

ACROSS: Towards User Journeys for the Delivery of Cross-border Services Ensuring Data Sovereignty

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Abstract: In recent years, the concept of cross-border services and data exchange has been an essential part of development in the EU where the services are provided using ICT in an interoperable environment. Since the data exchange is a long way journey, the EC has initiated the Single Digital Gateway Regulation (SDGR) as an important step to implement the digital revolution in Europe. SDGR brings various services under the same roof to set rules and guidelines on how to implement uniform public services in the member states. However, issues related to the digitisation of services, easy access to information and procedures and new challenges still need to be addressed in order to enable innovation and growth of EU single market. The operation of the SDG is a meaningful step forward in helping cross-border clients to solve many procedures and receive the necessary assistance; however, it should be facilitated by providing the user a guidance in an interactive, easy-to-follow and user-friendly way. Towards these challenges, ACROSS proposes a novel framework aiming to substantially complement SDG and Your Europe portal by leveraging the advanced capabilities of Cloud, privacy-preserving, semantic interoperability, and mobile technologies, to build the next generation Public-Services ecosystem while maintaining the highest privacy level. ACROSS aims to enable user-centric design and implementation of interoperable cross-border public digital services compliant with the current European regulations where the private sector can also interconnect their services while ensuring the data sovereignty of the citizens. ACROSS will be developed and tested in three countries at different points in their digital transformation journeys - Greece, Germany, Latvia - will address and analyse the technological, organisational, administrative, semantic and legal aspects, providing evidence for delivering more efficient cross-border mobility services to the citizens.

Keywords: Public sector innovation, Data reuse, cross-border digital services

1. ACROSS Motivation

EU Member States have devoted a great deal of resources to provide their citizens and businesses with easily accessible, user-friendly public services to help improve the quality of life and competitiveness of businesses, both within the EU and internationally. However, issues relating to the digitisation of services, easy access to information and procedures should continue to be addressed and new challenges should be considered to maintain the EU's competitiveness internationally. Consequently, the overall service delivery approach shifts its focus from providing

national or regional level services to providing services for EU citizens, meaning, that a lot of effort has to be done to adapt the service delivery not only to citizens of respective EU Member State or region but to any EU citizen, thus effectively removing any discrimination and facilitating study, work, purchase of goods and services, as well as enabling innovation and growth of EU single market. The provision of end-to-end cross-border digital services supporting life-events such as work or study abroad implies the incorporation of private services providers into the process, to access relevant data and provide their goods or services. The data flow through distinct stakeholders (different countries' public administrations (PAs), private service providers) introduces the need for new models for personal data handling ensuring that the citizens have full control over their data, while extending the support for the once-only-principle. As a result, **public administrations face such challenges**, as to ensure the **availability, quality and interoperability of information about public services**, ensure **user-centric** life event approach in **cross-border service delivery**, eliminate (or at least, limit) barriers such as different languages, lack of support and guidance, personal data handling, interconnection with private services, complicated forms etc.

Easy provision of cross-border services and information means that it is necessary to overcome the existing administrative, organizational, technological, and legal barriers in providing interoperable services. In particular, the cross-border aspect is based on the effective use of common infrastructure elements and innovative ICT solutions as the main cornerstones in enabling new more effective, regulation-compliant, inclusive, open service delivery and practical introduction of a new approach on how national and regional governments implement the delivery of goods and public services.

The public demand is for a citizen to be able to gain free and easy access to (other) countries' e-services and life event descriptions in a non-discriminatory manner, which means that PAs have to pay additional attention to provide the same possibilities of public services to both residents and non-residents. Users should be able to easily understand the administrative procedures, follow them and receive the necessary result to exercise their rights of free movement in case of work or study abroad. Furthermore, citizens need to be sure that their personal data meet the EU's strict data protection rules throughout the whole process, ensuring the data sovereignty principle and recovering the data control back to the citizens.

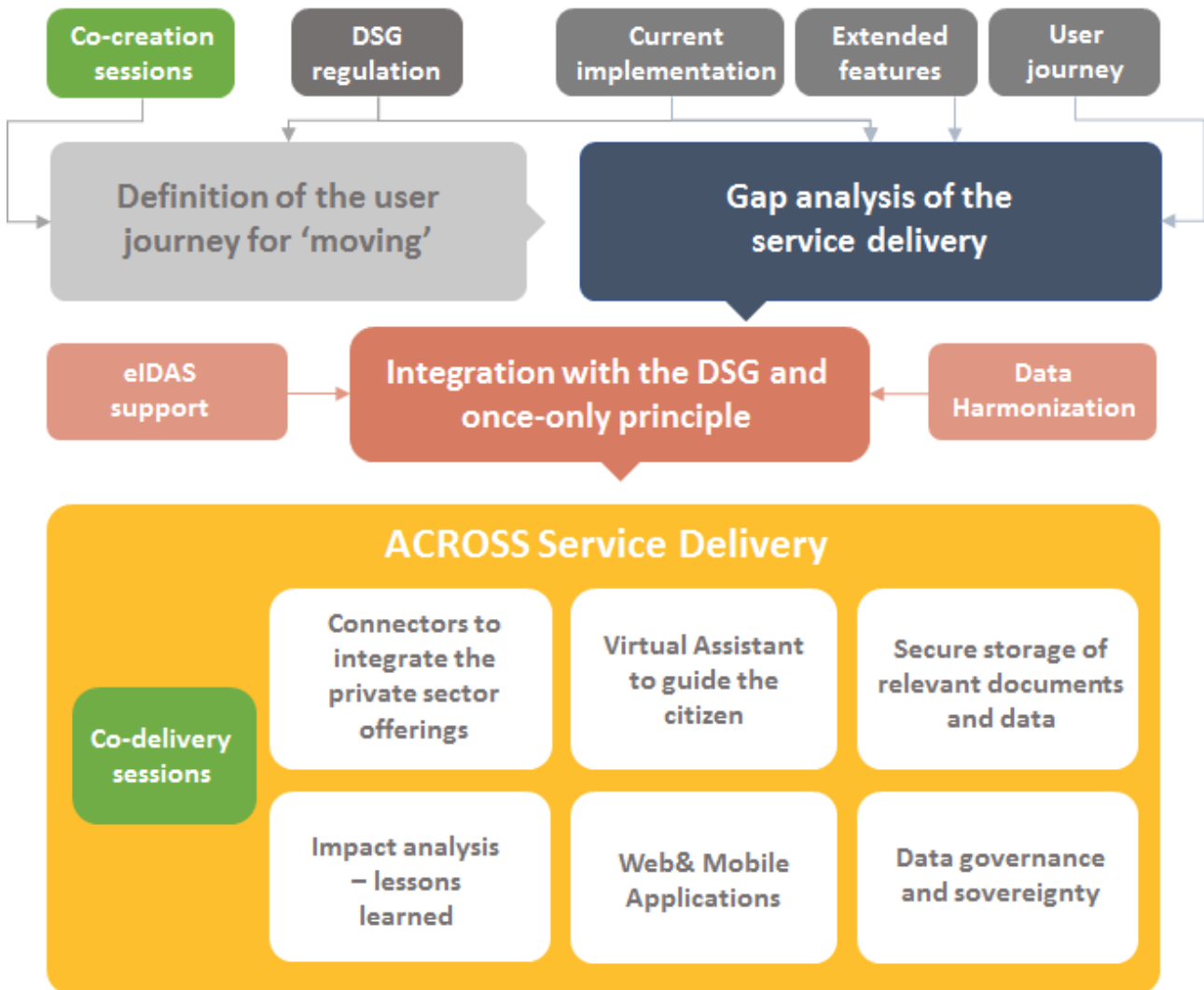
2. ACROSS Mission

The main objective of the ACROSS project is thus to provide the means (tools, methods and techniques) to enable user-centric design and implementation of interoperable cross-border (digital) public services compliant with the current European regulations (e.g. the Single Digital Gateway (SDG) and Once-Only principle (OOP), European Interoperability Framework (EIF)) where the private sector can also interconnect their services while ensuring the data sovereignty of the citizens, who can set the privacy level that will allow the public and private sector to access to their data based on their requirements. To achieve these smart user-centric services, ACROSS will provide social and technical enablers integrated in an ecosystem (ACROSS ecosystem) to co-design, co-create and co-deliver user-centric, accessible, interoperable (with other PAs and with third-party private service providers) and regulation-compliant cross border digital services, while assuring the

(personal) data sovereignty and control to the citizens. The generic ACROSS user journey methodology will support PAs to define and model user-centric digital public services along with a set of co-design and co-creation sessions where the different key stakeholders (i.e. PAs, citizens, third party service providers, etc.) can participate proposing their ideas and needs. These sessions will include a gap analysis activity to elicit the requirements at different levels (technical, semantic, organizational, legal) for the renewed cross border services. With the resulting information and building on tools and methodologies provided by the EC (e.g. Core Vocabularies by ISA2, the PAs will adapt the new public digital services through specific connectors, data harmonization tools, so that they can interoperate with other PAs and with the private sector supporting the European Regulation (the Single Digital Gateway, Once Only Principle, eIDAS, European Interoperability Framework, personal data regulations, etc.) and applying the needed changes in the way the PAs deliver their services, to introduce cross-border aspects. ACROSS ecosystem will facilitate the seamless co-delivery of the renewed services so that all users are guided in the User Journey through a Multi-lingual Virtual Assistant providing speech and textual chat interfaces. A mobile and web-application for one-stop-shop service will also support the users to better understand, complete and seamless information exchange within the whole cross-border digital service and the involved stakeholders. The user will always control how their (personal) data is used by public administrations, businesses, or data brokers through a data governance framework to easily manage and handle sensitive information. ACROSS proposes a continuous enhancement of the cross-border service design and implementation through an impact analysis of the benefits, risks and potential of the application of these transformative techniques, methods and technologies to the design and delivery of cross-border mobility services. To realize this approach, the project's specific objectives fall under three key focus areas: [1] setting-up the tools and methods as well as the ecosystem enabling the implementation and experimentation of interoperable and cross-border public services [2] enabling and enhancing the collaboration among stakeholders such as public authorities and administrations, businesses and citizens for the co-design, co-creation, and co-delivery of public services, towards an open inclusive and digital government approach, able to reinforce trust in public institutions., and [3] evaluating and validating ACROSS contribution to European policies' implementation and, in particular, that of the Single Digital Gateway Regulation, by ensuring its wider sustainability and impact through the scalability and transferability of outcomes.

3. ACROSS Approach

The main objective of the ACROSS project is to provide the means (tools, methods and techniques) to enable user-centric design and implementation of interoperable cross-border (digital) public services compliant with the current European regulations. Specifically, the main approach of the project is depicted in the chart below.



4. ACROSS Key Results

The final key results expected from the project are the following:

1. A User journey methodology, approach and supporting tool
2. Connectors and data harmonization tools
3. Multi-lingual Virtual Assistant providing speech and textual chat interfaces
4. ACROSS Platform, for cross-border seamless public service delivery
5. Mobile and web application for one-stop-shop service delivery to facilitate citizen cross-border mobility
6. ACROSS Ecosystem
7. Data governance framework
8. Co-design involving stakeholders to participate in the development and evaluation of public services
9. Impact analysis and lessons learned
10. ACROSS Use cases implementation

11. Business plan

About the Authors

Francesco Mureddu

Francesco Mureddu is an analyst and strategist in innovation and technology policies. During his career Francesco has supported, and in many cases, driven the design and delivery of consultancy and research projects in a wide variety of topics including the impact of Digital Transformation, Big data and Artificial Intelligence, e-government, Smart cities, ICT-enabled social innovation, future science, Citizen Science, research and innovation policies, health. Francesco masters a wide array of methodologies including evaluation and impact assessment of policy initiatives and projects, policy development and benchmarking, technology roadmapping and scenario development, economic and econometric modelling, cost/benefit and sensitivity analysis, stakeholders' consultation and engagement. Francesco is currently Director at the Belgian Think Tank Lisbon Council. Aside from his primary activity, he serves as partner and business development consultant for the consultancy start-up DataPower s.r.l. and for the cybersecurity start-up Intelligence Framework inc., as well as consultant for several clients including PwC Italy, KPMG Italy, NOVA, JRC Seville, Outsight s.l., Region Emilia-Romagna (Italy), Proter s.r.l., Grimaldi Lex and I2Grow s.r.l. Further, he serves as trainer in Project Management, Agile and Lean Management, Digital Transformation and Corporate Finance for Manpower and Adecco, as well as in Proposal Writing for Apply s.r.l. He holds an MA in Economics from the Catholic University of Louvain and a PhD in Economics from the University of Cagliari, and is able to work and interact in English and Spanish. Francesco is currently leading the involvement of the Lisbon Council in the following projects: SPOTTED (CEF-TC-2020-2), REINFORCE (SwafS-15-2018), SALL (SwafS-01-2020), DECIDO (DT-GOVERNANCE-12-2020), ACROSS (DT-GOVERNANCE-05-2020), ETAPAS (DT-TRANSFORMATIONS-02-2020), LETHE (H2020-SC1-DTH-2018-2020), Surrounded by Science (SwafS-24-2020). Francesco is also member of the Advisory Board of the projects: Policy Cloud (H2020- DT-GOVERNANCE-12-2019), INTERLINK (H2020-DT-GOVERNANCE-05-2020), and FEMaLe (H2020-SC1-DTH-2018-2020). Finally, he regularly serves as track chair in the conferences EGOV-CeDEM-ePart and Data for Policy, and he is Area Editor for Area 1: Data Driven Transformations in Policy & Governance, for the journal Data & Policy, Cambridge University Press.

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