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The Greek National Registry of Procedures

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A few words about GRNET

GRNET: National Infrastructures for Research and Technology
https://grnet.gr/en/

- Status: state-owned company established in 1998, operating under the auspices of the Greek Ministry of Digital Governance.
- Mission: to offer cutting-edge technologies, solutions, infrastructures and specialized expertise to various fields: Public Administration, Education, Research, Health and Culture.

Communities, Users @ Sectors: Public Administration, Education, Research, Health, Culture

Organizations and Institutions

- ✔ Universities
- ✔ Research Centers
- ✔ Large Research Infrastructures
- ✔ Hellenic School Network
- ✔ Public Libraries
- ✔ Culture Centers
- ✔ Content Providers
- ✔ Public Administration sector
- ✔ Public Health Sector (Hospitals, Blood Donation/Transfusion Services)

Organizations and Institutions

- ✔ Academic and Research Community users
  - ✔ Students, Professors, Researchers, Academic and Administration Management, Network Operations Centers (NOC), Technical Staff
- ✔ Health Sector users
  - ✔ Hospital: Doctors, Administration, Management, NOC, Technical
  - ✔ Blood Donor Volunteers
- ✔ Public Administration Officers
- ✔ Citizens

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Highlights: e-Infrastructures & Services

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Infrastructure

- Nationwide Optical Network Ultra High Speed
- Data Centers
- Computational and Storage infrastructure
- High Performance Computing (HPC) infrastructures
- Interconnection Provider GR-IX
- Interface with international Internet / GÉANT
- Backbone network for the School Network
- Fiber optic connections to 31 hospitals, with more to follow- includes wifi access

HPC-ARIS:	hpc.grnet.gr
~okeanos:	okeanos.grnet.gr
ViMa:	vima.grnet.gr
GR-IX:	gr-ix.gr
eduroam:	eduroam.gr
DIADOSIS:	diadosis.grnet.gr
Harmoni:	harmoni.grnet.gr
Blood Donor Registry:	bdr.gr
ZEUS:	zeus.grnet.gr/zeus
Eury-where:	eury-where.gr

Services

- Cloud Computing (~okeanos)
- High Performance Computing
- PITHOS (Storage Service)
- University Books (EUDOXUS)
- Academic Identity Card
- Faculty eVoting-ZEUS
- e:Presence / Teleconference
- Web Casting - Live streaming scientific & cultural events
- Hospital Services – imaging backup service, eduroam/edugain access to publications

e:Presence:	epresence.gr
DIAVLOS:	diavlos.grnet.gr
Academic IDs:	academicid.minedu.gov.gr
FoD:	fod.grnet.gr
Security CERT:	cert.grnet.gr
Eudoxus:	eudoxus.gr
APELLA:	apella.minedu.gov.gr
ATLAS:	atlas.grnet.gr
PYXIDA:	pyxida.grnet.gr
Single Digital Gateway for eGovernance	gov.gr

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International collaborations

Indicative key e-Infrastructures and international collaborations GRNET is actively part of:

- **GÉANT**: European collaboration on e-infrastructures and services for Research and Education
- **PRACE**: Partnership for Advanced Computing in Europe
- **ARIADNE Foundation**: Integrating existing archeological data infrastructure across Europe to explore research methodologies
- **COPERNICUS Data Hubs**: Collects, stores and provides access to data from the Sentinel satellites of the Copernicus Earth Observation program
- **EGI.eu**: Federated e-Infrastructure set up for the provision of advanced computing services for Research and Innovation
- **EUDAT CDI**: Collaborative Data Infrastructure
- **ETP4HPC**: European Technology Platform for High Performance Computing
- **EPIC**: European Persistent Identifiers Service
- **EURO-IX**: The European Internet Exchange Association for strengthen and improve the Internet Exchange Point (IXP) community

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EU Projects related to E-government

ACROSS: https://across-h2020.eu/

Towards user journeys for the delivery of cross-border services ensuring data sovereignty

Funding: HORIZON 2020 – Duration: 01/02/2021 - 31/01/2024

The project focuses on the mobility of citizens between EU Member States and aims to support them in aligning and fulfilling their obligations under the Single Digital Gateway Regulation.

GR-DigiGov-InnoHub: Innovation Hub for Digital Government

Funding: Digital Europe Programme – Duration: 01/09/2022 - 31/08/2024

The project aims for the development of a new generation of Public Services for the Central Administration, the Local Governments, and the productive sectors of the economy, utilizing advanced Digital Technologies

GovTech4All

Funding: Digital Europe Programme – Duration: 01/11/2023 - 31/10/2025

21 leading GovTech organizations from 14 European countries establish a cohesive GovTech ecosystem and market. We promote innovative approaches like startup challenges and forward-looking procurement, aiming to revolutionize public sector technology.

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National Projects related to E-government

gov.gr: https://gov.gr/ & EUGO: http://eugo.gov.gr/

The single digital portal of the Greek public administration (launched in 04/2020)

- *>1500 digital services for the citizens*

The Greek portal for cross-border services for EU citizens

National Registry of Procedures: mitos.gov.gr

Innovation Hub for Digital Government

Funding: Public Investments Program & NSRF – Duration: 01/09/2020 - 31/08/2024

The project aims to register all the Pubic Services and Internal Procedures of Greek Public Administration

Citizens Service Centers (CSC):

Innovation Hub for Digital Government

Funding: European Economic Area – Duration: 01/09/2022 - 31/10/2023

The project redesigns the back-office application of Citizens Service Centers and automates many tasks through interoperability

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Establishing a new routine in e-government

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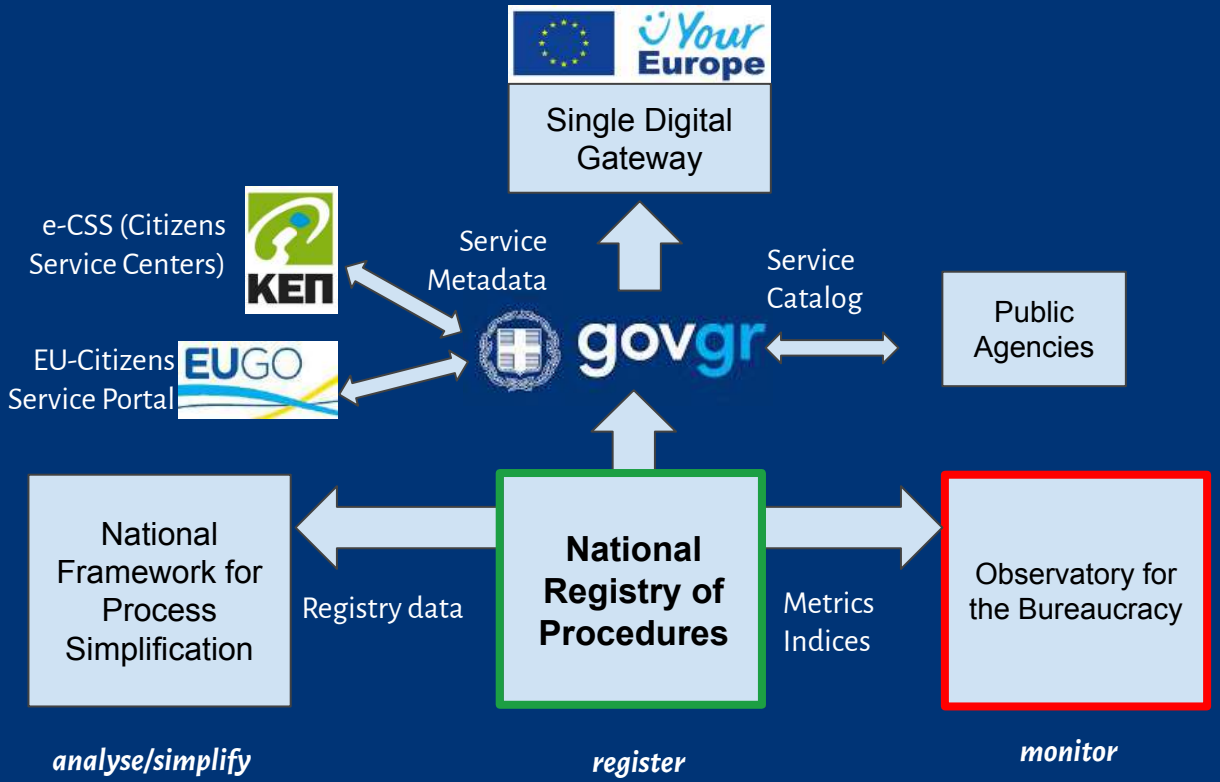
A holistic approach to Public Services, Procedures and Life Events



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Interoperability by design

- Technical interoperability
  - All data must be openly available
  - Data must be accessible through APIs
  - Reuse and share (applications and data)
- Semantic interoperability
  - All systems must use the same metadata standards
- Organizational interoperability
  - Public administrations must align their business processes, responsibilities and expectations

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Let’s focus on the National Registry **mitos.gov.gr**

Aim and objectives

- ***Single point of truth***: Develop a unique reference point for the physical and digital administrative procedures of the state and the services to citizens
- Objectives:
  - ***Recording*** and modeling of the existing administrative procedures and public services from the bodies that supervise and implement them.
  - Continuous ***updating*** of procedures after each change.
  - Creating a basis for the subsequent ***simplification of procedures*** (elimination or reduction of procedural steps and/or supporting documents).
  - Immediate access, ease of search and ***information*** for citizens.

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Requirements

- Compliance to standards
- Openness and interoperability
- Rapid population
- Agility
- Visualization, citizen friendly

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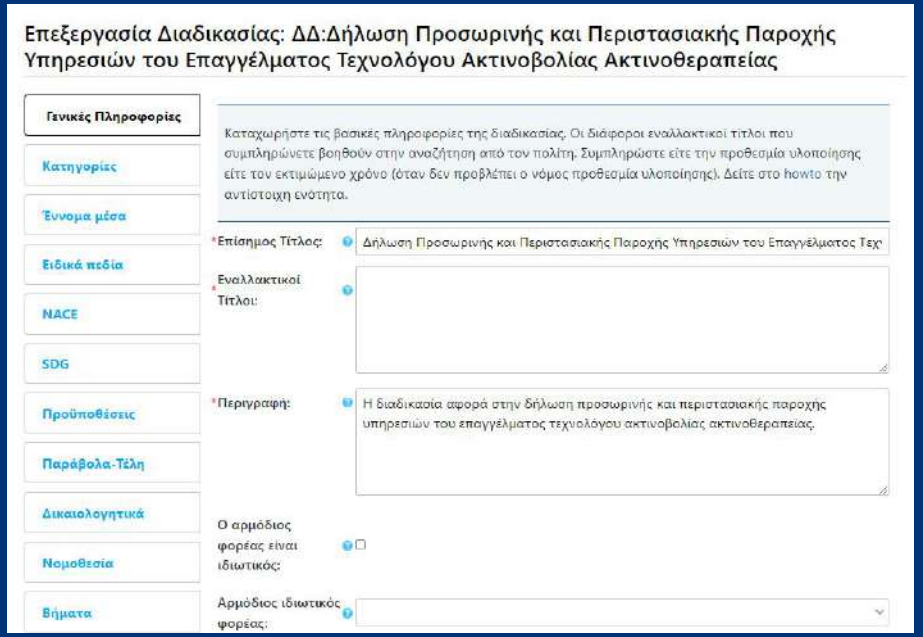
The benefits

- For citizens/businesses:
  - Search for public services or browse by life event, type etc
  - Information on the execution steps, the supporting documents, the points of delivery
  - The ability to provide feedback on descriptions and execution of services
- For public sector bodies:
  - Documentation of procedures, standardization of their execution
  - Identification of malfunctions and suggestions for simplifications
  - Less load for providing information about public services
  - Supervision at all levels: Statistics with quantitative / qualitative indicators, analytics and insight for digitization possibilities

MediaWiki

- MediaWiki is the platform used by Wikipedia.
- It is open source, it supports version and update control
- It is written in PHP so any extensions/customizations have to be in PHP
- For supporting the non tech-expert editors we use the Page Forms extension of MediaWiki
- For querying the data within MediaWiki, we use the Semantic MediaWiki extension



Semantic MediaWiki (SMW)

- A MediaWiki extension that allows to make composite semantic queries to the MediaWiki data.
- The results can be fed back to MediaWiki as content
- SMW allows to create new and useful content by composing existing content
- For example, we can see the “procedures carried out by each organisation”, or “the registries it maintains”

MINISTRY OF EDUCATION AND RELIGIOUS AFFAIRS

General Information

Services

Registries

Secretariats

Sub Organisations

Services owned by the Organisation
Announcement of Commencement of Professional Teaching in Tuition Centres, Foreign Language Centres and Homes
Declaration of Temporary / Cross-Border Provision of Home Teaching and Teaching in a Tuition Centre or Foreign Language Centre
Granting a Licence for a College to a Legal Person or to Legal Persons Participating in Associations of Persons
Granting a Licence for a College to a Natural Person or to Natural Persons Participating in Associations of Persons
Granting a Licence for a Level 1 Lifelong Learning Centre (KDBM) to a Legal Person or to Legal Persons Participating in Associations of Persons

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The results so far

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What has been achieved

3831 **Published**

Procedures that any interested person may seek in the Registry based on type or on life events.

37 **Under Publication**

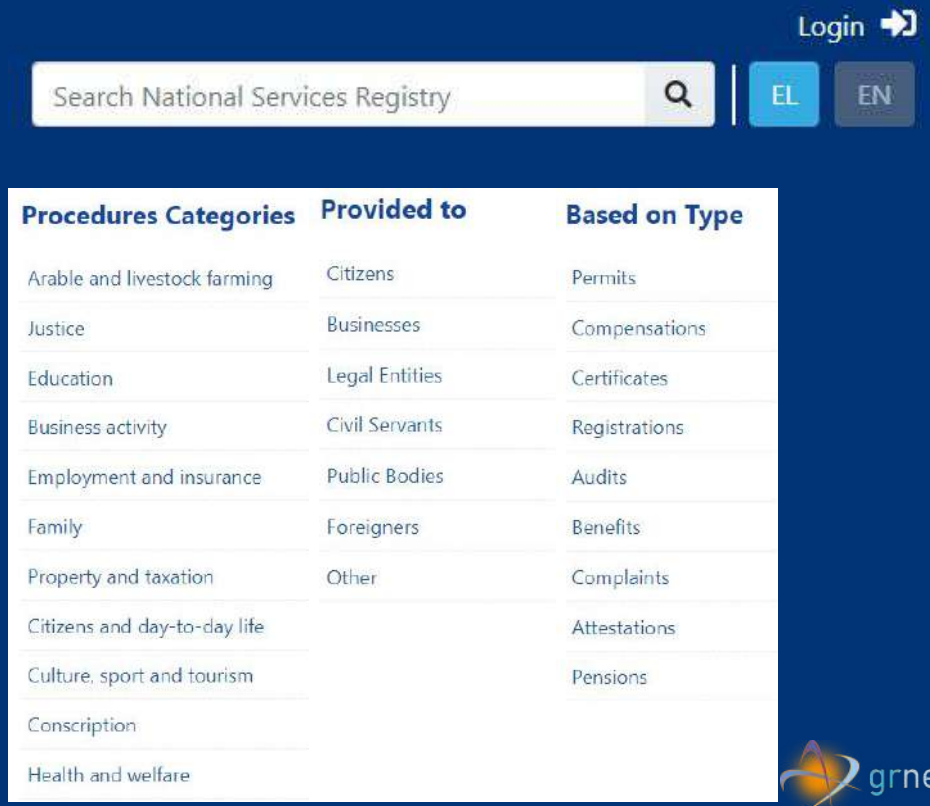
Procedures, that are at the final stage of control by the Ministry of Digital Governance

145 **Under Approval**

Procedures, that are at the intermediate stage of control and approval by the competent authorities

556 **Under Process**

Procedures, that are at the initial stage of registration by the competent authorities.



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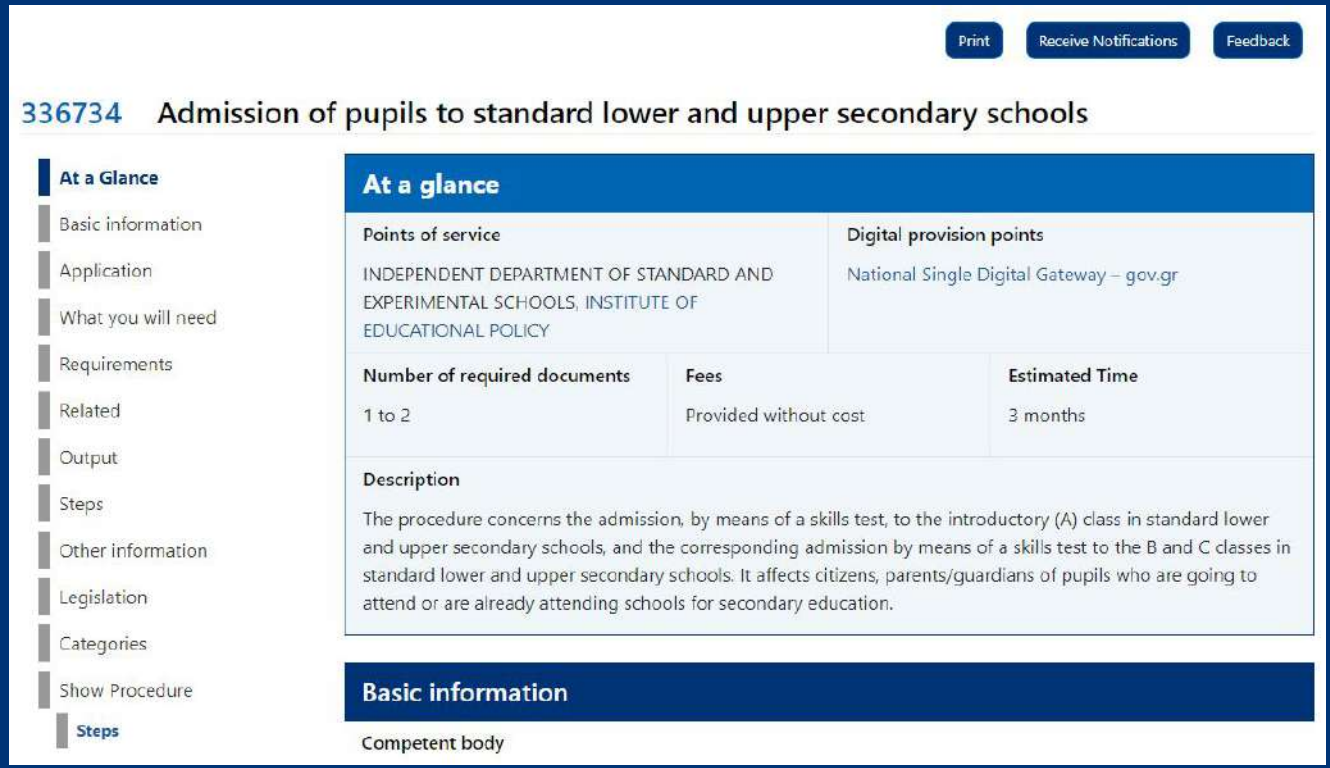
And for each procedure



The main metadata of procedures

- Official title, alternative titles (e.g. user friendly title)
- Description
- Legislative and regulatory framework
- Required evidences
- Conditions that apply
- Registries that are accessed
- Cost of state or other fees
- The execution steps
- Organizations (or its divisions) that carry out the procedure or some of its steps
- Estimated processing time for each step
- Final administrative product and
- Registries that are updated

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Standards for Public Services

- **Core Public Service Vocabulary Application Profile (CPSV-AP) v.3.0**
  - Has been developed by EU's ISA² programme for describing cross-border and cross-sectoral services
  - A common data model for describing public services
  - Defines all the entities of a procedure metadata (except of the steps)
- Core Public Organization Vocabulary (CPOV) v.2.0
  - Another ISA² vocabulary for the metadata of Pubic Organizations
- Both standards are maintained by Semantic Interoperability Community (SEMIC EU) - **https://github.com/SEMICeu/**

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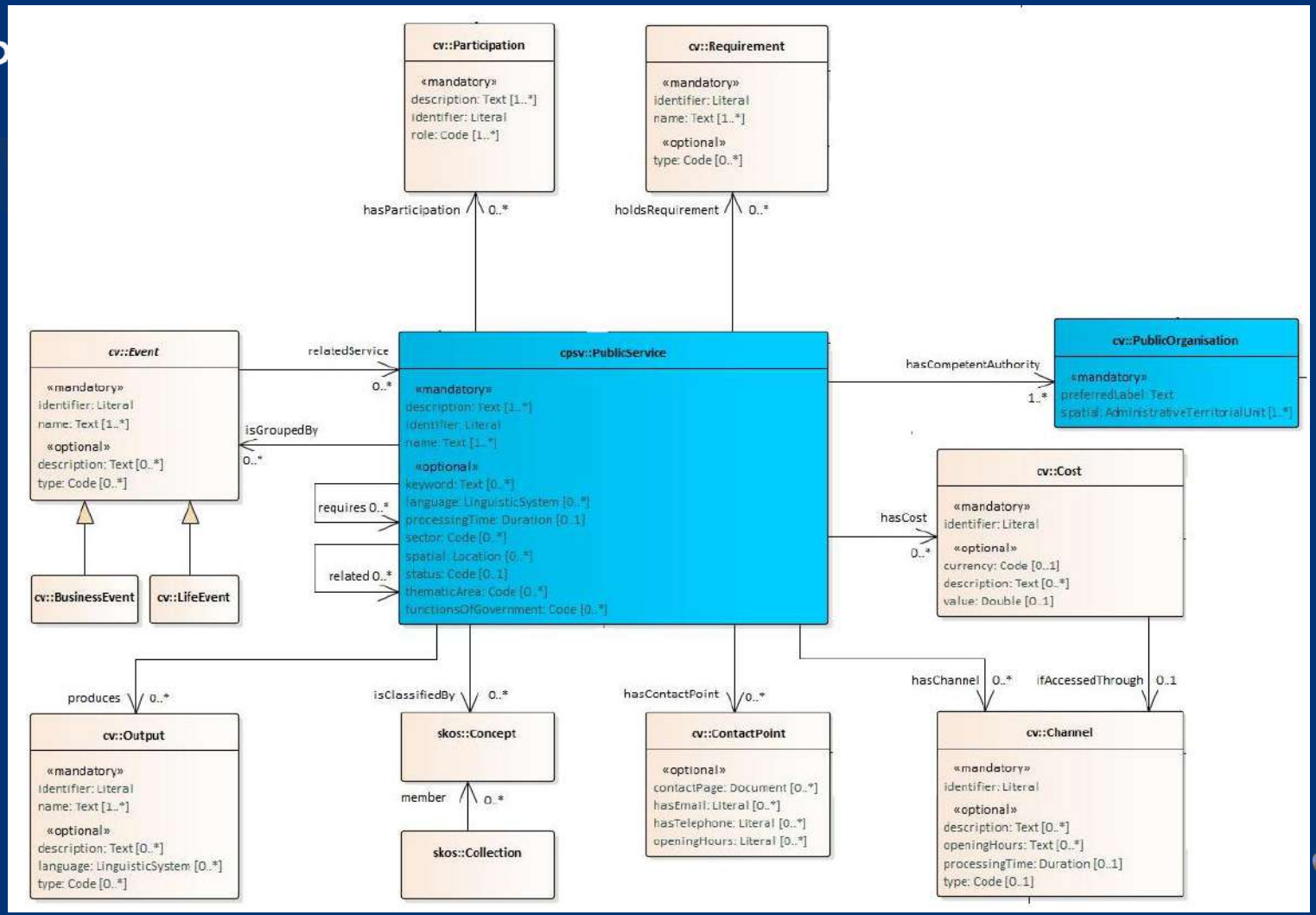
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description: Text [1..*]
identifier: Literal
role: Code [1..*]
cv::Requirement
«mandatory»
identifier: Literal
name: Text [1..*]
«optional»
type: Code [0..*]
hasParticipation
0..*
holdsRequirement
0..*
cv::Event
«mandatory»
identifier: Literal
name: Text [1..*]
«optional»
description: Text [0..*]
type: Code [0..*]
relatedService
0..*
cpsv::PublicService
«mandatory»
description: Text [1..*]
identifier: Literal
name: Text [1..*]
«optional»
keyword: Text [0..*]
language: LinguisticSystem [0..*]
processingTime: Duration [0..1]
sector: Code [0..*]
spatial: Location [0..*]
status: Code [0..1]
thematicArea: Code [0..*]
functionsOfGovernment: Code [0..*]
hasCompetentAuthority
1..*
cv::PublicOrganisation
«mandatory»
preferredLabel: Text
spatial: AdministrativeTerritorialUnit [1..*]
isGroupedBy
0..*
requires 0..*
related 0..*
cv::BusinessEvent
cv::LifeEvent
hasCost
0..*
cv::Cost
«mandatory»
identifier: Literal
«optional»
currency: Code [0..1]
description: Text [0..*]
value: Double [0..1]
produces
0..*
isClassifiedBy
0..*
hasContactPoint
0..*
hasChannel
0..*
ifAccessedThrough
0..1
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«optional»
description: Text [0..*]
language: LinguisticSystem [0..*]
type: Code [0..*]
skos::Concept
member
0..*
skos::Collection
cv::ContactPoint
«optional»
contactPage: Document [0..*]
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hasTelephone: Literal [0..*]
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type: Code [0..1]

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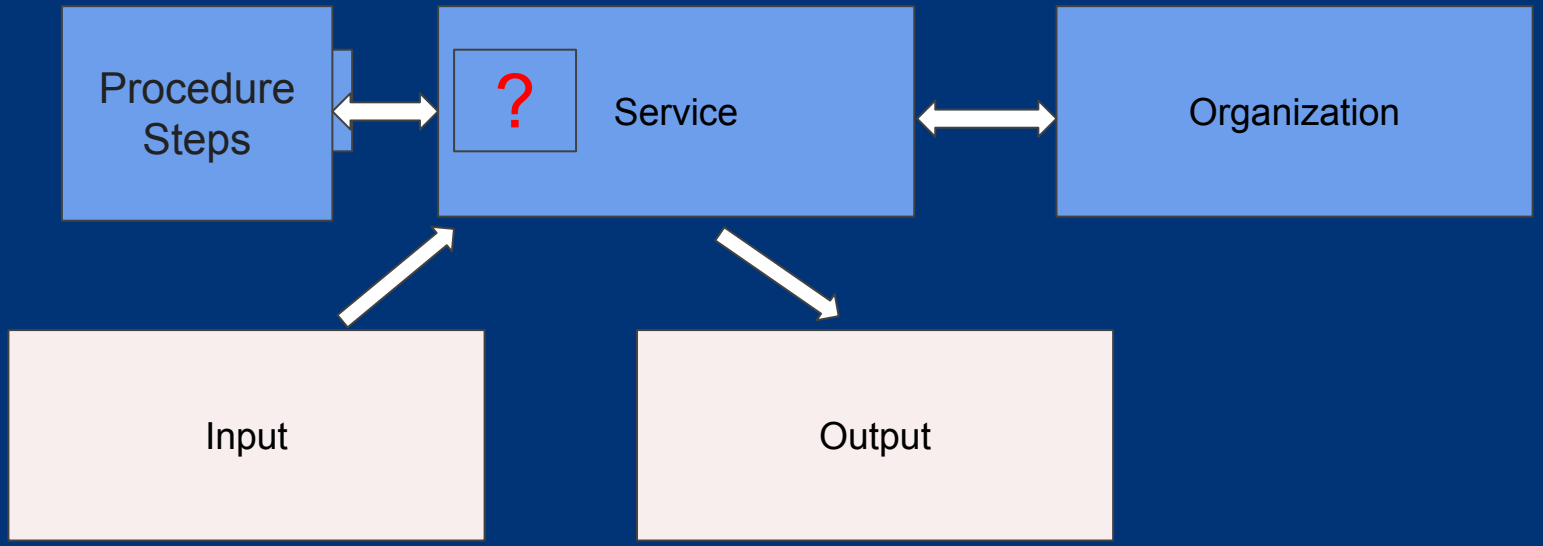
At an abstraction level



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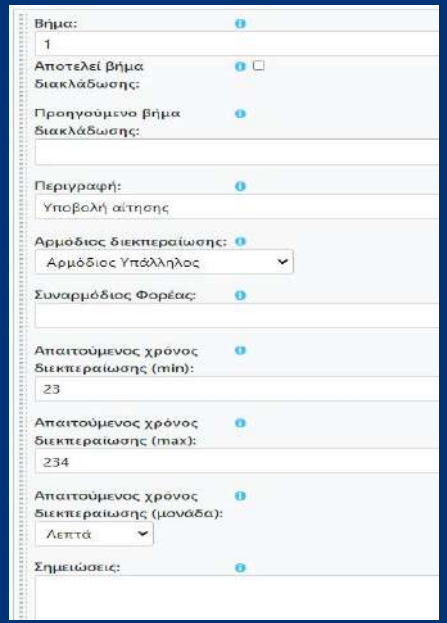
How we describe the procedure steps

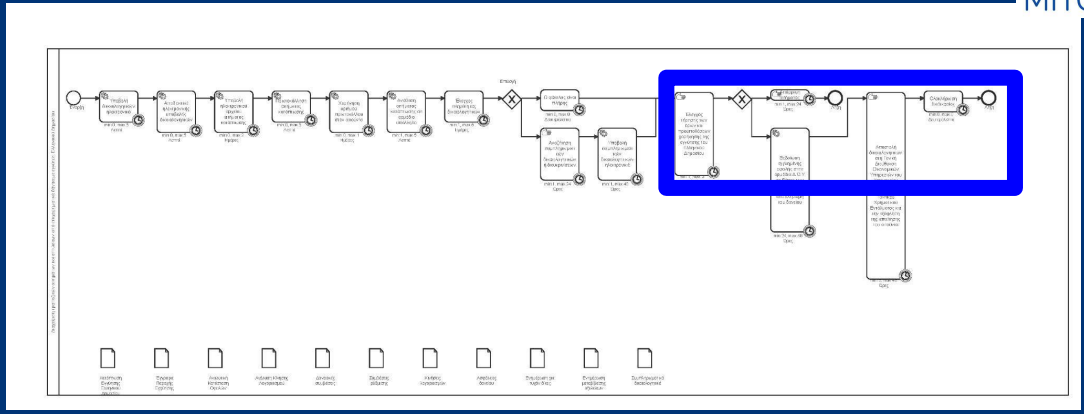
Using **Business Process Model and Notation (BPMN) v.2.0**

- BPMN: Graphical notation depicting the steps of a business process
- BPMN can be employed to describe the workflow of a procedure, with all the conditions, alternative actions, actors etc. from start to finish.
  - ***Simple and static BPMN*** can depict the flow of a service both for citizens and the public administration employees
  - ***Executable BPMN*** workflows
    - can be fed to BPMN simulation engines with several workload parameters and provide an estimation for the execution cost of a service
    - can be fed to BPMN execution engines and allow the full execution of the service

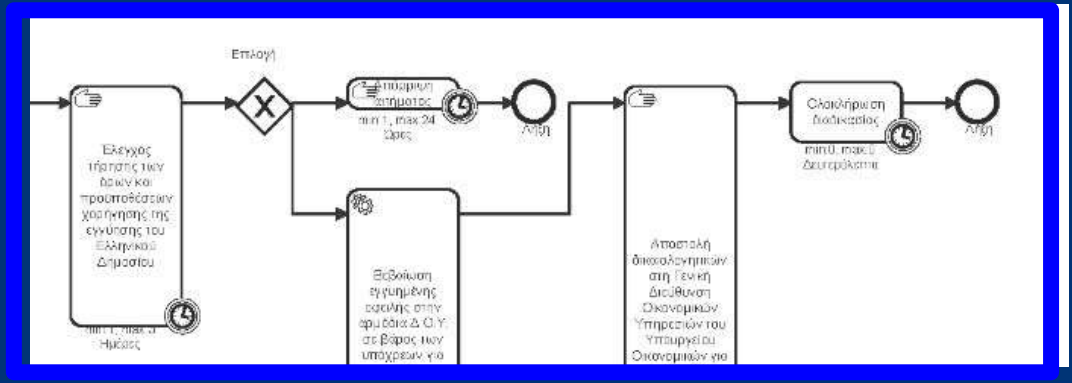
We replace drawing…

with simple forms that describe each step





and *automatically generate* the XML file of the BPMN



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Other building blocks

- Translation (Greek-English):
  - eTranslation API, the (asynchronous) official EU translation service developed under Connecting Europe Facility (CEF)
  - A real-time translation service build using a Transformer from huggingface.co
  - A platform that semi-automates the translation process

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Other building blocks

- Side registries
  - **Registry of evidences**: contains metadata for the most widely used evidences, in an attempt to reduce duplicates and inconsistencies
  - Registry of service delivery points: contains metadata about the main (physical) locations that offer public services
  - Registry of registries: contains metadata (owner, description, contents, format, update frequency, etc) about the registries which are employed or updated by the public services
  - Registry of steps: describes steps which are common in several procedures in order to promote reusability and avoid inconsistencies

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Mitos API - https://api.mitos.gov.gr/info/

- The API allows third party applications to retrieve metadata for the procedures
- The metadata contain everything that is registered through the PageForms
- Documented in Swagger and Redoc
- It has already been used by other platforms (e.g. the EUGO portal), by other services (e.g. the BPMN generator), by collaborating teams (to generate custom dashboards)

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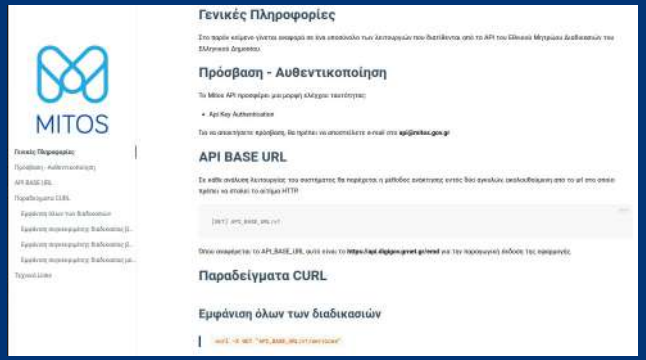
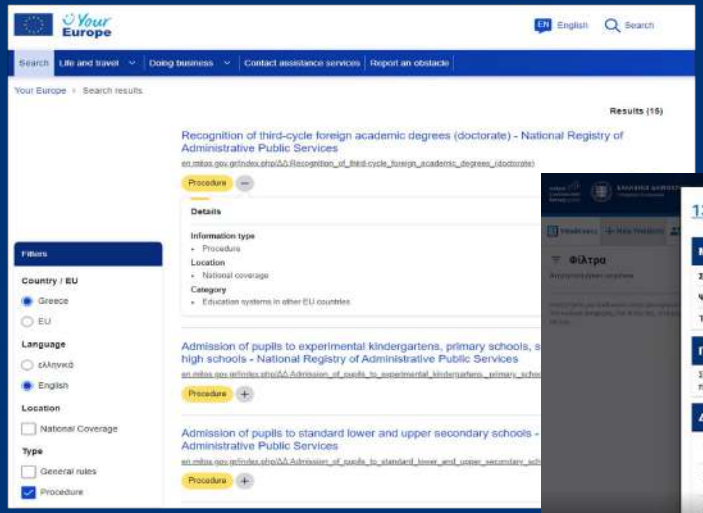
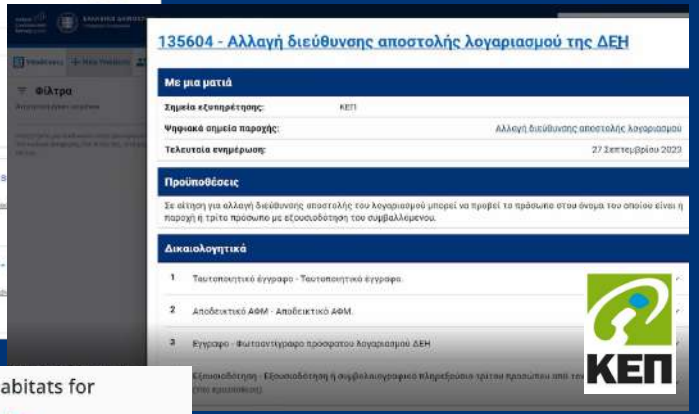
Interoperability

https://api.mitos.gov.gr/info/





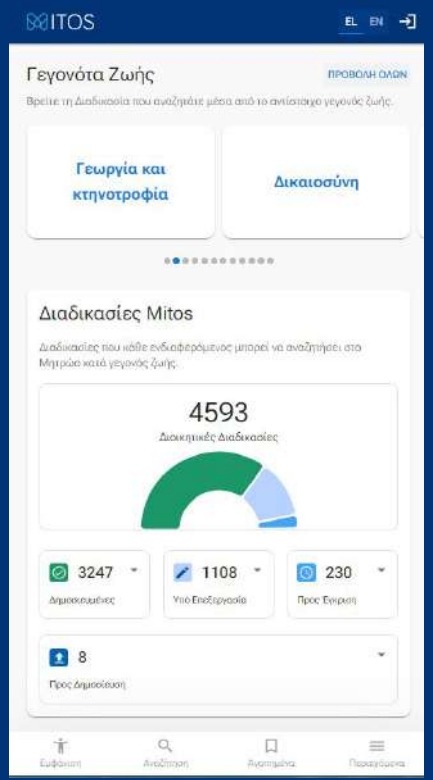


Mitos is the ***single point of truth*** for CSSs, EUGO, YourEurope, gov.gr as well as for the Document/Case Management Systems of Public Administration

Mitos mobile

mobile.mitos.dev.digigov.grnet.gr

Mitos is near the citizens in their smartphones



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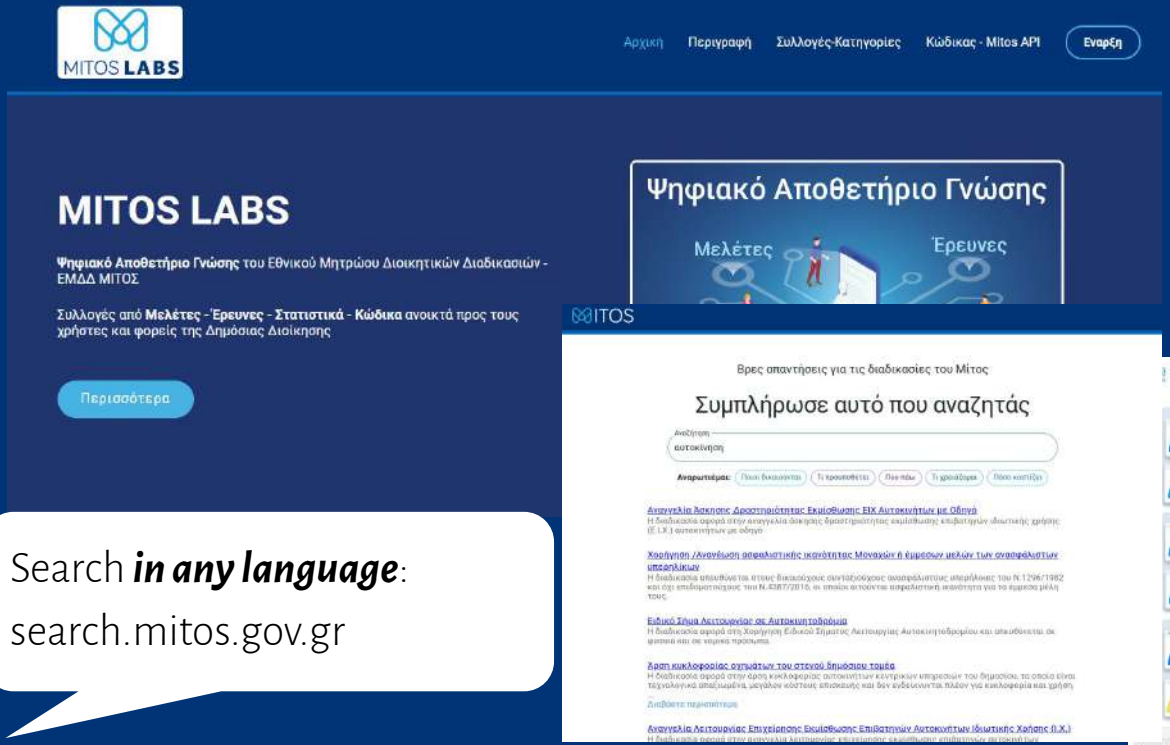
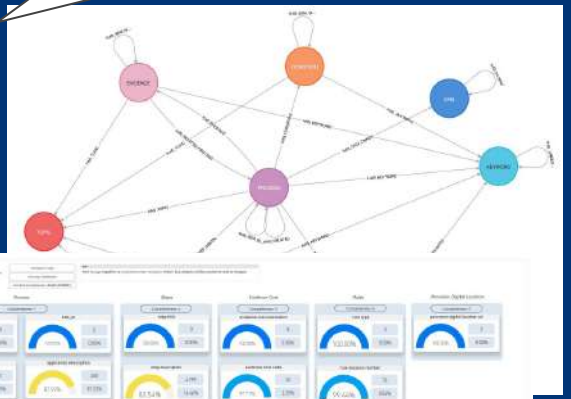
Innovation - Research

labs.mitos.gov.gr

Mitos' ***data*** are ***open*** for researchers and entrepreneurs





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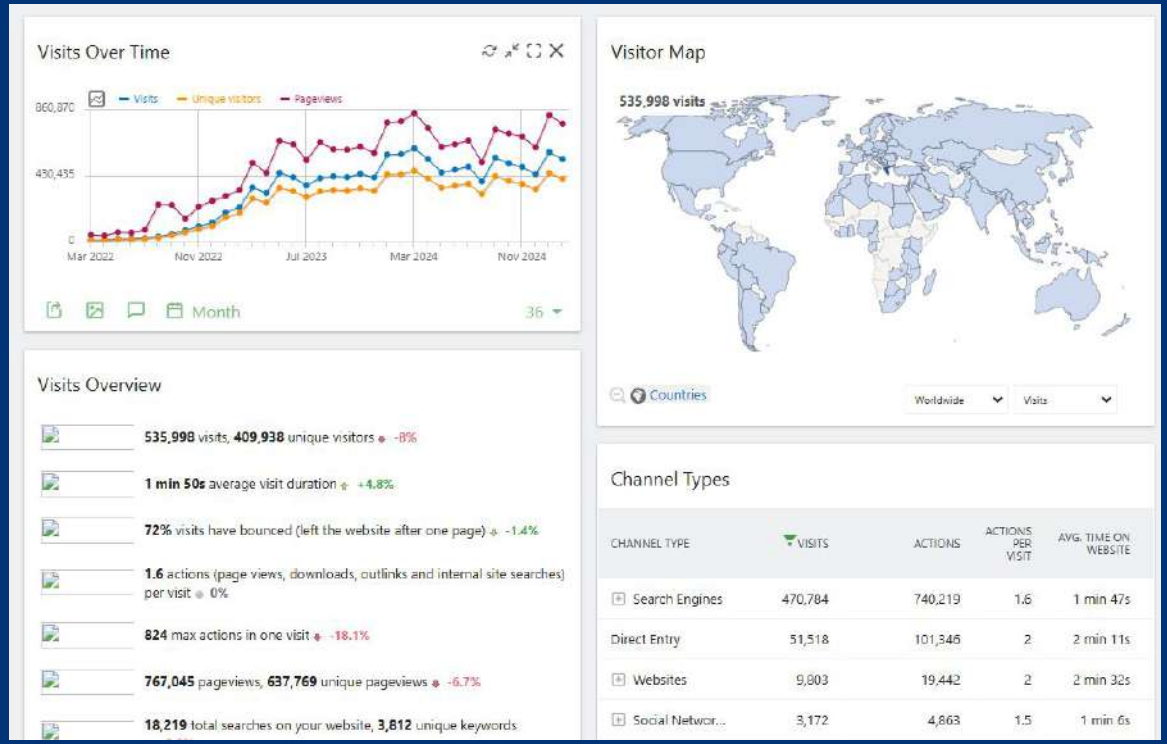

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References - Awards

- MitosLOD shortlisted for Best Case 2024 Award from the Public Sector Tech Watch of Interoperable Europe (link)
- Reference in the Observatory of Public Sector Innovation (OPSI) by OECD (link)
- Reference in the Greek Observatory of Innovation (innovation.gov.gr)
- Special recognition award on EPSA 2023-20 Institute of Public Administration (link)

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A new project is on the go

Next generation of MITOS

- Advanced analytics: Rich dashboards covering different needs
- Governmental Knowledge: Take full advantage of the knowledge graph of Mitos
- Smart Personalisation: Proactively deliver useful information to the citizens, and chatbot
- Process Automation: Use of LLMs to facilitate data collection and automate selected steps
- Strengthen the community of practice: Provide a common ground for Mitos' editors and administratives and help them design new services.

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Thank you for your attention

Questions?

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Iraklis Varlamis

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