



EU eGovernment landscape: DE4A Summary report

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The DE4A project has conducted extensive activities to provide overview and analysis of the EU eGovernment landscape. This report summarizes the key findings from the inventory activity, which focused on various aspects of eGovernment implementation, adoption and barriers. The activities revolved around identifying and analyzing the deployment of cross-border integrated Digital Public Services, as well as the status of existing solutions supporting Electronic Identification, Authentication and Trust services (including European Digital Wallets (eIDAS / eIDAS v2), the Single Digital Gateway Regulation (SDGR) and the Once Only Principle (OOP) implementation.

The key objectives of this effort aimed to:

- Identify and analyze the state of cross-border integrated Digital Public Services deployment in MSs.
- Assess the status of existing solutions supporting SDGR online services.
- Evaluate the implementation status and data strategies for the Once Only Principle (OOP).

- Provide an overview of relevant EU building blocks for Once-Only and data sharing.
- Investigate risks, barriers, and enablers for the implementation of eGovernment services.
- Develop a generic methodological process that can be reused by other projects and initiatives.

In addition to the desktop research and project documentation overview, the methodological approach involved an extensive survey with Member State (MS) Chief Information Officers and interviews with experts from both the project and external entities. This approach ensured comprehensive data collection and validation and the results provide valuable information on critical aspects of eGovernance in the EU.

Next, we present the main results and takeaways, catalogued in view of the aforementioned eGovernance aspects.

Generic Results

The following results are produced as generic and reusable by other projects and initiatives with similar objectives.

- Two-phased methodology for analyzing the EU eGovernance landscape.
- Architecture-based cataloguing process of building blocks used in EU large scale pilots (LSPs) and Digital Service Infrastructures (DSIs).
- Methodology for assessing architecture building blocks for LSP reuse.
- A six-layer taxonomy of risks and barriers with a methodology for extracting enablers and recommendations relevant to the EU eGovernment stakeholders.

Specific Results

This section presents the specific results per each eGovernment aspect that was subject to the inventory activity.

eIDAS and Trust Services

The eID schemes – one of the cornerstones of the cross-border functioning of eGovernment

systems – have been widely implemented across the EU.

- As much as 96% of the eID schemes have been (pre-)notified under the eIDAS regulation, and over 83% responding countries confirmed availability of a national eID scheme. The national eIDAS-Nodes demonstrate asymmetric readiness for cross-border use, being more advanced in terms of receipt of foreign eID-schemes for national use rather than supporting national eIDs abroad.
- Trust towards the role of private entities in the provision of access to public services has been on the rise, although differently exhibited by the different countries. The private sector is increasingly seen as public partner in the context of e-service provision, resulting in a higher percent of public-private partnerships (in 67% of the countries), and covering a significant share of the service market.
- With the revision of the eIDAS Regulation, the private sector is also directly included in the requirements for the establishment of the common Toolbox for the technical

architecture, standards and guidelines for best practices. Finally, as the revised eIDAS has not entered into force yet, the private sector is the leading factor in providing a transitional model for the European Digital Identity Wallet, offering mobile solutions that work towards infrastructural migration for the upcoming changes.

Monitoring mechanisms following eIDAS implementation have also improved during the past couple of years, addressing an important issue identified with the revised eIDAS regulation.

The implementation of trust services has demonstrated rather homogenous spread across the participating countries. e-Signature has the highest level of implementation among trust services. While there is no apparent evidence on any dependency of a more complex development stage of trust services (e.g. qualified trust service or advanced trust service), all three types of trust services seem to have been widely spread for national use and crossing the border for international use.

SDGR

The 21 life events announced under the SDG regulation have exposed significant differences in terms of possibility for eID-authentication, mobile accessibility, applicability of the OOP and availability for cross-border use. Showing generally high availability of the services for use with mobile devices and online accessible with the eID, it is of no surprise that cross-border use has also been advancing. Thus:

- Cross-border availability of SDG procedures ranges from 50% to 83%.
- Majority of the SDG procedures offer online availability and eID usage, but some procedures still lack eID integration.
- Mobile accessibility for SDG procedures varies, with some procedures being restricted only to specific platforms.
- Fees for SDG procedures are of a greater concern for private companies and citizens, with varying application across Member States.
- Digitalization levels of the SDGR procedures are relatively high. However, none of the procedures is fully digitally enabled.

- Although the overall SDG implementation varies across countries, the implementation of once-only in life events has been advancing.
- Overall, there is a significant space for improvement of the OOP implementation, especially in terms of law and data harmonization.

OOP

Although the overall implementation levels of the OOP are still lagging behind the objectives outlined for the SDG implementation, the results show relatively high progress since the project start. This may also be due to the COVID-19 pandemic, which – aside from its negative effects on the overall mobility, had an accelerating effect on the digital transformation in critical sectors, triggering a more beneficial resource distribution and providing additional incentives in terms of expert engagement, political will and implementation urgency.

- Regarding data strategy and generic access to base registry services, 81% of the responding countries have a national strategy of reusing public sector data, which depicts a very positive trend (compared to the first phase of data gathering when this number was 50%).
- Most of the base registries are accessible by private entities. However, there are still transaction fees implemented for accessing base registries, which are disproportionately bigger for the private sector and citizens than for the public sector. This is likely to have an adverse effect on the user-centricity indicators, and on the flow of data in the OOP technical system.
- The results show an advanced state of the provision for accessing and changing their data on the one side, but lack of means for verification of access by others. The latter aspect especially raises concern if considering the decrease in the access provision to medical records.
- Expected benefits of OOP implementation include administrative simplification, increased digitalization, efficiency, and interoperability.
- Technical concerns include adapting data sources and SDGR procedures to national contexts.

In conclusion, while the overall OOP implementation has been advancing, the

status on data and law harmonization, free and effective access to data, and user-centricity in general still show certain shortcomings that hinder the progress of the SDGR implementation as well. Attention is needed at both national and European level, especially in the form of coordinative efforts to provide efficient governance of the ongoing initiatives. In turn, any initiative that utilizes or depends on cross-border OOP should take the necessary precautions over the partial OOP implementation.

Digital Service Infrastructures

DSIs, being one of the underlying elements of European interoperability, have shown different implementation levels and (re)use by the Member States.

- In the context of DE4A, the EU programs ISA2 and CEF Digital are the main contributors of generic building blocks, supplemented with results from the EU projects “The Once Only Project” (TOOP)¹ and SEMPER2. TOOP has developed and piloted building blocks intended to support the SDGR implementation actions, whereas SEMPER has developed and piloted extension to eIDAS supporting “Powers and Mandates”.
- There are more than 30 use cases across different cross-border EU projects and initiatives in which the responding Member States participate. 42% of these use cases are an ongoing effort, while additional 29% are planned for implementation. This demonstrates a highly increasing trend of cross-border OOP efforts.
- European Blockchain Services Infrastructure, constituting an independent building block, suggests the implementation of blockchain technologies into other building blocks to increase transparency and accountability. The developed blockchain-based solutions are argued to provide more possibilities for cross-border cooperation for provision of public services. Through consultations and semi structured interviews with project partners, 13 Building Blocks and common components were found to be relevant for DE4A purposes.
- Most of the Member States have an e-Delivery infrastructure in place, implemented with one or more access points from the list of EU recommended profiles. However, there are still concerns over the national (infrastructural) parts of the OOP technical system, the biggest of which are the concern over the adaptation of data sources

(shared by 67% of the respondents), as well as the adaptation of SDGR procedures to the national context (expressed by 60% of the respondents).

Overall, there high access to reusable public sector information and varying advancement levels across the specific DSIs.

Risks, Barriers and Enablers to OOP implementation

Following a 6-layer generic taxonomy of barriers and drivers as the conceptual framework for this report, the project systematized the detected risks, barriers and enablers by their nature and relevance for DE4A context. This enabled the extraction of relevant recommendations and practical guidelines for a wide set of eGovernment stakeholders.

- Detected and described are 104 risks and barriers across the six conceptual layers: legal, technical, organizations, business, political and human factor. For each risk and barrier, a list of enablers in the form of policy recommendation was compiled, amounting to 44 enablers directed at the various eGovernment stakeholder.
- The results show found that the most prevalent types of barriers that EU countries face with in the implementation of public services are of Legal and Organizational nature, whereas the most critical to address is the Human factor.
- Lack of resources and lack of expertise are the most painful points from an organizational point of view, and non-harmonized law from a legal point of view. Lack of awareness on availability of services and reluctance to change and adoption are the most critical problems that require immediate action.

Although each risk or barrier may be categorized in some of the six conceptual layers, all factors are intertwined and have implications on the others. This adds further complexity to the effort to output a meaningful recommendation targeted at addressing a particular risks or barriers. At the same time, what is risk in one context, may appear as an enabler in another context. Therefore, a repeated evaluation of the state of risks and barriers is needed to evolve the set of measures required to address them. Due to the generic nature of the developed methodology, this is enabled through its reuse by future evaluation efforts.

Conclusion

Progress of the state of implementation.

In line with the attempts of the European Commission to frame an implementation strategy that standardizes and guides digital transformation in Europe, most of the European countries demonstrate advancement in the state of eGovernment service implementation and availability.

Although Member States demonstrate different levels of maturity and compliance with the harmonized EU level legislation, there are significant efforts towards harmonization in both legislative and technological manner. As seen on the examples of the eIDAS, DSIs, the OOP and SDG implementation, the responding countries employ different legal strategies when transposing the EU legislations into their national laws.

While certain countries establish tailored national policies and legislation in order to support country-wide implementation of eGovernment services (e.g. by favoring qualified or advanced trust services), others choose to rely on eIDAS as it is, without complementary national legal initiatives, or prefer to commence with the technical and operational development of supporting infrastructure without adopting dedicated national legislation. Similarly, the legal approach differs from one country to another, with some preferring the introduction of specific obligations, and others exhibiting greater flexibility. As discussed under the SDG regulation, most of the countries are highly oriented toward user-centricity, with national practices being more advanced than cross-border ones.

Involvement of private sector in the provision of public services.

Trust toward the role of private entities in the provision of access to public services has been also on the rise, although differently exhibited in different countries. The private sector is increasingly seen as public partner in the context of e-service provision, resulting in a higher percent of public-private partnerships (in 67% of the countries), and covering a significant share of the service market. In addition, with the revision of the eIDAS Regulation,

the private sector is also directly included in the requirements for the establishment of the common Toolbox for the technical architecture, standards and guidelines for best practices. Finally, as the revised eIDAS has not entered into force yet, the private sector is the leading factor in providing a transitional model for the European Digital Identity Wallet, offering mobile solutions that work towards infrastructural migration for the upcoming changes.

Implementation levels affected by regulatory interdependencies.

The analysis on OOP and SDG shows advancements for most of the indicators, although slower progress compared to the required level by the SDGR. Especially in aspects related to evidence exchange, procedure availability, and data protection, it becomes apparent that an important preexisting condition for proper SDG and OOP implementation is the existence of the eIDAS Regulation. It is essential to both regulate the recognition of national means of electronic identification by public authorities in cross border transactions, and to provide a legal framework for electronic signatures and electronic seals that may be used to authenticate evidence.

The report emphasizes the need for addressing identified barriers and enablers to achieve effective eGovernment implementation. The low adoption and implementation levels that in general may be considered obstacles of a timely cross-border implementation of the OOP, poses the question if a separate governance model is needed to establish a more coordinated effort of the Member States in transposing the SDGR into the corresponding national laws in a way that supports the cross-border experience as well. This also implies that monitoring mechanisms are required to follow that progress, a practice that has already been well established for the eIDAS.

The presented DE4A project's findings contribute valuable insights for the development of eGovernment services and policies across the EU.

For more information, please refer to:

- [D1.2 Updated Member State eGovernment Baseline.](#)
- [D1.4 Updated Member State Once Only and data strategy baseline.](#)
- [D1.6 Updated EU Building Blocks supporting Once Only and standard data sharing patterns.](#)
- [D1.8 Updated legal, technical, cultural and managerial risks and barriers.](#)