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D2.6 Position Paper on Definition of OOP and Situation in Europe

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Abstract:
In spite of political expectations and technical advances, the cross-border implementation of the "once-only" principle (OOP) in the EU is limited to a few services so far. The Once-Only Principle Project (TOOP) is an EU-funded large-scale project which aims to explore and demonstrate OOP on a cross-border, collaborative and pan-European scale. This is done by developing a federated architecture, which will be tested in multiple sustainable pilots. TOOP has the potential to provide lessons learned which may assist future implementation and a wider usage of OOP. TOOP also has the potential to bring positive changes both for public administrations and public service users across Europe and beyond. This position paper is the first deliverable of the project and it aims to describe TOOP partners' approach towards OOP; it also summarizes the motivation and ambition behind the project.

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This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 737460

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List of Abbreviations

Acronym	Explanation
CEF	Connecting Europe Facility
DSI	Digital Service Infrastructure
EBR	European Business Register
EC	European Commission
EIF	European Interoperability Framework
EIRA	European Interoperability Reference Architecture
EU	European Union
FSOD	Framework for Supporting OOP Project Development
LSP	Large Scale Pilot
OOP	Once-Only Principle
TOOP	The Once-Only Principle Project
XML	eXtensible Markup Language

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Executive Summary

The objective of this position paper is to explain the "once-only" principle (OOP) as it is understood by the partners in **The Once-Only Principle Project** (hereinafter "**TOOP**", 2017-2019), and to summarize the motivation and ambition behind the project.

The concept of the OOP focuses on reducing the administrative burden of individuals and businesses by re-organising public sector internal processes, instead of making individuals and business users adjust to those processes. According to the OOP, public administrations should collect information from citizens and businesses only once and then, respecting regulations and other constraints, this information may be shared. While many European Union (EU) countries have started to implement the OOP at a national level, it is still evolving and fragmented. The cross-border implementation of the OOP is limited so far to a few services.

EU-wide implementation of the OOP is an important political priority. Large-Scale Pilots have already been implemented within Europe, and technical building blocks have been developed and piloted in various domains. Further development and implementation of the OOP is made possible thanks to existing interoperability standards and frameworks.

TOOP's aim is to explore and demonstrate the "once-only" principle on a cross-border, collaborative, and pan-European scale by using a federated architecture to implement multiple sustainable pilots. **TOOP's approach to the OOP** is specific, focusing on information related to **businesses** activities and on **cross-border** sharing of this information. TOOP aims to contribute to the creation of a situation where businesses may provide certain standard information to a national or supra-national public administration only once, allowing for cross-border sharing of such information, and this information could be shared between those public bodies, respecting constraints such as regulations.

Three pilots will be implemented in the following areas: (1) Cross-border e-Services for Business Mobility, (2) Updating Connected Company Data, and (3) Online Ship and Crew Certificates.

One of the key innovative solutions to be developed within TOOP is a **generic federated architecture** that supports the interconnection and interoperability of national registries across state borders. Such an architecture aims to provide consolidated and reusable building blocks for the implementation of the OOP in public services within Europe. TOOP will, in particular, focus on the interoperability at the organisational, semantic and technical levels.

The identification and mitigation of **legal issues** is not only necessary for the correct execution of the pilots, but can furthermore provide guidance for future legislative or policy measures in the EU and beyond. Since precise and systematic data could help introduce such OOP-based initiatives in the future, the pilots will be **evaluated** to identify the tangible and intangible benefits and impacts.

Exploring and demonstrating the functionality of the OOP on a cross-border European scale has the potential to discover and present lessons learned for future implementations and a wider use of the OOP. This may bring positive changes both for public administrations and public service users across Europe and beyond. The exercise that TOOP is undertaking will generate valuable insights into how the OOP could be extended, what the drivers and barriers are, and which obstacles need to be overcome. The project is thus an important learning environment for the OOP in particular and European e-Government in general.

An **updated version** of this position paper will be released in December 2017.

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1. Introduction

The objective of this position paper is to explain the "once-only" principle (OOP) as it is understood by the partners in The Once-Only Principle Project (hereinafter "TOOP", 2017-2019) and to summarize the motivation and ambition behind the project. The position paper will also describe areas where the OOP will be piloted, in the framework of TOOP, and provide details on the implementation of the project.

The OOP is a principle which puts forth the idea that public administrations should collect information from citizens and businesses only once and then share this information, keeping in mind regulations and other constraints. The aim of TOOP is to explore and demonstrate the application of this principle on a cross-border scale. The cross-border implementation of the OOP is also the focus of the recent report "EU-wide Digital Once-Only Principle for Citizens and Businesses"[1], which makes the following recommendations:

1. *Preparing and proposing a Directive pertaining to data provided by natural persons or businesses to competent authorities, which would establish grounds for the further processing of those data by the original data controllers or other competent authorities for the benefit of the original natural person or business data subject.*
2. *Setting up a task force with Member State representatives to establish a sound and comprehensive framework for facilitating the development of OOP initiatives and their interconnection and access arrangements at European level.*
3. *Establishing an EU-wide framework for business OOP to interconnect and provide access to base registers and consolidate steps towards portable or mutually-recognised business identities, common ontologies and streamlined procedures, based on requirements of the eIDAS Regulation and standards and interoperability principles in the (revised) EIF[2].*

The current position paper, as well as TOOP in general, has the potential to directly contribute to the EU-wide framework for the OOP. TOOP is also expected to create and provide extensive evidence on issues surrounding the implementation of OOP and its impacts; thus, it is potentially relevant for a task force which may be created based on the previous recommendations. Evidence in regards to the implementation of the OOP gathered throughout TOOP piloting effort will provide valuable insights into any future implementation of the OOP at an EU-wide scale. TOOP also analyses the OOP legal context and contributes into the EU legal landscape on the OOP.

This position paper is divided into five main parts. After the current introductory section, Section 2 will describe the motivation behind the project. In Section 3, the OOP will be explained from the administrative, legal and technical viewpoints, also giving an overview of selected OOP initiatives in Europe with special attention to cross-border initiatives. In Section 4, TOOP's ambition and innovation potential will be described, demonstrating the aspects where it aims to go beyond the state-of-the-art. TOOP pilot areas will be discussed in Section 5. Some general information about the implementation of the project is provided in Section 6.

[1] Cave, J., Botterman, M., Cavallini, S., Volpe, M. (2017) EU-wide digital Once-Only Principle for citizens and businesses. Policy options and their impacts. European Commission, DG CONNECT. Available at: https://ec.europa.eu/digital-single-market/en/news/eu-wide-digital-once-only-principle-citizens-and-businesses-policy-options-and-their-impacts

[2] European Interoperability Framework

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Based on developments in the project, the current position paper will be updated in December 2017 to provide an enhanced definition of the "once-only" principle; in doing this it will draw on the various related tasks, including TOOP's work on the technical (Task 2.1) and legal (T2.2) aspects and well as on the impacts of OOP (T2.4). Furthermore, detailed mapping of the situation in Europe will be provided based on the empirical material gathered.

2. Motivation

The European Union (EU) strives to further develop the common (digital) single market by lowering the administrative burden for citizens and businesses. In 2009, the ministers of EU Member States agreed upon a Ministerial Declaration on e-Government stating:

> *We will use eGovernment to reduce administrative burdens, partly by redesigning administrative processes in order to make them more efficient. We will exchange experience and jointly investigate how public administrations can reduce the frequency with which citizens and businesses have to resubmit information to appropriate authorities. We will emphasize respect for privacy and data protection with regard to the use of personal data since it is crucial for enhancing confidence and trust. Trust and security are integral for take-up of services by citizens and businesses when creating services that rely on the electronic exchange of information.*[3]

The EU-wide implementation of the OOP is also a main pillar of the Digital Single Market Strategy[4], which calls for the implementation of OOP within a new "eGovernment Action Plan 2016-2020"[5] ; it also calls for a European free flow of data initiative and improvement of the European Interoperability Framework. In the aforementioned eGovernment Action Plan, one of the underlying principles states that public administrations should ensure that citizens and businesses supply the same information only once to a public administration.

In today's interconnected and digital world the European Commission feels that a free market should have more than just the free movement of goods, people, services and capital to function to its full potential; free movement of data is often mentioned as the fifth freedom.[6]

From these political documents, as well as various empirical studies[7], it follows that one of the major impediments to a well-functioning single European market is the daily friction of procedures and paperwork required by the public sector. Compliance costs are often caused by fairly simple issues,

[3] Ministerial Declaration on eGovernment (2009) Available at https://ec.europa.eu/digital-single-market/sites/digital-agenda/files/ministerial-declaration-on-egovernment-malmo.pdf

[4] See https://ec.europa.eu/commission/priorities/digital-single-market_en

[5] European Commission (2016) EU eGovernment Action Plan 2016-2020: Accelerating the digital transformation of government. Available at http://ec.europa.eu/newsroom/dae/document.cfm?doc_id=15268

[6] See, for example, Press Release from a High-level conference on free movement of data as the future fifth freedom of the EU, 17 October 2016. Available at http://www.eu2016.sk/en/press-releases/high-level-conference-on-free-movement-of-data-as-the-future-fifth-freedom-of-the-eu; Landström, O., Dahlberg, E. (2017) Data Flows - A Fifth Freedom for the Internal Market? Kommerskollegium - National Board of Trade Sweden. Available at: http://www.kommers.se/Documents/dokumentarkiv/publikationer/2016/Data%20flows%20-%20A%20fifth%20freedom%20for%20the%20internal%20market.pdf

[7] See Gallo, G., Giove, M., Millard, J., Thaarup, R. (2014) Study on eGovernment and the Reduction of Administrative Burden. Available at http://ec.europa.eu/newsroom/dae/document.cfm?doc_id=5155

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such as proving one's identity and the possession of required or claimed attributes, such as a license or a certificate. This information usually already exists in the public sector, whether in another agency in the same country or in another country.

The OOP may be seen as a viable way to reduce the administrative burden throughout the EU member states and make the digital single market a reality. This is based on the assumption that collecting information is more expensive, and burdensome, than sharing already collected information.

The OOP focuses on reducing the administrative burden of individuals and businesses by re-organising public sector internal processes, instead of forcing individuals and business users to adjust to those internal processes. Both the administration collecting the data and the administration using the data may see an opportunity to streamline their processes: first, to enable automated data-sharing and second, to replace redundant data collection with information requests. The OOP is expected to bring numerous benefits. Among them is a positive economic impact – for businesses this includes time-savings and less administrative costs so they can really focus on their core business. There is a potential for major administrative gains in the form of fewer calls to customer service centres, less paper mailing and mistakes, plus a faster processing as well as time-savings by way of a decreased need for data collection, improved re-utilisation of data and a reduced number of unnecessary data-submission demands. In addition to benefits of the OOP outlined above, implementation of the OOP will improve reliability of data, as it will be stored and therefore also updated in its original source.

For these reasons, the OOP has become an important principle in administrative modernisation processes throughout Europe: 25 countries have started to implement the OOP at a national level, and 13 already have legislation in place supporting the implementation of the OOP.[8] There is fertile ground for extending the implementation of the OOP from a single Member State to cross-border cooperation at the EU level and beyond. The most recent report on the OOP in Europe concludes, in a similar way, that "the implementation of the OOP throughout European Member States is still evolving and fragmented; experience with cross-border implementation is limited to a few services and cross-border arrangements between individual Member States. Thus, it is not yet a principle"[9].

The reality of the EU, however, precludes the swift and direct application of the OOP. Different EU Member States have a different understanding of the OOP, different approaches to public service provision, different IT systems that make such services possible, but also different understanding of issues relevant to the OOP, such as protection of personal data, for example.

These issues were also reflected in the research and innovation objectives of the "Co-creation between public administrations: once-only principle" (H2020-SC6-CO-CREATION-2016-2017) call, where innovation projects with the following objectives were sought:

- The users, public administrations in the EU, will engage in the co-creation process, in order to collaboratively elaborate a common architecture.
- The project will enable the interaction and co-creation based on the existing national systems, and will re-use when relevant existing cross-border services, in particular services operated by the Connecting Europe Facility (CEF) telecom programme.
- The project will also identify the drivers, barriers, potential vulnerabilities and legal issues for the implementation of OOP for businesses across borders in Europe.
- Administrations would open up their information to another administration under the control and the consent of the citizen or business, in line with the EU's Data Protection legislation.

[8] Gallo et al. (2014)

[9] Cave et al. (2017), p.1

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- The large-scale pilot shall include a minimum of six relevant national administrations in at least six different EU Member States or Associated Countries. The project must pilot the system for at least 12 months in real conditions.

It is important to note that Large Scale Pilots (hereinafter LSPs, such as e-SENS, STORK, eCodex), which aimed to improve cross-border public-services delivery, have already been implemented in Europe. These LSPs facilitate the use of innovative technologies for the deployment of EU-wide services in selected areas and, in turn, the development of a Digital Single Market and have already proven that providing cross-border services can be made simpler. In numerous domains, technical building blocks[10] have been developed and piloted. This enables seamless cross-border services to address potential challenges, and, at the same time, allows for all other requirements to be respected. Further development and implementation of the OOP is made possible due to existing interoperability standards and frameworks and to existing CEF Digital Service Infrastructures (DSIs), building blocks of the previous LSPs and ISA2 Programme.[11]

3. The Once-Only Principle

In the following section, the OOP will be explained from the administrative, legal and technical viewpoint (sub-section 3.1); an overview of selected OOP initiatives in Europe with special attention to cross-border initiatives will also be provided (sub-section 3.2).

3.1. The Once-Only Principle in the EU: Administrative, Legal and Technical Viewpoints

There is no single definition of the "once-only" principle at the moment in the EU.

One of the first studies on the OOP defines it as a principle that

> *entails the elimination of the unnecessary administrative burden involved when users (citizens, businesses or other authorities) are required to supply the same information more than once to government. Following the "once only" principle, the information required from citizens and businesses is collected only once, on condition that data and privacy protection requirements are met.*[12]

In the EU's eGovernment Action Plan 2016-2020 it is approached also as a principle

> *requiring that members of the public and individuals/businesses should not have to supply the same information more than once to public administrations.*[13]

Describing OOP principle, the Commission states that EU-wide OOP

> *provides clarity on a key element of the digital single market, allowing exchange of data among competent authorities in a harmonized proportional and non-discriminatory way, in full compliance with data protection and other rules.*[14]

Thus, the OOP is about data re-use – both in national and cross-border interactions with public administrations – and makes sure that citizens and businesses in the EU only have to provide data to

[10] See https://ec.europa.eu/cefdigital/wiki/display/CEFDIGITAL/CEF+building+blocks

[11] See https://ec.europa.eu/isa2/home_en

[12] Gallo et al. (2014)

[13] Cave et al. (2017)

[14] Cave et al. (2017)

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public administrations on one occasion. Hence, if one government in an EU Member State already has access to certain data, all other EU Member States should also be able to access this as well. By implementing the OOP, the EU will eliminate multiple requests to citizens and businesses for the same information.

National approaches to the OOP vary. In some EU Member States "once-only" refers to data storage, in which case national legislation requires that data collected (from citizens) is stored in one database. In other cases, "once-only" refers to collection of the data, stipulating that data can be submitted to public administrations only once, while still allowing for multiple repositories. TOOP uses the latter definition of OOP, focusing on collection of data by public sector organisations and subsequent sharing of the collected data across public administrations as well as borders.

TOOP's approach to the OOP is specific, by (1) focusing on information related to businesses activities, and (2) on cross-border sharing of this information, aiming at a result where

> *businesses provide certain standard information to a national or supra-national public administration only once, whilst allowing for cross-border use of such information, and this information is shared by those public administrative bodies respecting constraints, such as regulations.*

From the **legal perspective,** a crucial challenge will be to ensure that the exchange of information, and its subsequent use, will be organised in accordance with applicable data protection law, principally (as of May 2018) the General Data Protection Regulation; at least in cases where the exchanged information qualifies as personal data. In such cases, the legitimacy of the exchange has to be ensured, e.g. by obtaining the consent of the persons involved or by identifying binding legislation that justifies the exchange. Furthermore, other principles of data protection law must be observed as well, including data minimisation (only relevant information may be exchanged), purpose limitation (the data may only be processed for purposes explicitly communicated to the persons involved), and of course information security (ensuring that the system is designed to protect the data against accidental loss, corruption or theft), especially in cases where personal data can be considered as legally sensitive, e.g. when it relates to the health of an individual person. The transfer of personal data to recipients outside the EU requires the implementation of the appropriate safeguards to ensure that the transfer is legally compliant and provides an appropriate level of protection against misuse.

In some cases data protection law may not apply; however, even in these unusual situations certain legal assurances will still need to be provided for any OOP use case. Any legislation that may restrict or limit data exchange opportunities must be identified and complied with, including obtaining any relevant authorisations from regulators or supervisory bodies. Furthermore, the responsibilities and liabilities of participants in an exchange must be clearly set out: to what extent may the recipient rely on the accuracy of the data, and to what extent does the provider of the data provide assurances on this topic? For all of these questions, TOOP will need to establish a viable legal framework, for instance: by implementing framework agreements, providing memoranda of understanding, and providing recommendations that facilitate long term sustainability beyond the duration and scope of TOOP.

From a **technical point of view**, the realisation of the OOP is related to the interconnection of (base) registries. Such registries are the consolidated source of information for certain domains, such as business, buildings, persons etc. For example, the national business registry of each country is the base registry for company information of all businesses in that country. The OOP foresees the use of such (base) registries as information source, as they always keep the latest version of information.

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3.2.The Once-Only Principle Applications in Europe

A recent study by Cave et al. has documented the implementation of the OOP in some EU countries and has recorded different interpretations and maturity levels:

- Estonia, Netherlands and Belgium are the most mature: they have national legislation in place that not only refers explicitly to the OOP but also enforces its implementation. In these countries, public administrations are encouraged or even obliged to retrieve data from the registers in which they are already stored instead of duplicating data requests and their storage.
- Italy has regulations on the re-use of existing computer software within Italian public administration and digital exchange of documents.
- Other countries present a OOP focus in a National Green paper (like Hungary), or are piloting with the OOP through direct exchange of information and data among certain public administrations (Romania, UK).
- Countries where legal provisions limit the implementation of OOP (Finland, Spain).[15]

In order to illustrate the existing situation in the countries participating in TOOP, some selected cases will be presented below, along with a couple of examples of cross-border initiatives.

In **the Netherlands**, cross-border OOP is not yet widespread, but some national initiatives can be identified:

- *Belastingdienst:* In 2014, the Dutch tax office introduced pre-populated data for tax declaration reports. By combining data from different databases, users no longer have to fill out tax forms manually, thus making tax reports much easier. In 2016, the prefilled online declaration form even became standard rather than optional. This way, practically every person in the Netherlands sending in tax report can do so by only checking the data that is already there and changing things when incorrect.[16]
- *Stelsel van Basisregistraties*: In the Netherlands, 12 base registries exist, containing general information such as personal addresses, business names, and income. In 2003, these 12 have been combined by the Dutch government into one system: the "*Stelsel Basisregistratie*". This way, citizens and businesses will only have to provide data once – and governments will only have to process the data once. Within the system, there are open and closed registries. The open registries are publicly accessible, while information in the closed registries is only accessible by those who need it for their work.[17]
- *EPD - Elektronisch Patiënten Dossier:* Another example is the Electronic Patient Record (EPD: "*Elektonisch Patienten Dossier*"). The EPD has a regional structure: there is no central database containing patient data but caregivers can ask other care providers for patient information through a national exchange point. The system has been set up with 44 different software partitions corresponding to 44 regions: (acting) general practitioners, (hospital) pharmacists

[15] Cave et al. (2017), pp 140-142

[16] Consumers union regarding tax reports (consumentenbond over belastingaangifte) (2017). Available at: https://www.consumentenbond.nl/belastingaangifte/checklist-belastingaangifte-doen; Website Dutch Tax Office (Belastingdienst) (2017). Available at: https://www.belastingdienst.nl/wps/wcm/connect/bldcontentnl/belastingdienst/prive/werk_en_inkomen/jongeren/teruggaaf_jongeren/aangifte_invullen/aangifte_invullen

[17] Website Dutch Government regarding base registries (2017). Available at: https://www.rijksoverheid.nl/onderwerpen/digitale-overheid/inhoud/efficienter-werken-door-samenvoegen-basisregistraties; https://www.digitaleoverheid.nl/voorzieningen/gegevens/inhoud-basisregistraties

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and medical specialist can only exchange information within their region. Furthermore, information can only be accessed if patients have given their consent up front. Only hospitals can exchange information on a supra-regional level.[18] Through a website, patients can see their file, as well as who has access to it. They can also arrange which care provider gets permission for access. The log in is by DigID.

Belgium adopted a dedicated OOP law in 2014.[19] The law requires federal public administrations to retrieve all available data from official registers using unique identifiers, instead of asking citizens and businesses to provide these data multiple times. The implementation of the law is facilitated by the system of base registries and the eID system, which provides a single identifier for each data holder, whereby public administrations can exchange data and individuals and businesses can access public e-services. A number of official service integrators have been appointed by law to facilitate access to the base registries both at the federal and regional level. These service integrators function as a single point of contact for data consumers. Between these official service integrators, a circle of trust has been established. Belgium also has an advanced data protection system, which allows citizens to always know which organisation has accessed their data.

Regarding services for businesses, a number of common transactions (e.g., registering a company's name and address, withholding taxes and social security contributions from wages, etc.) can be completed online using prefilled forms. The administrative burden of starting up a business has also been reported minimal thanks to extensive reuse of data that exists in public sector databases.[20]

In addition to efforts at the federal level, Belgium's region of Flanders has been a long-time forerunner in developing an advanced infrastructure for data reuse. The Flemish service integrator's platform MAGDA (Maximum Data Sharing between Administrations and Agencies), operational since 2004-2005, provides a common service-oriented data exchange infrastructure for the 190 agencies and 13 departments of the Flemish regional government, and 308 local governments[21]. The platform allows for the retrieval of data from federal and Flemish base registries and the exchange and reuse of data in line with the "once-only" principle. Data that can be retrieved through the platform include, for example, data from the population register, information on work permits, education, etc. MAGDA currently connects more than 25 data sources and provides more than 75 data services.

As a recent development, **Belgium** is preparing for participation in a cross-border initiative for the exchange of birth certificates with **France, Luxembourg and Turkey**. The initiative is led by the *Commission internationale de l'état civil* (CIEC), an intergovernmental organisation working on matters related to civil status.

The application of the OOP within **Estonia** is widespread. Several key preconditions – including legal, administrative and technical – are fulfilled. The legislative framework is supportive – the Public Information Act, approved in 2000, was amended in 2007 with the addition: "Establishment of

[18] Website of the union for care provision (Vereniging van Zorgaanbieders - VZVZ) (2017). Available at: https://www.vzvz.nl/page/Zorgconsument/Links/Vraag-en-antwoord/Over-het-LSP; Website to arrange access for care provision (2017). Available at: www.ikgeeftoestemming.nl

[19] http://www.ejustice.just.fgov.be/cgi_loi/change_lg.pl?language=fr&la=F&cn=2014050506&table_name=loi

[20] See Cave et al. (2017) for a more detailed overview of OOP services in Belgium

[21] Information on the MAGDA platform is based on https://joinup.ec.europa.eu/node/159272

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separate databases for the collection of the same data is prohibited" (§ 43)[22]. Also, the General Part of the Economic Activities Code Act (2011) establishing the general conditions of and procedure for exercising the freedom of economic activity states that

- It is prohibited for economic administrative authorities to require from undertakings and undertakings need not submit information which is entered in a database established pursuant to law, except for information which allows the identification of an undertaking and contact details of an undertaking.
- The prohibition on requiring information twice also applies to information which can be obtained from the relevant register of another Contracting State. The prohibition on requiring information twice does not apply to the information in the registers of third countries (§ 13[23])

Other preconditions are also fulfilled, such as the existence of unique identifiers for inhabitants and companies and the technical interconnection of registers via the X-Road data exchange system, implementing harmonized data exchange. The OOP-based exchange of data is widely applied in Estonia (within administrations, but also extending to private sector), resulting in administrative burden reduction, increase in government efficiency and end-user satisfaction[24].

Furthermore, **Finland and Estonia** have agreed to enhance their cooperation by setting up the Nordic Institute for Interoperability Solutions in 2016. The main data exchange solution for Finnish public sector organisations, *Suomi.fi-palveluväylä*, is based on the Estonian X-Road technology. *Palveluväylä* was introduced in Finland as part of the programme implementing the National Architecture for Digital Services, and the public sector organisations have a statutory obligation to use it. The institute continues the well-functioning cooperation between Finland and Estonia which started under the programme. Technically the X-Road of Estonia and the Finnish *Palveluväylä* (National Data Exchange Layer) are to be linked in spring 2017.[25] One of the first services to be implemented is concerned with automated inquiries into population registries.[26]

In **Italy**, a series of laws passed between 2000 and 2012 forbid a public administration from asking citizens or companies to provide information that has already been submitted to another public authority. Any certification required by a public agency must be obtained directly from the certification authorities via back-office collaboration or, alternatively, an administration may request a self-declaration from the citizen ("certified substitute statement of a known act"). Additionally, back-office integration of Public Authorities has been actively promoted and supported through the creation of a national multi-supplier digital network connecting all major Public Authorities. The following national initiatives are worth noting: 1) the national Business Register publishes company data which is integrated with many different government systems regulating business growth and development: the national tax authority and social security agencies for simplified company creation and other life event processes; 2) the local one-stop-shops (Italy's Points of Single Contact) for obtaining licenses and performing procedures at regional, provincial and township levels of government; 3) central PA

[22] Public Information Act (2007). Available at: https://www.riigiteataja.ee/en/eli/ee/518012016001/consolide/current

[23] General Part of the Economic Activities Code Act (2011). Available at: https://www.riigiteataja.ee/en/eli/530102013062/consolide

[24] Kalvet, T., Tiits, M., Hinsberg, H. (eds) (2013) E-teenuste kasutamise tulemuslikkus ja mõju [Impact assessment of the Estonian e-government services]. Tallinn: Institute of Baltic Studies & Praxis Center for Policy Studies.

[25] http://vm.fi/en/article/-/asset_publisher/suomi-ja-viro-perustavat-yhteisen-instituutin-kehittamaan-x-road-teknologiaa

[26] http://www.ituudised.ee/uudised/2016/09/30/eesti-ja-soome-x-teed-uhendatakse-aprilliks

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ministries for compliance with trade registers and regulations in the domains of Health, Environment, Justice and Telecommunications.

Moreover, contracting authorities are not allowed to ask any document or certificate released by some public administration to the companies: the Virtual Company Dossier is filled online through a service connecting the back offices of more than twenty issuing bodies without any intervention from the Economic Operator except for the release of the consent.

Some cross border initiatives promoted by Italy, especially in the field of business register are the participation in European Business Register (EBR) that gives a real-time unified service to access to information and documents available and the implementation of Directive 2012-17-EU of the European Parliament and of the Council "for the interconnection of business registers".

Austria is another country that has defined the OOP at the level of national legislation. The Austrian eGovernment Law (§ 17 (2)) stipulates that whenever technically possible, citizens shall not be asked to present proof of data that already exists in an electronic register in the public sector. Instead, public sector organisations need to make requests of data directly to the relevant databases (such as the Central Register of Residents), provided they have the data subject's consent or statutory authorisation for such acquisition of data. Austria has also introduced specific rules and a supporting infrastructure for the implementation of OOP for businesses and citizens. This is regulated by the "USPG law", which set the terms of use of the Business Service Portal (*Unternehmensserviceportal*, USP) and the Citizens Service Portal (*Bürgerserviceportal,* HELP.gv.at). The USP is a one-stop-shop for businesses operating in Austria, established in 2010 with the aim of reducing the administrative burden of companies. The USP offers information and transaction services that help businesses fulfil their legal obligations (e.g. various reporting duties) and conduct transactions with government authorities. The portal allows for the submission of requests of data in a standardized electronic format using online forms, it allows for data exchange with different registers, and also for a fully electronic process of founding a new company. HELP.gv.at is a one-stop shop for citizens established with the aim to reduce administrative burden for citizens by offering full information and transaction services for various life events (e.g. moving, education, family and partnership).

Austria has also been involved in cross-border initiatives of data exchange between public administrations. In 2013, the state of **Bavaria (Germany) and Upper Austria (Austria)** initiated the cross-border pilot project "X-trans.eu"[27] to facilitate the process of application and approval of international oversize-load transport. Due to the differences in the application forms and procedures for obtaining permits for heavy transport in different countries, the aim of the pilot was to create a central system which would save companies from submitting multiple applications to different local authorities for the same transport. The central permit portal x-trans.eu allowed applicants to provide their data only once for the specific transport. The collected information would then be shared with relevant agencies in the respective countries based on the application requirements in each country. The basis for the portal was a common data model that included all the information needed for a permit. Rules could then be formulated to describe the information and application formats required in each country. As such, the system was fully scalable to any European country. In the pilot phase, data exchange was successfully tested between Austria and Germany. However, due to organisational and political changes, the project was terminated in 2015.

Slovenia is an example of a country that is making rapid advances towards electronic exchange of data between base registries and other information systems following the OOP. One important step in this direction has been the development of reusable building blocks for electronic data exchange, which

[27] http://ec.europa.eu/newsroom/document.cfm?action=display&doc_id=5522

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were first applied in the context of e-social security and are now used in many other contexts. A good example of a successful implementation of the "once-only" principle is the e-Social Security project where over 50 heterogeneous data sources were connected by a set of reusable and flexible building blocks for electronic data gathering. The system is composed of 4 core building blocks (TRAY, a central system for electronic data enquires; IO-MODULE, a common platform for standardized data distribution; ASYNCHRONOUS MODULE, which enables electronic enquiries to data sources that are not accessible via synchronous access; SECURITY PLATFORM, which enables multilevel management of users' privacy and rights). At present data exchange is implemented at the national level in Slovenia, but will evolve into cross-border OOP in the upcoming years.

In addition to national advances, cross-border exchange of data and information has also been tested in a few broader **European initiatives**. For example, regarding **data about individual citizens**, EU-wide data and information sharing is already happening in the field of **criminal records**. The European Criminal Records Information System (ECRIS), established in 2012, is an electronic interconnection of Member States' criminal records databases which enables the exchange of information on criminal convictions between Member States.[28] All criminal records data of an individual are always stored in the national database of the country of their nationality, regardless of the country in which conviction took place. This data is exchanged electronically with other Member States upon request, allowing authorities to easily obtain a complete overview of an individual's criminal history from the person's state of nationality. This system also reduces the administrative burden for citizens, who are able to easily obtain an extract from their criminal record from one place when seeking employment in another EU Member State.

In the domain of **business-related data**, **EUDIN** (European Data Interchange for Waste Notification Systems) is an example of an initiative that has developed a standardized interface for the exchange of data on waste shipments. EUDIN replaces the previously paper-based procedure with a system of electronic data sharing and notifications system about waste shipments within, into and out of the EU. It is a "framework of standardized interfaces, business rules and runtime system components that enable the seamless exchange of messages dealing with the transport, receipt and recovery/disposal of waste across borders between EU Member States of the European Union and other interested countries".[29] The countries that have been involved in the initiative so far include **Austria, Belgium, Germany, Luxembourg, Netherlands and Switzerland**.

The cases described above only constitute a few examples of the ways in which different European countries have approached the OOP. They also point to the emergence of some first cross-border collaborations, which vary in their scope, level of development and outcomes. As such cross-border OOP cases have so far not yet been systematically documented, TOOP aims to conduct a more detailed mapping of the current situation in Europe with regard to OOP initiatives that extend country borders.

4. Ambition

The main objective of TOOP is to explore and demonstrate the "once-only" principle through multiple sustainable pilots using a federated architecture on a cross-border, collaborative, and pan-European scale. These pilots are carried out in order to identify drivers and barriers as well as to provide the basis for future implementations and wider use.

[28] http://europa.eu/rapid/press-release_IP-16-87_en.htm

[29] http://www.eudin.org/

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TOOP will enable a better exchange of information or documents of businesses with and between public administrations. The major goals of the project are: time-savings, lowering the administrative burden, reducing costs for businesses, fulfilling legal obligations faster, improved service quality, administrative efficiency, and, in the longer term, a better-functioning (digital) single market with increased customer satisfaction and a better image of public authorities. Another important goal for the project is that the data shared between public administrations remain under the control and the consent of the businesses involved, in line with the data protection legislation by the EU. Further goals are security, interoperability, data quality, data protection, user friendliness, facilitated personalisation, pro-activeness of services and business confidentiality.

The following sub-objectives of the project represent different aspects of achieving the main goal:

1. to collaboratively design a generic federated architecture for implementing the OOP, which allows for the connection of different registries containing base data and e-Government architectures in different countries employing standards, re-using and/or extending existing building blocks;
2. to identify the drivers and barriers (such as data protection and data-sharing requirements, implementation costs, public sector silo issues, legal barriers and/or gaps) and risks, and the ways to manage them;
3. to explore and demonstrate the functionality of the OOP through multiple cross-border pilots of e-Government Services for at least 12 months in real conditions; and
4. to carry out an evaluation, including a cost-benefit analysis of the pilots, to identify the benefits and impacts, both tangible and intangible, and generate insights into the European value in order to facilitate the wider use of the OOP.

One of the key innovative solutions to be developed within TOOP is a **generic federated architecture** that supports the interconnection and interoperability of national base registries across state borders. Such a generic, federated OOP architecture aims at providing consolidated reusable building blocks for the implementation of the "once-only" principle in public services in Europe. From a methodological point of view, such an architecture will not be developed from scratch. Efforts have been made in the development of generic building blocks for European cross-border public services. The EC has set up the Connecting Europe Facility (CEF) to facilitate the development, implementation and adoption of such building blocks, or Digital Service Infrastructures (DSI).[30] In addition, the EC-funded e-SENS project has consolidated a large set of building blocks that were developed in the previous LSPs.[31] Finally, the EC ISA Programme has also made an effort to define a European Interoperability Reference Architecture (EIRA) with building blocks for the interconnection and interoperability of cross-border government systems.

TOOP will use the results of the aforementioned projects and initiatives as the starting point for the development of the generic, federated OOP architecture. This is all to be developed in collaboration between different Member States. Reuse of previous work specifications and implementations is one of the main principles of the project and only where new OOP-related building blocks or specifications are needed the OOP architecture will be extended. The end result of the generic, federated OOP architecture is a set of specifications and building blocks that are necessary for each TOOP pilot. Such

[30] An overview of these DSI can be found at: https://joinup.ec.europa.eu/community/cef/og_page/catalogue-building-blocks

[31] An overview of the reference architecture with these building blocks can be found at: http://wiki.ds.unipi.gr/display/ESENS/eSENS+Reference+Architecture

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specifications include the business, information and technical levels of the building blocks. In addition, in order to be useful for direct implementation in the pilots, building block profiles will be documented that indicate at interface level which elements are used to interact with the building block and which syntax and semantics need to be used.

Methodologically, in addition to the federated OOP architecture itself, a framework for supporting OOP project development (hereinafter FSOD) will be developed. This framework will provide a common core infrastructure for shared digital systems, technology and processes, which will make building OOP-based applications easier and more efficient. It will provide information and help OOP applications to conform to the generic, federated architecture. As the generic architecture can be implemented in a number of ways, the FSOD includes a set of specifications and designs for tools that will make creating OOP applications more effective and efficient. The FSOD enables, inter alia, giving information on the information systems and databases in different Member States and Associated Countries that can be used in an OOP-related application. It makes it possible to find out which data are collected and processed and, in various information systems, which services are available and how they are implemented. To reduce the development effort of OOP-related applications, information is provided about organisations and persons responsible for the development and maintenance of the information systems, as well as of their contact persons. The legal basis for data-processing is provided. The reusable components that ensure the interoperability of information systems are identified, such as XML assets, classifications, dictionaries and ontologies, and other.

Cross-border exchange and reuse of information requires the information systems of different countries to be interoperable, i.e. being able to communicate and cooperate with each other. Relevant levels of interoperability that are encountered by TOOP will in particular be interoperability on the organisational, semantic and technical levels. Also, common support of standards has proven to be the most helpful and efficient road to interoperability.

Over the last decade, the multi-disciplinary and inter-sectoral character of e-Government – the holistic approach to information systems development – has become widely recognised, both in theory and in empirical studies. Still, often the development of e-services is rooted narrowly in existing organisational structures, without any vision of how those structures can be improved and supported by the legislative process and other drivers often attributed to successful public sector innovation (such as effective leadership and co-ordination). This leads to failures in information systems development. TOOP's approach recognises that today's technology is not only a strategic driver for improving public sector efficiency, but can also support the effectiveness of policies and create more open, inclusive, innovative, participatory and trustworthy government. A big ambition of TOOP is to support a paradigm shift towards an open and collaborative government model.

Specific attention will be paid to the legal issues around the implementation of the "once-only" principle at the national level and around the cross-border sharing of data. Applicable legal restrictions can raise a number of issues that need to be identified and mitigated within the TOOP project. This is not only necessary for the correct execution of the project but can furthermore provide guidance for future legislative or policy measures across Member States and Associated Countries and at the EU level.

Since precise and systematic data could help introduce such OOP-based initiatives in the future, the project aims to carry out an evaluation, including a cost-benefit analysis of the pilots, to identify the benefits and impacts, both tangible and intangible, and generate insights into the European value in order to facilitate the wider use of the "once-only" principle.

The main exploitable results of the project and main exploitation paths include:

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1. Federated OOP architecture aligned with the ISA EIRA. Experiences from previous LSPs have shown this to be the only sustainable path for an overarching architecture framework.
2. Building blocks, the sustainability of which shall be ensured through handover to institutional or institutionalized stakeholders such as CEF, EU-Agency or other EU initiatives, other governance organisations (e.g. OpenPEPPOL). Particularly when it comes to CEF DSIs, they should be re-used in TOOP but in turn its results could (and in many cases, should) feed back into the CEF DSIs in order to enhance and enrich them.
3. Pilot solutions and services implemented at the MS: they should be handed over to the competent authorities within the piloting countries, depending on the mandates and responsibilities decided at a national level, in alignment with the obligations of each MS to transpose and implement EU legislation. High degree of synergies would be achieved if TOOP realizes its objectives to implement solutions and services within the piloting MS which are based on re-usable BBs adopted by CEF DSIs so that CEF funds the MS for putting them into widespread production.

Exploring and demonstrating the functionality of the OOP in TOOP pilots on a cross-border European scale has a potential for learning for future implementation and wider use and to bring positive change for both public administrations and users of public services across Europe and beyond. The pilots generate valuable insights in how to extend the OOP, what the drivers and barriers are and which obstacles need to be overcome. The project is thus an important learning environment for the OOP in particular, and European e-Government in general. The pilots are expected to be scalable to all EU Member States in subsequent years. A significant reduction in the cost of future e-Government pilots and/or setting up of OOP-based services is expected to take place, leading in turn to a larger number of such pilots. TOOP also aims to lay a stable foundation for this via its contribution to European frameworks, standards and guidelines derived from pilots, via integration with the OOP federated architecture, and by paying attention to the sustainability of the building blocks.

5. Pilots

TOOP consortium has the ambition to demonstrate the project's contributions in a real-world setting focusing on cross-border exchanges of company and registry data. The main criteria for pilot selection were: (1) cross-border relevance, (2) potential to reduce administrative burden, and (3) feasibility of implementation. Three pilot areas were selected, and TOOP is especially ambitious regarding the number of states and areas concerned in them: it aims to connect 38 information systems as data consumers – i.e. receiving data – and 32 as data providers – i.e. sending data to data consumers in any-to-any transactions.[32]

The first pilot area – **Cross-border e-Services for Business Mobility** – is versatile and composed of different usage scenarios that are of interest to the participating states. For example, participation in public procurement procedures across borders; doing cross-border business; and cross-border service provision. It is based on the assumption that government administrations from different countries expose e-services directed at Economic Operators from various countries. During the respective service provision company-related information is needed. The pilot will show how such information can be automatically retrieved from the Economic Operators' country of origin without the business

[32] This indicates the participating countries' intentions as of March 2017 and may be modified once the pilots start

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representative having to enter it again. The expected impact of all three use scenarios is not only at reducing the administrative burden for Economic Operators, but also at reducing operational costs of competent authorities and the time required for service provision.

The second pilot area – **Updating Connected Company Data** – foresees a central role for the business registers. At the moment, company data are officially stored in the business register within individual Member States according to requirements of relevant EU regulations and directives as well as national legislation. In particular, the BRIS Regulation (Directive 2012/17/EC) has established cross-border updating rules which regulate exchanges between national business registers in order to align data on shareholding companies involved in cross-border mergers or with branch offices abroad. The update notification service shifts the burden of reporting changes from the companies to the business registers. However, companies often deal with foreign public authorities other than the business registers. These include national and local agencies handling sector-specific trade registers and agencies ensuring compliance with specific national and EU regulations, for example in the areas of health, energy, the environment, labour, justice, etc. This means that information on companies is supplied to and stored by a number of public agencies, as well as by the base registers. Supplying the information and keeping it up-to-date create significant burdens for the companies and challenges for the administrations involved. TOOP responds to these two needs with services for accessing business register data when needed – on demand, or in "pull" mode – and also through a change notification service – by subscription, or in "push" mode – triggered by company "life event" changes which by law must be communicated to the base register. The change notification service will extend the existing BRIS updating service, and will build on "Event Notification Services" currently available in several MS.

The third pilot area – **Online Ship and Crew Certificates** – addresses the need for simplification in the area of ship and crew certificates, which are currently issued and maintained in paper format and stored by national Maritime Administrations. TOOP aims at connecting the databases of national Maritime Authorities and to make the information available to authorised parties, as well as providing a possibility of online certificates, which will substitute paper-based or electronically-signed certificates that have to be carried on board. Once TOOP is implemented, the flag state's Maritime Authority will be able to issue the online ship or crew certificates, while all other interested parties, such as port authorities, police and border guard, will be able to view and check the online certificates.

As **expected direct impacts**, TOOP foresees time savings and cost reductions for businesses and administrations by reducing the administrative burden. Also, the generic approach TOOP develops is expected to bring along a reduction in the cost of future e-Government pilots or setting up of services, leading in turn to a larger number of such pilots. Also, other national administrations will be able to join the pilots and developing cross-border applications for certain services, thus ensuring demand for CEF DSIs and building blocks.

All pilots aim to produce time savings and cost reductions for businesses and administrations. They are also expected to support the daily activities of many public administrations at the EU level, enhancing their performances and reliability. In the long run TOOP may possibly contribute to market transparency, creditor protection, tax authorities for fraud prevention, law enforcement agencies and investigation bodies in their activity against money laundering, financial crime and terrorism. TOOP could contribute to a real evolution in the Company Law field as foreseen by the Member States and by the European Commission.

TOOP expects to have an impact on thousands of organisations. For example, in the field of procurement the total estimated number of awarded contracts based on public procurement is around

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630,000 in Europe (2014 data).[33] The number of awarded contracts for cross border companies is now "only" 3.5% of the total awarded contracts (22,000), but is growing thanks to simplified and electronic procedures. TOOP has also potential to contribute to this growth by lowering the administrative burden related to public procurement procedures.

In addition, the average number of "changes" for each registered company in the Business Registers in EU is around 3 per year.[34] Therefore, TOOP's "monitoring service" could generate a total yearly number of around 2 million notifications of which 70,000 at cross border level. Also, there are around 130,000 branches of foreign companies registered in the European Business registers and, based on the average number of yearly "changes", the "monitoring service" could generate a total yearly number of around 400,000 notifications.

The benefits of online ship and crew certificates are related to gains in time-savings, money and maritime safety. It is expected that the Port State Control inspection time on board will be reduced by 1.5 hours to 3 hours due to having certificates available online and therefore having the possibility to check the certificates before actually going on board the ship. Also, Master's/crew's time will likely be saved by several hours per voyage thanks to the use of on-line certificates, thereby allowing the crew to concentrate on safe navigation of the ship. An immediate expected impact of TOOP is also related to lowering the risk for a ship being detained due to not having a valid certificate on board. Costs related to this can otherwise be as high as tens of thousands of euros per ship per day.

6. Implementation

TOOP's implementation is based on the exploratory and agile pilot-life-cycle approach to multiple sustainable cross-border pilots of e-services. The planning and implementation of the pilots is supported by the development of a generic federated architecture and building blocks as well as identification and mitigation of barriers (including legal issues) and evaluation of the results. This allows for pro-active dissemination and sustainable exploitation of the results throughout the project (see Figure 1). The approach closely intertwines conceptual and practical implementation, which interlock into an iterative process that ensures conceptual clarity, practical solutions and learning and is geared towards the fundamental principles of subsidiarity, innovation and sustainability.

One of the key aspects relates to the agile pilot-life-cycle approach. From inception to completion, each pilot will go through different phases and multiple iterations within the pilots are expected to occur. Different pilots will proceed at different speed; therefore, a continuous mechanism of monitoring, risk assessment and mitigation is arranged to ensure that pilots will remain on track and will deliver the expected results in line with their stated goals and stakeholder expectations. Feedback mechanisms will be implemented in all pilots to this effect.

[33] DG GROW (2016) Public Procurement Indicators 2014. Available at: http://ec.europa.eu/growth/single-market/public-procurement/studies-networks/

[34] European Commerce Registers Forum (2016) Annual Surveys 2014 & 2015

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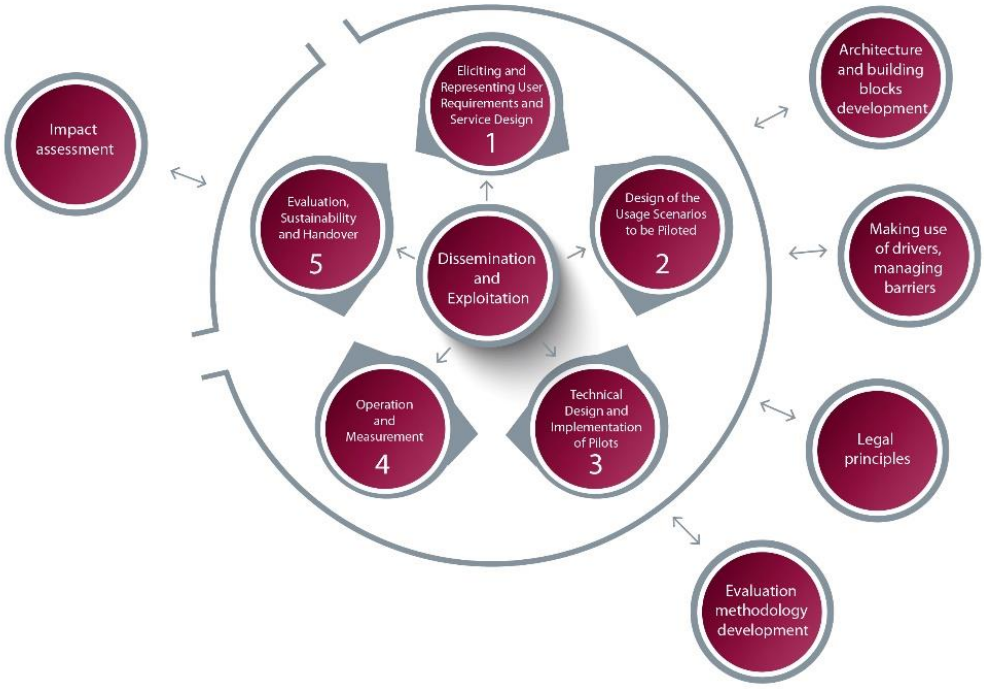

Figure 1: TOOP Agile Pilot-life-cycle Focused Approach

The consortium behind TOOP consists of public administrations that will carry out the pilots, while the research partners make sure that the key preconditions for effective piloting are met. As of the date of publishing of the position paper, the consortium comprises a total of 51 organisations from 19 different EU Member States and 2 Associated Countries. Amongst these organisations 19 represent national administrations (see Figure 2).

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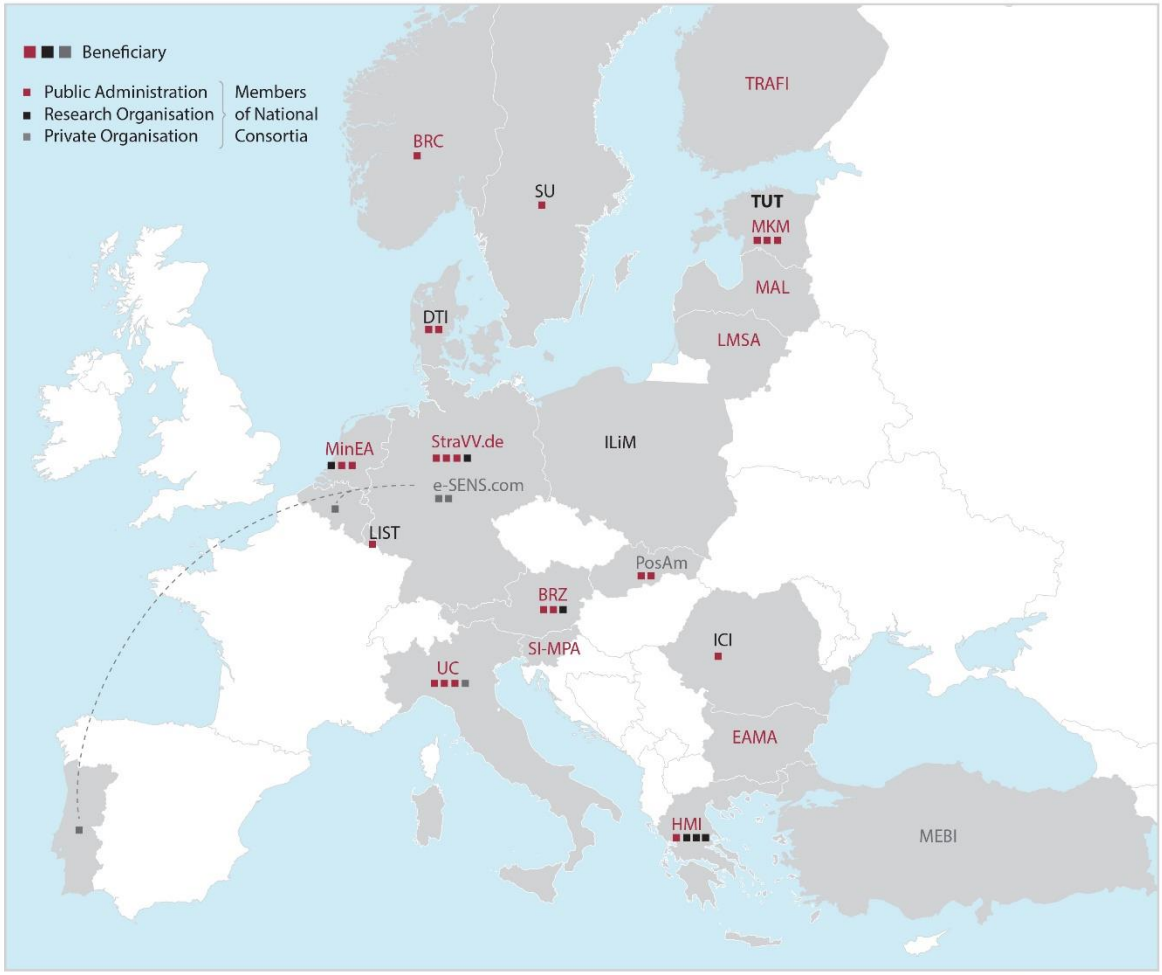

AT	BG	DE	DK	EE	FI	GR	IT	LT	LU	LV	NL
BRZ ■ BKA ■ BMF ■ DUK	EAMA	StraVV.de ■ BVA ■ MRN ■ UKL	DTI ■ DMA ■ DBA	TUT MKM ■ EMA ■ RIA ■ RIK	TRAFI	HMI ■ GSCCP ■ CERTH ■ UA ■ UPRC	UC ■ ANAC ■ UC Europa ■ IC ■ C906	LMSA	LIST ■ CAM	MAL	MinEA ■ TNO ■ KvK ■ Logius

NO	PL		RO	SE	SI	SK	TR
BRC ■ NMA	ILiM	e-SENS.com ■ Time.lex ■ Vortal	ICI ■ ONRC	SU ■ Bolag-sverket	SI-MPA	PosAm ■ MFSR ■ SOSR	MEBI

Figure 2: TOOP Consortium

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