic approach or a common platform for developing new solutions and services in your organisation (e.g. design principles for digital solutions, incubators)?	☐	☐	☐
Has your organisation recently launched any new solutions or services that you consider 'smart' (e.g. automation, digital service offerings like chatbots)?	☐	☐	☐
Does your organisation have a systematic approach or a common platform for developing new digital skills and capabilities in your organisation?	☐	☐	☐
Are required organisational changes reflected in your smart government strategy or roadmap (e.g. concrete project to set up a new unit)?	☐	☐	☐
New capabilities			
Are new digital capabilities well established in your organisation?	☐	☐	☐
Have you recently assessed your organisation's current state, maturity and capacity for new digital capabilities?	☐	☐	☐
Have you recently assessed your organisation's needs regarding new digital capabilities?	☐	☐	☐
Is the establishment of new capabilities reflected in the strategy, project roadmap and respective investment plans?	☐	☐	☐
New cultural and service design principles			
Are new cultural and service design principles well established in your organisation?	☐	☐	☐
Does your organisation have a written document stating the cultural and service design principles?	☐	☐	☐
Do government representatives and high-level civil servants promote new cultural and service design principles?	☐	☐	☐
Have you recently assessed your organisation's current state regarding new digital cultural and service-design principles?	☐	☐	☐
Do your employees feel involved and engaged in the smart government transformation?	☐	☐	☐
Is the establishment of these new principles reflected in the strategy, project roadmap and respective investment plans?	☐	☐	☐

Organisational transformation (cont.)

	agree	partly agree	disagree
New HR approach			
Do your government representatives and high-level civil servants cover the new digital skills adequately (i.e. technology management, data management, cybersecurity, business analysis, user experience, change management, and innovation management)?	☐	☐	☐
Does your current workforce cover the new digital skills adequately?	☐	☐	☐
Is the demand for new digital skills reflected in your strategic workforce planning?	☐	☐	☐
Are the new digital skills reflected in your current training and recruiting approach?	☐	☐	☐
Are new career path needs of employees reflected in your career model?	☐	☐	☐
Have you recently assessed your organisation's recruiting and training approach and its career path model?	☐	☐	☐
Do your employees feel prepared for smart government?	☐	☐	☐
Does your organisation use data analytics to better assess and plan your future demand for specific skills, roles and employees (i.e. people analytics)?	☐	☐	☐
Are any changes in your HR approach reflected in the strategy, project roadmap and respective investment plans?	☐	☐	☐

Public discourse and awareness

	agree	partly agree	disagree
Political commitment and public discourse			
Is smart government being addressed in current public discourse and recent political agendas in your community (e.g. in the legislative plan)?	☐	☐	☐
Do government, parliament and public administration have a common written vision and strategy for smart government?	☐	☐	☐
Is a specific person or committee accountable for smart government in government and parliament?	☐	☐	☐
Digital awareness in society			
Do citizens use your existing digital services as much as you expected?	☐	☐	☐
Are citizens as satisfied with your existing digital services as you expected?	☐	☐	☐
Does your organisation consistently inform about the benefits and risks of smart government in general and of particular digital services that are in place?	☐	☐	☐
Does your organisation have a consistent approach and provide regular opportunities (e.g. newsletters, public lectures) to inform citizens about digital services and enable them to use them?	☐	☐	☐
Does your organisation involve citizens in decisionmaking and solution design beyond the political process (i.e. e-participation; see Chapter 1)?	☐	☐	☐
Is digital awareness reflected in the strategy, project roadmap and respective investment plans?	☐	☐	☐

Nationwide cooperation

	agree	partly agree	disagree
Clear nationwide governance			
Do your government representatives and high-level civil servants contribute proactively to clear governance and more collaboration concerning smart government and digitalisation, for instance in relevant nationwide committees, bodies, conferences and projects (if applicable)?	☐	☐	☐
Do your government representatives and high-level civil servants align proactively with other communities and authorities concerning smart government (if applicable)?	☐	☐	☐
Regulatory alignment			
Do your government representatives and high-level civil servants contribute proactively to the alignment and systematic analysis of regulatory needs concerning smart government and digitalisation, for instance in relevant nationwide committees, bodies, conferences and projects (if applicable)?	☐	☐	☐
Do your government representatives and high-level civil servants align proactively with other communities and authorities concerning the legal implications of smart government (if applicable)?	☐	☐	☐
Does your organisation have specific guidelines that help employees clarify the legal challenges related to smart government (e.g. data protection/security guidelines, legal checklists for smart government projects)?	☐	☐	☐
Does your organisation have a mechanism to collect, share and address the potential legal and data protection implications and uncertainty of smart government initiatives?	☐	☐	☐
IT infrastructure and standards			
Do your government representatives and high-level civil servants contribute proactively to closer collaboration on the procurement, development and hosting of IT systems and solutions, for instance in relevant nationwide committees, bodies, conferences and projects (if applicable)?	☐	☐	☐
Does your organisation align proactively with other communities, authorities or existing platforms before procuring or developing a new solution (e.g. concerning common needs, joint procurement/development, compatibility)?	☐	☐	☐
Does your organisation consistently use or plan to use established standards and common platforms to develop, procure and host new solutions?	☐	☐	☐
Do your organisation's existing IT systems and solutions and ongoing IT projects follow the above-mentioned principles: interoperable, modular and re-usable?	☐	☐	☐

Feel free to reach out to our PwC Experts to discuss your key issues.

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