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# UNVEILING THE FUTURE OF EGOVERNMENT

THE GROUNDBREAKING GLASS MODEL

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## GLASS

Single Sign-on eGovernance paradigm  
based on a distributed file exchange  
network for Security, transparency, cost  
effectiveness and trust

# UNVEILING THE FUTURE OF EGOVERNMENT

THE GROUNDBREAKING GLASS MODEL



## OUR GOAL

Make public administrations & public institutions open, efficient, inclusive through borderless, digital, personalized & citizen-driven public services

### HOW

Distributed infrastructure based on the InterPlanetary File System (**IPFS**)

**Distributed Ledger** for recording the transactions

A single sign-on Wallet as a Service (**WaaS**)

**dApps** Ecosystem

**AI** Data Schema Transformer



## CONTRIBUTION

### eGovernment practices to be

Cross-border by design

Open Government capabilities

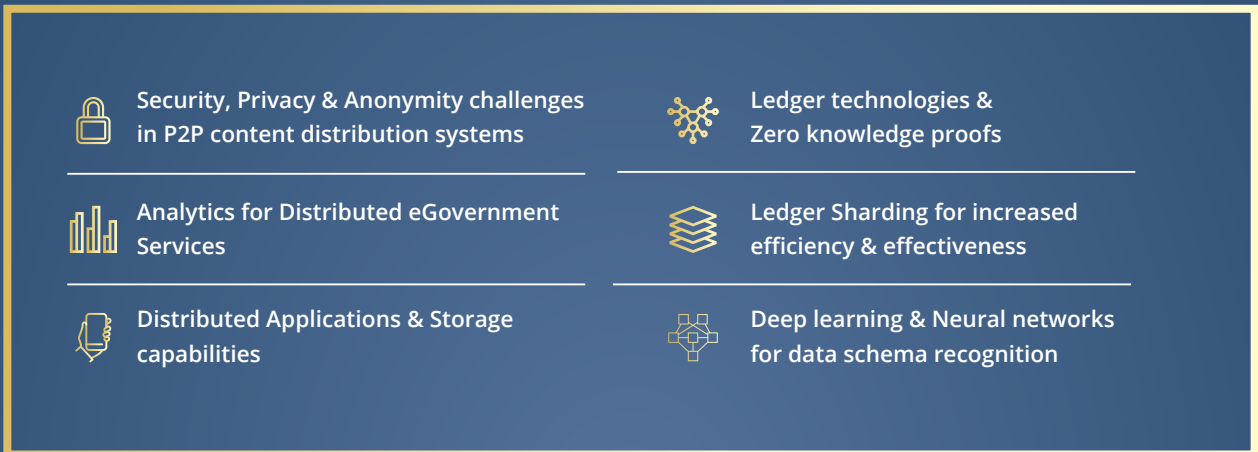
Improved trust and confidence

Improved value and wellbeing

Facilitate access to markets

# AMBITION

## GLASS MODEL



# MOTIVATION

## GLASS MODEL

### Vision & Principles

- Digital by Default
- Once-Only Principle
- Inclusiveness & Accessibility
- Openness & Transparency
- Cross-border by default
- Interoperable by default
- Trustworthiness & Security



# INTRODUCE

## THE CONSORTIUM

The consortium of Glass consists of 11 partners from 6 different countries with multi-disciplinary expertise. By working together, we strive to create a strong foundation for a more inclusive, efficient, and citizen-centric digital society.

**CONSORTIUM MEMBERS**

A Strong Team Working Towards  
A Better Digital Tomorrow

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**CITIZENS**  
ACTORS & ROLES

GLASS prioritizes Citizen-Centricity, increasing Citizen Participation in Public Policies, offering unified User Experience and allowing Data Control & Information Sharing.



**GOVERNMENT**  
ACTORS & ROLES

GLASS automates Public Administration processes, implementing an eWallet to facilitate Authentication, Document Sharing, Information Exchange & Transaction Validation.



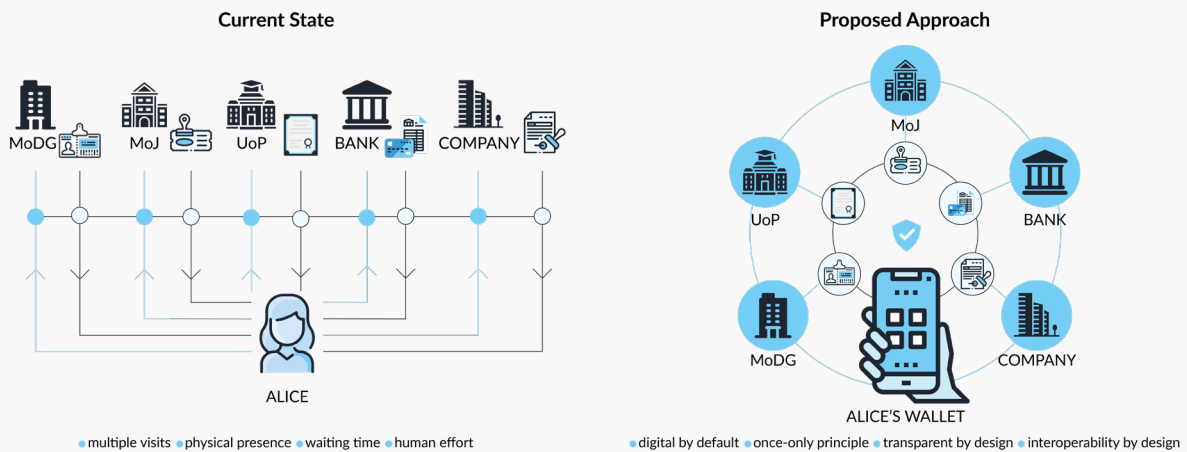
**BUSINESS**  
ACTORS & ROLES

GLASS empowers enterprises with Data Control, offering efficiency in managing Company Documentation, Time Savings and Certification Benefits.

# CONCEPT

## GLASS MODEL

GLASS caters for a 'European Common Services Web', bringing closer together citizens, businesses and European governments. The project introduces a citizen-centric e-governance model that enables beneficiaries to participate in a network for big data exchange and service delivery



## ALICE EXPLAINS GLASS TECHNOLOGY

Meet Alice who provides a technical explanation of the roles and features of the GLASS eGovernance model. Subscribe now to the Glass YouTube channel and stay informed about the latest updates and insights from the innovative Glass solution.

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# THE TECHNOLOGY

## GLASS MODEL



**InterPlanetary File System (IPFS):** It is the backbone file storage of the GLASS model; it provides a novel file storage and sharing internal policy, where the files, the information and the generated building blocks of the network are given a unique fingerprint.



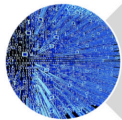
**Distributed Ledger:** It supports the open source, scalable and distributed nature of the network. Being built on P2P decentralized or distributed architectures, it is the most suitable mechanism to support our public infrastructure, ensuring the integrity and validity of all transactions.



**Single Sign-on Wallet as a Service (WaaS):** GLASS proposes a multifunctional single sign-on wallet that provides users with the ability to gather their personal documentation (such as digital ID, digital passport, validated birth certificates, validated marriage certificate, etc.).

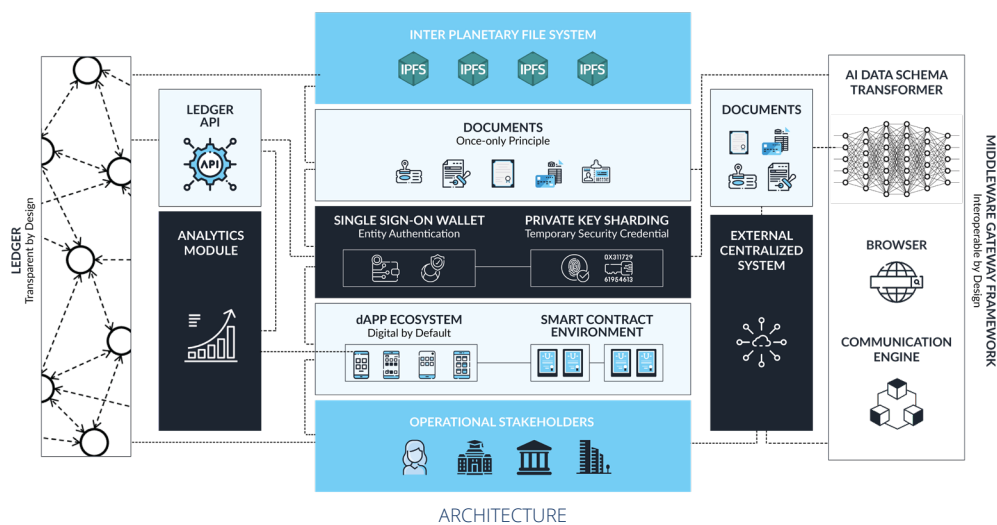


**Distributed Application (dApp) Ecosystem:** The ecosystem of dApps, libraries, files, reusable smart contracts, piece of software, etc. will be designed, developed and deployed by GLASS stakeholders.



**AI Data Schema Transformer:** There is a need for high interoperability of all involved in eGovernance model systems. Since the different types of information to be exchanged are not determined beforehand, the definitions of the semantics must change dynamically.

### KEY TECHNOLOGIES



# OBJECTIVES

## GLASS MODEL



### CROSS-BORDER MODEL

Design & construction of an inclusive, open, cross-sector and cross-border eGovernance model for sharing common public services



### INCLUSIVE APPROACH

Establishment of an eGovernance approach that supports & promotes the inclusiveness & accessibility regardless of cultural, social & societal factors



### DISTRIBUTED NETWORK

Development and deployment of a distributed, shared-resource public network for openness and transparency



### DISSEMINATION

Wide communication & scientific dissemination of GLASS model & results

**GLASS puts the individual at the heart of controlling their own relationship with government & business**

GLASS introduces an advanced e-government solution aligned fully with the EU eGovernment Action Plan 2016-2020 and the EU Digital Single Market strategy.





### **DAPPS**

Development & establishment of a novel platform to support the creation & sustainability of an EU ecosystem of distributed applications & background services, tailored to the needs of citizens, businesses & public administrations



### **SECURE DATA SHARING**

Delivery of middleware software & hybrid gateway components for secure data sharing & exchange processes, intercommunication functionalities for heterogeneous structured-based systems towards meeting interoperability by default service standards & minimum data generation policies



### **DATA GOVERNANCE**

Provision of trusted, user-centric data governance & document sharing mobile services for citizens, businesses & public administrations

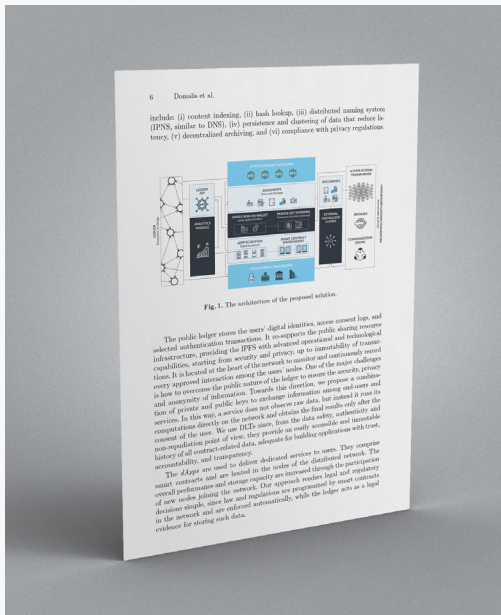


### **USE CASE SCENARIOS**

Demonstration of the applicability & effectiveness of the eGovernance Model in real-world use case scenarios, ensuring the engagement with industry, decision makers & public bodies

# SCIENTIFIC PUBLICATIONS

Explore the GLASS blog and stay updated on the latest news and scientific publications in the eGovernance sector.



## A Trustable and Interoperable Decentralized Solution for Citizen-Centric and Cross-Border eGovernance: A Conceptual Approach

EGOV, 2021 / LECTURE NOTES IN COMPUTER SCIENCE

This paper introduces an AI-enhanced solution that enables beneficiaries to participate in a decentralized network for effective big data exchange and service delivery.

### AUTHORS

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## GLASS: Towards Secure and Decentralized eGovernance Services using IPFS

ESORICS, 2021 / LECTURE NOTES IN COMPUTER SCIENCE

A decentralized solution that combines the InterPlanetary File System with Distributed Ledger Technology and Smart Contracts to secure eGovernance services.

### AUTHORS

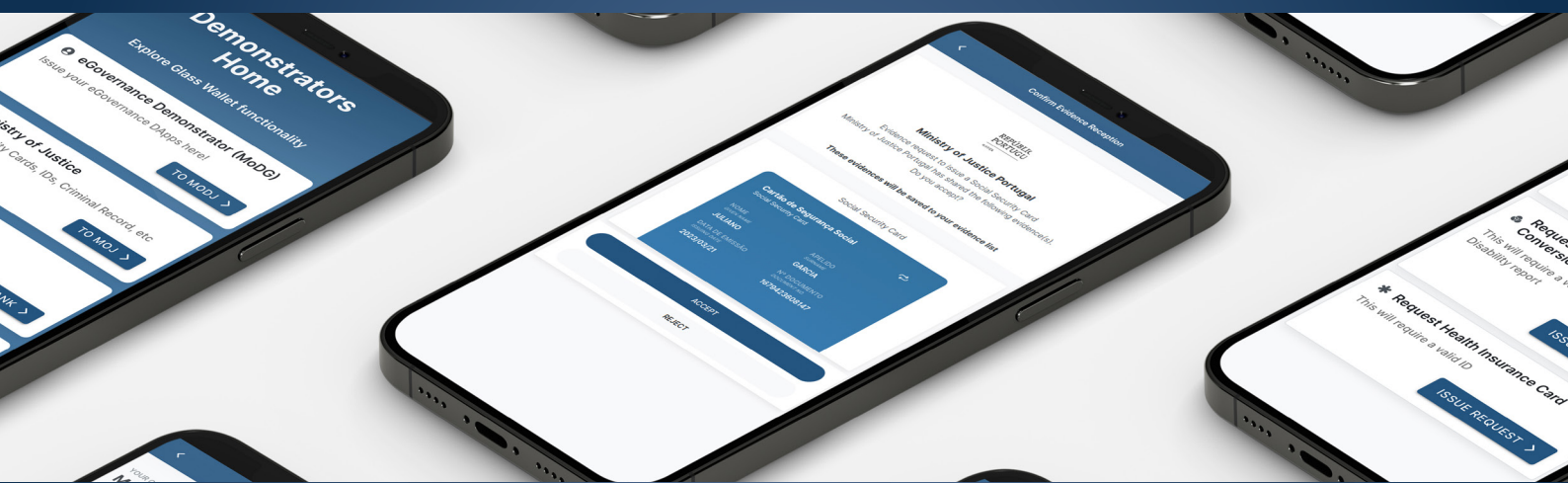
Christos Chrysoulas, Amanda Thomson, Nikolaos Pitropakis, Pavlos Papadopoulos, Owen Lo, William J. Buchanan, George Domalis, Nikos Karacapilidis, Dimitris Tsakalidis, Dimitris Tsolis

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Computer Engineering and Informatics Department, University of Patras, Greece



# SINGLE SIGN ON WALLET AS A SERVICE

The Glass Wallet is a secure mobile application accessible through a browser, incorporating Single Sign-On features, Key Sharding algorithm for recovery, Data Sharing, Key, DID and Evidence Management. Additionally, it features a comprehensive dApps ecosystem that integrates with the eGovernance ecosystem, enforces permissions between dApps, and provides access to Native APIs.



## WHY IT IS NEEDED

- ✓ A multifunctional single sign-on wallet manages users' transactions from interactions with multiple services
- ✓ Citizens may decide what information to share, with whom and when
- ✓ Enables a two-way digital interaction path, without central authorities, making citizens owners of their personal data
- ✓ Controlled by an integrated web-based interface or a mobile App, enabling participation of all relevant communities (elderly, migrants, people with disabilities or people with limited digital knowledge)
- ✓ Ability to bypass most bureaucracy for processes that should be simple by default.
- ✓ Known/Accessible only to the user



# FAQS

## GLASS MODEL



### What is GLASS?

GLASS is a Horizon 2020 project funded by the European Union to create a new paradigm for sharing or transfer of personal information, with the citizen in control. GLASS started on January 1st 2021, and will complete its funded phase on December 31st 2023.



### What we do?

GLASS introduces novel governance services facilitating free movement to citizens and businesses, producing strong social, societal, economic, technological and scientific impact and leading to an advanced eGovernment solution.



### Who we are?

We are a consortium of SMEs, large enterprises, universities & public authorities from across Europe with diverse expertise in various fields such as big data analytics, blockchain, distributed systems, business development, project management & eGovernment services.



### Who are the Stakeholders?

GLASS concerns a wide range of stakeholders, including citizens, businesses, public authorities, ICT developers, researchers & academia, aiming to improve the interaction between these entities in the context of eGovernance & public administration processes.



#### DEMONSTRATOR 1

##### MOVING TO ANOTHER MEMBER STATE

Create an innovative user-centric system that simplifies the bureaucratic processes for citizens, businesses and public administrations & provides easier moving pathways towards the EU Digital Single Market.



#### DEMONSTRATOR 2

##### MAKING A SHORT TERM VISIT

Simplify the bureaucratic processes for (senior) citizens with disabilities when it comes to travelling for a short or medium period of time and evaluate our solution in such a demanding scenario.



#### DEMONSTRATOR 3

##### GETTING A JOB ABROAD

Allow any citizen to carry with them on their digital wallets the required evidence of educational achievements, provided by formal education institutions accredited by their respected countries.

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**GLASS SUPPORTS THE  
FREE MOVEMENT OF  
CITIZENS & BUSINESS**

Free movement of EU citizens is a fundamental principle of the Article 45 of the Treaty on the Functioning of the European Union and developed by EU secondary legislation and the Case law of the Court of Justice.



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