

GovTech in the Nordic- Baltic region

**Part 1: The GovTech situation,
challenges and recommendations**



Contents

1. Executive summary	3
2. Introduction	5
3. Mapping of current GovTech situation and potentials	16
4. Challenges associated with accelerating GovTech	20
5. Recommendations	28
Appendices	37
About this publication	44



1. Executive summary

The Nordic and Baltic countries are highly developed when it comes to public sector digitisation. The countries excel in terms of communication with citizens and businesses as well as in using technological solutions within a range of public service areas such as healthcare, climate, education and employment.

The rapid technological developments and increasing use of digitisation and data have provided new opportunities for the public sector. However, it has also led to higher expectations to the quality of public services. Consequently, there is a need for public authorities to be innovative and agile from generating new ideas to procurement and implementation of new technological solutions across complex public organisations and their (often) aged IT architectures. In order to provide high-quality and efficient public services, the public sector is dependent on knowledge and technology provided by the private sector.

In recent years, countries in the region have worked to open the public sector to technological solutions provided by small- and medium-sized enterprises. This is driven by a profound belief that such companies can be significant drivers of innovation in the public sector as well as an ambition to use the purchasing power of the public sector and its data to drive growth in society.

Public and private sector actors in the Nordic-Baltic region believe that GovTech – the procurement of innovative technological solutions from SMEs – can be a vehicle for increased public sector innovation and growth in society. GovTech provides interesting opportunities to meet common societal goals since it can be an approach to ensure that the public sector develops or procures more flexible and cheaper solutions.

Therefore, this analysis aims to provide a foundation for the political agenda to accelerate of GovTech in the Nordic-Baltic region. To do so, this report presents a mapping of the current state of GovTech in the region, examines the associated challenges and opportunities, and proposes recommendations and use cases for accelerating the use of GovTech. The report is written for the Nordic Council of Ministers during the Danish presidency of 2020.

In brief, certain factors are identified, which hinder the use of innovative procurement processes, thus creating barriers that need to be overcome in order to accelerate the use of GovTech.

Six overarching challenges are identified in this report:

- Lack of knowledge and leadership
- Complex processes and regulation
- Conflicting cultures and habits
- Rigid organisations and structures
- Lack of focus in policy and spending
- Issues related to technology and security.

The challenges contain different dimensions and relate to different parts of innovative procurement processes, some posing barriers to dialogue between the public and private sectors, while others constrain the ability and willingness to use the specific instruments associated with innovative procurement. Public authorities and SMEs in the region are experimenting with different forms of market dialogue, but it appears to be challenging to translate this dialogue into using the formal procedures to engage in actual procurement of innovative solutions.

The report therefore finds that a broad-spectrum effort is necessary to shift gears and drive an acceleration of GovTech and particularly procurement of innovative solutions to the public sector. We propose five recommendations, which can be used to focus the effort to accelerate the agenda and address the challenges associated with both market dialogue and use of the flexible procurement instruments. These are:

1. Spread awareness
2. Create incentives
3. Increase competencies
4. Develop an attractive marketplace
5. Evaluate the effect of initiatives

The recommendations have a broad range and address several dimensions, some relating to issues of establishing interaction and dialogue between the public and SMEs, while other recommendations more specifically address the ability of public procurers to use the instruments available for flexible procurements.

In part 2 of the report, country profiles are presented, while part 3 presents five concrete use cases where different authorities in different countries have been successful in interacting with SMEs in new and innovative ways and/or have made concrete innovative procurements. Hopefully, these cases can inspire public policymakers, leaders and procurers with an aspiration to increase innovation and flexibility in procurement.

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2. Introduction

The rapid technological developments taking place in the 21st century provide a great opportunity for the public sector to create greater value for citizens and solve the significant challenges facing our societies. Technological innovations are changing the way public services are being delivered, implemented and operated. They provide solutions to the major cross-border challenges such as the climate crisis and the novel Covid-19 pandemic and generally provide better and more efficient public services that meet the needs of citizens and businesses.

There is a widespread belief among public authorities in the Nordic-Baltic region that small- and medium-sized enterprises (SMEs) play a crucial role in this technological development as they provide innovative technological solutions within a range of sectors from climate and education to healthcare solutions. Consequently, the public sectors of the region find it important to exploit this potential to solve societal challenges and improve public services by involving SMEs in the procurement of public service solutions.

To do so, public authorities in the region can adapt their procurement processes so they are inclusive to solutions provided by SMEs. This requires a shift away from the long traditional procedures, which are currently the most widespread in public procurement. Such traditional procedures typically favour larger suppliers, who possess competencies and prior experience in working with the public sector and have more resources to devote to this type of collaboration. The European Directive on Public Procurement, which provides the legal framework for procurements in the Nordic-Baltic region, allows for the use of flexible procurement procedures to support procurement of innovative solutions from SMEs. Ultimately, flexible procurement procedures are designed and used to enable procurement of innovative solutions, since they rely less on predetermined specifications of a final solution and more on risk-taking, research and development as well as an inclusive market dialogue.

GovTech, a challenge-based, public-private partnership approach to the procurement of technological solutions, provides a vehicle for better, more flexible and cheaper public service solutions. It is challenge-based because it offers a new approach to procurement, which focuses on the concrete challenge of the public sector rather than the solution. By focusing on the challenge and leaving it to the suppliers to propose solutions to the challenge, the public procurer can increase the likelihood that the proposed solutions meet the concrete need of the public sector. The procurer may also receive more innovative solutions, which differ from the solutions they expected. Thereby, in the Nordic-Baltic region, GovTech is considered an approach to achieve innovative public sector solutions. These innovative solutions are characterised by greater flexibility, higher quality and increased efficiency. It can

be a vehicle to leverage the knowledge and technology of the private sector (SMEs in particular) to improve public services by procuring or developing innovative solutions to societal challenges.

Therefore, there is a belief in the region that governments could increase investments in GovTech in order to secure public services that meet the needs and challenges of society, citizens and businesses. There is already a shared ambition in the Nordic-Baltic countries to increase procurement of innovative technological solutions from SMEs and thereby a shared ambition to accelerate the use of GovTech.

2.1 Purpose, structure and methodology of the study

The following analysis aims to support this acceleration of GovTech in the Nordic-Baltic region by mapping the current state of GovTech in the region, examining associated challenges and opportunities and proposing a set of recommendations as to how the use of GovTech and innovation procurement can be accelerated:

- First, a framework that enables public authorities and SMEs to use GovTech is presented. The framework places GovTech in the context of innovative procurement processes
- A mapping of the current state of GovTech in the Nordic-Baltic region and the potentials and rationale for accelerating GovTech is presented
- The main challenges that pose barriers to the acceleration of GovTech are examined.
- A set of recommendations as to how governments in the region can unleash the benefits of GovTech and innovative procurement processes are proposed

As a basis for accelerating GovTech in the region, the work has focused on gaining an understanding of the GovTech situation in each of the seven Nordic-Baltic countries included in this report. To do so, the report identifies the political and strategic focus, potential, approaches and challenges associated with GovTech in the countries, *please see Part 2: Country profiles.*

This qualitative study is based on thorough desk research, 25 interviews and two workshops involving the stakeholders from the GovTech-ecosystem, *see figure 1 and appendix A.* The study encompasses public sector authorities at the state, regional/county, municipal/city and state-owned enterprise levels as well as SMEs that supply the public sector, business associations and accelerators/incubators. Therefore, in order to create a delimitation of the scope of the study, some actors such as large companies and universities have been excluded. While these actors could be interesting to include in future studies, large companies and universities have not been prioritized, since they are not considered central actors with the scope of GovTech as it is understood in this study (see figures 1 and 2). Ultimately, the findings presented throughout this report are specific to the Nordic-Baltic region and the stakeholders interviewed in this study. A subsequent report aiming at driving this agenda further could therefore derive at other or additional findings, by including other stakeholders and broadening the scope of the analysis. Yet, in order to allow for replicability and the ability to analyse development over time, we have aimed for the highest level of transparency in the methodology applied, *see appendices A and B.*

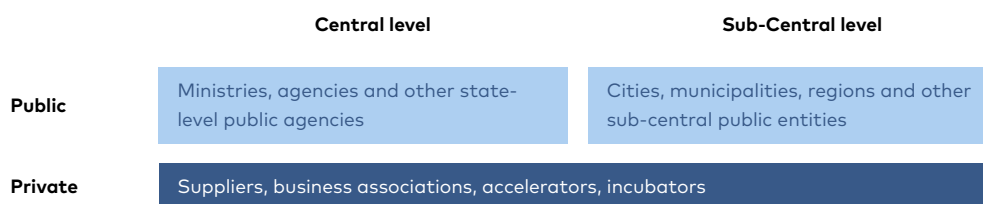


Figure 1: The GovTech ecosystem

The interviews and first workshop were used to identify the understanding, challenges and potentials of GovTech in the region and identify other central stakeholders. The latter of the two workshops included approximately 40 stakeholders from the broader ecosystem so that perspectives from across the countries, levels of government and both public and private sides of the ecosystem were included. Based on these data sources and the analysis of existing literature, the report presents an overall qualitative assessment of the GovTech situation, challenges and potential.

Furthermore, the report presents five carefully selected cases, all of which have used elements of GovTech as the concept is understood in this project, *see part 3 of the report*. The cases have been selected with a desire to ensure breadth in the ecosystem as well as across countries within the Nordic-Baltic region. Further relevant GovTech cases are briefly described with a source reference in the country profiles, *see part 2 of the report*.

The findings of the analysis will feed into the agenda of The Nordic Council of Ministers for Digitalisation (MR-DIGITAL) in order to focus and qualify Nordic-Baltic cooperation on GovTech going forward.

2.2 The Nordic-Baltic understanding of GovTech

During this study, a shared and delineated understanding of GovTech in the Nordic-Baltic region has been developed. This understanding is based on a range of inputs from central stakeholders and is intended to provide a foundation for the work towards a common agenda for GovTech in the region. A common and delineated understanding of GovTech gives actors in the GovTech ecosystem common ground for working with the topic, which can facilitate collaboration, evaluation and acceleration of GovTech, *see section 5.0*. Stakeholders in the region understand GovTech as the public procurement of innovative technological solutions provided by SMEs. Thus, we find that GovTech is considered a tool at the intersection between innovative public procurement processes, technology and SMEs, *see Figure 2*.

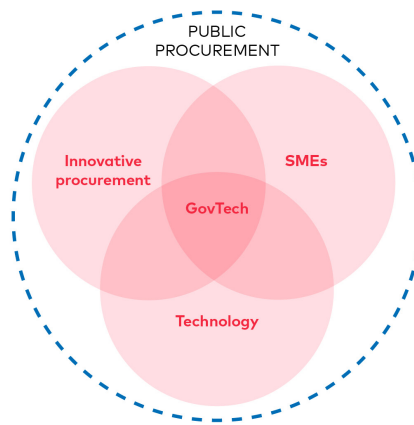


Figure 2: GovTech as the intersection between innovative public procurement, SMEs and technology

With GovTech as a subset of different dimensions of procurement, SME solutions and technology, a common Nordic-Baltic understanding of the scope, approach and goal of GovTech will provide a foundation for accelerating the agenda in the region. We find that the Nordic-Baltic understanding of GovTech relates to improving the quality of public services as well as efficiency and flexibility in the public sector and creating better opportunities for SMEs to contribute to these goals.

Based on this common understanding of GovTech, *Figure 3* illustrates the scope, approach and goal of GovTech in the Nordic-Baltic context. Since GovTech as a term is new to the stakeholders in the ecosystem, an absolute or universal definition of GovTech is not developed. Rather, we propose a common frame of understanding for the region, which can contribute to focusing the analysis and the challenges and potentials associated with the concept. The common understanding is structured around the parameters: why should you pursue GovTech (goal), how do you approach GovTech (approach), and what does GovTech encompass (scope).

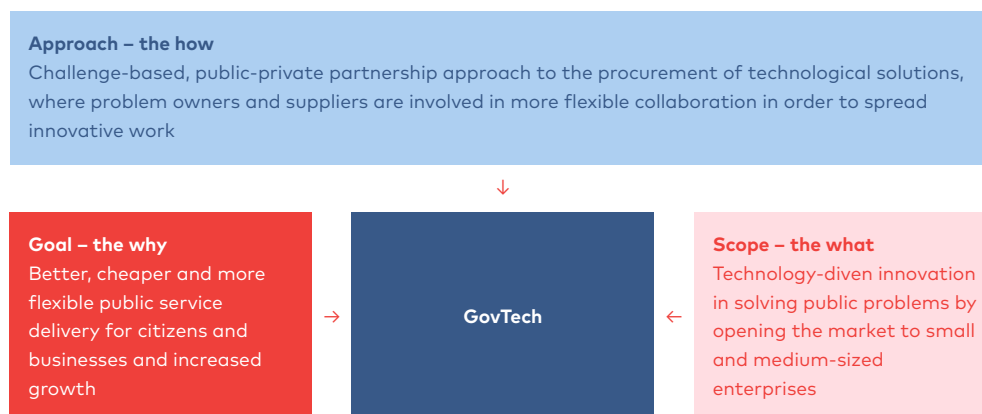


Figure 3: A common understanding of GovTech in the Nordic-Baltic region (based on interviews and workshops)

The idea of 'opening the market', 'challenge-based approach' and 'flexible collaboration' are central to the understanding of GovTech in the region. 'Opening the market' refers to a desire to increase the share of SMEs that supply the public sector with smarter solutions. The 'challenge-based approach' refers to increased collaboration with tech companies in order to qualify how to solve a concrete challenge for the public procurer. Lastly, 'flexible collaboration' refers to the opportunities that exist and to some extent are used today in terms of creating formal and informal interaction between SMEs and the public sector in order to develop or procure innovative solutions, *see subsection 2.1*.

2.3 The approach to GovTech: innovative procurement

We find that all countries in the region have an ambition to improve the ability and willingness of SMEs to access the public sector as a customer. This access is commonly deemed important as increased use of SMEs as suppliers to the public sector is believed to help break strong supplier ties and thereby create a more level competitive situation in the market with equal opportunities for companies¹. This can be achieved by increasing dialogue between the public and private sectors regarding needs, problems and solutions.

Based on guidance from the European Commission², two overall innovative ways of interaction with the market are identified: The process and the outcomes of innovation, *see box below*.

Innovative ways of market interaction

Buying the process of innovation:

- Research and development of products, services or processes, which currently do not exist
- Public procurer has a concrete idea about the solution, however, has not yet bought or used it
- Public procurer does not have a concrete idea about the solution

Buying the outcomes of innovation:

- Not renewing or replicating existing contracts, choosing a product, service or process which is new to the market or new to the public procurer

1. EUR-Lex, Journal of the European Union Legislation, volume 57: <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=OJ:L:2014:094:FULL&from=EN>
2. European Commission, accessed 2020: https://ec.europa.eu/info/policies/public-procurement/support-tools-public-buyers/innovation-procurement_en

Innovative procurement focuses on market interaction, and it can be used to procure new or existing innovative solutions that the procurer may not be aware of. Therefore, innovative procurement differs from traditional procurement, where the procurer knows and explicitly defines the content of the solution based on known suppliers in the market. Yet, it is also possible to have a preliminary market consultation³ in a traditional procurement procedure, and thus innovative instruments exist no matter which procurement procedure is used.

In this study, the approach to GovTech encompasses both informal approaches to market dialogue (i.e. outside of the legal framework of the Public Procurement Directive) and the formal procurement procedures outlined in the European Union's Public Procurement Directive, *see point 1 and 2 in figure 4*. The directive provides the framework for procurement procedures in the Nordic-Baltic countries and has subsequently been translated into national procurement legislation.

	Description	Needs of the public authority	Instrument	Outcome
Informal market interaction	<i>The authority wishes to interact with the market to test solutions without necessarily intending to procure</i>	1.1 Test ideas	1.2 Pre-commercial procurement, hackathons, sandboxes	1.3 New available prototypes, learnings, relationships with potential suppliers
Formal market interaction	<i>The authority wishes to procure an innovative solution, and chooses between 3 flexible procedures depending on its need</i>	2.1 Adapt the content of an offer to its needs	2.4 Competitive procedure with negotiation	2.7 Existing innovative solution
		2.2 Determine how to best meet its needs	2.5 Competitive dialogue	
		2.3 Develop a new solution	2.6 Innovation partnership	
				2.8 New innovative solution

Figure 4: Framework for innovative procurement processes (based on European Directive on Public Procurement; Guidance to Innovative Public Procurement, European Commission)

3. European Commission, 2018a: <https://ec.europa.eu/transparency/regdoc/rep/3/2018/EN/C-2018-3051-F1-EN-MAIN-PART-1.PDF>

2.3.1 Informal interaction with the market

Public authorities in the region use informal market interaction when they for instance wish to collaborate with the market to test new (not commercially available) solutions to a problem without necessarily intending to procure a solution. Informal market dialogue enables the public authorities to test the market for possible solutions and in the end discover whether such solutions are realisable, see *point 1.1 in figure 4*.

We find that pre-commercial procurement⁴ is a commonly used tool in this phase as it enables testing and piloting solutions before, they are commercially available, see *point 1.2 in figure 4*.

- In pre-commercial procurement, the authority facilitates research and development of a prototype or limited version of a solution. The approach is pre-commercial because it encompasses the development of innovative solutions that are not yet ready for commercial production, distribution and marketing. Thus, the procurer can affect the development and outcome of the solution to best suit its needs⁵
- SMEs can be interested in pre-commercial procurement, because it can entail a shorter time to market, an engagement with a new client (the public sector) as well as the possibility of getting a reference from the public sector client
- The hackathon, see *case 3 in part 3 of the report, and part 2, country profiles*, can be considered an activity with similarities to pre-commercial procurement, as it is conducted based on a known problem, and the market is asked to develop prototypes/pre-commercial solutions, which best solve the problem.

The public procurer can use experiences earned from pre-commercial procurement to draft tender material for a potential formal procurement of the most suitable solution and thereby initiate formal interaction with the market⁶. Therefore, there is a dotted line from informal to formal market interaction in *figure 4*.

We have categorised pre-commercial procurement as an informal interaction with the market, since pre-commercial procurement does not concern an EU-tender. Furthermore, pre-commercial procurement does not obligate procurers to follow the procurement regulations in the Public Procurement Directive. Nonetheless, this type of market interaction is conducted in compliance with the general principles of EU law, including the principles of equal treatment, transparency and non-discrimination⁷.

4. European Commission, 2007: https://ec.europa.eu/invest-in-research/pdf/download_en/com_2007_799.pdf

5. Udbudsportalen, 2016: https://udbudsportalen.dk/wp-content/uploads/2016/04/Udbudsloven_-_vejledning_om_udbudsreglerne-1.pdf; The Publications Office of the European Union, 2014: <https://eur-lex.europa.eu/legal-content/DA/TXT/PDF/?uri=CELEX:32014L0024&from=DA>; Udbudsportalen, accessed 2020: <https://udbudsportalen.dk/valg-af-udbudsprocedure/>

6. 6[1] European Commission, 2018a: <https://ec.europa.eu/transparency/regdoc/rep/3/2018/EN/C-2018-3051-F1-EN-MAIN-PART-1.PDF>; European Commission, 2018b: <https://ec.europa.eu/docsroom/documents/25724/attachments/1/translations/en/renditions/native>; The Market Development Fund (Denmark), accessed 2020: <https://markedsmodningsfonden.dk/prae kommercielle-indkoeb-pcp-0>

7. The Market Development Fund, accessed 2020: <https://markedsmodningsfonden.dk/prae kommercielle-indkoeb-pcp-0>

2.3.2 Formal interaction with the market

The public authority initiates a formal interaction with the market when the procurer knows that they wish to procure a solution but is unsure what specific needs they have. Whereas informal market interaction appears to be widespread in the countries' efforts to improve interaction with SMEs, see *Part 2: Country profiles*, formalised market interaction, which uses flexible procurement procedures, is less common in the region.

This study identifies three flexible procurement procedures outlined in the Public Procurement Directive, which are relevant for the procurement and/or development of new or existing innovative technological solutions, which meet the needs of the public authority⁸. There are three flexible procurement procedures (instruments), which can be used to answer three types of needs in the public sector. These are listed from most to least commonly used in the region:

1. Adapt the content of the offer to meet the needs of the procurer (*point 2.1 in figure 4*)
Instrument: The competitive procedure with negotiation (point 2.4 in figure 4)
*Suitable when the public procurer has knowledge about what should be procured and therefore negotiates with potential suppliers to adapt existing (technical etc.) elements or conditions in the tender material to ensure the development of an innovative solution, which meet the needs of the procurer*⁹.
2. Pin down and determine how to best meet the requirements and needs of the procurer (*point 2.2 in figure 4*)
Instrument: The competitive dialogue (point 2.5 in figure 4)
*Suitable when the public procurer is not able to pin down and determine how best to meet the requirements and needs of the public authority and therefore needs a market dialogue in order to get a better understanding of what the market can offer and what should be procured before the procurer submits the final tender*¹⁰.
3. Develop a new innovative solution, which is not commercially available (*point 2.3 in figure 4*)
Instrument: The innovation partnership (point 2.6 in figure 4)
*Allows the procurer to enter one or more partnership contracts with the intention of facilitating development and subsequently procuring new, innovative solutions without having to run a separate procurement procedure. The innovation partnership is commonly used when the authority knows its problem but is unaware of how it should be solved in practice. Innovation partnerships can encompass the development of products, services and processes aimed at solving the public authorities' challenges*¹¹.

8. Not an extensive list – design contests are for instance excluded, as these are mainly relevant for architectural projects and the like

9. European Commission, 2018a: <https://ec.europa.eu/transparency/regdoc/rep/3/2018/EN/C-2018-3051-F1-EN-MAIN-PART-1.PDF>; European Commission, 2018b: <https://ec.europa.eu/docsroom/documents/25724/attachments/1/translations/en/renditions/native>

10. European Commission, 2018a: <https://ec.europa.eu/transparency/regdoc/rep/3/2018/EN/C-2018-3051-F1-EN-MAIN-PART-1.PDF>; European Commission, 2018b: <https://ec.europa.eu/docsroom/documents/25724/attachments/1/translations/en/renditions/native>

11. Udbudsportalen, 2016: https://udbudsportalen.dk/wp-content/uploads/2016/04/Udbudsloven_-_vejledning_om_udbudsreglern-1.pdf

Procurement procedures and resources

- Stakeholders in the Nordic-Baltic countries generally agree that the use of innovative procurement instruments is more resource demanding than traditional procurement methods
- For the procurer, it requires time dedicated to researching the market and interacting with suppliers, which can be a difficult task when looking for innovative solutions that are not readily available
- For companies, resources must be devoted to conferring with the public sector and possibly developing a product prior to selling it to the public customer
- Therefore, innovative procurement can be more costly in the short run but may pay off in the long run, when innovative solutions increase the quality of solutions and improve efficiency

Formal market interactions in which flexible procurement procedures are followed allow the public authority to procure either an existing innovative solution or develop and procure a new innovative solution in collaboration with the market, *see points 2.7 and 2.8 in figure 4*.

Nonetheless, flexible procurement procedures can contribute to a process which is innovative. While flexible procurement procedures do not necessarily lead to the procurement of innovation, the process is innovative in the sense that it allows the institution to explore whether existing processes deliver the best solutions.

		Scope of GovTech	Approach of GovTech	Goal of GovTech
	Description	Needs of the public authority	Instrument	Outcome
Informal market interaction	The authority wishes to interact with the market to test solutions without necessarily intending to procure	1.1 Test ideas	1.2 Pre-commercial procurement, hackathons, sandboxes	1.3 New available prototypes, learnings, relationships with potential suppliers
Formal market interaction	The authority wishes to procure an innovative solution, and chooses between 3 flexible procedures depending on its need	2.1 Adapt the content of an offer to its needs	2.4 Competitive procedure with negotiation	2.7 Existing innovative solution
		2.2 Determine how to best meet its needs	2.5 Competitive dialogue	
		2.3 Develop a new solution	2.6 Innovation partnership	
				2.8 New innovative solution

Figure 5: GovTech in relation to innovative procurement

2.3.3 GovTech and innovative procurement processes

The proposed framework can be tied to the common understanding of GovTech developed for the Nordic-Baltic region. The three aspects of GovTech, scope, approach and goal, tie into different elements of innovative procurement, as illustrated in figure 5 above.

The scope of GovTech

Increased market interaction to find new and existing solutions to public sector problems can enable an opening of the market to SMEs. Thereby, the scope of GovTech relates to market interaction as it enables the procurement of technology-driven innovation, which can solve public sector problems by opening the market to SMEs, *see figure 5*.

The approach to GovTech

The approach to GovTech is reflected in the use of the available instruments, i.e. pre-commercial procurement and the three flexible procurement procedures, *see figure 5*. These instruments encourage public-private partnership approaches to the procurement of technological solutions, where problem owners and suppliers are involved in more flexible collaboration aimed at spreading innovative work.

The goal of GovTech

The goal of GovTech refers to the outcomes of market interaction – the procurement of innovative solutions, which provide better, cheaper and more flexible public services for citizens and businesses, *see figure 5*. Yet, the goal can also cover the innovative process (before procurement) itself as innovative processes allow the procurer to explore whether existing processes deliver the best solutions.

SUMMARY: GovTech in the context of public procurement

- The Nordic-Baltic understanding of GovTech relates to innovative procurement.
- The available instruments in procurement legislation enable greater market interaction, which can lead to an opening of the market for SMEs with innovative solutions rather than procurement from the same suppliers.
- Market interaction can be informal (carried out through testing, piloting and research and development) or formal (carried out through formal flexible procurement procedures) depending on the need of the public authority.



3. Mapping of current GovTech situation and potentials

The section briefly presents an outline of the project's key findings with regard to the current GovTech landscape and tendencies in the Nordic-Baltic region. It outlines overall tendencies based on the findings presented in the country profiles, *see Part 2 of the report for in-depth descriptions*. Subsequently, the significant potential and clear rationale for using innovative public procurement more actively is presented.

The GovTech situation in the Nordic-Baltic region

GovTech as a term is novel in the region, and the term is not prominent in political strategies in the Nordic-Baltic countries. Nonetheless, innovative procurement, which countries in the region associate with GovTech, has increasing political focus across the countries. This is mirrored in the 17% increase of innovative procurement (as a share of total procurement) from 2016 to 2019 in the Nordic-Baltic region¹². We assess that the increased political focus is tied to a perception of considerable benefits associated with innovative procurement among central public stakeholders in the countries. Furthermore, it is assessed that the varying efforts to open the market for public procurement to SMEs are growing. However, these efforts rarely appear as anchored elements in political strategies.

While this seems to foster an increased use of innovative procurement procedures, identified GovTech initiatives across the countries are still mainly focused on informal interaction with the market, *see initiatives highlighted in Part 2: country profiles*. Furthermore, the initiatives related to innovative procurement launched by the countries in the region tend to be sector-specific, with a strong focus on education (*see case 1 in part 3 of the report*), health (*see case 2 in part 3 of the report*) and climate (*see case 5 in part 3 of the report*). Lately, several specific GovTech initiatives across the Nordic-Baltic region, e.g. GovTech programmes, hackathons and sandboxes, have been launched. There is a tendency for these initiatives to be challenge-based and focus on improving public-private collaboration through informal market interaction. They generally aim to connect public authorities with suppliers in co-create settings in order to test and experiment with solutions to concrete public sector problems.

12. 1.5 percentage point increase (from 9% to 10.5% of total procurement); own calculation based on Tender Electronic Daily (TED), 2020: <https://ted.europa.eu/TED/search/search.do>

Yet, there is a tendency that these initiatives facilitate innovative processes but subsequently do not lead to actual procurement, or lead to traditional procurement procedures, *see case 2 in part 3 of the report*. Furthermore, there are few to no structured collections of learnings from these experiences, and a lack of systems for monitoring and evaluation of value creation and success factors across all countries.

3.1. Potential and rationale for innovative procurement to drive innovation

The Nordic-Baltic countries have large public sectors, which spend an average of approximately 14% of GDP on public procurement, *see table 1*. Furthermore, the Nordic-Baltic countries spend an average of approximately 30% of their public expenditure on public procurement. Thus, public procurement constitutes a significant share of both GDP and public spending in the Nordic-Baltic area, which is why public sector procurement constitutes great purchasing power in the region.

Countries	Public procurement (% of GDP)	Public procurement (% of public spending)
Denmark	14	27
Estonia	14	33
Finland	18	33
Latvia	13	27
Lithuania	9	30
Sweden	16	35
Norway	14	33
Sweden	16	35

Table 1: Public procurement as a percentage of GDP and public procurement in the Nordic-Baltic countries; OECD, 2018¹³ (Minor rounding errors may occur)

This significant purchasing power can be used to drive innovation and open the market to new solutions delivered by start-ups and other SMEs. While the entire purchasing power is not expected to be dedicated to GovTech, the current proportion spent on innovative procurement is highly limited. Yet, efforts have been made to change this, with the intention of increasing innovation in the public sector by creating more flexible collaboration with suppliers and including SMEs in public procurement. Through its National Programme for Supplier Development, Norway has managed to increase the share of public authorities that have an explicit goal of procuring innovation in its public procurement strategies from 6% in 2011 to 30% in 2018¹⁴.

13. <https://stats.oecd.org/Index.aspx?QueryId=94406>

14. Ministry of Local Government and Modernisation, 2020: <https://www.regjeringen.no/contentassets/14fce122212d46668253087e6301cec9/no/pdfs/stm201920200030000dddpdfs.pdf>

Meanwhile, there seems to be a limited use in the region of procedures that are designed to enable innovative procurement as illustrated in *figure 6*. There has been a significant increase in the use of innovative public procurement procedures in both Denmark and Norway corresponding to approximately 5 percentage-points in the years 2016-2019. Finland, Latvia and Sweden have each experienced a steady use of innovative procurement procedures corresponding to roughly 7%, 4% and 7%, respectively. However, both Estonia and Lithuania have experienced year-on-year fluctuations in the use of innovative procurement procedures.

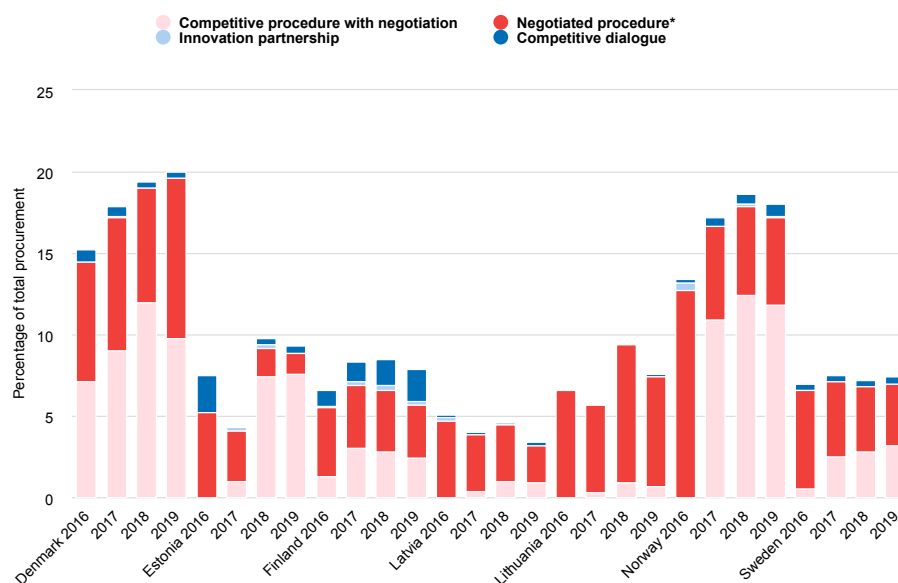


Figure 6: Innovative public procurement as a share of total public procurement in the Nordic-Baltic countries, from 2016 to 2019 [TED (Tenders Electronic Daily)]^{15*}
"Negotiated procedure" includes "accelerated negotiated procedure".

In this regard, it should be noted that the use of innovation partnerships and competitive dialogue is very uncommon across the countries (with the exception of Finland and Estonia in 2016). This leaves a considerable untapped potential for the Nordic-Baltic countries to improve public services and invest in innovation. GovTech could be a driving force in unleashing this vast potential.

There appears to be an increasing focus on innovative procurement in the region, with various initiatives having been launched to promote increased market interaction. Despite differences in the types of initiatives conducted in the different countries, every country has obtained some form of experiences in relation to these. The countries appear to agree on a few different rationales for prioritising innovative procurement and accelerating GovTech. Based on our research, three main rationales are perceived to motivate the focus on GovTech:

1. There is a profound belief among the Nordic-Baltic countries that GovTech can be a vehicle to engaging with the market in order to obtain better, more flexible

15. Tender Electronic Daily (TED), 2020: <https://ted.europa.eu/TED/search/search.do>

and cheaper public sector solutions.

2. Furthermore, countries in the region see GovTech as a tool to foster increased dialogue between the public and private sectors (SMEs), which can provide both sides of the ecosystem with a better understanding of complex problems. For instance, companies can contribute with their knowledge of solutions, which can solve public sector problems, while access to the public sector and thereby learning to interact with a large customer. Countries such as Denmark, Estonia and Norway have had positive experiences with this market interaction.
3. There is a profound belief in the Nordic-Baltic GovTech ecosystem that GovTech can be a vehicle for SMEs to gain access to the public sector, a large customer that can contribute to their sales and growth, while they can gain access to data or data structures in the public sector. This can contribute to improving their business models and creating new markets. This value has been documented in Sweden through its Swedish Edtest programme and in Norway through its National Programme for Supplier Development¹⁶.

SUMMARY: Situation, potential and rationale

The GovTech situation in the region

- While innovative procurement is considered important in the region, GovTech is rarely part of political strategies

All countries are experimenting with GovTech and innovative procurement initiatives.

There is significant potential

- Stakeholders in the region believe that the significant purchasing power of the public sector can be used to drive innovation and open the market to new solutions
- Yet, only a limited proportion of public procurement uses innovative tendering processes
- GovTech can be a driving force in unleashing the potential

Stakeholders perceive the rationale for GovTech to be clear:

- Ensure better, cheaper and more flexible solutions in the public sector as well as increased transparency
- Facilitate market dialogue, which provides a better understanding of complex problems
- Allow SMEs to get access to the public sector, a large customer, and thereby contribute to their growth

16. Swedish Edtest, 2020a: <https://edtest.se/english/>; Ministry of Local Government and Modernisation, 2020: <https://www.regjeringen.no/contentassets/14fce122212d46668253087e6301cec9/no/pdfs/stm201920200030000dddpdfs.pdf>



4. Challenges associated with accelerating GovTech

This section briefly presents our findings of the main challenges' stakeholders in the Nordic-Baltic GovTech ecosystem face, and places them according to two levels of innovative procurement. It lastly highlights the breadth of these challenges across the region.

PA Consulting Group has mapped the most prevalent challenges in accelerating GovTech in the Nordic-Baltic region. The challenges mentioned by stakeholders in interviews, workshops and existing literature are classified into six themes, which are operationalised and elaborated with a few examples. We assess that the challenges that stakeholders in the region face can be structured into two levels: challenges that pose barriers to engaging in market interaction and challenges that pose barriers to using the concrete instruments available for innovative procurement, see *figure 7*.

	1. Market interaction	2. Instruments of innovative procurement		
	Description	Needs of the public authority	Instrument	Outcome
Informal market interaction	The authority wishes to interact with the market to test solutions without necessarily intending to procure	1.1 Test ideas	1.2 Pre-commercial procurement, hackathons, sandboxes	1.3 New available prototypes, learnings, relationships with potential suppliers
Formal market interaction	The authority wishes to procure an innovative solution, and chooses between 3 flexible procedures depending on its need	2.1 Adapt the content of an offer to its needs	2.4 Competitive procedure with negotiation	2.7 Existing innovative solution
		2.2 Determine how to best meet its needs	2.5 Competitive dialogue	
		2.3 Develop a new solution	2.6 Innovation partnership	2.8 New innovative solution

Figure 7: Two levels of innovative procurement

Level 1: Conditions for market interaction

The first level concerns conditions that must be in place in order to engage in formal or informal market dialogue, *see point 1 in figure 7*. Challenges associated with the first level affect the ability of the public sector and SMEs to engage in market dialogue.

Level 2: Conditions for use of flexible procurement instruments

The second level concerns conditions which must be in place in order to use the concrete instruments available for flexible procurement: e.g. innovation partnerships and competitive dialogue, *see point 2 in figure 7*. Challenges related to the second level affect the ability of public sector procurers to use concrete instruments: Pre-commercial procurement and the three flexible procurement procedures outlined in procurement EU Directive for Public Procurement, *see subsection 2.1*. Naturally, flexible procurement procedures also include market interaction, but this is a subset of the concrete instrument/procedure.

While the two categories are not mutually exclusive, and some challenges fit well under both categories, there are nuances of the challenges within the two categories giving an indication as to what part of the procurement process they affect. The six challenges, from most to least mentioned by stakeholders in the ecosystem, are:

1. COMPLEX PROCESSES AND REGULATIONS (level 2)

We assess that there are significant challenges stemming from processes and regulations. Namely, public officials consider the processes associated with carrying out the flexible procurement procedures outlined in the regulation highly complex. This can cause barriers for public procurers' ability and willingness to pursue flexible procurement procedures. This may therefore partly explain why public procurers only use the flexible procurement procedures to a limited degree¹⁷. The challenges thus relate to the use of instruments for innovative procurement (level 2).

Countries in the region experience the following challenges:

- A high level of complexity associated with undertaking the flexible procurement procedures outlined in the Public Procurement Directive, which can explain why the countries only engage in flexible procurement to a limited degree
- For the public sector, the flexible procurement procedures are perceived to require a high dedication of resources in the initial phases of the procedure. This is because flexible procedures involve greater market dialogue and cocreation with suppliers, and benefits of procuring innovative solutions may only be reaped later. For SMEs, the complexities of engaging in flexible procurement procedures make it difficult to compete with larger incumbents, as they can find it costly to take part in flexible procurements procedures
- SMEs can furthermore be deterred from participating, when public agencies require administrative certificates with excessive financial guarantees that can make up several times the value of the contract itself

17. Flexible procurement procedures are used in a limited degree, innovation partnerships and competitive dialogues are used to particularly small degree. See subsection 3.1.

2. LACK OF KNOWLEDGE AND LEADERSHIP (level 1 and 2)

We assess that countries in the region experience significant challenges related to a lack of knowledge and leadership among public procurers and SMEs. Namely, procurers lack knowledge and ability to use market dialogue and flexible procurement procedures. The willingness and ability to engage in market dialogue and use the flexible instruments can be hindered by the lack of knowledge of the possible solutions offered in the market and lack of leadership support in pursuing innovative procurement. The challenges thus relate to both market interaction and the use of instruments for innovative procurement (level 1 and 2).

Countries in the region experience the following challenges:

- Besides the perception that flexible procedures are themselves complex to carry out, knowledge of the opportunities in the current regulation is lacking in both the private and public sectors, which deters public officials from using the flexible procurement methods
- Public authorities lack leadership support for employees using flexible procurement procedures, as such procedures are typically more resource-demanding and longer, meaning that benefits are less immediate. This can lead to a lack of resources dedicated to innovative procurements

3. RIGID ORGANISATIONS AND STRUCTURES (level 2)

We assess that rigid organisational structures in the public sector can impede employees' incentive to use innovative procurement processes. Namely, the current structures embedded in the public sector disincentivise the use of flexible procurement procedures. The challenges thus relate to the use of instruments for innovative procurement (level 2).

Countries in the region experience the following challenges:

- Innovative procurement is not tied to strategic and operational structures and goals in public organisations.
- Employees are rarely acknowledged and rewarded for undertaking successful innovative procurements
- Meanwhile, public officials who take risks, but do not succeed with innovative procurements, may be punished
- Thus, for a procurer, the potential downside of launching flexible procurement procedures are greater than the potential upsides, which can dissuade the use of innovative procurement
- Since flexible procedures such as innovation partnerships are more resource-intensive for SMEs to engage in than traditional procedures in the phase prior to the actual procurement, SMEs can be dissuaded from engaging in flexible collaboration with the public sector, as it is not guaranteed that the solution will be bought

4. CONFLICTING CULTURES AND HABITS (level 1 and 2)

We assess that (differing) cultural norms and habits within the public and private sectors can cause frictions when seeking market interaction and pursuing innovative procurement procedures. Large cultural differences between the public and private sectors and strongly embedded habits can make it difficult to create the conditions for the public sector to interact with SMEs and thus engage in market dialogue. Barriers related to different mindsets (such as differences in organisational agility), languages and risk aversion can deter formal and informal market interaction. These barriers can both deter the public sector and SMEs from engaging in market dialogue and cause frictions between the two parties during the procurement process. Therefore, the challenges relate to both market interaction and the use of instruments for innovative procurement (level 1 and 2).

Countries in the region experience the following challenges:

- Different cultures and goals between the public sector and SMEs, as the two do not speak the same language, which can make market dialogue difficult for both parties. For instance, the goals and approaches of SMEs may be based on agile thinking, whereas the public sector often works in more traditional, bureaucratic ways. Disconnect between the cultures of the public sector and SMEs can also make it difficult for SMEs to compete with larger incumbents with greater experience in collaborating with the public sector
- Employees in the public sector tend to be risk-averse, which can dissuade the use of flexible procurement procedures, as the resources needed are often greater than in traditional procurements and potential losses therefore can be considerable
- Meanwhile, SMEs tend to focus on short-term financial goals, making it difficult for them to take part in long-term procurements without receiving compensation up-front

5. ISSUES RELATED TO TECHNOLOGY AND SECURITY (level 1)

We assess that the criteria and limitations of technological solutions in the public sector and high security concerns can pose barriers to market dialogue. SMEs must meet certain standards when interacting with the public sector where complex IT architecture and high-security requirements for sensitive public data can pose challenges to the willingness and ability to engage in dialogue with SMEs. The challenges therefore mainly relate to market interaction (level 1).

Some countries in the region experience the following challenges:

- Current IT architecture, which is often made up of closed protocols and legacy systems, limits the possibility of interaction with new vendors, as it creates lock-in to incumbents
- Public officials perceive it to be risky to share sensitive public data with SMEs, particularly startups, as they may not be used to prioritising security and privacy. This can dissuade public officials from engaging with SMEs
- It can be difficult for SMEs to get an overview of the availability of data and data structures in the public sector, and opportunities for collaboration can thus be overlooked

6. LACK OF FOCUS IN POLICY AND PUBLIC SPENDING (level 1)

We assess that a lack of strategic policy focus and dedicated spending on GovTech can inhibit the use of market dialogue. If the incentive to pursue market dialogue and innovative procurements is not anchored in policy, or there is no strategic focus, the incentive must come from within the procurers themselves. This appears to be a challenge as it is a complex task to undertake innovative procurement procedures. A lack of financial resources allocated to innovative procurement or tasks which support innovative procurement can also inhibit the willingness to engage in market dialogue in the first place. The challenges thus relate to market interaction (level 1).

Some countries in the region experience the following challenges:

- A lack of anchoring of innovative procurement in public strategy
- Funds are often not dedicated to innovative procurement
- Tight public spending budgets dissuade the use of flexible procurement procedures, whose short-term costs are greater and whose benefits are realised in the long-term

Based on interviews and workshops, this project has mapped the breadth of the various above-mentioned challenges related to GovTech in the Nordic-Baltic region. We have coded our interviews in order to analyse which challenges appear to be most prevalent across the countries in the region, *see figure 8*. The breadth (i.e. times mentioned) of the challenges thus indicate that they have been mentioned by the stakeholders and is not indicative of the strength of said challenge.

The four most mentioned challenges act as barriers to succeeding with level 2, the use of flexible procurement instruments. These four challenges – complex processes and regulation; lack of knowledge and leadership; rigid organisations and structures; conflicting cultures and habits – hinder the ability to accelerate GovTech by using the flexible instruments available in procurement legislation. This harmonises well with the finding that most efforts currently take place in level 1. This is because stakeholders in the region are experimenting with different types of market interaction, but find it challenging to translate these into using the flexible instruments to procure innovative solutions.

Furthermore, the broadest challenges relate to issues within the public authorities and the SMEs themselves, not only factors external to the organisations. We use this knowledge to design recommendations, which may help countries overcome these challenges, with particular focus on the broadest of these challenges. Thus, the following set of recommendations will mainly focus on how GovTech can be accelerated from within the entities that work with GovTech.

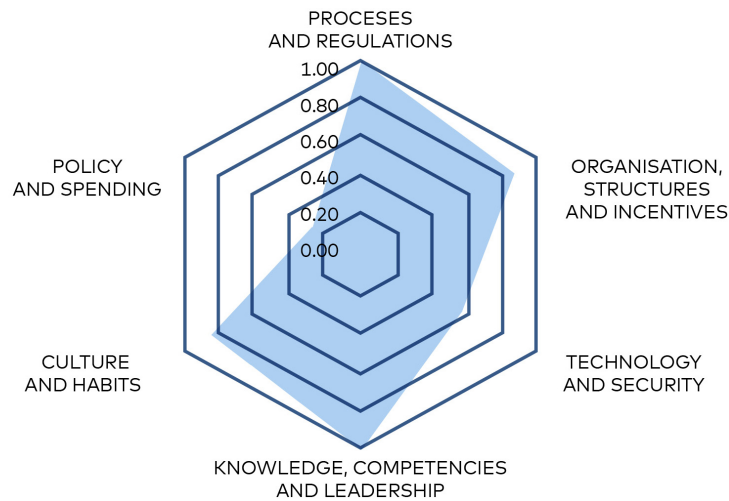


Figure 8: Breadth of challenges across the Nordic-Baltic region (0.0 = not mentioned by any country in interviews; 1.0 = mentioned by all countries, based on interviews with stakeholders in the ecosystem)

A lack of common understanding

It has proved to be a methodological challenge that there is no clearly defined understanding of GovTech across the Nordic-Baltic countries. Namely, the definitions and uses of the terms GovTech and innovative procurement vary across the region and within countries and the different levels of government. A common understanding is a prerequisite for effective knowledge sharing regarding shared challenges, possible solutions and best practices across the countries. The lack of common understanding is not included in the six categories, as it can be considered an overarching condition that can make it easier to overcome the challenges.

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5. Recommendations

There is a general consensus among the countries in the Nordic-Baltic region that the above-mentioned challenges can be overcome within the current legal and structural framework and that by doing so, the potential of GovTech can be realised. While legislation can be complex, focused efforts may be used to overcome the challenges and leverage the instruments of innovative procurement to accelerate the use of GovTech. This section presents a series of recommendations on how GovTech can be accelerated and subsequently provides concrete examples where authorities and countries can find inspiration for their work with GovTech.

Broad effort to accelerate the use of GovTech

The proposed recommendations broadly address the challenges mentioned by stakeholders in the ecosystem. Some of the proposed initiatives under each recommendation can be implemented at the level of the individual authority. This is particularly true for recommendations that address topics of organisation, culture, knowledge and processes in relation to the procurement of technological solutions. Since the character and complexities associated with these initiatives differ depending on the particular organisation or group of organisations in which it is implemented, it has not been possible to produce a common evaluation of the implications of executing the initiatives.

Nonetheless, PA Consulting Group assesses that some of the proposed initiatives can beneficially be executed at the national level or across the Nordic-Baltic countries. This would be beneficial because challenges and structural conditions are fairly similar across levels of government and countries in the region. Therefore, we assess that there is a significant potential to intensify regional collaboration on GovTech in order to leverage economies of scale, i.e. lower costs by joining forces, mobilising existing experiences and learnings and thereby ensuring fast and effective scaling of GovTech efforts.

5.1 Recommendations

PA Consulting Group recommends that initiatives are launched within five main areas. For each area, examples of possible initiatives that authorities may launch are given. Many of these initiatives are based on existing initiatives from the region or neighbouring countries, which can be used for inspiration or scaled to accelerate GovTech.

Representatives in Nordic-Baltic countries broadly agree that *'no solution fits everyone'*, why the recommendations presented may be more or less suitable for different municipalities, regions, governmental authorities, countries and SMEs. Key characteristics, which could determine whether the recommendation is relevant, are the specific need of the authority, the amount of prior experience with market interaction and the size of the public entity.

1. SPREAD AWARENESS

There is a need for a common understanding of the field of GovTech and focused common efforts to spread the use of GovTech. Countries in the region are currently working with different understandings of the scope and content of the GovTech agenda but gathering the stakeholders around a common agenda could be achieved by spreading awareness of GovTech use cases, innovative procurement and the associated instruments. Spreading awareness can foster the sharing of learnings, increased policy focus and the establishment of a joint GovTech agenda across authorities and countries in the region.

2. CREATE INCENTIVES

There is a need to increase the willingness of public procurers and SMEs to engage in dialogue with one another and use innovative procurement. Currently, public officials are rarely inclined to use innovative procurement due to the challenges related to culture, habits and processes. These challenges make up barriers to their willingness to engage in market dialogue and use the available flexible procurement procedures. These barriers could be overcome by creating the necessary incentive structures to motivate public officials to use GovTech and leaders to promote innovative procurement.

3. INCREASE COMPETENCIES

There is a need to increase the ability of public procurers, leaders and SMEs to engage in innovative procurement. There is a high variation in public officials' knowledge of innovative procurement procedures, which causes uncertainty regarding the legal, practical and technical possibilities and complexities of using innovative procurement. This lack of knowledge could be addressed by setting up structures that can help

increase the competencies of these stakeholders with regard to innovative procurement. Increasing competencies can help public officials and SMEs overcome the complexities associated with engaging in market dialogue and innovative procurement procedures.

4. CREATE AN ATTRACTIVE MARKETPLACE

There is a need to facilitate the meeting between public procurers (demand) and SMEs (supply). Currently, widespread formalised structures for interaction between public procurers with a problem and SMEs with innovative solutions are limited. This could be achieved by ensuring that the public sector offers marketplaces which are lucrative for SMEs, in the sense that they are financially feasible and attractive for SMEs to engage with. The marketplaces should furthermore be accessible, in the sense that they provide a level playing field for SMEs to compete with larger incumbents.

5. UNDERSTAND THE EFFECTS OF INNOVATIVE PROCUREMENT AND ASSOCIATED INITIATIVES

There is a need to structure knowledge about the effects of GovTech efforts. Currently, systematic evidence of when and how the instruments associated with GovTech work is scarce. This could be achieved by evaluating the effect of innovative procurement and the initiatives launched to promote the use of innovative procurement. Systematic evaluation can contribute to creating an understanding of how to succeed with innovative procurement, focusing the agenda and enabling policymaking.

5.2 Examples of specific initiatives

1. SPREAD AWARENESS

a. Establish a clear understanding of GovTech

In order to create a common agenda around GovTech in the Nordic-Baltic region, it is necessary to understand what the concept refers to. Thus, stakeholders can ensure consistent language at all levels of government (municipality, region and central level) as well as between public and private sectors. By creating a common language, it becomes easier to monitor progress, develop policy in the field and thereby create awareness of GovTech values and learnings. Countries in the region are working with various definitions of innovative procurement as expressed in national strategies and regulations (see mapping of legal definitions and variation of the classification of procurement procedures). The common understanding proposed in this study can provide a foundation or point of departure for a delineated and shared GovTech definition. The European Commission also provides a legal understanding of innovative/flexible procurement.

b. Create structures to spread experiences and cases

There is a significant potential to share knowledge of cases and learnings from innovative procurement and associated initiatives within and across the Nordic-Baltic countries. Structuring learnings concerning smart solutions, complexities, useful instruments and approaches can facilitate the sharing of experiences to inspire others to pursue innovative procurement. In countries such as Norway, which have organisations designed to help authorities and SMEs use innovative procurement, good cases are highlighted to share learnings and inspire others, see *part 3: cases 4 and 5*. At the EU level, a forum for procurement exists to help interested stakeholders share knowledge and discuss as well as a platform with resources for innovative procurement. The Nordic Council of Ministers also provides an opportunity for discussing experiences as well as knowledge and resources for education and inspiration.

2. CREATE INCENTIVES

a. Establish strategic political goals for innovative procurement

The public sector's focus on innovative procurement can be strengthened by establishing political goals for increasing the share of procurement which is carried out through flexible procurement procedures. Anchoring goals for innovative procurement in political strategy, can create a point of departure for public officials to creating incentive structures and goals for innovative procurement in their authority. Lithuania and Norway have goals to increase the use of flexible procurement procedures to 5% of total procurement. Norway has recorded a rise in the number of public authorities with a goal for innovative procurement from 6% of authorities in 2011 to 30% in 2018.

b. Move towards flexible models for payment and funding

Public officials can lower the risk SMEs face when engaging in partnerships with the public sector by promoting flexible payment models in which SMEs receive payment of the remuneration in appropriate instalments before the final solution is sold. For instance, funding SMEs in the developmental phase of an innovation partnership can lower risk, alleviate liquidity-related challenges and thereby encourage SMEs to participate in public procurement processes. Furthermore, working with new ways of funding innovative procurement can help lower the risk aversion associated with procurement, and the long-term benefits can be realised. This is because innovative procurements are often quite resource-intensive for SMEs in the developmental phase. Innovation Norway has experimented with funding companies in the developmental phase of innovation partnerships so that the financial risk of entering into a partnership with the public sector is lowered. The EU offers structural and investment funds to use for innovative procurements under certain specified conditions. The public authority could also include evaluation of the innovative character of a solution when choosing a solution, so that the potentially higher cost of innovative solutions does not get in the way of procuring innovation.

c. Evaluate use of innovative procurement

Performance indicators can increase transparency in the use of innovative procurement procedures. Therefore, evaluations may contribute to behavioural changes and incentivise the use of these procedures. While innovative procurement should not be a goal in itself, the use of innovative procurement processes can provide new perspectives on the way solutions are identified. Public organisations could review their procurement manuals to evaluate whether they inhibit or promote innovative procurement procedures in order to ensure that there is room and incentive to experiment with innovative procurement. No concrete examples of using performance indicators have been identified in this study, while in Sweden, a taxonomy for innovative procurement has been developed.

3. INCREASE COMPETENCIES

a. Establish structures that support public procurers and SMEs in innovative procurement

Structures supporting innovative procurement such as competency centres or procurement programmes can help organisations scan the market and identify what type of procurement process is suitable for their problem. This will subsequently assist organisations in navigating the complexities associated with the procurement procedure. Several countries have already established competency centres, and there is a potential to scale these initiatives to ensure a shorter distance between the market and the public sector. The National Supplier Development Programme in Norway is an example of such an organisation, which has had success in bringing the public and private sectors closer together, *see part 3, case 4*. The Danish organisation Innoba and Lithuanian GovTech Lab also provide material and support for innovative procurement.

b. Educate procurers and leaders in innovative procurement

By facilitating the sharing of positive experiences, knowledge and competencies can be diffused, and leaders can be encouraged to prioritise innovative procurement. The operational implementation requires that material exists to inspire and teach procurers to use innovative procurement. A range of countries have gathered material and step-by-step guides to innovative procurement, but there is a need for more formalised structures (e.g. organisations) which can assist authorities in utilising these to educate and inspire procurers and leaders in the public sector at a large scale.

4. CREATE AN ATTRACTIVE MARKETPLACE

a. Create structures that enable interaction between the public sector and SMEs

Structures that enable a bridging of the gap between supply and demand for innovative technological solutions can help increase market interaction. For instance, digital marketplace platforms can be used by public procurers to contact SMEs and start-ups in the local area, the countries or across the region. Different countries have experimented with marketplace platforms, which connect procurers with suppliers, for instance Austria and the UK. Swedish Edtest is another example of an initiative aimed at bridging the gap between public authorities with a need for new solutions and SMEs, *see part 3, case 1*.

b. Create flexible systems for integration of new solutions

Flexible systems are needed to ensure easier integration of new innovative technological solutions with existing digital infrastructure in the public sector (e.g. legacy systems) and thereby facilitate procurement of innovative solutions. For instance, Denmark has had success with API solutions in developing a digital reporting system, which can be used to integrate digital sharing economy platforms despite the potential complexities of connecting solutions from start-ups with the existing IT architecture within the public sector. Another solution is the creation of open data platforms. The Swedish central administration is piloting a national platform for publicly available data, and in Finland, efforts have been launched to strengthen knowledge-based decision-making and openness through leveraging the public data. In developing or procuring such systems, authorities should engage in market dialogues to clarify the needs of the private sector.

5. EVALUATE THE EFFECT OF INNOVATIVE PROCUREMENT INITIATIVES

a. Evaluate the effect of existing innovative procurement initiatives

Creating a systematic collection of learnings from innovative procurements and associated initiatives can help stakeholders understand which instruments are suitable for which problems and may thereby help accelerate the agenda. For instance, The National Supplier Development Programme in Norway have collected several studies about different innovative procurements within the public sector. Several other countries in the region have established GovTech programmes of different characters, whose learnings and value should be evaluated for further work with GovTech.

b. Set up systematic monitoring and evaluation of progress going forward

Going forward, it could be beneficial to set up systems for monitoring and evaluation of progress, as it allows authorities to benchmark performance and measure the value of innovative procurement. Authorities may want to set up structured goals for innovative procurement (such as KPIs for the share of procurement spending spent on innovative procurement) and subsequently track whether desired benefits are realised (e.g. money saved in the long term, quality of solutions). Thus, the GovTech agenda and policies in the region can be focused with learnings from monitoring and evaluation.

Recommendation	Examples of specific initiatives	Stage in the innovative procurement process*	Associated challenges
1. SPREAD AWARENESS	a. Establish a clear understanding of GovTech b. Create structures to spread experiences and cases	Market interaction (level 1)	A dedicated focus on defining these central terms may solve the following challenges: ii. Knowledge and leadership vi. Policy and spending
2. CREATE INCENTIVES	a. Establish strategic political goals for innovative procurement b. Move towards flexible models for payment and funding c. Evaluate use of innovative procurement	Market interaction and use of flexible instruments (level 1 and 2)	With dedicated efforts to create greater incentives, the following challenges may be solved: i. Processes and regulation. ii. Knowledge and leadership. iii. Organisation and structures. vi. Policy and spending
3. INCREASE COMPETENCIES	a. Establish structures that support public procurers and SMEs in innovative procurement b. Educate procurers and leaders in innovative procurement	Market interaction and use of flexible instruments (level 1 and 2)	Dedicated efforts to increase competencies can solve the following challenges: i. Processes and regulation ii. Knowledge and leadership iv. Culture and habits
4. CREATE AN ATTRACTIVE MARKETPLACE	a. Create structures that enable interaction between the public sector and SMEs b. Create flexible systems for integration of new solutions	Market interaction (level 1)	With dedicated efforts to create a public sector market, which is attractive to SMEs, the following challenges may be solved: iv. Culture and habits v. Technology and security
5. EVALUATE THE EFFECT OF INNOVATIVE PROCUREMENT INITIATIVES	a. Evaluate the effect of existing innovative procurement initiatives b. Set up systematic monitoring and	Use of flexible instruments (level 2)	Evaluation of the effects of innovative procurement initiatives may solve the following challenges:

evaluation of progress going forward	ii. Knowledge and leadership iii. Organisation and structures
	* See figure 7, section 4.0

Table 2: Relationship between the proposed recommendations and initiatives, levels of innovative procurement and associated challenges

Appendices

Appendix A: Methodology

Desk research and country-specific interviews

First, desk research consisting of international and country-specific reports as well as seven country-specific interviews with representatives from Denmark, Norway, Sweden, Finland, Estonia and Lithuania were conducted. This initial data was collected to analyse GovTech, innovative procurement processes, digital strategies and public innovation and to prepare a first virtual workshop on the topic of GovTech in the Nordic-Baltic region.

First workshop

The half-day virtual workshop was organised with 12 central stakeholders appointed by the Nordic Council of Ministers from six countries (Denmark, Norway, Sweden, Finland, Estonia and Lithuania). The workshop enabled the establishment of a common understanding of GovTech for further work with GovTech in the Nordic-Baltic region and to gain insight into what experiences and specific cases the countries consider particularly relevant to them. The format included country-specific presentations by the participants as well as a round-table discussion forum.

In-depth interviews

Subsequently, 18 in-depth interviews with stakeholders from Denmark, Estonia, Latvia, Lithuania, Norway and Sweden were conducted with representatives from the public sector as well as from NGOs, business associations and other private stakeholders. These interviews were used to map the GovTech situation in the specific countries and the challenges across the Nordic-Baltic region.

Second workshop

Finally, a second half-day virtual workshop with a total of 37 representatives from both the public and private sides of the ecosystem in Denmark, Estonia, Finland, Latvia, Lithuania, Norway and Sweden was organised. The workshop consisted of five presentations from both the public and private side of the ecosystem followed by a broad dialogue among the participants in a breakout session. The five presentations were chosen to illustrate the key initiatives conducted across the Nordic-Baltic region on both municipality, regional and national level as well as on the private side. These presentations were further leveraged to understand the recommendations regarding how others could start and later scale a similar initiative. The breakout sessions allowed for a discussion of prerequisites/conditions for succeeding with innovative procurement and gain input for recommendations to how the challenges could be overcome.

Findings

Along with extensive desk research spanning different levels of government and countries, the findings from the 25 interviews and two workshops were coded and analysed to draw out and consolidate central findings regarding i) characteristics of the GovTech situation in the Nordic-Baltic region, ii) the perceived potential and rationales of GovTech in the region, iii) perceived challenges with GovTech and their breadth in the region. On this basis and with direct input from the second workshops, recommendations that best address the challenges were developed. These recommendations along with some other findings in the study are based on assessments by PA Consulting Group while founded in the empirical data analysed.

The study is specific to the Nordic-Baltic region, and its findings are therefore not applicable to a generalised understanding of GovTech. We have attempted to ensure a high level of replicability of the findings by aiming for a high level of transparency of data sources and methodology. Since it is a predominantly qualitative study, the findings are based on the experiences of the interviewed stakeholders, and findings may therefore not be entirely replicable.

Appendix B: Overview of actors involved in the study

This appendix gives an overview of interviewees, participants in the first virtual GovTech workshop and participants in the second virtual GovTech workshop.

Country	Organisation	Organisational anchoring	Title of participant
Denmark	National Centre for Public Sector Innovation (COI)	National Centre	Head of Analysis
Denmark	Ministry of Industry, business and Financial Affairs	Danish Ministry	Project leader for GovTech
Denmark	The Capital Region of Denmark	Procurement department in the Capital Region of Denmark	New Business Development Manager (Corporate Procurement)
Denmark	The City of Odense	Procurement department in the City of Odense	Head of Department (Procurement)
Denmark	The Danish Chamber of Commerce	Private trade association	Senior consultant
Denmark	Confederation of Danish Industry	Private business and employers' organisation	Member Director
Denmark	Agency of Digitisation	Ministry of Finance	Administrative Officer
Estonia	Accelerate Estonia	Innovation project initiated by the Ministry of Economic Affairs	Chief Executive Officer
Estonia	Startup Estonia	Governmental initiative	Head of Startup Estonia
Estonia	Government CIO office	Office of the Estonian government	Global Affairs Director
Finland	Ministry of Finance	Finnish Ministry	Special expert
Latvia	Ministry of Environmental Protection and Regional Development	Latvian Ministry	Head of Public Services Department
Latvia	Ministry of Environmental Protection and Regional Development	Latvian Ministry	Director of Department
Lithuania	Bank of Lithuania	Bank	Member of the Board
Lithuania	Vilnius City Municipality	Capital municipality	Chief Technology Officer
Lithuania	Katalista Ventures	Startup accelerator and private equity fund	Co-founder
Lithuania	GovTech Lab Lithuania	Agency for Science, Innovation and Technology	Manager
Norway	Innovation Norway	Public state-owned company	Special Advisor
Norway	National Programme for	Joint collaboration	Project Manager

	Supplier Development	between several agencies and public authorities	
Norway	Ministry of Local Government and Modernisation	Norwegian Ministry	Senior Advisor
Norway	DIFI - Agency for Public Management and eGovernment	Government agency	Head of section
Sweden	The National Agency for Public Procurement	Government agency	Strategist
Sweden	Kammarkollegiet	The Legal, Financial and Administrative Services Agency	Head of ICT-Procurement
Sweden	Kammarkollegiet	The Legal, Financial and Administrative Services Agency	Procurement Officer ICT
Sweden	H2 Health Hub	Co-working space & meeting place	Creative Director & Co-founder
Sweden	Swedish Edtest	National EdTech testbed	Head project Manager
Sweden	Ministry of Infrastructure, Division for Digital Government	Division within Ministry	Senior Advisor
Sweden	Agency for Digital Government (DIGG)	Government A agency	Senior Advisor
Nordic Council of Ministers	Nordic Council of Ministers (Denmark)	Regional partnership between the Nordic countries	Project Officer
Nordic Council of Ministers	Nordic Council of Ministers (Denmark)	Regional partnership between the Nordic countries	Senior Advisor (Digitalisation)
Nordic Council of Ministers	Nordic Council of Ministers (Denmark)	Regional partnership between the Nordic countries	Senior Advisor (Digitalisation)

Overview of interviewees

Country	Organisation	Title
Denmark	National Centre for Public Sector Innovation (COI)	Head of Analysis
Denmark	Agency of Digitisation	Administrative Officer
Denmark	Agency of Digitisation	Special Advisor
Estonia	Government CIO office	Global Affairs Director
Finland	Business Finland	Executive Director
Lithuania	Ministry of Economy and Innovation of the Republic of Lithuania	Senior Advisor
Lithuania	GovTech Lab Lithuania	Manager
Norway	Ministry of Local Government and Modernisation	Senior Advisor
Norway	DIFI - Agency for Public Management and eGovernment	Senior Advisor
Norway	Nordic Innovation	Senior Innovation Advisor
Sweden	Agency for Digital Government, Digg	Senior Advisor
Sweden	Ministry of Infrastructure, Division for Digital Government	Senior Advisor
Nordic Council of Ministers	Nordic Council of Ministers (Denmark)	Project Officer

Overview of participants in the first GovTech workshop

Country	Organisation	Title
Denmark	The Capital Region of Denmark	New Business Development Manager (Corporate Procurement)
Denmark	Confederation of Danish Industry	Director of digital policy
Denmark	Agency of Digitisation	Special Advisor
Denmark	cBrain	Director (Global Affairs)
Denmark	Agency of Digitisation	Administrative Officer
Denmark	Ministry of Industry, Business and Financial Affairs	Senior Consultant
Denmark	Danish Regions	Assistant Director
Denmark	INNOBA	Founder and Owner
Estonia	Government CIO office	Global Affairs Director
Estonia	Startup Estonia	Cyber Security Project Lead
Estonia	Startup Estonia	Head of Startup Estonia
Estonia	Garage 48	Project Manager
Finland	Business Finland	Executive Director
Latvia	Ministry of Environmental Protection and Regional Development	Head of Public Services Department
Latvia	Latvian IT Cluster	Execute Director
Latvia	Ministry of Environmental Protection and Regional Development	Senior Consultant
Lithuania	Bank of Lithuania	Advisor to Executive Director
Lithuania	Katalista Ventures	Co-founder
Lithuania	GovTech Lab Lithuania	Manager
Lithuania	Vilnius City Municipality	Chief Technology Officer
Norway	DIFI - Agency for Public Management and eGovernment	Head of section
Norway	Ministry of Local Government and Modernisation	Senior Advisor
Norway	National Programme for Supplier Development	Project Manager
Sweden	Bron Innovation	Chief Executive Officer
Sweden	Kammarkollegiet	Head of ICT-Procurement
Sweden	Kammarkollegiet	Procurement Officer ICT
Sweden	Swedish Edtest	Head project Manager
Sweden	H2 Health Hub	Creative Director & Co-founder
Sweden	Ministry of Infrastructure, Division for	Senior Advisor

	Digital Government	
Sweden	The National Agency for Public Procurement	Strategist
Sweden	Vinnova	Programme Manager
Sweden	SMHI (Swedish Meteorological and Hydrological Institute)	Program & Innovation manager
Sweden	Agency for Digital Government (DIGG)	Senior Advisor
Sweden	Bron Innovation	Project and Process Leader
Nordic Council of Ministers	Nordic Council of Ministers (Denmark)	Project Officer
Nordic Council of Ministers	Nordic Council of Ministers (Norway)	Senior Innovation Advisor

Overview of participants in the second GovTech workshop

About this publication

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Nordic co-operation is one of the world's most extensive forms of regional collaboration, involving Denmark, Finland, Iceland, Norway, Sweden, and the Faroe Islands, Greenland and Åland.

Nordic co-operation has firm traditions in politics, economics and culture and plays an important role in European and international forums. The Nordic community strives for a strong Nordic Region in a strong Europe.

Nordic co-operation promotes regional interests and values in a global world. The values shared by the Nordic countries help make the region one of the most innovative and competitive in the world.

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