OECD Public Governance Reviews

Towards Agile ICT Procurement in the Slovak Republic

GOOD PRACTICES AND RECOMMENDATIONS

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BETTER POLICIES FOR BETTER LIVES

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Foreword

Used strategically, public procurement can be a powerful tool for delivering public services effectively to citizens and for achieving the digital transformation of society and the economy. Information and communications technology (ICT) procurement, specifically, plays a decisive role in the implementation of any national digital government strategy.

OECD countries have started to experiment with using their public procurement frameworks for purchasing ICT goods and services in innovative and flexible ways. Agile approaches -- such as involving service providers, end-users and other stakeholders in the process as early as possible; modular contracting methods; iterative delivery; and constant adjustment to develop effective solutions -- are being used more often. Agility also reinforcing complementary policy goals in public procurement, such as sustainability and circularity. Indeed, ICT procurement has a clear role to play in delivering social value.

Agility, however, is increasingly becoming an important feature of public procurement processes beyond ICT. The main principles of agility, such as collaboration between the public sector and non-governmental actors, mutual engagement, trust, openness, and inclusivity, can help align the public sector and the market towards common goals, such as increased sustainability. The COVID-19 pandemic clearly showed that countries that have invested in governance, people, and technology, and that built strong digital leadership and processes in the last decade, were able to provide quick and effective digital responses to this unprecedented situation and to apply innovative approaches under stressful conditions, including in the field of public procurement.

This report aims to help the Slovak government and contracting authorities in the Slovak Republic adopt agile procurement practices for purchasing ICT solutions that are in line with the needs and trends of the digital age and contribute to the successful implementation of the 2030 Strategy for the Digital Transformation of Slovakia. The report describes current practices for ICT procurement in the Slovak Republic, identifies the bottlenecks in the current policy and regulatory framework, summarises the efforts of the Slovak government to achieve efficiency in ICT expenditure, and highlights opportunities for improving the practices building on current system's strengths. The report provides evidence-based strategic policy advice for the Slovak government on how to build a more co-ordinated governance structure for implementing ICT procurements and adopt more innovative and agile approaches in ICT procurement. Although the focus of the report is on ICT procurement, agility can be applied to many procurement areas, either as standard for sustainability and circularity or as a tool to support public buyers in digital procurement.

The report was developed under the project *"Developing agile practices for ICT procurement in the Slovak Republic",* designed by the Slovak Republic, the European Commission (EC) and the OECD, and funded through EU's DG REFORM services. The aim of the project is to support the Government of the Slovak Republic in developing tailored agile procurement practices and to ensure strategic alignment with government-led digitalisation initiatives for delivering public services.

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This report was prepared by the OECD Public Governance Directorate (GOV) under the leadership of Elsa Pilichowski, Director, and the guidance of Edwin Lau, Head of GOV's Infrastructure and Public Procurement Division. It was co-ordinated and authored by Erika Bozzay, Senior Policy Adviser at the Infrastructure and Public Procurement Division. The report benefited from valuable insights and comments from Paulo Magina and Matthieu Cahen from the same division. Tessa Cullen, at the time policy analyst on secondment from the Ministry of Business, Innovation and Employment, New Zealand drafted the first version of the sub-chapter 2.4. Overall public spending through public procurement. Miroslava Packova, local consultant working for the OECD, also contributed to the report. Valuable comments were received from Benjamin Welby and Felipe González-Zapate from the Open and Innovative Government Division at OECD. Editorial assistance was provided by Lauren Thwaites. This report was prepared for publication by Thibaut Gigou.

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Delegates from the Working Party of Leading Practitioners on Public Procurement were invited to review the document.

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Methodology

To understand the current trends and patterns in ICT procurement in the Slovak Republic and to identify areas for improvement, the OECD had conducted a comprehensive spend analysis and stakeholder mapping as well as a stock-taking exercise of the current public procurement policies and practices for the ICT domain.

The data analysed within the Report primarily consists of quantitative data provided from the national e-procurement database by the Public Procurement Office of the Slovak Republic (PPO, UVO) to the OECD. The goal of the comprehensive spend analysis is to understand the main features of current and historic spending in the purchasing category of ICT, including the type of items or services procured, type of procedure used, average amount procured, frequency of purchasing etc. In terms of purchasing categories, the analysis focuses generally on ICT services, but also considers the wider public procurement spend in the Slovak Republic.

The data provided pertains to all evaluated contracts that were announced after the 18th of April 2016 and for which the result of the tender had been published by the 31st of October 2019. All data is derived from the tender award notice, and is evaluated only in relation to the main Common Procurement Vocabulary (CPV) code of the whole contract. The CPV[1] codes contained within the analyses are primarily for **IT services**. Annex A shows the full list of the CPV codes used for the purpose of the report. The list includes the following categories:

- IT consulting; internet and support;
- IT software-related services;
- system and support services;
- information technology services;
- software support services;
- maintenance of information technology software;
- software maintenance and repair services;
- software programming and consultancy services; and
- system and support services.

Where possible, a comparison with the total overall dataset, named total procurement, has been included. This dataset contains the statistics from all published tenders between the same date range from the 18th of April 2016 to the 31st of October 2019. In some instances, the data has been divided into a year upon year analysis. It should be noted that when the data is divided into years, for both 2016 and 2019, the data does not span a full year. Data is rounded to the nearest whole number.

Further information was gathered during two fact-finding missions organised in December 2019 and January 2020. These fact-finding missions included interviews with: the PPO; the Deputy Prime Minister's

Office; the Ministry of Finance; Information Technology Association Slovakia (ITAS); Slovensko Digital; Office of the Mayor of the City of Bratislava; Slovanet; DEUS (DataCentrum elektronizácie územnej samosprávy); the Ministry of Interior; the Anti-Monopoly Office; and Stop Corruption Slovakia.

OECD also conducted a stakeholder mapping exercise to identify the stakeholders involved in this purchasing category, identifying their roles (also in terms of the implementation of the National Digital Agenda of the Slovak Republic) and business processes in place. Finally, OECD collected information, mainly through meetings with different stakeholders during the fact finding missions, but also partially through literature review, on the current public procurement practices in this purchasing category.

Additional data was gathered from other resources, including the *Strategy for the Digital Transformation of Slovakia 2030*[2] and the *Information and Communication Technology Sector in Slovakia*[3] issued by the Slovak Investment and Trade Development Agency (SARIO). OECD surveys and reports, including the *Government at a Glance 2019* (OECD, 2019[1]), and the *Progress on Implementing the 2015 Recommendation on Public Procurement* (OECD, 2019[2]) also served as sources.

References

OECD (2019), *Government at a Glance 2019*, OECD Publishing, Paris, https://doi.org/10.1787/8ccf5c38-en. [1]

OECD (2019), *Reforming Public Procurement : Progress in Implementing the 2015 OECD Recommendation*. [2]

Notes

[1] The Common Procurement Vocabulary (CPV) establishes a single classification system for public procurement aimed at standardising the references used by contracting authorities and entities to describe the subject of procurement contracts. https://simap.ted.europa.eu/cpv. The use of the CPV is mandatory in the European Union as from 1 February 2006.

[2] https://www.mirri.gov.sk/wp-content/uploads/2019/10/SDT-English-Version-FINAL.pdf

[3] Information and Communication Technology Sector in Slovakia, August 2019, Slovak Investment and Trade Development Agency, SARIO, https://www.sario.sk/sites/default/files/content/files/sario-ict-sector-in-slovakia-2019-09-09.pdf

Executive summary

Public procurement is crucial for delivering public services, whether in health, education, infrastructure or public safety. More specifically, information and communication technologies (ICT) procurement plays a decisive role not only in delivering public services but in public sector modernisation. Moreover, the ICT sector is an enabler of economic progress and an important driver of the national and global digital economy. However, ICT procurements that successfully support the digital transformation of public services are becoming increasingly complex. They require efficient governance frameworks, whole-of-government co-ordination and collaboration, strengthened leadership, innovative procurement and contract management strategies and practices, as well as institutional capacities and capabilities for managing and monitoring complex ICT projects.

The Slovak Government's annual spending on ICT goods and services is significant, and mostly funded from European Union funds. It is important that this money is spent in a transparent and effective way.

Key findings

- Public procurement is not seen as a tool for achieving strategic priorities, but as an operational tool for purchasing goods and services at the lowest price. The almost exclusive use of the lowest price criterion also entails the application of prescriptive technical specifications, which limit innovation.
- Contracting authorities do not have sufficient confidence and capability to develop new approaches to ICT procurements, including engaging industry in strategic partnerships.
- Contracting authorities are not supported by a clear, whole-of-government ICT procurement strategy. Co-ordination among different government institutions that have a mandate in this specific area is neither sufficient nor efficient. As a result, individual contracting authorities' purchasing decisions focus on agency-specific solutions rather than whole-of-government solutions. Also, they receive limited guidance on how to align their ICT spending to fulfil the Government's digital transformation objectives.
- High levels of dependency upon a single service provider, "technological/vendor lock-in", continues to be the biggest issue facing ICT procurement in the Slovak Republic. Many public organisations find themselves unintentionally "locked" into particular ICT solutions, as they have repeatedly failed to improve tender documentation to be sufficiently flexible and to allow for future vendor turnover.
- Risk-averse behaviour can hinder contracting authorities: innovative, agile approaches are usually perceived as being riskier than well-known, traditional approaches. The organisational culture itself does not make it easy for authorities to accept the level of risk associated (or perceived to be associated) with agile methods. The multi-layered control environment, which focuses exclusively on legal compliance, also contributes to risk aversion. This is, however, a systemic issue in the Slovak public procurement system.
- There is a lack of professional knowledge and expertise on the side of the public buyers. The tender documentation is usually prepared by external consultants who are not always aware of the real needs of the contracting authority and the government. On the other hand, there are highly

motivated internal staff members eager to apply agile approaches. However, they do not know how, concretely, to do so, as there are no published good examples and only a limited awareness of practical methodologies for applying agile methods in ICT procurement.

- There is high turnover in IT companies; there is also a significant brain drain of IT experts from the Slovak Republic to other countries, resulting in a lack of institutional memory for both contractors and suppliers.

These challenges are often interlinked, which makes it particularly difficult to address them.

Recommendations

- Develop a **national strategy for ICT procurement**, applicable across the whole public sector, that:
  - promotes coherent and aligned approaches and processes for ICT procurement
  - promotes the strategic use of public procurement, including quality-based selection of the tenders and a more strategic approach to the preparatory phase of ICT procurement
  - demonstrates political leadership for more innovative, agile and iterative approaches
  - promotes competition in ICT procurement by increasing the chances of small specialised firms to access ICT contracts in their area of expertise
  - encourages transparent and effective stakeholder participation throughout the entire public procurement cycle.

The national strategy for ICT procurement should be an integral element of the national digital government transformation strategy.

- **Co-ordinate more closely, both horizontally and vertically, in the management of ICT procurement** tasks in government to support the implementation of the Government's digital goals, building on existing solutions, such as the current role of the Ministry for Investment, Regional Development and Informatization.
- Promote **better collaboration between the ICT sector and government**, for example by developing a forum to capture supplier feedback on procurement issues in a planned, strategic and collaborative way, with a view to improving procurement processes for both suppliers and buyers.
- Support agile approaches through **capacity building,** such as
  - developing and implementing capacity-building strategies for government staff who are involved in ICT procurement, including staff involved in the control of procurement procedures
  - developing operational tools for applying agile methods in ICT procurement
  - creating a national competency centre or a dedicated knowledge-sharing platform
  - creating safe spaces for experimentation to introduce flexible and agile approaches in ICT procurement, for example by undertaking pilot ICT projects using agile approaches and then communicating their results widely, as well as developing communities of practice in order to exchange knowledge
- Expand the **centralisation of ICT procurement** for aggregating the demand for several ICT products and services (e.g. software development, IT assistance, cloud computing services) to strengthen public sector negotiating power, exploit synergies, enable savings and promote the adoption of interoperable solutions across the central and local level.
- Encourage joint procurement (or joint developments) of IT solutions and encourage the re-use and sharing of digital solutions across the administration.
- **Reinforce the adoption of existing common standards for ICT procurement**, developing clear criteria to guide the public administration's purchasing processes.

1 Supporting public service delivery with efficient ICT public procurement

This chapter presents the importance and relevance of ICT procurement in providing effective public services to citizens and businesses and in implementing a national digital government strategy. It also highlights the need for new approaches in ICT procurement and demonstrates good examples from OECD countries on ICT procurement reforms and the use of innovative, flexible approaches for ICT procurement.

1.1. The role of ICT procurement in developing a modern, digital public sector

1.1.1. Economic power of public procurement

Public procurement is a crucial pillar of service delivery for governments, affecting citizens' lives in areas ranging from health services to energy efficiency. The sheer size of public procurement, representing approximately 12% of gross domestic product (GDP) in OECD countries, makes it a key economic activity, ranging from 4.9% in Mexico to 19.5% in the Netherlands. In the **Slovak Republic**, in 2017, this was 13.8%. (OECD, 2019[1]).

The economic weight of public procurement is more pronounced at times of economic recession: therefore, in three-quarters of OECD countries the relative size of public procurement spending in terms of GDP reached a peak in 2009, when economic recession struck most of them. Since then, the relative size of public procurement spending in OECD countries had been slowly decreasing, but remained rather constant over the last few years. However, a new increase in the size of public spending throughout public procurement can be forecast for the next few years as the recently adopted recovery packages to strengthen economies and to mitigate socio-economic damage from the COVID-19 crisis foresee massive public spending and public investments. A considerable part of recovery spending will be carried out through public procurement.

The large volume of public funds associated with procurement procedures creates risks of inefficiency, mismanagement and lack of integrity, but also enables the use of this important policy mechanism for the achievement of broader economic and societal impacts. Well-governed public procurement, on the other hand, plays a major role in fostering public sector efficiency, establishing citizens' trust and in achieving policy goals such as environmental protection, innovation, job creation and the development of small and medium enterprises.

1.1.2. ICT public procurement as a foundation for public sector digitalisation

Public procurement also has a decisive role in public sector modernisation and digitalisation. Specifically, procurement of Information and Communication Technologies (ICT) plays a significant role in this regard. Principle 11 of the **OECD Recommendation of the Council on Digital Government Strategies** (OECD, 2014[2]) underlines the importance of creating an ICT procurement environment and strategy that supports the digital transformation of the public sector.

The Recommendation, that was developed to support governments to drive the digital transformation of the public sector, identifies the existence of a proper ICT procurement framework as one of the fundamental requirements for sound digital government. This framework should include:

- ICT procurement rules that are compatible with current trends in technology and modern methods of ICT deployment[1]
- fostering the development of shared ICT services and resources in a context of distributed responsibilities
- capabilities reinforcement to improve ICT public procurement (Box 1.1.)

Box 1.1. OECD Recommendation on Digital Government Strategies

The Council

IV. RECOMMENDS that, in implementing the digital government strategies, governments should:

11. Procure digital technologies based on assessment of existing assets including digital skills, job profiles, technologies, contracts, inter-agency agreements to increase efficiency, support innovation, and best sustain objectives stated in the overall public sector modernisation agenda. Procurement and contracting rules should be updated, as appropriate, to make them compatible with modern ways of developing and deploying digital technology.

Source: OECD (2014) Recommendation of the Council on Digital Government Strategies; https://legalinstruments.oecd.org/en/instruments/OECD-LEGAL-0406.

Public procurement, indeed, can play an important role in public service digitalisation, especially if it is used strategically and supported by sound governance frameworks. The **OECD Recommendation on Public Procurement,** adopted by the OECD Council in 2015, which builds on good practices from OECD member countries, provides a comprehensive framework for countries to design their public procurement system in a way that fully supports their national digitalisation efforts (OECD, 2015[3]).

The Recommendation promotes the strategic use of public procurement and provides a framework for the proper allocation of public resources by using public procurement as a governance tool and ensuring greater efficiency of the procurement processes. It contains 12 integrated principles that address the entire procurement cycle and promote a whole-of-government approach while integrating public procurement with other elements of strategic governance such as budgeting, financial management and additional forms of services delivery. (Figure 1.1.)

Figure 1.1. OECD Recommendation on Public Procurement

Source: (OECD, 2015[3])

The Recommendation is the overarching OECD guiding framework that promotes the strategic and holistic use of public procurement. It is a reference for modernising procurement systems and can be applied across all levels of government and state-owned enterprises.

The Recommendation supports a comprehensive and integrated approach to the procurement cycle and reflects the growing interest from governments in transforming public procurement into a strategic policy lever. By helping governments better meet their policy objectives, well governed public procurement contributes directly to greater public trust, enhanced well-being and more prosperous and inclusive societies.

Beyond the need for investing in governance and technology, the Recommendation also highlights the importance of continuous investment in people through capacity building and professionalisation. Dealing with a changing world and addressing new challenges, such as the digital transition, requires effective and efficient staff that possess analytical, regulatory, delivery, co-ordination, and management capacities. This includes having the capacity to develop and implement strategies, including selecting and making investments to achieve policy objectives; ensuring stakeholder engagement; measuring the impact on the basis of reliable data; and achieving results that are compliant with international obligations and for EU members, such as the Slovak Republic, with the policy and regulation on public procurement of the European Union.

1.1.3. Impact of COVID-19 on public sector digitalisation and public procurement

The COVID-19 pandemic demonstrated the importance of well-governed public procurement systems for an effective and swift reply to crisis (OECD, 2020[4]). It has also shown how important digital assets have become to our economies and how networks and connectivity as well as basic and advanced digital skills sustain our economies and societies by allowing work to continue, tracking the spread of the virus and accelerating the search for medicines and vaccines. (OECD, 2020[5])

Countries around the world have put in place specific measures to mitigate the impact of the pandemic. Lock-down measures brought the physical delivery of many public services to a standstill and forced governments to switch to teleworking in several sectors and provide public services such as education or even health services remotely. As a result, governments faced several challenges across the public sector, such as high demand for laptops and digital devices for civil servants, teachers and other professions, or inter-operability issues due to inconsistent rules on video conferencing software for different public organisations that consequently could not talk to one another, to name a few. These challenges required immediate solutions and public procurement played a role in filling the gaps.

In the **Slovak Republic**, public authorities also actively used digital technologies to help the society and economy to cope with the COVID-19 restrictions. The situation required a cooperation with non-profit organisations, suppliers of existing solutions and internal capacities to develop the solutions as soon as possible to be able to deal with COVID-19 situation quickly. The Ministry of Education for example in 2020 launched a dedicated portal[2] to help teachers and schools organise remote classes and online assessments. The portal, co-financed from EU funds, is developed by the high school students interested in IT field. The Slovak Digital Coalition[3] mobilised organisations and companies who offered services for teamwork or video conferencing to schools temporarily for free. Similar to other OECD countries, the Government of the Slovak Republic set up a single-access portal with information about coronavirus and related restrictions targeting various groups from citizens, sick people, travellers, businesses to employers or health workers[4]. The portal was developed by the national company Slovak IT, established in 2020, and enabled to develop digital services quickly within internal resources. Ministry of Health upgraded current e-health applications to offer instructions, relevant information, notifications and additional services related to COVID-19. The Ministry of Economy organised webinars and provided online support to enterprises and self-employed people on how to use EU cohesion funds and national support programmes to cope with

the restrictions. The innovator community organised a 48-hour hackathon[5] to develop new solutions for healthcare providers, cities, the economy and the communities.

1.1.4. Digital recovery after COVID-19

Digitalisation is likely to be one of the prime drivers of economic recovery as is already announced in recovery plans by several countries or for example by the European Union (EU). The EU's recovery plan, the Recovery and Resilience Facility (RRF)[6], framed the support measures for recovery along the twin transition towards climate neutral and resilient digital transformation. RRF aims to mitigate the economic and social impact of the coronavirus pandemic and make European economies and societies more sustainable, resilient and better prepared for the challenges and opportunities of the green and digital transitions. In order to get funds from RRF, EU Member States have to prepare recovery and resilience plans that set out a coherent package of reforms and public investment projects.

The EU Member States are expected to design these plans around the green and digital transitions. Each recovery and resilience plan will have to include a minimum of 20% of expenditure to underpin the digital transition. This is a good opportunity for the Slovak Republic to design a national recovery and resilience plan with prioritising the digital transformation of its public administration and building upon all previous digitalisation efforts already implemented in the country. In the Slovak national recovery and resilience plan almost every investment section includes digitalisation reforms. In particular, these reforms are planned in healthcare (telemedicine), education (digital school equipment, internet access and distance learning equipment), transportation (digital dispatching), justice (electronic litigation), police (interconnection of IT systems), and science sectors (digitalisation of industry and services). Moreover, there is an investment section called "Mobile state, fast internet, cyber security" for almost EUR 500 million (8% of the whole plan) solely focusing on ICT. Its main goal is to achieve less time-consuming and more satisfactory communication between citizens and the state. Another objective is to achieve a higher number of users of digital services, aided by an increased broadband coverage of the Slovak Republic with a connection speed of at least 100 MBit/s.[7]

In this framework, the deployment of 5G and very high capacity networks, digital skills, the digitalisation of companies and the public administration are crucial for a robust recovery. The implementation of any recovery funds, however, requires a better use of public procurement to enable innovative solutions to enter the public sector, with a specific focus on innovative digital solutions developed by SMEs and start-ups.

1.2. Challenges of ICT procurement in OECD countries

ICT procurement that successfully supports public sector modernisation and digital transformation is becoming increasingly complex, given the fast-changing nature of technology, the growing expectations of end-users and the emerging challenges related to data ownership and digital security.

Emerging technologies introduce new uncertainties (e.g. dominant standards) and new issues that need to be managed by governments (e.g. exit strategies, transitioning from legacy systems). On the supply side, improved Internet access and increased speed mean that governments have access to cheaper and modular, usually cloud-based, services. (OECD, 2018[6])

In most OECD countries, public procurement of ICT solutions is facing several challenges[8].

There is tendency or trend towards selecting and contracting larger multinational companies that results in reduced opportunities for SMEs. Large companies that offer standardised services are the major providers to public administrations at all levels. The continued use of a relatively small number of generally larger suppliers means smaller suppliers are "locked out" of doing business with the public sector. Procurement procedures and requirements are often too complex, preventing the participation of new players, and in

particular of start-ups and SMEs, in procurement processes. This increases the risk that the potential for smaller suppliers and start-ups to showcase, demonstrate and deliver innovation in how they meet citizens' needs will be lost.

Not only are SMEs 'locked-out', but the high level of dependency on a single service provider for unduly long periods is also a common challenge. The long-held incumbent relationships and contracts with big technology companies means not only the over-dependence on their services but also on their advice.

Many public organisations find themselves unintentionally "locked-in" to particular ICT solutions or ICT systems because the knowledge about how the system works is only available to the provider, and when they need to buy new components or licenses, only a specific supplier can deliver. The vendor lock-in is usually caused by the lack of knowledge on how to draft tender specifications, which are sufficiently flexible, and consequently allowing for future vendor (supplier) turnover. (Box 1.2)

Box 1.2. Vendor lock-in

Vendor lock-in is a phenomenon that takes place when a public authority is unduly dependent on a single supplier, vendor or developer beyond the timeframe of the initial procurement contract, damaging competition for future procurement. This happens in cases such as:

- Long contracts that encourage up-front capital investment to build bespoke tools and that depreciate over a number of years;
- One supplier entrenched over a number of years to provide mission critical systems, using specific brand names of products in procurement documents, and requesting backward compatibility with proprietary systems of which only a few suppliers have knowledge. This implies that the costs to the public authority of migrating to products or systems of another supplier are prohibitively high, even if the alternative option has significant advantages with respect to the existing one.

By limiting the procurement choices of public authorities to certain vendors and the suppliers of their products, lock-in can reduce the ability of other market participants to compete in contracts for public procurement. This in turn can lead to lower levels of innovation, and higher prices. Lock-in, as well as increasing costs, reduces the available supplier base, excludes new and innovative companies from providing alternative solutions and causes the market to stagnate.

Source: Final Report: Study on best practices for ICT procurement based on standards in order to promote efficiency and reduce lock-in, a study prepared for the European Commission DG Communications Networks, Content & Technology by PWC; 2016

The existence of lock-in and excessive influence of legacy systems can lead public procurers to engage in poor procurement practices that restrict the ability of suppliers to participate in calls for tender. When a public authority is overly dependent on a single vendor for its ICT systems there will be a lack of competition for the provision of these systems and value for money might not be achieved in the long term. Symptoms of possible lock-in include excessive use of specific brand names of products in procurement documents, and requests for backward compatibility with proprietary systems of which only a few suppliers have knowledge.

Furthermore, dependence on a single supplier for an ICT system and its future evolution can lead to problems of business continuity as there is a risk that a supplier can decide to stop supporting all or certain features of the system. It can also lead to missed opportunities for more innovation and efficiency, particularly when the supplier is not capable of keeping the system future-proof. According to a 2016 study[9] by the European Commission, 42% of the 244 monitored organisations admitted to having experienced ICT lock-in. Lock-in negatively affects not only the public buyers, but also the ICT sector[10]. The so-called

"legacy IT" problem, that several OECD governments face, stems from the fact that many of these countries began to digitise their operations several decades ago and these systems are now "aging in place".

Another commonly cited problem with ICT procurement is the tendency to request very specific solutions in order to ensure that what is requested will do exactly what the contracting authority is expected to do. However, over-specifying details hides several risks and disadvantages. Firstly, customised solutions are generally more expensive than standard 'off-the-shelf' options. In addition, they are more difficult to be reused. Subsequently, suppliers who develop and manage custom-made systems can retain all the information about the system and make it very difficult to migrate to another supplier or to maintain or upgrade the system in the future. Excessive customisations might also lead to supplier dependence. Contracting authorities should define the problem to be solved (the outcome of the purchase) rather than designing the solution.

Another common challenge is the risk averse behaviour of public buyers: procurement techniques that favour innovation (like early market engagement, users' involvement, functional requirements, competitive procedures with negotiation or design contests) are rarely used, while the prevalence of traditional procurement criteria and methods inhibit the participation of more innovative and smaller companies. Innovative, agile approaches are usually considered riskier than well-known, traditional approaches. Organisational culture has a bias towards traditional measures and is therefore not supportive of accepting a certain level of risk associated (or perceived to be associated) with innovative and agile methods. Such market inefficiencies particularly hamper the participation of start-ups based in rural areas, which could play an enhanced role, for instance in deploying e-government solutions and e-health services to rural and more remote areas.

There is also a lack of internal expertise within the public administration, and as a result public organisations heavily rely on using external consultants (and private suppliers) to prepare requirements, specifications, formulate calls for tender, and subsequently implement the ICT systems in question. This also means that several governmental organisations are not in a position to enter into positive and value-creation collaborations with the private ICT market. Furthermore, many authorities are also incapable of managing their ICT systems effectively and responsibly, and they do not have the necessary control over their ICT projects. (Ministry of Finance, Denmark, 2017[7])

For large technology projects, it is common for governments to contract a "systems integrator" to coordinate all the work between various subcontractors. Too often, this approach creates the wrong incentives for both the systems integrator and the government and leads to bad results. The systems integrator has an incentive to keep the contract going for as long as possible by producing either custom-built proprietary software or highly-customised commercial off the shelf software and charging for all the many changes required over the 5-8 year build-out period. The agency is incentivised to let the vendor handle it. By outsourcing the key technical decision-making to the systems integrator, the public organisation becomes dependent on the vendor and loses the opportunity of course correction when technical or cost problems arise. Outsourcing risk to a single vendor in reality rarely works. If a vendor fails to deliver, the government has two problems: a system still needs to be developed that meets people's needs (only now with less time, less money, and more scrutiny) *and* there may be lengthy and expensive legal action. (Mark Headd, 2017[8])

Other challenges involved in ICT procurement include:

- the fact that little attention is given to understanding of what citizens (end-users) need from digital and technology products or services, and focusing on overly complex technical specifications rather than outcomes (OECD, 2020[9]);
- the use of brand names, trademarks, patents and proprietary technical specifications when purchasing ICT products restricts the ability to participate in tenders, because only certain vendors or suppliers will be in a position to provide the specific product. It also makes the public authority

too dependent on a single vendor for its ICT systems, potentially reducing competition for the provision of these systems and its likelihood to be further used;

- difficulties in price comparison (e.g. time-billed pricing, target pricing) and benchmarking;
- limited or no interoperability between public sector ICT systems due to the lack of proper co-ordination in the planning of the different systems at the individual public agencies;
- documents that have to be archived for a long period are not stored in a standard format, limited flexibility in arrangements ("one size fits all") and
- privacy issues and data ownership.

Chapter 2 presents the challenges that ICT procurement faces in the Slovak Republic, and most of these challenges are largely similar to the above presented challenges in other OECD countries.

1.3. The need for new approaches in ICT procurement

1.3.1. Overcoming the challenges of ICT procurement by the strategic use of public procurement

Procurement needs a new approach to account for the challenges and potential of digitalisation to create value and new service to citizens. Technological change, such as apps, cloud computing, open source software, social media, internet of things and artificial intelligence, is also changing the nature of ICT projects and how they are delivered. They are becoming less monolithic and more integrated. Using public procurement as a strategic governance tool alongside efficient governance frameworks, whole-of-government co-ordination and strengthened leadership are in the frontline for more efficient ICT procurement that can successfully deliver on the digital agenda.

Innovative procurement strategies and flexible purchasing approaches, increased collaboration within and outside of government (with suppliers and industry groups) and robust contract management practices can also help the public sector to find the best digital solution (which either already exists in the market or still needs to be developed). For example, public buyers could engage with a wider range of market players, including innovative start-ups, involve other stakeholders (including the end users) as early as possible in the procurement process and then iteratively throughout the delivery of the contract.

Public buyers could also experiment with new purchasing approaches and methods that allow them to partner with the private sector in developing innovative solutions and services, for example by using challenge-based prototyping approaches, whether that is for commercial or pre-commercial (innovation) procurement.

Existing international standards and legal frameworks on public procurement already provide several opportunities for using public procurement in a more strategic way, and for applying more innovative and agile approaches in public procurement practices (such as engaging with the market strategically throughout the whole procurement cycle or developing sustainable functional specifications). However, limited awareness of these opportunities and the lack of practical methodologies for public buyers on how to apply agile methods in ICT procurements (or in procurements in general) still create an obstacle for achieving better outcomes.

For example, the **OECD Recommendation on Public Procurement** (OECD, 2015[3]) emphasises the strategic importance of the preparatory phase of the public procurement procedure and the relevance of understanding the needs of customers and end users. It suggests the involvement of interested stakeholders in the entire public procurement cycle, including the early, preparatory stages of the procurement process. In terms of stakeholder participation, the Recommendation highlights the need for transparent and regular dialogues with suppliers and business associations not only for individual tender

processes, but also when formulating changes to the public procurement system. The business sector should be given the opportunity to participate in public consultation for example about a draft national public procurement strategy or draft legislation, and they should be also informed of the results of the consultation, with explanation on the options chosen. The Recommendation also emphasises the importance of market engagement to develop realistic and effective procurement strategies and tender specifications and provide suppliers, potential bidders with a better understanding of the public buyer's needs.

Engaging suppliers at different stages of the procurement process also helps reduce the information asymmetry between the market and the procuring entity. Suppliers often have more information than the procuring entity regarding their own costs, prices, market trends, products or services, and their substitutes. Early exchanges with suppliers may also maximise participation in the tender procedure, allowing potential bidders the time to prepare their offers. The comprehensive needs assessment, early market engagement and supplier management during the contract execution are also at the heart of flexible, innovative and agile procurement approaches for ICT purchasing. (Box 1.3)

Box 1.3. OECD Recommendation on Public Procurement

The principle on participation

The Council

VI. Recommends that Adherents foster transparent and effective stakeholder participation.

To this end, Adherents should

ii) Engage in transparent and regular dialogues with suppliers and business associations to present public procurement objectives and to assure a correct understanding of markets. Effective communication should be conducted to provide potential vendors with a better understanding of the country's needs, and government buyers with information to develop more realistic and effective tender specifications by better understanding market capabilities. Such interactions should be subject to due fairness, transparency and integrity safeguards, which vary depending on whether an active procurement process is ongoing. Such interactions should also be adapted to ensure that foreign companies participating in tenders receive transparent and effective information.

The principle on efficiency

The Council

VII. Recommends that Adherents develop processes to drive efficiency throughout the public procurement cycle in satisfying the needs of the government and its citizens.

To this end, Adherents should:

ii) Implement sound technical processes to satisfy customer needs efficiently. Adherents should take steps to ensure that procurement outcomes meet the needs of customers, for instance by developing appropriate technical specifications, identifying appropriate award criteria, ensuring adequate technical expertise among proposal evaluators, and ensuring that adequate resources and expertise are available for contract management following the award of a contract.

Source: (OECD, 2015[3])

1.3.2. The role of open standards in ICT procurement

ICT standards play an essential role in achieving inter-operability of new technologies and can bring significant benefits to both industry and consumers. They help ICT markets remain open and allow consumers the widest choice of products. ICT standards can play an important role in preventing reliance on single vendors for products and system components that implement desired technologies by identifying the key element of the technology required and ensuring that its use is not limited to a specific product or service.

Procuring a product from one supplier that is based on standard technology helps to ensure that future purchases are not limited to the original supplier, as others are also able to implement the technology. In the European Union, the **European Commission** identified ICT standards as a key element in creating a level playing field for all technology providers and therefore encourages public authorities to make better use of the full range of relevant standards when procuring ICT products and services (European Commission, 2013[10]). Procuring ICT solutions based on standards that are available for any user increases the potential for inter-operability with other applications that use the same standards and thus achieves 'vendor independence'. Standards determine the key element of a technology and create a level playing field for all ICT suppliers. More suppliers are able to submit offers for invitations to tender for standards-based systems, leading to more competition. The rules on European standardisation[11] allow the European Commission to identify ICT technical specifications – that are not national, European or international standards – required to be eligible for referencing in public procurement. This allows public authorities to make use of the full range of specifications when buying IT hardware, software and services, allowing for more competition in the field and reducing the risk of lock-in to proprietary systems.

Open standards are one of the most powerful tools to open up government. They make it possible for the smallest supplier to compete with the largest. They make data open for any citizen to audit. They unlock the transformative power of open source software. In targeting the vendor lock-in issue in the **United Kingdom**, the Cabinet Office has adopted its first two open data standards under its plan to shift government departments away from proprietary systems. The two standards endorsed by the government's recently established 'Open Standards Board' aim to help organisations be able to reuse public sector information down the track with the introduction of consistent identifiers for things like schools, hospitals or companies in government datasets to ensure meanings stay consistent over time. The new standards are also meant to prevent corruption of text between systems. The UK Government's push for open standards is meant to cut technology costs and level the playing field between open source and proprietary software vendors. One of the primary goals of the Cabinet Office was to use these new standards to help agencies move away from long-term deals with a small number of suppliers. (UK Cabinet Office, 2022[11]).

1.3.3. Innovative ICT procurement as promoted by the European Commission

The public procurement policy framework of the European Union[12] and especially the 2014 Public Procurement Directives (European Commission, 2014[12]) also promotes the strategic use of public procurement and offers flexible solutions for ICT procurement to EU Member States (such as market consultation, pre-commercial-procurement, competitive dialogue, innovation partnership just to name a few). As the Slovak Republic is a member of the European Union, and has to align its public procurement regulatory framework and practices with the EU public procurement legal and policy framework, the flexible options that the EU framework can offer is of high relevance for this Report.

As public procurers can drive innovation from the demand side, the European Commission encourages the procurement of innovative ICT solutions that can modernise public services faster while creating opportunities for innovative companies to find first customers[13] and gain leadership in new markets[14]. In some cases, public sector challenges can be addressed by innovative solutions that are nearly or already in small quantities on the market and do not need new research and development (R&D). This is when

Public Procurement of Innovative Solutions (PPI) can be used effectively. In other cases, the required improvements are so technologically demanding that there are no near-to-the-market solutions yet and new R&D is needed. Pre-Commercial-Procurement (PCP) can then be used to compare the pros and cons of alternative competing approaches and to de-risk the most promising innovations step-by-step via solution design, prototyping, development and first product testing. PPI and PCP are methods that allow public sector organisations to partner with the private sector in developing innovative solutions and services.

The European Commission has reinforced the policy framework for PCP and PPI[15] as well as offering financial support to EU member states for innovation procurement through the EU research and innovation programmes, such as the Horizon 2020[16]. Currently, however, PCP and PPI are underused in Europe[17], although good practices exist. There are even projects where public buyers from different countries around Europe pooled resources to carry out PCP or PPI procurements together, or coordination and networking projects that prepared the ground for new PCP or PPI procurements in the future.[18] There are examples in the United Kingdom for using challenge-based prototyping approaches, whether that is for commercial or pre-commercial (innovation) procurement include the Government Digital Service (GDS) GovTech Catalyst[19] and CivTech Scotland[20], both of which use the Small Business Research Initiative (SBRI)[21].

The European Commission is also supporting EU Member States to co-operate with each other and to not only share experience on national digitalisation efforts, but share and re-use already available ICT solutions across borders and sectors as public services can be implemented faster and more efficiently and avoid pitfalls by learning from the experiences of other Member States. The EU-wide share and reuse of inter-operable solutions for public administrations could also reduce costs and risks, foster innovation and businesses' use of digital technologies, and ensure digital sovereignty. In addition, using the same solutions and adapting good practices to one's needs often indirectly results in services which are more inter-operable and more open. As in most countries, public procurement processes are characterised by practices that result in public administrations being locked-in both with regard to suppliers and the solutions procured, reducing or even excluding the potential for sharing and re-using the procured solutions. To overcome these obstacles, the European Commission put forward a variety of good practices aimed at promoting the re-use of procured solutions. (Box 1.4.)

Box 1.4. European Union: *Sharing and Reuse Framework for IT solutions*

The **Sharing and Reuse Framework for IT solutions** addresses EU, national, regional and local public administrations that aim at reducing costs, increasing their efficiency and fostering interoperability by reusing, sharing or jointly developing IT solutions that meet common requirements. The framework should be taken into account by decision makers, legal professionals, IT architects, developers and communication experts when:

1. Sharing a tool once it has been developed or sharing the provision of a service
2. Reusing existing tools or using an existing services; and
3. Collaborating in the development of a tool or service.

The framework puts forward 10 key recommendations that public administrations are encouraged to follow in order to promote the sharing and reuse of IT solutions in the public sector.

Central governments can support this process by creating a climate of innovation in their administrations, encouraging staff to take an active role in the process and promoting the use of information and communication technologies. To facilitate this effort, the Sharing and Reuse Framework also includes 19 supporting measures which specifically target central organisations.

Based on the framework, "**sharing of solutions**" refers to making solutions available to others, or developing common solutions. "**Re-use**"' means that public administrations confronted with a specific problem seek to benefit from the work of others by looking at what is available, assessing its usefulness or relevance to the problem at hand, and deciding to use solutions that have proven their value elsewhere. In some cases, the solutions are reused once they have been adapted to specific requirements or linguistic environments.

Source: Guidelines on procuring IT solutions; PwC EU Services, 2015 https://joinup.ec.europa.eu/sites/default/files/document/2015-03/guideline_on_procuring_it_solutions_-_v1_00.pdf

1.3.4. Initiatives in OECD countries to reform ICT procurement

OECD governments are implementing initiatives to revise and update the way of organising their ICT purchases in order to support better the national digital transformation agenda. For example, in **Australia**, an ICT Procurement Taskforce was set up in October 2016 in order to identify existing procurement barriers, look for opportunities to streamline ICT procurement and find ways to make it easier for start-ups and SMEs to compete for government ICT contracts.[22] As a result, the Government introduced a new whole-of-government ICT procurement framework that fits better for the digital age (Box 1.5).

Box 1.5. Australia: simple and fast public services: new policy framework for ICT procurement

In October 2016, the ICT Procurement Taskforce was established as part of the Australian Government's Policy for Better and More Accessible Digital Services. The taskforce was given two clear objectives: 1. make it easier and less expensive for businesses to contract with the Australian Government, and 2. deliver better government services at a lower cost. The taskforce consulted widely across industry and government agencies and released its final report in August 2017.

The taskforce has concluded that there are three significant impediments to improving government ICT procurement across government:

1. Lack of centralised policies, coordination, reporting, oversight and accountability arising from more than 20 years of devolved agency decision-making.
2. Limited capability and the risk adverse nature of the Australian Public Service with a focus on compliance, a fear of failure, poor collaboration and industry engagement.
3. Practices that do not reflect contemporary procurement best practice or support innovative technology choices, with existing systems firmly rooted in the bespoke and waterfall models of the past, and not the agile, consumer technology models of the present.

The Government accepted the 10 recommendations of the ICT Procurement Taskforce and developed a new Digital Sourcing Framework for ICT procurement, a set of principles, policies, tools (such as model contracts templates and the Digital Marketplace) and guidance.

The framework covers many areas falling under the digital umbrella, ranging from policy, data and design, to build and maintenance, and digital marketing. Agencies remain responsible for buying their own digital products and services, but they have to follow the following principles when sourcing digital products and services:

- encourage competition
- be innovative and iterate often

- be structured in a way that lets small and medium enterprises (SMEs) compete fairly to provide components of large ICT projects
- be outcomes-focused
- use open standards and cloud first
- minimise cyber-security risks
- avoid duplication by not building platforms other agencies have already built

Source: https://www.dta.gov.au/help-and-advice/ict-procurement/digital-sourcing-framework-ict-procurement/ict-procurement-taskforce-report/government-response-taskforce-report; https://www.dta.gov.au/help-and-advice/ict-procurement/digital-sourcing-framework-ict-procurement

The **OECD Working Party of Senior Digital Government Officials** (known as E-Leaders) through one of its Thematic Groups and in partnership with the **UK Government Digital Service** had developed a collection of good practices to facilitate ICT procurement reform in OECD and non-OECD countries. As a result, the Working Group developed the **ICT Commissioning Playbook**[23] alongside the below principles:

- opening up data throughout the procurement and contracting lifecycle
- encouraging more modular and agile approaches to contracting
- procurement transparency to help tackle corruption and improve value for money
- stimulating and accessing a more diverse digital and technology supply base
- encouraging more flexible, digital, agile and transparent interactions focused on joint delivery
- sharing and reusing platforms and components, and better practices for delivering successful programmes.

The ICT Commissioning Playbook – in close alignment with the OECD Recommendation on Public Procurement – covers the complete public procurement lifecycle, and includes pieces of practical advice and good practices for the pre-tender stage including business case writing, the tender stage and the contract management phase. The Playbook was presented in 2018 at the OECD E-Leaders Conference[24] and since then has been continuously iterated, based on its use throughout the OECD network of countries and beyond (Box 1.6).

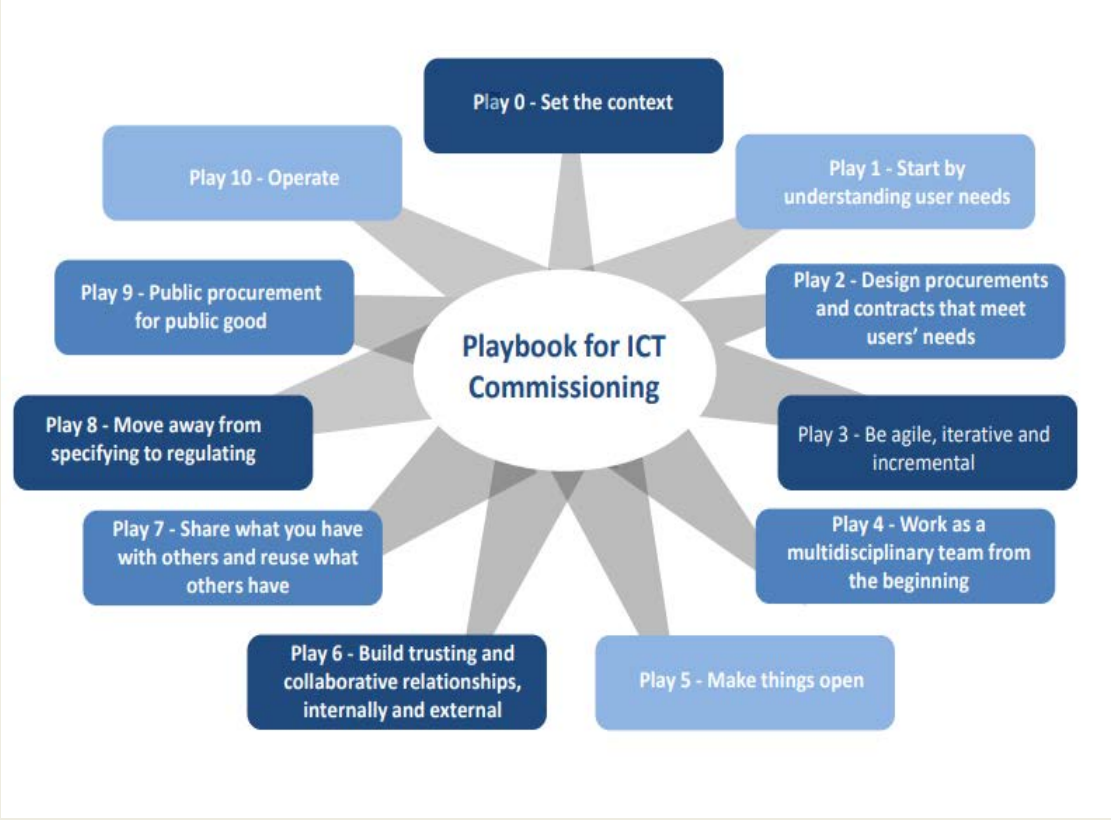
Box 1.6. ICT Commissioning Playbook

The ICT Commissioning Playbook is focusing on ICT procurement reform and its role in the wider digital transformation of the public sector in countries around the world. Its goal is to show how traditional procurement can evolve towards agile procurement. The Playbook sets out how to address the main issues faced by governments and explores what works and what does not work, sharing real life examples.

The Playbook provides a set of actionable guidelines (known as plays) that countries can follow to move towards more agile approaches for ICT procurements. It includes 11 plays, such as

- setting the context,
- starting by understanding users' needs,
- embracing openness and transparency,
- working as a multidisciplinary team,
- building collaborative relationships,

- sharing and reusing solutions that were developed for other parts of the government, and
- public procurement for public good.



Source: (OECD, 2020[9])

The plays outline ways to overcome common problems, alongside case studies that demonstrate real challenges and successes. The Playbook was developed for procurement professionals in the public sector and is based on the experiences of the UK, with contributions from Australia, Canada, Chile, Finland, Mexico, New Zealand, Portugal, Uruguay and the United States.

Source: "About the playbook", https://playbook-ict-procurement.herokuapp.com; (OECD, 2020[9])

In the **United Kingdom,** building on the work of the OECD Thematic Group on ICT Commissioning, the Digital Buying Guide was evolved from the ICT Commissioning Playbook. In October 2020, the Government Digital Service (GDS) launched its Digital Buying Guide, to support buying digitally with social purpose by presenting modern approaches to public procurement that are fair, open, transparent, effective, multidisciplinary, and focused on users' needs. This work is part of the GDS Global Digital Marketplace Programme, which was set up to help tackle global corruption. (Box 1.7)

Box 1.7. UK: Digital Buying Guide

The Digital Buying Guide provides practical step-by-step guidance and illustrative case studies on the different stages of the public procurement cycle. The guide aligns with the SDGs, as well as with standards and guidelines on corruption prevention and gender-responsive procurement. The guide is sponsored by the UK's Foreign, Commonwealth & Development Office (FCDO) Global Anti-Corruption Programme, the OECD Working Party of Senior Digital Government Officials, and the United for Smart Sustainable Cities (U4SSC) initiative from the United Nations' International Telecommunication Union (ITU). At the time of its launch, the Digital Buying Guide was available in English, Bahasa Indonesia and Spanish, including draft guidance to specifically support public procurement in an emergency. In addition, the guide included case studies from national and local governments in Mexico, UK, Ecuador, Colombia, Dominican Republic and New Zealand.

Source: UK Government Digital Service, https://www.digitalbuyingguide.org/en/

Recent examples show that OECD countries are reforming their ICT procurement frameworks and practices as well as experimenting with agile approaches not only to make ICT procurement work better for digitalisation, but also to reinforce strategic policy goals in public procurement, such as sustainability and circularity. Indeed, ICT procurement has a role to play in delivering social value. Circular procurement provides the opportunity for adapting the typical business-as-usual (produce-consume-dispose) model to a more resource efficient procurement approach that delivers on broader policy goals as well as cost savings, reduced environmental impacts and improving social wellbeing.

The **Netherlands** for example has been taking concrete steps to make its own ICT public procurement more sustainable and to collaborate with the market to develop more circular business models. The *Green Deal on Circular Procurement: Learning through action* (GDCI)[25] was originally a three year project from 2013 to 2016. About 80 pilot projects (including ICT procurements) were implemented under the Green Deal project. The pilots experimented with contracts that would ensure that a product has a long life, retains value, and is returned to the supply chain. As of 2018, there is a follow-up project to upscale the approach with the "Green Deal Circular Procurement 2.0", with eight working groups. One focused specifically on ICT. PIANOo, the Dutch Public Procurement Expertise Centre[26] played an important role in implementing the Dutch GDCI and developed guidance on how to set environmental criteria for different product groups including various types of ICT device. There are examples of various projects that have experimented with circular ICT procurement, and a sector report[27] is looking at how more circular ICT business models might align with public procurement. (Box 1.8)

Box 1.8. Resource Efficient Business Models (REBus): ICT Sector Report

The REBus (Resource Efficient Business Models) project aims to reduce the use of raw materials or extend the lifetime of products by demonstrating the commercial case for European businesses to change their business models. The project is financed by EU Life+. The main goal is to gain knowledge about the potential of circular business models and investigate whether they can deliver the target of 15% savings in resources and costs.

The ICT Sector Report is focusing on the opportunities and learnings from the REBus pilots relating to ICT and electrical equipment (EE). It highlights that the REBus and Green Deal ICT pilots in the Netherlands have demonstrated that encouraging the procurement of more circular ICT items is possible. It delivers on national circular economy goals as well as reducing environmental impacts and

in some case providing revenue streams. The Green Deal Community of Practice is jointly working towards the alignment of circular procurement of ICT hardware. The community includes state government, provinces, cities, individual departments, agencies, universities and companies. There is also an end-of-life ICT community that addresses data wiping, re-use and recycling. Delivering the wider potential identified by the REBus pilots requires a broader and longer term vision for an ICT sector that is currently driven mainly by volume of sales linked to rapid technical and software innovations. The tender analysis has shown that in order to encourage a shift towards more circular products and service, the current prominence of least cost tendering has to be switched to a *life cycle based approach*, for example through total cost of ownership or Best Price-Quality Ratio.

Source: REBus ICT Sector report; https://www.pianoo.nl/sites/default/files/documents/documents/rebussectorreportictlessonsoktober2017.pdf

The 2019 OECD Digital Government Index Survey[28] results show that there is still room for countries to improve strategic, uniform and standardised approaches to ICT procurement. The **2019 Digital Government Index** (OECD, 2020[14]) that presented the results of the Survey, highlighted that "g*overnments across OECD member and partner countries have increasingly reported the need to have policy levers – including the pre-evaluation of ICT expenses, business cases and project management models – to ensure a coherent and sustainable digital transformation of the public sector. Since public expenditures on ICT goods and services assume an increasing role in public procurement with the rapid penetration of digital technologies in all sectors of government, these policy tools can support governments to better plan, manage and monitor ICT investments.*"

Having strategic planning methods and formal guidelines in place helps governments to overcome "agency thinking" approaches that usually anchor silo-driven decisions, while often failing to prioritise inter-operability or common standards for improved integration and sharing across different sectors and levels of government. Although 67% of countries reported the existence of formal guidelines for ICT procurement, only 12% report have a dedicated ICT procurement strategy for the public sector at the central/federal level. Instead, the majority of countries (64%) integrate strategic planning of ICT procurement into a government-wide procurement strategy. 67% of countries have adopted a standardised model for ICT project management but only half of these countries have made them mandatory – 27% of them are obligatory for all ICT projects and the other half are required only when projects meet specific criteria (e.g. budget threshold). This suggests room for improvement in leveraging models to guide governments in using these management tools. In the case of ICT projects, countries may benefit from agility and coherence that common management models provide (OECD, 2020[15]).

Chapter 3 of the Report presents further examples for ICT procurement reforms and initiatives from various OECD countries.

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Notes

[1] The **United Kingdom**'s Technology Code of Practice is a good example, and point 9 ('Integrate and adapt technology' - https://www.gov.uk/guidance/integrate-and-adapt-technology) includes guidance on 'Meeting user needs with emerging technologies', and Service Manual guidance 'Choosing technology: an introduction' includes specific guidance on how to make decisions about technology, with techniques like value-chain mapping. **New South Wales** government in Australia also has a guidance 'Choose the right tech' (https://www.digital.nsw.gov.au/digital-design-system/guides/building-service/choose-right-tech) that serves as a good example on how to meet user needs with emerging technologies.

[2] https://www.ucimenadialku.sk/

[3] https://digitalnakoalicia.sk/

[4] https://korona.gov.sk/

[5] https://www.hackthecrisis.sk/

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[9] Final Report: Study on best practices for ICT procurement based on standards in order to promote efficiency and reduce lock-in, a study prepared for the European Commission DG Communications Networks, Content & Technology by PWC; 2016.

[10] A survey carried out in 2011 among public procurement officials in the European Union Member States showed that out of the 244 procuring authorities surveyed, at least 40% considered that changing their existing ICT solution would be too costly because it would involve changing many other systems that use the data of the system that they would like to change. Of those surveyed, 25% felt they would not be able to change their ICT solutions for fear that their information would not be transferable.

[11] Article 13 of Regulation 1025/2012

[12] https://ec.europa.eu/growth/single-market/public-procurement_en

[13] According to the European Central Bank (ECB), the lack of first buyers (early adopters) is the number one barrier for company growth, in particular SMEs and startups. ECB survey on "Access to finance in the euro area", November 2014 https://www.ecb.europa.eu/pub/pdf/other/accesstofinancesmallmediumsizedenterprises201411.en.pdf??9bd771cc5f64c8b2f39aef2b19a1%205038

[14] https://ec.europa.eu/digital-single-market/en/policies/ict-innovation

[15] https://ec.europa.eu/digital-single-market/en/news/eu-policy-initiatives-pcp-and-ppi

[16] https://ec.europa.eu/programmes/horizon2020/en

[17] Benchmarking of R&D procurement and Innovation Procurement Investments in countries across Europe, October 10, 2020; https://ec.europa.eu/digital-single-market/en/news/benchmarking-national-innovation-procurement-investments-and-policy-frameworks-across-europe

[18] *Innovation Procurement: The power of the public purse – EU funded projects in the ICT domain*, 2019, European Commission, Directorate-General for Communication Networks, Content and Technology, European Union; The publication provides an overview of projects that are focusing on innovation procurement in the ICT domain funded by the EU's research and innovation funding programs FP7, CIP and Horizon 2020. https://ec.europa.eu/digital-single-market/en/news/innovation-procurement-power-public-purse

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report/ICT-procurement-taskforce-report_WCAG.pdf; Government response to the taskforce report, https://www.dta.gov.au/help-and-advice/ict-procurement/digital-sourcing-framework-ict-procurement/ict-procurement-taskforce-report/government-response-taskforce-report

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[25] https://www.gdci.nl/nl

[26] https://www.pianoo.nl/en

[27] REBus ICT Sector report https://www.pianoo.nl/sites/default/files/documents/documents/rebussectorreportictlessonsoktober2017.pdf

[28] Data, information for the Slovak Republic is not included in the Digital Government Index.

2 Current practices of ICT public procurement in the Slovak Republic

This chapter presents the general characteristics of the public procurement system in the Slovak Republic and the National Digital Agenda of the Slovak Republic. It also presents the state of play in ICT procurement in the Slovak Republic: assessment of the current trends in ICT procurement based on e-procurement database, interviews with stakeholders, analysis of the financial and legal framework. It identifies the main bottlenecks in the current policy and regulatory framework as well as in the practice. It also summarises the efforts of the Slovak government to achieve efficiency in ICT expenditure. Finally, it compares the Slovak practices with other similar purchasing segments in other EU and OECD countries and presents agile approaches in public procurement.

2.1. Economic background in the Slovak Republic

2.1.1. General overview

With an area of approximately 49,000 km^2 and a population of 5.4 million, the Slovak Republic has been noted to be one of the smallest amongst the European states that has been doing notably relatively well in regards to the overall developments of their economy. In the early 2000s, especially after the country's accession to the European Union and NATO in 2004, and Slovakia's membership into the OECD in 2000, the country experienced strong developments in exports and access to new external markets. This access to new networks and international partnerships accelerated the country's economic growth and pushed the country to achieve new economic heights (OECD, 2019[1]). The power of pro-EU and globalisation coalitions for advancing economic strength was particularly proven within the Slovak Republic when the country achieved its highest economic growth at 10.8% in 2007 (WorldBank, 2020[2]). The economy was however heavily affected by the 2008-2009 global financial crisis and the 2011-2012 Eurozone crisis, when the Slovak Republic slowed down economically for a few years (NORDEA, 2020[3]).

2.1.2. Consequences of the COVID-19 pandemic in the Slovak Republic

More recently, the economy in the Slovak Republic has been hit hard by the COVID-19 pandemic. In 2020, the Slovak economy is expected to face the strongest economic downturn in its history. The containment measures along with surrounding uncertainty has led to an abrupt decline in economic activity, particularly in areas dependent on social interactions such as tourism and hospitality. Massive disruption in the global value chain due to concerns over worker's safety led to temporary shutdown of major automotive production companies. This measure, coupled with the decline in car sales in the EU, a main export for Slovakia, has led to significant impacts on the Slovak economy. (OECD, 2020[4]).

Slovakia's GDP dropped by 6.16% in 2020[1]. The economic downturn was milder than originally expected, due to a stronger third quarter, a more moderate decline in household consumption and a faster resumption of exports (especially thanks to car manufacturers)[2]. Previous forecast expected even 7.2% decline based on trends seen in the second quarter, mainly due to the shortfall of foreign demand and the effect of social distancing measures. Despite the government's efforts to stabilise employment the severe economic downturn is expected to reduce the number of available jobs by 88 000 and increase the unemployment rate to nearly 9%. The fast and severe onset of economic effects of the outbreak are associated with considerable uncertainty. The COVID-19 outbreak is expected to uncover risks in public finances. In 2019, general government deficit reached 1.3% of GDP, considerably above the balanced budget objective. In 2020, deficit increased to 8.4% of GDP and the gross public debt may exceed the level of 60% GDP as a result of the shortfall of tax revenues and the discretionary measures aimed at stabilise the economy (Ministry of Finance of the Slovak Republic, 2020[5]).

Economic indicators from the fourth quarter indicate that the impact of the second wave of the pandemic in the fourth quarter was much more subdued than in the 2020 spring wave. In the first half of 2020, the economy contracted less severely than in many other European countries thanks to more resilient private consumption. Economic activity rebounded rapidly in the third quarter, driven by very strong export growth as car production quickly recovered. Monthly data on retail sales and credit card purchases also indicate a pick-up in private consumption. While the rise in unemployment has been limited, working hours are still far below the pre-crisis level. High-frequency data suggest weakening activity since the recent tightening of lock-down measures (OECD, 2020[4]).

To help minimise the economic fallout that would result from COVID-19, the Slovak Republic announced several fiscal packages to mitigate the consequences on the country's economy. Announced discretionary fiscal measures amount to around 4.4% of GDP in 2020. The Government has also introduced a number of measures to help mitigate the depth and length of the recession. In particular, the introduction of a short-

time work scheme has been effective in preventing a surge in unemployment. The Government has decided to extend this temporary scheme until the end of 2020. Several other temporary policies have also been extended. For instance, the deferral of loan payments for households and the benefit for families with members in need of care were prolonged until the end of the state of national emergency. The government plans to continue fiscal support in 2021. The budget for 2021 foresees extra spending on healthcare, education and transport infrastructure to strengthen the recovery (OECD, 2020[4]).

According to the forecast of the Ministry of Finance, the recovery will continue and GDP growth will reach 3.3% in 2021. This forecast is based on the assumption that the restrictions in connection with the pandemic will remain at the current level during the first quarter and will subsequently gradually ease to the level of September 2020 until the third quarter. The economy could be supported by investments from the EU's Recovery and Resilience Plan. The pandemic will also negatively affect the economies of Slovakia's trading partners, and foreign demand will be weaker during most of the year. On the other hand, growth may be helped by the release of the billion-dollar COVID reserve to boost the economy and, in the second half of the year, the country will be able to start drawing on the EU's Recovery and Resilience Plan. Overall, the dynamics of the economy will be weaker, especially in the first quarter, so job creation will be postponed until the end of the year. The result will be a slight decrease in employment in 2021 by 0.2%. The economy will gain momentum from 2022, mainly thanks to EU funds. The update of the forecast envisages the drawing of funds under the EU Recovery and Resilience Plan to the amount of 5.8 billion euro. They will support the economy until 2026.[3]

2.1.3. The main characteristics of the Slovak economy before COVID-19

Before the COVID-19 outbreak, the Slovak Republic experienced sustained and steady GDP growth since its integration into the EU in 2004, except for the financial crisis of 2008-2009 and the Eurozone crisis of 2011-2012. In recent years, the Slovak economy has returned to growth, fuelled by the return of internal and European demand. After a growth rate of 4% in 2018, the country's economic growth slowed down to 2.3% in 2019 amid a weaker demand from European partners. Domestic demand – fuelled by a strong wage increases and record-low unemployment – was the main growth driver. The unemployment rate fell to historical lows in 2019 (5.8%).

The Slovak economy is benefitting from strong links with the world economy, especially with EU Members, and has been catching up with higher-income countries. Overall, Slovakia has a strong financial system and offers a production platform for the European automotive and electronic industries (OECD, 2019[1]). Slovakia's most important manufacturing and industrial sector is the automotive industry, accounting for 44% of the country's total industrial production. Slovakia belongs to the 20 biggest car producers in the world, producing more than one million cars per year.

Yet, not everyone has benefitted from growth. Structural problems that Slovakia faces are regional disparities, poor infrastructure, and an ageing population. This acceleration in growth in less than a decade has also manifested in trends relating to public investment. Representing slightly more than 17% of GDP, public expenditures channelled through public procurement in the Slovak Republic are way above the OECD average. In 2017, the share of government expenditures spent via public procurement was 34,4% compared to the OECD average of 29,1% (OECD, 2019[6]).

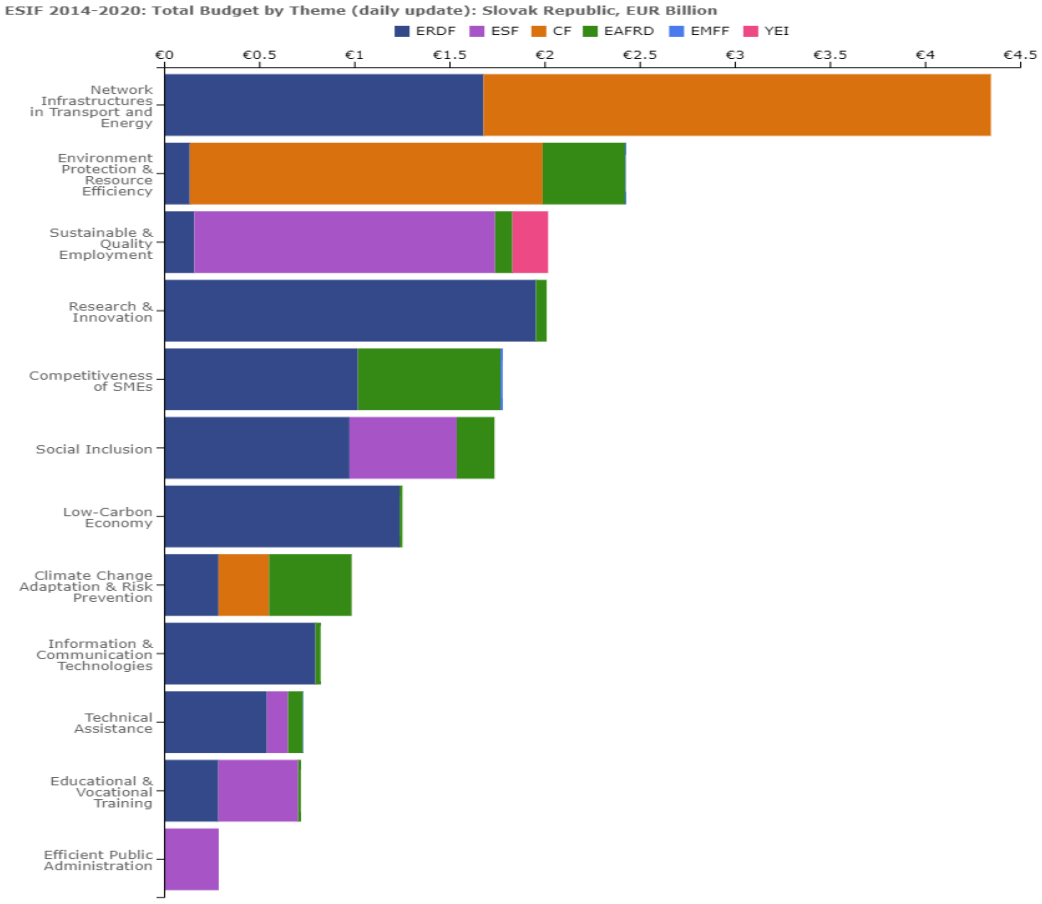
2.1.4. The role of EU funds in economic growth

Approximately two-thirds of public investment in Slovakia is financed through the EU Structural and Investment Funds (ESI Funds)[4]. Over the period of 2014-2020, the Slovak Republic, through 9 national programmes, benefitted from ESIF funding of EUR 15.3 billion.[5] This represents an average of EUR 2 830 per person from the EU budget over the period 2014-2020.

The primary purpose of these funds is to reduce economic, social, and territorial disparities across EU regions. Slovakia has the greatest regional economic and social disparities of any EU Member State, notably in the Eastern region. Disbursements to Slovakia under the ESI Funds have been massive (equivalent to a total of 15% of GDP during 2014–2020), with the bulk of this occurring at the end of the cycle, placing large stresses on the country's Public Investment Management and Public Financial Management systems. (International Monetary Fund - IMF, 2019[7]).

Out of these amounts, around EUR 823 400 000 financed ICT related investments during the 2014-2020 period, mainly using two funds, the European Regional Development Fund (ERDF) (with EUR 796 400 0000) and European Agricultural Fund for Rural Development (EAFRD) (with EUR 27 000 000) as Figure 2.1 shows.

Figure 2.1. ESIF Funds 2014-2020: Total budget by Theme



Note: Data as of 28 November 2020.
Source: Open Data Portal for European Structural Investment Funds, https://cohesiondata.ec.europa.eu/countries/SK

2.1.5. The role of ICT sector in the Slovak economy

The ICT sector plays an important role in the Slovak economy, employing more than 80 000 people and with a significant share of social, health and tax payments, as well as the growth of productivity. (ITAS, 2016[8]). There is a trend for employment growth in the ICT sector: the total number of employees in the sector grew by 60% between 2008 and 2020. ICT share on the total employment was 3.41% in 2019 and the ICT sector's contribution to Slovakia's GDP was 4.2%. (Table 2.1)

Table 2.1. ICT sector in Slovakia

ICT's contribution to Slovakia's GDP in 1/2021	4.2%
ICT share in the total employment in 1/2021	3.41%
Growth of employment in the ICT sector (2008-2020)	60%

Source: (SARIO, 2021[9])

From 2018, additional tax deductions for R&D expenses of up to 100% were introduced in Slovakia[6], making the country more appealing for ICT companies.

The ICT sector is highly specialised with a large number of small companies with one to three employees and a large number of self-employed on one side and some dominant companies on the other. The Slovak economy in general strongly depends on SMEs, not only in the ICT sector. SMEs dominate the Slovak economy, accounting for 99.9% of the total number of business entities.

Out of all challenges the ICT sector faces, the lack of IT experts is probably the most urgent. The sector lacks workforce even though the average wage of an ICT worker is high.[7] Although salaries in the ICT sector are above the Slovak average, in comparison with the Western EU countries they remain significantly lower. Differences in salaries also occurs on the regional level in Slovakia allowing the investors to explore regions outside the main hubs (SARIO, 2021[9]).

The majority of IT services in Slovakia are composed of application support and other tailor-made services (such as helpdesk, network administration, cloud storage, remote support, etc.) followed by tailor-made software development and outsourcing. Slovakia is becoming a hub for Shared Services Centres in the field of ICT and financial services. This is important not only due to increased employment in jobs with above-average value added, but also as a potential of innovation development.

2.1.6. The way forward after the COVID-19 pandemic

The economic impacts of COVID-19 will define a new narrative for Slovakia's economic development. It will be important that the country not only emphasises the importance of minimising economic losses for households and businesses, but also ensures that it manages its macro-financial development so that following the de-escalation of the economic impacts caused by COVID-19, the country can easily shift into a mode of economic recovery.

Going forward, EU funds will provide an opportunity to strengthen the growth potential of the economy and boost productivity and inclusiveness. In particular, room exists to invest in the lagging digital infrastructure to better prepare the country for the likely increase in demand for digital services that the COVID-19 crisis may bring.

Prior to the impacts caused by COVID-19, the Slovak Republic was noted as a country that was not only benefitting from strong links with the world economy, particularly among EU states, but was also catching up with economic development of higher-income countries (OECD, 2019[1]). Hence, moving forward, the Slovak Republic will have to not only consider how it can mitigate immediate impacts from COVID-19, but will also have to ensure it maintains a vision of how to remedy the structural economic gaps.

As the Slovak Republic looks towards its economic future, it will be important for the country to consider stimulants for innovation and entrepreneurship. A significant challenge affecting the economic development of the country is its dependence on the automobile and electronic industry for its development. As a result, other areas such as those relating to innovation, technological development, and research have largely gone unnoticed[8] (OECD, 2019[1]). Therefore, by promoting investments into innovation, research and development, and the adoption of new technologies, the country could move into higher valued-added activities, as well as create demand for entrepreneurship.

In the context of public procurement policy, moving forward, the Slovak Republic should continue to promote an entrepreneurial and innovative environment within its economy and continue to evaluate how it can minimise administrative burdens and the slow pace of public procedures that impacts many new businesses (OECD, 2019[1]).

2.2. Digital Government Agenda in the Slovak Republic

Digital technologies increasingly place new demands and expectations on the public sector. Achieving the full potential of these technologies is a key challenge for governmental organisations. Effective digital government can provide a wide variety of benefits including more efficiency and savings for both governments and businesses. It can also increase transparency and openness.

The Slovak Republic ranks 22nd out of the 28 EU Member States in the European Commission Digital Economy and Society Index (DESI) 2020[9]. Based on data prior to the COVID-19 pandemic, Slovakia's scores slightly increased thanks to the performance in connectivity, the use of internet services and digital public services. However, the majority of indicators have not improved sufficiently to keep pace with the EU average. As a result, Slovakia dropped in the ranking in the dimension of human capital and the use of internet services to the 20th position. The share of ICT specialists on total employment has increased and there are fewer Slovaks who have never used the internet. An increasing share of internet users make video calls and use online banking services. The eGovernment quality indicators are growing but remain below the EU average. (European Commission, 2020[10]).

Even with a higher score than in 2019, Slovakia has dropped to 26th position on digital public services position. The DESI digital public services dimension measures both the demand and supply sides of digital public services as well as open data. Only 52% of Slovak internet users who need to submit forms to public institutions do so online. This is less than in previous years, and significantly below the EU average (67%). Despite some improvement, Slovakia scores 21 percentage points less on pre-filled forms than the EU average. Improvement in the other monitored indicators is modest and overall the scores remain below the EU average. (European Commission, 2020[10])

According to the Supreme Audit Office, the use of national and EU funds to invest in digital public services has not led to a greater take-up by the public[10]. This could be due to low trust in digital government services, as 19% of Slovaks, compared to an EU average of 8%, are concerned about the security of digital public services and limit or avoid electronic communication with public authorities[11]. However, the government maintains its ambition and continues to roll out new features to make digital government more attractive. In 2019, Slovak government adopted a new Strategy for the digital transformation of Slovakia 2030.

The **2030 Strategy for Digital Transformation of Slovakia**[12] is a whole-of- -society and cross-sectorial government strategy that defines the strategic priorities of Slovakia in the context of the digital transformation of economy and society under the influence of innovative technologies and global megatrends of the digital era. The document lays down a long-term vision and aims to guide the economy, society and public administration through the technological change. Its goals are also to stimulate smart regional development and help researchers and innovators to keep pace with global trends.

The Strategy followed up on the priorities of the Digital Single Market Strategy for Europe[13] and also reflects the strategic documents and recommendations of international organisations, such as OECD, UN, G7 and G20 that consider digital transformation to be the key to inclusive and sustainable growth. The Strategy puts emphasis on new digital technologies such as artificial intelligence, Internet of Things, 5G technology, big data and analytical processing of data, block chain or high-performance computers, which will eventually become new engines of economic growth and competitiveness. The Strategy entails the introduction of a 'data-driven state' concept to improve the public administration's use of data for analytical purposes. The strategy aims to reach its objectives through the related Action plans. The first one for the

years 2019-2022, the **Action Plan of Digital Transformation 2019-2022**[14], divided the short-term priorities and measures into three subject areas:

- Improvement of education with a focus on digital skills and employment for the modern era;
- Strengthening of pillars for a modern digital economy; and
- Ability of the public sector to use innovations and data.

The four main objectives in the **Action Plan of Digital Transformation 2019-2022** are listed as follows:

- digital transformation of schools,
- conditions for a data-based economy,
- innovating public administration and
- support for the development of Artificial Intelligence (AI).

To ensure the timely implementation of the Action Plan, the Slovak government has set up the "*Working group for digital transformation of the Slovak Republic*" which consists of representatives of the relevant line ministries and other public institutions as well as the professional public. The Working Group's main task is to ensure whole-of-the-government co-operation for the implementation of the Action Plan. The working group also evaluates new technological trends and other relevant factors that might have an impact on the implementation of the Action Plan. The working group will regularly inform the Government Council for the Digitization of Public Administration and the Digital Single Market about its activities[15].

To make the services more user-centric and attractive, the Government set up a unit of behavioural innovation (Behavioural Research and Innovation Slovakia, BRISK).[16] The unit trains public servants and has developed principles for user-friendly and quality electronic public services which should be applied across the whole public administration (European Commission, 2020[10]).

The digitalisation of healthcare and the rollout of e-health services are also objectives of the National Digitalisation Strategy. Since its launch in 2018, the national e-health system has already registered over 100 million e-prescriptions[17] and 75% of healthcare providers are connected. In 2020, the system has started rolling out a new e-lab service that will help doctors and laboratories exchange laboratory analyses.

However, stakeholders and NGOs are often critical about the digitalisation of public services and administration. Despite the government's effort to improve the quality of public sector ICT and involve external specialists. The experts grouped in Slovensko.digital[18] point out that digitalisation projects in public administration often lack thorough analysis, are not properly prepared, are too costly or do not reflect future technological developments.

The **National Concept of eGovernment**[19], approved by the Slovak government in September 2016, defined the strategic Enterprise Architecture of eGovernment and its central co-ordination, and also the principles and objectives of further development in accordance with goals stated in the *Strategic Document for Digital Growth and Next Generation Access Infrastructure*. This document emphasises process openness, fair competition, and increase of the value of IT in key functions of public administration, whether in a form of the improved services, better decisions thanks to data, better regulation, or more efficient operation. The concept was built around a vision of an innovative and open state that provides citizens and businesses with user-friendly and easy-to-navigate services, and responds swiftly and effectively to the challenges of the dynamic modern era. Informatisation priorities were covering a wide range of areas. The work on the update of the National eGovernment Concept beyond 2020 is currently ongoing, following the 2030 Vision and Strategy for the Development of Slovakia and the 2030 Strategy for the Digital Transformation of Slovakia.

The **Operational Programme Integrated Infrastructure (OPII)**[20] 2014-2020 is a strategic document developed for the absorption of EU funds in the transport sector and in the area of enhancing access to, use and quality of, information technologies. The overall focus of OPII's specific objectives and activities

are to ensure promotion of the fulfilment of the priorities of the *Europe 2020 Strategy* and *National Reform Programme of Slovak Republic*[21]. The overall objective of OPII is to support sustainable mobility, economic growth, job creation and to improve the business climate through the development of transport infrastructure, public transport and an information society. The Deputy Prime Minister's Office for Investments and Informatisation of the Slovak Republic was responsible for the area of information society within the Operational Programme Integrated Infrastructure. Other objectives of the operational programme were managed by the Ministry of Transport, Construction and Regional Development to support sustainable mobility, economic growth, job creation and improving the business environment through the development of transport infrastructure. In the framework of the Operational Programme, the Deputy Prime Minister's Office for Investments and Informatisation of the Slovak Republic acted as an intermediary body responsible for Priority Axis 7 Information Society. The funds were invested in the development of electronic services for citizens and businesses, arranging complex life events, cross-border interoperability and increasing the availability of government data through open data. At the same time, public administration reform was supported through ICT, including the further expansion of the government cloud.

Negotiations for the new ESIF programming period 2021–2027 began in early 2020. The Deputy Prime Minister's Office for Investment and Informatisation proposed a follow-up strategy based on the current investments. The strategy had a stronger focus on reducing bureaucracy for businesses and citizens, and speeding up digital up-take with digital-by-default services. Moreover, it was used to support data driven governance, with more public sector data available, building the digital government structure as a platform based on open APIs. It will also increase the quality of public services thanks to continued feedback from the users.[22]

The **Strategic Document for Digital Growth and Next Generation Access Infrastructure (2014-2020)**[23] defined a strategy for the development of digital services and next generation access infrastructure in Slovakia. It also focuses on the fulfilment of the ex-ante conditionalities by means of which the EU evaluated the readiness of Member States to implement investment priorities of their choice. The document particularly discussed the fulfilment of the two ex-ante conditionalities defined under thematic objective 2, "Enhancing access to and use and quality of information and communication technologies". The Strategic document set out a strategy for the further development of digital infrastructure services and next generation networks in Slovakia for the 2014 - 2020 period. It also fulfilled the objectives set out in the Position Paper of the European Commission and implements measures in the Digital Agenda for Europe, building on the activities implemented under the Operational Programme Information Society from 2007 – 2013. The vision of further eGovernment development in Slovakia until 2020 includes actions to move towards a functioning information society and building of Smart Government. Information technologies will become inherent in people's everyday life and an essential driver of Slovakia's competitiveness.

The following eGovernment investment priorities were emphasised in the 2014-2020 period:

- Services for citizens and businesses;
- Effective public administration;
- Broadband/Next Generation Network.

The document served as a ground for the preparation of the Operational Programme Integrated Infrastructure (Priority Axis Information Society) for the 2014 – 2020 period.

2.3. Current public procurement environment

2.3.1. Strategic and policy framework

The **Concept of public procurement development in the Slovak Republic** (2015)[24] is the strategic document that identifies priorities and establishes a framework for the further development of the public procurement system in the Slovak Republic, with a special focus on ensuring transparency, efficiency and effectiveness of the public procurement system. The strategic document applies to the entire public procurement system, to all types of public procurement procedures and all types of contracts and subsequent contractual relationships, as well as all forms of the use of electronic tools in public procurement. The proposed measures cover the main critical areas of public procurement, such as, in particular, high bureaucracy, inefficiency in the use of public funds, insufficient security and protection of competition, with an emphasis on the interests of the state, non-transparency.

2.3.2. Legislative framework

In the Slovak Republic, public procurement is regulated by a number of laws and decrees. The most important piece of legislation is the Public Procurement Act No 343/2015 (Act No. 343/2015 Coll)[25] that governs the public procurement system in the Slovak Republic. The latest amendment, that introduced some changes to reflect the needs of the second wave of the COVID-19 pandemic, has been effective since 19 January 2021.[26] The law is supplemented by implementing Regulations and methodical guidance. Some of the most important implementing decrees are the followings:

- Decree No. 41/2019 Coll. of 11 February 2019[27] laying down details on technical and functional requirements for tools and equipment used for electronic communication in public procurement
- Decree no. 132/2016 Coll. of 23 March 2016[28], which lays down the details of the procedure for the certification of systems for conducting an electronic auction
- Decree no. 152/2016 Coll. of 23 March 2016[29], which lays down the details of the notices used in public procurement and their content
- Decree no. 155/2016 Coll. of 23 March 2016[30] laying down the details of the single European document and its content
- Decree no. 428/2019 Coll. of 6 December 2019[31], which sets the financial limit for the over-limit contract, the financial limit for the over-limit concession and the financial limit for the design contest
- Decree no. 157/2016 Coll. of 23 March 2016[32], which lays down the details of the types of design competitions in the field of architecture, spatial planning and civil engineering, the content of the competition conditions and the activities of the jury

The Public Procurement Act No 343/2015 and its implementing regulations are transposing the relevant European Union legislation on public procurement[33]. The Act, effective from 18 April 2016, introduced a number of changes and new elements in public procurement regulatory framework. The development and adoption of the 2015 Act was not only an EU law transposition exercise for the Slovak government, but it aimed to implement a bigger modernisation programme for streamlining public procurement processes. While the long-standing principles of transparency, non-discrimination, equal treatment and proportionality are still underpinning procurement operations, the focus on the value for money has increased in the 2015 law. The 2015 legislative framework also marks a shift towards a more strategic approach to public procurement. The Act was amended in 2019 with the aim of further promote green public procurement and to introduce actions against economic operators that abuse the review mechanism.

As Slovakia is a Member State of the European Union, the EU policy and regulatory framework on public procurement must be considered in the development of any rules (and policy) related to public procurement.

As it was briefly presented earlier in the report, a huge part of the public investments (including ICT projects) in the Slovak Republic are financed from European Union funds (ESIF). Public Procurement Act No 343/2015 also governs the procurement procedures carried out for the implementation of the ESIF projects. The fundamental difference lies in the specific control requirements by the relevant Managing Authority / Intermediate Body and the PPO at each procurement stage of ESIF projects.

In terms of procuring ICT goods and services, the general rules of the public procurement legislation apply; there are no special rules or provisions to follow.

2.3.3. Thresholds

There are three different types of thresholds and accordingly three different types of contract:

a) *Above-threshold contracts:* The highest thresholds are based on those[34] set up by the European Union and applied throughout the EU. All contracts with a value that equals or exceeds the thresholds mentioned in Table 2.2 are to be advertised at the European level, in the Supplement to the Official Journal of the European Union (OJEU)[35].

Table 2.2. Thresholds for above-threshold contracts (as of 1 January 2020)

Thresholds for above-the-threshold contracts			
	Contracting Authority (central government)	**Contracting Authority (non-central government)**	**Contracting Entity**
Goods	EUR 139 000	EUR 214 000	EUR 428 000
Service	EUR 139 000	EUR 214 000	EUR 428 000
Service according to Annex 1 to PPA		EUR 750 000	EUR 1 000 000
Works	EUR 5 350 000		

Source: Decree no. 428/2019 Coll. of 6 December 2019 of the Public Procurement Office laying down the financial limit for the over-limit contract, the financial limit for the over-concession concession and the financial limit for design contests https://www.uvo.gov.sk/extdoc/2514/Financne%20limity%20od%2001-01-2020

b) *Below-threshold contracts:* contracts with a value does not meet the thresholds mentioned in Table 2.2 but have a value of higher than the thresholds listed in Table 2.3. Below-threshold contracts are divided at national level according to several criteria. The procurement approach that needs to be followed depends on the type of contracting authority and the subject-matter of the contract. These tenders have to be published in the Slovak Official Journal (Official Journal of Public Contracts, "*Vestník verejného obstarávania*")[36] or in the Electronic Contracting System (EKS in Slovak)[37]:
   - EKS is a fully automated platform to procure generally available goods and services and is provided according to the §§ 109 – 111 of the Public Procurement Act. The biggest benefit of using the EKS is time related as the minimal time limit for bid submission is 72 working hours and the contract is automatically valid right after the deadline.
   - If EKS is not used, the contracting authority has to publish the tender in the Official Journal of Public Contracts and run procedure in accordance with §§ 112 – 116 of the Public Procurement Act. (Contracting authorities can choose this option also for the generally available goods and services). In these types of tenders, most of the principles of the above the threshold tenders have to be applied, including the obligation to use an electronic tool (state system EVO or the systems provided by private companies).

Table 2.3. Thresholds for the below-threshold contracts

	Contracting Authority
Goods	EUR 70 000
Service	EUR 70 000
Service according to Annex 1 to PPA	EUR 260 000
Works	EUR 180 000

Source: https://www.uvo.gov.sk/extdoc/2514/Financne%20limity%20od%2001-01-2020. Valid from 1.january 2020)[38]

c) *Low value contract*: all contracts with lower totals than below-threshold contracts, but with a value of 5 000 euros or above. The contracting authorities may use the "market survey" method by either sending a demand for offer directly to at least one potential contractor or they can decide to use EKS. It is not necessary to publish a tender notice in the Official Journal, on the other hand, in order to increase transparency of low-value contracts, since 1 April 2019 it is possible to announce low value contracts in the Official Journal in the form of a notice (this functionality was added to IS ÚVO).

Table 2.4 presents the thresholds for design contest. Design contests refer to procedures that enable the contracting authority to acquire a plan or design, which should be selected by an independent jury after having been put out to competition, with or without the award of prizes. Design contests have been traditionally used for designing works in the fields of town planning, architecture, engineering and data processing, but this procedure is suitable also for other types of projects, and has relevance for the purchasing category subject to this report. Design contests may be organised in view of awarding prizes (with payments) or service contracts by means of a follow-up negotiated procedure without publication of a contract notice. The innovation potential of design contests lies in the fact that the public procurer provides the participants with a significant room to manoeuvre in proposing the best solution for the needs described in the contest notice. The evaluation of the design proposals is performed by an autonomous jury composed of members that are independent from the participants. The particular advantage of design contests lies in the fact that the jury may provide a professional and autonomous evaluation of criteria such as user-friendliness, suitability, ergonomics, and artistic, reputational or innovative character.

Table 2.4. Thresholds for design contest

For the contracting authority that is considered as central Government authority	EUR 139 000
For the contracting authority that is considered as sub-central contracting authority	EUR 214 000
For the contracting entity	EUR 428 000

Source: https://www.uvo.gov.sk/extdoc/2514/Financne%20limity%20od%2001-01-2020 (the same – but those are not the low value contract)

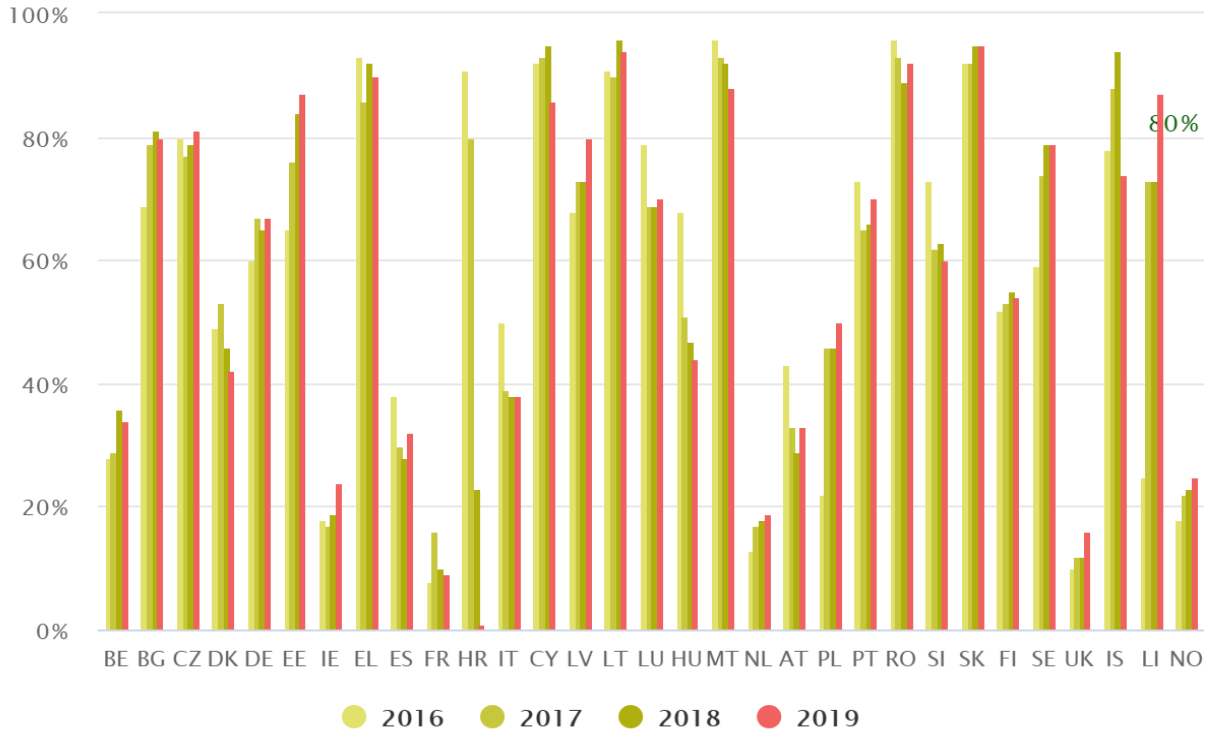
2.3.4. Strategic use of public procurement in the Slovak Republic

In general, the public procurement legislation in Slovakia provides a framework allowing for a more strategic approach to public procurement. While opportunities to leverage on public procurement purchasing power have increased, Slovak contracting authorities still do not benefit from the strategic use of public procurement. For example, they mostly rely on lowest price criteria to award public contracts. The vast majority of procurement officials in Slovakia have never used MEAT criteria, or only rarely, when developing tenders. (OECD, 2017[11]) This one-dimensional criterion prevents contracting authorities from pursuing, through public procurement, broader policy objectives and accounting for other dimensions when purchasing goods, works or services. Further, the limited use of criteria which take into account additional dimensions beyond price also prevent the public sector to seek innovative solutions, although this could be provided by the market.

However, according to the EU Single Market Scoreboard[39], Slovakia is not the only country in the EU where the use of price-only criteria prevails. Figure 2.2 shows the proportion of procedures awarded solely because the offer was the cheapest one available. While the choice of criteria depends on what is being purchased, over-reliance on price suggests better criteria could have been applied, so a better purchase could have been made.

Figure 2.2. The use of award criteria in the EU and EEA Member States: the proportion of procedures awarded solely on the cheapest offer

The use of the lowest price criteria in the EU and EEA Member States



Source: EU Single Market Scoreboard,
https://ec.europa.eu/internal_market/scoreboard/performance_per_policy_area/public_procurement/index_en.htm

The Slovak government, and especially the Public Procurement Office, is making efforts to promote and support the use of public procurement as a strategic governance tool. For example, the PPO issued a methodological document "Innovation in Public Procurement" in 2017. (Public Procurement Office, 2017[12]) In addition, as a part of the long-term strategy of the Public Procurement Office, working groups[40] were created for certain aspects of strategic public procurement, such as green public procurement, social aspects and innovations in public procurement with the purpose of analysing selected issues of public procurement and issue or update methodological guidance on the topics. (Public Procurement Office, n.d.[13]). PPO also developed and published in February 2021 the **Strategy for Social Aspects in Public Procurement in Slovakia 2021 - 2025**[41], which is a long-term plan identifying needs, tools and ways to address social considerations in public procurement.

PPO is also co-operating with OECD on promoting the wider use of MEAT criteria in Slovakia through the project on *"Responsible public procurement"*. In March 2020, the PPO launched another project, *"Increasing efficiency in public procurement in Slovakia* (implemented under the Operational Program

Effective Public Administration supported by the European Social Fund) with the aim of harmonising the decision-making practices of the PPO, promoting transparency and identifying potential conflicts of interest, and motivating public buyers to use sustainable and strategic public procurement (such as green public procurement, socially responsible public procurement and public procurement of innovation)[42].

In 2019, the overall public procurement performance in the Slovak Republic was *average* according to the EU Single Market Scoreboard.[43] The Scoreboard measures performance based on the extent to which purchasers get good value for money. Overall performance is a sum of scores for all 12 individual indicators[44]. The indicators measure important influences on public procurement performance in a way that is transparent, readily comprehensible and comparable. Although these indicators provide only a simplified picture, they still highlight basic aspects of countries' procurement markets. Out of the twelve indicators, the Slovak Republic scores unsatisfactory on five indicators. These are: single bidder, co-operative procurement, award criteria, decision speed and missing calls for bids. These indicators could confirm the slow uptake of strategic considerations when carrying out procurement processes, but also raise concerns on the level of competition and transparency.

Although the EU 2020 European Semester report acknowledged the efforts the Slovak government had made so far to simplify public procurement and in particular verification procedures, it also highlighted the insufficiency of the steps taken so far. It stressed that the complexity and length of the public procurement verification procedures remains a blocking factor for potential beneficiaries to draw EU funds. Further efforts to amend the Slovak Public Procurement Act to streamline control procedures of EU funded projects are needed.[45]

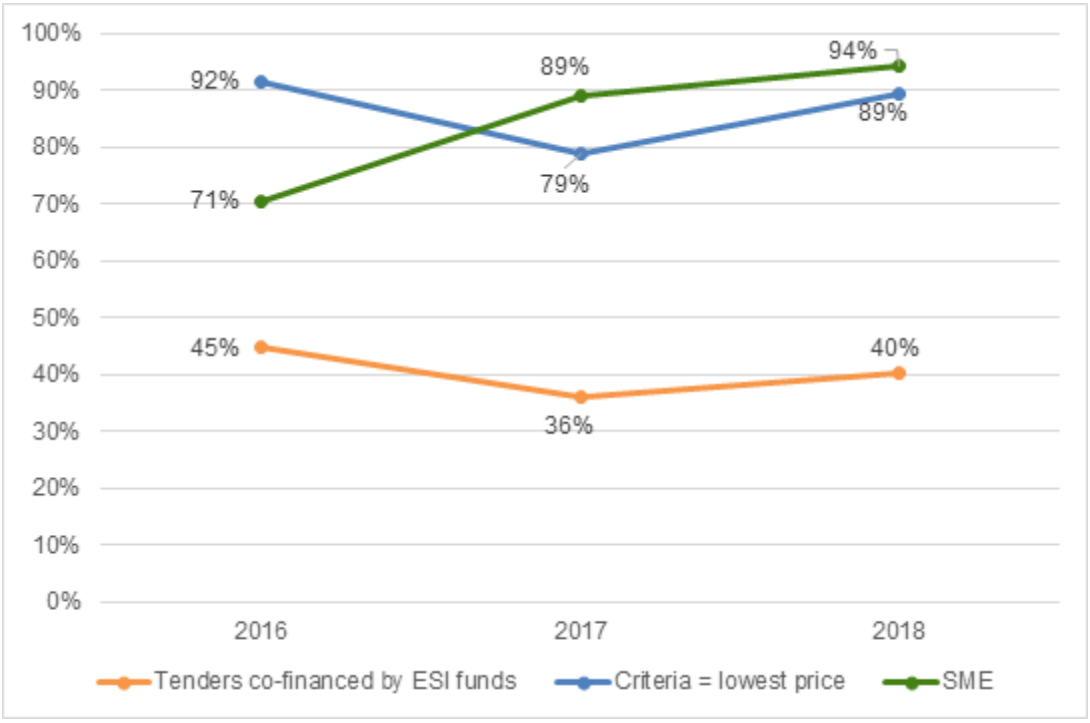
2.4. Overall public spending through public procurement

2.4.1. Public procurement in the Slovak Republic as numbers show – general overview

Public procurement expenditure in the Slovak Republic represents 34.4% of total government expenditure (OECD, 2019[6]).

Over a third of all procurements were financed through European Structural and Investment Funds. While almost 90% of procurements were awarded to a company that is categorised as a small and medium size enterprise (SME), lowest price was the single criteria used to award contracts nearly 90% of the time in 2018. (Figure 2.2) This number confirms the findings from interviews with different stakeholders that contracting authorities are often wary of applying most economically advantageous tender (MEAT) criteria to tenders financed through European funds, as they fear that applying such strategic criteria will be perceived as discriminating against other suppliers.

Figure 2.3. Percentage of tenders: financed through ESI-funds, use of the lowest price criteria, and awarded to SMEs (2016-2018)



Source: Author's elaboration based on data provided by the PPO.

The data in Table 2.5 provides an overarching view of the total procurement statistics and public spend in the Slovak Republic. It intends to provide a general picture and therefore it is not specific to the procurement of ICT goods and services.

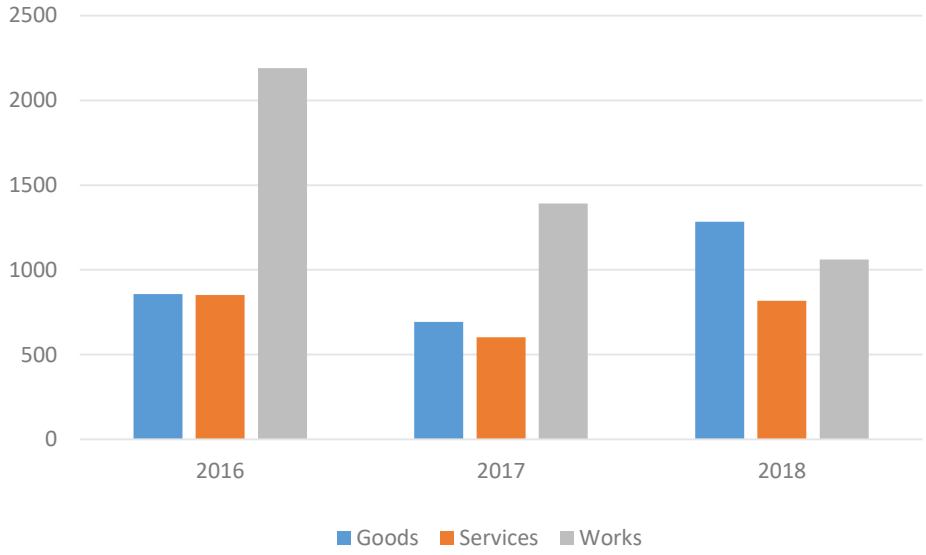
Table 2.5. Overall procurement statistics

	2016	2017	2018
Number of tenders published in the national or EU journal	3 899	2 687	3 162
Value of contracts concluded	EUR 4 384 542 million	EUR 4 004 798 million	EUR 4 820 390 million
Number of tenders for different categories of goods	857	694	1 284
Number of tenders for different categories of services	852	602	817
Number of tenders for different categories of works	2 190	1 391	1 061
Percentage of tenders co-financed by ESI funds	44.7%	36%	40.1%
Percentage of tenders with the lowest price award criteria	91.6%	78.9%	89.4%
Percentage of tenders awarded to an SME	70.5%	88.9%	94.3%

Source: Author's elaboration based on data provided by the PPO.

As Figure 2.4 demonstrates, the procurement of works has significantly decreased between 2016 and 2018. However, the procurement of services, which is primarily the category of spend where ICT falls, did not decrease. Goods procurement decreased between 2016 and 2017, but increased significantly in 2018.

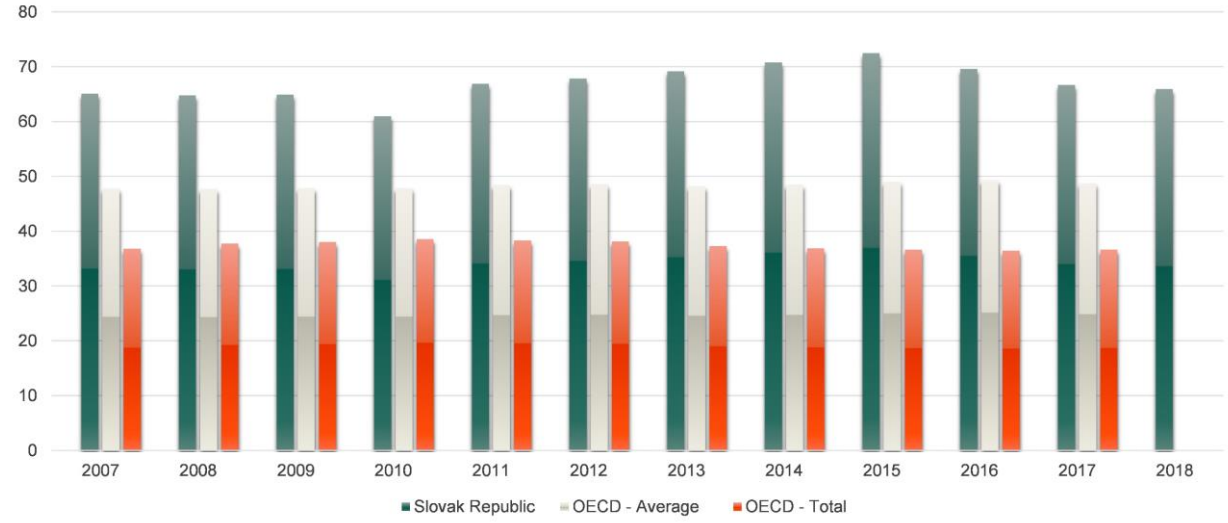
Figure 2.4. Total number of goods, services and works purchased between 2016 and 2018



Note: Author's elaboration based on data provided by the PPO.

The public procurement system in the Slovak Republic is relatively centralised in a sense that the central government procurement accounts for 65-70% of total procurement expenditure (excluding social security funds) as shows from the recent years. Specific contracts are handled by individual contracting authorities, whilst others are required to purchase generally available goods, services or works from the Ministry of the Interior (MoI), which acts as a central purchasing body. (For further details, see Section 2.6)

Figure 2.5. Central government procurement as a percentage of general government, excluding social security funds



Note: Data for Turkey are not included in the OECD average and OECD total because of missing time series.
Source: Government at Glance, 2019

In terms of type of procedures used, data shows the following:

- *Open procedure* was overwhelmingly the most commonly used procurement method in the Slovak Republic in both 2017 and 2018, with over 80% of contracts awarded using this method during both years. In 2019, it was only 71.8%.
- *Negotiated procedure without prior publication* was the second most used method in 2017, in approximately 9.5% of contract awards.
- *Restricted procedure* was the second most used method in 2018, in approximately 11.3% contract awards.
- *Innovative partnerships* were not used at all in 2017, 2018 or in 2019. (Table 2.6.)

Table 2.6. Types of procedures used in 2017, 2018 and 2019

	2017	2018	2019
Open procedure	83.2%	81.7%	71.8%
Restricted procedure	5.7%	11.3%	20.9%
Negotiated procedure with negotiation	1.5%	0.9%	1.3%
Negotiated procedure without prior publication	9.5%	5.8%	5.9%
Competitive dialogue	0.1%	0.3%	0.1%
Innovative partnership	0%	0%	0%

Note: Data was provided by the PPO.
For data in 2019: https://www.uvo.gov.sk/informacny-servis/statistika-procesu-verejneho-obstaravania/2019-633.html

2.5. Characteristics of public spend in ICT

The analysis below include an assessment on the overall CPV code values and percentages generated, and of the sub-set of IT services, as this was such a large percentage of the total overall spend. Table 2.7 outlines the main ICT spend categories, divided by type of entity, for the period of 18 April 2016 until by 31 October 2019.

As provided by the PPO, the data that is analysed in the following sections was extracted from the national e-procurement system, using CPV codes pertaining to ICT hardware, software and services[46].

Table 2.7. Overall public spend in ICT (18. 4. 2016 until 31. 10. 2019)

	Central government		Municipality		Self-governing region		Legal entity		Associated legal entity		Subsidised entity		Contracting entity		TOTAL	
	No.	EUR	No.	EUR	No.	EUR	No.	EUR	No.	EUR	No.	EUR	No.	EUR	No.	EUR
IT services: consulting, software development, Internet and support	102	420 286 185.23	21	4 882 159.18	5	999 378.60	108	173 032 394.46	1	64 500.00	38	9 792 587.42	24	110 353 988.03	299	719 411 192.92
Computer hardware	63	74 546 110.51	4	1 158 117.65	6	792 699.14	73	23 343 673.87			8	1 876 410.95	8	91 647 072.54	163	193 364 084.66
Information systems and servers	9	57 146 203.07			2	213 977.08	17	18 878 850.05			3	885 487.00	3	20 814 274.00	34	97 938 791.20
Telecommunications services	14	10 312 276.91	7	697 954.87	1	540 000.00	20	10 288 518.37					4	7 150 000.00	46	28 988 750.15
Integrated network							1	4 000 000.00							1	4 000 000.00
Database and operating software package							2	2 231 247.33			1	107 850.00	2	3 337 313.52	5	5 676 410.85
Network equipment	4	1 144 973.35	1	168 500.00			3	1 106 390.88							8	2 419 864.23
Miscellaneous software package and computer systems	1	28 780.00	2	164 034.00			1	867 950.00			2	2 093 554.67			6	3 154 318.67
Telecom equipment and supplies	1	197 588.70					3	763 750.00					1	1 590 000.00	5	2 551 338.70
Communication network							1	163 526.59							1	163 526.59
Financial analysis and accounting software package							1	35 334.00							1	35 334.00
Storage management software package							1	4 264.00							1	4 264.00
Installation of telecom equipment	1	1 198 000.00													1	1 198 000.00
Networking, Internet and intranet software package											1	2,390,000.00	1	2,619,759.60	2	5,009,759.60
TOTAL	**195**	**564 860 117.77**	**35**	**7 070 765.70**	**14**	**2 546 054.82**	**231**	**234 715 899.55**	**1**	**64 500.00**	**53**	**17 145 890.04**	**43**	**237 512 407.69**	**572**	**1 063 915 635.58**

2.5.1. An area of public spending concentrated in few hands operating in silos

Spend analysis for ICT procurement spend by category and entity

As Table 2.7 shows **IT services** is the largest spend area, across all levels of government, equalling EUR 719,411,192.92. The biggest spend areas under this sub-heading of IT services are (all over EUR 20 million total):

- IT Software-related services
- System and support services
- Information technology services
- Software support services
- Maintenance of information technology software
- Software maintenance and repair services
- Software programming and consultancy services

The **biggest spenders** in the highest spend area are shown by Table 2.8. The Ministry of Finance (Ministerstvo financií Slovenskej republiky) proved to be the highest spender and has purchased the most IT services, in comparison with all other agencies. (The Report gives more detailed analysis about the big spenders in this category in session *2.6. The main stakeholders in ICT procurement in Slovakia*.)

Table 2.8. The biggest spenders, in terms of contracting authority, in highest spend areas

IT software-related services	National Highway Company, a.s.	EUR 37 590 212.40
	Agricultural paying agency	EUR 26 375 088.00
	Západoslovenská distribučná, a. s.	EUR 25 120 536.75
	National Network and Electronic Services Agency	EUR 16 083 390.00
System and support services	Ministry of Finance of the Slovak Republic	EUR 31 727 332.00
	Social Insurance Agency, headquarter	EUR 13 211 316.16
Information technology services	Ministry of Finance of the Slovak Republic	EUR 36 064 000.00
	Slovak Ministry of Justice	EUR 8 996 952.00
Software support services	Slovenská pošta, a.s.	EUR 11 466 406.01
Maintenance of information technology soft ware	Ministry of Finance of the Slovak Republic	EUR 23 403 836.28
Software maintenance and repair services	Financial Directorate of the Slovak Republic	EUR 11 141 806.50
Software programming and consultancy services	National Network and Electronic Services Agency	EUR 16 083 390.00
System and support services	Ministry of Finance of the Slovak Republic	EUR 31 727 332.00
	Social Insurance Agency, headquarters	EUR 13 211 316.16

Source: Author's elaboration based on data provided by the PPO.

Contracts funded by the European Structural and Investment Funds (ESIF)

As already presented in the Report, approximately two-thirds of public investment in Slovakia is financed through the EU Structural and Investment Funds (ESI Funds). Out of this, around EUR 823 400 000 financed ICT related investments during the 2014-2020 period.

There are 112 contracts funded by the ESIF, totalling 20% of total contracts. Of these 112 contracts, 63 are related to the provision of IT services. This represents 21% of total IT services procured using ESI funding. This includes for example:

- 10 for Software programming and consultancy services
- 11 for Custom software development services
- 6 for Computer and related services
- 6 for Software development services
- 5 for Database services

Joint public procurement

The data indicates that very little joint ICT procurement takes place. In total, there were only 12 instances of a joint procurement occurring: three for software related services, two for system and support services, and one each for software support services, software maintenance and repair services, maintenance of information technology software, database services, website design services, mobile-telephone services, and computer equipment and supplies.

2.5.2. Current procurement strategies limit competition

Use of electronic auction

An electronic auction (e-auction) is a process that allows for the submission of new prices (revised downwards) and/or the submission of new elements of tenders electronically, in both cases after an initial full evaluation of tenders has been undertaken. E-auctions occur at the final stage of a tender process, which has been conducted up to that point in accordance with one of the standard procurement procedures – the open procedure, restricted procedure and negotiated procedure with negotiation, or in a mini-competition run under a framework agreement and in dynamic purchasing systems. E-auctions involve an online electronic system that allows economic operators to submit new, downward-revised prices and/or other revisions to elements of their tenders for a particular contract. An e-auction is conducted in real time, and economic operators are in direct, anonymous competition with other economic operators. E-auctions can only be used when the specifications can be established with sufficient precision. Only the elements of a tender that are suitable for evaluation using electronic means alone may be the subject of an e-auction. (SIGMA, 2016[14])

Of the total CPV codes provided, approximately 40%, both in terms of number of contracts and contractual value, were awarded by the use of an electronic auction. In the field of IT services, only 15% were awarded via e-auction. The data does not state what medium was used when e-auction was not the mode of choice.

Subdivision into lots

A common tool that is often used to support SMEs in public procurement is the subdivision of large contracts into lots. One of the main choices in public procurement is to determine whether the works, goods or services that are the subject matter of the procurement are to be acquired by using one contract or by using a number of separate contracts or “lots”, which may be awarded and performed by different economic operators (SIGMA, 2016[15]). While the use of a single contract can promote savings from economies of scale, the diversity resulting from multiple contracts or lots can enhance competition and increase efficiency. Dividing public contracts into lots is a good way to attract small and innovative companies. The size of each lot can reflect the operational capacities of start-ups and innovative SMEs. In principle, under the EU Public Procurement Directives as well as the Slovak public procurement rules, contracting authorities are expected to divide all public contracts into lots[1]. In practice, they have to find the right

balance between facilitating the participation of smaller innovative suppliers by using lots and minimising their own administrative burden by contracting with a single contractor who will take care of all tasks.

In Slovakia, 16% of contracts were subdivided into lots between 2016 and 2019. Within the specific dataset of IT services, just 6% were sub-divided during the same period (Table 2.9). The meetings with different stakeholders confirmed that dividing contracts into lots is a common issue for contracting authorities, and they apply this tool quite rarely.

Table 2.9. Subdivision into lots

	Yes (% of contracts)	No (% of contracts)
IT services	6%	94%
Total procurement	16%	84%

Note: This data includes contracts that were announced from 18.04.2016 and for which the result of the tender was published by 31.10.2019.
Source: (Public Procurement Office, 2019[16])

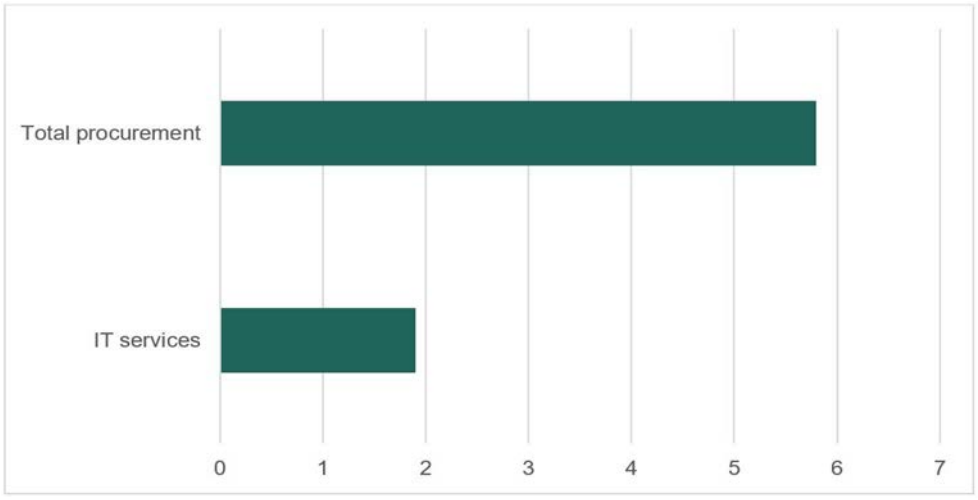
A potential explanation of this lack of subdivision of contracts in IT is the phenomenon known as vendor lock-in. Vendor lock-in refers to a situation where the cost and/or feasibility of switching to a different vendor is so high that the customer is essentially stuck with the original vendor. Because of financial pressures, an insufficient workforce, or the need to avoid interruptions to business operations, the contracting authority is "locked in" to what may be an inferior product or service (Armbrust, 2010[17]). This is particularly relevant in the field of ICT, where contracting authorities are dependent (i.e. locked-in) on a single technology provider and cannot easily move in the future to a different vendor without substantial costs, legal constraints, or technical incompatibilities. Additionally, a significant number of ICT systems cannot easily be migrated to other ICT platforms, resulting in contracting authorities becoming vulnerable to any changes made by their providers.

During stakeholder interviews with both the private and public sector, vendor lock-in was comprehensively identified as the primary issue facing IT procurement in Slovakia. With the primary supplier locked-in to an IT contract, this results in it becoming increasingly more difficult to subdivide a contract into lots, with many smaller suppliers unable to ensure their systems are compatible with the primary IT system.

Level of competition: number of submitted tenders

Research indicates that as well as leading to better outcomes for the procurement activity of contracting authorities, a high number of bids increases competition, as well as having a broader impact on economic productivity (OECD, 2015[18]). Contracting authorities benefit from choosing between different providers and so does the economy as a whole. The number of submitted tenders is often indicative of the level of competition existing in a certain sector. As demonstrated by Figure 2.6, the average number of submitted tenders per concluded contract is much higher for the total procurement dataset, compared with contracts in IT services. The average number of bidders per procedure for the total procurement dataset was 3.6 in 2017 and 3.1 in 2018. Per concluded IT service-related contract, the average number of submitted tenders was 1.9 between 2016 and 2019. This is consistent with the anecdotal evidence gathered during the fact-finding missions, where suppliers and supplier associations feel that due to the vendor lock-in problem the ICT industry in Slovakia faces, placing a bid on a tender rarely leads to success due to the incompatibility of the systems.

Figure 2.6. Average number of submitted tender per concluded contract



Note: This data includes contracts that were announced from 18.04.2016 and for which the result of the tender was published by 31.10.2019.
Source: (Public Procurement Office, 2019[16])

The 2030 Strategy for Digital Transformation of Slovakia[2] identifies this low level of bids (and therefore competition) as a risk area Slovakia faces. Therefore in the future vision it is stated that such digital transformation should provide entrepreneurs in Slovakia with "*regulations adapted to the digital era that will support fair economic competition, fix problems of digital monopolies and support innovative business mode*" (2019[19]). This is where a standards- and assurance-based approach to ICT investment decision making at the pre-procurement stage is critical, to minimise the risk of vendor or technology lock-in. In the **United Kingdom**, the Technology Code of Practice[3] is used to help government teams introduce or update technology so that it: (1) meets user needs, based on research with their users; (2) is easier to share across government; (3) is easy to maintain; (4) scales for future use; (5) is less dependent on single third-party suppliers; and (6) provides better value for money. Having a team that focuses on this, will help transform Slovakia's ICT procurement.

Table 2.10 identifies the average number of submitted tenders per concluded contract on a year by year basis (2016 to 2019). Already, it is apparent that for IT services, the number of submitted tenders has increased since 2018, from 1.1 to 2 bids per concluded tender. There is, however, room for significant improvement.

Table 2.10. Average number of submitted tenders per concluded contract per year

	IT services	Total procurement
2016	1.1	6.8
2017	1.6	8
2018	2.1	5.7
2019	2	3.1

Note: This data includes contracts that were announced from 18.04.2016 and for which the result of the tender was published by 31.10.2019.
Source: (Public Procurement Office, 2019[16])

Increasing competition, particularly in the field of ICT, is vital for a functioning public procurement system and is a well-known tool for reducing public spending or increasing value from public procurement activities. During interviews with stakeholders, many indicated that very little market consultation for ICT tenders takes place in Slovakia. Often, a tender is simply published directly into the national journal without any prior indication from contracting authorities. Early exchanges with suppliers may maximise participation in the tender procedure, allowing potential bidders the time to prepare their offers.

According to the 2015 OECD Recommendation on Public Procurement "adherents should engage in transparent and regular dialogues with suppliers and business associations to present public procurement objectives and to assure a correct understanding of markets" (Principle on participation, paragraph VI) (OECD, 2015[18]). A good understanding of markets is essential if contracting authorities are to develop more realistic and effective tender specifications and provide vendors with a better understanding of the public sector's needs. Engaging suppliers at different stages of the procurement process also helps reduce the information asymmetry between the market and the procuring entity.

Structured early engagement with potential suppliers would help the Slovakian contracting authorities to learn more about the market possibilities, as well as giving the opportunity for the business sector to get information on the opportunities in the public sector. Thorough market investigation would provide the contracting authorities with a greater understanding of the structure and appetite of the supply side, which might result in enhanced competition in the call for tender phase.

2.5.3. Types of procedures used

Open procedures

Open procedures are used for 42% of the overall ICT spend, and in 50% of tenders for IT services. Interestingly, in the field of overall ICT spend; restricted procedure is used in 19% of procurements, compared with only 1% within the specific field of IT services. In contrast, the second most used procedure is direct negotiation (not taking into account the below limit contracts). Competitive dialogue is not used in any circumstance. (Table 2.11.)

Table 2.11. Procedures used for overall ICT spend and for IT services

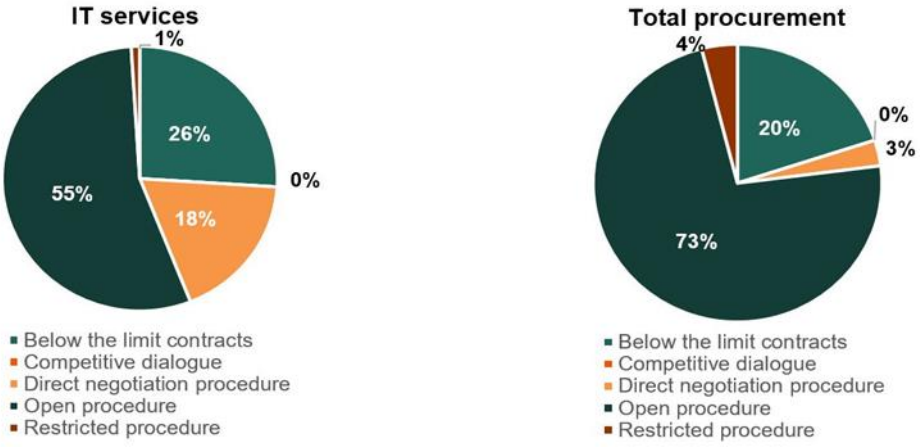
	Contractual value in %		Number of contracts in %	
Type of procedure	Overall	Within IT services	Overall	Within IT services
Below the limit contracts without the use of Electronic contracting system (ECS)	25%	26%	27%	29%
Competitive dialogue	0%	0%	0%	0%
Direct negotiation procedure	11%	18%	11%	20%
Open procedure	48%	55%	42%	50%
Restricted procedure	17%	1%	19%	1%
Total	100%	100%	100%	100%

Note: This data includes contracts that were announced from 18.04.2016 and for which the result of the tender was published by 31.10.2019.
Source: (Public Procurement Office, 2019[16])

Restricted procedures

Interestingly, within the specific subset of IT services, restricted procedures were used in only 1% of procurements, compared with 4% in the total subset (total procurement and not overall ICT spend) (Figure 2.7).

Figure 2.7. Procedure used for IT services and for total procurement (number of contracts)



Note: This data includes contracts that were announced from 18.04.2016 and for which the result of the tender was published by 31.10.2019.
Source: (Public Procurement Office, 2019[16])

Competitive dialogue

Competitive dialogue, a key agile procurement procedure, was not utilised at all in any of the three cases. Competitive dialogue is a public-sector tendering option that allows bidders to develop alternative proposals in response to a client's outline requirements. Only when their proposals are developed to sufficient detail, are tenderers invited to submit competitive bids.

Contracting authorities interviewed during the fact-finding mission indicated that there was a lack of guidance on how to use the competitive dialogue procedure in practices, and feared incorrectly applying it to their procurements. The PPO has recently published an educational material on *Negotiated Procedure with Publication and Competitive Dialogue*[4] that might be inspirational for the contracting authorities to experiment with this type of procedure.

Direct negotiation procedure

In direct negotiation of contracts, or sole source contracting, only one contractor is involved, and that contractor, along with the officials representing government, negotiates the terms and conditions of the contract. This method is applicable when there are few potential bidders, when there are few, or only one, qualified contractors, when a monopoly situation exists, or when one contractor has the specialised skills required to fulfil the contract requirements.

For IT services, the second most utilised procedure was direct negotiation, used in 18% of cases. This compared to just 3% in the total procurement dataset.

The aforementioned vendor lock-in problem that is limiting contracts being subdivided into lots is also a possible explanation for the high usage of direct negotiation procedure. When a supplier has previously provided an IT service to a contracting authority, the authority is conceivably more likely to utilise direct negotiation procedure to contract again with the same supplier for a related IT contract or even for a new IT contract.

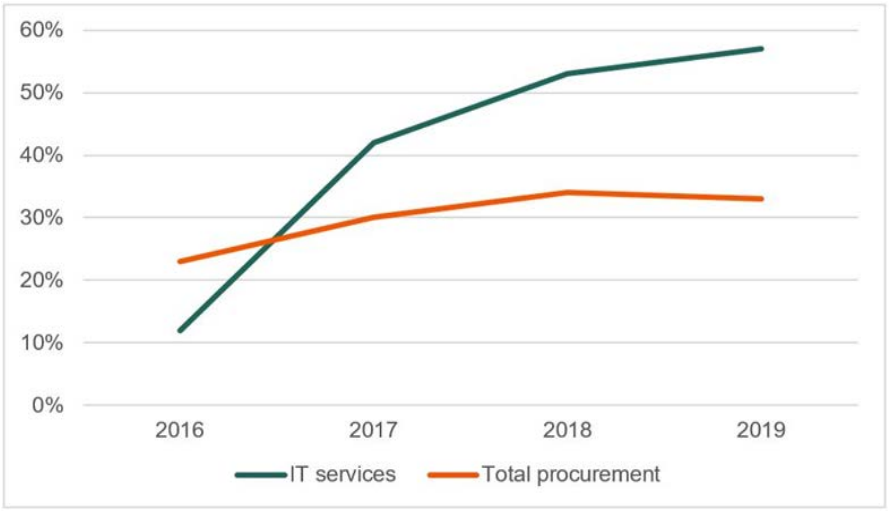
Open procedure, year on year

In an open procedure, any business may submit a tender. The minimum time limit for submission of tenders is 35 days from the publication date of the contract notice. If a prior information notice was published, this

time limit can be reduced to 15 days. The use of an open procedure, in both the total procurement dataset and the IT services subset, vary substantially between 2016 and 2019.

For IT services, open procedures were used in just 12% of cases in 2016, growing by 44% to 56% in 2019. The total procurement subset is more stable, growing just 11% between 2016 and 2019 (Figure 2.8). The significant growth between 2016 and 2017 in IT services could be attributed to the utilisation of EU funds from the Operational Programme Integrated Infrastructure 2016-2020, which allocated almost 1 billion EUR towards ICT projects. Since the procurement process takes some time, the bump did not happen in 2016, but a year later, when the first procurement processes were finished.

Figure 2.8. Use of open procedures, 2016-2019



Note: This data includes contracts that were announced from 18.04.2016 and for which the result of the tender was published by 31.10.2019.
Source: (Public Procurement Office, 2019[16])

The 2015 Recommendation on Public Procurement calls on "*Adherents to ensure an adequate degree of transparency of the public procurement system in all stages of the procurement cycle*" (Principle on transparency, paragraph II). The Recommendation contains guiding principles for countries to promote fair and equitable treatment for potential suppliers by providing an adequate and timely degree of transparency in each phase of the public procurement cycle. The principles take into account the legitimate needs for protection of trade secrets and proprietary information and other privacy concerns, as well as the need to avoid information that can be used by interested suppliers to distort competition in the procurement process (OECD, 2015[18]).

The further use of open procedures within ICT procurement might give a range of different suppliers the ability to compete for opportunities to participate in government contracts, and to improve the perception of accessibility of public procurement procedures. Open and inclusive competition builds trust between citizens and governments, and promotes a transparent and accountable government. Open government also supports a level playing field for businesses, and this contributes to economic development. Transparency is widely regarded as an effective tool for fighting corruption.

Increased competition creates a market environment that fosters innovation and diffusion of new technologies, and makes businesses more productive and competitive both domestically and when competing overseas. Contracting authorities also benefit from choosing between different providers, and so does the economy as a whole. Their ability to choose forces firms to compete with one another.

2.5.4. Public buyers are not capitalising on the benefits of available procurement techniques

Contract award criteria

Using both the percentage of contracts and the percentage of spend, it is apparent from the data that the Most Economically Advantageous Tender (MEAT) criteria are not commonly used in Slovakia, both in terms of percentage of contracts and percentage of contract value. The MEAT criterion enables the contracting authorities to take account of criteria that reflect qualitative, technical, and sustainable aspects of the tender bids as well as price to award the contract. The MEAT criteria are based on costs and encompass other aspects using a 'best price-quality ratio' (e.g. quality of product, organisation, qualification and experience of the supplier, delivery time and conditions, etc.). Tender documents available to bidders typically define award criteria, including how they are combined and the relative weight allocated. Percentage or points systems for evaluation criteria can include environmental and social factors, i.e. complementary policy objectives.

As demonstrated for the total procurement dataset in Table 2.12, only 13% of contracts use MEAT criteria. Despite this low percentage, this is almost 10% higher when compared with the IT services subset, where MEAT criteria are utilised in only 4% of contracts. During the interviews, contracting authorities indicated that the qualification of experts/consultants is the most commonly utilised MEAT criteria, as it is a criterion that actually has a comparable and certified standard.

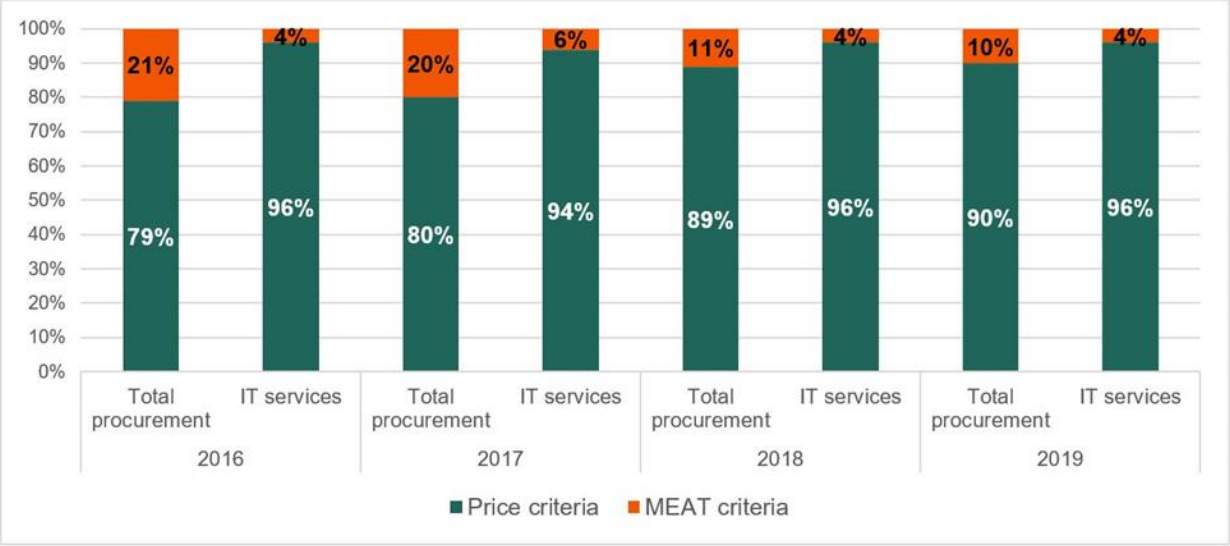
Table 2.12. Contract award criteria

	Price criteria		MEAT criteria	
	% of contracts	% of value	% of contracts	% of value
IT services	96%	96%	4%	4%
Total procurement	86%	91%	13%	8%

Note: This data includes contracts that were announced from 18.04.2016 and for which the result of the tender was published by 31.10.2019.
Source: (Public Procurement Office, 2019[16])

When looking at a year upon year analysis (Figure 2.9), it is apparent that from 2016 to 2019 there is consistently little use of MEAT criteria. For the total procurement dataset, while MEAT criteria are used in 21% of contracts, this decreases to just 10% in 2019.

Figure 2.9. Contract award criteria (in terms of percentage of contracts)



Note: This data includes contracts that were announced from 18.04.2016 and for which the result of the tender was published by 31.10.2019.
Source: (Public Procurement Office, 2019[16])

This consistent lack of use of MEAT criteria in IT services can be anecdotally linked to testimonies given by contracting authorities during the fact-finding missions. These authorities emphasised that they are extremely cautious of using award criteria beyond price, in the fear that the MEAT criteria signals that they are indeed giving preference to a certain supplier.

While both the European Union Directives and the 2015 Public Procurement Act in Slovakia feasibly enable contracting authorities to use criteria that reflect qualitative, technical and sustainable aspects of the tender as well as price when reaching an award decision, there currently exists little guidance on how MEAT criteria can be compared and accredited (European Commission, 2014[20]) (Public Procurement Office, 2015[21]).

Using MEAT criteria is particularly important for ICT procurements. Beyond costs, a wide range of factors may influence the value of a tender for the contracting authority, and this includes environmental, social and ethical aspects. But even in terms of costs, not only the pure acquisition costs are (should be) considered: other types of costs need to be included in the evaluation. In this regard, the use of life cycle costing (LCC) as a method for assessing tender costs can be also part of the MEAT approach. Contracting authorities may select to include costs imputed to externalities in this calculation. The externalities that can be imputed under LCC can refer to societal challenges such as environment but can also refer to other types of external costs such as the lack of interoperability. Interoperability removes the costs associated with linking to incompatible systems. Additionally, other non-monetary aspects can be considered in a MEAT concept as part of tender evaluation, such as training and customer service offered, response time for helpdesk services, extended maintenance for software, improved energy consumption, just to name a few.

Providing supportive measures to help contracting authorities navigate the complex strategic procurement frameworks in their daily work, including MEAT criteria is important in all public procurement systems. A range of training courses should target different levels of sophistication in using MEAT criteria successfully, from introductory courses to implementing complex evaluation criteria and conducting supplier due diligence. These efforts can be supported through broader use of implementation tools and templates.

The 2015 OECD Recommendation on Public Procurement states, "*Adherents should implement sound technical processes to satisfy customer needs efficiently",* including through *"identifying appropriate award criteria"* (Principle on efficiency, paragraph VII). Award criteria must be objective, relevant to the subject matter of the contract, and precisely defined in the tender/solicitation documents (OECD, 2015[18]).

In order to ensure that contracting authorities are able to implement such sound processes through their award criteria, contracting authorities in the Slovak Republic should be supported by MEAT-related guidance, relevant to the procurement of ICT products and services. This guidance should build on the points and percentages system and on the model of the most economically advantageous tender (MEAT) to select bidders and award points according to complementary policy objectives.

Use of framework agreements

The use of framework agreements is not uncommon for ICT purchasing in Slovakia. For the total dataset, framework agreements represent approximately 42% of the contractual value. For IT services, approximately 24% of purchasing is done via a framework agreement. (Table 2.13.)

Table 2.13. Use of framework agreements

	Conventional contract			Framework agreement		
	Number of contracts	Number of agreements	Contract value	Number of contracts	Number of agreements	Contract value
Total	463	513	EUR 614 074 749.27	109	173	EUR 449 840 886.30
IT services	264	296	EUR 548 726 382.54	35	61	EUR 170 684 810.38

Note: This data includes contracts that were announced from 18.04.2016 and for which the result of the tender was published by 31.10.2019.
Source: (Public Procurement Office, 2019[16])

In terms of combatting this issue of specific IT suppliers dominating public procurement opportunities in Slovakia, this could be a causation of the types of procedures used to procure ICT products and services in Slovakia. As demonstrated, open procedures are used in 55% of tenders for IT services, and in 73% of cases in the total procurement dataset.

2.6. The main stakeholders in ICT public procurement in Slovakia

The aim of the stakeholder mapping exercise is to identify stakeholders involved in this purchasing category and to understand their roles and business processes in place. It also aims to assess the alignment of the current ICT procurement business processes against objectives defined in the Slovak digital agenda. The stakeholder mapping intends to give a complete picture of the relevant stakeholders for this purchasing category, including the main suppliers and service providers. It also aims to clarify whether ICT purchasing are organised in a centralised or decentralised environment.

The stakeholder mapping is based on desk research and face-to-face meetings with the relevant authorities and other players, for better understanding their needs, priorities and their satisfaction or dissatisfaction with the current rules and practices.

Stakeholders playing key role in this purchasing category are the following:

2.6.1. Public Procurement Office – Úrad pre verejné obstarávanie (PPO or UVO)

The Public Procurement Office (PPO; UVO) is the central body responsible for public procurement covering a wide range of responsibilities from drafting of procurement legislation, to implementing policy,

overseeing procurement, carrying out training, managing e-procurement functions as well as managing objections related to tendering procedures, acting as the first instance review body.

The PPO acts as the central State administration authority for public procurement, and controls whether public procurement procedures are in compliance with the law as well as monitors the application of the PPL and accompanying legislation, collects, analyses and publishes statistical information.

The PPO is exercising ex-ante review of public procurement documents. The PPO's role includes the execution of ex-ante controls for the ESIF projects. It is collaborating with the EU on the management of the structural funds and with respect to compliance with the respective EU Directives and Regulations.

For ESIF-funded projects, the PPO controls public procurement procedures, especially during the tender phase before signing of the contract, whose estimated value is above 600 000 EUR.

One of the main activities of PPO is to issue methodological guidelines based on the requests from the participants of the public procurement process (including not only contracting authorities, but also tenderers, candidates and law firms). In 2019, there were totally 449 for methodological guidelines, 15 individual general methodological guidelines, and 2 explanatory statements issued by the PPO (Public Procurement Office (PPO), 2020[22]).

The PPO is also responsible for providing trainings specifically dedicated to public procurement for contracting authorities and suppliers (also in co-operation with other institutions such as the Institute for Public Administration of the Ministry of Interior). For example, in September 2019, the PPO published a handbook on recurrent errors identified in its control activity or recently the PPO has prepared an educational material on *Negotiated Procedure with Publication and Competitive Dialogue*[5]. In 2019, in terms of capacity building of the public procurement actors, the PPO's main focus was the different regions in Slovakia. Training activities were carried out in close cooperation with the Association of Cities and Municipalities of Slovakia, the Union of Slovak Cities, and the SK8 - Association of Self-governing Regions[6]. The topics of the trainings were contemporary issues of public procurement, e.g. IS EVO, socially responsible public procurement, low-value contracts, co-operation between more procuring authorities, purchase of food, and others (Public Procurement Office (PPO), 2020[22]).

The PPO also manages the national e-Procurement platform (Information System of Electronic Public Procurement, IS EVO) and is responsible for carrying out additional developments to meet changing needs of contracting authorities. IS EVO is the central system for conducting tender procedures for all types of goods, services and works of any value. The IS EVO supports various stages of the procurement lifecycle, including: entry of request for procurement, publishing of the call for tenders, submission of tenders by bidders (economic operators), evaluation of tenders, contract award. All types of procurement procedures are supported: open, restricted, negotiated procedure with publication, Dynamic Purchasing System, qualification system. Likewise, all types of evaluation methods are supported: e-Tendering, e-Auction, based on lowest price or the most economically advantageous tender (MEAT).

The PPO represents the Slovak Republic externally, working in specialised working commissions of the European Union and has active cooperation with foreign partner institutions.

In 2019, the PPO established the Department for Regional Offices. The main aim of these regional offices is to provide support to local contracting authorities on the application of the public procurement framework. At the time of the report writing, there are already 6 offices that are operating such as offices in Trnava, Nitra, Trenčín, Žilina, Prešov, and Banská Bystrica. The medium-term plan is to open similar offices in each capital city of self-governing unit in the Slovak Republic.[7]

Special role in terms of ICT procurement

- The PPO does not have any special role in ICT procurement. It exercises all those functions in terms of ICT procurement that in terms of every other purchasing category.

- The PPO participates in the Working Group on Public Procurement for Informatisation of Public Sector led by the Deputy Prime Minister's Office. (See further information about it later.)

2.6.2. Ministry of Interior (MoI)

The Ministry of Interior (MoI) acts as the central purchasing body (CPB) for commonly available goods, services and works. As a CPB, it conducts procurement on behalf of the contracting authorities under their responsibility mandatorily for certain product categories. The contracting authorities are then obliged to buy such products from the CPB. The contracting authorities can ask the CPB to conduct a procurement on behalf of them even for items not in the "mandatory" list. The contracting authorities are obliged to use the CPB activities for above-the-thresholds contracts for the cases described in Sections 13 and 15 of the PPA.

The MoI operates an online platform, the EKS (Electronic Contracting System), which includes functions such as an e-market, dynamic purchasing system, and statistical data tracking system. The EKS Management Team of MoI plays a significant role in the Slovak Republic's public procurement system by managing the one of the two national e-Procurement systems.

The MoI also carries out activities related to professionalization, such as trainings or conferences on the use of the online platform.

Special role in terms of ICT Procurement

- The Ministry of Interior has set up framework agreements and dynamic purchasing systems for different IT products and services (such for IT hardware or printer cartridges), that are open for other ministries as well.
- The MoI participates in the Working Group on Public Procurement for Informatisation of Public Sector led by the Deputy Prime Minister's Office. (See further information about it later.)
- The Ministry of Interior is a partner to the iProcureNet Online Platform (iPOP) [8] which is a network of institutions and a community of experts from practitioners' organisations, industry and academia, policy makers or engaged citizens – involved or interested in the procurement of security innovation, and wanting to connect, be informed, engage and collaborate with other stakeholders.

2.6.3. Ministry of Investments, Regional Development and Informatisation of the Slovak Republic (former Office of the Deputy Prime Minister of the Slovak Republic for Investments and Informatisation)

The Ministry of Investments, Regional Development and Informatisation[9] is in charge of developing whole-of-the-government policy in the field of the use of European Union funds, digitalisation of society and in the field of investments. The Ministry was established in July 2020 as it was transformed from the Office of the Deputy Prime Minister of the Slovak Republic for Investments and Informatisation. The main tasks of the Ministry include participation in creation and implementation of the uniform state policy in the field of the use of European Union funds, as well as informatisation of the society, and investment. As part of its powers, the Ministry performs tasks concerning management, coordination and supervision of the use of European Union funds in the area of informatisation of the society, as well as in the field of investments.

The former Office of the Deputy Prime Minister of the Slovak Republic for Investments and Informatisation was in charge of the area of information society within the Operational Programme Integrated Infrastructure (OPII) during the Programming Period 2014-2020. It also acted as an intermediary body responsible for Priority Axis 7 Information Society under OPII. The funds were invested in the development of electronic services for citizens and businesses, arranging complex life events, cross-border interoperability and increasing the availability of government data through open data. At the same time, public administration reform was supported through ICT, including the further expansion of the government cloud. The ESIF's

amount of EUR 0.8 billion is allocated for Slovakia to support the implementation of digital technologies in the 2014-2020 programming period through the OP Integrated Infrastructure and Rural Development Programme.

In relation to the European Union funds, the Ministry acts as the Central Co-ordinating Body as well as coordinating and ensuring the preparation and implementation of the main strategic and programming documents of the Slovak Republic in the area of Cohesion Policy of the European Union (including the Partnership Agreement). It also co-ordinates the preparation of national positions on legislative proposals of the European Union for cohesion policy.

The Ministry is the main policymaker for information society and single digital market policy-making, it ensures the central management of informatisation in Slovakia. It develops and implements national strategies for the single digital market and digital transformation, including measures to improve the performance of the Slovak Republic in the key international indicators. It co-ordinates the implementation of the EU's Digital Strategy, as well as innovative and disruptive technologies. As the managing authority it performs management tasks in administration of information technologies of the public administration and determines the central architecture of the integrated information system of the public administration.

The Ministry prepares, co-ordinates and implements the directly managed programmes of the European Union in the field of information society and digital connectivity.

It has an important co-ordination role in the development of policies and measures to mitigate the negative impact of technologies and digitalisation on society.

It decides on the use of the public funds in the public administration for information technologies and the central architecture of the integrated information system of the public administration.

As the administrator, it ensures the administration, operation and development of the Govnet network and electronic interconnections of the central bodies of the state administration through Govnet. As the administrator, it provides for the administration, operation and development of the Central Public Administration Portal, common modules and other information systems within its competence.

It co-ordinates the development of information technologies of the public administration at the national and international level.

It maintains the central register of eGovernance components, central reference architecture, the catalogue of cloud services, central register of performed guaranteed conversion, a list of the reference data, a list of basic code numbers and the central data model.

The Ministry is the Central Co-ordination Body (CCB) for monitoring and evaluation of the European Structural and Investment Funds (ESIF). It coordinates and guides the Managing Authorities (MA) for operational programs (OP) in terms of methodology in the area of monitoring and evaluation when implementing the ESIF at the OP level. It monitors and evaluates the state of the ESIF support implementation as well as identifies, monitors, and analyses the risks related to the ESIF support implementation.

Special role in terms of ICT Procurement:

The Ministry of Investments, Regional Development and Informatisation has three different roles in terms of ICT procurements:

- conducting tender procedures for ICT services and goods
- carrying out ex-ante controls for public procurement procedures that are not financed by EU funds, especially procurement in less developed areas
- leading the *Working Group on Public Procurement and ICT Contracting*[10]. In May 2019, the working group (included several relevant stakeholders such as PPO, ITAS, Slovensko.Digital, Slovak Society for Informatics, Anti-monopoly Office and selected representatives of central state

administration bodies who have expressed interest in membership in the working group) developed a Methodological Document about ICT procurement, covering the most important issues in ICT procurement in the Slovak Republic, and providing methodological advice to contracting authorities on several challenges, such as preventing vendor lock-in and terminating unbalanced contracts. The document was developed with the aim of unifying the approach on IT procurement across public institutions and specifically focused on software procurements and service contracts (SLA) for existing software, as the most critical areas identified in IT procurement. Topics covered in the document include vendor lock-in, dividing contracts into lots, preliminary market analysis, common availability of goods and services on the market, selection criteria (a tool helping procuring entities to determine whether the procured goods/ services are commonly available), design contest for procuring software as well as IP rights[11].

2.6.4. Government Office

The main responsibilities of the Government Office of the Slovak Republic include reviewing the performance and implementation of tasks within the state administration as well as of tasks resulting from government resolutions, ensuring action is taken on petitions and complaints, co-ordinating the performance of tasks for the development of the information society, and co-ordinating the implementation of policies of the European Communities and the European Union.

The Implementation Unit (IU) within the Government Office was responsible for the review and evaluation of spending goals defined by the Ministry of Finance, consisting mostly of Value for Money (VfM) spending reviews. It co-operates closely with the ministries in this regard, preparing the implementation plan for them and continuously reviewing implementation over three years. The IU was moved under the Ministry of Finance in December 2020.

The Institute for Strategy and Analysis (ISA) provides analytical support for economic and social policies of the Prime Minister's and Governments' Office in line with economic policy objectives and strategic priorities of the Government programme, including the European Union's cohesion policy. The Institute co-operates closely with other analytical units of central state administration bodies for the development of strategy documents. ISA conducts research on topics like regional policy, innovation, health policy, education, and the impacts of EU funds allocation. Recently, ISA has become the Secretariat for the National Productivity Board and has been charged with preparing the annual report on productivity and competitiveness of the Slovak economy.

2.6.5. Ministry of Finance

The Ministry of Finance is responsible for managing the national fiscal framework, including: the national budget, taxes and fees, customs, financial control, internal audit and government audit. In 2015, it established the **Value for Money Division**, which aims to promote evidence-based policy making and efficiency within the public sector by conducting spending reviews, assessing planned investment projects and linking the spending review to the budgetary process. A specific type of spending review is the assessment of public investments over EUR 40 million, or EUR 10 million in the IT areas, before the start of the investment related public procurement process and preparation of ad hoc analyses.[12] Today it has 25 employees, of which 19 are analytical staff.

In 2020, the Value for Money Initiative has conducted a second spending review on Informatisation (the public spending in the IT sector). The first spend review was conducted in 2016. The 2020 spend review identified that the results of Slovak informatisation are improving, but the potential for digitising public administration is not fully exploited. In addition, rising expenditures on state IT increase the pressure on the efficiency of informatisation. From the point of view of strategic goals, according to the Value for Money Initiative, the priority is to strengthen internal capacities and focus not only on new projects, but also on

efficient IT operation. Among the technical priorities, this is better data management and exchange and the use of central common modules. In terms of savings, in the medium term, IT expenditures can be reduced by 48-95 million euros without affecting the quality of supported business services. This result could be achieved after introduction of analytical monitoring of IT expenses and managerial responsibility for their amount. These can be further achieved through improved purchase of licenses, telecommunications services and more effective use of the government cloud.

The Final Report identifies measures for improving processes and recommendations allowing for a more efficient evaluation and management of state IT. It states that Slovakia needs to centralise the responsibilities for the national IT investments/digitalisation, develop a clear informatisation strategy and equip it with a project pipeline. The internal resources to manage public service IT projects are not satisfactory: the state spent two-thirds of the funds it had allocated for OP IS project management on external suppliers instead of using its own employees. Externally managed projects were corrected twice as often as internally managed projects. The Report therefore recommended using EU funds to build internal IT resources for project management and design rather than outsourcing. (Value for Money Division, Ministry of Finance, Slovakia, 2020[23]).

One of the recommendations of the report was the centralisation of procurement of support IT services such as telecommunication, connectivity and licences. The Report highlights that "*following the model of shared services centres, all state organisations should be provided with a set of standardised IT operation services. Shared services centres are a common practice in IT services in both the commercial sector and the public sector (e.g. Canada, USA, and the European Union). They provide their clients with services starting from IT infrastructure to user support or administration of support application. The economic logic of shared services centres is the specialisation and economies of scale. Slovak public IT, so far, do not have a single organisation providing support services, although selected services are provided to several institutions (e.g. DataCentre, government cloud) or purchases are coordinated (licences). Basic services, such as contracts for telephone and data services or purchase and servicing of common computer equipment, are purchased by each institution separately. The expenditure review recommends consolidation of IT support services into a single organization so that common commodified IT services, such as telecommunication services and connectivity, software licences, technical support or basic software solutions, such as e-mail have been provided to other state institutions on a central basis. In the first step, the expenditure review recommends centralization and optimization of provided telecommunication services, connectivity and licences.*"

The report sets up a series of recommendations for the government, such as

- develop binding cloud migration strategy linked with IT budgets
- make procurement of Microsoft license products more efficient
- create and publish reservoir/pipeline of projects
- design a management concept for digitalisation
- create a status report on public ICT
- update information on all IT systems in public administration
- analyse state institutions' IT expenditures structure
- cost-benefit analysis of all future IT projects over EUR 10m
- analyse the utilisation and procurement of software licences (Microsoft, Oracle, SAP)

The Value for Money Division has developed a Methodology on Developing and analysing business cases.

As the OECD spend review showed, the Ministry of Finance proved to be the biggest spender for the ICT purchasing category. The spending review conducted by the Value for Money initiative came to the same conclusion. Together with the Ministry of the Interior and their subordinate organisations, their expenditures accounted for 45% of the total expenditure of the central state IT administration.

2.6.6. Ministry of Justice

Ministry of Justice administers the Register of Public Sector Partners (RPVS)[13], a public sector information system that contains the data on public sector partners. The main purpose of the registry and the law behind it is to assist the Government in its fight against illegal activities of "ghost companies" that receive public funds for money laundering and terrorism financing. The government is not allowed to transfer public funds to those who are not registered in the RPVS. (The registering authority is the District Court of Žilina.) A public sector partner is defined as a natural person, and/or a legal entity that receives public funds (public recourses) from the state and local government as well as other public sector entities. Therefore, those who conclude a contract with the public sector as a result of a public procurement procedures as well as their subcontractors are required to register in the RPVS in case the amount exceeds the respective financial thresholds: (i) more than EUR 100 000 for a single payment of public funds, or (ii) more than EUR 250 000 per year in case of multiple payments.

The Public Procurement Act also stipulates that the contracting authority may not enter into a contract, concession contract or framework agreement with a tenderer or tenderers who are required to register in the RPVS but have not been registered yet, in accordance with the Law on the Register of Public Sector.[14] The obligation to register arises before the signing of the contract. Since 1 September 2019, RPVS also applies to all European funds, with the only exception being the European Agricultural Guarantee Fund.

2.6.7. Contracting Authorities (Buyers)

In 2020, 514 new contracting entities registered in IS 'UVO.

In 2019, 359 new contracting entities registered in IS 'UVO, which is 15% less than in 2018.

In 2018, 423 new contracting authorities registered in the system.

2.6.8. Economic Operators

In 2018, there were 3 124 economic operators registered in the List of economic operators (ZHS) which is a decrease of 30% compared to 2017. Among these economic operators were 221 foreign economic operators from the countries of the European Union, Kazakhstan, Serbia, and China[15].

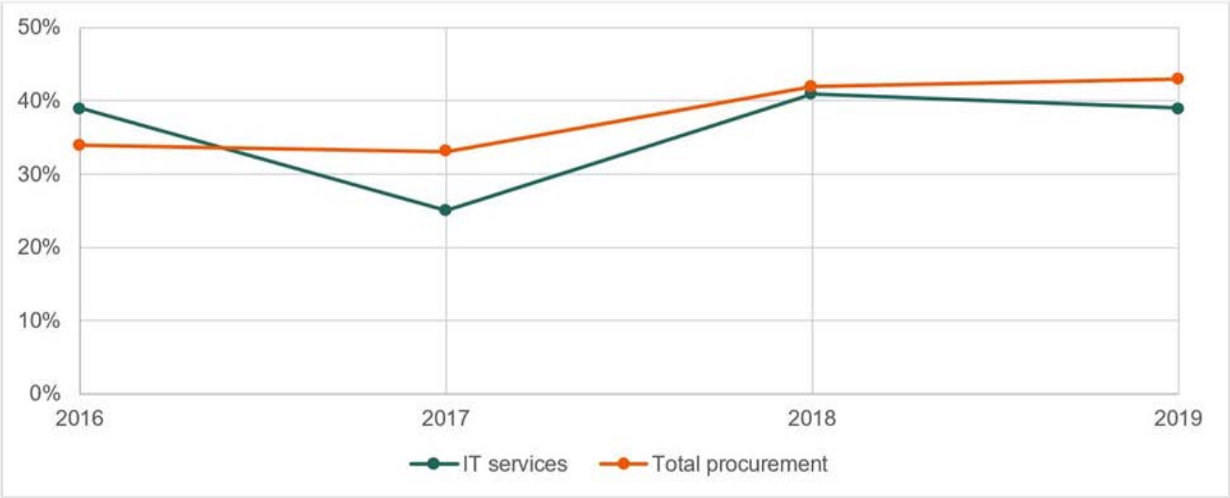
In 2019, the number of registered economic operators in the ZHS was a total of 3042, which is 2.7% less than in 2018. Out of this number, 188 foreign economic operators were registered from the countries of the European Union, Canada, the Kingdom of Norway and China People's Republic.[16]

Registration in the EVO IS allows economic operators to submit offers electronically for those contracts that are implemented through this system. Almost all tenders are submitted by companies resident in the EU, with only 6% being submitted by a non-EU member for both the total overall and IT services.

Small and medium-sized enterprises (SMEs)

The Slovak economy is strongly dependent on SMEs and they are quite active in the public procurement system. SMEs dominate the Slovak economy, accounting for 99.9% of the total number of business entities. They provide employment in the business economy – nearly three-quarters (74%) of the active labour force – and account for more than half (55%) of the added value created in 2019. Micro-enterprises employing less than 10 employees make up 96.9% of small and medium-sized enterprises. More than three-quarters of small and medium sized enterprises are active in sectors such as business services, trade, construction and industry (Slovak Business Agency, 2020[24]). As aforementioned, while the number of bids submitted for an IT service contract is low, approximately 40% of these bids are submitted by SMEs (Figure 2.10).

Figure 2.10. Percentage of bids submitted by SMEs, 2016-2019



Note: This data includes contracts that were announced from 18.04.2016 and for which the result of the tender was published by 31.10.2019.
Source: (Public Procurement Office, 2019[16])

This is consistent with the use of SMEs in other OECD countries. Bigger businesses often employ personnel specialised in preparation of tenders, whereas SMEs often struggle in meeting some of the tender requirements. Among the common obstacles are, for example, obtaining the necessary certifications (such as ISO for quality management etc.). While smaller businesses may be able to deliver the subject-matter in required quality, meeting such certifications and standards limits their agility.

While the percentage of the number of bids submitted by SMEs is consistently below 50%, on average between 2016 and 2019, 69% of contracts for IT services were won by an SME, compared with 77% for the total procurement data set (Figure 2.11). The data indicates that when an SME does bid on an IT tender, the SME has a significant chance of success.

This is a credible result of the transposition of the EU directive on public procurement of 2014 into the Slovak Republic public procurement system in order to facilitate SME access. For example, PPO organises workshops and training for contracting authorities, and one of the topics they cover is facilitating SME access to public procurement, and contracting authorities are instructed to split contracts into smaller lots when possible. It is also a topic of discussion for the Coordination Committee for Cooperation in Public Procurement, which includes all managing authorities involved in the European Structural and Investment Funds in Slovakia (OECD, 2018[25]). In May and June 2020, in accordance with the economic importance of SMEs and the pandemic situation related to COVID-19, PPO has prepared and issued two complex documents to assist SMEs better participation in the public procurement market:

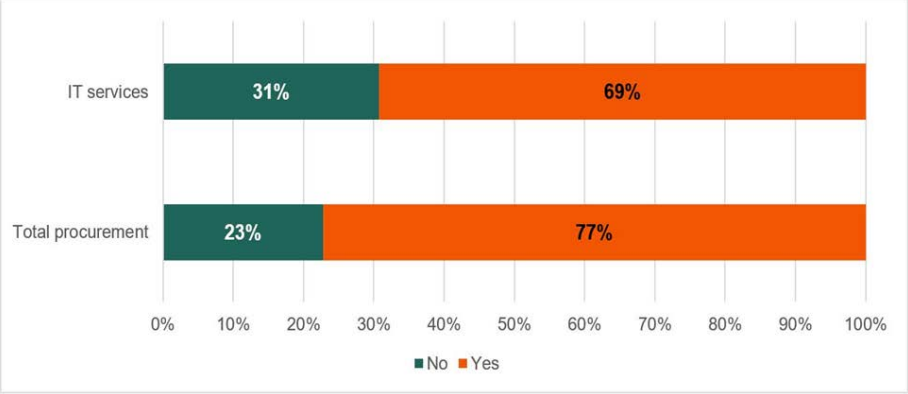
- What do you need to know about doing business with the state?
- How to doing business with SMEs.[17]

The document entitled *"What do you need to know about doing business with the state?"* aims to provide a complex presentation of possibilities, individual legal institutes of the public procurement process and at the same time, to provide the SMEs with a guideline in order to help them improve and strengthen their position in the public procurement process. This comprehensive document provides answers to the basic questions of how to do business with the state and seeks to motivate SMEs to participate in public procurement and thus contribute to the widest possible competition.

The second document entitled *"How to doing business with SMEs"* focuses on awarding authorities (contracting authority, subsidised person, contracting entity), and encourages them to use all legal

opportunities provided by the PPA (such as preliminary market consultations, dividing contracts into lots setting relevant selection criteria) to both facilitate SMEs' access to the public procurement market and increase their participation in public procurement.

Figure 2.11. Percentage of contracts awarded to SMEs



Note: This data includes contracts that were announced from 18.04.2016 and for which the result of the tender was published by 31.10.2019.
Source: (Public Procurement Office, 2019[16])

Top IT suppliers

Since 2014, 829 IT suppliers have distributed approximately EUR 2.4 billion in 7,696 public contracts (Uvostat, 2019[26]). As established in Table 2.14., five IT-based suppliers have won 776 contracts, totalling 583,689,118.00 EUR of spend. In essence, these five suppliers represent 24% of the total public spend on IT since 2014.

Table 2.14. Top IT suppliers (2014-2019)

Supplier name	Number of contracts won	Total amount (in EUR)
Atos IT Solutions and Services Ltd.	95	28 0815 050.00
TEMPEST as	169	169 103 186.15
AutoCont SK as	260	146 072 034.70
DATALAN as	227	131 150 241.75
DITEC as	25	109 282 107.76
InterWay, Ltd.	41	87 481 088.00
SOITRON sro	20	84 242 094.33
Aliter Technologies, Inc.	17	83 462 452.86
DXC Technology Slovakia Ltd. (Hewlett-Packard Slovakia Ltd.)	30	77 871 002.00
SAP Slovensko sro	22	59 863 339.98

Source: (Uvostat, 2019[26])

Reliance on these five businesses can be correlated to the lack of pre-market consultation currently occurring in Slovakia. Most state purchases related to ICT are prepared without open and transparent communication with the market. As a result, in previous three years there were only 26 cases of pre-market consultation recorded in the Journal of Public Procurement (to date 17.9.2018), while none was used in relation to ICT services.

2.6.9. Business Associations

Information Technology Association of Slovakia (ITAS)[18]

ITAS is a professional association of domestic and foreign companies operating in the field of information and communication technologies. It was founded in 1999 and represents more than 100 companies from Slovak private IT/ICT sector. ITAS member companies employ almost 30 000 people.

ITAS, as a professional association, forms, communicates and asserts professional standpoints on relevant regulations and legislative standards which affect ICT industry. ITAS represent ICT companies in negotiations with pubic institutions such as the Ministry of Investment Regional Development and Informatisation, PPO, the Value for Money Unit, National Security Authority, the Operational Programme Integrated Infrastructure (OPII) Managing Authority in the Ministry of Economy, Association of Towns and Communities of Slovakia, Union of Towns and Cities of Slovakia and all ministries and their subordinate organisations. It represents ICT companies in negotiations with non-profit organisations (Slovensko.Digital, Slovak Information Society, Partnerships for Prosperity and others).

ITAS is also active in the field of public procurement and developed several methodological documents in this area. It supports its members and the public sector with issues which frequently occur in ICT procurements, such as vendor lock-in or intellectual property rights. ITAS is a great advocate for increasing the transparency of public procurement from the perspective of suppliers and for adhering to ethical standards in the business of the IT companies with the state.

ITAS represents Slovakia in DigitalEurope[19], Europe‘s largest association of IT companies and associations. (DigitalEurope’s membership represents over 35,000 businesses who operate and invest in Europe. It includes 77 corporations, as well as 40 national trade associations from across Europe.) ITAS co-operates with Business.Europe[20] and Business at OECD[21].

Slovensko.Digital

Slovensko.Digital is a civic association focusing on increasing the quality of digital public services in Slovakia. Slovensko.Digital promotes ethical business behaviour in the IT sector. It strives to increase the transparency and efficiency of public spending and the participation of professionals/experts in the digitalisation of the public administration. The association was established in 2016. It mobilised a large community of IT experts on the platform Slovakia.Digital and it participated in the preparation of the Návody.Digital portal.

Slovensko.Digital offers the possibility of co-operation between professional IT experts and the lay-man in an effort to improve the Slovak IT sector and the digital transformation of the Slovak society, economy and public administration.

Slovensko.Digital and the PPO signed a memorandum of co-operation in 2018. Slovensko.Digital also participates in the Working Group on Public Procurement for Informatisation of Public Sector led by the Ministry of Investment.

DEUS Association

The DEUS Association is the data centre for the Informatisation of the local self-governments of Slovakia. Its priority is to promote electronic communication between the different levels of government and the citizens. The association has developed and administers the electronic systems of the self-governing cities and villages. It co-operates with suppliers who deliver these systems to the cities and villages. The association was founded as an association of legal persons in July 2011. Founding members were the Ministry of Finance of the Slovak Republic and the Association of Towns and Municipalities (Združenie miest a obcí Slovenska, ZMOS)[22].

The DEUS Association manages the DCOM IS (Municipal Data Centre)[23] which is a data centre for municipalities and towns and is available for smaller municipalities and towns, providing centralised, cloud-based electronic services. With the introduction of the obligation for municipalities to exercise public power electronically from 1 November 2017, the importance of the central solution by DCOM IS has increased significantly. Joining DCOM IS is voluntary for the municipalities.

The project of building DCOM IS is co-financed by EU Structural Funds within the Operational Programme Informatisation of Society (OPIS). The aim of the project is to build specialised Municipal Data Centre. It includes infrastructure and software essential for providing e-services by local governments to their citizens. The Data Centre offers software solutions in a way of “Software as a Service” (“SaaS”) to the local governments. These solutions enable municipal governments to develop services without needing to build them individually, thereby avoiding duplication of effort and reducing demand for specialised skills.

There are 138 services available for the Public in the project. From January 2016, 138 electronic services provided by the municipality became available. These include the payment of local taxes, filing a tax return for real estate tax, fees for municipal waste and various others. The services are available online 24 hours a day, 7 days a week.[24]

The goal of the project is not to create new information systems of municipal offices (ISO) but to choose good suppliers who can increase the offer of the applications of the Data Centre. The Information system of the MDC (IS MDC) is integrated with other modules of the Central Government Portal (CGP), registers and other Information systems of the public administration. The project also includes the delivery of necessary IT technologies for city halls and municipal offices and as well its service and maintenance.

The National Concept of Public Administration Informatisation, approved by the Slovak Government in 2016, defined DEUS as a partner for the Government cloud, which plans to expand the number of municipalities involved in the project "Migration of IS municipalities to Government cloud – DCOM IS second stage”. In December 2017, Value for Money Unit reviewed the project investment of DCOM IS with issued recommendation that the Unit expects the project to achieve sufficient economic value return. It also expected occurrence of small risks that could negatively affect project’s economic return.[25]

2.6.10. Antimonopoly Office of the Slovak Republic – Protimonopolný úrad Slovenskej republiky, PMÚ SR

The Antimonopoly Office is an independent central body within the State administration for the protection of competition and state aid co-ordination. The Office intervenes in the cases of cartels, the abuse of a higher position, vertical agreements; it controls mergers and assesses whether the conduct of state and local administration authorities restrict competition. In terms of public procurement, the Antimonopoly Office is the main oversight institution for the competitive elements of the public procurement system. Its main responsibilities include investigating bid rigging and cartels.

Within its competition advocacy role, it also promotes competition and draws attention to the harmfulness of anti-competitive practices in public procurements. Within its general investigation role, the Antimonopoly Office deals with several possible agreements restricting competition in public procurement. Over the last few years, the Office has received many complaints relating to the practice of agreements restricting competition. Many of them came from state administration authorities in connection with the control of public procurements financed by ESIF. For this reason, the Anti-Monopoly Office is intensively co-operating with state authorities in the field of public procurement control.

In 2018, the Anti-Monopoly Office concluded a co-operation agreement with the PPO and also with the Office of the Deputy Prime Minister for Investment and Informatisation. Co-operation includes the exchange of information and knowledge, the submission of complaints and referrals of matters, but also expert meetings, consultations, training activities, as well as the preparation of statements and legislation changes aimed at streamlining law enforcement. Cartel agreements in public procurements are the

Office´s priority, since the existence of these agreements circumvents the purpose and the aim of public procurements. The co-operation between tender participants may occur in various forms, for example as agreements on price, contract allocation or other forms of co-ordination, agreements on non-submitting bids or contracts rotation[26]. Over the last few years, the Office received a large number of complaints concerning unlawful cartel agreements.

The Anti-Monopoly Office exercises all these mandates and roles in terms of ICT procurement rather than any other procurements. In recent years there were no particular decision made in relation to anti-competitive behaviours in the field of ICT procurement.

The Anti-Monopoly Office also participates in the Working Group on Public Procurement for Informatisation of Public Sector led by the Ministry of Investment. They pay special attention to IP rights as it might restrict competition, to the issues of splitting contracts into lots, and especially their impacts on contract implementation. They see several issues in ICT procurement in the Slovak procurement system, such as the huge volatility in the volume of ICT procurements due to the programming period of the European Union funds or the lack of standardisation and certification for information technology systems. The structure of the ICT market in Slovakia can be characterised by a huge number of small (or even micro) companies and many IT experts who work as freelancers. The ICT investments in the public sector are usually big in terms of value and scope, therefore the small IT companies are not able or equipped to compete for them.

2.6.11. Supreme Audit Office (NKU)

The Supreme Audit Office (Najvyšší kontrolný úrad, NKU) functions as the primary external control body. The NKU primarily determines whether central, regional and local bodies manage the State property and resources entrusted to them in an effective and cost-efficient manner, and in accordance with the law. Its audits cover public procurement procedures as well, and if needed it issues recommendations to the PPO/UVO for the further development of the public procurement system. NKU has not conducted recently carried out any audits that cover specifically the practice or systems of ICT public procurement.

2.7. Main issues in ICT public procurement identified by stakeholders during the fact finding missions

ICT procurement face several challenges throughout OECD countries as it was briefly summarised in Chapter 1. Most of the challenges identified in the Slovak Republic are similar to these challenges. Some of them are not specific to ICT procurement but rather highlight systematic problems in the wider public procurement system as previous collaboration between OECD and the Slovak Republic shows.[27]

OECD met with several stakeholders during the fact-finding missions and received feedback on the challenges, shortcomings of the current systems and practice for ICT procurement in Slovakia. Positive examples were also presented as well as recommendations for the way forward.

Main findings and consistent messages received from all stakeholders during the fact finding missions can be summarised as follows:

2.7.1. Challenges

Challenges of ICT public procurement from the contracting authorities' perspective

- There is a lack of professional knowledge and lack of expertise on the side of public purchasers (within government organisations) in terms of ICT project management, business case development or contract negotiation, resulting in the lack of uptake of innovative and agile practices

in public procurement. Contracting authorities usually lack the in-house expertise to define and design the proper technical documentation, therefore they hire external consultants for the preparation of the tender documentations, and however, these consultants are not usually involved in the implementation of the contract.

- Individual contracting authorities' decisions focus on agency-specific solutions rather than whole-of-government solutions, increasing risk of duplication. One of the reasons for this is that contracting authorities are not supported by a clear, whole-of-government ICT procurement strategy and thus they have limited guidance on how to align their ICT spending to meet the Government's digital transformation agenda. Also co-ordination between different government institutions that have any role and mandate in this specific area (developing and implementing the national digital agenda, ICT procurements) is not sufficient and efficient. Co-operation between different levels of government (central government level and the municipalities) is also missing, or at least insufficient.
- For now, public procurement is not seen as a strategic tool to achieve strategic priorities, but rather an operational tool for purchasing goods and services at the lowest possible price. The use of MEAT is exceptional. Even in that few cases where MEAT criteria is used, contracting authorities establish the criteria linked to the quality of experts beyond the price related criteria; no other quality criteria is considered. (This problem is a general issue related to the whole public procurement practice in the Republic of Slovakia and not specific to ICT procurement.)
- Although the regulatory framework would allow it, contracting authorities do not have the confidence and capability to take new approaches to ICT procurement, including engaging industry in mutually beneficial strategic partnerships. In terms of the regulatory framework, a huge challenge for contracting authorities is the frequency of legal changes (the Slovak public procurement law was changed almost 40 times from 2006, including six changes in 2015 alone). Another legislation connected challenge is the growth in the volume of legislation[28].
- Contracting authorities have a tendency to prioritise the safe option over the most fit-for-purpose option, favour the status quo over new and innovative solutions and take a controls-based approach to managing security risk. Risk-averse behaviour can be experienced in several other aspects, such as contracting authorities being afraid of using more innovative and agile approaches, especially because of the legal compliance-oriented strict controls and the fear of legal challenges. Open procedure is used almost exclusively; other types of procedures, such as competitive dialogue, innovation partnership or design contest that might better serve the specific needs of the tender procedure are not considered. Contracting authorities would greatly benefit from further guidance on how to use these different approaches. (The use of open procedure is not in and of itself an issue as this can also support innovative and agile approaches providing the contracting authorities understand what is possible. The issue is one of rigidity and lack of capability in understanding what is possible via all the options available.)
- The most common problem is linked to the preparation/planning of tenders: contracting authorities do not allocate enough time for the pre-tender activities, such as a proper needs assessment or preliminary market engagement. However this problem is not specific to ICT procurements, rather a general problem in the Slovakian public procurement practice.
- Another common problem in the field of ICT procurements is linked to experts not only on the side of the contracting authorities, but also on how to define the needed expertise and the corresponding requirements in the tender documentation (e.g. in most of the cases it is hard to describe the work-load, or define how many experts are needed).
- The time period for the delivery of procurement / the lifecycle of the project is often longer than the political cycle, which results in projects being cancelled or technical specifications changed mid-project. It is much harder to use agile methods when there is a lack of assurance that the project will have continued political support.

- Sometimes the contracting authorities struggle to define whether the subject matter of the contract is considered as good or a service (which might have implication on the applicable threshold or on certain requirements).
- The definition of thresholds in general seems to be an issue, being considered very complex by stakeholders.
- The size of the market significantly limits competition (this is a foundational economic challenge).
- Vendor lock-in continues to be the biggest issue facing ICT procurement in Slovakia and it was mentioned by every stakeholder during the fact finding missions (even if there are existing good practices on how to solve and prevent this problem).
- There is a big fluctuation of workforce in IT companies, staff members do not stay for long periods at the same company, and there is also a significant brain drain of IT experts from Slovakia to other countries, resulting in lost institutional memory on the side of the contractor/supplier.

Challenges of ICT public procurement from the suppliers' perspective

As heard repeatedly from different stakeholders, in general, the supplier side considers government ICT projects too big, lengthy, risky and complex. They also shared the opinion that in the past, public organisations had independently developed systems which often did not communicate easily with one another. In more detail, they highlighted the following main challenges:

- The volatility of the government's ICT purchasing demand (defined by the programming period of the ESFI funds as most of the ICT projects are financed by EU funds) is hard for the business sector in terms of business planning.
- Contracting authorities have a tendency to gravitate towards a "big procurement" approach for ICT procurements where agencies select a large prime contractor to manage projects and engage sub-contractors, mainly because risks are perceived to be lower in situations where large main contractors are used. However, where sub-contractors are engaged under the main contractor, the risk profile can be similar to those where contracts are made directly with SMEs. The big procurement approach might also have unintended consequences such as higher prices where two large agencies procure for the same skills and services at a similar time.
- Contracting authorities often view ICT as simply a cost to be contained, rather than an investment to boost productivity and improve services.
- Contracting authorities have a tendency to develop very detailed technical specifications, not leaving room for innovation or new solutions.
- From the business perspective, it seems that most of the staff at public organisation lack the proper knowledge on open sources, and that is the main reason why they do not develop tender documentation accordingly.
- An emerging issue in ICT procurement (and in other purchasing categories) is that contracting authorities require excessive qualification requirements for personal and past experience (e.g. huge number of experts that is not justified by the scope or size of the contract).
- The different time periods (election period for example, the EU structural funds programming periods etc.) also lead to inconsistency of projects and lack of stability for suppliers.
- It is really difficult to follow up with the frequent changes of the public procurement policy and regulatory framework; furthermore the government's strategic priorities are not always communicated clearly.
- Contracting authorities are not regularly using early market engagement and preliminary discussions with the market, therefore the market has limited knowledge about future procurements.

- From the business perspective, doing new things is not actively encouraged or discouraged, but instead is rarely even considered in the public sector. Instead, procurement officers seek paths to simplify procurement below thresholds to increase speed and limit complexity.

2.7.2. Strengths, good practices

Both the public sector and the supplier side provided positive feedback and highlighted the strengths of their current systems and practice:

- There was consensus that the Slovak regulatory framework on public procurement does not formally prevent contracting authorities from applying innovative and agile approaches in public procurement. The rules are flexible in-principle, and with some encouragement and methodological support, most contracting authorities would be open for the greater uptake of strategic and innovative approaches. Some stakeholders added that the legal framework on public procurement is fair, but there are more restrictive and cumbersome administrative procedures specific to the ESIF projects, linked closely with the extended control system.
- Stakeholders involved in the work of the Working group on public procurement and ICT contracting led by the Deputy Prime Minister's Office evaluated unanimously positively the work of the working group and highlighted the importance of similar co-ordination efforts.
- Some contracting authorities mentioned that they already have some positive experience with market engagement, preliminary market analysis, and some of them reported positive outcomes: increased market analysis led to more bids in their procedure. Another positive element that some of them highlighted is the fact that the preliminary market consultation resulted in fewer reviews (complaints) against the tender notice and documentation, or in other words contributed to increased quality of the tender documentation.
- The feedback on the operation of the EKS operated by the Ministry of Interior and its Electronic Marketplace was overall positive from contracting authorities. The evaluation was that the Electronic Marketplace is operating well, and the experience with the few dynamic purchasing systems (DPS) the Ministry of Interior set up (e.g. for IT hardware or printer cartridges) is also positive.
- Contradictory information was collected about the practice of dividing contracts into smaller parts (lots). However, several stakeholders reported that it is working well in practice at the moment: the legal framework gives enough guidance and flexibility for splitting contracts into lots and contracting authorities are using this tool quite often. (Other stakeholders were not that positive about the practical application of this tool.)
- Business sector representatives mentioned that the market would be willing to make things differently as long as the public sector is consistent and clear about its agenda (e.g. communicates it properly in its digital or procurement strategies and policy frameworks).
- There are a number of areas where government ICT procurement practices could be improved, and where the currently limited collaboration between government and industry to develop ICT solutions can be strengthened.
- Stakeholders are ready to understand the current challenges, learn from other countries' examples and co-operate with each other to improve the practices.

Discussions during the fact-finding missions also confirmed that contracting authorities, and in general all interested stakeholders, are becoming more open for the use of quality criteria and life-cycle costing in public procurement and they would be interested in using more agile and innovative approaches if and when they receive more support and encouragement from the Government, the Public Procurement Office and other relevant institutions.

Agile approaches and innovative solutions are still perceived riskier and slower than "traditional" procurements. Doing new things implies the necessary learning and permission to experiment by iteratively testing new approaches, however, the time constraints and demands made on procurement officials undermine the willingness to use any agile and innovative approaches that may slow down a process, even if it means better results. This applies not only to the use of methods besides open procedure, but also to testing out different methodologies. This also applies to taking full advantage of the pre-procurement stage to iterate, adapt and experiment, engage the market, engage service users in co-design, which should actually reduce the procurement timescales to the minimum required to complete a compliant and robust process.

Similarly to other countries in the region, the Slovak administrative tradition and culture is characterised in general by the dominant role of law and legalism. Compliance seems to be more important than performance.[29] As a result, the Slovak procurement system is based heavily on the respect of law. The exact provisions of the Public Procurement Act and its implementing decrees are seen to grant permission to conduct certain activities; without a specific provision in the regulatory framework, these activities would be considered difficult to implement. The challenge is that agile methods may also undermine the entire process, potentially resulting in the need to restart the entire activity. In the end, challenges and rulings that cause delays are considered failures within the procurement community. These issues, combined with other pressures within the system, create a risk-averse environment that focuses on speed over value and broader outcome. There is also little thought about the specific outcomes or social value for money and positive social impact that procurement is supposed to achieve.

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[22] Digital Public Administration Factsheets – Slovakia 2020, European Commission, https://joinup.ec.europa.eu/sites/default/files/inline-files/Digital_Public_Administration_Factsheets_Slovakia_vFINAL.pdf

[23] https://www.mirri.gov.sk/en/sections/informatization/egovernment/strategic-documents/strategic-document-for-digital-growth-and-next-generation-access-infrastructure-2014-2020/index.html

[24] https://www.uvo.gov.sk/informacny-servis/koncepcia-rozvoja-verejneho-obstaravania-v-sr-426.html

[25] https://www.slov-lex.sk/pravne-predpisy/SK/ZZ/2015/343/#paragraf-7.odsek-1.pismeno-b

[26] https://www.slov-lex.sk/pravne-predpisy/SK/ZZ/2015/343/20210119.html

[27] https://www.slov-lex.sk/pravne-predpisy/SK/ZZ/2019/41/20190301

[28] https://www.slov-lex.sk/pravne-predpisy/SK/ZZ/2016/132/20160418

[29] https://www.slov-lex.sk/pravne-predpisy/SK/ZZ/2016/152/20160418

[30] https://www.slov-lex.sk/pravne-predpisy/SK/ZZ/2016/155/20160418

[31] https://www.slov-lex.sk/pravne-predpisy/SK/ZZ/2019/428/20200101

[32] https://www.slov-lex.sk/pravne-predpisy/SK/ZZ/2016/157/20160418

[33] Directive 2014/23/EU on the award of concession contracts; Directive 2014/24/EU on public procurement; Directive 2014/25/EU on procurement by entities operating in the water, energy, transport and postal services sectors.

[34] Commission Delegated Regulation (EU) 2019/1828 of 30 October 2019 amending Directive 2014/24/EU of the European Parliament and of the Council in respect of the thresholds for public supply, service and works contracts, and design contests, C/2019/7693, *OJ L 279, 31.10.2019, p. 25–26 ;* Commission Delegated Regulation (EU) 2019/1829 of 30 October 2019 amending Directive 2014/25/EU of the European Parliament and of the Council in respect of the thresholds for supply, service and works contracts, and design contests, C/2019/7692, *OJ L 279, 31.10.2019, p. 27–28;* Commission Delegated Regulation (EU) 2019/1827 of 30 October 2019 amending Directive 2014/23/EU of the European Parliament and of the Council in respect of the threshold for concessions, C/2019/7691, *OJ L 279, 31.10.2019, p. 23–24*

[35] A free online version of the Supplement to the OJEU, called Tenders Electronic Daily (TED), is available; https://ted.europa.eu/

[36] The Official Journal of Public Procurement is administered by the PPO and accessible online. In the Journal there are notices used in public procurement, sent by the procuring entities, which are published on a daily basis. Other information under the Public Procurement Act is published as well.

[37] https://www.eks.sk

[38] For applicable thresholds limits since 31.03.2022, look at https://www.uvo.gov.sk/legislativametodika-dohlad/metodicke-usmernenia/vseobecne-metodicke-usmernenia-zakon-c-3432015-z-z--51e.html

[39] https://ec.europa.eu/internal_market/scoreboard/

[40] https://www.uvo.gov.sk/legislativametodika-dohlad/zodpovedne-verejne-obstaravanie/pracovne-skupiny-5cf.html

[41] https://www.uvo.gov.sk/socialne-aspekty-vo-vo-654.html

[42] https://www.uvo.gov.sk/o-projekte-644.html

[43]https://ec.europa.eu/internal_market/scoreboard/performance_per_policy_area/public_procurement/index_en.htm

[44] (1) single bidder; (2) no calls for bids; (3) publication rate; (4) cooperative procurement; (5) award criteria; (6) decision speed; (7) SME contractors; (8) SME bids; (9) procedures divided into lots; (10) missing calls for bids; (11) missing supplier registration number; (12) missing buyer registration number

[45] 2020 European Semester: Assessment of progress on structural reforms, prevention and correction of macroeconomic imbalances, and results of in-depth reviews under Regulation (EU) No 1176/2011 https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52020SC0524&from=EN

[46] See Annex for the detailed list of the CPV codes used for the analysis

[1] Article 46 of Directive 2014/24/EU

[2] https://www.mirri.gov.sk/wp-content/uploads/2019/10/SDT-English-Version-FINAL.pdf

[3] Guidance: Technology Code of Practice, Updated 27 March 2019; https://www.gov.uk/government/publications/technology-code-of-practice/technology-code-of-practice

[4] Rokovacie konanie so zverejnením a súťažný dialóg, December 2020, https://www.uvo.gov.sk/uvod/aktualne-temy-2a8.html?id=774

[5] *Ibid*

[6] There are eight self-governing regions in Slovakia: Banská Bystrica, Bratislava, Košice, Nitra, Prešov, Trenčín, Trnava, Žilina; besides, every municipality has a local government.

[7] https://www.uvo.gov.sk/o-urade/stale-pracoviska-621.html

[8] https://www.iprocurenet.eu/

[9] Statute of the Ministry of Investments, Regional Development and Informatisation of the Slovak Republic (Approved by the Resolution of the Government of the Slovak Republic No 417 of 1 July 2020) https://www.mirri.gov.sk/wp-content/uploads/2020/08/Statut_ENtranslation_01072020.pdf https://www.mirri.gov.sk/wp-content/uploads/2019/10/UPPVII_Brochure_2019_EN_WEB_Final.pdf

[10] http://www.informatizacia.sk/expertne-skupiny-gad/22464s

[11] An earlier methodological instruction for standard details in describing the subject matter of contract, standard terms and conditions of participation in public procurement and optimum contractual terms and conditions in relation to IT projects available online at: http://www.informatizacia.sk/ext_dok-metodicky_pokyn_std_obstaravanie_1-0/15176c

[12] https://www.mfsr.sk/en/finance/value-money/value-money-committee/about-project/

[13] RPVS is governed by the Law on the Register of Public Sector Partners and on Amendments to Certain Acts (Act No. 315/2016 Coll.), as amended by Act No. 38/2017 Coll. and Act No. 241/2019 Coll.

[14] Article 11 of the PPA

[15] Activity Report of the Public Procurement Office for the Year 2018.

[16] Activity Report of the Public Procurement Office for the Year 2019, page 21

[17] https://www.uvo.gov.sk/informacny-servis/analyticke-vystupy/analyzy-odboru-dohladu-60f.html

[18] https://itas.sk/

[19] https://www.digitaleurope.org/

[20] https://www.businesseurope.eu/

[21] http://biac.org/

[22] ZMOS is an NGO gathering more than 2,800 towns and communities, which represents 95% of the country total number. It promotes the rights and interests of local entities by actively participating in legislative processes related to towns and villages and managing systematic issues. The ZMOS Association initiated the creation and development of ISOMI, an internet information system for towns and municipalities. The project is designed to host and integrate municipal websites to support municipalities in providing citizens with information and eServices. Furthermore, the association operates the DCOM (Municipal Data Centre) solution that offers eServices to the citizens of towns and municipalities. For further information: https://www.zmos.sk/; https://www.zdruzeniedeus.sk/zdruzenie-deus

[23] https://www.dcom.sk/

[24] https://www.dcom.sk/oznamy-obec/-/asset_publisher/TansOWSRx5l7/content/samosprava-bude-od-januara-komunikovat-elektronicky

[25] https://finance.gov.sk/files/archiv/uhp/3370/76/Stanovisko_DCOM_UHP_20171211.pdf

[26] https://www.antimon.gov.sk/data/att/2109.pdf

[27] OECD, 2017, *Developing Administrative Capacity for Public Procurement in the Slovak Republic: A Training Action Plan for 2016-2019,* https://www.oecd.org/gov/public-procurement/publications/capacity-public-procurement-slovak-republic-training.pdf

[28] The growth in legislation cannot be fully explained by the need to cover novel issues, for example electronic public procurement. Studies connect it to what they identify as a specific administrative-legislative regional characteristic: the habit of trying to resolve implementation problems, not only by improving processes, but also by enshrining the changes in ever more detailed and complex legislation. In: Matus Grega, Marta Orviska, Juraj Nemec, Colin Lawson: Factors Determining the Efficiency of Slovak Public Procurement.

[29] Public administration characteristics and performance in EU28: Slovakia in: The Public Administration in the EU 28, European Commission, 2018; https://op.europa.eu/en/publication-detail/-/publication/a7c9b4c2-960f-11e8-8bc1-01aa75ed71a1/language-en

3 Making room for agility: Recommendations for the Slovak Republic

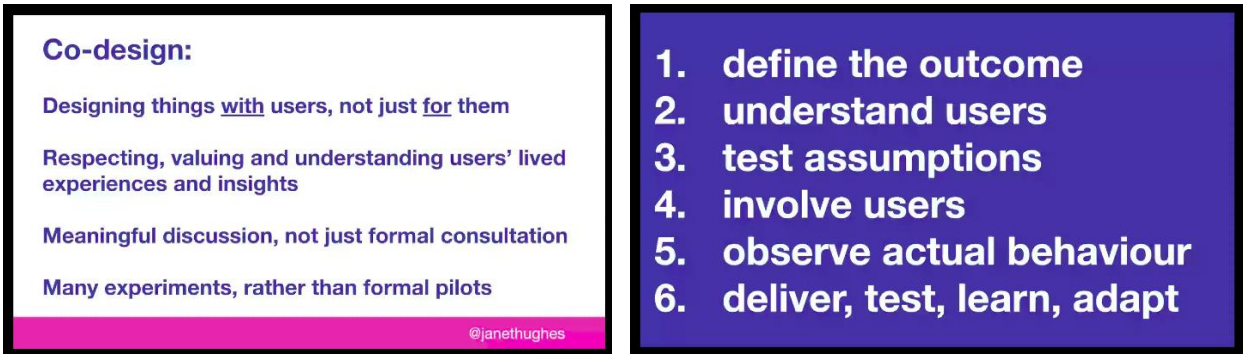
This section highlights the opportunities for improving the current governance structure and practices of ICT procurement in the Slovak Republic building on the identified strengths in the current system. It presents key actions that the Slovak Republic could pursue to modernise the purchasing practices and approaches used for ICT procurement. The section presents a set of actions, such as developing a national strategy for ICT procurement, creating communities of practise, fostering collaboration between procurement specialists and the ICT sector, creating room for the agility, experimentation and the strategic use of public procurement. The section also includes examples how other OECD countries have implemented similar actions. These cases might provide inspiration for further actions adapted to the Slovak Republic's own unique context.

3.1. Bringing agility into ICT public procurement practices

3.1.1. Complex problems need agile solutions

Complex problems have lots of unknowns and potential for things to happen that cannot be predicted. They require adaptive action[1] through co-design: designing things with users (not just for them); respecting, valuing and understanding users' lived experiences and insights; meaningful discussions (not just formal consultation); and many experiments (OECD, 2020[1]). This follows 6 interconnected co-design principles and approaches: (1) define the outcome; (2) understand users; (3) test assumptions; (4) involve users; (5) observe actual behaviour; (6) deliver, test, learn, adapt. (Figure 3.1)

Figure 3.1. Co-design: the six interconnected principles and approaches



Source: Slides from a presentation by Janet Hughes, during the 'Public Sector Leadership in a Time of Digital Transformation' virtual conference, 10 February 2021, delivered by the UK Government Digital Service (GDS) for 14 European countries, including The Slovak Republic

3.1.2. What does agile mean and where does it come from?

Agile is the ability to create and respond to change. It is a way of dealing with, and ultimately succeeding in an uncertain and turbulent environment. The Agile Manifesto[2] (*Manifesto for Agile Software Development*) was published in 2001. The authors of the Agile Manifesto chose "Agile" as the label for their approach because this word represented *adaptability* and *response to change* (Agile Alliance, 2001[2]).

The Manifesto is the end result of several streams of exploration and experimentation that continued throughout the 1990s. There were various practitioners, either people working inside organisations developing software products or consultants helping organisations build software, who thought that they should come up with new ideas for software development as the majority of software failed to actually be useful to real people or were built over budget with missed deadlines.[3]

During the 1980s in particular, the growing demands and expectations of the marketplace swamped the ability of the software development industry to build software as it was needed. In addition, the widely-held belief that development teams could predict customer needs far in advance – sometimes many years in advance – turned out to be incorrect. So even when working software was delivered, it often did not meet the needs of customers[4]. Analysis and experimentation conducted during the 1990's suggested that the so-called waterfall development process was largely responsible for this climate of failure.

The Agile Manifesto outlined a framework for a different approach to the problem. The (then) new agile approach featured:

- outreach to potential users of software,

- decomposition of large software projects into much smaller projects that were much less difficult and risky, and
- empowerment of development teams to respond to evolving requirements.

Agile software development is an umbrella term for a set of frameworks and practices based on the four core values (Figure 3.2) and 12 principles expressed in the Agile Manifesto (Agile Alliance, 2001[2]).

Figure 3.2. Definition of the Agile Software Development Approach

Individuals and interactions	Over	*Processes and tools*
Working software	Over	*Comprehensive documentation*
Customer collaboration	Over	*Contract negotiation*
Responding to change	Over	*Following a plan*
While there is value in the items on the right, we value the items on the left more.		

Source: The Manifesto for Agile Software Development, 2001; http://agilemanifesto.org/

Some of the authors of the Agile Manifesto formed the Agile Alliance in late 2001, a non-profit organisation that promotes software development according to the Manifesto's values and principles. In 2011, the Agile Alliance created the *Guide to Agile Practices*[5] (renamed the *Agile Glossary* in 2016[6]), an evolving open-source compendium of the working definitions of agile practices, terms, and elements, along with interpretations and experience guidelines from the worldwide community of agile practitioners.

The question is whether agile principles and approaches can be also applied for (ICT) public procurement by governments, and if yes, how.

3.1.3. Applying agile methods to public procurement

Agile method

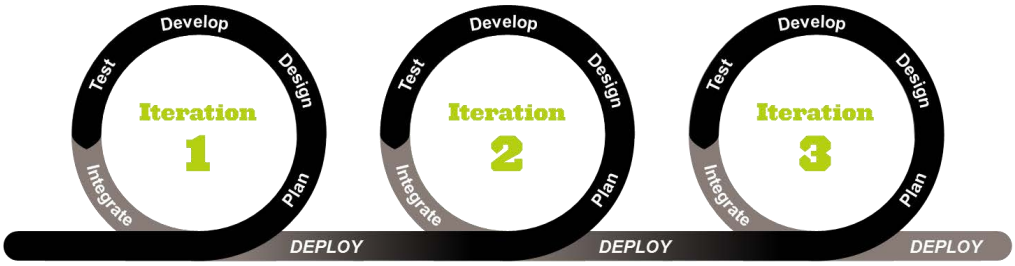
A project delivered using an agile methodology stresses

- collaboration,
- adaptation and flexibility,
- iterative and incremental development and
- reviews.

Agile divides a software or system development project into small cycles, often referred to as “iterations”. During each iteration a team works through a full development cycle including planning, requirements analysis, design, coding, testing and review. Fully tested, working software that is capable of being deployed is delivered at the end of each iteration. Subsequent iterations result in additional software that builds upon or complements the software that has already been delivered. As a result, problems can be identified early and on a relatively smaller scale, and can therefore be resolved quickly. The service only

“goes live” when there is enough feedback to show the service works for the users and meets their needs. There is a continuous ability to improve and to build a service that meets user needs. (Figure 3.3)

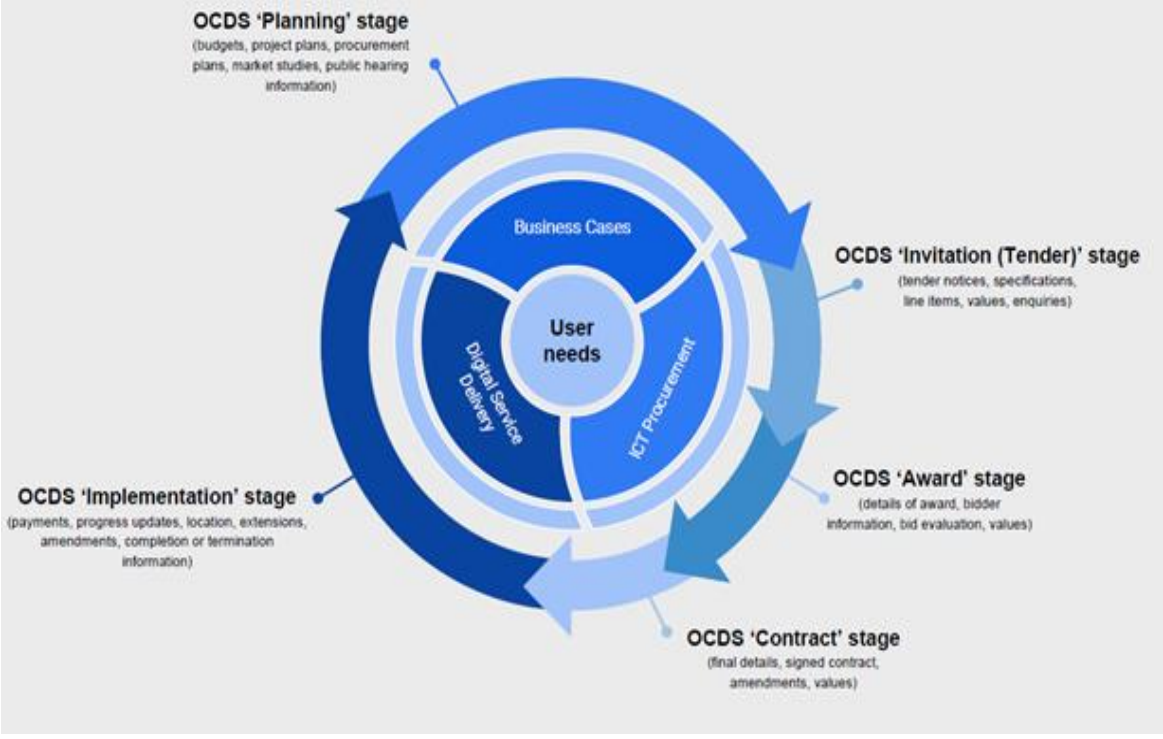
Figure 3.3. Agile method of system development



Source: https://www.claytonutz.com/knowledge/2018/october/agile-contracting-for-australian-government-agencies

The link between user-centred, design-led approaches and incremental (iterative) methods is critically important in agile ICT procurement throughout the full public spending lifecycle. (Figure 3.4)

Figure 3.4. Agile approach to public procurement



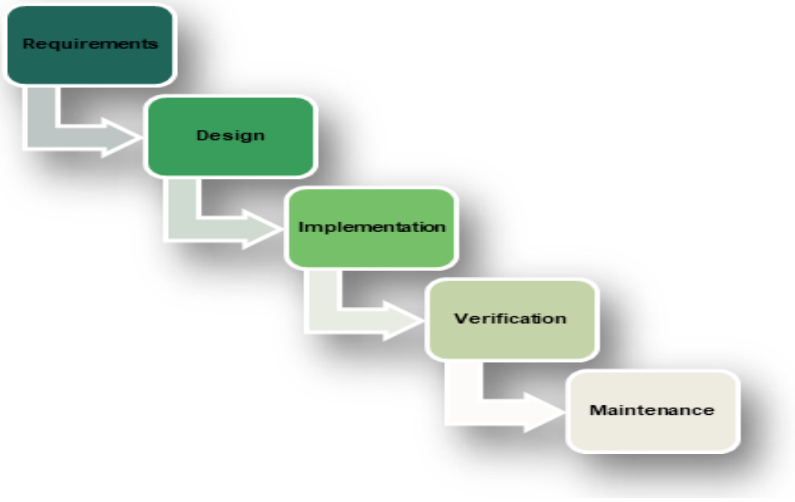
Source: Warren Smith, “ICT commissioning for improved citizen-driven service delivery” (2018)

Agile methods encourage teams to build quickly, test what they have built and iterate their work based on regular feedback. Agile methods were first implemented in small teams, projects and companies, but during the last few years the usage of agile methods has also been scaled up for use in large system development and distributed software development. However, public agencies and governmental organisations have been slow in adopting agile practices, with the exception of some specific high-tech research organisations. (Jouko Nuottila, 2016[3])

Waterfall model

To understand the specificities of applying an *agile approach* to public procurement, it is worth looking at closer the "traditional" waterfall method where the process is sequential. It starts by gathering requirements, making plans and conducting the procurement process. Then, based on the contract, a product is designed and built. The final stage involves testing and releasing the software to the public buyer. It is only at this end stage in the process where feedback is received from potential users. There is only one chance to get each part of the project right, because there is no returning to earlier stages. The waterfall approach is typical for certain areas of engineering design. In software development, it tends to be among the less iterative and flexible approaches, as progress flows in largely one direction ("downwards" like a waterfall).[7] The original waterfall model comprised of five different phases: requirements, design, implementation, verification and maintenance (Figure 3.5) Over time, some variations of the original model emerged, but the logic behind waterfall remained the same: when a phase is completed, its output becomes the input for the next one, which starts immediately after the former.

Figure 3.5. Waterfall model of system/software development



Note: The unmodified "waterfall model". Progress flows from the top to the bottom, like a cascading waterfall. The waterfall model was named after its sequential phases that are arranged in a downward fashion, similar to actual waterfalls, representing the various steps of software development from one end to the other. Each phase depends on the deliverables of the previous one and corresponds to a specialization of tasks.
Source: Peter Kemp / Paul Smith: The Unmodified Waterfall Model

The waterfall model offers numerous advantages (Kienitz:, 2017[4]) for software developers:

- The waterfall model provides a *structured approach*: the model itself progresses linearly through easily understandable and explainable phases;
- The *staged development cycle enforces discipline*: every phase has a defined start and end point, and progress can be conclusively identified (through the use of milestones) by both supplier and client. It ensures that each phase is completed before moving on to the next one.
- This model places *emphasis on documentation* (such as requirements documents and design documents). In less thoroughly designed and documented methodologies, knowledge is lost if team members leave before the project is completed, and it may be difficult for a project to recover from the loss. If a fully working design document is present, new team members or entirely new teams should be able to familiarise themselves by reading the documents.

- Through this model, it is possible to estimate the whole project's cost and effort needed right from the start, in the requirements phase.

Despite the seemingly obvious advantages, the waterfall model has received criticism in recent times. The most prominent criticism revolves around the fact that very often, customers do not really know what they want up-front; rather, what they want emerges out of repeated two-way interactions over the course of the project. In this situation, the waterfall model, with its emphasis on up-front requirement capture and design, is seen as somewhat unrealistic and unsuitable for the vagaries of the real world. Further, given the uncertain nature of customer needs, estimating time and costs with any degree of accuracy (as the model suggests) is often extremely difficult. In general, the model is recommended for use only in projects which are relatively stable and where customer needs can be clearly identified at an early stage.[8]

Another criticism centres upon the model's implicit assumption that designs can be feasibly translated into real products; this sometimes runs into roadblocks when developers actually begin implementation. Often, designs that look feasible on paper turn out to be expensive or difficult in practice, requiring a re-design and hence destroying the clear distinctions between phases of the traditional waterfall model. [9] Some criticisms also centre on the fact that the waterfall model implies a clear division of labour between "designers", "programmers" and "testers"; in reality, such a division of labour in most software firms is neither realistic nor efficient.

Delivery models for ICT development projects in most cases follow a similar sequence of distinct phases, from detailed planning, to design, development, testing and integration, and finally deployment of a fully functioning and finished product. Most standard ICT procurement contracts for software and application development set out what is to be delivered (including functional and non-functional requirements of the system), when it is to be delivered and for how much, as well as risk allocation provisions in the event something goes wrong.

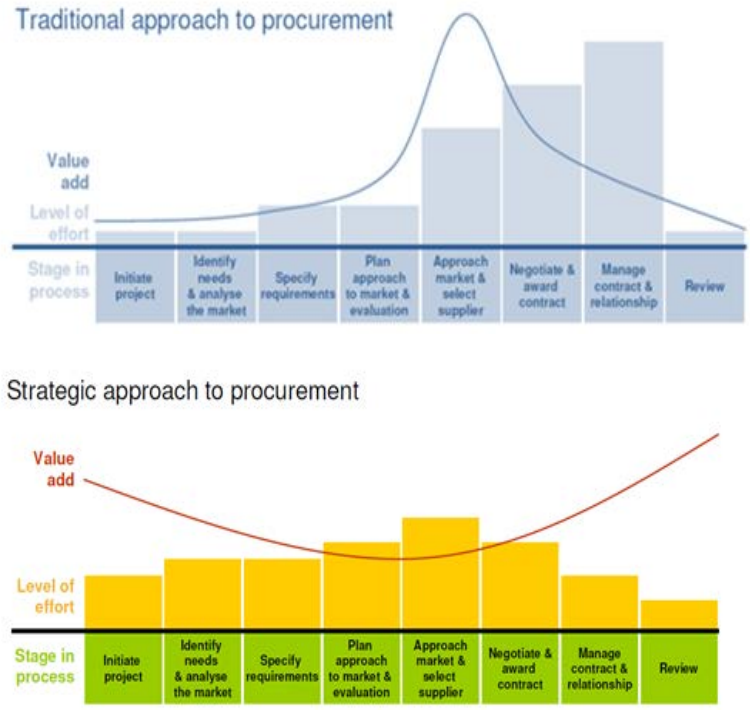
This certainty is intended to minimise risk and reflects the obligation that agencies should use public resources in an efficient, effective, economic and ethical manner. However, when an agency's specific system requirements are not absolutely certain, or are likely to evolve over time, locking these down in a statement of work is more likely to result in the delivery of a solution that does not ultimately meet all of the agency's needs.

It may also result in the agency paying for features that it does not require. In many cases, such projects will be delivered late and over-budget, as contract variation processes are deployed to try to capture the agency's changing requirements over time.

3.1.4. Applying agile approaches in the public procurement cycle

Traditional approaches to public procurement typically focus on the tendering stage of the public procurement cycle (see Figure 3.6).

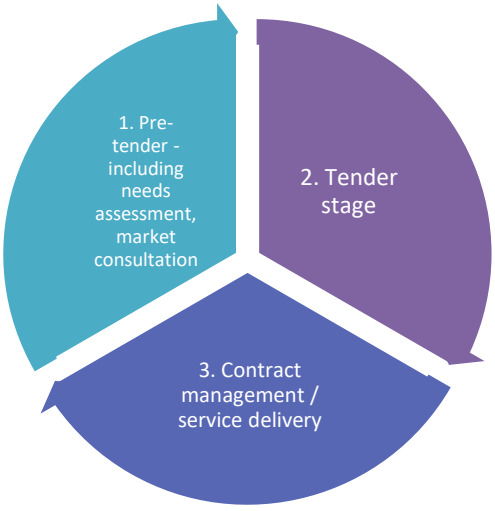
Figure 3.6. Traditional and strategic approaches to procurement



Source: *OECD (2017), Public Procurement in Chile: Policy Options for Efficient and Inclusive Framework Agreements, OECD Public Governance Reviews, OECD Publishing, Paris, https://doi.org/10.1787/9789264275188-en.*

Due to the necessary formalities at the tender stage of a public procurement procedure (which is generally the most regulated), the greatest opportunities to apply agile methods exist in the pre-tender (preparatory and planning) stage, and post-tender or contract implementation and service delivery stage. (Figure 3.7)

Figure 3.7. The end-to-end public procurement cycle



However, despite the formalities of the regulated tender stage, it is still possible to benefit from an iterative "deliver, test, learn, adapt" approach (*responding to change* over *following a plan* from the Agile Manifesto) to finalise critical elements of a procurement while it is in-flight in the preparatory stage (e.g. requirements, evaluation questions and assessment criteria, terms and conditions).

This is possible as long as at the pre-procurement stage:

- user-centred co-design led and iterative approach has been taken in the development of these critical elements
- an empowered multidisciplinary team (*individuals and interactions* over *processes and tools* from the Agile Manifesto) has been established, comprised of specialists representing:
  - primary procurement users (buyers and suppliers who need to work together collaboratively through the eventual contracts that are awarded) involved throughout the delivery process
  - the full procurement lifecycle (i.e. policy, sourcing, category management, contract management)
  - legal aspects
  - user-centred design (i.e. user research, content design)
  - agile delivery management
- work has been shared as openly as possible (ideally publicly, e.g. via official government blogs)

Doing so will minimise the risk of:

- the needs of primary procurement users not being met, for example:
  - the wrong products, services or capabilities being available to buyers
  - a lack of diversity and capacity in supply, which limits competition (in the case of framework agreements)
  - a form of contract that limits agility, e.g. due to overly prescribed functional and non-functional requirements, deliverables, timescales, outsourcing risk, etc., rather than target outcomes, problems to solve, users' needs to meet, risk sharing, and standards that govern quality of incremental delivery[10], (*working software* over *comprehensive documentation* from the Agile Manifesto)
- the perspectives, biases, assumptions of one public sector profession dominating the design process, at the expense of the other professions who have an interest, and therefore the needs of these secondary procurement users not being met
- material changes being needed during questions and clarifications, while the formal procurement is in-flight
- issues arising at the post-procurement contract implementation and service delivery stage, potentially leading to:
  - adversarial buyer-supplier relationships (*customer collaboration* over *contract negotiation* from the Agile Manifesto)
  - suboptimal social value for money being achieved

Box 3.1 shows a good example of this user-centred co-design, iterative, open, collaborative and multidisciplinary approach at the pre-procurement stage from the United Kingdom. The Government Digital Service (GDS) and the Crown Commercial Service (CCS) have been using the Digital Marketplace GOV.UK blog to publish procurement plans and timetables, draft service categories, service questions, and terms and conditions, in advance of and during the build up to the formal procurements to deliver framework agreements.

Box 3.1. The United Kingdom: user-centred co-design, iterative, open, collaborative and multidisciplinary approach at the pre-procurement stage

The following links relate to communications over a 6-month period in the pre-procurement stage, to support design and delivery of the 9th iteration of UK's cloud services commercial framework 'G-Cloud':

- G-Cloud 9 discovery - where we're going from here (September 2016)
- Listening to our users to help us develop G-Cloud 9 (September 2016)
- G-Cloud 9: we're moving from discovery to alpha (October 2016)
- G-Cloud 9: a provisional timetable (January 2017)
- Help us test the categories for G-Cloud 9 (January 2017)
- What's planned for G-Cloud 9? (February 2017)
- Sharing service questions for G-Cloud 9 (February 2017)
- G-Cloud 9: sharing draft legal documents (March 2017)

Source:https://digitalmarketplace.blog.gov.uk/2016/09/02/g-cloud-9-discovery-where-were-going-from-here/, https://digitalmarketplace.blog.gov.uk/2016/09/19/listening-to-our-users-to-help-us-develop-g-cloud-9/, https://digitalmarketplace.blog.gov.uk/2016/10/20/g-cloud-9-were-moving-from-discovery-to-alpha/, https://digitalmarketplace.blog.gov.uk/2017/01/19/g-cloud-9-a-provisional-timetable/, https://digitalmarketplace.blog.gov.uk/2017/01/31/help-us-test-the-categories-for-g-cloud-9/, https://digitalmarketplace.blog.gov.uk/2017/02/13/whats-planned-for-g-cloud-9/, https://digitalmarketplace.blog.gov.uk/2017/02/16/sharing-service-questions-for-g-cloud-9/, https://digitalmarketplace.blog.gov.uk/2017/03/03/g-cloud-9-sharing-draft-legal-documents/

3.1.5. Does agile approach work for every ICT procurement?

The sequential waterfall approach is necessary to build things like bridges and buildings, however it might be less effective for building and running services when technology changes quickly, like in the ICT sector. Government services especially need to be able to respond quickly to policy changes and the needs of the public (as the recent and still ongoing COVID-19 situation demonstrates).

Using waterfall models, public buyers might run the risk that their service provider spends 18 or 24 months building a service that no longer meets government policy, cannot work with the latest technology and does not meet users' needs.

Agile methods allow the service provider to quickly make changes while it is building the service. On the other hand, it does not mean that every ICT procurement needs to follow an agile methodology. It should be evaluated on a case-by-case basis whether agile method leads to the expected optimal outcome. In some cases the waterfall model might be a more suitable choice and in some other cases a contract that includes both agile and waterfall model elements might result in the best solution.

"Non-agile" (traditional) procurement still has its place, in particular for stable markets with defined products and services (such as off the shelf products and commodity solutions). It can be suited to projects where requirements and scope are fixed, the product itself is firm and stable, and the technology is clearly understood. For those simple and complicated problems where there is little of discrepancy between what the customer needs and what the market provides.

There can be challenges in agile adoption for public buyers or agencies. One of these that many governmental organisations might face is linked with the fact that public agencies must develop IT systems for implementing digital services related to legislation, such as tax legislation, and they need to reflect any changes to the existing legislation. Therefore, the date when a change in a law comes to effect sets a deadline for the project, which might conflict with agile methods (Jouko Nuottila, 2016[3]). However, this

does not mean that agile does not believe in deadlines. Agile focuses on delivering value to the user within the constraints of the available time.

The Agile methodology embraces uncertainty and operates on the expectation of continuously learning and improving in order to prioritise adding value to users. By starting small with phases designed to build understanding through exploration, teams can research, prototype, test and learn about the needs of their users before committing to building a real service, allowing them to fail quickly and correct course in response to what they find. Successfully delivering in this way relies on ensuring that the culture of approaching digital services reflects leadership and vision, understands whole problems, designs services from end-to-end, involves the public and delivers in a multi-disciplinary and collaborative fashion. (OECD, 2021[5])

3.1.6. Agile public procurement practices in OECD countries: practices for small and mega projects

OECD countries are experimenting with and implementing agile contracting practices for small but also for big or mega projects, such as in the United States, where the Health and Human Services Agency in the State of California, after several success stories with smaller projects, decided that the replacement for a 20-year-old Child Welfare Services case management system would be the test bed for agile project management methodology on a major capital investment. The State of California had already looked for a significant project to which it could apply agile project management methodology and develop software more iteratively. Until then, several agencies had already been experimenting with agile on smaller projects in the State of California, but the Child Welfare Services case management system was the first major capital investment where this approach was used. (Box 3.2) The Child Welfare Services relied on the guidance and support of the US Technology Transformation Services' Office of Acquisition that introduced agile contract formats to support the greater uptake of agile approaches in procurement, and issued a guide on agile approaches in public procurement via 18F[11] that is an office of US federal employees within the General Services Administration (GSA) which collaborates with other agencies to fix technical problems, build products, and improve how government serves the public through technology.

Box 3.2. State of California, the United States: rethinking procurement for big projects

In late 2015, the Health and Human Services Agency in California wanted to replace its 20-year-old Child Welfare Services case management system. Hoping to learn from past failures, the agency wanted to break the large project into smaller pieces and deliver value more iteratively, rather than spend years on procurement and development. Breaking up such a huge project meant rethinking procurement. If the project involves multiple vendors, that has implications for systems integration.

The Office of Systems Integration (OSI) of the Health and Human Services Agency sought consulting help on procurement from 18F, a federal office housed within the U.S. General Services Administration, and Code for America, a non-profit that augments local governments' efforts involving technological innovation (OSI). OSI had a 13-year history of bringing in a single vendor to be the systems integrator but decided to play the role of systems integrator itself for this project, which required adding new skill sets.

As a first step, the project team went through all the policies and legislation to identify any obstacles in the regulatory framework. **It turned out that in order to make the major shift to iterative procurements to do agile work, not a single law had to be changed.** But even with legal questions set aside, the state had to create a mechanism to procure faster. California chose to follow 18F's example and create a pool of vendors pre-approved to do agile work who could respond quickly to smaller procurements. In 2016, the state gave vendors a problem to solve using software with examples

of what they wanted them to demonstrate. They had 30 days to reply. More than 20 companies made submissions, and 11 vendors, both big and small, qualified based on the state's criteria.

As work ramps up on the child welfare system, the procurement process has shifted away from language around specific products the agency wants vendors to build and more toward how the agency wants to work. It is a shared ownership, a shared responsibility. It is a gigantic paradigm shift for all parties involved.

The key lessons learnt from the project:

- Don't assume legislation or regulation blocks you
- Spend less time in negotiations on requirements and more on governance and communications. Be clear about roles, responsibilities and communication. Define how long sprints are and what decision-making is allowed at the team level. Decisions need to be made at ground level and cannot get escalated to a steering committee that meets only every two weeks.
- Beware the agile definition gap. Not all vendors can execute on agile, despite what they might say in proposals. Not until you get the team on the ground will you really find out whether they possess those skills or not – or whether their idea of agile and yours are the same.

Source: David Brath: Agile Acquisitions: Rethinking Public-Sector Purchasing, Government Technology, 17 November 2017; https://www.govtech.com/budget-finance/GT-September-2017-Agile-Acquisitions-Rethinking-Public-Sector-Purchasing.html

In Slovenia, where many public services are provided through commercial relationships with external suppliers, it was extremely important to draw on external technical expertise to offsetting capacity constraints and limits on the availability of internal skills, in particular to increase capacity in the short- and medium-term. As early as in 2017, the Ministry of Public Administration (MPA) issued Guidelines on Procuring IT Solutions with advise using the procurement process to prioritise agile solutions and ensure an inclusive approach to testing services (Republic of Slovenia, 2017[6]).

3.2. What needs to be done differently to enable the use of agile development in public procurement?

3.2.1. Governance framework

An agile approach calls for the implementation of more open, inclusive, iterative and cyclical approaches in the procurement of ICT products and services. This means, for instance:

- Bringing on board all of the relevant stakeholders to jointly design projects and define ICT project priorities together;
- Creating marketplaces to facilitate the pooling of suppliers, such as the supplier portals in UK, Australia, New Zealand;
- Monitoring and reporting on early results in an iterative fashion, and
- The revision and redesign of the project implementation process when needed.

Clear ICT procurement frameworks and practices are fundamental for the successful implementation of national digitalisation programmes. Strategic planning of ICT procurement facilitates strategic decision making, efficiency, effectiveness and sustainability of public ICT investments, and helps avoid gaps and overlaps. Having strategic planning methods and formal guidelines in place helps governments to overcome "*agency thinking approaches*" that usually anchor silo-driven decisions, while often failing to prioritise interoperability or common standards for improved integration and sharing across different sectors and levels of government. (OECD, 2020[7]) (OECD, 2020[8])

OECD countries like the **United Kingdom** are leading a new whole-of-government perspective that places iteration at the core of the ICT procurement cycle. This requires a cross-cutting approach supported by the development of common standards for ICT project development, management and evaluation, and agile monitoring and control.

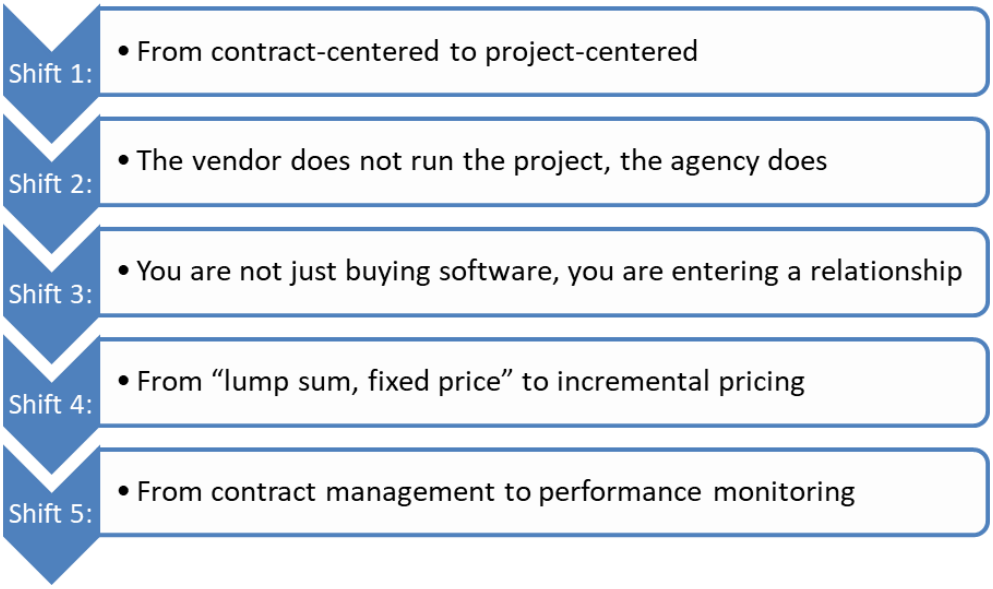
An agile environment relies on new forms of collaboration between the public sector and non-governmental actors, thus acknowledging the benefits of involving all relevant players early in project planning and development as a means to ensure that ICT projects comply with central standards and take into consideration the needs of the end user. The goal is to ensure that public funds are invested in ICT projects that create benefits for the public sector, businesses and citizens and help build a capable and responsive public sector. **New Zealand** and the **United Kingdom** have adopted flexible approaches in terms of supplier selection, establishing marketplaces that help suppliers apply to specific project calls easily, cutting costs across government and creating a more dynamic market environment.

3.2.2. Shift in mind-set

For governments to successfully take advantage of what agile can offer in digitalisation, a change in mind-set for procurement officials is required. Individuals and organisations need to change their ways of working when they start to adopt agile practices. In public organisations, there is an established formal mode of operation, which creates a challenging environment for adopting agile methods. Consequently, a public organisation might even need to revisit its underlying organisational values and culture to be able to adopt agile methods successfully. (Jouko Nuottila, 2016[3])

The procurement officials and decision makers at the contracting authorities need to embrace a new way of thinking about their role. The agile process combines design with development and user acceptance. The final design, the final product emerges through a collaborative effort between developers and users. The traditional procurement approach, heavy on functional specifications written up front, is not consistent with the agile approach The new mind-set of procuring for agile involves many major shifts in thinking (John O'Leary, 2017[9])[12]. (Figure 3.8)

Figure 3.8. Mind-set for being agile in public procurement activities – the five most important mind-set shifts



Source: Authors' elaboration based on John O'Leary, William D. Eggers: Going Agile: The new mind-set for procurement officials – How does Agile change the role of the acquisition officer? in: Agile in Government, A playbook from the Deloitte Center for Government Insights, Deloitte Insights, 2017

Capacity building of the staff is identified as one of the key tasks for ensuring the successful adoption of agile methods in public procurement. However, formal training is not enough; people should understand and learn agile values and principles in addition to existing practices to be motivated and committed (K. Conboy, 2011[10]). Incentives, psychological motivators play a significant role, together with abilities to cope with and manage change, in adopting new technologies and methods (Cormican, 2015[11]). Ideally, the capacity building on agile practices in public procurement of digital should be extended beyond procurement professionals to the delivery and corporate functional teams. (OECD, 2021[12])

The 18F guide from the United States defines agile as the follows:

> "Agile is something you are, not something you do. Agile is not a checklist, or a methodology, or a series of rituals. Agile is a way of thinking and a way of attacking problems. Embrace mistakes, learn, and keep trying. Mess up and learn again and again and again. Cut your losses. Fail forward fast. It's okay. You won't get fired. You're learning. That is agile."[13]

3.2.3. The importance of the pre-tender phase and the need for strategic engagement with the ICT industry

Pre-tender stage

Agile approaches require greater investments in the pre-tender stage of the public procurement cycle, in terms of preparing and planning the whole tender to ensure the realisation of benefits in the longer term, and better management of the procurement cycle as a whole. In the pre-tender stage, contracting authorities conduct preliminary market engagement activities, assessing the real needs of the public organisation and users, evaluate the different solutions, and choose among different technological solutions, including justifying the need for the tender.

Timescales can significantly influence procurement outcomes. Too often documents are rushed out or suppliers are given inadequate time to respond to complex requirements. A bit of forward-planning can go a long way to ensuring the procurement itself is done in a timely manner. Once a need has become clear (e.g. through "needs assessment"), even if all the details and budget have not yet been decided, there is scope to start analysing the market and identifying suitable procedures. Consulting other public or private organisations who have procured similar needs can also be a valuable use of time in the run up to a formal procedure being launched.

For ICT goods and services, this stage is even more relevant as foundation for decision-making, given the diversity of technological alternatives and modes of answering to the needs of the beneficiaries and end-users. Answers need to be given to important initial procurement questions such as choice between service versus supply (e.g. lease of computers, software), contract versus framework agreement, duration – all important decisions with impact on the attractiveness of the tender, the competition for the contract, the price of purchase and many other factors.

Strategic stakeholder engagement

Another key feature for agile procurement approaches is the involvement of different players at the different stages of the ICT project development and procurement cycle, including the contract implementation. The OECD Recommendation of the Council on Public Procurement (OECD, 2015[13]) emphasises the importance of involvement of all interested stakeholders in the process. Proactive and adequate disclosure

of information throughout the procurement cycle is critical to support a level playing field for suppliers to compete for government contracts and to support citizens' involvement in the oversight of government operations.

Early market engagement is a strategic and collaborative approach for public buyers to gather valuable market intelligence in relation to the high level aims of large scale investment programs. Government officials can benefit from suppliers' knowledge of markets and trends and understand the capability and capacity of suppliers prior to formulation of a procurement plan and strategy. Both the contracting authority and the ICT suppliers can benefit from early engagement with the market. Benefits include:

- enables government to better plan for and mitigate risks
- ensures a contracting authority will make a fully informed decision and maximises the buying power
- ensures the right supplier is chosen to provide the right service
- provides government the opportunity to realistically gauge expectations of what the market can and cannot contribute to the proposed program – on the other hand, it also allows the contracting authority to manage supplier expectations and confront any preconceptions regarding contracting with the government
- complex, innovative or high-risk programs can be adapted to better utilise ICT industry capacities

Contracting authorities can benefit from suppliers' knowledge of markets and trends, and develop an understanding of the ICT industry capacity available to the public sector to meet planned demand. This understanding can then be incorporated into ICT strategic plans, business cases, procurement plans and forward procurement schedules. Information from the engagement process can be used to develop technology-neutral specifications. However, care should be taken to ensure that the development of procurement options, and the accompanying technical specifications used in procurement documents, is not unduly influenced by the suppliers that have been involved in discussions.

3.2.4. Understanding users' needs: being user-centred and prioritising usability

Developing a deep understanding of the users' (people who are expected to use the product or service in question) needs is a crucial element during the preparatory phase of any public procurement procedure. Users are the most important consideration in seeking to achieve the desired investment outcome. Investments need to be easy to use and have a consistent user experience. Every solution has users, even those that are internal. Even hardware and components supporting a broader solution have a user. Agile approaches in public procurement, including the adoption of more iterative methodologies in the development of digital services could help delivering on users' needs and preferences. Applying agile approaches also means regular and thorough tests of the products and services under development, and users need to be involved in these repeated tests. Putting in place continuous feedback loops therefore is also necessary. (Box 3.3

Box 3.3. "We're listening" – Eliciting and incorporating user needs

In 2015, the technology transformation team in the UK Cabinet Office used Civil Service Live as an opportunity to understand 'the problem with government IT' from the perspective of users across government. They ran a session called "Can Government IT be faster, smarter, better – and cheaper?", designed to showcase changes being put in place for users. The teams used these sessions to ask civil servants from different locations and departments what they see as the problem with government IT. The issues reported were recurrent across the country, from desperately slow printers and computers to an inability to access the internet and ageing mobile phone technology. Some people also mentioned

that new IT systems had actually made their jobs harder, reflecting a failure to speak to users before design, procurement and implementation.

Their recommendations for change directly supported some of the principles of agile IT procurement. Crucially, they said they wanted to be involved in the purchasing process from the beginning to avoid buying the wrong thing. They also expressed their confusion at the government signing long IT contracts, assuming it was for cost reasons but caused bureaucratic delays. Finally, when IT equipment did arrive it was frequently outdated and less easy-to-use than personal laptops, smartphones and so on. Engaging users this way led to an effective technology transformation programme and several other departments followed cabinet's lead. Reflecting insights from these sessions, the technology transformation programme introduced solutions that were faster, more modern, and more adaptable to user needs. Contracts that were more flexible were introduced allowing procurement to be more adaptable to rapidly evolving user needs.

Source: Case Studies, ITC Commissioning Playbook, https://playbook-ict-procurement.herokuapp.com/case-studies/2; https://www.civilservicelive.com/

Beside the concept of "user-centered design", usability is another concept that contracting authorities should apply to ensure that public ICT/digital investments deliver their users. Usability means that a solution is developed to be easy to use. All solutions should be usable, including those that use off-the-shelf products. A product that meets all the business requirements of users, but requires an intensive investment of time to learn, has likely not prioritised usability. A major component of usability is accessibility. (Digital Transformation Agency, Commonwealth of Australia, 2019[14]) For example, in the European Union, in order to improve the functioning of the internal market, the Directive 2016/2102 on the accessibility of the websites and mobile applications of public sector bodies was adopted to approximate the laws, regulations and administrative provisions of the EU Member States relating to the accessibility requirements of the websites and mobile applications of public sector bodies, thereby enabling those websites and mobile applications to be more accessible to users, in particular to persons with disabilities.

3.2.5. Regulatory framework and practical implementation allowing room for innovation

Innovation is essential for delivering better, modern digital products and services, whilst reducing cost. In most OECD countries, the regulatory framework is supportive on using innovative and agile approaches to ICT procurement. However, practice does not always benefit from this flexibility. Overly prescribed solutions are included in tender notices, although over-specification is less likely to meet intended outcomes and does not allow room for innovation. As the traditional waterfall approach inherently leaves less room for flexibility and puts focus on up-front requirement capture and design, is seen as somewhat unsuitable for the capturing the (sometimes uncertain) customers' needs in the public sector. Agile approach offers the flexibility needed to develop sustainable, innovative and tailor-made products and services. Aspects such as incremental and iterative delivery, team work and close cooperation between public body and supplier and user centred design makes agile approach different from the traditional, waterfall approach. Being open to innovation through having an outcome-based approach allows a greater range of solutions to be offered. Digital investments need to be open to innovative solutions from the very start: being outcome-focused and using descriptive requirements early in an investment allow greater range of innovative solutions to be offered. In **Australia**, public buyers are encouraged to be innovative by the Government. (Box 3.4).

Box 3.4. Australia: How to be innovative? – Digital Sourcing Consider First Policy guidance

In Australia, the Digital Transformation Agency developed a guidance to help buyers with ICT procurement. In terms of innovation-friendly ICT procurement, the Guidance suggests the following actions for contracting authorities:

- Start by describing the outcome you are trying to achieve rather than starting with a solution. Avoid specifying activities, tasks or assets when describing your outcome.
- Use an outcome-based approach by focusing on the result of the work to be performed (the '*what*') rather than specifying the way it is to be performed (the '*how*').
- Use descriptive requirements to promote discovery and innovative solutions when describing your desired outcome, such as seeking a 10% increase in user satisfaction or a 5% increase in productivity.
- Avoid prescriptive requirements by not specifying the way in which that outcome is to be achieved, such as rolling-out a specific brand of video platform or AI assistant.
- Instead of focusing on a brand or product, prioritise factors like integration, training, efficiency, effectiveness, ease of use and adaptability of business processes.
- Adapt your business processes to meet innovative commercial solutions, rather than engineering a bespoke solution that fits your existing processes.
- Avoid using custom solutions, which can become expensive and difficult to support and adapt over the life of an investment.

Source: Digital Sourcing Consider First Policy guidance, Digital Transformation Agency, Australia, 2018, https://www.dta.gov.au/help-and-advice/ict-procurement/digital-sourcing-framework-ict-procurement/digital-sourcing-policies/digital-sourcing-consider-first-policy/digital-sourcing-consider-first-policy-guidance

3.2.6. Clear business cases to sustain funding and focused implementation of ICT projects

The success of ICT projects requires among other things a clear business case. The business case informs the investment decision, the procurement strategy and helps ICT projects deliver on expected benefits. The business case as a project management tool is valuable to inform the decision-making process when deciding whether to invest in a particular ICT project or choose between ICT projects. The business case differs in this regard from a simple cost-benefit analysis (CBA), since it also brings strategic goals and non-financial benefits into the decision making process. The business case is also a tool that minimises project risks by breaking down the economy of the project into deliverables and enables users to work with the benefits of the project in a structured approach (Danish Agency for Digitisation, 2018[15]). Successfully benefitting from the business case is not easy, and several key concepts have to be defined and clarified to make sure that the use is comparable and thus enabling decision-makers to have a consistent approach and share knowledge.

The **OECD Recommendation on Digital Government Strategies** calls on governments to develop business cases that articulate *"…the value proposition for all projects above a certain budget threshold to identify the expected economic, social and political benefits to justify public investment and to improve project management"* (OECD, 2014[16]).

The primary benefits of clear business cases include the availability of a consistent framework for comparing investment decisions, a better view of costs, benefits and beneficiaries and a contribution to assessing the efficiency and effectiveness of ICT projects. However, business cases are not used regularly or consistently. As the OECD *2019 Digital Government Index* shows, only just over half of governments have standardised models/methods to develop and present business cases for ex ante measurement of

benefits and costs of digital government projects. Of this proportion, 39% require projects to meet specific criteria (e.g. budget threshold), while models/methods are compulsory for all ICT projects in only 15% of governments. Making the adoption of business case methodology a required policy lever in the early stages of project management would help countries achieve coherence and value proposition of ICT investments, enabling smart and cost-effective investment decisions for public value in line with strategic objectives. (OECD, 2020[7])

However good practices exist. **Denmark** has been a champion in the use of a common Business Case methodology to efficiently plan, strategically align and monitor the implementation of public ICT investments. All central government institutions in Denmark are required by budget regulations to follow specific guidelines set out by the Ministry of Finance when conducting ICT projects. The business case is in this case a tool in an ICT project management framework which is mandatory to use for all central government projects (Danish Agency for Digitisation, 2018[15]).

When every central government institution conducting ICT projects uses the same methodology for expenses to include, it ensures comparable projects.

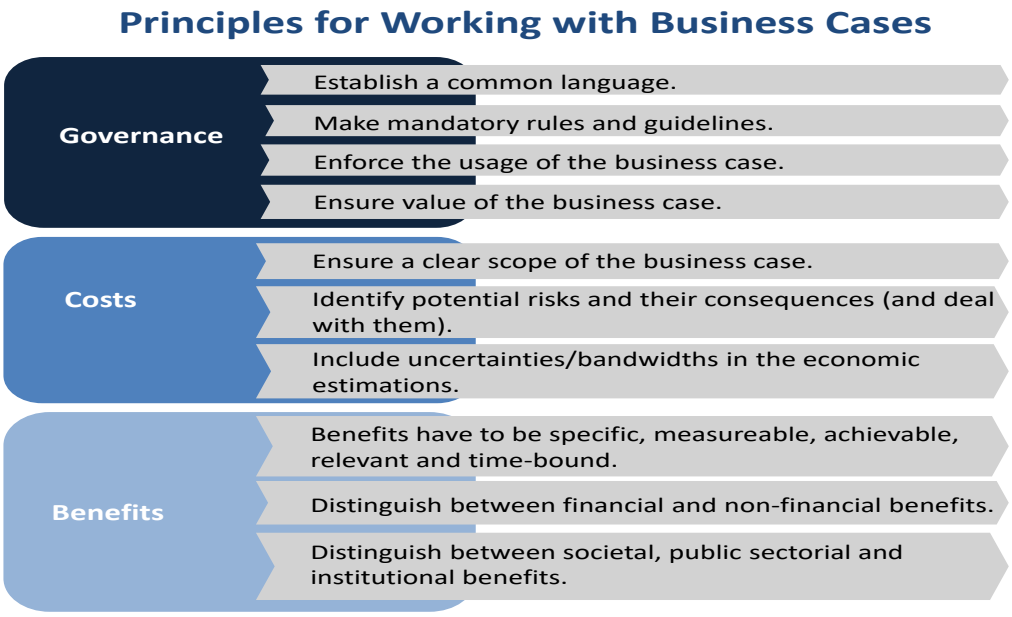
In **Finland,** for example it is recommended that ICT projects between EUR 1-5 million build a business case. If the project costs are above EUR 5 million, it is mandatory to make one.

In **Norway**, it is mandatory for ICT projects below EUR 75 million to follow a best practice project model of their own choice, which involves making a business case. This enables sector agencies to adapt the recommended best practice model to their specific context and needs, rather than being a "once size fits all approach". For projects above EUR 75 million use of business cases and the Ministry of Finance's Quality Assurance Scheme is mandatory.

The **United Kingdom** has developed a comprehensive business case model (HM Treasury, 2018[17]) for systematic project evaluation according to five dimensions: 1. strategic, 2. economic, 3. commercial, 4. financial and 5. management. [14] The economic dimension considers a cost benefit analysis (CBA) or cost effectiveness analysis (CEA) to quantify the social benefits of the initiative. Badged economists (members of the Government Economic Service) carry out such analyses. Introducing economists and financial expertise in these stages can facilitate the interaction and engagement with financial authorities. Additionally, the process considers a financial evaluation whose objective is to evaluate the availability of resources to fund the initiative, including the support and co-ordination with other units within the public sector when external funding is required. This specific step includes an analysis of how the project affects the balance sheet, income and expenses of the institution. The business dimension of this analysis introduces practical considerations that are especially important when planning and evaluating ICT investments.

To increase the knowledge about how different countries work with business cases the OECD has established the OECD Thematic Group on Business Cases which consisted of nine countries, such as Chile, Denmark, Estonia, Finland, the Netherlands, Norway, Portugal, Sweden and the United Kingdom. Clear business cases enable structuring ICT and digital public investments, while ensuring such decisions are supported by a clear rationale and an evident alignment to strategic priorities. The work of the group has led to the identification of 10 principles on business cases, which are fundamental in order to successfully benefit from the use of business cases in central government (Figure 3.9). All principles should be seen as central guidelines, and the implementation should always take into account national context and starting point (Danish Agency for Digitisation, 2018[15]).

Figure 3.9. A framework for ICT business cases



Source: Agency for Digitalisation (2018) Report from the OECD Thematic Group on Business Cases, unpublished

Building on this work and especially on the report from the OECD Thematic Group on Business Cases presented by Denmark at the E-Leaders Meeting in October 2018, the Digital Transformation Agency of Australia and the OECD E-Leaders Working Group developed jointly the Business Case Playbook[15]. The purpose of the Playbook is to help countries develop business cases which support investment decisions in digital transformation and ICT. The Playbook explores what works, and what does not. The Playbook is based on the experience of Australia, and other OECD members, including Canada, Denmark, Estonia, and the United Kingdom. The Playbook covers the foundational concepts of a business case required to present a compelling argument for a digital or ICT investment. Each Play explores a core component of business case development, supported by helpful links.

Engaging stakeholders in the process of designing business cases is essential in order to promote joint ownership, distribution of benefits and a better understanding of users' needs. Publishing forward-looking plans openly, can support not only increased transparency but also early market engagement. The **UK** has published guidance on setting up a commercial, digital and technology spend controls forward-looking pipelines, including templates[16].

In the **Slovak Republic**, there is no specific standardised model of business cases for investment in digital technologies. The Value for Money Unit within the Ministry of Finance developed a Methodology on Developing and analysing business cases.

3.2.7. Considering the whole-of-life or life cycle cost

A low initial cost does not necessarily mean a solution will represent value for money. Costs incurred after the initial purchase can often change the whole-of-life cost. This means a solution with a low initial cost could have a high whole-of-life cost. Considering whole-of-life or life cycle cost (LCC) is a key component of assessing value for money. LCC looks beyond the initial purchase price of a solution to other cost elements such as maintenance costs, transition out costs, licensing costs (where applicable), the cost of additional features added after the initial investment, consumable costs and disposal costs. Technology costs, such as architecture, administration, integration, support and training should be also considered.

With regard to ICT goods and services, several OECD countries developed supporting tools for the calculation of LCC or total cost of ownership (TCO). In **Denmark,** the Ministry of Environment and the Environmental Protection Agency developed TCO tools for several products and services, such as computers (laptops, desktop computers, tablets, thin clients), displays (computer displays, information displays), multi-function devices (printers, copy machines, scanners, fax), projectors, servers, storage, Large Network Equipment, Small Network Equipment[17]. In **Germany**, the Federal Environmental Agency developed product-group specific excel tools[18] that provide assistance in the calculation of life cycle costs of computers, multi-functional devices, monitors, computing centres and other products. The Calculation Tools of the Berliner Energieagentur for the products groups of vehicles, household devices and IT can be used without any comprehensive prior knowledge. It enables a fast access to calculating life cycle costs. The life cycle cost tool picker[19], which has been available on the website of the Competence Center for Innovative Procurement (Kompetenzzentrums innovative Beschaffung, KOINNO) since September 2016, supports the needs-based selection of a life cycle cost calculation tool.

LCC in ICT procurement is extremely flexible; sensitive to changes in user needs, user behaviour, and a rapidly evolving industry. Contracting authorities are encouraged to think in terms of functional units, defined by quantitative and qualitative aspects (meaning performance characteristics delivered by ICT goods, networks and services), and product systems (ICT networks and services can be seen as logical structures, which are physically made up of ICT goods, including hardware and software). The LCC tool developed by the **European Commission,** the EU GPP Criteria for Computers and Monitors[20] incorporated this logic in advising public procurers to define their needs in terms of functional units and not in relation to ICT goods (not computers, but capacity to process data, exchange information, serve a certain number of users, etc.).

3.2.8. Designing a contract for agile delivery

Contract for waterfall or agile delivery?

The contract has always been a cornerstone of public procurement: the contract that defines the relationship between the contracting authority and a supplier, reflecting precisely the conditions, obligations that were covered by the tender documentation and the competition during the tender process. A well-written contract, including detailed specifications, is critical to a successful engagement and delivery. A contract, signed after a successful tender procedure, covers every detail: prices, delivery, and system performance. Contracting authorities rely on contractual safeguards to minimise risk to taxpayers, e.g. non-performance clauses. Strict definitions clarify what counts as non-performance in terms of time, cost, and scope. Agile, however, cannot operate well with many constraints and the standard contract terms and conditions used in a “traditional” ICT design and development contract will not support the delivery of services on the basis of an agile methodology.

The essence of the waterfall software development contract is that the buyer/customer tests whether the software meets its requirements, and if it does so by a certain date the software is accepted. All of the contractual rights and remedies of the buyer/customer, together with its payment obligations, revolve around the software meeting the requirements by a certain date. (Atkinson, 2010[18])

In agile procurement, the final product emerges through a joint effort during the process, therefore contract management is really the key to success. Regular engagement of the “business owner” and end users throughout the process is essential. Hands-on involvement is critical to monitor progress and avoid unpleasant eleventh-hour surprises. (John O’Leary, 2017[9])[21]

Agile development requires modular contracting method

Agile requires modular or phased contracting methods that provide room for iteration and inclusive, cyclical approaches. Modular contracting is a procurement strategy that breaks up large, complex projects into

multiple, tightly-scoped procurements to implement technology systems in successive, interoperable increments. This strategy helps mitigate risk, reduce vendor lock-in, and encourages the delivery of working software to users more rapidly.[22]

Modular contracting reduces vendor lock-in by providing more opportunities for vendor engagement and ensuring more than one vendor will know how the system works. In order to leverage modular contracting to reduce vendor lock-in, governments will also need to think about interoperability of system modules up front. By mandating system interoperability, modular contracting enforces good coding practices and increases the consistency of the software. This enables new vendors to come in if the public buyer decides to reopen the competition.

Instead of setting out detailed specifications, pricing and timeframes for delivery, and provisions for when things go wrong, the main objective of a contract for the delivery of a project using agile methodology is to structure the relationship between the customer and the supplier. As the contract is for the delivery of an outcome, rather than a thing, the contract will need to set out how the project is to be governed, delivered and the responsibilities of both parties in working towards that outcome. Additionally, rather than focussing solely on risk allocation provisions and contractual remedies if a project fails, an agile development contract should focus on the rules of engagement to ensure problem and failure resolution in real time.

Success factors for a well-designed agile contract

Well-designed and well-managed contracts for the delivery of projects using an agile methodology can be effective in ensuring value for money outcomes for public buyers in their procurements of software and application design and other ICT development projects. Success will depend on:

- supplier/service provider experience in delivering projects using agile project methodologies;
- skilled and committed delivery teams within the contracting authority who continuously monitor supplier/service provider performance; and
- early engagement with legal department/team and other internal and external stakeholders who have familiarity with contracts for the delivery of agile projects.

One of the key roles the contracting authority can play is to make sure that the contract is being monitored. A “trust and verify” approach can protect taxpayers and lead to working software. But it makes new demands and requires a new skill set for contracting authorities.

Designing a contract well for agile delivery means primarily that the contract is designed in a way that ensures that the parties understand the expectations of the relationship in an agile context. For this reason, a contract for agile delivery should include specific provisions and clear requirements relating to:

- **key roles** and **key personnel** including the roles and responsibilities of key staff members at the contracting authority (such as a product owner), development teams, and agile “coaches”
- **key processes and governance requirements** including for the development process, various meetings to support the process, testing requirements and timeframes; and
- **key documentation and tools** including the project objectives and target outcomes, development items (such as a product backlog), tracking tools, and management information to support decision making.

While the specific provisions and terminology will vary depending on the specific agile methodology used, establishing the processes and expectations around these three key areas is critical in drafting an appropriate contract to support the effective implementation of a project based on agile delivery methodology. In addition to agile-specific provisions, a contract for delivery of a project using an agile methodology may also require reconsideration of and changes to standard contract clauses, including with respect to:

- warranties;
- intellectual property rights;
- liability;
- termination;
- dispute resolution; and
- change control processes.

Assessing and actively managing risks

Many different risk assessment techniques are used as part of project management in the public sector. The best ones tend to emphasise that risk should be managed by the party best able to do this, rather than a default position such as 'the supplier takes all risks.' Honest, accurate and regularly updated appraisals of risk make it less likely that an innovative, agile procurement approach will fail – but only if they are communicated and acted upon. One way to do this is by having a "project steering group", which is able to handle both informal and formal communication, so that risks can be dealt with as they arise as well as through an initial strategy. Many (but not all) risks can be managed by choice of procurement procedure, intellectual property strategy and contract terms.

Agreement on an intellectual property strategy

Several ICT procurement projects involve an investment in making new ideas a reality, both by the contracting authority and the supplier(s) or service provider(s) involved. Each will want to recoup its investment, and this often takes the form of asserting intellectual property rights (IPR). In order to capture the benefits of innovative details solutions which are most important to it, without paying unnecessarily for rights and options which will not be used, the contracting authority should develop a strategy on IPR which takes into account the likely future applications of the product or service it is purchasing. For example, if a new design for recycling bins is developed as part of a waste management contract, does it make sense for the authority to purchase or licence this, and what about rights to the design of vehicles, which empty the bins? Issues to consider in answering such questions include the future ability of the authority to change service providers, and whether the design could also be licensed to other users of the service. In some cases sharing of information without the actual transfer of intellectual property rights will be sufficient to realise these objectives (European Commission, 2015[19]).

Pricing issues

There are a number of different pricing models for the delivery of agile projects. Commercial terms need to be structured in a way that appropriately rewards the supplier for its efforts, while ensuring protections are in place for the contracting authority. Contracting authorities and supplier approaches to pricing an agile project are likely to be very different. While contracting authorities will naturally want the certainty that comes with a fixed price, this can erode the benefits of an agile delivery model by parties seeking to mitigate their risk by setting out rigid specifications, payment and change processes. Suppliers on the other hand, are likely to want time and materials pricing to reflect the inherently uncertain scope of a project delivered using an agile methodology. However, a pure time and materials engagement creates disincentives for the supplier to develop realistic estimates and then to adhere to them.

3.3. Moving towards more innovative and agile purchasing approaches in the Slovak Republic

The digitalisation of the public sector means that a wide range of ICT systems are now as critical to society and the economy as, for example, electricity or transport infrastructure. Society and economy can only function if the ICT systems that support the work of the healthcare services, the education system, the tax authorities, the police or the public transport companies just to name a few, are actually fit for purpose.

Effective ICT is crucial when it comes to creating a better and more coherent public sector. Efficient and effective ICT is a prerequisite for the work carried out by public sector employees and for the quality of service provided by the public sector each day to citizens and the business alike. It is a part of the foundation on which the modern welfare state rests. This means that central government authorities bear a great deal of the responsibility for the national ICT portfolio functioning effectively and with a high level of information security.

ICT systems must be user-friendly, coherent, and secure and ICT projects must stay on track. As OECD country examples show, building a co-ordinated governance structure for managing and implementing ICT procurements and moving towards innovative and agile purchasing approaches contribute to achieving efficiency in government ICT expenditure and support the successful implementation of the national digitalisation agenda.

Building on the strengths identified in this Report, there are opportunities for the Slovak Republic to improve its current frameworks and practices for ICT procurement and to ensure that new technologies can be deployed quickly to improve public service delivery and implement national digitalisation. Recommended actions for the Slovak government for consideration are:

1. Develop a **national strategy for ICT procurement** applicable across the whole public sector
2. **Improve the governance structure for ICT projects**
3. Promote **better engagement between the ICT sector and Government**
4. Support the agile agenda through **capacity-building**
5. Expand **centralisation of ICT procurement** for aggregating the demand of several ICT products and services
6. **Encourage joint procurements** (joint developments) **of IT solutions** and the **re-use and sharing of digital solutions** across the administration
7. **Reinforcing the adoption of existing common standards**, assuming them as clear criteria to guide the public administration's purchasing processes

3.3.1. Develop a national strategy for ICT procurement applicable across the whole public sector

One of the main findings of the Report is that contracting authorities are not supported by a clear, whole-of-government ICT procurement strategy and thus they have limited guidance on how to align their ICT spending to meet the Government's digital transformation agenda. The lack of a whole-of-government strategy also results in the lack of clarity in industry about the types of solutions they should provide to the government.

A national ICT procurement strategy that defines the strategic direction of the government's main ICT procurement can be a powerful way of co-ordinating ICT investments across contracting authorities and government. Having a national ICT procurement strategy in place also ensures that ICT projects are co-ordinated across the different levels of public administration. A strategic, uniform and standardised

approach to ICT procurement helps governments to overcome “agency thinking” approaches that usually fail to prioritise interoperability or common standards and sharing across different sectors and levels of government.

The national ICT procurement strategy should:

1. Promote coherent and aligned approaches and processes to ICT procurement.
2. Promote the strategic use of public procurement, including the promotion of quality-based selection of the tenders.
3. Demonstrate political leadership for more innovative, agile and iterative approaches and cultivate a more open culture towards new ways of purchasing ICT goods and services.
4. Promote competition in ICT procurement by increasing the chances of small specialised firms (including start-ups) to have access to ICT contracts in their area of expertise.
5. Encourage transparent and effective stakeholder participation throughout the whole public procurement cycle, with special focus on involving users of final goods and services, different levels of governments affected by the project and private sector or non-for profit service providers to ensure buy-in and distribution of realised benefits.
6. Stimulate understanding and collaboration among technical experts, policy specialists and procurement officials, in order to move beyond the current practice where procurements are conducted without a strong focus on outcomes.
7. Emphasise the importance of the preparatory phase of ICT procurement and promote a more strategic approach to users’ involvement, needs assessment, early market engagement and development of business cases.

On the other hand, strategic planning of ICT procurement could be addressed in a government-wide public procurement strategy or national digital government strategy. Furthermore, the national strategy for ICT procurement should be aligned with or be an integral element of the national digital government transformation strategy, preferably modelled on the 'Six Dimensions of a Digital Government' from the OECD Digital Government Policy Framework (OECD, 2020[8]). The OECD Digital Government Policy Framework consists of six dimensions that comprise a digital government:

1. Digital by design
2. Data-driven public sector
3. Government as a platform
4. Open by default
5. User-driven
6. Proactiveness.

In line with the national strategy, individual contracting authorities should develop their own institutional ICT strategy and long-term plans that will define the strategic direction of the contracting authorities’ main ICT investments and the actions required to ensure that all ICT systems fit within this strategy and within the national ICT (procurement) strategy. ICT procurement decisions taken within the context of an institutional strategy are likely to result in purchases that meet the needs of the contracting authority as a whole, rather than only those of individual departments. This is particularly relevant when migrating to new systems or solutions where the move is most cost-effective if undertaken on a large scale. The development of ICT procurement strategies can also lead to further rationalisation of ICT infrastructure in departments, limiting duplication and promoting sharing and reuse of services while allowing flexibility.

There are several good examples from OECD countries for comprehensive ICT purchasing strategies adopted in recent years.

In **Denmark**, the Government adopted a strategy in 2017, with the title of *"A solid ICT foundation – Strategy for ICT management in central government*"[23], with the aim of creating a solid foundation for ICT systems and defining common objectives for central government organisations on how to manage their ICT portfolios.

In **Ireland,** the *Public Service ICT Strategy*[24] includes a special chapter on ICT Procurement. The ICT Strategy includes several key areas, such as Delivery of services via a government private cloud, Common applications delivery, Networks and telecommunications, ICT Support and ICT Procurement. The Office of Government Procurement (OGP) has been tasked to deliver the commercial implementation of the Public Service ICT Strategy through the development and delivery of sourcing strategies aimed to reduce the fixed ICT cost base. These strategies intend to leverage the considerable buying power of the Public Service and include, where possible, aggregation of spend, standardisation of specifications and on-going analysis/renegotiation of current ICT contracts.

In 2017, the **United Kingdom** published its government transformation strategy[25] and digital strategy[26]. Both consistently referenced the need for taking user-centred, design-led, data-driven and open approaches to public procurement, building on the Digital Marketplace to embed these approaches more widely across the whole marketplace for public sector procurement. Local Government Association (LGA) in the UK issued the 'National technological and digital procurement category strategy[27] in July 2017, which reinforces the importance of standards and assurance approaches, Digital Marketplace.

The Digital Transformation Strategy 2018-2025[28] in **Australia** rationalises ICT spending and dictates a number of principles to be observed while not being too prescriptive to leave room for agencies' needs. The Roadmap accompanying the Strategy describes a rolling two-year window of the implementation work.

3.3.2. Improve the governance structure for ICT projects

The review of the current ICT public procurement practices showed that the co-ordination between different government institutions that have some role and mandate in both developing and implementing the national digital agenda and conducting ICT procurement is not sufficient and efficient. Co-operation between different levels of government is also missing. As a result, individual contracting authorities' purchasing decisions focus on agency-specific solutions rather than whole-of-government solutions, increasing the risk of duplication. Due to a lack of proper co-ordination mechanisms, there are no real examples for sharing and re-using of already existing ICT solutions in the public sector. As the spend review highlighted, there are only a very limited number of joint ICT procurements. There is also limited co-ordination and exchanges with external stakeholders, such as ICT business associations, other relevant interest groups, although some good examples do exist. A well-established governance structure for ICT procurement could successfully support the implementation of the Government's digital goals.

To this end, the Government of the Slovak Republic should:

- Consider establishing a unit in charge of ICT procurement policy at the central government level to ensure coherent and efficient ICT procurement across the public sector in line with the strategic priorities.
- Establish formal or informal co-ordination mechanisms for ICT procurement with the subnational government level to avoid duplication and improve the value for money of ICT investments.

There are various examples for governance structure from OECD countries. Box 3.5 presents different types of governance and organisational frameworks.

Box 3.5. Types of governance structure in digital government

New trends in governance and organisational frameworks start to emerge as governments face new challenges and requirements to complete the digital transformation. Three different approaches can be observed across OECD countries, these are not necessarily mutually exclusive, and often appear combined to some extent:

1. The **Transformation Office Model** creates a new organisation with the mandate to oversee and co-ordinate the use of technology to transform the administration's functioning and the delivery of services. It is staffed with specialised expertise in digital technologies, tools and approaches. It usually has a large emphasis on bringing in people from the tech sector to compensate for the general lack of highly technical skills within most civil services. This approach can see "quick wins" on service quality improvement, but may have difficulties with longer-term structural and cultural change across government given their outsider status and culture. Examples include the **UK's Government Digital Service** and **Australia's Digital Transformation Office**.

2. The **Central co-ordination Model** seeks to create strong government-wide leadership with enforceable levers to set policy and control approval of funding for large ICT investments (e.g. set co-ordination unit with clear mandate, CIO). This may also include the creation of shared services organisations and centralised procurement processes for ICT. This approach has the advantage of creating common standards across government and potentially leveraging economies of scale. However, its focus on big-ticket items can make it slower to react and limit agility in initiating pilot projects to explore new technologies or approaches, given the emphasis on acting at a government-wide scale. Examples include **New Zealand** and **Spain**.

3. The **Decentralised co-ordination Model** provides greater flexibility for individual ministries to pursue projects and test different approaches in using ICT for modernisation. Often there is still a central co-ordination body and a national strategy to guide digital government activities, however, there are fewer mandated requirements on departments and no unifying senior official with ultimate responsibility for the digital agenda. This approach allows greater ability for experimentation and customisation by departments, as well as more opportunities to engage with other levels of government (e.g. regional, local). However, it could lead to uneven implementation and challenges in ensuring that lessons learned are effectively transmitted and operationalised across all government organisations. **Sweden** is an illustrative case of this governance model.

Source: OECD (2017), Benchmarking Digital Government Strategies in MENA Countries, OECD Digital Government Studies, OECD Publishing, Paris. http://dx.doi.org/10.1787/9789264268012-en

In **Denmark**, the Government established a National Council for ICT Projects in 2011 after a 2010 comprehensive report identified several shortcomings in governmental IT projects. The task of the Council is to provide guidance to governmental IT projects as well as review all Danish governmental bodies with annual ICT cost above 30 million Danish krones. The 2010 report highlighted that for many years central government in Denmark ran its ICT projects with a high degree of outsourcing. Although this approach has served central government properly thanks to the good working relationship with private providers, central government has slowly handed over ever-greater responsibility for ICT to external consultants and private suppliers with regard to preparing requirements specifications, formulating calls for tenders, the selection of its suppliers and the subsequent implementation of the ICT systems in question. As a result, several central government organisations have lost control and critical knowledge of their ICT projects and systems and are unable to build the important bridge between ICT and their core remits. They have also lost their capability to enter into positive and value-creating collaborations with the private ICT market. The report

therefore highlights the need for professionalising IT efforts. Based on the findings, the Government introduced new governance approaches for government ICT projects. Currently all central government authorities must follow the national ICT systems management model, and all central government organisations must undergo regular reviews of their ICT systems management by the National ICT Council. The Danish Agency for Digitalisation is co-ordinating the implementation of the strategy and providing support to the central government agencies in managing their ICT portfolios. (Box 3.6)

Box 3.6. Denmark: Agency for Digitalisation to ensure the coherence of cross governmental ICT projects

The Agency for Digitalisation, established in 2011, is in charge of the government's digitalisation policies and responsible for the implementation of the government's digital ambitions (80% of all public services are available online). The cross-governmental ICT project model

- contributes to better planning, management and implementation of governmental ICT projects
- is embedded in the Budgetvejledning (Ministry of Finance budget guidelines)
- must be applied to all IT projects in the government sector
- is meant to support day-to-day management of the project
- is generic and must be adjusted to the size and context of the individual project so as to meet the specific management needs of the individual project

Source: www.digst.dk

The cross-governmental ICT project model includes four elements:

1. Division into phases
The five main phases of the model serve their individual purposes and are clearly divided up, which makes it easy to distinguish when a phase begins and when it ends. Each main phase may be divided up into sub phases, if it proves expedient for the management of the project.

2. Principles for phase transitions
The transition from one phase to the next signifies a change in the state of the project. The cross-governmental ICT project model sets clear demands for what is to be documented at phase transitions and who has the responsibility for approving the transition.

3. Products
The products of the model are the documents that are necessary for the project manager during the day-to-day management of the project. The products are also used as the basis for decision-making by the steering committee.

4. Distribution of roles and responsibility
The responsibility for leadership and management of the five phases is placed in various places in the organisation. The model includes a guide on which roles are to be manned when in the course of the project, and what the roles are responsible for.

Source: www.digst.dk

In the **United Kingdom**, the Government Digital Service (GDS), which is part of the Cabinet Office, is focusing on improving government services by simplifying access, improving (opening) government data, and making government more effective and efficient with the introduction of new technologies. GDS supports government digital transformation with digital and technology experts, leads the government's use of data to support data-driven innovation across the public sector, provides best practice guidance and advice for consistent, coherent, high-quality services, sets and enforces standards for digital services, builds and supports common platforms, services, components and tools, helps government choose the right technology, favouring shorter, more flexible relationships with a wider variety of suppliers as well as supports increased use of emerging technologies by the public sector.[29] Digital, data and technology standards and policy, and assurance at the pre-procurement planning and investment appraisal stage, and post-procurement service delivery and implementation stage, rests with GDS. This is mandated for by central government, and used on a voluntary basis by over 200 local government organisations that have signed up to the Local Digital Declaration[30]. Furthermore, GDS published guidance on governance principles for agile service delivery[31], and the recently updated *'Agile digital and IT projects: clarification of business case guidance'* from the UK's National Treasury and Government Finance Function[32].

3.3.3. Better engagement between the ICT sector and public sector

As the Report shows, in The Slovak Republic, there is a need for the public sector to take a strategic and systematic approach to the ICT market, rather than just engaging with it on a short-term and program-by-program basis. A key part of this is to engage with the ICT industry at an early stage of the planning of the ICT investment projects. Therefore, the government should promote better engagement between the ICT sector and the public sector. One way to do so is through developing a forum to capture supplier feedback on procurement issues in a planned, strategic and collaborative way with the aim of improving procurement processes for both suppliers and buyers. (Box 3.7)

Box 3.7. The United Kingdom: techUK

techUK is the trade association which brings together people, companies and organisations to realise the positive outcomes of what digital technology can achieve. With over 800 members (the majority of which are SMEs) across the UK, techUK creates a network for innovation and collaboration across business, government and stakeholders to provide a better future for people, society, the economy and the planet. The fundamental principle of TechUK's engagement is to support those working in the public sector in the procurement process and help develop policy with technical expertise. Their support includes support for innovative market engagement across central and local government. This includes the launch of the NHS Digital–techUK Strategic Partnership, a programme of Concept Viability sessions across government departments, the Public Services 2030 Conference and a wide range of innovative market engagement sessions between the tech industry and local government. Central government departments and the wider public sector should take a broader and strategic approach to communicating with the tech sector on planned procurement activity, and take advantage of the market access provided by techUK.

Source: https://www.techuk.org/

In **New Zealand**, the Digital Marketplace serves the purpose of better engagement with the market. (Box 3.8)

Box 3.8. Digital Marketplace in New Zealand

The Digital Marketplace is administered by the Department of Internal Affairs in New Zealand, the agency that is designated the "ICT functional lead" (the central purchasing body for ICT in New Zealand). The marketplace enables New Zealand and international businesses to offer their products and services directly to the New Zealand government agencies that use them through an online version of a framework agreement. The marketplace facilitates the New Zealand government's procurement process by linking businesses that offer services and sell products with government agencies that wish to buy them.

As 'suppliers', businesses can publish descriptions of their services and products into what are called 'catalogues' on Marketplace. Government agencies browse relevant catalogues when they want to buy specific products or services. For most catalogues, the agency will then engage with the selected supplier, based on what they offer in the catalogue. The exception is the Public Cloud Services catalogue, from which services can be purchased online via Marketplace.

Suppliers' offerings on Marketplace are structured in three tiers:

1. Channels — top tier: The channels are high-level groups of service or product types, like public cloud (SaaS) services, and consultancy and professional services.
2. Catalogues — main categories: Each channel contains a number of what we call 'catalogues'. Catalogues are the main categories in which supplier offerings are organised on Marketplace. Examples are infrastructure managed services, Construction Consultancy Services and ICT professional services.
3. Services: Each catalogue is divided into specific service or product types, such as database management and administration, and cloud transition services.

When a new channel or catalogue is opened for business on Marketplace, an open Notice of Procurement is published on the New Zealand Government Electronic Tenders Service (GETS) website (gets.govt.nz).

Why suppliers use Marketplace

The Marketplace offers the following benefits to businesses that want to work as suppliers to government agencies.

- Buyer agencies can easily access information about your services or products.
- Commercial terms are simplified.
- Marketplace is open to all businesses that meet the specific entry criteria for the channel they want to join.
- Joining Marketplace acts as a primary procurement process, reducing the time and effort you need to spend to engage with government clients.
- You can join at any time, because the whole application process is done online through Marketplace.
- Once you are a supplier, you can add to or change your offerings within your selected Marketplace service without having to apply again.
- You can modify your online catalogue offerings whenever you wish.
- Some catalogues offer a simple online purchasing process that makes these services easily accessible to buyers.
- You can respond quickly to changes in agencies' requirements.

Why agencies use Marketplace

The Marketplace offers the following benefits to government agencies that require services and products.

- Purchasing process is simplified.
- Less time is spent on procurement.
- Costs are reduced.
- Easy to compare services on offer to find what best suits your needs and budget.
- View, compare and select products in one online session.
- Some of the ICT services or products offered on Marketplace have a security rating.

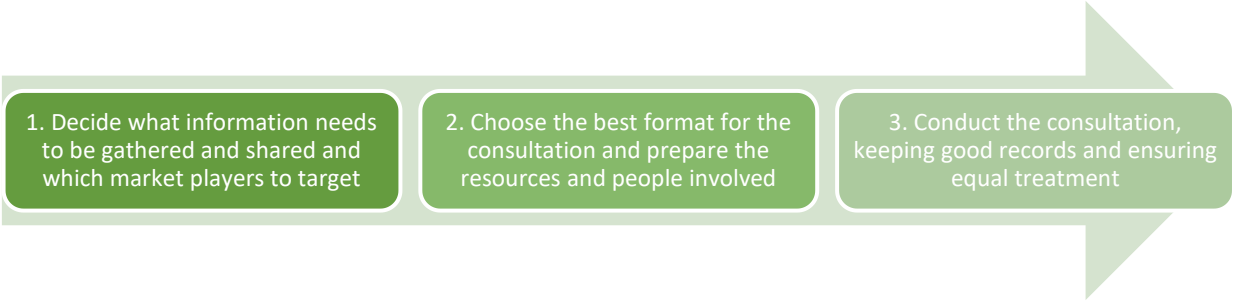
Source: (Department of Internal Affairs, n.d.[20])

Another important tool in this regard is to promote the wider use of early market engagement in the preparatory phase of the public procurement procedures. Market engagement is a key success factor for ICT procurement, especially for non-standard or irregular purchases or for purchases that result in realisation of unique ICT results and solutions. However, contracting authorities need some further practical advice and guidance on how to conduct market analysis and how to engage with the market in a way that respects the principles of transparency, non-discrimination and ensures competition.

Early market engagement with the ICT industry depends on a proactive and constructive approach by contracting authorities and suppliers for its success. Contracting authorities also need to be prepared to receive constructive criticism from potential suppliers and take useful learning from it.

Early market engagement or preliminary market consultation is allowed under the European Union policy and legal framework and as well as under the Slovakian public procurement legislation. According to the Directive 2014/24/EU a contracting authority may engage directly with economic operators as part of a market analysis. The process needs to be planned and managed very carefully so as to avoid the risks of lack of transparency, unequal treatment, or distortion of a subsequent competition. The EU Directive includes provisions in Article 40 related to such direct engagement, using the term "preliminary market consultations": "*Before commencing a procurement procedure, contracting authorities may conduct market consultations with a view to preparing the procurement and informing economic operators of their procurement plans and procurements*." The European Commission published several guiding documents to promote the use of preliminary market consultation and to explain how it can be conducted in a successful way while respecting the principles and rules of the European Union. For example the Guidance for public authorities on Public Procurement of Innovation gives detailed guidance on the objectives and steps of preliminary market consultation (European Commission, 2015[19]) (Figure 3.10).

Figure 3.10. Steps of the preliminary market consultation



Source: (European Commission, 2015[19])

The **Slovak** legislation also provides the possibility of contracting authorities to engage with the market, but this approach is not frequently used as was confirmed during the fact-finding missions. Contracting authorities need methodological support and guidance on how to engage with the market without infringing the principles and rules of public procurement. The **Public Procurement Office** has recently published, as part of the Public Procurement Methodology an infographic for the preparatory market consultation[33] to support both the business sector and the contracting authorities on how to conduct market consultation properly, aligned with the requirements of the legal framework. In its Methodological Document about ICT procurement, the *Working Group on Public Procurement and ICT Contracting*[34] also provides methodological advice to contracting authorities on preliminary market analysis.

Market engagement, however, can (and should) not be limited to the early phases of the procurement process, indeed it can continue during the tendering phase as well as in the post award phase as Table 3.1 shows.

Table 3.1. Market engagement alternatives throughout the public procurement cycle

Pre-tendering	Tendering	Post-tendering
Annual procurement plan	Briefing suppliers who submitted a bid	Debriefing suppliers
Trade shows	Clarification meetings (on site or electronic)	Contract award notice
"Meet the buyer" events		Contract and supplier management
"Show and tell" events		Strategic supplier management
Meeting industry bodies and business chambers		
Meeting with a group of suppliers or with a supplier individually		
Pre-tender briefings to potential suppliers		
Industry workshops		

Source: New Zealand Government Procurement Branch, 2015.

In the **United Kingdom**, the Government Digital Service (GDS, part of the Cabinet Office) has engaged with the market on numerous occasions since the Global Digital Marketplace Programme was first publicly announced in September 2017[35]. In **Ireland**, the Department of Enterprise, Trade & Employment (DETE) developed a guidance on how to effectively and transparently engage with market participants. The *"Buying Innovation: the 10 step guide to smart procurement and SME access to public contracts"*[36] is based on the European Commission's "*Guide on Dealing with Innovative Solutions in Public Procurement – 10 Elements of Good Practice*" and "*Buying Green – A handbook on environmental public procurement*". The publication provides general guidance with clearly identified steps on how to apply the procurement process in a way that enables the procurement of innovation. (Box 3.9)

Box 3.9. Ireland: BUYING INNOVATION – the 10 Step guide to SMART Procurement and SME Access to Public Contract

The guidance sets out the range of actions that should be considered at each step of the procurement process with the aim of stimulating innovation in the economy and better solutions to public service needs.

Engage with the Market prior to Tendering – Find out what the market can provide

This is a critical step in the procurement process as it enables the procurer understand and identify what is available on the market and whether alternative solutions are available. While procurers are

sensitive to the issues of transparency and fairness, engagement with the market prior to tendering can be carried out if it takes place in a structured and open manner.

Consult the market before tendering

Consulting the market before tendering makes it possible to obtain the views of the market before starting the tendering process. If contracting authorities want to achieve broad market coverage, they could formally publish the market consultation. This gives the market the opportunity to better understand the problem to be addressed and to offer optimum solutions. To ensure transparency, any information provided by the contracting authority during this process would need to be circulated to any potential bidder. To allay any concerns of suppliers that sensitive information might be disclosed to other parties, procurers can provide an assurance of confidentiality, stating that this kind of information will not be disclosed. It should be noted, however, that the initial consultation of the market would have to be done under the condition that the seeking or accepting of advice does not have the effect of precluding or distorting competition.

How can I find out what the market can provide?

Enterprise Ireland is the government agency responsible for the development and promotion of the indigenous business sector. Enterprise Ireland offers a key national asset of more than 250 market experts across all industrial sectors. They will act as a technical & market resource to assist buyers in their pre-tender research and help identify value for money solutions. They can assist in finding out about new innovative products or service solutions that are being developed and what companies have to offer in your specific area of interest. Trade Associations representing the relevant industry sectors will also be more than happy to assist with queries about what the market can provide.

Let the market propose creative solutions

Buying Innovation is achieved by specifying the functional requirements and/ or desired outcomes, not prescribing the solution. This provides the supplier with the opportunity to propose new or alternative products, processes or services. In most instances, the market is best placed to identify the most appropriate solution. Public procurement officials should make use of the full range of permitted tendering procedures. One such procedure is the design contest, which can be a powerful means of developing and testing new ideas. Contracting authorities can award the contract directly to whoever comes up with the best idea. This makes it attractive for companies to bring their innovative ideas forward. Another such procedure is the Competitive Dialogue which is a dynamic way of conducting a large and complex tender process because it allows contracting authorities to discuss all aspects of the proposed contract with tenderers. This process can secure greater value for money, as tenderers have a better understanding of the buyer's culture and requirements, allowing for future problems to be solved more efficiently. In conducting the dialogue, contracting authorities must ensure equality of treatment and respect for the intellectual property rights of all candidates. When satisfied about the best means of meeting its requirements, the contracting authority must specify them and invite at least three candidates to submit tenders. The most economically advantageous tender (MEAT) will then be selected. Aspects of tenders may be clarified or fine-tuned provided that there is no distortion of competition or discrimination against any tenderer.

Source: Buying Innovation – the 10 Step Guide to SMART Procurement and SME Access to Public Contracts, Department of Enterprise Trade and Innovation, Ireland, https://ogp.gov.ie/buying-innovation-the-10-step-guide-to-smart-procurement-and-sme-access-to-public-contracts/

In **Belgium**, the Centrale de Marchés (CMS, Central Market for Federal Services), the Central Procurement Agency for Federal Services, responsible for awarding and monitoring the framework contracts for federal public services, regularly conducts market consultations in the procurement of ICT

products to help develop relevant environmental requirements. Strong federal consultation on purchasing, which identifies the common needs of the various federal entities, co-ordinates and takes decisions in this area. To this end, a consultation body was created: the CSAF (strategic consultation network for federal purchases), which includes participants from the main federal institutions. [37]

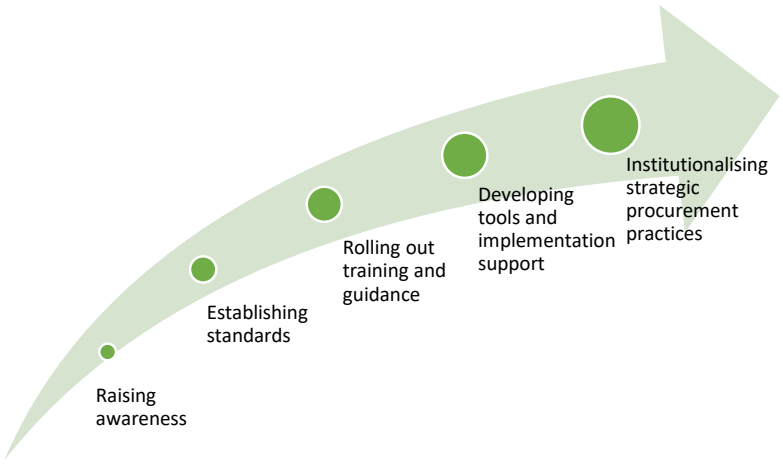
3.3.4. Support the agile agenda through capacity-building

As the Report shows, one main obstacle for the greater uptake of innovative, strategic approaches in ICT public procurement in the Slovak Republic is the lack of confidence and capability on the side of the contracting authorities to take new approaches to ICT procurement. In general, for the time being in The Slovak Republic, public procurement is not seen as a tool to achieve strategic priorities, but is rather perceived as an operational tool for purchasing goods and services at the lowest possible price. Risk averse behaviour can be also experienced on the side of the contracting authorities: innovative, agile approaches are usually considered riskier than well-known, traditional approaches. The organisational culture is not supportive of accepting a certain level of risk associated (or perceived to be associated) with agile methods. This might be also related to the lack of capacity (and in some cases expertise) of using proper risk management strategies to address any potential risks associated with innovative, agile approaches. The almost exclusively legal compliance-oriented strict controls and the fear of legal challenges do not encourage, or in some cases even prevent, the use of quality based criteria in the tender process and the experimentation with new public procurement approaches. This is, however, not a specific ICT procurement related challenge, rather a systemic issue in the Slovak public procurement system.

On the other hand, as meetings with various stakeholders during the fact finding missions confirmed, there are highly motivated staff members who wish to apply agile approaches, however, they do not know how to do so as there are no published good examples and there is only a limited availability and awareness of practical methodologies for public procurers to apply flexible and agile methods in ICT procurement. Therefore, building the capacity of staff members can be identified as one of the key tasks for ensuring the successful adoption of agile methods. However, formal training is not enough; people should learn agile values and principles in addition to practices to be motivated and committed (K. Conboy, 2011[21]).

Contracting authorities need support in improving their professional knowledge in terms of the strategic and innovative use of public procurement, including using quality (MEAT) criteria in evaluation, engaging strategically with the business sector, applying agile methods in public procurement, contract management for agile implementation. Procurement officials need help to engage in pilots on agile approaches without fear. The expectations of what is required from procurement staff have increased over time. Governments must now provide staff with additional training and support in order to embrace and implement strategic procurement. As shown in Figure 3.11, there has been an evolution of practices to build the skills of procurement staff in relation to strategic procurement.

Figure 3.11. Evolution of capability-building practices in OECD countries



Source: (OECD, 2019[22])

The Slovak Government should develop and implement capacity building strategies to build skills and competencies of government staff who are involved in procurement of ICT solutions, including civil servants involved in the control of the public procurement procedures. Capacity building can include several actions, such as

a) Developing operational tools on applying agile methods (such as guidelines, templates for contracts)
b) Creating a national competency centre or a dedicated knowledge sharing platform to share capability
c) Creating safe spaces for experimentation to introduce flexible and agile approaches in ICT procurement process through implementing pilot ICT projects using agile approaches and then communicating their results widely as well as developing communities of practice in order to facilitate connections and the exchange of knowledge

a) Developing operational tools on applying agile methods

Contracting authorities can benefit a lot from guidelines, model contracts or templates that are publicly available and regularly updated. There are several good examples from OECD countries on how to support contracting authorities with operational tools in ICT procurement. For example in **Italy**, the Agency for Digital Italy (*Agenzia per l'Italia Digitale)* issued guidelines[38] on the acquisition and reuse of software for public administrations. In **Finland**, where agile methodologies have been used in public procurement since 2010, by the requirement of the State IT director, a model agile agreement is available which was generated by the Ministry of Finance in 2015[39]. In the **United States**, templates for agile blanket purchase agreements (BPAs) were developed by 18F, the innovative digital transformation governmental team. 18F is an office of US federal employees within the General Services Administration (GSA) that collaborates with other agencies to fix technical problems, build products, and improve how government serves the public through technology. It is part of the Technology Transformation Services, which is within the Federal Acquisition Service. In **Ireland**, the Office of Government Procurement issued several guidance notes to support public buyers with delivering public value on digital procurement, and most recently (February 2021) a Procurement Guidance Note on Cloud Services (Box 3.10)

Box 3.10. Guidelines for contracting authorities as well as model contracts and sample contract clauses

Italy: Guidelines issued by the Agency for Digital Italy

In Italy, the *Codice dell'Amministrazione Digitale* defines how a public organisation has to acquire software and their obligations in terms of ensuring software re-use. It also establishes the obligation to release the software developed or purchased with an open license and to publish it in a public repository. To support public organisation with implementing this obligation, the Agency for Digital Italy issued *Guidelines on the acquisition and reuse of software for public administrations* (also published in Gazzetta Ufficiale). The guidelines were developed in close collaboration with the Digital Transformation Team. The guidelines include technical attachments that can be directly included in contracts and specifications related to software development, software modification and maintenance, in order to fulfil the release obligation. The guidelines also include detailed instructions on how to publish software as an open source.

The guidelines emphasise that:

- The administration must always obtain full ownership of the software.
- The software must be published in a public repository (e.g., GitHub, GitLab, BitBucket etc., also on-premise installations providing that they are publicly accessible).
- The software must be covered by one of the licenses approved by the Open Source Initiative (the guidelines suggest some in particular, in order to allow maximum reusability).
- The repository must contain a file named publiccode.yml, which describes the software characteristics and allows populating the Developers Italia catalogue. (The publiccode.yml is a standard originally created in Italy but it is in the process of being adopted internationally.)

Finland: agile model contract issued by the Ministry of Finance

In 2015, the Ministry of Finance published a recommendation on IT procurements (JIT 2015). This Recommendation defines the general terms and conditions of public contracts for the procurement of information and communication technologies and services. In addition to the general terms and conditions of the contract, the recommendation includes a number of specific terms and conditions according to the subject of the procurement. Beyond the General Terms and Conditions, the Recommendation includes several annexes providing model terms and conditions for subscriber application acquisitions under Open Source terms or special terms for subscriber application acquisitions with non-open source. It also includes annexes that provide special conditions for services, for consulting services, for equipment purchases, for online services and for the processing of personal data. Annex 4 specifically focusing on special conditions for agile projects.

The United States: Guide on Agile and templates for agile blanket purchase agreements (BPAs) developed by 18F, an innovative digital transformation team

18F is a team of about 120 designers, software engineers, strategists, and product managers — all federal employees. It has offices in DC, San Francisco, Chicago, and New York, as well as team members working remotely from all over the country. 18F issued a Guide on agile that presents the combined practices of iterative software development, product management, user-centered design, and DevOps. 18F has also developed templates for agile blanket purchase agreements (BPAs). These new contracts and service agreement templates are compatible with agile software development approaches. BPAs work as a competition that requires participating firms to prepare a prototype in an open GitHub60 repository open for everybody to see. This approach allows the contractor to appreciate what competing firms are actually able to deliver. The BPAs can foresee agile development sprints and

iterations, allowing both the contractor and the service provider to progressively define software requirements and functionalities as the projects advances.

Ireland: Office of Government Procurement's Cloud Services Procurement Guidance Note

The Guidance Note has been issued to assist public sector organisations to navigate the complexity associated with contracting for cloud services and to manage the key contractual and commercial differences between traditional ICT contracts and cloud services contracts. Public sector organisations can use the guidance note as a useful, easy-reference toolkit to assist them when preparing tender documentation and service contracts. The detailed information contained in the guidance note will help public sector organisations to avail of the value in cloud services through tendering in an informed manner and in compliance with public procurement regulations. The note builds on existing guidance issued by the Office of the Government Chief Information Officer that recognises the many advantages and benefits associated with the use of cloud computing services and that recommends deployment of cloud solutions for all new and renewed Government systems.

Source: https://docs.italia.it/italia/developers-italia/gl-acquisition-and-reuse-software-for-pa-docs/en/stabile/index.html; https://opensource.org/licenses;https://www.suomidigi.fi/ohjeet-ja-tuki/jhs-suositukset/jhs-166-julkisen-hallinnon-it-hankintojen-yleiset-sopimusehdot-jit-2015 https://agile.18f.gov/; https://ogp.gov.ie/wp-content/uploads/OGP-Cloud-Services-Guidance-Note-February-2021.pdf

Good examples in The Slovak Republic also exist. The *Working Group on Public Procurement and ICT Contracting*[40] led by the Ministry of Investments, Regional Development and Informatisation developed a Methodological Document about ICT procurement, covering the most important issues in ICT procurement in the Slovak Republic, and providing methodological advice to contracting authorities on several challenges, such as preventing vendor lock-in, terminating unbalanced contracts from the past, dividing contracts into lots, preliminary market analysis, common availability of goods and services on the market, selection criteria (a tool helping procuring entities to determine whether the procured goods/ services are commonly available) and design contest for procuring software as well as IP rights[41]. The Methodological Document could serve as a good basis for developing further operational tools and guidelines.

b) Creating a national competency centre or a dedicated knowledge sharing platform to share capability

Competence centres can operate as centralised advisory services to support the implementation of strategic ICT public procurement. In a decentralised environment, where new initiatives and approaches must be implemented by huge number of individual contracting authorities, the centralisation of expertise and resources on specific topics can be highly beneficial.

There are several examples in OECD countries for competence centres on public procurement, and specifically for innovation procurement (even if they do not solely focus on ICT procurement). For example, **Germany** set up a dedicated competence centre called the German Competence Centre for Innovation Procurement (Kompetenzzentrum innovative Beschaffung, KOINNO) in 2013 that supports innovation in public procurement. KOINNO's objective is to increase public procurement of innovative goods and services in Germany, and, by doing so, trigger innovation and increased competiveness in the German economy. In order to measure progress towards this objective, KOINNO has targeted a considerable increase in the percentage of procurement procedures for new technologies, products and services. KOINNO provides contracting authorities with training, workshops, networking opportunities, on-call consulting and a website containing best practices, templates and guidance. KOINNO also supports contracting authorities in obtaining funding from the EU's Horizon 2020 fund for research and innovation. Given that KOINNO operates on periodic mandates from the German government in the form of a memorandum of understanding, the centre must continue to demonstrate value in order to have its commission renewed periodically. KOINNO's work also targets businesses in order to encourage the

adoption of innovative practices and to ensure SMEs understand and participate in unique tender procedures like pre-commercial procurement. (OECD, 2019[22])

However, Germany is not the only country in the European Union that established a competency centre, there are several other countries, such as Austria, the Netherlands, Spain and Sweden, just to name a few. There is even a network for these competency centres, the **European Network of National Competence Centres for Innovation Procurement.** The Network is operating within the framework of an EU funded project, the Procure2Innovate project[42] which aims to improve institutional support for public procurers of ICT and other sectors that implement innovation procurement. The project supports competency centres for innovation procurement in 10 European Union countries: five are already established (in Austria, Germany, the Netherlands, Spain and Sweden); while five new ones will be established in the near future (in Estonia, Greece, Ireland, Italy and Portugal). According to the definition used by the Network, a competency centre on innovation procurement is an organisation/organisational structure that has been assigned the task by its government and has a mandate according to national law to encourage wider use of pre-commercial procurement (PCP) and public procurement of innovation (PPI) that includes providing practical and/or financial assistance to public procurers in the preparation and/or implementation of PCP and PPI across all sectors of public interest.

There are three organisational models used in practice for national competency centres of innovation procurement in the European Union[43]. The first model is located within the central purchasing body. The second model is an institution that is either under the direct authority of another government institution or has been integrated into an existing agency. The final model is a competency centre that has been contracted out to a non-profit organisation. In practice, most competency centres mix two or even three approaches together. The most extreme being **Finland** where it is a “virtual competence centre” combining initiatives and expertise from eight institutions. The **Netherlands** are also a unique case where the competency centre on innovation procurement is part of a larger competency centre for public procurement, which in turn is aligned with the Ministry of Economic Affairs. In contrast, **Germany, Ireland, Italy** and **Austria** apply the typology in its purest form.

Beyond competency centres dedicated to public procurement, Digital Academies can be also relevant sources of the digital skills development. The benefits of agile are throughout the public procurement cycle and the insight for procurement professionals will be richer from learning alongside colleagues from all professions (the multi-disciplinary model) and not just in the context of agile in procurement. To support the development of digital skills in public sector, the OECD published the OECD Framework for Digital Talent and Skills in the Public Sector discusses this approach (OECD, 2021[12]). This is a three-pillar framework for equipping the public sector (whether national or local) with the skills to achieve digital government maturity:

- Pillar 1 covers the importance of the context for those working on digital government and discusses the environment required to encourage digital transformation.
- Pillar 2 addresses the skills to support digital government maturity, covering all public servants, particular professionals and those in leadership roles.
- Pillar 3 considers the practical steps and enabling activities required to establish and maintain a workforce that encompasses the skills to support digital government maturity.

Good examples for digital skill development, however, exist throughout OECD countries, such as in Slovenia where the Ministry of Public Administration runs "Innovation Training in Public Administration". (Box 3.11)

Box 3.11. Slovenia: Innovation Training in Public Administration

The Ministry of Public Administration runs the "Innovation Training in Public Administration". This training aims to change the approach to workflow, problem solving and designing better solutions through effective communication. The programme is actively changing the administrative culture to implement higher quality state functions and digital services. The programme is performed in person and remotely. Objectives of implementing the programme are:

- raising awareness of the importance of gaining new skills and knowledge in terms of alternative ways of work to enable a more agile and efficient response to the demands of the environment;
- to acquire competence for creative tackling of challenges and designing solutions using different methods and approaches focusing on the user and
- to acquire competence in different ways of communicating (more effective presentation of ideas, results, etc.) and in managing group communication processes

Source: (OECD, 2021[12])

c) Creating safe spaces for experimentation and communities of practice

Creating safe spaces for experimentation to use flexible and agile approaches in ICT procurement process is really important to build not only the capacity but also the confidence of public organisations in going beyond the traditional purchasing approaches. A good tool can be conducting pilot ICT projects using agile approaches and then communicating their results widely.

Similarly developing communities of practice in order to facilitate connections and the exchange of knowledge amongst stakeholders from different parts of government could be a powerful tool as it creates a valuable opportunity to share knowledge and experience, to learn from each other. Experience shows that these kinds of communities have cross-cutting benefits and can clearly help address challenges associated with fragmentation. Around the world, countries are increasingly setting up effective yet often relatively simple networks and communities of practice to help civil servants overcome bureaucratic silos and fragmented government structures. Such communities or networks help advance implementation in a consistent, unified manner. (OECD, 2020[23])

These communities of practice or networks can take a number of different forms; for instance:

- They can be formally structured with governance structures and set processes, or more informal, such as meetup groups
- They can be government-only or open to external parties from civil society and the private sector
- They can be fully virtual, in-person or a combination of the two.

The **UK** government has built a series of communities for civil servants hosted on Google Groups and through Slack Channels on a wide variety of topics, some of which touch on procurement. Furthermore, the UK Crown Commercial Service 'buying digital community'[44], sits alongside all other cross-government digital, data and technology communities of practice. These are central to capability and capacity building efforts.

In the **Netherlands**, the Dutch Professional and Innovative Tendering Network for Government Contracting Authorities (PIANOo)[45] was created in 2005 as a network for public procurers with a goal to disseminate knowledge. Since then the institution's role has expanded. PIANOo now serves as an expertise centre for public procurement, building on a network of 3,500 contracting authorities. These practitioners provide the input for PIANOo's work. PIANOo's approach combines different activities:

- Publications: based on members' questions and concerns, PIANOo publishes guidance documents that can support procurers in their daily work.
- Meetings: PIANOo organises regular forums in which members come together to discuss current challenges and exchange good practices. These meetings are regional, for specific industries or procurement markets, and one overarching annual PIANOo conference.
- Online portal: on the organisation's website, tools, publications and guidance are collected, serving as an "encyclopaedia" for public procurement in the Netherlands, including an innovation procurement toolbox.
- Training: PIANOo provides training on the public procurement legal framework.

Even in **The Slovak Republic**, good examples exist, although not related specifically to ICT procurement but rather to green public procurement (GPP). The Slovak Environmental Agency operates a GPP HelpDesk[46] to provide information on GPP for public buyers.

In **Canada**, GCpedia and GCconnex provide connection points for individuals working in government, with different digital discussion groups focusing on a variety of subjects. **Portugal**'s Common Knowledge Network provides more open collaboration opportunities by inviting non-governmental participants to join the community. (OECD, 2020[23]) (Box 3.12.)

Box 3.12. Canada and Portugal: communities of practice

Canada: GCpedia and Gcconnex

The Government of Canada has developed GCpedia, an open source government-wide wiki for collaboration and knowledge sharing. It allows federal employees to share files and post, comment and edit articles placed on GCpedia by their peers, helping to break down walls between departments that are traditionally siloed. While access is available only to those with a government e-mail address, limiting the possibility for third-party collaboration, the tens of thousands of active users within government are a testament to the collaborative power of the platform.

The Government of Canada also created GCconnex, an open source government-wide internal social media network, designed to help public servants build connections and collaborate. Users are able to connect with other public servants with similar interests or with skills that can help them become more productive in their work. The systems aims to foster a public sector culture of collaboration and to promote the creation of information that is streamlined, relevant, user-driven and integrated.

Portugal: Common Knowledge Network

The Common Knowledge Network is a collaborative network built by the Portuguese government to promote the sharing of best practice and information about modernisation, innovation and the simplification of public administration. Membership of the network is open to public bodies, central and local administrations, private entities and any citizen who wishes to participate. Participation involves presenting and describing a best practice and its results.

The network aims to become a central reference point for the dissemination of good practices and lessons learned. It currently hosts over 500 examples of best practice documented from all levels of government.

The network also serves as a place to conduct debate on public policies and their implementation at local, regional and national levels, as well as for participatory decision making with interest groups or communities of practice. It works to strengthen relationships between the various stakeholders and co-ordinate information sharing. Lastly, the network helps participating government organisations obtain a

common perspective on the activities of public administration, with a view to standardising services and identifying similar quality standards in different services.

Source: Government of Canada (2016), "GCTools: Re-imagined for you", www.canada.ca/en/treasury-board-secretariat/corporate/news/gctools-reimagined.html; Janelle (2009), "GCPedia a success, says Government of Canada CIO", https://techvibes.com/2009/10/06/gcpedia-a-success-says-government-of-canada-cio; GCConnex on GitHub: https://github.com/tbs-sct/gcconnex. www.rcc.gov.pt/Paginas/Home.aspx.

3.3.5. Expanding centralisation of ICT procurement for aggregating the demand of several ICT products and services

In the Slovak Republic, public procurement is relatively centralised in that sense that the majority of public spending happens on the central government level. Specific contracts are handled by contracting authorities at central, regional, and local levels, whilst some contracting authorities are required to purchase commonly available goods, services or works from the Ministry of the Interior (MoI), which acts as the central purchasing body (European Commission, 2014[24]). This remains the case for IT procurement, where 58% of IT spend occurs within the central government. As noted in Table 3.2. Overall spend in IT services the central government purchased over EUR 420 million worth of IT services between 2016 and 2019 (Public Procurement Office, 2019[25]).

Table 3.2. Overall spend in IT services

	Number of contracts	Amount (in EUR)
Central government	102	420 286 185.23
Municipality	21	4 882 159.18
Self-governing region	5	999 378.60
Legal entity	108	173 032 394.46
Associated legal entity	1	64 500.00
Subsidised entity	38	9 792 587.42
Contracting entity	24	110 353 988.03
TOTAL	299	719 411 192.92

Note: This data includes contracts that were announced from 18.04.2016 and for which the result of the tender was published by 31.10.2019.
Source: (Public Procurement Office, 2019[25])

This high level of centralisation in IT services is correlated to the 2030 Strategy for Digital Transformation of The Slovak Republic, the government strategy that defines the policy and particular priorities of The Slovak Republic in the context of currently on-going digital transformation of economy and society under the influence of innovative technologies and global megatrends of the digital era (Office of the Deputy Prime Minister of the Slovak Republic, 2019[26]). One of the opportunity areas identified in this 2030 strategy is the need for centralised reform in order to increase competences and accelerate digital innovation in areas such as public procurement. Indeed, with a government focus on promoting centralisation to achieve digital transformation, it is foreseeable that there will be increased levels of centralisation in IT services.

While there are identified high levels of ICT purchasing occurring at a central level in The Slovak Republic, there does not currently exist an ICT specific Centralised Purchasing Body (CPB). A central purchasing body (CPB) is a contracting authority that: i) acquires goods or services intended for one or more contracting authorities; ii) awards public contracts for works, goods or services intended for one or more contracting authorities; or, iii) concludes framework agreements for works, goods or services intended for

one or more contracting authorities. Centralisation of procurement operations through the creation of such an ICT-focused CPB can lead to significant benefits, including better prices through economies of scale, lower transaction costs and improved capacity and expertise, but if not properly managed, centralisation can also entail risks (OECD, 2015[13]). The creation of an ICT-based CPB is not unknown in the OECD, with countries such as **Germany** beginning to centralise information technology (IT) procurement at the federal level. To support the centralisation efforts Germany created the Central Office for IT Procurement within the Federal Procurement Office of the Federal Ministry of the Interior (Zentralstelle für IT-Beschaffung) in 2017 (see Box 3.13). The ZIB is tasked with defining specific procurement strategies. These strategies range from the aggregation of IT-related procurement needs, to ad-hoc support, to contracting authorities for individual contracts.

Box 3.13. Germany: ICT CPB

Germany created the Central Office for IT Procurement (Zentralstelle für ITBeschaffung, ZIB) within the BeschA and under the auspices of the Federal Ministry of Interior, Building and Community (BMI). The ZIB is tasked with defining specific procurement strategies. These strategies range from the aggregation of IT-related procurement needs, to ad-hoc support, to contracting authorities for individual contracts.

The ZIB advises and supports contracting authorities during the entire procurement process, from the expression of needs to the awarding of the contract and its completion. In implementing this new CPB, German public authorities opted for a gradual approach, minimising the risk of potential disruption. ZIB first absorbed the following tasks from 2017:

- the tendering of framework contracts for hardware, software, information and communication technology, as well as IT services and IT-related services (ICT) in the direct federal administration
- the preparation of an annual framework contract roadmap.

In 2018, the ZIB transitioned to:

- Carry out tenders for the individual planned contracts of federal entities whose estimated value exceeds EUR 135 000
- Come to an agreement with each federal entity on thresholds above which it will undertake the procurement process on behalf of contracting authorities.

Source: (OECD, 2019[22])

Ireland also introduced centralisation for ICT procurement to deliver the commercial implementation of the Public Service ICT Strategy. The Office of Government Procurement (OGP) developed sourcing strategies aimed to reduce the fixed ICT cost base to leverage the considerable buying power of the Public Service. The sourcing strategies include, where possible, aggregation of spend, standardisation of specifications and on-going analysis/renegotiation of current ICT contracts. (Box 3.14)

Box 3.14. Ireland: Centralised and collaborative procurement

Following a public service reform in 2013, the Irish government introduced a centralised public procurement body – the Office of Government Procurement (OGP), part of the Ministry for Public Expenditure and Reform (MPER).

Reform in Ireland has also involved a more dynamic approach that goes beyond cost savings and

enhances efficiency and effectiveness based on five procurement priorities:

- Category management ("teams built around what they are buying rather than who they are serving")
- Centralised approach ("centralised buying with established offices/teams coordinating procurement")
- Holistic approach to policy and operations ("a single, integrated procurement function responsible for policy, sourcing and category management for common categories and support operations")
- Professionalisation of the service/purchasing
- Improved use of systems and data

In 2014, the Education Procurement Service (EPS) was mandated to act as the 'Education Sector Hub'. Following the reform, the EPS expanded from a shared service representing four institutions to a broader network of education and training institutions.

On behalf of OGP, the EPS provides the public sector with shared service procurement for agriculture and veterinary supplies, diagnostics and research equipment, laboratory equipment and library goods and services under the central procurement model. It also presents education and training sector needs to the OGP. Most universities in Ireland are now using at least some of the OGP frameworks, especially for energy and ICT. By the end of 2015, the EPS contributed to public sector procurement savings estimated at about EUR 160 million.

Source: Office of Government Procurement; https://ogp.gov.ie/welcome-from-minister-of-state

In 2018, the Government in **Hungary** also introduced further centralisation in the field of government ICT procurement. A new agency, the **Digital Government Agency** (Digitális Kormányzati Ügynökség Zrt., DKÜ) was set up with the aim of unifying and centralising the government's ICT procurement as well as making public ICT spending more transparent and improving the efficiency of ICT procurement. DKÜ set up a repository of the ICT assets of the government. The relevant public bodies and companies are required to upload their annual IT development and procurement plans to the Centralised IT Public Procurement System (KIBER) by 31 March each year.

The 2015 OECD Recommendation on Public Procurement states: "Adherents should develop and use tools to improve procurement procedures, reduce duplication and achieve greater value for money, including centralised purchasing, framework agreements, e-catalogues, dynamic purchasing, e-auctions, joint procurements and contracts with options" (Principle on efficiency, paragraph VII) (OECD, 2015[13]). Centralisation of purchasing activities has been a major driver of the efficient performance of public procurement systems.

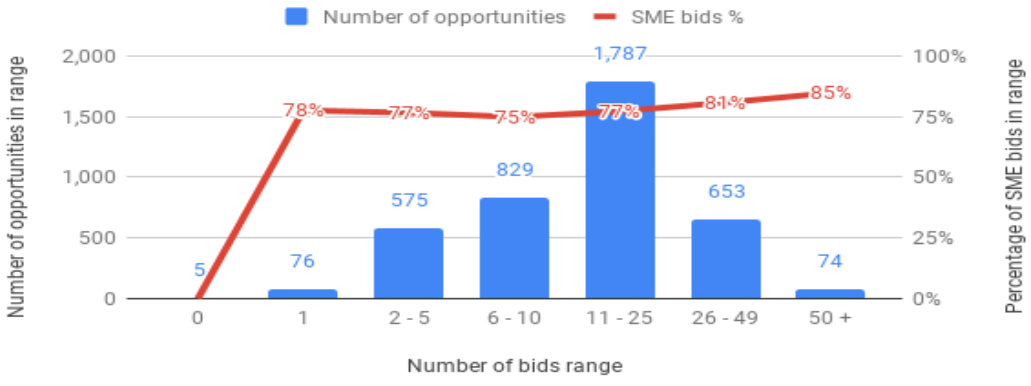
Centralisation of procurement activities and aggregation of needs are observed across an overwhelming majority of OECD countries. CPBs are increasingly established to reap the benefits of aggregated demands and outputs of procurement activities. The benefits of centralised purchasing activities – such as better prices through economies of scale, lower transition costs, and improved capacity and expertise – are widely acknowledged. Another key aspect of centralisation is the use of framework agreements. A framework agreement is an agreement with one or more economic operators for the supply of goods, services and, in some cases, works. Its purpose is to establish the contract conditions to be awarded by one or more contracting authorities during a certain given period, in particular, with regard to maximum price, minimum technical specifications and, where appropriate, the quantities envisaged. Usually the terms of a framework agreement shall not exceed four years (OECD, 2014[27]). The aggregation of demand caused by a framework agreement is a strong tool to enhance efficiency, reduce administrative burden and lower the cost.

Framework agreements designed to meet users' needs (primary users being public sector buyers and suppliers) can also support increased competition and SME participation as several examples, such as the one from the **United Kingdom** shows: the Crown Commercial Service (CCS) 'Digital Outcomes and Specialists' (DOS) framework agreement (available through the Digital Marketplace platform), was launched at the end of April 2016 and by January 2021 had re-opened for new supplier applications 4 times. DOS5 (the current iteration, which went live on 20 January 2021) has 3,340 suppliers (94% SMEs) available to the UK public sector. Since its launch (and as at 28 January 2021) 3,999 contracting opportunities have been published, of which:

- 84% (3,343) received 6 or more bids;
- 45% (1,787) received between 11 and 25 bids;
- 2% (76) received single bid responses.

Participation of SMEs range between 75% and 85% of contracting opportunities. Furthermore 1,078 DOS contracts were awarded that were valued above £122,976[47], which have an average value of £1,684,279, and received an average number of 16 bids per contracting opportunity. This illustrates efficiency and effectiveness gains from time saving, standardisation (consistent terms and conditions, application and enforcement of digital, data and technology standards, centralisation of data capture and reporting, etc.). (Figure 3.12.)

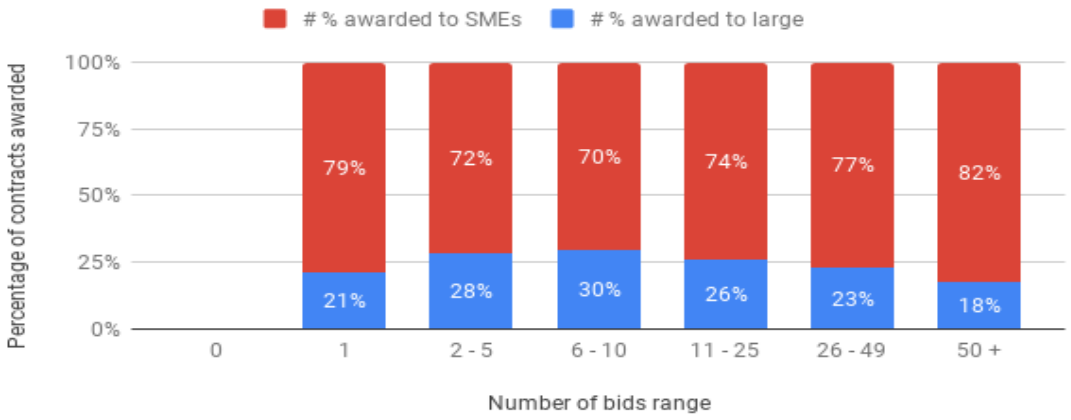
Figure 3.12. Supply opportunities and SME participation per number of bids range (as of 28 January 2021)



Source: https://assets.digitalmarketplace.service.gov.uk/digital-outcomes-and-specialists-5/communications/data/opportunity-data.csv
https://www.digitalmarketplace.service.gov.uk/digital-outcomes-and-specialists/opportunities

Figure 3.13 shows, SMEs have so far been awarded between 70-82% of the 1,910 DOS contracts, which have had award data updated by buyers.

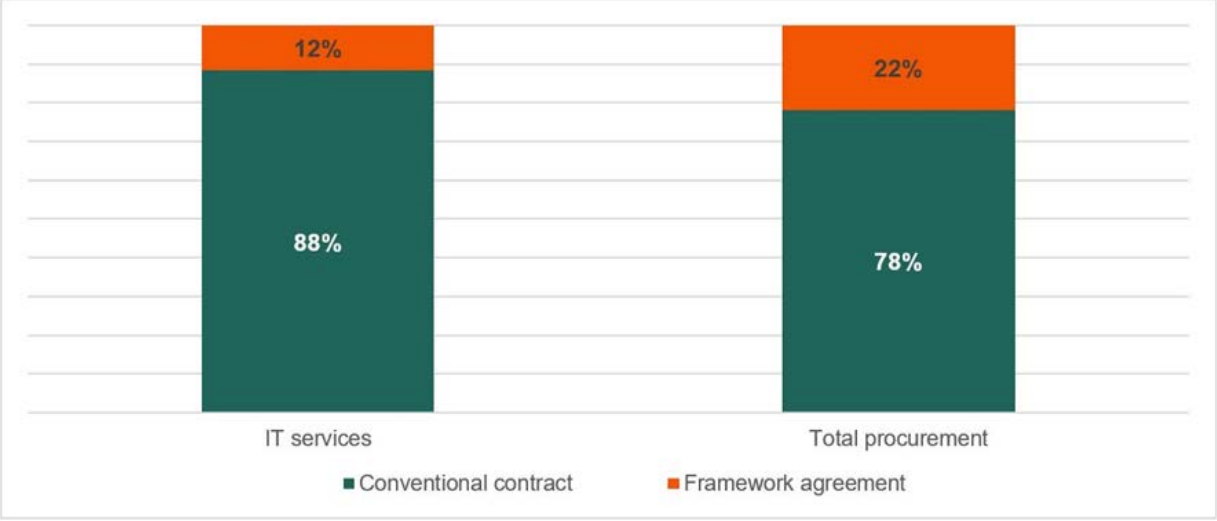
Figure 3.13. Percentage of contracts awarded to SME and large suppliers per number of bids range (as of 28 January 2021)



Source: https://assets.digitalmarketplace.service.gov.uk/digital-outcomes-and-specialists-5/communications/data/opportunity-data.csv https://www.digitalmarketplace.service.gov.uk/digital-outcomes-and-specialists/opportunities

The use of framework agreements are not uncommon for ICT purchasing in The Slovak Republic. For IT services, 12% of purchasing is done via a framework agreement, during the period of 2016 to 2019 (Figure 3.14). Comparing this with the total procurement spend, 22% of spending is done via framework agreement. It is often difficult to establish framework agreements in the field of ICT as the compatibility and usability of a specific IT services are unique to the contracting authority that initially procures the service. There is certainly scope for further consolidation of spending into framework agreements for IT services, especially for contracting authorities to collaborate earlier in the procurement process to ensure that the IT services they procure can be made consistent across government.

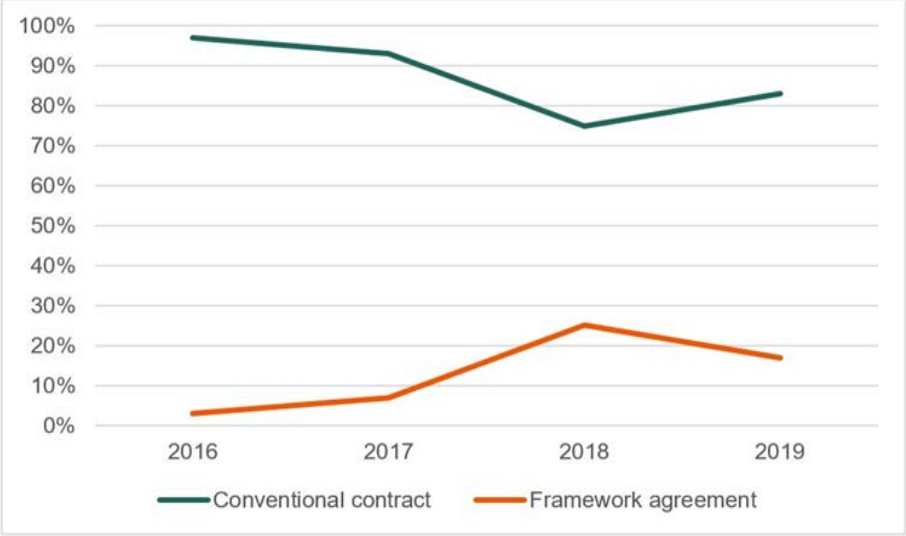
Figure 3.14. Use of conventional contracts versus framework agreements



Note: This data includes contracts that were announced from 18.04.2016 and for which the result of the tender was published by 31.10.2019.
Source: (Public Procurement Office, 2019[25])

When IT services are divided into a year upon year analysis, it does become clear that the use of framework agreements is increasing. As identified in Figure 3.15, in 2018, 25% of IT-related contracts were administered through framework agreements. This figure does however decrease in 2019 to 17%.

Figure 3.15. Use of conventional contracts versus framework agreements in IT services



Note: This data includes contracts that were announced from 18.04.2016 and for which the result of the tender was published by 31.10.2019.
Source: (Public Procurement Office, 2019[25])

The 2015 OECD Recommendation on Public Procurement calls upon Adherents to use information and communication technologies to "*drive cost savings and integrate public procurement and public finance information" and to "employ recent digital technology developments that allow integrated e-procurement solutions covering the public procurement cycle*" (Principle on e-procurement, paragraph VIII, i). E-procurement systems collecting consistent, up-to-date and reliable data on procurement processes can feed into other government information technology (IT) systems through automated data exchanges, reducing risks of mistakes, errors and duplication. Meanwhile, integration with other digital government systems such as digital invoicing is essential to make e-procurement systems fully functional during all phases of the procurement cycle (OECD, 2015[13]).

To this end, as framework agreements are effective at generating efficiencies and savings across government, the PPO should consider the creation of an online portal or platform that would not only provide an online location for ICT framework agreements, but would also be used to aggregate public demand and streamline procurement processes. A number of countries such as the UK and New Zealand have created online platforms that gives government agencies access to innovative products and services, particularly cloud services.

3.3.6. Encourage joint procurements (joint developments) of IT solutions and the re-use and sharing of digital solutions across the administration

National, regional and local public administrations can reduce costs, increase their efficiency and foster interoperability by jointly developing, reusing or sharing IT solutions that meet common requirements. Central governments can support this process by creating a climate of innovation in their administrations, encouraging staff to take an active role in the process and promoting the use of information and communication technologies.

Public services can be implemented faster and more efficiently by sharing and re-using already available solutions and by learning from the experiences of other public authorities, agencies or even of other countries.

Sharing of solutions refers to making solutions available to others, or developing common solutions, such as:

- Releasing an application under an open source license on a repository
- Providing common IT frameworks and architectures, common list of standards and metadata, guidelines for project management
- The shared development of solutions, based on common requirements, with or without pooling of procurement
- Making shared services available for several public administrations, for example as cloud, or web services.

Re-using already available solutions means that public administrations confronted with a specific problem seek to benefit from the work of others by looking at what is available, assessing its usefulness or relevance to the problem at hand, and deciding to use solutions that have proven their value elsewhere. In some cases, the solutions are reused once they have been adapted to specific requirements or linguistic environments. The use of open source software and collaborative coding has enabled public administrations to leverage the developer community in the continuous improvement of its solutions, thus proving to be a powerful tool to increase procurement's efficiency. Nevertheless, most importantly it provides a space for collaboration by creating the opportunity to reuse solutions, to collectively improve by learning from each other, and to share solutions, knowledge and wisdom.

Public sector for example, develops software. Beyond the immediate need of the public authority, this software, solution represents an asset that could be reused by other public sector agencies. Software reuse means "*Distribution under a licence*", because software is protected by copyright and without the authorisation of the copyright owner; any use (including modification, adaptation, and re-distribution) is copyright infringement. Allowing the reuse of software by third parties is not a unilateral "gift" in the sense of a "deprivation": on the contrary, increasing use and sharing of software has the effect of augmenting its value: more users means more developers, more experts, more potential for improvement, more need and interest for training, more service providers interested to become competent, technical alignment of other initiatives on the published solution (that become a reference), and reduction of cost to make it interoperable. Not all public sector software is aimed for sharing and redistribution: some software is too specific in terms of business needs, or there could be security requirements not implemented. Therefore the decision for sharing / allowing others to reuse and localise the source code is not an obligation and needs to be taken on a case by case basis by the relevant authority (Schmitz, 2013[28]).

Sharing and reusing technology, data, and services (e.g. common platforms, components, design system elements, etc.) is central to the concept of 'Government as a platform' and a foundational element of the **OECD Digital Government Policy Framework: Six dimensions of a Digital Government** (OECD, 2020[8]). We are no longer in the binary 'build' versus 'buy' way of thinking; reuse is a critical decision making factor to achieve value for money and reduce whole life costs.

In almost all countries, there are several technology resources and common government platforms that are available to all government organisations. This help public agencies to reuse government services, information, data and software components instead of developing their own solutions.

In **Italy**, the Codice dell'Amministrazione Digitale obliges public buyers to use collaborative coding, release the software developed or purchased with an open license (one of the licenses approved by the Open Source Initiative) and to publish it in a public repository. As already mentioned in the Report earlier, the Agency for Digital Italy (*Agenzia per l'Italia Digitale)* issued guidelines[48] on the acquisition and reuse of software for public administrations to support public buyers. The administration must always obtain full

ownership of the software. The guidelines include technical attachments that can be directly included in contracts and specifications related to software development, software modification and maintenance, in order to fulfil the release obligation. The guidelines also include detailed instructions on how to publish software as an open source. (Box 3.15)

Box 3.15. Italy: Engagement with the market on the use of open source and collaborative coding

Developers Italia – community of public service developers

Italy has created the "*Developers Italia*", a community of public service developers, a technology platform hosting all the major technological projects in the country. Both institutions in the public administration and/or suppliers can find useful resources to develop their digital services, such as

- *public software catalogue* including all software put into reuse by any public agency together with the open source software developed by third parties for the public administration. All public agencies are required by law (Art. 69 of the Codice dell'Amministrazione Digitale) to share with Developers Italia the software they purchased. Developers Italia then publish it in an open, public repository. *Guidelines on the acquisition and reuse of software for public administrations* issued by the Agency for Digital Italia issues detailed provisions on how to publish software as open source. The third party open source software, such as those which are not put into reuse by the Public Administration but are potentially interesting for the public sector, can be included in the Developers Italia catalogue.
- *API catalogue* that contains a collection of public services accessible throughout interoperability, together with the relative documentation and the OpenAPI descriptions, in order to allow building modern digital public services.

Source: https://developers.italia.it/en/

As Chapter 1 already presented, the **European Commission** is also strongly encouraging EU Member States to share and re-use already available ICT solutions across borders and sectors in an efficient and effective way. The EU-wide sharing and reuse of interoperable solutions for public administrations could reduce costs and risks, foster innovation and businesses' use of digital technologies, and ensure digital sovereignty. A collaborative platform, ***Joinup***[49], was set up to facilitate the sharing and reuse of IT solutions developed for public administrations in EU member states. *Joinup* is a single-access point to almost 2,800 interoperability solutions for public administrations, included in the collections of more than 40 standardisation bodies, public administrations and open source software repositories. The interoperability solutions are described using the Asset Description Metadata Schema. *Joinup* can serve also as an example for setting up a national collaborative platform and catalogue of reusable IT solutions. It provides freely reusable software under an open source licence and some support to help countries set up their own collaborative platform with services similar to those of the Joinup platform.

In its *Sharing and Reuse Framework for IT solutions*[50] (2016), the European Commission put forward a variety of good practices aiming at promoting the re-use of procured solutions. For example, a collection of good examples for contractual clauses for service procurement was developed to propose common clauses for contracts, which public administrations could use during procuring services. Clauses are developed both for contracts related to the: 1. the development of new IT tools that may be re-used and/or shared later, 2. re-use of already available IT tools possibly through customization. (Box 3.16)

Box 3.16. European Union: Standard "Sharing and Re-Using" Clauses for Contracts – Contractual Clauses for Service Procurement

It presents standard clauses for sharing and reuse meeting the following distribution requirements:

- The right to redistribute its own software (when written by or exclusively for the authority)
- Reusing third parties' IPR assets (integrating "received" open source software in the public authority solution)
- Reusing and distributing the documentation (and other "non-software" knowledge elements)
- "No Vendor Lock-in" clause: how to stay free to adopt a new solution and to contract with another provider, as the case may be.

Source: https://joinup.ec.europa.eu/sites/default/files/document/2014-03/Standard%20sharing%20and%20re-using%20clauses%20for%20contracts.pdf

In **The Slovak Republic**, the National Agency for Network and Electronic Services ("NASES") provides **Central Government Portal** available at https://slovensko.sk. Central Government Portal provides central and unified access to information resources and electronic public services. Information (advice, guides, descriptions) users are searching for is usually a part of particular government department website. Central Government Portal focuses on the integration of such information along with electronic public services and provides them to users through a single entry point in an accessible and comprehensive way.

In the **United Kingdom**, the GOV.UK Service Toolkit[51] covers this issue. The portal provides all the information needed to design, build and run services that meet government standards. Besides the list of digital and technology standards, guidance on specific topics, the portal provides also the technologies that can be used when developing governmental solutions, such as:

- GOV.UK Notify – technology to keep the users updated with emails, text messages and letters, cheaply and easily
- GOV.UK Pay – technology to take and process payments - a simple experience for users and easy integration
- GOV.UK Platform as a service – hosting the service on a government cloud platform without having to build and manage your own infrastructure
- GOV.UK Sign in (beta) – technology to sign in to service quickly, easily and securely

3.3.7. Reinforce the adoption of existing common standards, assuming them as clear criteria to guide the public administration's purchasing processes

ICT standards play an essential role in achieving interoperability of new technologies and can bring significant benefits to both industry and consumers. They help ICT markets remain open and allow consumers the widest choice of products. They can prevent reliance on single vendors for products and system components that implement desired technologies by identifying the key element of the technology required and ensuring that its use is not limited to a specific product or service.

In the **European Union**, the European Commission identified ICT standards a key element in creating a level playing field for all technology providers and therefore encourages public authorities to make better use of the full range of relevant standards when procuring ICT products and services (European Commission, 2013[29]). Procuring ICT solutions based on standards that are available for any user increases the potential for interoperability with other applications that use the same standards and thus achieve 'vendor independence'. Standards determine the key element of a technology and create a level

playing field for all ICT suppliers. More suppliers will be able to submit offers to invitations to tender for standards-based systems, leading to more competition and choice.

Open standards are one of the most powerful tools to open up government. They make it possible for the smallest supplier to compete with the largest ones. They make data open for any citizen to audit. They unlock the transformative power of open source software. To ensure that purchases are not limited to the original supplier and that they can be further used to deliver trans-governmental services, it is recommended to support solutions that use standards and no proprietary elements.

Public procurements should include only standards that are supported by the market and that are recognised by a formal standardisation organisation, or a technical specification that has been identified by the European Commission or by a national organisation. So long as they are not recognised, they remain "technical specifications" that can also be used in public procurement, but their legal validity may be questioned, and an additional explanation may be necessary. Where openness requirements are justifiable due to interoperability needs of the procuring public authority, openness properties for open standards should be included as well. Furthermore, given that standards and technical specifications can be implemented in different ways, it is important that they provide reference to implementation or conformity tests.

Referencing standards in technical specifications aims at increasing common understanding of procurement documents between buyers and suppliers. It may help to define works, supplies and services, contribute to reducing total costs, ensure equality, increase transparency and makes it easier to develop procurement documents. As public procurement officers are unfamiliar with standards and standardisation, and need guidance on how they should reference standards in procurement documents, under the leadership of the Swedish Standards Institute (SIS), and with the financial support of the European Commission a **Guide for referencing standards in public procurement in Europe**[52] was developed and published in 2018. The Guide aims at providing a better understanding of what standards are and how they can be referenced in public procurement. It also aims at providing ideas on how to reference standards in general, based on the EU procurement legislative framework.

Common, consistent standards that flow throughout the full public spending lifecycle, starting at the pre-procurement planning, investment appraisal stage. In the **United Kingdom**, the Technology Code of Practice[53] is used for this purpose for this, combined with the authority delegated to GDS from the Treasury for assuring spending plans against those standards. This flows into procurement. Furthermore, at the post-tender implementation / service delivery stage, the Service Standard[54] is used combined with the authority to assure incremental delivery on a phased basis.

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Annex A. Full list of the CPV codes used for the purpose of the Report

A. Software

CPV codes related to Agile ICT Procurement	
Codes	**Description**
32412000-4	Communications network
32412100-5	Telecommunications network
32412110-8	Internet network
32412120-1	Intranet network
32413000-1	Integrated network
32415000-5	Ethernet network
32416000-2	ISDN network
32416100-3	ISDX network
32417000-9	Multimedia networks
32418000-6	Radio network
32425000-8	Network operating system
32510000-1	Wireless telecommunications system
32520000-4	Telecommunications cable and equipment
32524000-2	Telecommunications system
32551400-4	Telephone network
48200000-0	Networking, Internet and intranet software package
48210000-3	Networking software package
48211000-0	Platform interconnectivity software package
48214000-1	Network operating system software package
48215000-8	Networking developers' software package
48219700-3	Communications server software package
48220000-6	Internet and intranet software package
48221000-3	Internet browsing software package
48222000-0	Web server software package
48223000-7	Electronic mail software package
48224000-4	Web page editing software package
48300000-1	Document creation, drawing, imaging, scheduling and productivity software package
48312000-8	Electronic publishing software package
48316000-6	Presentation software package
48317000-3	Word-processing software package
48444000-2	Accounting system
48443000-5	Accounting software package
48440000-4	Financial analysis and accounting software package
48441000-1	Financial analysis software package
48490000-9	Procurement software package
48500000-3	Communication and multimedia software package
48510000-6	Communication software package

CPV codes related to Agile ICT Procurement	
Codes	**Description**
48511000-3	Desktop communications software package
48512000-0	Interactive voice response software package
48514000-4	Remote access software package
48515000-1	Video conferencing software package
48517000-5	IT software package
48600000-4	Database and operating software package
48610000-7	Database systems
48611000-4	Database software package
48612000-1	Database-management system
48613000-8	Electronic data management (EDM)
48620000-0	Operating systems
48621000-7	Mainframe operating system software package
48781000-6	System management software package
48782000-3	Storage management software package
48800000-6	Information systems and servers
48810000-9	Information systems
48811000-6	E-mail system
48812000-3	Financial information systems
48900000-7	Miscellaneous software package and computer systems
64122000-7	Internal office mail and messenger services
64200000-8	Telecommunications services
64210000-1	Telephone and data transmission services
64220000-4	Telecommunication services except telephone and data transmission services
64227000-3	Integrated telecommunications services
72000000-5	IT services: consulting, software development, Internet and support
72200000-7	Software programming and consultancy services
72212517-6	IT software development services
72222000-7	Information systems or technology strategic review and planning services
72222100-8	Information systems or technology strategic review services
72222300-0	Information technology services
72500000-0	Computer-related services
72400000-4	Internet services
64212000-5	Mobile-telephone services

B. Hardware

Codes	Description
30200000-1	Computer equipment and supplies
30210000-4	Data-processing machines (hardware)
30211000-1	Mainframe computer
30211300-4	Computer platforms
30211400-5	Computer configurations
30211500-6	Central processing unit (CPU) or processors
30212000-8	Minicomputer hardware
30212100-9	Central processing units for minicomputers
30213300-8	Desktop computer
30230000-0	Computer-related equipment
30231000-7	Computer screens and consoles
30231100-8	Computer terminals
30231200-9	Consoles
30231300-0	Display screens
30236000-2	Miscellaneous computer equipment
30236200-4	Data-processing equipment
32570000-9	Communications equipment
32571000-6	Communications infrastructure
32420000-3	Network equipment
32422000-7	Network components
32424000-1	Network infrastructure
32500000-8	Telecommunications equipment and supplies
32429000-6	Telephone network equipment
32522000-8	Telecommunications equipment
32550000-3	Telephone equipment
45314000-1	Installation of telecommunications equipment
32551000-0	Telephone cables and associated equipment

Note: CPV refers to the Common Procurement Vocabulary (CPV) that establishes a single classification system for public procurement in the European Union. CPV is standardising the references used by contracting authorities and entities to describe the subject of procurement contracts. The use of the CPV is mandatory in the European Union as from 1 February 2006.
Source: https://simap.ted.europa.eu/cpv

OECD Public Governance Reviews

Towards Agile ICT Procurement in the Slovak Republic

GOOD PRACTICES AND RECOMMENDATIONS

Procurement of information and communication technologies (ICT) plays a decisive role not only in public-service delivery but in public-sector modernisation. This report takes stock of current ICT procurement practices in the Slovak Republic and provides evidence-based strategic policy advice for the Slovak Government on how to adopt more innovative and agile approaches in ICT procurement. It presents examples from OECD countries on ICT procurement reforms and the use of innovative, flexible approaches for public procurement of ICT.

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