



LANTIK

Regional Government of Biscay

GovTech 4 All

Secure information in cross-border data spaces

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Innovation Engineer

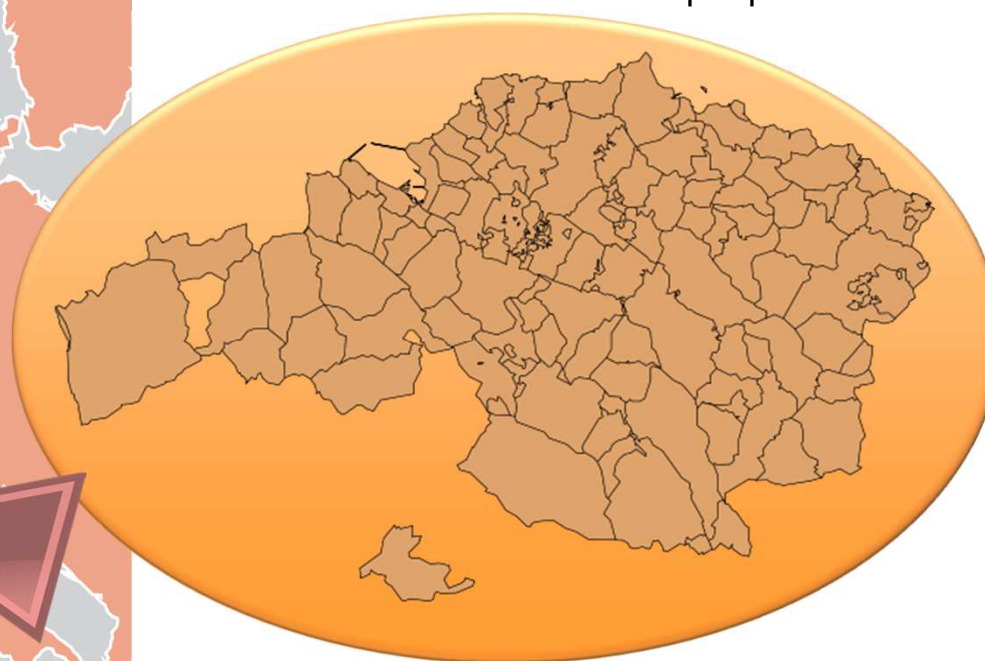
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BIZKAIA

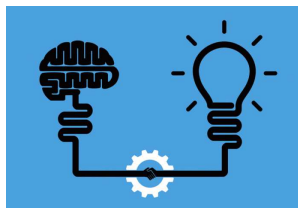


BIZKAIA 112 municipalities
1.150.000 people



LANTIK

- Lantik, public IT services company of the Biscay Government for 42 years
 - Created in 1981
 - **We've been doing GovTech since our foundation**
- 25 years – Area/Department/Division for Innovation
 - First tax declaration on the internet (1998)
 - First accessible portal of a European administration (2003)
 - Free email to all citizens (2008)
 - BiscayTIK (2008)
- Two big ongoing initiatives:
 - **Quantum Ecosystem (2021-2022-...)**
 - **GovTech Ecosystem (2021-2022-...)**



Let's talk about 'Secure information in cross-border data spaces'

- Digital Europe – Call DIGITAL 2022-GOVTECH-02-FPA
 - Objectives:
 - *The GovTech incubator Framework Partnership Agreement (FPA) aims to foster cross-border collaboration between digitalization agencies in the different Member States and countries associated to the Programme, involving also GovTech actors from the private sector and academia.*
 - *Deliver an action plan on basis of jointly agreed objectives, covering 4 years of work (FPA).*
 - *Work in 2 cycles of 2 years – 2 SGAs (Single Grant Agreement).*
 - *Develop several GovTech-related pilots on each SGA.*



First steps

- Feb - May 2022 – Call open & active
 - *Creation of the consortium and submit proposal*
- Approval of the consortium by the CE and signing FPA
- Members (17 orgs / 12 countries)
 - *GRNET and Lantik members since the beginning – Active members*
- Jun-Dic 2022, working on the proposal
 - *First cycle – 1st SGA*

Application forms

Acronym Govtech4all-beta

2 - Participants

List of participating organisations

#	Participating Organisation Legal Name	Country	Role	Action
1	THE LISBON COUNCIL FOR ECONOMIC COMPETITIVENESS BE		Coordinator	
2	WILDTRIUMPHS LDA	PT	Partner	
3	NATIONAL INFRASTRUCTURES FOR RESEARCH AND TECHIEL		Partner	
4	LANTIK, S.A.M.P.	ES	Partner	
5	AYUNTAMIENTO DE MADRID	ES	Partner	
6	BRON INNOVATION AB	SE	Partner	
7	STICHTING ICTU	NL	Partner	
8	ODA VENTURES SL	ES	Partner	
9	BIEDRIBA LATVIJAS DIGITALAIS AKSELERATORS	LV	Partner	
10	GOVMIND GMBH	DE	Partner	
11	AGENCIA PARA LA MODERNIZACION TECNOLOGICA DE G ES		Partner	
12	MINISTERIO DE ASUNTOS ECONOMICOS Y TRANSFORMACES		Partner	
13	GOVTECH CAMPUS DEUTSCHLAND EV	DE	Partner	
14	VIESOJI ISTAIGA INOVACIJU AGENTURA	LT	Partner	
15	Direction interministérielle du numérique (DINUM)	FR	Partner	
16	MINISTRY OF DIGITAL TRANSFORMATION OF UKRAINE	UA	Partner	
17	PRESIDENZA DEL CONSIGLIO DEI MINISTRI.	IT	Partner	

Pilots

- 3 pilots were selected

A) Startup challenge

Partners: GOBE (ES), GovTech Sweden (SE), Innovation Agency Lithuania (LT), GovMind (DE), Ayuntamiento de Madrid (ES), Beta-I (PT), GRNET (GR)

B) Helping EU citizens obtain social benefits with Personal Regulation Assistants (PRA)

Partners: STICHTING ICTU (NL), GRNET (GR), DINUM (FR)

C) Secure information in cross-border data spaces

Partners: LANTIK (ES), GRNET (GR), DINUM (FR), STICHTING ICTU (NL) (silent partner); AMTEGA (ES) (silent partner)

Application forms

Acronym Govtech4all-beta

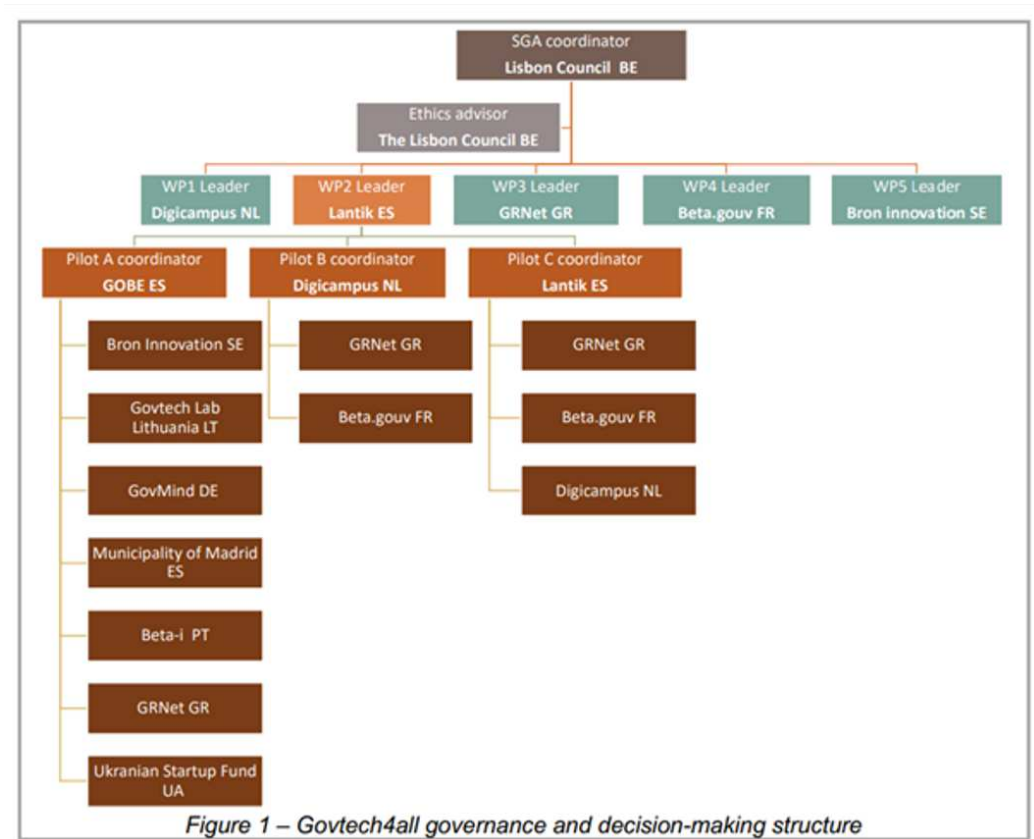
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Governance

- 3 pilots were selected
 - A) Startup challenge
 - B) Helping EU citizens obtain social benefits with Personal Regulation Assistants (PRA)
 - C) Secure information in cross-border data spaces
- December 2022
 - Presentation of the proposal to the EC
- January – February 2023
 - Evaluation. Waiting for official results



Pilot - 'Secure information in cross-border data spaces'

- Goal
 - Determine a commonly agreed cross-border use case between interested GovTech4All partners for which the **security, privacy and interoperability** in the **exchange and storage of sensitive information** is a priority
- Some of the ideas (*Secure / Information / Cross-border*)
 - Exchange of tax information and fraud control.
 - Management and monitoring of aid for dependency and to alleviate humanitarian crises.
 - Control and monitoring of energy saving measures and cross-country energy exchanges.
 - Health data (dPLF – Passenger Locator Form, certificates of medical conditions, or other data).



Pilot - Key points

- Four main key points of the pilot
'Secure information in cross-border data spaces':
 1. *Secure encryption algorithms*
 2. *Work with encrypted data*
 3. *Give the information once*
 4. *Shared data spaces*



Pilot – Key points (1 & 2) – Security

1. Secure encryption algorithms

- *Traditional encryption algorithms are becoming obsolete*
- *Quantum technologies will soon make possible to brute-force & break the actual paradigms of encryption*
- PROPOSAL: **Quantum-safe encryption algorithms**

2. Work with encrypted data

- *Information is stolen every day (Phishing, Ransomware, Hacking...)*
- *Allow to work with encrypted information without deciphering (addition, subtraction, comparisons, searches, etc..)*
- *Apply solution as a basic level, without the business being aware*
- PROPOSAL: **Homomorphic Algorithms**



Pilot – Key points (1 & 2) – Security - Information

POST-QUANTUM CRYPTOGRAPHY (WHY USE IT?)

<https://cybernews.com/editorial/post-quantum-cryptography-is-nearly-here-why-the-rush/>

Post-quantum cryptography is nearly here. Why the rush?



Jurgita Lapienytė, Deputy Chief Editor Updated on: 26 April 2022



HOMOMORPHIC ENCRYPTION FOR HEALTH DATA

<https://inpher.io/technology/what-is-fully-homomorphic-encryption/>

Fully Homomorphic Encryption: An Example



Analysis of private medical data.

An illustrative FHE example.

Situation: A medical researcher wants to compute descriptive statistics on a population of lung cancer patients at a hospital.

Complication: The hospital is unable to share its private medical records with the researcher due to the HIPAA privacy rule.

Resolution: The hospital encrypts its sensitive data using a fully homomorphic encryption scheme, so that the data is protected while also able to be computed on.

How It Works: The hospital homomorphically encrypts its medical records and sends them to the medical researcher's cloud computing environment. Because the data is encrypted, it is fully protected and private in the cloud. Next, the researcher runs its analytical functions on

the homomorphically-encrypted data in the cloud, manipulating the data while it remains encrypted. Last, the

Pilot – Key points (3 & 4) – Information & Sharing

3. Give the information once

- PROPOSAL: **Once Only Technical System (OOTS)**
- *OOTS enables the sharing of information between public administrations across borders between EU countries.*
- *Once-Only Principle: citizens should not be forced to provide information to authorities if another authority already holds it in electronic format.*
- <https://ec.europa.eu/digital-building-blocks/wikis/display/OOTS/About+OOTS>



4. Shared data spaces

- *Open-source implementations for the creation of a cross-border data space adapted to the business scenario.*
- *IDSA Data Space Connector and/or Eclipse Data Space Connector of DIN- SPEC 27070 for data connectors and data asset interoperability (W3C).*
- <https://internationaldataspaces.org/we/>



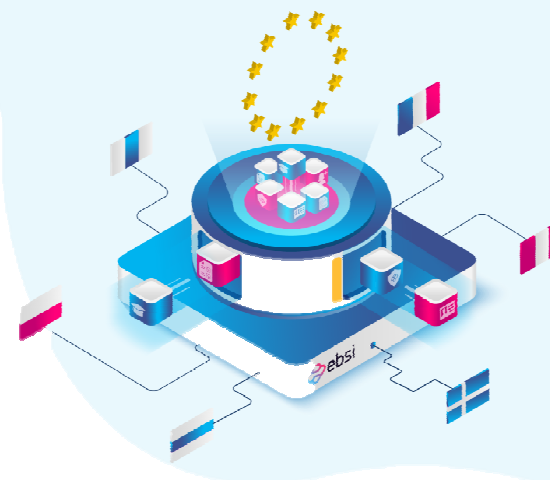
Pilot - Key points

- Four main key points of the pilot
'Secure information in cross-border data spaces':
 1. Secure encryption algorithms
Quantum-safe encryption algorithms
 2. Work with encrypted data
Homomorphic Algorithms
 3. Give the information once
Once Only Technical System (OOTS) - EU
 4. Shared data spaces
Open-source implementations – IDSA DSC / Eclipse DSC



Pilot – Ideas – EBP / EBSI European Blockchain Services Infrastructure

- Goal
 - Leverage blockchain to create **cross-border** services for public administrations, businesses, citizens, and their ecosystems to **verify information** and make services **trustworthy**.
- Key points
 - Cross-border
 - Information
 - Verify / Trustworthy -> Secure
- Pilot - 'Secure information in cross-border data spaces'



Conclusion – Where are we now?

- We're working on it - Definition phase
 - *Waiting for comments from the CE before signing & starting 1st SGA*
- Maybe...
 - *Some ideas you've seen here will change, others will be discarded, and new ones added*
- In fact...
 - *We've received some feedback on changes to make*
- When the final proposal for the SGA is set
 - *We have 2 years to make it happen*
- **We hope to come back at some point in the future to let you know how is it going**



ΕΥΧΑΡΙΣΤΩ
THANK YOU VERY MUCH
MUCHAS GRACIAS
ESKERRIK ASKO



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