D1.1 A system to identify societal challenges, related problems and GovTech solutions

Work Package 1

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Deliverable abstract

Deliverable D1.1, titled "A System to Identify Challenges," presents a comprehensive methodology for recognising key challenges and success criteria for pilots. This document, led by Stichting ICTU, provides an in-depth analysis and an overview of proven methodologies. It outlines specific criteria for success and the selection process, drawing from both scientific research and the practical experiences of project members. Designed as a public report, this deliverable serves as a foundational resource in Work Package 1, aimed at enhancing the efficiency and effectiveness of challenge identification for new pilot projects.

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GOVTECH4ALL

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Table of Participants

Acronym	Name of Organisation
LISBONCO	The Lisbon Council for Economic Competiveness
BETAI	Wildtriumphs LDA
GRNET	National infrastructures for research and technology
LANTIK	Lantik S.A.M.P
AYTO	Ayuntamiento de Madrid
BRON	Bron Innovation
ICTU	Stichting ICTU
GOBE	Oda Ventures SL
DAOL	Biedriba Latvijas Digitalais Akselerators
GOVMIND	Govmind GMBH
AMTEGA	Agencia para la Modernization Tecnologica de Galicia
MAETD	Ministerio de asuntos economicos y transformacion digital
IALT	Viesoju Istaiga Inovciju Agentura
DIMUM	Direction interministérielle du numréique

Table of abbreviations

KPI	Key Performance Index

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GDPR	General Data Protection Regulation
NGO	Non-Governmental Organisation
SGA	Specific Grant Agreement
TBD	To Be Defined
TL	Task Leader
WP	Work Package
WPL	Work Package Leader

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1 Introduction

1.1 Defining GovTech

In an era of rapidly evolving societal challenges, the integration of innovative technological solutions into the public sector has become paramount. The term "GovTech" encapsulates this transformative approach, referring to socio-technical solutions that are developed and operated by private organisations, intertwined with public sector components for facilitating processes in the public sector (Bharosa, 2022). GovTech solutions have emerged as powerful tools for addressing and mitigating a wide range of societal challenges. This project contributes to identifying, disseminating, and scaling GovTech solutions to meet the pressing needs of various member states and other participating countries of the Digital Europe Programme.

The importance of GovTech in addressing societal challenges cannot be overstated. It bridges the gap between the public sector's demand for effective solutions and the supply of innovative technologies developed by private organisations. To achieve a harmonious integration, it is essential to align the demand and supply of GovTech solutions, ensuring that they are not pushed onto governments but rather driven by their specific needs (World Bank 2021). This demand-driven approach is the cornerstone of the efforts to facilitate the widespread adoption of GovTech solutions.

In the quest to identify and address societal challenges, this project seeks to establish a robust system that comprehensively analyses the GovTech landscape. This system will go beyond merely cataloguing the challenges faced by different member states; it will also provide a deeper understanding of the related problems and the GovTech solutions that have proven successful in tackling these challenges (Filer 2019). By creating an overview of GovTech-related problems and solutions, this system will empower governments to make informed decisions about the technologies they choose to adopt and implement.

Furthermore, this project significant emphasis on the relevance of GovTech solutions in the context of societal challenges. A critical criterion for success is the extent to which these solutions contribute to solving the challenges at hand. It is not enough for GovTech solutions to exist; they must be fit for purpose (Hoekstra 2022). This project also aims to shed light on the barriers that governments face when implementing GovTech solutions for pilot projects and the innovative ways to overcome these challenges. Additionally, it will explore the potential for cross-border utilisation of GovTech solutions and strategies to encourage their reuse, addressing the common reluctance in this regard.

In light of the forthcoming research and analysis, it is essential for this paper to provide a clear and concise framework that explains the methodologies used and the reasons behind their selection. In so doing, it aims to equip stakeholders with the knowledge and tools necessary to navigate the ever-evolving landscape of the GovTech ecosystem and effectively address the societal challenges that confront us. As we move forward, the journey to support promising solutions, facilitate their scaling, and stimulate their reuse promises to be a transformative one, with far-reaching implications for the betterment of society.

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1.2 Aim of GovTech4all

GovTech4all-beta is the first implementation of GovTech4all Framework Partnership Agreement. It is an experiment of new ways to deliver public sector innovation, based on collaboration with innovative players such as startups and between government agencies. The goal is to open the public sector technology market to ensure that governments use the best solutions - not those that better fit procurement processes or that suffer from the "not invented here" syndrome.

GovTech4all-beta brings together 21 GovTech European key players from 14 countries to foster a single European GovTech ecosystem market, and promote new models of public sector innovation. However, during the project the consortium opened up and voted to allow new partners to join the GovTech4All incubator. This resulted that from the original 21 partners, it is now 26 partners. In the project, public and private sector, research bodies and NGOs will work together to learn from each other, deliver common pilots and raise the profile of GovTech in each country and at EU level. Concretely, the project central focus is the delivery of three pilots, through startup challenges, in-house development and innovative procurement.

The preparatory work for an incubator is of particular in the context of GovTech4all. This work includes identifying GovTech-related challenges faced by participating countries, evaluating existing solutions, and determining their potential for incubation. The focus is on finding challenges that can be addressed through cross-border innovation projects involving governments and market parties (start-ups and scale-ups). The preparatory work also involves matchmaking efforts between the supply and demand sides. This work is aimed at supporting the pilots during the first Specific Grant Agreement (SGA) and forming the basis for new pilots in the second SGA, starting in 2025. The goal is to identify challenges, key players, and potential solutions to facilitate innovation and address organisational problems in the government sector.

1.3 This document D1.1 (Identifying challenges)

To develop applicable, needed and well-functioned pilots, it is necessary to research and determine what GovTech related problems the involved parties in European countries are facing, while working on societal challenges. By the parties involved this document is referring to citizens, governments and the private sector. Furthermore, it is also critical to identify which societal challenges multiple member states work on, which hurdles they face, and which member states have good practices, as well as identifying potential funding streams for new pilots. This work will be carried out through periodic online meetings and structured surveys of partners.

It involves creating a deliverable document (D1.1) for GovTech solutions, primarily targeted at partners as well as organisations, and not member states. The document's focus is on understanding challenges in implementing GovTech solutions for pilots, addressing barriers to GovTech, as well as identifying solutions for societal challenges and barriers that can be used across borders. The assignment proposes to conduct two studies: one to gain insight into the demand side and one to gain insight into the supply side. These surveys will be followed by a matchmaking exercise to identify potential solutions for reuse. The core document (D1.1) is explanatory, detailing the proposed surveys and framework, explaining how and why they will be conducted.

1.4 Desired result

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The success of this Work Package as part of GovTech4all is contingent upon the effectiveness of the system in achieving its primary objectives, namely, bringing together the demand from governments for GovTech solutions to address societal challenges and the supply of such solutions from other governments or the market. In essence, the system's success could be measured by its capacity to bridge the gap between the needs of public authorities and the innovative GovTech solutions that can address these pressing societal challenges. As the system facilitates the identification, analysis, and dissemination of GovTech solutions, it should not only serve as a valuable resource for governments seeking answers to their challenges but also as a platform for promoting collaboration, knowledge sharing, and the scaling of these solutions (Public 2021).

1.5 Looking ahead to future use

Aligning demand and supply is not just a vague aspiration but a concrete objective, with a specific focus on making it achievable. As we look ahead, the landscape of societal challenges will undoubtedly expand, involving a more diverse range of partners and a broader spectrum of solutions. This approach aims to be robust and precise, offering the means to bring together governments in need of GovTech solutions and private entities or the market offering these innovative answers. By ensuring that the approach is sufficiently specific and adaptable, it will ensure the consortium is poised to navigate the evolving terrain of societal challenges, ensuring that demand and supply are in sync, and that the GovTech ecosystem is ready to address new and complex challenges while promoting collaboration and innovation across a wider spectrum of stakeholders and solutions (Kuziemski 2022).

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2 Core components

To achieve the objective (bringing together the demand from governments for GovTech solutions to address societal challenges and the supply of such solutions from other governments or the market), the following four components are central:

1. Understanding societal challenges
2. Identify solutions for societal challenges
3. Identify which partner works on which societal challenges
4. Create an overview of GovTech related problems

These components are explained in more detail in the following paragraphs (2.2-2.5). However, considering there is no precise definition of 'societal challenge', 'problems', and 'solutions', an illustrative example is first provided based on a specific case derived from current practice.

2.1 A practical example for clarification

As a land steward, a province has a (legal) obligation to promote or at the very least preserve the natural environment within its jurisdiction. To give substance to this obligation, the province must achieve various sub-goals that collectively embody the social responsibility of nature conservation. For instance, water management is necessary to prevent the area from becoming arid, while simultaneously maintaining and, whenever possible, enhancing biodiversity (both flora and fauna).

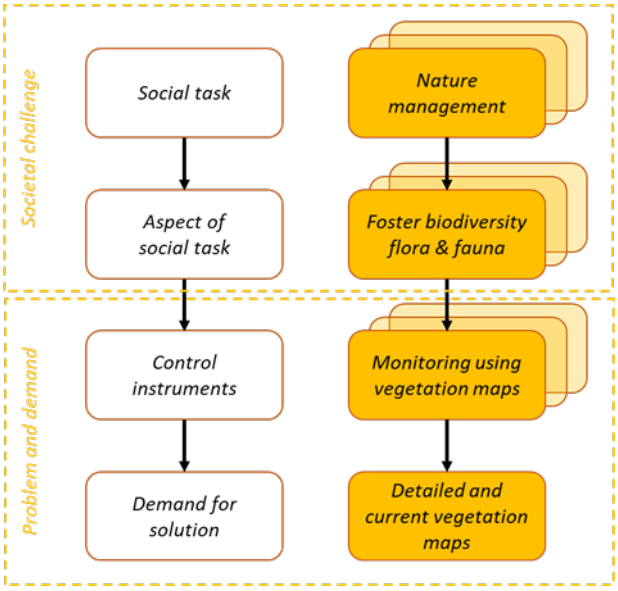

Figure 1 - Identification of Common Societal Challenges and match Making 1

Vegetation maps serve as control instruments and guide efforts towards greater biodiversity. These maps should offer insights into the present distribution and condition of vegetation, supplemented with historical observations to facilitate the identification of changes. However, the creation of such comprehensive overviews is a time-consuming and costly endeavour. Moreover, the current manual approach to this work suffers from a shortage of qualified personnel. Consequently, the province is exploring alternative methods to obtain detailed and up-to-date vegetation maps.

In this particular example, the *societal challenge* lies in the effective management of nature, including the promotion of biodiversity. The associated *problems related to this societal challenge* stem from the inadequacy of the current approach. This prompts the province to seek a solution (*demand for solution*) that can provide detailed and up-to-date vegetation maps.

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To meet the demand for detailed and up-to-date annotated maps, the province has the option of realising all or part of these itself or of making use of the offer of the GovTech market or other governments agencies (make or buy). In this example, some vendors offer solutions for digital image analysis using an innovative application of artificial intelligence. The first pilots look promising, but the solution is far from ready for production: to deliver the requested detailed and up-to-date annotated maps. For example, up-to-date digital drones and satellite images will have to be obtained (now and in the future), but knowledge for making the desired vegetation maps will also have to be brought in to realise usable maps for the province. The parties involved will therefore have to work together (public-private) to achieve the integration of different services to *a solution for a societal challenge*.

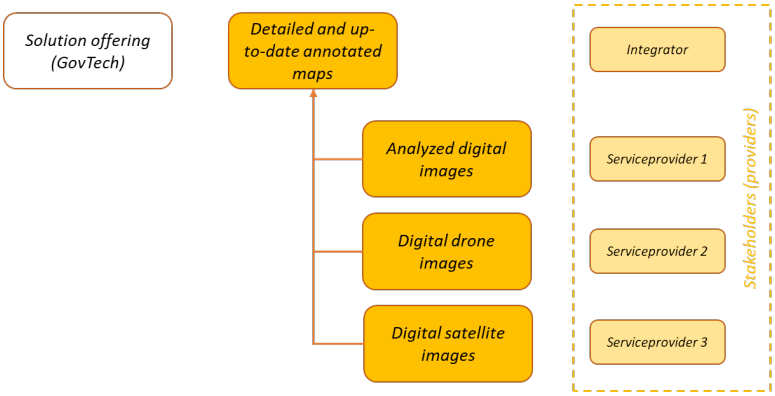

Figure 2 - Figure 1 - Identification of Common Societal Challenges and match Making 2

Parties encounter all kinds of *GovTech-related problems*, which can form a barrier to realising the desired solution. In addition to technical challenges, one can think of the significant investments required to move from a proven concept to a service for the province, without there being clarity for market parties about the future purchasing of the services. Legal uncertainties in the mandatory tender process and uncertainties resulting from long lead times for decisions within the government are also an example of *GovTech-related problems*.

The aim of *matchmaking* is to bring demand and supply together and to gain insight into all relevant aspects that are important for a successful follow-up. This includes: realisation of the required functionality, feasibility, integration into existing organisation, costs, lead time, compliance with legislation, but also *GovTech-related problems* and possible *solutions for GovTech-related problems*.

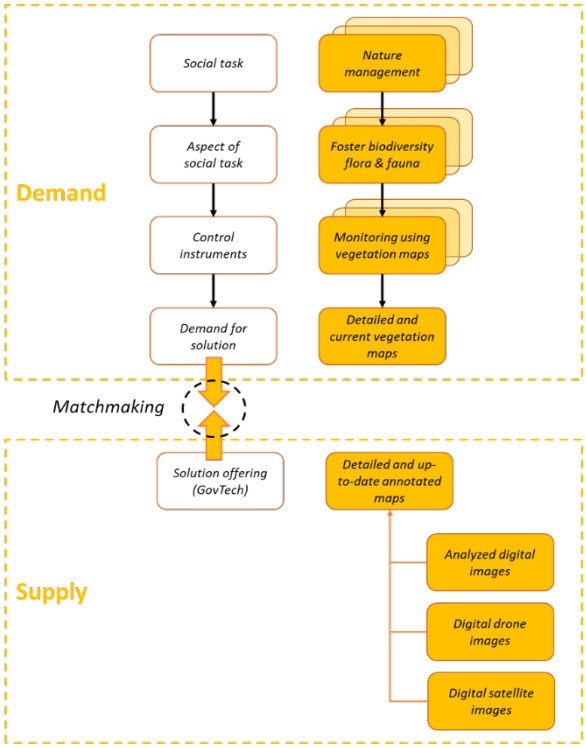

Figure 3 - Figure 1 - Identification of Common Societal Challenges and match Making 3

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2.2 Understanding societal challenges

This component involves an ongoing analysis of the complex societal challenges, spanning across different geographical and administrative levels. By understanding these challenges, we lay the groundwork for tailored solutions.

Examples of societal challenges[1] are migration and integration issues, an aging population, climate change impacts, high unemployment rates, healthcare accessibility concerns, income inequality, education disparities, digital divide challenges, mental health stigma, and the need for political and social integration efforts. Addressing these challenges requires collaborative and comprehensive strategies from governments and communities (Bharosa 2022). Thus, GovTech is a well-suited approach to address them.

2.3 Identifying solutions for societal challenges

The second component focuses on identifying innovative approaches, services, and technologies that can successfully address the societal challenges outlined in the previous phase. These solutions form the core of the project's efforts to meet the demands of governments. The solutions should be reusable across borders.

2.4 Identifying which partner works on which societal challenges

The final component involves mapping out the areas of expertise and interests of each partner. By understanding which partner is engaged in tackling specific societal challenges, the work package one team facilitates collaboration and ensure that the right expertise and resources are directed toward the most relevant challenges. This approach ensures that demand and supply are effectively aligned (matchmaking exercise) in the dynamic landscape of GovTech solutions, promoting collaboration, innovation, and the resolution of a diverse range of societal challenges.

2.5 Creating an overview of GovTech related problems

In this component, this paper will construct a comprehensive picture of the problems and hurdles that hinder the effective integration of GovTech solutions within the public sector. This overview guides us in addressing governments' demands more effectively. Additionally, this sheds a light on concrete issues that prevent addressing these societal challenges effectively.

[1] https://open-research-europe.ec.europa.eu/gateways/societalchallenges/about-this-gateway

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3 Methodology

3.1 Explanation of the methodology

The core components of the objective were explained in the previous chapter. The methodology describes the way in which the project will implement the objective:

1. Identification of the participants
   This methodology can be used for the matchmaking for the entire breadth of the supply and demand between government and GovTech providers. At this stage, participation is still limited to the partners in the consortium.

2. Process flow to arrive at a proposal for a pilot
   This step aims to create a systematic process flow that leads to the formulation of a pilot proposal. It involves stages such as ideation, feasibility assessment, and planning.

3. Explanation of the structure of the surveys
   Surveys are tools for gathering structured information. Understanding the structure ensures that questions are designed to capture relevant data. To gather information systematically from participants, helping in decision-making, understanding needs, or assessing the feasibility of proposed initiatives.

4. Quick scan as the first step in the matchmaking process
   To quickly assess compatibility and identify areas of potential synergy before investing more time and resources, a quick scan is the first step in the process. It is a rapid assessment to identify potential matches or alignments between different entities or ideas.

5. Processing the results of the surveys
   After surveys are conducted, there's a need to analyse and interpret the collected data to derive meaningful insights. This step converts raw data into actionable information, enabling evidence-based decision-making.

6. Explanation of the matchmaking workshop
   A matchmaking workshop is an interactive session where potential collaborators or partners are brought together. To facilitate discussions, build connections, and foster collaboration. The workshop is a platform for participants to explore synergies, discuss proposals, and potentially agree on a way forward.

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3.2 Participants

The participants in this project are the following partners (26 digital agencies from 17 European countries) as organisations and not as member states:

1. Federale overheidsdienst Beleid en Ondersteuning (Belgium)
2. Technical University of Denmark (Denmark)
3. Ministry of Economic Affairs and Communications (Estonia)
4. Direction interministérielle du numérique (DINUM) (France)
5. GovTech Campus Deutschland (Germany)
6. GovMind GmbH (Germany)
7. Dataport (Germany)
8. National Infrastructures for Research and Technology (GRNET) (Greece)
9. Department for Digital Transformation in the Presidency of the Council of Ministers (Italy)
10. Digital Accelerator of Latvia (DAoL) (Latvia)
11. Innovation Agency (Lithuania)
12. Malta Information Technology Agency (Malta)
13. ICTU Foundation (Digicampus) (The Netherlands)
14. Beta-I (Portugal)
15. Serbia's GovTech Programme (Serbia)
16. Centre de Telecomunicacions i Tecnologies de la Informació, CTTI (Spain)
17. Gobe Studio (Spain)
18. Lantik -Government of Biscay (Spain)
19. Municipality of Madrid (Spain)
20. Ministry of Economic Affairs and Digital Transformation (Spain)
21. Agency for Technological Modernisation of Galicia (AMTEGA) (Spain)
22. Bron Innovation, GovTech Sweden (Sweden)
23. Ministry of Digital Transformation (Ukraine)
24. Ukrainian Startup Fund (Ukraine)
25. The Lisbon Council (Belgium), Coordinator
26. Ríkiskaup (Iceland)

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3.3 Process flow

To give substance to the goal of selecting candidate pilots for scaleup, the following process is followed:

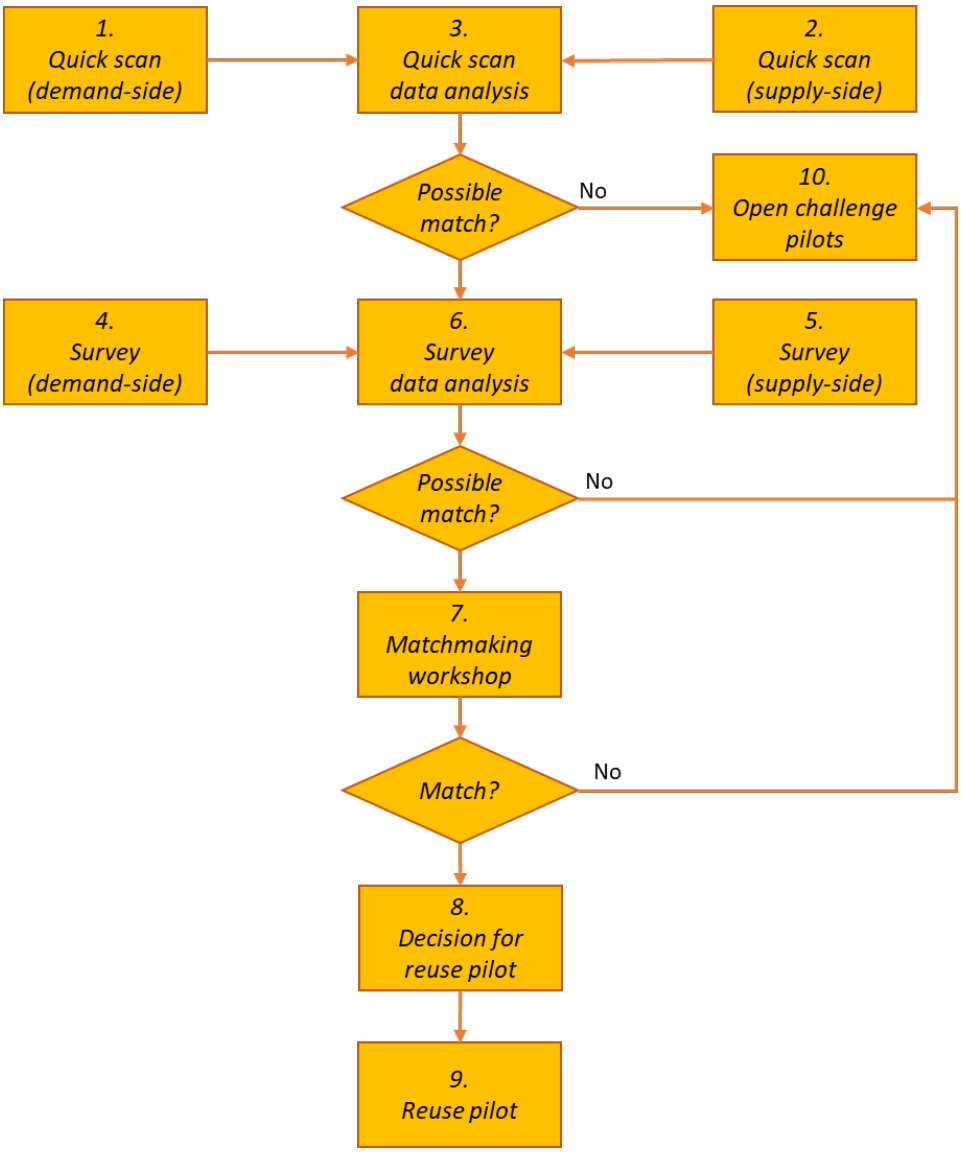

Figure 4 - GovTech4All Common Societal Challenge and Solution Match Making Process 1

1. Quick scan (demand-side)

   In order to limit the initial effort for partners, a step-by-step approach has been chosen to identify supply and demand. Partners with a question for a solution first fill in the quick scan of the question.

   Identifying the societal challenge and carefully defining the problem is imperative and determines the ultimate success of the solution. However, this often turns out to be quite challenging and it may therefore be desirable to first explore the problem in order to arrive at the right question. An

approach to this is elaborated in the document "Problem Definition methodology for a GovTech open innovation process" (Beta-I, 2022), which is included as an annex to this document.

2. Quick scan (supply-side)
   Partners with an offer for a solution first fill in a quick scan for the offer.

3. Analysis of the results of the quick scan
   After completing quick scans they are analysed and processed into a list of possible matches. If there is a possible match found, parties are invited to complete the additional surveys (demand and supply). If there is no match, the result will also be announced on the list of startup challenges.

4. Survey (demand-side)
   Parties looking for a solution to their societal challenge use the Demand survey to articulate in more detail their need. Questions in this survey are aimed at making potential solution providers aware of their needs.

5. Survey (supply-side)
   On the other hand, there are parties that offer solutions to societal challenges. These parties can their offer known through the Supply survey. Questions in this survey are aimed at making potential requesting parties aware of their possible solution. This survey also makes an initial estimate of the maturity level of the solution offered and the extent to which it is reused.

6. Analysis of the results of the surveys
   After completing a survey, it is analysed and processed into a report on the basis of which a comparison between supply and demand will be possible. Supply and demand are compared based on the results of the answers in the survey to identify possible matches. If there is a possible match, parties are invited to participate in the matchmaking workshop. If there is no match, the results will be discussed at the bi-weekly management meeting between the consortium partners.

7. Matchmaking workshops
   In the process of bringing supply and demand together, the matchmaking workshops occupy a central place. Parties involved in a potential match are invited to further explore the possible solution to their needs and the challenges they face in one or several session(s) and to make sense of the problems they are facing, create a shared understanding of the situation and lay the groundwork to collaborate and identify possible solutions.

   If there is a match, parties are invited to create a reuse the pilot proposal, and will be mentioned during the bi-weekly management meeting between the consortium partners.

8. Decision for reuse pilot
   Based on the pilot proposal, the parties of the consortium (two thirds of countries and two thirds of organisations, as specified in the consortium agreement) will decide whether, when and with whom the pilot will be launched. Reference is made to the Grant Agreement for the decision-making process, where the rules for selecting the pilots are the following (p.34):

a) *"The partners not being involved in the first specific grant agreement will have a priority in participating in the second specific agreement;*
b) *The pilots should be balanced in terms of geographical distribution, thematic challenges, and type of instruments used;*
c) *The pilot must be supported on the evidence-based needs of public administration and include an overview of the existing solutions on the market. Specific validation users should be mentioned in the pilot proposal;*
d) *The selection of the pilots should prioritise pilots with the largest number of interested partners, and involve at least two countries;*
e) *The selection of the pilot should consider the maturity level of the existing incubators, in terms of the capacity of partners to deliver. In the first round, more advanced initiatives should be prioritised;*
f) *The evaluation criteria for the selection of the best pilots will include Excellence, Impact and Implementation."*

In addition to these set of criteria, the following will be considered, the list displayed below is mentioned in the Digital Call document (second round of the SGA; p.8,9):

g) *"The new pilots should prioritise the following:*
h) *Pilots should carefully pick areas for use cases that support implementation of EU policies, such as for example, but not limited to: o data shareability and portability, personal data management, data spaces, etc. in support of the European Data Strategy and related policies;*
i) *new interoperability enablers that would fast-track the transition for more key public services available online and cross-border, in line with the Digital Decade Policy Programme;*
j) *sustainable public administrations, in line with the European Green Deal;*
k) *solutions that help reduce regulatory reporting burden, in line with the European commission's proposal:*
l) *and solutions (e.g., high-risk AI systems) that integrate cybersecurity measures in line with the upcoming Artificial Intelligence Act.*
m) *Pilots should favour the use of emerging technologies, like Artificial Intelligence (AI), including generative AI, and/or Virtual Worlds solutions. The application of such technologies could be envisaged for: o virtual assistants for personalised support;*
n) *virtual assistants linking data from across different sources;*
o) *prompt engineering for interoperability specification building;*
p) *utilisation of generative AI for automation and realisation of proactive services (e.g., proactive public services);*
q) *automation of repetitive tasks; streamlined data and knowledge management etc.''*

9. Reuse pilot
   After an approval decision to carry out the pilot, the pilot will be carried out according to plan.

3.4 Quick scan

The quick scan is a first global inventory of supply and demand to efficiently take the first step in the matchmaking process. The quick scan serves as a global inventory to review both the supply and demand side. The questions from the quick scans and the surveys for demand and supply complement

each other in the sense that the survey a more detailed elaboration of the quick scan. Just like the surveys, the quick scan consists of two scans, one for the demand side and one for the supply side.

3.5 Structure of the surveys

The core components of this project are described in Chapter 2 as:

1. Understanding societal challenges
2. Identify solutions for societal challenges
3. Identify which partner works on which societal challenges
4. Create an overview of GovTech related problems

To give substance to these components, two surveys have been designed, namely one for making an inventory of the demand side and one for making an inventory of the supply side. The above-mentioned components are included in the surveys according to the following question headings:

Table 1 - Demand Survey Questions Explanation Table

Demand	
General Questions	Gathering basic information about participants to contextualise the responses.
Societal Challenges	Identifying the pressing issues faced by communities, regions, or nations. This is the starting point for a government in finding solutions (Accenture, & Public, 2018)
Current situation	Understanding the need for solution, the history of attempts to address the problems and the availability of potential solutions.
Solution expectations	Core of the demand: identifying the policy and technical requirements for potential solutions.
Stakeholders	Understanding the organisations, institutions, or individuals actively engaged in implementing these solutions is important for understanding opportunities for reuse and understanding problems and possible solutions (Hoekstra, 2023)
Potential Barriers and instruments	Investigating the obstacles and challenges faced during the implementation of these solutions. In addition, it is important to gain insight into the instruments that are considered to overcome the barriers? (Bloch, 2013, Cinar 2019, Mergel 2022)

Table 2 - Supply Questions Explanation Table

Supply	
General Questions	Gathering basic information about participants to contextualise the responses.
Solution	Exploring innovative approaches, projects, or technologies aimed at addressing the identified challenges. Questions about the solution are aimed at gaining insight into the functional operation and the technique used. In addition, points of attention are

	reusability (interoperability) and integration with existing environment. The reuse of proven solutions is the starting point as much as possible. Solutions that have not yet reached a certain maturity level may not (yet) be eligible for upscaling and participation in pilots.
Societal Challenges	Identifying the pressing issues faced by communities, regions, or nations. Governments are not interested in tech for tech's sake. The key to successful engagement with governments is to offer solutions to real public sector challenges. Technology should always be an enabler, and not an end in itself (Accenture, & Public, 2018, p. 17).
Risks	Insight into the risks that both solution providers and end users run.
Stakeholders	Understanding the organisations, institutions, or individuals actively engaged in implementing these solutions is important for understanding opportunities for reuse and understanding problems and possible solutions (Hoekstra, 2023)
Potential Barriers and instruments	Investigating the obstacles and challenges faced during the implementation of these solutions. In addition, it is important to gain insight into the instruments that are considered to overcome the barriers? (Bloch, 2013, Cinar 2019, Mergel 2022)

3.6 Processing of the results of the surveys

The results of the surveys are analysed and categorised to enable comparison between demand and supply, to support the matchmaking process. In addition, the results form the basis for gaining insight into the GovTech-related barriers and potential instruments. The table below shows the relation between the questions (question headings):

Table 3 - Demand and Supply Question Matching Table

Demand	Supply
General Questions	General Questions
Societal Challenges	Societal Challenges
Current situation Solution expectations	Solution Risks
Stakeholders	Stakeholders
Potential Barriers and instruments	Potential Barriers and instruments

The questions are linked to the components in the following way:

1. Understanding societal challenges
2. Identify solutions for societal challenges
3. Identify which partner works on which societal challenges
4. Create an overview of GovTech related problems

Table 4 - Demand Question and Component Matching Table

Demand	1	2	3	4
General Questions	x	x	x	x
Societal Challenges	x	x		x
Current situation	x	x		
Solution expectations	x	x		
Stakeholders	x	x		x
Potential Barriers and instruments	x	x		

Table 5 - Supply Question and Component Matching Table

Supply	1	2	3	4
General Questions	x	x	x	x
Societal Challenges			x	x
Solution			x	
Risks			x	
Stakeholders			x	x
Potential Barriers and instruments			x	x

3.7 Workshop Approach for Matchmaking: Proposing a Reuse Pilot

In the data analysis phase of the surveys, a comprehensive inventory of supply and demand has been meticulously compiled and processed into a report. This report forms the foundation for the matchmaking workshop(s), the primary objective of which is to formulate a proposal for a reuse pilot.

Key Workshop(s) Building Blocks

Because the goal of these workshops is to get sufficient clarity as to whether the possible match gives rise to a follow-up (pilot for upscale), it is important to get enough detail and depth in this process step so that the desired clarity can be obtained. Depending on the need and/or complexity, this may mean that parties receive the desired clarity within one session, but it is also possible that several steps are required. For each matchmaking workshop(s), the following Key Workshop(s) Building Blocks can be recognised:

1. Requirements for Solution Implementation:
   - Identification of the essential elements (e.g., data, human resources) needed to make the solution operational.

2. Solutions Fit for Purpose:
   - Evaluation of whether the proposed solution aligns with the defined requirements, informed by the results of the report.

3. Necessary Changes and Stakeholders:
   - Exploration of changes required for the solution to function and identification of stakeholders involved in and impacted by these changes.

4. Integration into Existing Environment:

- If applicable, examination of how the solution integrates with existing systems, data, processes, and considerations for future management.

5. Anticipated Problems and Solutions for Problems:
   - Identification of potential challenges in implementing the solution and exploration of possible mitigations or solutions.

6. Preparation for Solution Usage:
   - Identification of tasks and preparations needed before the solution can be effectively utilised. The maturity of the solution also plays a central role in this.

7. Post-Implementation Stakeholder Engagement:
   - Identification of stakeholders (with group designations or names) who will be involved after the solution is implemented.

8. Stakeholders in Solution Realisation:
   - Identification of stakeholders (by name) who will be engaged in the realisation phase of the solution.

Workshop Approach

Due to the diverse range of questions from government entities and offerings from solution providers, the approach is adaptable. The tactics for achieving the desired proposal are determined during the workshop's preparation phase based on the size and complexity of the project. If the results of the surveys already provide sufficient insight to work out the above-mentioned building blocks and draw up a proposal, then a single workshop can suffice to reach an agreement. As the complexity of the solution increases, a more project-based approach will be required. A temporary team of both requesting party and offering party(s) will then work out the building blocks and draw up a proposal.

To implement the Key Workshop(s) Building Blocks, the following steps will be taken during the matchmaking workshop based on the results of the surveys:

Step 1:

Table 6 - Match-Making Step 1

Demand	**Supply**
Societal challenges	**Societal challenges**
– What is the societal challenge you are trying to address with new GovTech solutions? – What are the unwanted symptoms/effects of the problems related to the societal challenge?	– Which societal challenges can be addressed with your solution? – Who are the intended users of the solution? – Has this solution already been used before for a specific social challenge? If so, where and what were the results? – Has this solution been used before for other social challenges? If so, for which and where and what were the results?

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Current situation	
– What pain is experienced and by whom? – To what extend are there already solutions available for addressing the societal challenge? Is there a mismatch between demand and supply? – What is the history of attempts to solve the problem? What has been done so far?	

Step 2:

Table 7 - Match-Making Step 2

Demand	**Supply**
Expectations for the solution	**Solution offered**
– What policy and/or legal requirements are set for the intended solution for the societal challenge? – What technical requirements are set for the intended solution for the societal challenge? – When is the intended solution a success? What are the success criteria? – What should be preserved/reused in the current situation? – Do you see alternative/competing initiatives that solve the same societal challenge? If so, please describe these initiatives. – When should the intended solution be available?	– What policy and/or legal requirements are met with the solution? – What technical requirements are met with the solution? – What is the main technology driving the solution? – Please provide a brief technical description how the solution works and what the main technical components are: – What kind of data does your solution need in order to work properly? – At what technical maturity level would you scale your solution? – Are business leads/opportunities already recognised for using the solution in other EU countries? If yes which one? – If the solution is not yet mature, when will the solution be available to the user? – What kind of business model are you considering? Subscription fees, licences, other? – When will the solution be available to the user?

Step 3:

Table 8 - Match-Making Step 3

Demand	Supply
Stakeholders	**Stakeholders**
– Who is leading/driving the demand for solutions?	– Do you rely on third parties to deliver (parts of) your solution?

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– Which parties are involved? What can they contribute in developing or using a solution?	– Does the success of your solution depend on government agencies and yes, how? – Who are your main competitors? – What is the unique selling point of your solution? – What are the consequences for society if your solution is not implemented soon?
	Risks
	– What key business risks do you recognise from your perspective as solution provider? – What key user risks do you recognise for the end user when using your solution?

Step 4:

Table 9 - Match-Making Step 4

Demand	**Supply**
Barriers and instruments	**Barriers and instruments**
– When trying to address societal challenges, we experience the following barriers – Which instruments are you considering to use in order to address the barriers?	– What barriers do you experience during the development, implementation and/or application of your solution? – Which instruments could help in order to address the barriers?

Output of the Workshop: A Proposal for a Pilot

The results of this workshop will then be processed into a proposal for a pilot. The proposal contains an elaboration of the building blocks, supplemented with a proposal for a project approach (activities, timeline, resources, cost and budget, etc.). A template is included in annex Template Proposals_SGA_Preparation.

Part 1: Solution Description

Problem Definition and Proposed Solution (elaboration from building blocks above)

Part 2: Pilot Definition

Pilot Scope

Pilot Team

- Leadership roles, collaboration details, and user roles within the pilot.

Technical Requirements

- Specifications needed for the successful implementation of the solution.

Resources

- Types of resources required, including data, personnel, clients, infrastructure, etc.

Costs

- Budget details, including expected costs and their breakdown.

Time

- Timeline with key activities, milestones, and relevant Key Performance Indicators (KPIs).

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Sustainability and Exploitation Plan
Exploitation Opportunities
- Proposed business model and strategies for long-term sustainability.
Impact and KPI
- Long-term expected impacts and measurable Key Performance Indicators.

This structured workshop approach ensures a systematic evaluation of potential solutions, leading to a well-defined and comprehensive proposal for a pilot.

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5 Annex: Quick scan Demand

Introduction

Dear Participants,

We welcome you to the Program GovTech4all Incubator's Quick scan on the demand for GovTech Solutions. This quick scan aims to explore the need for innovative solutions addressing societal challenges. Through your valuable input, we seek to identify existing initiatives, potential barriers, and the key players involved in addressing these challenges. Your insights will play a pivotal role in enhancing our understanding of the available solutions, facilitating collaboration, and fostering positive societal change.

Who should fill in this quick scan?

- public sector professionals working on addressing societal challenges (e.g. climate change, poverty, migration, health, mobility, energy transition etc.)
- please share the survey with other people that fit the description above.

What's in it for you?

- This quick scan is the first step in the process of identifying of the demand and helps to get a global insight into your need for a solution.
- The quick scan results will be used to identify a possible need for solution, so that further exploration can be started.

Purpose of the quick scan:

The information collected through this quick scan will be utilized in the matchmaking process within the GovTech4all Incubator Program. By comprehensively understanding the existing landscape of societal challenges and innovative solutions, we can facilitate meaningful connections between solution providers, stakeholders, and support organizations. Your input will enable us to create synergistic partnerships, enhance collaboration, and drive impactful change in the communities we serve.

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Part A: General questions

1. Please provide your contact details for the quick scan?

Name: Organization: E-mail address:

Part B: Societal challenges

2. What is the societal challenge you are trying to address with new GovTech solutions?

Examples of societal challenges include poverty, climate change impacts, migration and integration issues, an aging population, climate change impacts, high unemployment rates etc. If necessary, you can mention multiple societal challenges.

Please provide also any additional explanation.

Answer:

Part D: Expectations for the solution

3. Please provide a brief description of the requirements for the solution.

Answer:

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6 Annex: Quick scan Supply

Introduction

Dear Participants,

We welcome you to the Program GovTech4all Incubator's Quick scan on the demand for GovTech Solutions. This quick scan aims to explore the need for innovative solutions addressing societal challenges. Through your valuable input, we seek to identify existing initiatives, potential barriers, and the key players involved in addressing these challenges. Your insights will play a pivotal role in enhancing our understanding of the available solutions, facilitating collaboration, and fostering positive societal change.

Who should fill in this quick scan?

- public sector professionals working on addressing societal challenges (e.g. climate change, poverty, migration, health, mobility, energy transition etc.)
- please share the survey with other people that fit the description above.

What's in it for you?

- This quick scan is the first step in the process of identifying of the supply-side and helps to get a global insight into your solution.
- The quick scan results will be used to identify a possible solution, so that further exploration can be started.

Purpose of the quick scan:

The information collected through this quick scan will be utilized in the matchmaking process within the GovTech4all Incubator Program. By comprehensively understanding the existing landscape of societal challenges and innovative solutions, we can facilitate meaningful connections between solution providers, stakeholders, and support organizations. Your input will enable us to create synergistic partnerships, enhance collaboration, and drive impactful change in the communities we serve.

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Part A: General questions

1. What is the title of the innovation initiative you wish to work on in GovTech4All?

Answer:

2. Please provide your contact details for the survey?

Name: Organization: E-mail address:

Part B: Solution

3. Please provide a brief functional description your solution?

Please provide a brief functional description

Answer:

4. Please provide a brief technical description how the solution works and what the main technical components are:

Answer:

Part C: Societal challenges

5. Which societal challenges can be addressed with your solution?

Please give a brief description of the societal challenge in relation to government policy of your Member State or European Union (if possible supplemented with reference to the source).

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If necessary, you can mention multiple societal challenges.

Answer:

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7 Annex: GovTech Survey Demand

Introduction

Dear Participants,

We welcome you to the Program GovTech4all Incubator's Survey on the demand for GovTech Solutions. This survey aims to explore the need for innovative solutions addressing societal challenges. Through your valuable input, we seek to identify existing initiatives, potential barriers, and the key players involved in addressing these challenges. Your insights will play a pivotal role in enhancing our understanding of the available solutions, facilitating collaboration, and fostering positive societal change.

Who should fill in this survey?

- public sector professionals working on addressing societal challenges (e.g. climate change, poverty, migration, health, mobility, energy transition etc.)
- please share the survey with other people that fit the description above.

What's in it for you?

- The questions should help you to get a better understanding of the demand for GovTech solutions.
- The survey results of other countries participating in the GovTech4ALL Program will be combined and shared, it can help you to benchmark across countries.
- The survey results will be used to guide matchmaking activities in 2024. By specifying your needs now, you can benefit from pilots next year.

Purpose of the Survey:

The information collected through this survey will be utilized in the matchmaking process within the GovTech4all Incubator Program. By comprehensively understanding the existing landscape of societal challenges and innovative solutions, we can facilitate meaningful connections between solution providers, stakeholders, and support organizations. Your input will enable us to create synergistic partnerships, enhance collaboration, and drive impactful change in the communities we serve.

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Structure of the Survey

In this survey, we will delve into various aspects related to societal challenges and the solutions implemented to address them. The survey is structured into five main parts:

A. General Questions

Gathering basic information about participants to contextualize the responses.

B. Societal Challenges

Identifying the pressing issues faced by communities, regions, or nations.

C. The current situation

Understanding the need for solution, the history of attemps to address the problems and the availability of potential solutions.

D. Solution expectations

Identifying the policy and technical requirements for potential solutions.

E. Stakeholders

Understanding the organizations, institutions, or individuals actively engaged in implementing these solutions.

F. Potential Barriers and instruments

Investigating the obstacles and challenges faced during the implementation of these solutions. And what kind of instruments are you considering for overcoming the barriers?

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Part A: General questions

4. Please provide your contact details for the survey?

Name: Organization: E-mail address:

Part B: Societal challenges

5. What is the societal challenge you are trying to address with new GovTech solutions?

Examples of societal challenges include poverty, climate change impacts, migration and integration issues, an aging population, climate change impacts, high unemployment rates etc.

If necessary, you can mention multiple societal challenges.

Answer:

6. What are the unwanted symptoms/effects of the problems related to the societal challenge?

Please provide as many (quantitative) details as possible.

Answer:

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Part C: Current situation

7. What pain is experienced and by whom?

Examples include poor quality of services, the lack of employees, lack of adequate financial resources etc.?

Answer:

8. To what extend are there already solutions available for addressing the societal challenge? Is there a mismatch between demand and supply?

Please give a brief description

Answer:

9. What is the history of attempts to solve the problem? What has been done so far?

Please give a brief description

Answer:

Part D: Expectations for the solution

10. What policy and/or legal requirements are set for the intended solution for the societal challenge?

Answer:

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11. What technical requirements are set for the intended solution for the societal challenge?

Answer:

12. When is the intended solution a success? What are the success criteria?

Examples include: nationwide adoption, low cost, compliance with EU regulations, support from politicians etc.

Answer:

13. What should be preserved/reused in the current situation?

Examples include: data sharing infrastructure, apps, databases etc.

Answer:

14. Do you see alternative/competing initiatives that solve the same societal challenge? If so, please describe these initiatives.

Answer:

15. When should the intended solution be available?

Answer:

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Part E: Stakeholders

16. Who is leading/driving the demand for solutions?

Examples include policy makers, societal interest groups, European Union etc.

Answer:

17. Which parties are involved? What can they contribute in developing or using a solution?

Please give an overview of the most important stakeholders with their contribution in the table below:

End user(s): *(e.g. citizens/entrepreneurs/ public professionals)*	**Contribution:**
a-	
b-	
Service provider(s) to end users: *Can be public (e.g. tax office, social security agency etc)) or private (e.g. banks, health providers, energy providers etc.)*	**Contribution:**
a-	
b-	
Technology providers (can be public or private)	**Contribution:**
a-	
b-	
Regulators: *(public agencies)*	**Contribution:**
a-	
b-	

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Policymakers: *(public agencies)*	**Contribution:**
a-	
b-	
Civil/societal interest groups:	**Contribution:**
a-	
b-	

Part F: Barriers and instruments

18. When trying to address societal challenges, we experience the following barriers:

Please place your judgment (x) in the box

	Disagree	*Somewhat disagree*	*Somewhat agree*	*Agree*
Lack of knowledge				
Lack of trust between organizations				
Lack of acceptable business models				
Tendering and procurement issues				
Lack of interoperability of solutions				
Governance of decision making				
Lack of boundary resources (e.g. citizens eID, API, standards etc.)				
Presence of ethical dilemmas (e.g. privacy vs. cost)				
Lack of public funding				
Lack of a shared understanding of the solution				
Small market of solution providers (potential of monopoly and vendor lock-in)				

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19. Which instruments are you considering to use in order to address the barriers?

Please place a (x) behind the instrument(s) you want to use or are already using for stimulating the development of solutions.

Innovative procurement practices (e.g. subsidies for startups, hackathons, living labs, accelerators and innovation hubs, etc.)	
Developing trust frameworks (public-private governance of decision making on solution design and development)	
Standardization (e.g. standards for data exchange)	
Steward ownership (public agencies are in the board of companies)	
Multi-helix Co-creation (e.g. with private parties and universities).	
Policymaking	
Legal instruments (developing additional policies and laws or adjust existing regulations)	
Certification of solutions	
Other, namely: -	

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8 Annex: GovTech Survey Supply

Introduction

Dear Participants,

We welcome you to the Program GovTech4all Incubator's Survey on the Inventory of available propositions. This survey aims to explore the landscape of innovative solutions addressing societal challenges. Through your valuable input, we seek to identify existing initiatives, potential barriers, and the key players involved in addressing these challenges. Your insights will play a pivotal role in enhancing our understanding of the available solutions, facilitating collaboration, and fostering positive societal change.

Who should fill in this survey?

- Startups, scaleups and technology providers working on solutions for addressing societal challenges (e.g. climate change, poverty, security, migration, health, mobility, energy transition etc.)
- please share the survey with other people that fit the description above.

What's in it for you?

- The questions should help you to get a better understanding of the demand and supply for GovTech solutions.
- The survey results of other countries participating in the GovTech4ALL Program will be combined and shared and can help you to benchmark across countries.
- The survey results will be used to guide matchmaking activities in 2024. By specifying your offering now, you can benefit from pilots next year.

About the Survey:

In this survey, we will delve into various aspects related to societal challenges and the solutions implemented to address them. The survey is structured into five main sections:

A. General Questions:

Gathering basic information about participants to contextualize the responses.

B. Solutions:

Exploring innovative approaches, projects, or technologies aimed at addressing the identified challenges.

C. Societal Challenges:

Identifying the pressing issues faced by communities, regions, or nations.

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D. **Stakeholders**

Understanding the organizations, institutions, or individuals actively engaged in implementing these solutions.

E. **Risks:**

Insight into the risks that both solution provider and end users run.

F. **Potential Barriers and instruments:**

Investigating the obstacles and challenges faced during the implementation of these solutions. And what kind of instruments are you considering for overcoming the barriers?

Purpose of the Survey:

The information collected through this survey will be utilized in the matchmaking process within the GovTech4all Incubator Program. By comprehensively understanding the existing landscape of societal challenges and innovative solutions, we can facilitate meaningful connections between solution providers, stakeholders, and support organizations. Your input will enable us to create synergistic partnerships, enhance collaboration, and drive impactful change in the communities we serve.

Part A: General questions

6. What is the title of the innovation initiative you wish to work on in GovTech4All?

Answer:

7. Please provide your contact details for the survey?

Name: Organization: E-mail address:

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Part B: Solution

8. What policy and/or legal requirements are met with the solution?

Please give a short summary

Answer:

9. What technical requirements are met with the solution?

Please give a short summary

Answer:

10. What is the main technology driving the solution?

Examples include AI, digital twin, IoT, Cyber security or others

Answer:

11. Please provide a brief technical description how the solution works and what the main technical components are:

Answer:

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12. What kind of data does your solution need in order to work properly?

Answer:

13. At what technical maturity level would you scale your solution?

Maturity level	**(x)**
TRL 1 — Basic principles observed	
TRL 2 — Technology concept formulated	
TRL 3 — Experimental proof of concept	
TRL 4 — Technology validated in a lab	
TRL 5 — Technology validated in a relevant environment (industrially relevant environment in the case of key enabling technologies)	
TRL 6 — Technology demonstrated in a relevant environment (industrially relevant environment in the case of key enabling technologies))	
TRL 7 — System prototype demonstration in an operational environment	
TRL 8 — System complete and qualified	
TRL 9 — Actual system proven in an operational environment (competitive manufacturing in the case of key enabling technologies, or in space	

14. Are business leads/opportunities already recognized for using the solution in other EU countries? If yes which one?

Answer:

15. If the solution is not yet mature, when will the solution be available to the user?

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Answer:

16. What kind of business model are you considering? Subscription fees, licences, other?

Answer:

17. When will the solution be available to the user?

Answer:

Part C: Societal challenges

18. Which societal challenges can be addressed with your solution?

Please give a brief description of the societal challenge in relation to government policy of your Member State or European Union (if possible supplemented with reference to the source).

If necessary, you can mention multiple societal challenges.

Answer:

19. Who are the intended users of the solution?

Answer:

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20. **Has this solution already been used before for a specific social challenge? If so, where and what were the results?**

Answer:

21. **Has this solution been used before for other social challenges? If so, for which and where and what were the results?**

Answer:

Part D: Stakeholders

22. **Do you rely on third parties to deliver (parts of) your solution? (Please specify)**

Answer:

23. **Does the success of your solution depend on government agencies and yes, how?**

For example: public agencies as launching customer, data provider or regulator

Answer:

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24. Who are your main competitors?

Answer:

25. What is the unique selling point of your solution?

Answer:

26. What are the consequences for society if your solution is not implemented soon?

Answer:

Part E: Risks

27. What key business risks do you recognize from your perspective as solution provider?

Answer:

28. What key user risks do you recognize for the end user when using your solution?

Examples of risks include incorrect operation because algorithm does not work properly or data is incomplete etc.

Answer:

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Part F: Barriers

29. What barriers do you experience during the development, implementation and/or application of your solution?

Please place your judgment (x) in the box

	Disagree	*Somewhat disagree*	*Somewhat agree*	*Agree*
Lack of knowledge				
Lack of trust of government agencies				
Lack of a viable business model				
Tendering and procurement issues				
Lack of interoperability of solutions				
Governance of decision making				
Lack of boundary resources (e.g. citizens eID/API, standards etc.)				
Presence of ethical dilemmas (e.g. privacy vs. cost)				
Lack of public funding				
Lack of shared understanding				
As a frontrunner, you have to lead the market development and trust creation on your own				

Other, namely:

Answer:

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30. Which instruments could help in order to address the barriers?

Please place a (x) behind the instrument(s) you would suggest to help boost the launch and adoption of your solution.

Innovative procurement practices (e.g. subsidies for start ups, hackathons, living labs, accelerators and innovation hubs, etc.	
Developing trust frameworks (public-private governance of decision making on solution design and development)	
Standardization (e.g. standards for data exchange)	
Steward ownership (public agencies are in the board of companies)	
Multi-helix Co-creation (e.g. with private parties and universities).	
Policymaking	
Legal instruments (developing additional policies and laws, or adjust existing regulations)	
Certification of solutions	
Other, namely: -	

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Annex 6 Template
Proposals_SGA_Preparation_[Partners_name]

Part 1: Pilot opportunity and research

Problem definition
What are the key problems and opportunities being addressed? What different dimensions are an issue? Is there market data to contextualize the problem? Please use as much data and evidence as possible to have a clear definition of the problem. Make sure to do a market analysis or use other methods to provide evidence for the demand.

Proposed solution
What solution is envisaged? What features solves which problems? How are they connected? Is it economic viable? Are there similar solutions currently in the market? Does it fulfill user needs? If possible provide a state of the art of your idea on how to solve the problem. You can provide a competitor analysis, indicate thea Technology Readiness Level (TRL) and interoperability (or other types) of challenges to create a solution and solve the problem.

Main instrument
What is the main instrument to fund the development of the solution? In house, procurement, research grant, startup challenge? A combination of them?

Part 2: Pilot definition

Pilot scope
Pilot team
Which partners lead, who collaborates and who will use the solution? Detail the role of each partners within the pilot's activities.
Technical requirements
What are the technical requirements to be able to roll out the solution?
Resources
What kind of resources do you need? Which data, people, clients, infrastructure, etc?
Costs
Budget
What kind of costs are expected and what are their values? Please detail as much as possible.
Timeline
Design the pilot implementation timeline. There must be key activities and milestones. KPIs can be mentioned to add important details.

Sustainability and exploitation plan
Exploitation opportunities
What is the proposed business model? How can the pilot be sustainable in the long-term?
Impact and KPI
What are the long-term, expected impacts from the pilot? How can we measure them?

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Scalability

What are the potential reusers of the outcomes of the pilot? Are the results scalable?

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