Public sector innovation
Concepts, trends and best practices

SUMMARY
The public sector is an important employer, service provider and procurer. Innovations in the public sector mainly focus on processes, products, organisation and communication. Citizens and businesses alike benefit from a professional and modern public administration in terms of better governance, faster service delivery, co-creation and co-design of politics.

There is no overall European Union law that targets public sector innovation per se. The European Commission, however, provides guidelines on public sector innovation. Many of these guidelines aim to tackle challenges deriving from digital transformation, increased mobility and cross-border interoperability.

In 2013, an expert group appointed by the Commission encouraged the EU and its Member States to overcome innovation barriers in the public sector by, for instance, improving the management and ownership of innovation processes, empowering innovation actors, and providing standards for innovation. In this context, the EU has been implementing its innovation union policy, promoting best practices and co-financing the establishment and activities of the Observatory of Public Sector Innovation (OPSI) of the Organisation for Economic Co-operation and Development (OECD). While today many of the expert group's recommendations have been implemented – such as innovation labs and networks, policy labs, innovation scoreboards or toolboxes – some, however, remain unaccomplished.

The European Parliament has demonstrated a positive stance towards innovation in the public sector on several occasions, including encouraging the Commission to speed up the realisation of the digital single market. More recently, Parliament adopted resolutions on the Commission's EU e-government action plan and on the proposed new digital Europe programme.
Introduction

The public sector plays an important role in modern economies. In both business and the public sector, innovation can be key to fostering economic growth and prosperity, to reducing costs and improving services. Today’s understanding of the relevance of innovation for fostering economic growth and prosperity, as well as the relevance of entrepreneurship for generating innovation (by ‘creatively’ destroying the status quo), mainly relies on the ideas of Austro-American political economist Joseph Schumpeter (1883-1950).

In the European Union (EU), the public sector accounts for more than 25% of total employment. The public sector is not only an important employer, but also a major service provider and source of public procurement. Since there is no overall European Union law that targets public sector innovation per se, Member States have complete control over their public administrations and corresponding innovation therein. The European Commission, however, acts as a guide on public sector innovation by, e.g. promoting best practices and providing guidelines. These guidelines aim to tackle one of the current major challenges, i.e. digital transformation and its impact on citizens, business and the single market.

Innovation in the public sector (e.g. better governance, faster delivery, co-creation and co-design of politics) can positively affect businesses and citizens alike, allowing them to benefit from a professional and efficient public sector. However, the extent to which entrepreneurial action is possible in the public sector is less evident – here, innovation strategies are often less developed than in the business sector. In addition, the innovation impetus in the public and business sector is characterised by different motivations, resources and risk attitudes.

There are two main categories of public sector innovation: innovation in and innovation through the public sector. While the first mostly describes the modernisation of public services to render them more citizen- and business-friendly, the latter focuses on large-scale high-cost and high-risk innovations where the business sector was initially reluctant to invest, such as space technology or nanotechnology, transport (e.g. high-speed trains), or digital infrastructure (e.g. the internet).

This briefing provides an overview of the state of play (e.g. concepts, trends, best practices) on the first of these types, i.e. innovation in the public sector in EU Member States and in third-countries.

Definition, objectives, drivers, challenges

According to a 2013 European Commission report, public sector innovation can be defined as the process of generating new ideas, and implementing them to create value for society. To this end, public sector innovation is about new or improved processes and services. The OECD describes public sector innovation as improvements in administration and/or services, i.e. the implementation of new or significantly improved operations or products. Both the Commission and OECD definitions point out that implementation and significant changes compared to existing practices is key. Innovations must not be new inventions, but be new in terms of their introduction.

At least three generic innovation objectives and outputs of public sector innovation have been identified: (1) policies and initiatives with an internal focus on enhancing public sector efficiency; (2) policies and initiatives with an external focus on improving services; and (3) outcomes for citizens and businesses, and policies and initiatives with a focus on promoting innovation in other sectors.

In the public sector, (at least) four types of innovation can be differentiated:

- A product innovation is the introduction of a service or good that is new or significantly improved compared to existing services or goods. This includes improvements in the service or good’s characteristics, in customer access or in how it is used.
- A process innovation is the implementation of a method for the production and provision of services and goods that is new or significantly improved compared to existing processes. This
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may involve significant improvements in, for instance, equipment and/or skills. It also includes improvements in support functions such as IT, accounting and purchasing.

An organisational innovation is the implementation of a new method for organising or managing work that differs from existing methods. This includes new or significant improvements to management systems or workplace organisation.

A communication innovation is the implementation of a new method of promoting the organisation or its services and goods, or new methods to influence the behaviour of individuals or others. These must differ significantly from existing communication methods.

The principal drivers of public sector innovation, inter alia, are: (1) political ambition; (2) public demand including business; and (3) tightening resources. In the European Union, a further driver could be added: (4) the collective articulation of some or all of these aspects. Some experts also mention (5) financial savings as an important driver – although this is less evident for innovation in the public sector than in the business sector.

Among others, the main challenges to innovation in the public sector are: (1) Weak enabling factors, such as lack of knowledge on how to innovate and how to use the application effectively, as well as lack of entrepreneurial leadership, resources or of time; (2) internal problems (with e.g. staff/management, trade unions, organisational structure, logistics) and ‘turf battles’; (3) fear of negative publicity and/or public doubts about the effectiveness of innovative programmes; (4) difficulty in reaching the target group; and (5) opposition from those affected in the business sector (because of e.g. new or increased competition).

EU guidelines and action

No overall EU law targets public sector innovation per se; the Member States have discretion over their public administration and therefore any corresponding innovation. This, inter alia, explains the vast differences in public administrations across the Member States. The European Commission, however, acts as a guide by, for instance, publishing communications, action plans and guidelines on innovation in the public sector. This is in line with one of the targets of the innovation union, i.e. to ‘revolutionise the way public and private sectors work together, notably through innovation partnerships between the European institutions, national and regional authorities and business.’

In the 2013 public sector innovation report drafted by an expert group on behalf of the Commission, four activities aimed at overcoming innovation barriers were identified:

1. co-designing and co-creating innovative solutions with Member States, businesses, citizens;
2. adopting new and collaborative service delivery models across public, private and non-governmental actors;
3. embracing creative disruption from technology, for instance, use of social media, mobility, big data, cloud computing);
4. adopting an attitude of experimentation and entrepreneurship.

Furthermore, the expert group made nine recommendations to improve management and ownership of innovation processes, to addresses the practical empowerment of innovation actors, and to increase the knowledge base and provide clear benchmarks for innovation. The experts proposed to establish:

a programme to empower and network innovative public leaders through ‘deep-dive innovation’ workshops;
a ‘right to challenge’ mechanism, whereby public organisations, local governments and Member States could apply for an exemption from an existing rule or law;
an EU Innovation Lab inside the European Commission to support, facilitate and foster more innovation in the work of the Commission services;
a network of Innovation Single Contact Points in all Member States, which would provide public sector organisations with fast, practical and low-cost assistance in the development of new solutions through a peer-led process;

an instrument to coordinate the offer of technical assistance to particular Member States in replicating existing innovations (supported by ad hoc EU Innovation Delivery Teams);

an accelerator for digital innovation in public services, identifying and supporting agencies across Member States that have a radical transformative potential to act as pilots;

a Public Sector Angel Fund to enable and encourage more experimentation by providing easy and fast access to small-scale funding;

a dynamic innovation toolbox targeted at public managers, which would include a coherent set of tools focusing on collaborative innovation processes;

a European citizens’ scoreboard for public services, providing benchmarks which would allow performance measurements and comparisons to generate information for evidence-based decision-making.

While in 2020, many of the experts’ recommendations – such as innovation labs, networks, policy labs, innovation scoreboards, and toolboxes have been implemented (see below) – some, however, remain unaccomplished.

Some of the Commission’s communications and action plans dealing with the realisation of the digital single market also touch upon public sector innovation. Their aim is to tackle one of the current major challenges, i.e. digital transformation and its impact on citizens, business and the smooth functioning of the internal market. In this context, the Commission is currently implementing the EU e-Government action plan 2016-2020, which aims at accelerating the digital transformation of public administrations by implementing some 20 non-legislative and legislative initiatives. The Commission has identified three policy priorities: (1) modernising public administrations by using key digital enablers (e.g. technical building blocks such as eID, eSignature, eDelivery); (2) enabling citizen and business mobility through cross-border interoperability; and (3) facilitating digital public service interaction between administrations and citizens (including business).

Binding legislation (that affects the public sector) is proposed when it affects the proper functioning of the internal market. This might concern, for instance, the implementation of one-stop shops.

Box 1 – Overview of ICT-enabled innovation projects in the public sector

Applied co-creation to deliver public services
The CoSiE and SoCaTel projects are piloting co-design and co-creation of public services, using ICT and relying on open data or open public services.

Co-creation between public administrations: once-only principle
The TOOP and SCOOP4C projects are working on solutions to provide key data to public administrations only once, while advancing personalisation and improving user experience, as well as increasing digitisation of public services.

Policy development in the age of big data
Data-driven policy-making, policy-modelling and policy-implementation – the Co-Inform, CUTLER, PoliVisu and Big Policy Canvas projects are experimenting with the possibilities that big data offers public administrations, such as policy modelling, monitoring, enforcing, simulation, testing, analysis and policy compliance.

Cultural cooperation
Here, the aim is to explore and analyse how public administrations could become open and collaborative, encourage the participation of public, private and civil society stakeholders for effective, appropriate and user-friendly public service design, delivery and policy-making. These goals are supported by the following projects: CITADEL, COGOV, Co-VAL, TROPICO and ENLARGE.

Addressing the challenge of migrant integration through ICT
The MICADO, MIICT, NADINE and REBUILD projects are facilitating the management of migrant integration, providing better and customised services aimed at better matching migrants’ needs or implementing more efficient integration strategies at local level.

Transformative impact of disruptive technologies in public services
The CO3 and QualiChain projects have been researching the impact of blockchain, big data analytics, artificial intelligence (AI) and similar topics.
for entrepreneurs; cross-border exchange of (personal) data between public administrations (health services, procurement, customs, transport, security, etc.); the re-use of public sector information; (cross-border) data interoperability for public administrations, businesses and citizens; and data protection.

Moreover, in the field of public sector innovation, the EU not only publishes guidelines and toolboxes for practitioners, but also supports investments in public sector innovation through the European structural and investment funds (ESIF) – most notably the Connecting Europe Facility (CEF) and Horizon 2020, the EU’s current research and innovation funding programme.

So far, according to a European Commission 2019 report, projects enabled through information and communication technologies (ICT) to foster innovation and co-creation in the public sector as well as to promote the open government paradigm (i.e. open data, open services, open process), have received some €110 million of EU funding. Various Member States’ public authorities are participating in the same project. Some of the projects are listed in Box 1.

**Observatory of Public Sector Innovation (OPSIs)**

The European Union works closely with the OECD to promote innovation in the public sector. Since 2015, the Union (through the Horizon 2020 programme), has co-financed the establishment and activities of the Observatory of Public Sector Innovation, a global forum for public sector innovation. It works with governments to understand and encourage new approaches to address societal problems. To this end, it aims to empower public servants with tools, new insights, knowledge, and connections to help them explore new possibilities.

The work of OPSI consists of a combination of research activities (e.g. on system innovation, innovation life-cycle, innovation at sub-national level), capacity-building (for public servants) and providing practical tools, such as a network of innovation contact points, a virtual innovation project support, and an online interactive toolbox.

In its first phase (2016-2019), OPSI focused mostly on establishing the Observatory, researching innovation in government (case studies, publications, dissemination of lessons learnt), based on cases from national, regional and local government contexts obtained through the network of national contact points and through an annual call for innovations. The Observatory developed an interactive online platform with an increasing number of well-developed cases in order to connect all government innovators globally and to encourage their collaboration. It also contains a toolkit navigator and facilitates matching toolkits to user needs.

The second phase began in January 2020. OPSI is now focusing more on intensifying collaboration between countries’ government innovators; sharing experiences, best practices, the results of their experiments and co-designing solutions for common challenges, paying special attention to collaboration between Member States.

**Best practices in the EU Member States and in third countries**

To increase public awareness of public sector innovation efforts, several international organisations have proposed contests where they award best practices. The most popular contest in Europe is the European Institute of Public Administration’s (EIPA) European Public Sector Award (EPSA).

In 2019, some 160 projects from 28 different countries, one EU agency and one international organisation in the EU justice field, took part in the competition. There were three categories of award (see Box 2). The original wording of the reasons given for the award-winning projects is given – further examples of best practices are listed on the EPSA website.
The United Nations\textsuperscript{6} and the OECD also recognise best practices. According to the 2019 OECD report 'Embracing Innovation in Government', three trends can be observed (original wording):

**Trend 1 – Invisible to visible**

Many government efforts have focused on making government more transparent to the public, a process that fosters trust and fuels innovation.

**Best practice from Canada**: 'Carrot Rewards' is an app that combines gamification and behavioural insights to help authorities to understand the motivations and perspectives of their constituents, and nudge them to make better decisions on a variety of issues, such as healthy living and sustainability. Canadians use the app to take quizzes and track goals, and in return, they are rewarded with points that they can use for loyalty rewards programmes. Launched as a public-private partnership, 'Carrot Rewards' has become one of the most popular wellness apps.

**Trend 2 – Opening doors**

New technologies, open data, and the emergence of new business models have created space for governments to explore new opportunities that open doors to the public value of government.

**Best practice from Indonesia**: The city of Surabaya has launched Suroboyo Bus, a new transportation service that allows city residents to pay for bus fare with recyclable bottles. Commuters can bring plastic bottles directly to public buses or exchange them for bus tickets at recycling centres and drop boxes around the city. The initiative encourages improved recycling habits and helps to open doors to public transportation for those with less financial means.

**Trend 3 – Machine-readable world**

The world is being translated into bits and bytes that can be read by machines and fed into algorithms. Governments are innovating to reconceive the way policy and legislation is created by making them machine-readable.

**Best practice from Mongolia**: Counterfeit drugs constitute the world's largest fraud market, and present major challenges to the economy and people's lives, including billions of dollars lost and
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hundreds of thousands of deaths every year. In Mongolia, where up to 40% of all medicines are fake, the government has collaborated with the private sector to explore the use of blockchain and artificial intelligence to track each batch of medicine along every step of the supply chain, right up to collection by the customer, in order to catch and eliminate counterfeits.

Taking into account the current coronavirus pandemic, OPSI also lists best practices in public actions in responding innovatively to the crisis (original wording) (see Box 3).

### Box 3 – OPSI: Selected innovative responses to Covid-19

| Service delivery in a crisis/adjusting to context | Serbia formed a coalition with the private sector and provided smart phones, tablets and internet for 2,800 eight-graders coming from disadvantaged families. Serbia also enabled full electronic registration of children in preschool institutions through an eGovernment Portal, eKindergarten 100 and supported distant learning. |
| Social solidarity and ‘caremongering’ | Promoting behaviours that foster solidarity with the neighbours who need it most: elderly, sick or disabled people. In Serbia a ‘Digital Solidarity Portal’ was created to improve the quality of life of all those who are staying at home due to the coronavirus pandemic, including free resources from companies. This was combined with a ‘Be a Volunteer’ platform, which allowed people to volunteer to help older fellow citizens and other at-risk population groups. |
| Leveraging and redeploying existing resources and solutions | Originating in Canada, but now a global initiative, #findthemasks is a global mapping tool and interactive directory for personal protective equipment (PPE) to enable individuals, communities, makerspace networks, and large-scale manufacturers to help frontline healthcare and other essential workers. Also in Canada, the GC Talent Reserve initiative is a dedicated, single-window coordinated talent management tool for triaging digital and tech talent needs across the Government of Canada during the crisis. |

European Parliament position and outlook

The European Parliament has expressed its support for innovation in the business and public sector on several occasions. In this context, Parliament has adopted several resolutions, amongst others, on the digital Europe programme 2021-2027, Assessing how the EU budget is used for public sector reform, and the EU eGovernment action plan 2016-2020.

In June 2018, as part of the next long-term EU budget for 2021-2027, the European Commission proposed the new digital Europe programme to promote digital transformation. The proposal envisages spending €9.1 billion on five areas, including, inter alia, on the digital transformation of public administration and EU-wide interoperability, where the Commission has proposed to allocate €1.3 billion. Both figures, however, might be adapted in the wake of the Covid-19 crisis.

In February 2020, the Commission presented its communication Shaping Europe’s digital future. This underlined the relevance of further promoting EU-wide digital transformation of public administrations, and announced (for 2021) a reinforced EU government interoperability strategy to ensure common standards for secure and borderless public sector data flows and services.

Besides the digitalisation and modernisation of public administration, service delivery, cross-border mobility and interoperability, two other topics are gaining increasingly momentum in the public sector innovation debate: policy labs and social innovation.

Public policy labs are dedicated entities that follow an evidence-based approach and bring practitioners together with decision-makers. Co-creating and re-imagining of policies and public programmes is key. According to a European Commission’s Joint Research Centre (JRC) overview, there are some 80 policy labs in 20 Member States: Trafiklab in Stockholm, GovLab Austria in Vienna or Futures Publics in Paris, inter alia. Furthermore, the European Commission itself employs the EU Policy Lab. Some of the resulting ideas focus on how to make the EU legislation processes more transparent or how to increase civil society involvement in policy-making.

Social innovation can take different forms and may include new technologies, products, services and organisational or business models. It mainly aims to create positive societal impact, but social
innovation is not only concerned with outcomes such as (mobile) access to financial services for marginalised people, access for poor communities to reliable electricity or fair trade, but also with processes. These processes are characterised by, e.g. collaboration that crosses traditional roles and boundaries between citizens, civil society, the public sector and business. According to experts, 'this process of engagement is valuable in itself, since it creates new relationships and builds people’s capacity to do things differently in future’.

**MAIN REFERENCES AND FURTHER READING**

Sgueo, G., *Using technology to ‘co-create’ EU policies*, EPRS, European Parliament, January 2020
Technopolis Group, *Trends and Challenges in Public Sector Innovation in Europe*, 31 October 2012
van Acker, W., *An Introduction into Public Sector Innovation - Definitions, typologies, and an overview of the literature*, KU Leuven Working Paper, August 2018

**ENDNOTES**

2 Readers interested in impact assessments and methodology should also explore the 2019 Eurostat report on the StarPIN project (Statistical Reporting on Public Innovation). The StarPIN project proposes a conceptual framework for the measurement of innovation in the public sector, and discusses the implications for data collection and its analysis.
3 The European Commission provides a handy overview of its past and forthcoming action related to the challenges deriving from digital transformation.
4 This overview lists some of the binding laws related to the digital single market and its implementation.
5 The Horizon 2020 programme will officially phase out by the end of 2020. In June 2018, the European Commission presented the regulation for the successor programme, i.e. *Horizon Europe*. Currently, in the framework of the EU’s next long-term financial framework (covering 2021-2027), Horizon Europe is part of the negotiations between Council and European Parliament. The Covid-19 crisis, however, may have an impact on the content and funding of Horizon Europe.
6 The United Nations’ competition is called UNPSA, i.e. the UN Public Service Awards.
7 The Joint Research Centre (JRC) Governance, Public Sector Innovation and Social Change research group is working, inter alia, on the socio-economic impact of information and communication technologies that contribute to addressing fundamental societal challenges. See also the JRC publication on ICT-enabled social innovation.

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