



## D4.5 Doing Business Abroad - Use Case Definition & Requirements

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## List of Acronyms

Abbreviation / acronym	Description
BRIS	Business Registers Interconnection System
CAMSS	Common Assessment Method for Standards and Specifications
CFS	Certificate on the Financial Statements
DC	Data Consumer
DE4A	Digital Europe for All
DIGIT	Directorate-General for Informatics
Dx.y	Deliverable number y, belonging to WP number x
DP	Data Provider
eID	Electronic Identity
EIF	European Interoperability Framework
EC	European Commission
eIDAS	Electronic Identity and Trust Services: Regulation (EU) No 910/2014 of the European Parliament and of the Council of 23 July 2014 on electronic identification and trust services for electronic transactions in the internal market and repealing Directive 1999/93/EC
EU	European Union
EUID	European Unique Identifier
GDPR	General Data Protection Regulation: Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation)
GROW	DG for Internal Market, Industry, Entrepreneurship and SMEs
JSON	JavaScript Object Notation
KPI	Key Performance Indicator
LoA	Levels of Assurance
IdP	Identity Provider
IMI	Internal Market Information system
ISO	International Organization for Standardization
IST	Current situation (as is)
MMS	Mandate Management Systems
MoSCoW	Setting requirements by order of priority: Must have, Should have, Could have, and Won't have
MS	Member State
NACE	Nomenclature of Economic Activities
NRT	Near Real-Time
OOP	Once-Only Principle
RIA	Research and Innovation Action

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Abbreviation / acronym	Description
SDG	Single Digital Gateway
SDGR	Single Digital Gateway Regulation: Regulation (EU) 2018/1724 of the European Parliament and of the Council of 2 October 2018 establishing a single digital gateway to provide access to information, to procedures and to assistance and problem-solving services and amending Regulation (EU) No 1024/2012
SEMPER	Cross-border Semantic Interoperability of Powers and Mandates
STORK 2.0	Secure Identity Across Borders Linked 2.0
TOOP	The Once-Only Principle Project
UC	Use Case
VAT	Value Added Tax
SOLL	Situation as it should be (to be)
UC	Use case
WP	Work Package
XML	eXtended Markup Language

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## Executive Summary

The Doing Business Abroad pilot of the “Digital Europe for All” (DE4A) project demonstrates the benefits of the Once Only Principle and the Digital by default principle for companies and public authorities cross-border. In two use cases – Starting a business abroad and Doing business abroad – the pilot validates the Once-Only process for enrolment of a company and applying for services in another country (online procedures listed in Annex II of the SDGR under the Life Event “Starting, running and closing a business”). In some of the envisaged piloting scenarios, the company (‘s branch) enrolls to the authentic business register of the data consuming Member State. In other scenarios, the data consumer operates a portal-specific company registration (non-authentic). The piloting Member States are Austria, Belgium, the Netherlands, Romania and Sweden.

This document defines the scope of the pilot, establishes the functional boundaries, formulates the pilot main objectives, lists pilot specific technical and business goals, and presents the preliminary identification of pilot success criteria suitable to measure success. The central part of the document is the specification of the two use cases. An overview of the existing infrastructures relevant for the pilot scenarios, e.g. the eIDAS infrastructure, is included to show the starting points for piloting. For each use case, the relevant actors are then identified and the required and available data for evidence exchange are analysed. The specification concludes with the functional and non-functional requirements.

The use cases are focused on (UC1) *initial enrolment of the company and assessment of the right to do business for selected service(s)* and (UC2) *applying for the selected services*. Note that due to new insights acquired in the process of use case definition, the naming of use case 2 and its focus as described in this deliverable differ from those initially envisaged. The business registers as competent authorities participate as data providers, the participating public service providers as data consumers. The requested data for registering and updating the company is to a large extent similar for all participants. This data is available in a structured and machine-readable format. For the use cases the exchange of company data in both a push- as well as a pull-mechanism is required. The use cases require the intermediation, look-up and the subscription and notification interaction patterns as defined in WP2 - Architecture Vision and Framework.

Several issues need to be resolved before the procedures can be validated in a production environment:

- **Explicit request and preview:** These SDGR requirements raise several legal questions. Most limiting for piloting UC2 is the requirement that users should have the possibility to preview the evidence. In UC2 the user will not be online to accept or reject the evidence at the moment the data provider sends an update. This requirement may seriously limit the possibility to pilot UC2 and needs further legal and architectural investigation, i.e. on exceptions to the preview obligation.
- **eID notification:** Austria, Romania and Sweden do currently not have a notified identification scheme.
- **Powers validation:** a mechanism for cross-border validation of powers of representation is not in place yet. This is a pre-condition to successful piloting and this topic should be addressed in the DE4A architecture.
- **BRIS:** business registers are already connected to BRIS and are reluctant to implement other building blocks to exchange company data. The position of BRIS regarding the DE4A building blocks should be addressed in the DE4A architecture.

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The results constitute the basis for the Doing Business Abroad pilot planning phase, providing information relevant for a pilot management plan and coordination of the different pilot partners involved in each use case. They will also serve as major input to other DE4A activities, in particular WP2 – Architecture vision and framework and WP7 - Legal and ethical compliance and consensus building. Chapter 6 of this document summarises the main challenges to be addressed together with other work packages.

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# 1 Introduction

Digital Europe for All (DE4A) puts forward a new Member State-driven large-scale pilot aimed at compliance with Single Digital Gateway and aligned with EU eGovernment Action Plan 2016-2020, Tallinn Declaration and EIF Implementation Strategy. Its over-arching goal is to reinforce trust in public institutions and to unleash multiple measurable positive impacts in terms of efficiency gains and reduction of current administrative burden and costs, including a Toolkit for extended semantic interoperability and on secure, privacy-preserving and trustworthy realisation of fundamental Once-Only, relevant-only and digital by default principles, through state-of-the-art, usable and high-quality fully online procedures accessible through the Single Digital Gateway (SDG).

Citizen and business-oriented pilots shall highlight chosen aspects of the technical ecosystem available for the SDG implementation on European and Member State level, prove their technical viability and gauge the performance and degree in which non-functional requirements can be accommodated.

## 1.1 Purpose of the document

Deliverable D4.5 is the first publicly delivered document of the DE4A Doing Business Abroad pilot. This document introduces and describes in detail the use cases of the Doing Business Abroad pilot, which covers online procedures listed in Annex II of the SDGR under the Life Event “Starting, running and closing a business”. It specifies the process flows and defines data requirements for data providers as well as the requirements to be addressed in collaboration with other DE4A work packages, appropriately classified in different categories and priority levels. This document will be the starting point for:

- construction of the DE4A project start architecture (WP2 Architecture vision and framework);
- constructing semantic models for translation of national concepts (WP3 Semantic interoperability solutions);
- design and development of common components (WP5 Common component design & development);
- solving legal issues (WP7 Legal compliance and consensus building);
- logical and technical design of the pilot by the participating Member States (including their connection to the OOP-infrastructure) (WP4);
- evaluation of the architecture, semantic models, legal arrangements and technical OOP-components in the piloting phase (WP4).

In addition, this document defines the pilot’s main objectives, goals and success criteria.

## 1.2 Structure of the document

This document is divided into:

- Chapter 1: This chapter, describing the purpose and structure of the document and providing a glossary.
- Chapter 2: Main pilot objectives and success criteria. This chapter defines the pilot-specific business and technical goals and added value of the Doing Business Abroad pilot scenarios.
- Chapter 3: Functional specification and requirements definition. This is the main chapter of this document. It specifies the use cases (preconditions, main flow of involved procedures or steps, postconditions) and defines the requirements for the pilot and other work packages.
- Chapter 4: Initial summary of different types of identified Barriers and Challenges Relevant to the Pilot.

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- Chapter 5: Example of existing service to be customised, integrated and piloted for cross-border evidence exchange in the project.
- Chapter 6: Conclusions.
- Annexes: The annexes present more information on specific topics as well as sketches for solutions and barriers.

### 1.3 Glossary adopted in this document

The table below defines some of the most relevant terms used in this document.

Term	Definition
Business register	<p>The <i>authentic</i> source of company information.</p> <p>It is a set of data held by a body that has been appointed by a legal act to manage these data. The data is authoritative in the area of starting and doing business.</p> <p>All data providers in the Doing Business Abroad pilot manage authentic sources of company data.</p>
Consent	<p>Any freely given, specific, informed and unambiguous indication of the data subject's wishes by which he or she, by a statement or by a clear affirmative action, signifies agreement to the processing of personal data relating to him or her (GDPR, 2016/679 art. 4 point 11). Consent is one of the justifications for data exchange between public authorities. Note that in some cases company data can be personal data, especially in the case of sole traders. The distinction between pure company and personal data is not always very clear.</p> <p>In this document “consent” refers to consent as defined in the GDPR for data protection purposes. For the SDGR user control the term “explicit request” and “user preview” will be used.</p>
Company	<p>A legal entity operating within the Digital Single Market.</p> <p>In the context of the Doing Business Abroad pilot, the company is the entity that does business in another Member State.</p>
Company register	<p>A <i>non-authentic</i> source of company information.</p> <p>This data source usually will be maintained by a Point of Single Contact (PSC) or a specific service provider. The information within these registries is not authoritative and is intended to be used within the scope of portal or service provider only. The information in the company registers need to be retrieved from the authentic sources directly or indirectly (via transfer of ‘proof of registration’). The company register’s records consist of a subset of the authentic information from the business registers supplemented with non-authentic information specific to the portal or data consumer.</p> <p>Some of the data consumers in the Doing Business Abroad pilot operate a Business Register (authentic) and some operate a Company Register (non-authentic).</p> <p>Company register is frequently referred to as “company portal register”.</p>
Competent authority	<p>Any Member State authority or body established at national, regional or local level with specific responsibilities relating to the information, procedures, assistance and problem-solving services covered by the SGDR.</p> <p>In the Doing Business Abroad pilot, the competent authority can be a data provider or a data consumer.</p>

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Term	Definition
Company identifier	A number or string by which a company can uniquely be recognised. In the Doing Business Abroad pilot, companies need to be identifiable across borders.
Company Portal	A website presenting the user with one or more eServices for companies. In the Doing Business Abroad pilot these services will also include SDGR procedures and services under the Service Directive. The company portal may be a gateway to several service providers and the Business register.
Data consumer	The role played by an organisation/administration that is in demand of the Data in order to fulfil its mission to society or industry.
Data evaluator	A data consumer authorized to receive and process data from citizen or business, via the Once Only Technical System. Other naming: service provider
Data owner	A data provider owning information about citizens or businesses, a base registry or a secondary registry that might be necessary for another organisation to exercise their competencies.
Data provider	The legal entity that is in charge of the Data deployment.
Data requestor	A data consumer making search and request for data possible in terms of technology.
Data transferor	A data provider technical responsible for the actual data transmission.
Evidence	Any document or data, including text or sound, visual or audio-visual recording, irrespective of the medium used, required by a competent authority to prove facts or compliance with procedural requirements referred to in point (b) of Article 2(2) of the SDG Regulation.
Explicit request	SDGR: The competent authorities responsible for the online procedures referred to in paragraph 1 shall, upon an explicit, freely given, specific, informed and unambiguous request of the user concerned, request evidence directly from competent authorities issuing evidence in other Member States through the technical system (2018/1724 Art. 14 point 7).
Identity Provider	The organisation authenticating a person.
Level of Assurance	The certainty to which a person's identity has been established. The eIDAS regulation defines LoA Low, Substantial and High.
Mandate management system	A registration of a person's powers to represent another person. A mandate management system may be dedicated to registering mandates only, but may also be part of other systems, like a national Business register (for legal representatives).
Natural person	A Natural person in the Doing Business Abroad pilot is a physical person representing a company.
Powers	A natural person's mandate to represent the company.
Powers validation	The process of checking whether a natural person has the mandate to represent the company for a specific eService.
Population register	The authentic source for information on natural persons.
Preview	SDGR: The technical system shall enable the possibility for the user to preview the evidence to be used by the requesting competent authority and to choose whether or not to proceed with the exchange of evidence (2018/1724, art. 14 point 3.f).

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Term	Definition
Procedure	A sequence of actions that must be taken by users to satisfy the requirements, or to obtain from a competent authority a decision, in order to be able to exercise their rights as referred to in point (a) of Article 2(2) of SDGR
Representation	Acting on behalf of another. In the Doing Business Abroad pilot, "representation" always refers to a company being represented.
Representative	A natural person acting on behalf of the company.
User	The natural person representing a company <sup>1</sup> .

The definitions of competent authority, data provider, data owner, data transferor, data consumer, data requestor and data evaluator have been taken from DE4A D2.1 Architecture Framework, section 8.1.

<sup>1</sup> In the ESSIF glossary [10] a user can be a natural person or a legal person. The Doing Business Abroad pilot distinguishes between “user” and “company” to clarify which actor it concerns.

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## 2 Overall Pilot Scope

The European Union strives to further develop the common digital single market by lowering the administrative burden for citizens and businesses, by:

- redesigning administrative processes in order to make them more efficient;
- reduce the frequency by which citizens and businesses must resubmit information to appropriate competent authorities.

In the “eGovernment Action Plan 2016-2020” one of the underlying principles states that public administrations should ensure that citizens and businesses supply the information *only once* to a public administration. Collecting information is more expensive and burdensome than sharing already collected information.

### Strategic EU policies

The Doing business abroad pilot materialises the ambition of the eGovernment action plan 2016-2020. Furthermore, the pilot will be experimenting with implementation of procedures of the ‘Starting, running and closing a business’ life event from the Single Digital Gateway Regulation – the main driver for this project. In addition, some of the use cases address the company law package [3][4] and the Service Directive. Finally, the pilot will boost eIDAS implementation for cross-border authentication.

### Dependencies

The Doing Business Abroad pilot relies on (and interacts with) several programmes, components and regulations. Among others:

- eIDAS for authenticating
- SDGR especially for the Once Only Technical System
- SEMPER as a – candidate – extension on eIDAS for powers validation
- GDPR for data processing
- Company law package for rules on opening a company or branch
- National company law
- BRIS for the exchange of data between business registers
- National Once Only infrastructure
- Currently available web (services) for data provision

### Pilot motivation

Zooming in on businesses, currently companies have to submit a lot of information to service providers cross-border. In contrast to the data of a national company, the data of a foreign company is retrieved by paper, by filling in an e-form, e-mailing documents, manually uploading documents, etc. This is time consuming and the data may be outdated quickly, thereby lowering the data quality. A substantial part of this information is already available in (authentic) sources in the Member State of company registration. The Doing Business Abroad pilot focuses on real life experience with the *specific aspects* of companies in once only implementations, that experience being: authenticating a representative, identifying the company, validating the representative’s powers, retrieving company information from cross-border (authentic) sources, explicit request and the preview under SDGR in case of company representation, keeping the company information up-to-date at the data consumer, semantic interoperability of company information, differentiation in public availability of company information

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(some data is more open than other data) and pricing models for cross-border exchange of company information.

For these topics, there is no quick fix or existing solution available to all. The topics require detailed analysis, functional solution design, consensus and agreements on a European level. Especially the “company representation”-dimension adds complexity to use cases that focus on services for natural persons only. Exploring these topics, defining requirements and validating solutions in a real pilot is at the core of the Doing Business Abroad pilot. The Digital Single Market in general and the implementation of the company-oriented SDG procedures in particular will benefit greatly from a European solution for handling company representation. The Doing Business Abroad pilot aims at moving forward to such a solution.

### Introduction to the Doing Business Abroad use cases

The Doing business abroad use cases of all the participating Member States have the entity concerned in common: a company. Some pilot scenarios focus on company enrolment in another Member State, like initial registration at a company portal and registration for – and assessment of – tax obligations. Others are more “doing business”-oriented, like annually declaring corporate tax. For both use cases the main source of company data will be the business registers in the other Member State.

Due to new insights acquired in the process of use case definition, the absence of data providers providing other data than data from business registers and the (long) duration needed for the registration of some evidences in the business register (e.g. digital annual report), the naming of use case 2 and its focus as described in this deliverable differs from those initially envisaged. The focus of use case 2 is now on the continuation of the registration of the company in the other Member State by keeping the data up-to-date. The notification of changes in company data will be used by the service provider to assess impact on service delivery.

The following generic use cases will be piloted:

1. **Use case 1: starting a business in another Member State:**  
initial registration of the company and assessment of the right to do business and of obligations to file tax in the Member State the company wants to do business in – at the core of this use case is the fulfilment of procedural obligations to start doing business in the Member State.
2. **Use case 2: doing business in another Member State:**  
applying for specific services in the Member State the company is operating in – at the core of this use case is retrieving and updating company information by the service provider. This use case may include fulfilling corporate tax duties as well<sup>2</sup>.

Use case (1) comes in some variety regarding the extent of the process. In some cases, the process includes enrolment to the company portal database only. In others, the use case includes assessment of tax duties in the other Member State (like F-tax) as well. Example: RVO hosts the national company portal for agriculture, energy and innovation (“MijnRVO.nl”). For this purpose, RVO keeps record of these companies. In case of nationally registered companies, RVO retrieves data from the national business register. By law in The Netherlands, RVO is obliged to use this authentic source, so for years, RVO has retrieved company information online (digitally) and in real time. However, in case the company applying for a service is registered in another Member State, RVO requests data by paper, by filling in an e-form by the company or by other means. This data is not always up-to-date, reliable and is quickly outdated thus lowering the data quality over time. In the RVO case, RVO will operate as a

<sup>2</sup> Please note that use case (1) and (2) can be part of one logical process flow. Digitally filling corporate tax (doing business), for example, may be a process resulting from the conclusion at initial registration (starting a business) that the company has corporate tax duties.

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consumer of company data available in business registers cross-border. Data will be made available online, real-time and in a machine-readable structure.

Use case (2) focuses on informing the service provider in case any data of the company changes. These updates are crucial for proper assessment of tax declarations and re-assessment of services provided. Example: for assessment of the corporate tax declaration issued by a cross-border company, the tax office needs to know whether the legal form of the company has remained unchanged. Changes in legal form need to be reflected in the annual declarations. With a subscribe-and-notify mechanism the tax office should be able to retrieve notifications of changes in company data from the authentic source. When relevant, new company data will be retrieved by the tax office and records will be updated in the company register of office.

The two use cases correspond with two cross-border interaction concepts:

1. Use case 1: cross-border querying the foreign business register (pull);
2. Use case 2: cross-border notification of changes by the foreign business register in case of an event or change in company data (push).

Individual pilot scenarios may be limited to specific company types (e.g. limited company, sole trader) as soon as it becomes clear that pilot partners do not support the Once Only Principle for certain types yet or the pilot becomes too complex. Furthermore, for the pilot processes additional information may be needed. For example, a right to do business depends on specific criteria for the company, the owner of the company or central employees in the company, e.g. educational certifications. The pilot will not implement the Once Only Principle for the additional data required, so this data flow will remain unchanged. Finally, in the piloting plans, the partners may decide to divide the pilot into several smaller, successive use cases, each focused on a new type of proof or company type.

## 2.1 Pilot Main Objective and Business and Technical Goals

The Doing Business Abroad pilot's main objective is to lower barriers for companies starting a business or doing business cross-border. In order to meet the needs of both company and data consumers, the pilot participants will retrieve company data from (authentic) sources (data providers) and keep this data up to date by connecting to new or existing data subscriptions (notification services). This will be achieved in the Doing Business Abroad pilot by (amongst others):

- specifying the pilot use cases;
- defining requirements for the OOP technical system;
- validating the OOP technical system in a real pilot;
- promoting the Once Only Principle within the Member States to public administrations and companies.

Specific goals for public authorities:

- Improve the quality of company data within the service fulfilment processes:
  - Re-use data from authentic sources
  - Receive notifications in case of changes to the company status or company data
- Reduce manual work and lower processing costs

Specific goals for companies applying for a service:

- Reduce manual work and lower transaction costs
- Improve service enrolment speed

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Pilot technical goals:

- Evaluate the OOP-components supporting the cross-border information flow:
  - Assess technical impact on national services already in place
  - Test national OOP-to-EU OOP principles and connections
- Evaluate solutions to the Doing business abroad challenges (see below)

### Challenges

The pilot depends on several challenges to be dealt with (as far as identified upfront):

- The assumption that collecting information (and keeping it up to date) from companies (representatives) is more costly and burdensome than re-using available data should be tested and confirmed in a pilot. This requires feedback from (real) company representatives.
- Authentication on behalf of a company / validation of representative's powers is not straightforward and is not common practice cross-border. The pilot should formulate concrete requirements and discuss alternatives.
- Explicit request and the preview obligation under SDGR have some specific characteristics in a doing business context: company data to some extent is open and free to use and data consumers need to receive updates on company data even when the user is not online to preview the data. The legal interpretation of SDGR's "explicit request and preview" requirement should be elaborated on in the doing business context.
- Several Member States have a national OOP-infrastructure in place. These infrastructures should be connected to the OOP technical system. Therefore, involvement of several public administrations currently not involved in the project may be required.

The Doing Business Abroad pilot does not create an EU-wide business register, nor does it provide for a central EU business information hub. The pilot (re-)uses operational business registers and current solutions for company data provisioning as much as possible. It does not redesign national business registers (functionalities, interfaces, information products).

### Future goals

Currently, all participating data consumers register cross-border companies in their (local) company portal registries / eService register. The participants envision however, that eventually it would be possible to stop registering company data and retrieve data 'on the fly' from the other Member States' business registers. This imposes strict availability requirements on the data providers and has enormous impact on current national systems. This could be a next step in fully reaping the benefits of the OOP technical system. This is out of scope of the project though.

Please note that the pilot participants understand the diversity in company types, legal forms, status definitions and representation scenarios across Europe. The participants acknowledge that ultimately, the Digital Single Market would benefit from harmonisation of legal contexts for doing business abroad. However, harmonising company legislation and related legislation is not the focus of the Doing Business Abroad pilot. This would require an extensive legal process that is out of scope of this project. The pilot focuses at closing the gap between the different national contexts, with respect to the national legislation, philosophy and implementation. The pilot will aim to re-use information as it is currently available, within the registries available today. It will respect current national legal and financial limitations in disclosing information from these sources.

The challenges for bridging these national differences will be substantial. For example: every service provider needs the company address to fulfil a service to the company involved. At high level of

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abstraction this seems straight forward as all business registers should have the company address available. At closer examination, more complexity arises. Some of the data consumers might require the postal address instead of the visitor's address. And some prefer the e-mail address instead of the physical address. Not to mention the way that subcomponents of an address may be expressed differently across Member States, like the name of the street, postal code, municipality, city, etc.

The "Study on Data Mapping for the cross-border application of the Once-Only technical system SDG" states that the level of cross-border evidence exchange in the starting and doing business abroad use cases<sup>3</sup> is high (table 4, page 16)[11]. There is a clear case for the exchange of evidence cross-borders. At the same time these procedures have been classified as high-complex (table 2, page 11)<sup>4</sup>[11].

The Doing Business Abroad pilot is characterised by strong national legislation, differences in the way Member States have organised procedures nationally (e.g. grouped or not), big differences in national software solutions and many semantic challenges. In line with the report, the Doing Business Abroad pilot aims to improve in small steps. These small steps can lead to huge benefits because of intense cross-border exchange of evidence.

## 2.2 Technical Common Criteria

The benefits logic model dictates that the pilot goals (previous section) will be measured using success criteria (next section). The focus of the success criteria can be on several aspects, like the effectiveness and efficiency of the pilot processes, the reusability of the data from data providers, the security of the cross-border data flows, etc. These aspects are taken from the main underlying EIF Interoperability Principles as presented in EIRA v3.0.0 (p.65) [12] and are matching "DE4A Principles" (see Chapter 7 in DE4A D2.1 "Architecture Framework"): . See below the applicable criteria (standardised across the DE4A project). The relevance of the criteria has been explained in the context of Doing Business Abroad.

- **Openness** – The services should use open standards, interface definitions, schemes and protocols. The openness of the (Member State connections to the) OOP technical system should reduce efforts of public authorities to connect to the system. Furthermore, it should increase availability of data flows. On-line and real time<sup>5</sup> use of data from authentic sources cross-border is a major step forward in the Digital Single Market. This introduces a risk though: digital procedures will be relying on availability of data sources out of their control. Unavailability of the external data source

<sup>3</sup> Procedure 16 of the report: Notification of business activity, permission for exercising a business activity, changes of business activity and the termination of a business activity not involving insolvency or liquidation procedures, excluding the initial registration of a business activity with the business register and excluding procedures concerning the constitution of or any subsequent filing by companies or firms within the meaning of the second paragraph of Article 54 TFEU.

<sup>4</sup> Notification of business activity (explicitly included) may be the same as initial registration of a business activity (explicitly excluded). In addition, this procedure contains several additional procedures: permission for exercising a business activity; changes of business activity; and termination of a business activity not involving insolvency or liquidation procedures. In one Member State, this single procedure also corresponds to over 250 separate procedures with different types of evidence associated.

<sup>5</sup> "Real time" in this document refers to the use of data from the business register directly, without delay. In practice, this means querying the business register as a data consumer. Please note that business events may occur that have not been registered in the business register yet. "Real time" in this document does not imply that the data consumer should be aware of these unregistered business events. The data in the business register will be "true" for the data consumer in any case.

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may lead to a slowdown of the service fulfilment process or in worst case unavailability of the eService. Unreliable eServices reduce perceived value by company representatives.

- **Transparency** – All pilot-related procedures should be traceable and transparent for all the stakeholders involved. Transparency in the Doing Business Abroad pilot leads to more companies interested in piloting as they understand the business value of the OOP principle better. Furthermore, they put more trust in the pilot services as they understand that best quality available data will be (re-)used.
- **Reusability** – In the Doing Business Abroad pilot “Reusability” focusses on the re-use of data directly from data sources. Data is more re-usable as soon as it is available online and in a machine-readable format. Reusability furthermore refers to the use of existing building blocks in the OOP technical system.
- **Technological neutrality and data portability** – Technical neutrality should be a way to minimise required efforts of pilot participants to connect to the OOP technical system. In time, this should boost the number of participating Member States. Please note that technical neutrality is a means to an end. In case all piloting partners agree on the use of one single technology, technological neutrality will not be pursued.
- **User-centricity, inclusion and accessibility** – Users’ needs and requirements should guide the design and development of the services, thus leading to user empowerment. The services must also offer an acceptable degree of usability and preferably comply with commonly accepted standards in that area. User-centricity will lead to more companies interested in piloting and a reduction in lead time to apply for a service. Inclusion and accessibility will not be major criteria in the Doing Business Abroad pilot as this pilot deals with professional representatives instead of citizens.
- **Security and privacy** – Availability, integrity and confidentiality of data exchanged through the common infrastructure must be guaranteed. It is important for the success of the pilot to respect the rights of the users on this aspect and ensure compliance with national and European regulations, for example GDPR. This criterion also includes “safety”: the pilot is deliberately described to do only its intended scope of work and will not affect other domains, which are not in a crucial relationship to fulfil the duties.
- **Administrative simplification** – The piloted procedures should simplify administrative processes of public administrations. Administrative simplification should lead to a reduction in lead time to apply for a service and reduction in efforts of data consumers to provide services.
- **Effectiveness and efficiency** – The piloted procedures should reduce manual work, lower transaction costs and improve service enrolment speed.

### 2.3 Pilot Success Criteria and Relation to DE4A Piloting Principles

The success of the project will be evaluated in terms of four different perspectives or piloting principles:

- **Use:** measurable results related to the use of the procedures piloted and usability of the implemented cross-border once-only procedures does the interoperability model/solution work; which barriers are being encountered);
- **Learning:** whether the pilot helps to prepare the stakeholders for the future (i.e. collecting and distributing lessons learned/ creating feedback loops);
- **Value:** whether the pilot improves efficiency or effectiveness of the students and organizations involved (e.g. do the data consumers and data providers experience added values, such as administrative burden reduction);

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- **Adoption:** whether the pilot facilitates the process where a Service Provider (Data Consumer) or Data Provider introduces new IT tools provided by the pilot to support a (new) way of working. Adoption is limited to the adoption by service and data providers that will be part of the pilot. Adoption is not merely focused on whether a provider was finally able to introduce/integrate with DE4A but rather on all the possible lessons to be learned from this process.

The criteria will be measured over time using (Specific, Measurable, Attainable, Relevant, Time-bound) metrics of quantitative and of qualitative nature depending on the specific criteria and the nature of results produced by the pilot but they are different from them.

The success of the project, at the end of the piloting phase, will be evaluated through concrete, measurable and objective results. These results will be used to demonstrate that both the technical and business objectives of the pilot have been met. The initial list of examples of pilot specific success criteria related to goals introduced in section 2.1 are:

- Improve the quality of company data within the service fulfilment processes
  - Quality improvement points on a qualitative scale from excellent to poor.
  - Increase in percentage of attributes required by the data consumer that can be provided online by the data provider.
  - Increase in percentage of attributes available in a structured data format (machine readable).
- Reduce manual work and lower processing costs
  - Reduction in hours of work to complete the procedure: efforts of the data consumer and data provider to deliver the service / complete the administrative procedures
- Reduce manual work and lower transaction costs
  - Number of (real) companies interested in participating in the pilot
  - Reduction in hours of work to complete the procedure: efforts of the company to apply for the service / fulfil the administrative obligations
- Improve service enrolment speed
  - Reduction in lead time
- Evaluate the OOP-components supporting the cross-border information flow
  - Assessment score on non-functional criteria on a scale from excellent to poor.
  - Percentage availability of cross border data flows on a scale from excellent to poor.
  - Efforts of the participants to connect to the OOP technical system in a qualitative scale from minimal to disproportionate.
- Evaluate solutions to the Doing business abroad challenges
  - Number of scenarios in running phase time

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## 3 Use Case Functional Specifications and Requirements

This chapter specifies in detail the use cases as introduced in chapter 2 and identifies their functional and technical requirements corresponding to an initial multi-disciplinary analysis based on information from internal and external project sources available at the time of the writing of this deliverable; iterative analysis and design decisions considering organisational and legal constraints will lead to further refinements and may result as well in further requirements and use case adjustments as deemed necessary for actual piloting. This chapter starts in section 3.1 with an introduction to Doing Business Abroad: the partners involved, the partners' roles in the pilot, the cross-border scenarios, the pilot scenarios to implement and the way the pilot implements the SDGR (and related regulations). Section 3.2 specifies use case 1, in terms of processes, existing infrastructure, data needs and requirements. Section 3.3 elaborates on use case 2.

### 3.1 Introduction

#### 3.1.1 Partners

The table below presents an overview of the partners in the Doing Business Abroad pilot. Each partner in the project can have one or two business roles in the Doing Business abroad use case. E.g. Bolagsverket (BVE) will be data provider as well as data consumer. At the same time some organisations that are not formal project partners play a role in the use cases. E.g. Crossroads Bank for Enterprises (CBE) will act as a data owner for company data but will be represented by BOSA.

Table 1: Project partners

MS	Project partner	Liaison to
AT	Federal Ministry for Digital and Economic Affairs (BMDW)	
	The Austrian Federal Computing Centre (BRZ)	
BE	BOSA	FPS Economy: hosts the national business register FPS Finances: provides tax services
NL	Netherlands Enterprise Agency RVO	Netherlands Chamber of Commerce (KVK) as host of the national business register.
SE	Skatteverket (SKV)	
	The Swedish Agency for Digital Government (DIGG)	
	Bolagsverket (BE)	
RO	CIO office	
	ONRC <sup>6</sup>	

<sup>6</sup> National Trade Register Office (NTRO).

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## Austria

**Federal Ministry for Digital and Economic Affairs (BMDW):** The tasks of the Federal Ministry for Digital and Economic Affairs include the comprehensive offerings of the e-government sector, the overall coordination of e-government as well as the digital transformation of the economy and society in Austria. The tasks of the Ministry are performed by various Centres and Directorates General with differing priorities (Economic Policy, Innovation & Technology; External Trade Policy & European Integration, etc.).

**The Austrian Federal Computing Centre (BRZ):** The Austrian Federal Computing Centre (short: BRZ as abbreviated from the German name Bundesrechenzentrum) is the market-leading technology partner of the public sector in Austria. As such, BRZ has developed and implemented more than 400 IT applications and e-government solutions. BRZ also operates one of Austria's largest data centres, guarding the country's precious treasury of data.

## Belgium

**BOSA:** The Federal Public Service (FPS) Policy and Support was set up on 1 March 2017. The FPS assists the government and supports the federal organisations in various areas: IT, HR, organisational control and integrity policy, budget, accounting and public procurement contracts. The FPS Policy and Support is the result of the integration of the agencies of the FPS Personnel and Organisation (including Selor, OFO/IFA, FED+ and PersoPoint), of the FPS Budget and Management Control, of Fedict and of Empreva into one entity. The project should be seen in the general context of the redesign of the federal government which was started by the government in its agreement of 9 October 2014.

**FPS economy (FPS ECO):** The mission of the Federal Public Service Economy (FPS ECO, a federal ministry) is to create the conditions for a competitive, sustainable and balanced goods- and services market. Every day, the FPS economy tries to better teach the Belgian and international economic market to support and protect the economic actors. The aspects of the economic landscape are varied and diverse, as are the professions that are carried out at the FPS Economy: Economists, lawyers, statisticians, engineers, inspectors, chemists, administrative employees, communication managers, etc. The FPS Economy hosts the Crossroads Bank for Enterprises (CBE). This is a database owned by the FPS Economy containing all the basic data concerning companies and their business units. The purpose of the CBE is twofold: (1) increasing the efficiency of public services and (2) simplifying administrative procedures for companies.

**FPS finances (FPS FIN):** The Federal Public Service finances (FPS FIN, a federal ministry) guarantees correct taxation, tax collection and recovery in due time, ensures optimal funding of the state, guaranteeing the balance between the State Treasury and the outstanding public debt, within the framework of legal transactions involving goods, ensures legal certainty by supplying patrimonial data, supervises flows of goods upon importation, transit and exportation, contributes to preventing and fighting all forms of fraud and crime within our areas of competence and provides policy expertise and support.

## Netherlands

**Netherlands Enterprise Agency (RVO):** RVO is the department of the Ministry of Economic Affairs and Climate Policy that participates in the DE4A project. This Agency encourages entrepreneurs in sustainable, agrarian, innovative and international business. It helps with grants, finding business partners, know-how and compliance with laws and regulations. The aim is to improve opportunities for entrepreneurs and strengthen their position. The activities of the Agency are commissioned by the

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various Dutch ministries and the European Union. The Netherlands Enterprise Agency focuses on providing services to entrepreneurs. It aims to make it easier to do business using smart organisation and digital communication. The Agency works in The Netherlands and abroad with governments, knowledge centres, international organisations and countless other partners.

**Kamer van Koophandel (KVK):** Netherlands Chamber of Commerce officially registers companies and gives them advice and support. The main task of the Chamber of Commerce is to keep the Commercial Register (the business register). In the Netherlands registration in the Commercial Register is compulsory for every company and almost every legal entity. This means that the register is able to provide reliable answers to such questions as: Does the company I want to do business with actually exist? Is the person I am dealing with actually an authorised signatory? What has happened to the company I used to do business with?

## Sweden

**Skatteverket (SKV):** The main functions of the Swedish tax agency (Skatteverket) are: Taxes, Population registration and Estate inventories. Skatteverket is accountable to the government but operates as an autonomous public authority. This means that the government has no influence over the tax affairs of individuals or businesses.

**Bolagsverket (BVE):** The Swedish Companies Registration Office (Bolagsverket) creates the conditions needed for establishing trust within the business sector. BVE's primary role is to register company information and make it available, which contributes value to society. BVE will provide good conditions for business. BVE wants to create a good infrastructure for growth and give enterprising individuals the indications they need for achieving their dreams. BVE is working with other government agencies in order to reach these goals. Bolagsverket registers new companies, changes in company information and annual reports. Persons can also search for and purchase company information from BVE's registers. Working together with others, BVE helps to make life simpler for companies and those doing business.

**The agency for digital government (DIGG):** DIGG is a new government authority, created to think creatively, address new challenges and identify new opportunities, started in 2018. Several reports and inquiries have concluded that governance of digital administration is complex and overly fragmented. DIGG has collective responsibility for these issues in order to achieve more transparent governance toward the goals set by the central government. DIGG will serve as a hub for digitalization of the public sector.

## Romania

**CIO Office:** The CIO Office is part of the General Secretariat of the Government (aka the Prime Minister's Office). It coordinates the IT&C of the Romanian central public administration, establishes the architecture of the IT&C systems, oversees the investments in IT&C and cooperates in the field of cybersecurity with the other law enforcement, defence and intelligence agencies. The CIO Office will coordinate Romania's participation in the pilot.

**Oficiul National al Registrului Comertului (ONRC):** The National Trade Register Office (short: ONRC/RO an NTRO/EN) is a public institution with legal personality, organized under the Ministry of Justice, financed entirely from the state budget through the Ministry of Justice. NTRO is organised with 42 local offices (county seat) without legal personality and works beside tribunals. NTRO's vision is to contribute to the development of the business environment in Romania by providing quality public services, flexible and geared to the specific needs of applicants. The main mission of the National Trade

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Register Office (NTRO) is in the public service of keeping the trade registry and to perform legal acts and facts advertising entrepreneurs, and performing the procedure for summoning and publicity of insolvency proceedings.

### 3.1.2 Business roles

The table below shows the high-level involvement of actors in both use cases as data consumer (DC) or data provider (DP) from a business perspective. Some partners have a more technical involvement, like BRZ and BOSA, in the transfer of data. This involvement has not been included in the table below. More details will be provided in the next sections specific for both use cases.

Table 2: Business roles

	UC-1 Starting a business in another Member State		UC-2 Doing business in another Member State	
	Data provider	Data consumer	Data provider	Data consumer
Austria	BMDW	BMDW		
Belgium	FPS ECO	FPS ECO FPS FIN	FPS ECO	FPS ECO FPS FIN
Netherlands	KVK	RVO	KVK	RVO
Sweden	BVE	BVE SKV	BVE	BVE SKV
Romania	ONRC	ONRC	ONRC	ONRC

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Use case	Business role	BMDW	BRZ	BOSA	FPS ECO	FPS FIN	RVO	KVK	CIO office	ONRC	SKV	BVE	DIGG
UC-1 Starting a business in another Member State	DP	Y	N	N	Y	N	N	Y	N	Y	N	Y	N
	DC	Y	N	N	Y	Y	Y	N	N	Y	Y	Y	N
UC-2 Doing business in another Member State	DP	N	N	N	Y	N	N	Y	N	Y	N	Y	N
	DC	N	N	N	Y	Y	Y	N	N	Y	Y	Y	N

Table 3: Business registers

(authentic) business registers	Name of register
BMDW (AT)	Unternehmensregister (UR)
CBE (BE)	Kruispuntbank van Ondernemingen
KvK (NL)	Handelsregister
BVE (SE)	Bolagsverket <sup>7</sup>
ONRC (RO)	Oficiul National al Registrului Comertului

The data consumers each operate a company portal register. In most of the cases, this is a non-authentic registration of companies that do business in that Member State. In the Swedish case the company will *additionally* be registered in the national authentic business register (Bolagsverket). In the Belgium case of FPS Economy, registration will take place in the authentic business register only.

### 3.1.3 Cross-border scenarios

The Doing Business Abroad use cases come in some variances with regard to the cross-border constellation of registries. E.g. in scenario 1 the data providing Member State is the only Member State operating the authentic business register (within pilot scope), in scenario 3 the data consumer hosts the authentic business register. In the scenario in between, both data provider and data consumer host an authentic business register. The use cases thus support three cross-border scenarios:

1. Company starts/does business in another Member State, without opening a branch
2. Company starts/does business in another Member State, including the opening of a branch
3. User manages company registration in another Member State

<sup>7</sup> The name of Swedish register formally is “Branch register”. Legally, each company type has its own register. Bolagsverket will be the most describing name of the Business register though.

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### Scenario 1: Company starts/does business in another Member State, without opening a branch

In this scenario, the company from the data providing Member State operates in the data consuming Member State without opening a branch. The company still may need a permit to do business, can file for F-tax, apply for financial support, etc. For this purpose, the data consumer requires company data from the authentic source cross-border. This data will be stored in the register of the portal or the service provider.

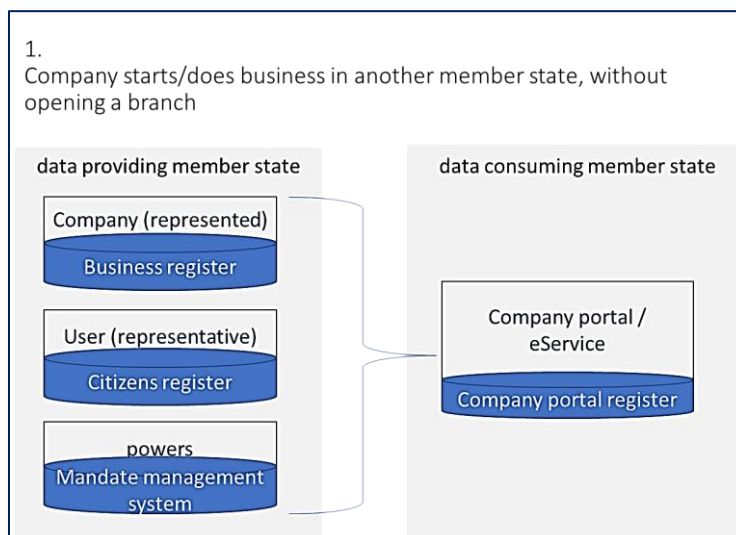


Figure 1 Cross-border scenario 1

### Scenario 2: Company starts/does business in another Member State, including the opening of a branch

This scenario is an adaptation of the first scenario. In this case, the company *does* open a branch abroad. The registration of the branch will take place in the business register of the data consuming Member State. The data consuming business register needs information on the (mother) company from the data providing Member State to register the branch. Furthermore, the portal / service provider needs to retrieve branch information from its national business register.

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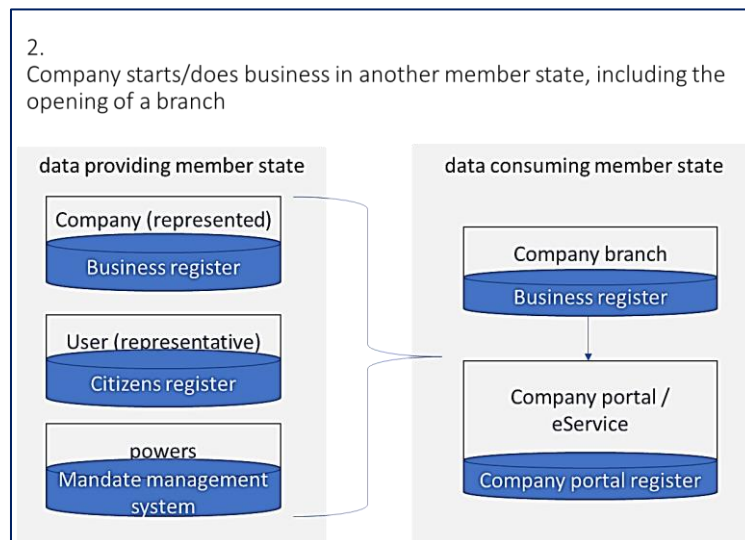


Figure 2 Cross-border scenario 2

The Swedish pilot scenario provides a nice example of scenario 1 and 2. A company’s representative can start/do business in Sweden with and without the opening of a Swedish branch. In case the company does *not* open a Swedish branch (scenario 1), the company will be registered by Skatteverket (via Verksam.se) as soon as it applies for F-tax. Skatteverket will require company data from the business register cross-border. In case the company *does* open a branch (scenario 2), the branch will be registered in the business register by Bolagsverket first (via Verksam.se as well). Bolagsverket will require information of the mother company from the business register cross-border to register the branch. Skatteverket will use this branch information when needed.

Scenario 3: User manages company registration in another Member State

This third scenario is of a different kind. In this case a natural person from the data providing Member State registers (‘founds’) a company in another Member State. There is no company data to exchange between Member States as the business register in the data consuming Member State will be the authentic source. The data provision will be limited to the natural person’s data. Basically, the natural person authenticates to the business register in the other Member State using eIDAS. Then it registers a new company abroad and optionally manages the powers of its representatives. Finally, a service provider may request company and powers data nationally, e.g. for filing a company tax.

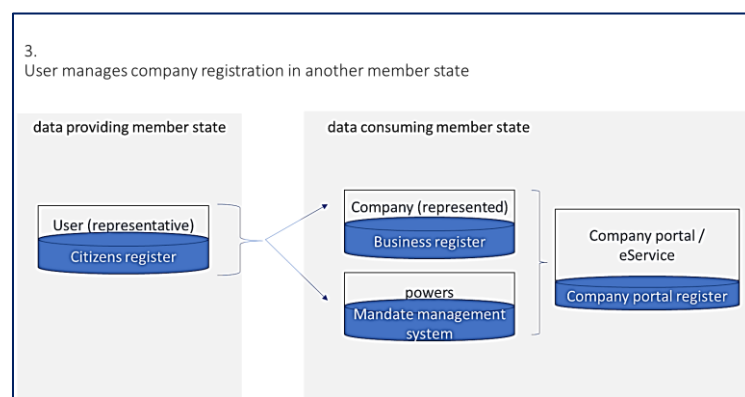


Figure 3 cross-border scenario 3

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### 3.1.4 Pilot scenarios

Based on analysis of Member State input and the resulting structures as defined in the previous two sections (use cases and cross-border scenarios) several pilot scenarios to implement and test the use cases have been identified.

#### **Pilot scenario DBA1: USP.gv.at**

USP (Business service portal) carries several services (starting a business online) that are not restricted to Austrian companies. In order to qualify for the service, the company must provide the necessary data and needs an entry in one of the registers. The stored company data must be kept up to date. This scenario entails a non-Austrian company that applies for a service carried out by usp.gv.at. Currently, this is a semi-automated process, due to a necessary application process to identify organisation and the approval of the powers (of representative). In the pilot process, the company can apply for these services through an easy online form, which will trigger an automatic registration to most of Austria's online services. Additionally, as best-effort, Austria will make this application process fully automated, so the company does not have to supply information to USP that is already known to a data provider in another Member State (the 'native' country of the business). In either case, USP is able to retrieve this information from the data provider and keep the information up to date. The minimum goal of the scenario is to digitalise this process. The maximum goal is to implement a fully automated process.

#### **Pilot scenario DBA2: MyEnterprise.be**

The process of changing data in the Belgian business register is subject to the law and must follow certain formal paths. Some details can be altered online by using the MyEnterprise.be website. This must be done by a natural person representing the company. In case this person has a Belgian id Card, there is no problem to identify this person and to validate his rights. In case this is a foreigner, there is no solution yet. The identification of any European citizen will be a first improvement to the current procedure to pilot. The next step would be a European cross-border mechanism that takes care of roles and mandates so that a person's powers can be validated to represent a company.

#### **Pilot scenario DBA3: Biztax**

Every company that does business in Belgium (or has property) must enter a tax declaration. This can be done online. This must be done by a natural person who is authorised to make this declaration. All enterprises must be known in the national register (CBE) before they can file tax. In case this person has a Belgian id Card, there is no problem to identify this person and to validate his rights. In case this is a foreigner, there is no easy solution. This scenario extends this service by opening up via eIDAS linked to the Belgium mandate systems. The first step will be to allow users of a foreign eID to manage mandates in the Belgium national mandate management systems (CSAM, RMA, SSM, BTB). The next step will be to use the mandates registered in the Belgian mandate register (validate powers) as soon as a representative with a foreign eID wants to file taxes on behalf of a Belgian company.

#### **Pilot scenario DBA4: MijnRVO.nl**

RVO carries out several services for companies (e.g. regulations) that are not restricted to Dutch companies. In order to qualify for the service, the company must provide the necessary data. Besides the specific data required to qualify for the service, RVO also requires general data of the company itself, for identification, communication and compliance purposes. RVO stores this company data in a central ('customer') registry that is used for most RVO services. The stored company data must be kept

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up to date. This scenario entails a non-Dutch company that applies for a service carried out by RVO.nl. In this process, the company does not have to supply information to RVO that is already known to the data provider in a Member State (the 'native' country of the business). RVO.nl is able to retrieve this information from the data provider and keep the information up to date.

#### Pilot scenario DBA5: Verksamst.se (PSC)

Companies that want to do business in Sweden will be registered by the Swedish Companies Registration Office through the Swedish Point of Single Contact Verksamst.se. The portal presents companies with information and e-services. There is no information stored within the portal. The source of company information will be the respective authority. There is an opportunity to do a tax registration, with underlying processes such as registering the company at Skatteverket, registering as an employer, paying VAT, applying for F-tax and so on. It is also possible to register a branch of a foreign company, by using the service provided by Bolagsverket. Verksamst.se is designed to provide a unified process for the foreign company to be able to register a branch and then make a tax registration in Sweden, depending on how the company intends to conduct business operations in Sweden.

Verksamst.se also supports foreign companies, whether they conduct business from a permanent establishment in Sweden or only want to register for tax purpose (not register a branch), for selected processes e.g. to register as an employer or F-tax. F-tax can be applied for without liability to pay income tax, but serves as a proof that the company has no tax liabilities in the country of registration and is therefore considered serious.

#### Pilot scenario DBA6: eService Layer at portal.onrc.ro

Companies wishing to do business in Romania will be registered by the National Trade Register Office. The registration of the company of a single trader, company or branch of a foreign company is done using the online service portal eService Layer at portal.onrc.ro and leads to the registration in the register of Romanian companies (ONRC). The registration also leads to registration with the Romanian tax agency - ANAF. As part of the registration with the tax agency, the company can (if applicable) register the permanent unit and register for VAT.

Table 4: pilot scenario to use case mapping

Pilot scenario #	Pilot scenario short name	Cross-border scenarios to pilot			Use case to pilot	
		1-Company starts/does business in another Member State, without opening a branch	2-Company starts/does business in another Member State, including the opening of a branch	3-User manages company registration in another Member State	UC1: starting a business in another Member State	UC2: Doing business in another Member State
DBA1	USP.gv.at	x			x	
DBA2	MyEnterprise.be			x	x	
DBA3	Biztax	x			x	

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Pilot scenario #	Pilot scenario short name	Cross-border scenarios to pilot			Use case to pilot	
DBA4	MijnRVO.nl	x			x	x
DBA5	Verksamta.se (PSC)		x		x	x
DBA6	eService Layer at portal.onrc.ro	x			x	x

### 3.1.5 Interaction patterns

D2.1 [1] defines several once only interaction patterns in chapter 8. For use case 1 this document assumes the data consumer will retrieve the company data directly from the data provider. For this purpose two interaction patterns are suitable:

1. **Intermediation pattern:** It foresees a (collection of) central component(s) that function like an “Information Desk”. It provides routing information to parties that request it in order to make the direct exchange of Evidence between Data Provider (DP) and Data Consumer (DC) possible. A user initiates a procedure, i.e. through a public service request. The DC has no knowledge to which DP the request for Evidence should be directed, nor what exactly to request, as the Evidence is defined differently in different MS. The DC, therefore, inquires the “Information Desk” where to ask and for which exact Evidence. The “Information Desk” acts as an intermediary and informs the DC where the Evidence can be obtained. The DC requests the Evidence directly from the respective DP. The DP can again inquire the “Information Desk” if the DC is allowed to receive the Evidence. If not, the Evidence is not provided. Alternatively, the “Information Desk” may deny the DC the routing information in the first place if they are not allowed to request the Evidence.
2. **Lookup pattern:** Its main characteristic is online and near real-time (NRT) use of information. The information is simple, attributes based. This is only applicable in cases where the exchange has a legal basis. This pattern requires synchronous communication, i.e. it must be “light weight”. This pattern ties DP and DC closely together: the DC cannot provide its service in case the DP is not available. This means that DC and DP usually know each other up front and the communication relationship is set up to cover a large number of repetitive interactions over time.

Other interaction patterns may have been suitable for piloting as well, like the user-managed access pattern. In this pattern, the user – and not the data consumer - retrieves the evidence from the data provider. The piloting partners chose for the two patterns mentioned as:

- This minimises efforts for users to register or apply for the service. In all patterns requiring the user to retrieve the evidence, the user additionally has to authenticate to the data provider. This reduces business value for companies due to the additional time needed (and in some Member States costs of authenticating).
- This minimises the impact on the piloting data providers. Starting point of the Doing Business Abroad pilot is the re-use of the data providers’ data service that are in place today. In the user managed patterns the data providers have to adapt their data services to allow access by the user (instead of the data consumer).

Use case 2 will implement the “**subscription and notification pattern**” for the push mechanism. The Subscription and notification pattern is applicable if evidence might get updated over time and it is important for the DC to stay current. The DC subscribes to evidence updates and when the DP

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publishes an update of the Evidence in question, the DC automatically receives a notification of this event and the evidence is provided to the DC.

### 3.1.6 Explicit request and preview

The SDGR does not allow the use of the technical system to enable cross-border exchange of evidence between public authorities in all cases. As a basic principle, and subject to some exceptions, there should be an explicit request of the user to use the OOP technical system and the user should have the option to preview the evidence itself. The first instrument (explicit request) enables the user to allow or deny the OOP technical system to be used for evidence transfer. The user must always have the opportunity to choose another transfer mechanism (e.g. paper, or possibly other electronic transfer systems than the technical system envisaged by the SDGR). The second instrument (preview) allows the user to review the data that will be exchanged between the data provider and the data consumer before it reaches the data consumer.

1. **Explicit request** (also called prior request): The competent authorities [...] shall, upon an explicit, freely given, specific, informed and unambiguous request of the user concerned, request evidence directly from competent authorities issuing evidence in other Member States through the technical system (2018/1724 Art 14 point 7).
2. **Preview**: according to the Single Digital Gateway Regulation, the envisaged technical system “shall enable the possibility for the user to preview the evidence to be used by the requesting competent authority and to choose whether or not to proceed with the exchange of evidence” (14.3 (f) SDGR). The technical system for the cross-border exchange of evidence must thus support a mechanism of preview by the user of the evidence which is exchanged at the request of a competent authority. The system must also support the possibility for the user to prevent the exchange after observing the preview. However, the wording of the preview mechanism in the SDGR clearly indicates that the preview is only a *possibility* that must be afforded to the user, not that the user has to be required to actually use (observe) the preview.

The *explicit request* and preview can (and will) be implemented in different steps in the data exchange process. In cases where an explicit request is required, a user must express his/her explicit request before initiating a transfer of the evidence via the OOP technical system. The *preview* should follow the retrieval of data from the data provider. As the Doing Business Abroad pilot prefers not to implement any user interaction at the data provider (see section 3.1.5), the preview must be presented by one of the components in the data consuming Member State. Implementing the preview mechanism at the data consumer itself seems contrary to the SDGR requirements. User centricity should be an important aspect to take into account in designing the pilot specific process flows in the next project phase.

The SDGR indicates that the possibility of a preview is not required when “automated cross-border data exchange without such preview is allowed under applicable Union or national law” (14.5 SDGR). The current interpretation of this exception within the DE4A project is that it - among others - applies to evidences which are publicly available to anyone without any constraints (e.g. via public websites, open web services, etc.). In such cases, it seems reasonable to argue that automated cross-border exchange *without explicit request and preview is allowed*. The Doing Business Abroad pilot therefore works on the basis of the understanding that explicit request and preview are not required for the exchange of open data.

The explicit request and preview mechanisms require special attention in the subscription & notification pattern (and more precisely in the push model). Firstly, in a push model the user cannot express explicit request for each update individually without completely removing the benefits of this

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pattern, so the explicit request should be given upfront for all updates to come. Fortunately, the SDGR does not explicitly state that the user has to express explicit request for each evidence transfer individually. But, if the user will be allowed to express explicit request for multiple updates (in a specified or unspecified time frame), the user should then also be able to withdraw the request any time. This requires one or more software components for managing explicit requests.

Secondly, in this pattern there will in principle not be a user present to accept the previewed data for each update. The objective of this pattern is that the data provider sends the updates (evidences) directly to the data consumer without user interaction. As a consequence, the SDGR seems to allow the update mechanisms only when the explicit request and preview requirements don't apply, and thus specifically in case:

- the data concerned is open to everyone (open data);
- there's regulation that allows the cross-border exchange of this data without preview (like BRIS).

Therefore, the implementation of the subscription & notification pattern may be heavily limited by SDGR in the Doing Business Abroad pilot, at least to the extent that the push scenario is intended to permit automated transfers without previews. Further research is required to:

- determine the conditions under which the update mechanisms can be implemented in the OOP technical system;
- define the situations in which the update mechanism cannot be implemented in the OOP technical system;
- define the adaptation required to the SDGR to fully allow the push model in the OOP technical system.

### 3.1.7 Data protection and legal basis

As a basic principle of the SDGR, any exchange (or other form of processing) of personal data must comply with the requirements of the General Data Protection Regulation (EU) 2016/679 (the GDPR). A central challenge in any DE4A use case – among other data protection challenges – is ensuring that there is a legal basis for the transfer of evidence, assuming that the evidence indeed contains personal data.

On this point, it should be noted that the Doing Business Abroad pilot is affected by this concern to a slightly different extent. Unlike other pilots, the data exchanged in the Doing Business Abroad pilot does not only – or often principally - concern a natural person. It concerns the natural person (representative), the company (represented) and the relationship between both (the powers). In exceptional cases, it is conceivable that the exchanged evidence does not contain any personal data at all – e.g. in case of large companies who exchange only company data, and even contact information is provided at the functional and non-personally identifiable level. Nonetheless, it cannot be concluded on this basis that the GDPR is not relevant for the Doing Business Abroad pilot: companies often will need to provide personal data on representatives or other stakeholders who are natural persons, and the metadata linked to the transfer of evidence (e.g. eIDAS identification data) will at any rate qualify as personal data. Thus, GDPR compliance also must be taken into consideration for the Doing Business Abroad pilot.

A central challenge here is the issue of ensuring that a legal basis is available for the evidence transfer itself. It would be tempting to assume that the consent of the user – as expressed by their explicit request to transfer the personal data – is sufficient as a legal basis in all cases, more so since the description of the explicit request in the SDGR is virtually identical to the definition of consent in the GDPR. Nonetheless, this would be incorrect for several reasons.

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Firstly, a consent under the GDPR must be given by the data subject, i.e. the person whose data will be processed. This is sometimes not possible in Doing Business Abroad pilot, where the person representing the company may not be the only person whose personal data will be processed – consider e.g. an accounting person using the SDG to transfer personal data on the management of a company: the accounting person cannot by definition provide consent on behalf of the management.

Secondly, consent under the GDPR must be freely given. This is often impractical or impossible in the Doing Business Abroad pilot: the explicit request will be given by a representative, probably an employee of the company. Within an organisation there will always be a hierarchical relationship. This employer-employee relationship will heavily reduce the value of any supposed ‘consent’ to exchange personal data: since the employee presumably submits the explicit request under the SDGR as a part of their job description, it is unlikely to be considered as a freely given consent.

However, these challenges are not necessarily insurmountable, since the GDPR does not require consent by definition, but rather a legal basis, for which consent is only one available option. The SDGR similarly does not mention consent at all – nor any other legal basis – thus leaving multiple justifications open. As the European Data Protection Supervisor (EDPS) also noted in its Opinion 8/2017 on the proposal for the SDGR<sup>8</sup>, *“the three most relevant legal grounds for implementing the ‘Once-Only’ principle are **consent, legal obligation and public task/official authority**. Depending on the circumstances, **one or another of these legal basis could be the most appropriate choice**. As a general rule of thumb, for the case of any recurring and structural data sharing, the EDPS recommends -in order to ensure legal certainty- that whenever possible, further processing of personal data based on the Once-Only principle be **specified in a legislative instrument**, which provide appropriate safeguards to ensure compliance with data protection law, including the principle of purpose limitation and ensuring data subjects’ rights”*.

Thus, it is clear that consent (in the sense of the GDPR) is not a requirement for the exchange of evidence, and that the procedural prerequisite of the SDGR of an explicit request should not be conflated with a GDPR consent requirement: the explicit request obligation may apply even in cases where there is no personal data involved, and inversely a legal basis for the exchange of evidence must exist even when there is an exception to the explicit request requirement. The two obligations – explicit request and legal basis – exist side by side and are separate.

In other piloting domains, the choice for a GDPR consent as a legal basis for the exchange of evidence is more plausible due to their citizen-centricity, but in the Doing Business Abroad pilot specifically, a different legal basis will usually be relied upon. While the choice can be different from use case to use case, the legal basis will generally be:

- The legal obligation for the competent authorities to transfer evidences under EU or national law;
- The legal obligation for the competent authorities to transfer evidences as a part of the performance of a task carried out in the public interest or in the exercise of official authority vested in the controller.

The choice of an exact legal basis under the GDPR will still require further analysis (as will, of course, other obligations under the GDPR, such as proportionality of the evidence being transferred and transparency towards the data subject). At present however, it is sufficient to underline that the impossibility of collecting a valid consent from the data subject(s) that would satisfy the requirements of the GDPR is not by definition a blocking point, certainly in the Doing Business Abroad pilot.

<sup>8</sup> See [https://edps.europa.eu/sites/edp/files/publication/17-08-01\\_sdg\\_opinion\\_en.pdf](https://edps.europa.eu/sites/edp/files/publication/17-08-01_sdg_opinion_en.pdf)

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### 3.1.8 BRIS

BRIS is the interconnection of business registers, allowing business registers to exchange cross-border messages on mergers and branches, and the users of the e-Justice portal to obtain multilingual information on EU companies. BRIS has its legal basis in Directive 2017/1132/EU. The system has been operational since June 2017. BRIS uses the Connecting Europe Facility eDelivery building block for exchanges of standardised messages. The system is decentralised with a central component (the European Central Platform) storing and indexing company names and registration numbers.

As all participating Member States are already connected to BRIS – Business Registers Interconnection System – it seems logical to exchange company data using BRIS. A broader discussion involving other work package, in particular WP2 Architecture, is necessary as it needs to be established if the pilot requirements can be met by BRIS and if not, what measures need to be taken. Prior to a thorough analysis to be done by WP2, the Doing Business Abroad pilot team has performed a quick analysis to get a first impression on BRIS. The analysis is included in ‘Annex V BRIS overview and preliminary analysis’. The preliminary findings are:

1. BRIS does not support exchange of data for all types of companies that are in scope of the Doing Business Abroad pilot (e.g. sole trader).
2. Connecting to BRIS is not permitted for all participants of the Doing Business Abroad pilot (e.g. RVO, Skatteverket).
3. BRIS does not support notifications on all events regarding company data that are in scope of the Doing Business Abroad pilot (e.g. change in representatives).
4. BRIS provides only basic company data as structured data; this does not cover all data in scope of the Doing Business Abroad pilot and is blocking for a fully automated data exchange.

BRIS definitely provides part of the functionality needed for the Doing Business Abroad pilot. There may be several ways forward in the use of BRIS, like: extend BRIS on the aspects mentioned, integrate the OOP technical system in BRIS or the other way around. In general, this document does not aim to select, evaluate and/or design solutions though. Its focus is on the requirements from the pilot’s use cases. Therefore, the requirements have been defined as much as possible in a solution-agnostic way.

### 3.1.9 Alignment to SDG

In the table below, an overview is given of the services delivered within the scope of the pilot scenarios and in the following table the correspondence of the pilot scenarios to services of the SDG is marked.

Table 5: Pilot scenario services

Pilot scenario #	Pilot scenario short name	Services and procedures involved
DBA1	USP.gv.at	Enrol company to apply for services via USP.gv.at (up to 60 services) regarding social security, first year of running the business, etc. <sup>9</sup>
DBA2	MyEnterprise.be	Registration of a company

<sup>9</sup> Not all services are available for every company. Service providers on USP are whitelisting the companies which are allowed to use it. But others like (electronic invoice etc.) are automatically available for use for every company.

Pilot scenario #	Pilot scenario short name	Services and procedures involved
DBA3	Biztax	Declaring taxes
DBA4	MijnRVO.nl	Enrol company to apply for services: <ul style="list-style-type: none"> <li>import / export of agricultural products</li> <li>production of agricultural products / services</li> </ul>
DBA5	Verksamt.se (PSC)	Tax registration: F-tax, employer taxes, vat, permanent establishment taxes
DBA6	eService Layer at portal.onrc.ro (ONRC)	Registration of a company

Table 6: Pilot scenario SDG alignment

Procedures	Pilot scenario #					
	DBA1	DBA2	DBA3	DBA4	DBA5	DBA6
<i>SDG Annex II – Starting, running and closing a business</i>						
Notification of business activity	X	X	-	X	X	X
Permission for exercising a business activity	X	X	-	X	X	X
Changes of business activity	-	-	-	X	X	X
Termination of a business activity not involving insolvency or liquidation procedures	-	-	-	X	X	X
Submitting a corporate tax declaration	-	-	X	-	-	-
<i>Other regulation</i>						
Company law package (2019/1151, 2019/2021)	-	-	-	-	X	-
Service directive	-	-	-	X	-	X

### 3.2 Use Case 1 “Starting a business in another Member State” (UC#1)

This use case deals with the enrolment of a company to a company portal in another Member State. The corresponding user journey is for example an Austrian company opening a branch in Sweden, using the Verksamt portal to register the branch and to apply for F-tax. For this purpose, the data consumer needs information (evidence) of the company involved, including evidence of its existence, legal form, location, contact information and type of business activity. The process flow description in the next section assumes the Intermediation or Lookup interaction pattern (see section 3.1.5 for motivation) and presents the main processes involved that together constitute the user journey.

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While the whole use case is analysed it should be noted that refined analysis and design decisions considering organisational and legal constraints may result in scope adjustments for actual piloting.

### 3.2.1 Main processes

The main processes of this use case are:

#### 1. Authenticate user

The user will be a natural person acting on behalf of a company in another Member State. eIDAS will redirect the user to his national Identity provider. The identity provider authenticates the user and optionally retrieves additional person attributes. The identity provider then sends the authentication response back to the data consumer via the eIDAS network.

#### 2. Identify company and validate powers to represent

As the Doing Business Abroad pilot in all cases has the company as entity concerned, the company needs to be identified. Usually, this will be done by requesting the user to enter or select the company to represent from a list of companies he is allowed to represent. This step may be part of the authentication flow in the Member State of choice. As a next step, the powers of the user to represent the company *in this specific case* need to be validated. This requires cross-border communication on the service that the user wants to apply for. Both data consumer and data provider (mandate management system in this case) should be able to understand the scope of the user's powers.

*Please note that the process described previews the situation in which powers can be fully validated in the data provider's Member State. This will not be common practise in most of the pilots. Probably workarounds and alternatives to the powers validation need to be implemented. Furthermore, Belgium is operating a national mandate management system it will pilot within a Belgium-as-data consumer case. 'Annex III Powers validation mechanism' sketches the alternative power validation mechanisms.*

#### 3. Request company data

After successfully authenticating the user and validating his/her powers in the data providing Member State, the data consumer will request the company data required. This is where the core of the OOP technical system will come to play.

#### 4. Provide company data

The data provider needs to process the data request, retrieve the company data and provide this data to the data consumer<sup>10</sup>.

#### 5. Enrol to the company portal

The data consumer will process the company data and store it in its company portal register. Often, the user will be requested to enter additional (contact) information of the natural person or the company. The company data is stored and structured according to the needs of the portal and its services.

<sup>10</sup> Note, that art. 14 of the SDGR enables the central OOP system to act as an intermediary between DP and DC where preview could take place. This option has not been included in this description of the process flow.

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## 6. Establish right to do business and determine (tax) obligations

In some cases, the enrolment to the company portal will be integrated with a richer process of starting the business abroad. In these cases, additional services will be integrated in the enrolment process, like applying for F-tax, establishing annual tax duties and assessing a request to perform specific business activities in the Member State.

### 3.2.2 Actors Identification (DPs, DCs, end users) and Partners Involved

All scenarios implement use case 1. The table below shows the scenarios, the extent to which the pilot implements this use case (processes in scope) as well as the data providers participating in the use case.

Table 7 : UC#1 pilot scenarios overview

Pilot scenario #	Scenario short name	Data evaluator(s) (DCs)	Processes in scope	Data providers						
				Business registers					Population registers <sup>11</sup>	Mandate management systems <sup>12</sup>
				CBE (BE)	BVE (SE)	BMDW (AT)	ONRC (RO)	KVK (NL)		
DBA1	USP.gv.at	BMDW (AT)	1, 2, 3, 4, 5, 6 <sup>13</sup>	x	x		x		x	X
DBA2	MyEnterprise.be	FPS ECO (BE)	1, 2						x	X
DBA3	Biztax	FPS FIN (BE)	1, 2						x	X
DBA4	MijnRVO.nl	RVO (NL)	1, 2, 3, 4, 5	x	x	x	x		x	X
DBA5	Verksamst.se (PSC)	SKV, BVE (SE)	1, 2, 3, 4, 5, 6	x		x	x		x	X
DBA6	eService Layer at portal.onrc.ro	ONRC (RO)	1, 2, 3, 4, 5	x	x	x			x	x

### 3.2.3 Overview of Relevant Existing infrastructure

Table 8 : Relevant existing infrastructure

Member State	Company data layer solution	Natural person data solution	Mandate data solution
<b>Austria</b>	The Austrian business register is a meta-register / data-layer which contains data of several registers including the authentic business	The eIDAS-connector is not yet in place but is	TU Graz is a participant in the SEMPER project, but BRZ and BMDW are not.

<sup>11</sup> Information on citizens will be retrieved via the national eIDAS nodes.

<sup>12</sup> See the annexes 2 and 3 for more information on powers validation and validation mechanisms.

<sup>13</sup> In the Austrian pilot scenario, the assessment of tax obligations in process 6 will be included on a best effort basis.

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Member State	Company data layer solution	Natural person data solution	Mandate data solution
	register. This data-layer can be used to exchange data, but Austria prefers to follow the TOOP model & eDelivery if agreed when determining Pilot Start Architecture.	expected on time for the DE4A-pilots. AT has not notified eID.	Both are in close contact with TU Graz though. The SEMPER pilots will take place in Q2 and Q3 of 2020.
<b>Belgium</b>	All data is collected by the CBE which is the authentic source for every organisation that need the data. This data can be consulted by everybody. <ol style="list-style-type: none"> <li>There is a public interface[5] everybody can use</li> <li>Several software interfaces (API's) are available. They are free to use for government organisations, both national and EU. All they need is a licence which will be provided on request.</li> </ol>	The eIDAS-connector is already in place. BE has a notified eID.	Belgium does not participate in the SEMPER project. Belgium is operating a national mandate management system it will pilot within a Belgium-as-data consumer case
<b>Netherlands</b>	The Dutch data-exchange solution Digipoort is used nationally to exchange (among other) company data. It needs to be confirmed if this solution can be used in the DE4A-pilots.	The eIDAS-connector is already in place. NL has a notified eID.	The Netherlands are a participant in the SEMPER project; pilots will take place in Q2 and Q3 of 2020.
<b>Sweden</b>	Sweden operates a national OOP-layer for sharing information between authorities. This layer is operated by Bolagsverket. Sweden has implemented the Composite Service of Basic Information on Companies (CSBIC, in Swedish SSBT); a data service which provides company data and is currently used by Swedish organisations. The data available to national users can also be made available to cross-border users. Other Member States can then request and receive data through the SE OOP test environment, without a user-session and without cost.	The Swedish eIDAS-node is running in production, but the Swedish notification is halted due to national legal issues.	Sweden does not participate in the SEMPER project.

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Member State	Company data layer solution	Natural person data solution	Mandate data solution
<b>Romania</b>	The Romanian business register implemented the data-layer which provides company data and is currently used by Romanian organisations. The software interfaces (APIs) are available. They are free to use for government organisations. The data available to national users can also be made available to cross-border users. This data-layer can be used to exchange data, but Romania prefers to follow the TOOP model & eDelivery if agreed when determining Pilot Start Architecture.	The eIDAS-connector is not yet in place but is expected on time for the DE4A-pilots. RO has no notified eID.	Romania does not participate in the SEMPER project.

All competent authorities (business registers) are connected to BRIS (Business Register Interconnection System). BRIS is a network of European Business Registers for the exchange of a selected set of company attributes. BRIS has its legal basis in Directive 2017/1132/EU. BRIS defines a set of company data to exchange as well as a technical system for doing so. BRIS allows exchange of data of limited-companies only and is intended to be used by business registers only. See 'Annex V BRIS overview and preliminary analysis' for more information and questions on BRIS.

### 3.2.4 Required and Available Data for evidence exchange

This use case requires the OOP technical system to support three types of evidences:

1. Evidence of company registration (section 3.2.4.1)
2. Evidence of natural person registration (section 3.2.4.2)
3. Evidence of power of representation (section 3.2.4.3)

Table 9 : UC#1 Confrontation of processes and evidences

Nr	Process	Evidence		
		Company registration	Natural person registration	Power of representation
1	Authenticate user		x	
2	Identify company and validate powers to represent			x
3	Request company data	x		
4	Provide company data	x		
5	Enrol to the company portal			
6	Establish right to do business and determine (tax) obligations			

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For piloting the data consumers may need additional data, like professional qualifications to assess the right to do business in the data consuming Member State and financial data to assess the tax obligations. The exchange of this data is not new but exists in current practice in a non-OOP way. Redesign of these additional data flows is out of scope of the pilot, but might be a valuable spin-off initiative later on.

### 3.2.4.1 Evidence of company registration

#### 1. Overview of relevant attributes

This use case requires data to register a company at the company portal register of a data consumer of another Member State. This can be implemented as the enrolment of a company in the company register of the competent authority or as the registration of a company in a database of a service provider. For this use case the following attributes are identified as relevant:

Table 10 : UC#1 Identified relevant company attributes

#	Name of attribute	Description	Source	Example value	Remarks
<u>1</u>	<u>Company</u>				
1.1	Company code	The unique official company identifier	Business register, eIDAS	5560125-5790	This is the identifier as registered in the DP Country
1.2	Company name	The official current company name as stored in the business register	Business register, eIDAS	Volvo Aktiebolag	
1.3	Company physical address	The physical / visiting address of the company.	Business register	Stuvarvägen 21, 58181, Sundsvall	This is a string, not structured in predefined data elements. Usually contains street, house number, zip-code, city, country. It is a physical address and not a post-box.
1.4	Company postal address	The postal address of a physical site of the company.	Business register	PO-box 2, 58181, Sundsvall	This is a string, not structured in predefined data elements. Usually contains street, house number, zip-code, city, country. Can be a physical address or a post-box.
1.5	Country code	The ISO-country code associated with the physical	Business register	SWE	

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#	Name of attribute	Description	Source	Example value	Remarks
		address of the company.			
1.6	Company legal form	The legal form of the company as it is stored in the business register	Business register	AB	The legal form as registered in the DP Country; no transformation or translation needed.
1.7	Company legal status	The legal status of the company	Business register	bankrupt	The legal status as registered in de DP Country; no transformation or translation needed.
1.8	Company legal status date	The date when the specified legal status has come to effect.	Business register	2010-10-23	
1.9	Company registration date	The formal date the company was registered.	Business register	2001-01-30	Mainly as indicator that the company is active; not relevant if this is a foundation or registration date.
1.10	Company end date	The formal date the company was ended	Business register	2020-03-14	Can be empty; the interpretation then is that the company is still active.
1.11	Company activity/branch-code	NACE classification for collecting and presenting a statistical data	Business register	2910	
1.12	Year-end closing date	The end date of the fiscal year of the company	Business register	31 sept	
1.13	Company tradename(s)	One or more of tradename, secondary or translated company name.	Business register		
1.14	VAT-registration number	The value added tax registration number	Business register, Tax register	23424525-234	
1.15	Company contact data	The contact information of the company (not of the representatives)	Business register	+4612312312, <a href="mailto:info@volvo.se">info@volvo.se</a>	This is a string, not structured in predefined data elements. Can contain phone number,

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#	Name of attribute	Description	Source	Example value	Remarks
					mobile phone number, e-mail address, etc.
1.16	Representatives	The information (name, date of birth, ...) of representatives of the company	Business register	P. Smith, 1960-12-01, general director	
<u>2</u>	<u>Company branch/location</u>				
2.1	Branch identification number	The unique official branch identifier	Business register		
2.2	Branch name	The official current branch name as stored in the business register	Business register		
2.3	Branch postal address	The postal address of a physical site of the branch of the company.	Business register		This is a string, not structured in predefined data elements.
2.4	Branch physical address	The physical / visiting address of the branch of the company.	Business register		This is a string, not structured in predefined data elements.

## 2. Overview of required evidence per data consumer

The data consumers of the different Member States do not all require the same evidence for the pilot-processes. In the table below the required evidence per data consumer is listed:

Table 11 : UC#1 Required data per data consumer

#	Name of attribute	DBA1 BMDW (AT)	DBA2 FPS ECO (BE)	DBA3 FPS FIN (BE)	DBA4 RVO (NL)	DBA 5 SKV (SE)	DBA5 BVE (SE)	DBA6 ONRC (RO)
<u>1</u>	<u>Company</u>							
1.1	Company code	M	M	M	M	M	M	M
1.2	Company name	M	M	M	M	M	M	M
1.3	Company physical address	M	M	M	O	-	-	M
1.4	Company postal address	-	-	-	M	M	M	O
1.5	Country code	O	-	-	M	-	M	-

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#	Name of attribute	DBA1 BMDW (AT)	DBA2 FPS ECO (BE)	DBA3 FPS FIN (BE)	DBA4 RVO (NL)	DBA 5 SKV (SE)	DBA5 BVE (SE)	DBA6 ONRC (RO)
1.6	Company legal form	O	M	M	M	M	-	M
1.7	Company legal status	M	-	-	M	M	O	O
1.8	Company legal status date	M	-	-	-	-	O	-
1.9	Company registration date	M	-	-	O	M	M	M
1.10	Company end date	M	-	-	M	M	-	O
1.11	Company activity/branch-code	O	-	-	O	M	M	M
1.12	Year-end closing date	-	-	-	-	M	-	-
1.13	Company tradename(s)	-	-	-	O	-	-	O
1.14	VAT-registration number	O	-	-	-	M	-	M
1.15	Company contact data	O	-	-	O	O	-	O
1.16	Representatives	M	M	-	-	M	-	M
<u>2</u>	<u>Company branch/location</u>							
2.1	Branch identification number	-	-	-	M	-	-	M
2.2	Branch name	-	-	-	M	-	-	M
2.3	Branch postal address	-	-	-	M	-	-	O
2.4	Branch physical address	-	-	-	M	-	-	M

In addition to the table there are some specific aspects and requirements:

#### Company code

For the exchange of company data between DP-country and DC-country it is required that the registrations of the company in both countries can be linked to each other, at least by one of the countries involved. This identity linking can be implemented with several possible scenarios:

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- a) The DP-country registers the company code as used in the DC-country

In the process of subscription, the DC-country sends the company code as created by the enrolment of the company and the DP country registers this as part of the 'subscription record' and provides this information in the notification and update processes.

- b) DC-country registers the DP Countries company code

In the process of providing the company data to the data consumer the DP-country sends the company code and the DC-country registers this code in the enrolment of the company; in case the data consumer creates a local company code, the data consumer then registers both company codes, the code of the DP-country register and the code of the DC-country register. In the notification and update processes the company code of the DP-country is used.

- c) Both DC- and DP-countries register both company codes

This is the combination of scenario A and scenario B

- d) Company code is not registered; linking is done via other attributes (name, legal form, ...)

Within the pilots the assumption is that scenario B is the scenario to be implemented. In next stages this assumption has to be validated considering any implications in pilot start architecture design.

For the provision of the company code of the data provider different formats can be used, most likely one of:

- a) The company code exactly as registered at the competent authority register with the addition of the country code
- b) The European company code represented as EUID, as defined by BRIS (2015/884)

In the context of the pilot start architecture it needs to be established which format is to be used.

#### BMDW (AT)

The following attributes can be registered with the company enrolment at BMDW:

- type of organisation: an additional specification to the legal form of the type of company, e.g. a company or an association;
- trade register number: the identification of a company in a specific trade register, e.g. dentist registration number;
- object of company: in addition to the NACE-code the description of the economic activity of the company is registered, e.g. bakery.

As these attributes are optional, specific for the Austrian situation and are not provided by data consumers of the pilots, these attributes are regarded as out of scope of the pilot (but have potential for future improvement).

Other specific aspect:

- the company legal form is optional; the legal form of a foreign company is in any case transferred to the value 'others'.

#### FPS (BE)

The data listed in the table is the data provided by BRIS in the current implementation (directives 2015/884, 2017/1132).

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SKE (SE)

Specific aspects for the registration of a company at Skatteverket:

- the country code is not explicitly requested but seen as part of the company physical address.
- Contact information of the company's activities in Sweden is also required (postal address, visiting address, telephone and mobile telephone numbers) but are to be filled in by the user.
- Sweden does not work with the NACE-code but for the scope of the pilot and in order to meet expected future requirements, receiving the NACE-code from other Member States is sufficient.
- The home country VAT-code is required; if the data providers cannot provide this, it is to be filled in by the user. This evidence is usually registered at the tax agencies and not in the company registers and there is no tax agency participating as data provider within the pilot Doing business abroad.
- Representatives of the company; this information is not provided.

BVE (SE)

Specific aspects for the registration of a company at Bolagsverket:

- the country code is not explicitly requested but seen as part of the company physical address;
- the company activity is registered as a string, not as a NACE-code.

RVO (NL)

Specific aspects for the registration of a company at RVO:

- If the service is to be delivered to a specific branch office or location of the company, the information of this branch is required for the registration of the company.

ONRC (RO)

Specific aspects for the registration of a company at ONRC:

- the country code is not explicitly requested but seen as part of the company physical address
- the home country VAT-code is required
- if the service is to be delivered to a specific branch office or location of the company, the information of this company or branch is required for the registration of the company

## 3. Overview of available evidence per data provider

Table 12 : UC#1 Available data per data provider

#	Required attribute	BMDW (AT) Available	CBE (BE) Available	ONRC (RO) Available	BVE (SE) Available	KVK (NL) Available
<u>1</u>	<u>Company</u>					
1.1	Company code	Company identifier	Company registration number	Company registration number	Organisations nummer	tbd
1.2	Company name	Legal company name	Name	Company name	UD0001 Registrerat företagsnamn	tbd

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#	Required attribute	BMDW (AT) Available	CBE (BE) Available	ONRC (RO) Available	BVE (SE) Available	KVK (NL) Available
1.3	Company physical address	Head office address	Address	Head office address	UD0003 Juridisk person postadress	tbd
1.4	Company postal address	Mailing address	N/A	Postal address	UD0003 Juridisk person postadress	tbd
1.5	Country code	Part of address of head office	Part of address	Part of address of head office	UD0012 Länskod säte	tbd
1.6	Company legal form	Legal form	Legal form	Legal form	UD0025 Företagsform	tbd
1.7	Company legal status	N/A	Status	Status	UD0027 Företagets status	tbd
1.8	Company legal status date	N/A	N/A	N/A	N/A*	tbd
1.9	Company registration date	Company registration / incorporation date	Start date	Company registration / incorporation date	UD0026 Datum för företagets registrering	tbd
1.10	Company end date	Date of cancellation	N/A	N/A	N/A*	tbd
1.11	Company activity/branch-code	NACE classification	Economic activities	NACE classification	UD0039 SNI-koder för företagets arbetsställen	tbd
1.12	Year-end closing date	N/A	End date of fiscal year	N/A	N/A*	tbd
1.13	Company tradename(s)	N/A	N/A	N/A	N/A	tbd
1.14	VAT-registration number	N/A	N/A	CUI registration number	N/A*	tbd
1.15	Company contact data	N/A	Contact data	Company contact data	N/A *	tbd
1.16	Representatives	Person data of position	Name and first name of founders / representatives	Person data of position	N/A*	tbd
<u>2</u>	<u>Company branch/location</u>					

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#	Required attribute	BMDW (AT) Available	CBE (BE) Available	ONRC (RO) Available	BVE (SE) Available	KVK (NL) Available
2.1	Branch identification number	N/A	Establishment unit registration number	Establishment unit registration number	N/A	tbd
2.2	Branch name	N/A	Name	Name	N/A	tbd
2.3	Branch postal address	N/A	Address	N/A	N/A	tbd
2.4	Branch physical address	N/A	N/A	Address	N/A	tbd

All attributes:

- are available through derived access (e.g. datalayers);
- are available in a standard, structured format (e.g. xml);
- are from the source 'business register' of the concerning Member State.

Note that not all data marked as mandatory in "Table 11: UC#1 Required data per data consumer" is already available. This is not regarded as blocking for the execution of the pilots though. The assumption is that data providers can easily add these elements to the existing data exchange procedures or that data consumers can easily implement a work-around in their procedures to deal with the missing attribute(s).

#### BMDW (AT)

The data is available in a machine-readable format (e.g. XML/JSON), preferably to be provided following the TOOP model & eDelivery if agreed when designing Pilot Start Architecture.

#### CBE (BE)

The dataset described above is made available by the CBE through:

- a public interface[5];
- several software interfaces that are free to use for governments. A licence is needed, which will be provided upon request;
- The allowed values for the 'type of the company' are: natural person or legal person.

#### BVE (SE)

- The dataset is made available through the Swedish Composite base Service. It has been used in former TOOP project and there are descriptions available.
- Data consumers can request and receive data through the SE OOP test environment, without a user-session and without cost.
- Since data is retrieved from a source based on agreement between several authorities, there may be a need to go through a formal process of contracting.
- Data is delivered on request as machine readable structured data (XML); it is not yet possible to get PDF-documents.
- Data marked with an \* are not yet available but can easily be added to the data set.

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KVK (NL)

To be done. NL will try to inform and involve KVK as soon as possible.

ONRC (RO)

The data is available through the Romanian eService layer at ONRC, in a xml-format and preferably to be provided following the TOOP model & eDelivery if agreed when designing Pilot Start Architecture. A custom model for this scope can be tailored to the DE4A requirements. The allowed values for the 'type of the company' are: natural person or legal person.

## 3.2.4.2 Evidence of natural person registration

The evidence of the natural person is provided by eIDAS. The data is registered in the population registers of the Member States. The following attributes are provided:

Table 13 :UC#1 Identified relevant natural person attributes

Attribute	Source
Family name	Population register (mandatory)
First name	Population register (mandatory)
Date of birth	Population register (mandatory)
Person identifier <sup>14</sup>	Population register (mandatory)
Birth (first) name	Population register (optional)
Birth (family) name	Population register (optional)
Place of birth	Population register (optional)
Current address	Population register (optional)
Gender	Population register (optional)

These attributes are sufficient for all data consumers of the pilot Doing Business Abroad. It is expected that at the time of running the pilots all participating Member States can provide the natural person evidence via eIDAS in at least an acceptance environment. Piloting to production might be restricted to Member States that have a notified eID. In some of the pilot scenarios, record matching may be needed to relate an eIDAS person identifier to a national identifier.

## 3.2.4.3 Evidence of power of representation

The user logically should not get access via the system to evidence of a company he is not allowed to represent. For this purpose, powers validation is required. The evidence of the power of representation can be provided in several scenarios, see 'Annex III Powers validation mechanism'. When validating the powers in the data providing Member State, the data consumer needs confirmation of the validity of the powers to represent. This confirmation gives the data consumer the justification to retrieve the company data directly from the data provider. The powers validation needs

<sup>14</sup> eIDAS provides the unique identifier of the person. Some Member States provide more than one unique identifier for a single person (depending on the eID means used) and not all Member States provide a fully persistent unique identifier.

to be done in the specific context of the service requested. The evidence will simply state a 'Yes' or 'No' as result of the powers validation.

Table 14 :UC#1 Identified relevant power of representation attributes

Attribute	Source
Identity of company	Mandate management system / business register
Identity of natural person	Mandate management system / business register
Validation scope	Mandate management system / business register
Validation result ('Yes' or 'No')	Mandate management system / business register
Validation time and date	Mandate management system / business register

### 3.2.5 Structured Procedure Description (User Journey Map)

This section specifies the generic preconditions, logical steps in the process flow, post conditions and requirements. This section specifies the To Be situation. The current process flow As Is, is characterised by:

1. paper based procedures for providing evidences
2. manual assessment of evidences by public servants
3. lack of eIDAS compliance
4. lack of proper powers validation

Implementing the once only principle in UC1 will lead to a substantial benefit to the company involved (for not having to provide information on paper), the data consumer (for higher quality of data and less manual work) and the data provider (maximum re-use of company data stored in the business register).

Please note that this section assumes that the powers of the representative have been registered in the data providing Member State. This holds for most of the pilots. In the Belgium case, however, the powers will be registered in the data consuming Member State. The processes described allow for this scenario, but do not elaborate on it due to the Belgium pilot specific character.

Furthermore, the role of BRIS in data exchange between data provider and data consumer has to be evaluated together with DE4A architecture and common components work packages. Please refer to 'Annex V BRIS overview and preliminary analysis' for more information on BRIS. The processes in this section have been described as technology/component neutral as possible.

#### Preconditions

There are some preconditions for enabling a user to get access to the requested service.

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Table 15 : UC#1 preconditions

NR	Condition	Comment
1	<p>The user has a (notified) national eID with a minimum level of assurance “substantial”.</p> <p>Exceptions that require level high:</p> <ul style="list-style-type: none"> <li>- None known at this point in time.</li> </ul>	<p>This is a major pre-condition for piloting in real production environments. Not all Member States have a notified eID at this point in time. As an alternative the eIDAS “non-notified”-classification can be used, but (1) this has not been implemented in the eIDAS reference software yet and (2) all participating Member States have to implement this future version of the reference software to their production environment.</p>
2	<p>The data of the company the person represents has been registered in the national business register (authentic source).</p>	<p>Otherwise the data provider will not be able to provide the evidence requested.</p>
3	<p>The natural person should be registered in the national Population register.</p>	<p>Otherwise the Population register will not be able to provide the data requested.</p>
4	<p>The natural person should have the powers to represent the company.</p>	<p>Otherwise the user will be denied access.</p> <p>Some pilots prefer “full powers” to represent the company. This suffices for most cases and will decrease piloting complexity.</p> <p>Furthermore, note that when registering a new company, the owner of the company automatically will be the legal representative having full powers.</p> <p>There is a strong preference not to create a new EU-wide role based access system.</p>
5	<p>The user’s eIDAS person identifier has been matched to the unique ID in the population register in the data consuming Member State or the unique ID of the natural person in the business/company register of the data consuming Member State</p>	<p>Some Member States require “record matching” for piloting. In other data consuming Member States the user does not have to be a registered user; identification of the company and confirmation of the powers to represent may be sufficient to register the company / fulfil the eService.</p>

### Descriptive list of steps

The figure on the next page shows the generic steps of this use case.

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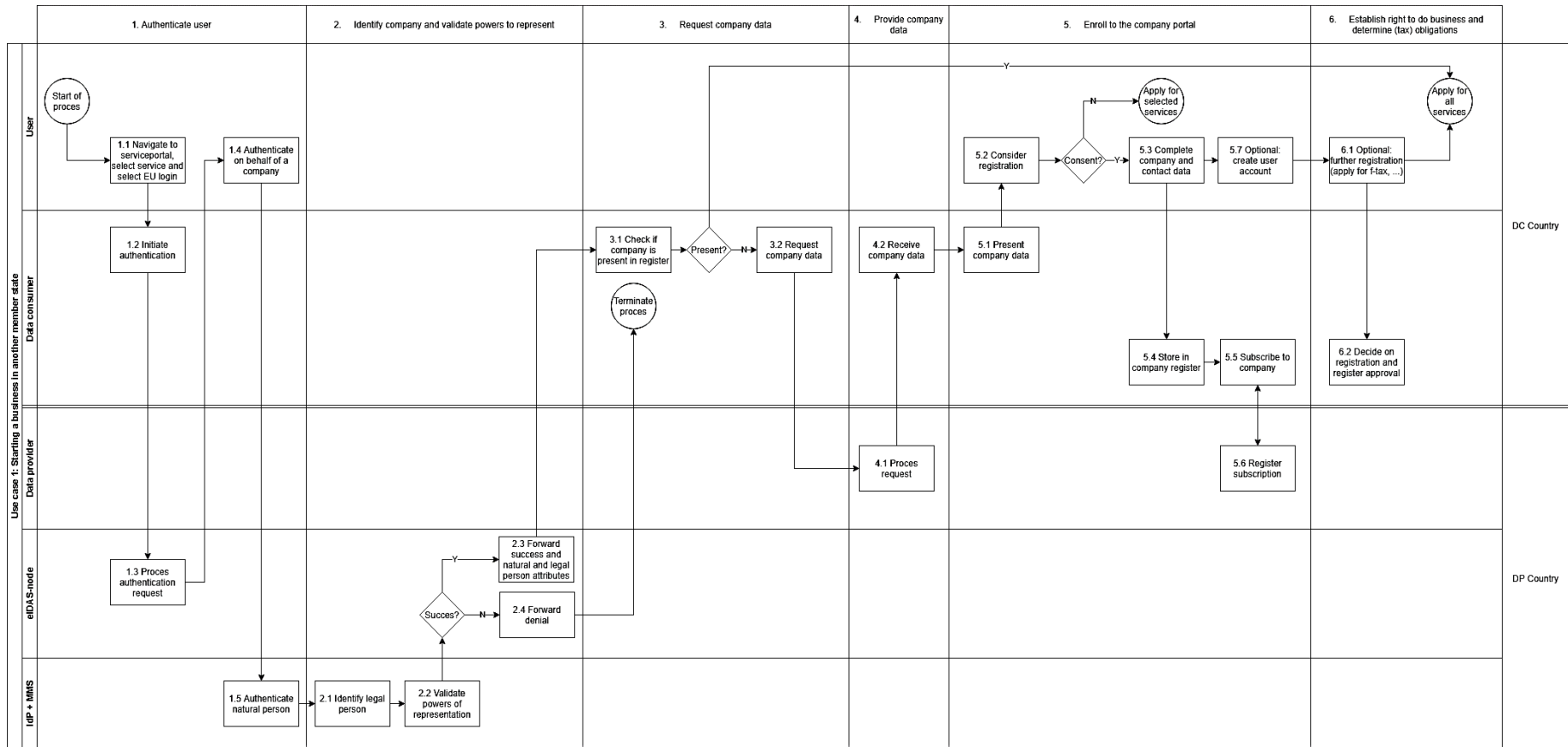


Figure 4 process: UC1 generic process steps

### **Process 1: Authenticate user**

This process results in confirmation of the identity of the user at the required level of assurance. This process relies on the eIDAS network as well as the Identity Providers (IdP) and Mandate management Systems (MMS) that operate at the Member States. This process will be executed in the following steps:

- 1.1 The user navigates to the portal of the data consumer (e.g. USP.gv.at or Verksamst.se) to start enrolling the business and selects login with a notified eID from another Member State (EU login).
- 1.2 The data consumer initiates a cross-border authentication by composing an authenticating request to the national eIDAS node. The national eIDAS node forwards this request to the (proxy service of the) Member State of the user.
- 1.3 The eIDAS node of the user's Member State receives the authentication requests, presents the user the available eID schemes (if more than one) and forwards the request to the scheme selected.
- 1.4 The user identifies himself/herself by entering the credentials at the Identity provider (IdP).
- 1.5 The Identity provider validates the credentials entered (=authenticates the natural person).

### **Process 2: identify company and validate powers to represent**

This process results in the identification of the company to represent and confirmation of the powers the user (representative) has to represent the company on this portal. This process will be executed in the following steps:

- 2.1 The person identifies the company to represent. This can be done in several ways, like entering the national company number, selecting the company to represent from a list of companies the person has powers for or identifying a specific mandate to use.
- 2.2 The mandate management system confirms the user has the (valid) powers to represent the company.
- 2.3 In case of successfully authenticating the natural person and validating powers, an authentication response will be constructed and forwarded to the data consumer. The authentication response contains attributes of the natural person, the legal person and the powers validated (basically a "powers validated successfully").
- 2.4 In case the user has no or insufficient powers to represent the company, a denial will be forwarded to the data consumer. The data consumer will inform the user and present the option to restart the authentication flow from the beginning. The user may decide to terminate the process at any time.

### **Process 3: request company data**

This process results in a company data request to the data provider. It will be executed in the following steps:

- 3.1 The data consumer checks whether the company has been registered in the register of the company portal already. In case of a user enrolling the company, there will not yet be a record of the company involved. The crucial part in this step is the availability of a useful company identifier. The company identifier provided by the data provider (via eIDAS) should be persistent and unique for the company involved.

If the company has been enrolled before, the enrolment process will be skipped. The data consumer will present the user the option to apply for the services the portal offers to companies.

- 3.2 In case the company has not enrolled before, the data consumer will construct a data retrieval request for the data provider and send it – via the OOP technical system – to the data provider<sup>15</sup>. This requires the user to do an explicit request (as defined by SDGR) upfront. This step may include

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<sup>15</sup> Please refer to section 3.1.5 for motivation on the use of this interaction pattern.

discovery of the data provider that is able to answer the request as well as semantically transforming the request into the concepts understood by the data provider.

#### Process 4: provide company data

This process results in the company data being available to the data consumer. It consists of the following steps:

4.1 The data provider receives the data request, validates the request and retrieves the company information from the source. In the Doing Business Abroad pilot the data source will be the authentic business register of the data providing Member State. Again, in this step the availability of a useful company identifier is crucial. The company identifier that the data consumer received from the powers validation process should be used to retrieve data. The data provider Member State must make sure that the powers validation process provides the company identifier that the national data provider(s) recognise in their data records as well. In the Doing Business Abroad pilot the data provider has no user interaction. A possibility is for the data consumer to show the user a preview of the company data fetched (see process 5). The user may choose to stop registration at all times.

The OOP technical system should take care of semantically transforming the data response into the attributes and domain values the data consumer accepts (to be further discussed with architecture and semantic work packages in the context of design of pilot start architectures).

4.2 The data consumer validates the company data.

#### Process 5: enrolment to the company portal

With execution of step 3 and 4 the data consumer has the opportunity to fully implement the once only principle in its enrolment process. This process results in the registration of the company in the register of the portal (considering also the three cross-border scenarios of section 3.1.3). This process will be executed in the following steps:

- 5.1 The data consumer shows the user the company data that will be stored in the portal register (preview)<sup>16</sup>.
- 5.2 At any point in the process, the user has the option to abort registration. In case the user aborts, the data consumer will delete all company, person and powers data received from the data providing Member State. In case the user does not agree to the registration of the company, the data consumer may present the user with the option to apply for selected services (that do not require registration). Availability of such services is dependent on the data consumer involved.
- 5.3 After the user has accepted registration, the data consumer may request the user to provide additional company and contact information. This information will be requested in case the data provider is not able to provide all the information (and a user input is accepted by the data consumer), in case the information is specific to this company portal (e.g. the company's contact person for the services provided by the data consumer) or in case the user has rejected the preview.
- 5.4 As soon as the additional data has been provided (or no additional data has been requested from the user), the data consumer stores the data in the portal register.

<sup>16</sup> To comply with SDGR it will probably be one of the components in the data consuming Member State that shows the preview instead of the data consumer itself (although this also has drawbacks). For simplicity of this process, all components belonging to the Member State of the data consumer are simply referred to as "data consumer".

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- 5.5 Subsequently it subscribes to updates on the company data at the data provider. Please note that *if* the company's representative needs to do an explicit request (SDGR) to this subscription (as there is no user interaction at the time of notification and updating), then there should be a mechanism in place for the representative to retract the explicit request at any time. Please refer to section 3.1.6 for more detailed discussion on explicit request and preview.
- 5.6 The data provider registers the subscription in order to send notifications when a change in the company data occurs. The notification and updating processes that result from a subscription are covered in UC2.
- 5.7 As an optional step the data consumer can provide the user with the option to create an account. This depends on the data consumer involved.

### Process 6: establish right to do business and determine (tax) obligations

In some cases, registration to the portal is just a starting point for assessing whether the company may do business in the data consuming Member State. This process then results in a decision of the data consumer to allow the company to do business. Additionally, in the Verksam.se pilot, the Swedish tax office requests additional data from the company to assess its tax obligations (step 6.1). The user needs to fill in one or more digital forms. In this case, this process results in a decision on the taxes the company has (or has not) to pay in the data consuming Member State (step 6.2).

### Postconditions

Table 16 : UC#1 postconditions

NR	Condition	Comment
1	The user has been informed of successful enrolment to the company portal.	Once additional services are combined with the registration process, the user has been informed of the result of the service assessment or has been informed of the next steps in the process.

### Use case limitations

The UC1 pilots will be limited on some aspects.

Table 17 : UC#1 limitations

NR	Description	Comment
1	Digital signing of applications and documents is out of scope.	Digital signing requires (re-)authentication as well as validation of powers to sign documents / applications on behalf of the enterprise. This step will not be part of the pilots.
2	The pilot scenarios support a two-member-state pattern only.	The data provider(s) and user reside in Member State A and the data consumer in Member State B. A pattern in which e.g. an Austrian (A) user requests a Swedish service (B) on behalf of a Belgian company (C) will not supported.

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## Requirements

This section defines the use case's requirements. These requirements will be refined and extended in next steps of the pilots' lifecycle in collaboration with the DE4A work packages of architecture, semantics and common components design and development.

Table 18 : UC#1 Functional requirements

NR	Requirement	Comment	MoSCoW
DBA01-MFLE-01	Support for authentication on behalf of a company and validating the user's powers.	Currently, eIDAS implementations focus mainly on authenticating the natural person. For UC1 this has to be extended to: <ul style="list-style-type: none"> <li>- Identifying the company represented</li> <li>- Validating the powers the representative has to apply for the specific service on behalf of the company</li> </ul> 'Annex III Powers validation mechanism' sketches several alternative mechanisms.	M
DBA01-MFLE-02	Support for use of non-notified eID's in a production pilot.	Currently eIDAS software does not support use of non-notified eID's <sup>17</sup> . This will limit the possibility to pilot to notified Member States only. Allowing non-notified eID's will result in acceptance of non-notified authentications at all public service providers in the data consuming Member State. In eIDAS a Member State's eID is available to all or to none.  EU DIGIT scheduled a release of the eIDAS node reference software supporting non-notified eID's in the 2 <sup>nd</sup> half of 2020. Impact and practicality of this release within the scope of the Doing Business Abroad pilots has to be analysed.	M
DBA01-MFLE-03	Support for synchronous data retrieval	The Doing Business Abroad pilot needs a synchronous process for data retrieval. The process 'waits' for information to be retrieved and then processed by the data consumer. When information is not available in a synchronous manner, the process needs to be terminated and started over <sup>18</sup> .	M
DBA01-MFLE-04	Support for data discovery	In some scenarios, the data consumer processes information from any Member State. The OOP technical system should facilitate the retrieval of company data from sources unknown to the data consumer.	M

<sup>17</sup> Notified in the eIDAS regulation means that all other Member States have to accept authentication with this eID in their public services. The notified eID has undergone extensive peer reviewing by Member States and has been accepted by the European Commission. Non-notified eIDs have not. There is no legal arrangement for accepting non-notified eIDs nor have non-notified eIDs undergone peer reviewing. The eIDAS regulation is not applicable to non-notified eIDs, but the eIDAS software will allow for authenticating with non-notified eIDs in the future.

<sup>18</sup> The pilot partners prefer the synchronous process as it provides most business value when implemented successfully (no waiting times). In the next project phase, the pilot partners will evaluate this requirement. When a synchronous process cannot be implemented successfully or in time, as an alternative an asynchronous process may be implemented.

NR	Requirement	Comment	MoSCoW
DBA01-MFLE-05	Support for direct retrieval (look-up)	In some scenarios, almost all data will be retrieved from a specific source. E.g. in the MijnRVO.nl scenario, by far most of the companies will be Belgian or German. The data consumer (RVO) is familiar with the data source and the way to retrieve data. By far the most efficient way to implement the once only principle will be direct retrieval of data from the data provider by the data consumer. This pattern is often referred to as the “look-up pattern”.	M
DBA01-MFLE-06	Useful company identifier	<p>The data consumer needs to use a company identifier in its data request to the data provider. The data consumer receives this company identifier from the login process (and more precise: powers validation process). The data providing Member State should, as part of this process, provide a company identifier that the data source can use to identify the company as well. E.g. when a mandate management system sends an MMS-specific company identifier to the data consumer, the data consumer will use this identifier in the request to the business register (data provider). The business register will not be able to identify the company properly, as the identifier is local to the mandate management system (and has not been registered in the business register).</p> <p>The company identifier should be exchanged in a fixed structure. This requires WP3 (semantics work package) to select or define a structure for cross-border expression of the company identifier. See ‘Annex V BRIS overview and preliminary analysis’ for possible company identifiers / structures to use.</p>	M
DBA01-MFLE-07	Design of a subscription service or evaluation of existing service.	<p>The data consumers in the Doing Business Abroad pilot need to be notified of updates in company data. Therefore, the data consumer needs to be able to subscribe to changes at the data provider. This needs to be facilitated by the OOP technical system.</p> <p>BRIS might be suitable for this. Please see ‘Annex V BRIS overview and preliminary analysis’ for more information on BRIS.</p>	M
DBA01-MFLE-08	Retract explicit request to use OOP technical system for future data updates	<p>The company’s representative may need to express explicit request (SDGR) to a subscription on company data updates. This should be done upfront, as the representative is not part of (not ‘online in’) the notification and updating processes. Therefore, the company’s representative should be able to retract its explicit request to notifications and updates any time.</p> <p>This might not be as straight forward as it seems as it probable requires functionality for managing explicit requests.</p> <p>Note that implementation of this requirement depends on the result of requirement DBA01-LEG-03.</p>	M
	<i>This requirement is applicable only in case</i>		

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NR	Requirement	Comment	MoSCoW
	<i>explicit request to notify &amp; update is legally required. Please refer to the questions raised in section 3.1.6.</i>		
DBA01-MFLE-09	Three Member State scenario	<p>Although piloting focusses on a two Member State scenario, the piloting partners see the need for a three Member States scenario in the future: a representative from Member State A represents a company from Member State B to apply for a service in Member State C.</p> <p>Architecture and common components work packages should take this three Member State model into account when evaluating and designing OOP-components in order to guarantee a future proof OOP technical system.</p>	S

Table 19 : UC#1 Non-functional requirements

NR	Requirement	Comment	MoSCoW
DBA01-LEG-01	The legal interpretation of the SDGR's "explicit request" and "preview" must become clear in a "doing business" context.	<p>In the Doing Business Abroad pilot natural person data as well as legal person data will be exchanged. The legal person data most often will be open data, freely to use, because of the role and nature of business registers is to give certainty to society about the data of a company in a commercial relationship, among others to prevent fraud. This data will expectedly not require a user request and preview.</p> <p>Furthermore, other legal arrangements (like BRIS) allow the exchange of (some) company data without explicit request and preview. The question is whether this impacts the right to exchange company data via the OOP technical system.</p> <p>Finally, the explicit request and preview requirements will be hard to implement in the push-model (subscribe &amp; notify). Please refer to section 3.1.6 for further discussion on these topics.</p>	M
DBA01-LEG-02	There must be a legal arrangement in place for accepting powers validated in the	eIDAS obliges Member States to accept (notified) authentications from other Member States. Such an arrangement does not exist for powers validated in another Member State.	M

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NR	Requirement	Comment	MoSCoW
	data providing Member State.		
DBA01-INT-01	Support use of existing national or specific infrastructure of data providers.	There are large differences in the way Member States have implemented mechanisms for use of authentic company data. In some of the cases, the mechanism in place has been dictated by national law. The OOP technical system should allow current national implementations <i>as is</i> to connect to the technical system.	M
DBA01-INT-02	BRIS needs to be evaluated as a component to integrate in the OOP technical system.	All business registers are connected to BRIS. BRIS provides for the standard and technical system to exchange company data. It is likely that BRIS will be one of the OOP components. The use of BRIS for the Doing Business Abroad pilot needs to be analysed in the architecture and common components work packages.  See 'Annex V BRIS overview and preliminary analysis' for more information and questions on BRIS.	M
DBA01-INT-03	Evidences need to be exchanged and processed with a high level of security.	This requires end-to-end encrypting of the data to exchange. Only the data provider (as sending entity) and the data consumer (as receiving entity) should be able to decrypt the evidence and 'read' the attribute values.  See SDGR art. 14.3 (h): ensure a high level of security for the transmission and processing of evidence.	M
DBA01-INT-04	Use of building blocks	The Doing Business Abroad pilot expects the OOP technical system to be composed of several re-usable building blocks that provide: <ul style="list-style-type: none"> <li>- Compliance, e.g. to national regulations and architectures and to European law.</li> <li>- Transparency, e.g. in technical processes, by logging, monitoring, data usage.</li> <li>- Stability, e.g. when national pilot partners may have SLA's.</li> <li>- Robustness, e.g. when it comes to critical technical processes or technical stability and resilience</li> <li>- Operability and Maintainability, e.g. operability is important for the technical partners</li> <li>- Interoperability</li> <li>- Privacy</li> </ul>	M

### 3.3 Use Case 2 "Doing business in another Member State (UC#2)"

This use case deals with applying for specific services or fulfilling corporate tax duties in the Member State the company is operating in. At the core of this use case is retrieving and updating company data by the service provider. An example of the corresponding user journey is the termination / striking off

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of the mother company having an Austrian branch in Sweden; this notification triggers the Swedish tax agency to re-assess and probably terminate service delivery and the F-tax approval.

The first use case (UC1) precedes this second use case (UC2). First the company has to enrol to the Member State it starts its economic activities. Then it can do business.

While the whole use case is analysed it should be noted that refined analysis and design decisions considering organisational and legal constraints may result in scope adjustments for actual piloting.

### 3.3.1 Main processes

The main processes of this use case are:

#### 1. Notify and update company data

In this process the data provider notifies the data consumer in case the data of the company (to which the data consumer has a subscription) has been changed. The notification consists of the identification of the company involved as well as the type of change (business event). When relevant to the data consumer, the data consumer will request the updated data, update local records and assess impact on services provided earlier (e.g. a permission to do business in the Member State may be retracted).

#### 2. Unsubscribe

Once the data consumer has no longer interest in receiving notifications (e.g. because the service fulfilment process has ended), the data consumer should unsubscribe to notifications. This process takes care of unsubscribing.

### 3.3.2 Actors Identification (DPs, DCs, end users) and Partners Involved

Not all pilot scenarios implement use case 2. The table below shows which of the scenarios do.

Table 20 : UC#2 pilot scenarios overview

Pilot scenario #	Pilot scenario short name	Data evaluator(s)	Processes in scope	Data providers						
				Business registers					Population registers <sup>19</sup>	Mandate management systems <sup>20</sup>
				CBE (BE)	BVE (SE)	BMDW (AT)	ONRC (RO)	KVK (NL)		
DBA1	USP.gv.at	BMDW (AT)	1,2							
DBA2	MyEnterprise.be	FPS ECO (BE)								
DBA3	Biztax	FPS FIN (BE)								
DBA4	MijnRVO.nl	RVO (NL)	1,2	x	x	x	x			
DBA5	Verksamt.se (PSC)	SKV, BVE (SE)	1,2	x		x	x			
DBA6	eService Layer at portal.onrc.ro (ONRC)	ONRC (RO)	1,2	x	x	x				

<sup>19</sup> Information on citizens will be retrieved via the national eIDAS nodes.

<sup>20</sup> See the annexes 2 and 3 for more information on powers validation and validation mechanisms.

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MijnRVO.nl would like to receive notifications on business events as this might have impact on service fulfilment. MijnRVO.nl hosts several services that have a multi-year impact, like recurring grants and time-restricted permissions. Any relevant change in company data has to be assessed. Verksamst.se also would like to receive notifications on business events.

### 3.3.3 Overview of Relevant Existing infrastructure

See section 3.2.3.

### 3.3.4 Required and Available Data for evidence exchange

The notification should not be too rich on information. It must identify the company involved and the type of change (business event).

Table 21 : UC#2 Identified relevant notification attributes

Name of attribute	Description	Mandatory / Optional
Company code	The unique official company identifier	M
Company name	The official current company name as stored in the business register	O
Business event	The nature of the change in the data of the company See for possible categories of business events.	M
Date of business event registration	The date on which the business event has come to effect	M

All attributes can be provided by all DP countries and will be provided in a structured way (xml).

### 3.3.5 Structured Procedure Description (User Journey Map)

This section specifies the generic preconditions, logical steps in the process flow, post conditions and requirements. The focus of this section is on the pilot scenarios to design, implement, run and evaluate (the SOLL situation). The current process flow (IST) is characterised by lack of a mechanism for updating portal registries in case company data has changed. For business registers (authentic sources) there will expectedly be a BRIS notification mechanism in place in the future. At this point in time, this mechanism is in place only for a company's branches. That mechanism will not support non-authentic registers though (the company portals in most of the Doing Business Abroad pilot are non-authentic / service provider specific). In the current situation (IST) the company itself is obliged to provide updates. The company has to notify the data consumer of changes in company data or relevant business events. This process is mostly manual and paper based. In the Doing Business Abroad pilot this mechanism will be replaced by a fully digital 'once only' mechanism.

Note that the service fulfilment processes in use case 2 have a much wider range than 'notification & updating'-only. MijnRVO.nl might lower the grants that the company receives for operating in the Netherlands or propose additional services that have become relevant in case of a company merger. Verksamst.se furthermore requires information on the tax position of the cross-border company to decide upon tax declarations. These processes are to a large extent 'sector specific'. Data exchange on

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e.g. agricultural activities or taxes due are for RVO out of scope of the pilot. In the future, the OOP technical system might be used for these sector specific data as well.

Implementing the once only principle in UC2 will lead to the same benefits to companies, data consumers and data providers as UC1: there will be a substantial benefit to the company involved (for not having to provide information on paper), the data consumer (for higher quality of data and less manual work) and the data provider (maximum re-use of company data stored in the business register).

Furthermore, the role of BRIS in data exchange between data provider and data consumer has to be evaluated by in conjunction with architecture and common components work packages. Please refer to 'Annex V BRIS overview and preliminary analysis' for more information on BRIS. The processes in this section have been described as technology/component neutral as possible.

### Preconditions

There are some preconditions for enabling a user to get access to the requested service.

Table 22 : UC#2 preconditions

NR	Condition	Comment
1	The data consumer has an active subscription on notifications for the selected company.	The data provider should know which data consumers to notify in case company information changes. The subscription process has been specified as part of UC1.

### Descriptive list of steps

#### Process 1: Notify and update company data

The steps of this process are depicted below.

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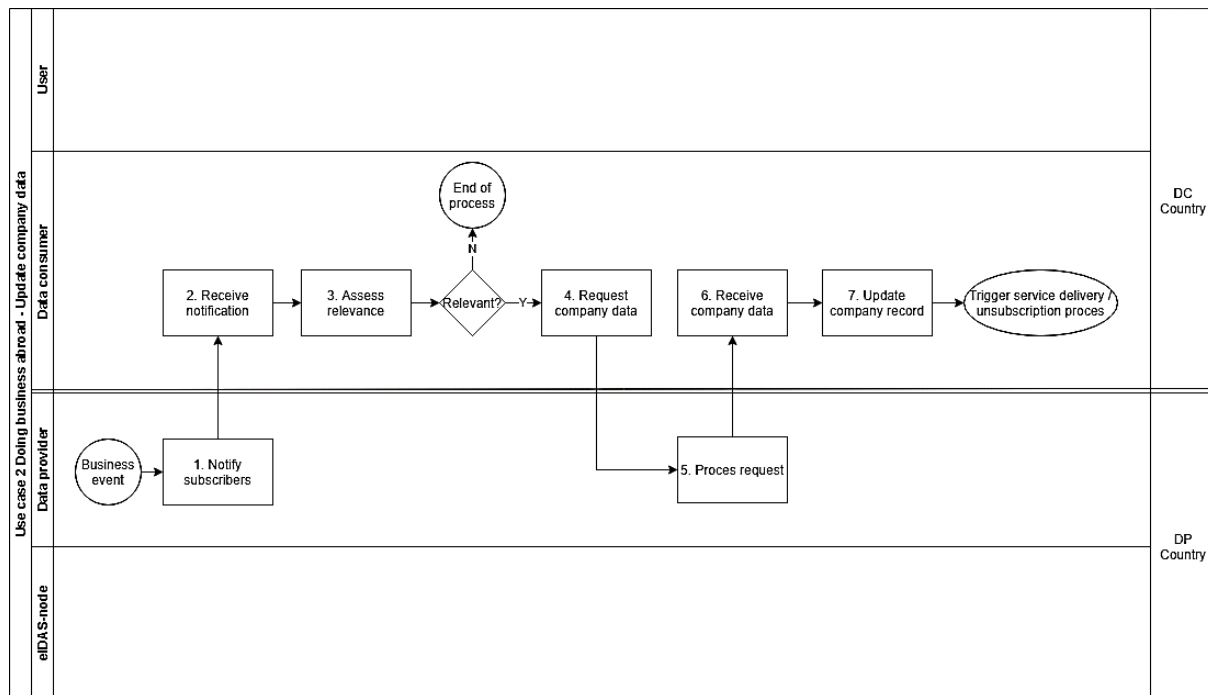


Figure 5 process: notify and update company data

This process results in an updated company record at the data consumer. This process will be executed in the following steps:

The data provider registers a change in company data as a result of a business event, like a company merger, change of activity, change of legal form, bankruptcy, etc. This triggers the process of notifying and updating the company data.

1. The data provider notifies all data consumers that have a subscription on the company concerned. The notification specifies the company concerned as well as the type of data change / business event.
2. The data consumer receives the notification.
3. Not all data changes and business events will be of importance to the data consumer. The step “assess relevance” will expectedly be an automated process filtering incoming notifications. This step may be initiated directly following the reception of a notification. It may also be implemented as a periodically started step, e.g. daily or weekly assessment of all notifications. In case the notification is not relevant to the data consumer, it discards the notifications and the process ends.
- 4-7. The data consumer will request the updated company data as soon as it deems the notification relevant. The steps “request company data” (4), “process request” (5), “receive company data” (6) and “update company record” (7) are identical to the processes of the first use case in which initial company data will be requested. For details on those steps, please see section 3.2.5. Once the updated company data is available to the data consumer, it needs to assess the impact of the business event / data update. Service fulfilment may be stopped, altered, or in any other way be impacted. In some cases, the update may also trigger the unsubscription process (e.g. when the company stopped operating).

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### Process 2: Unsubscribe

The steps of this process are depicted below.

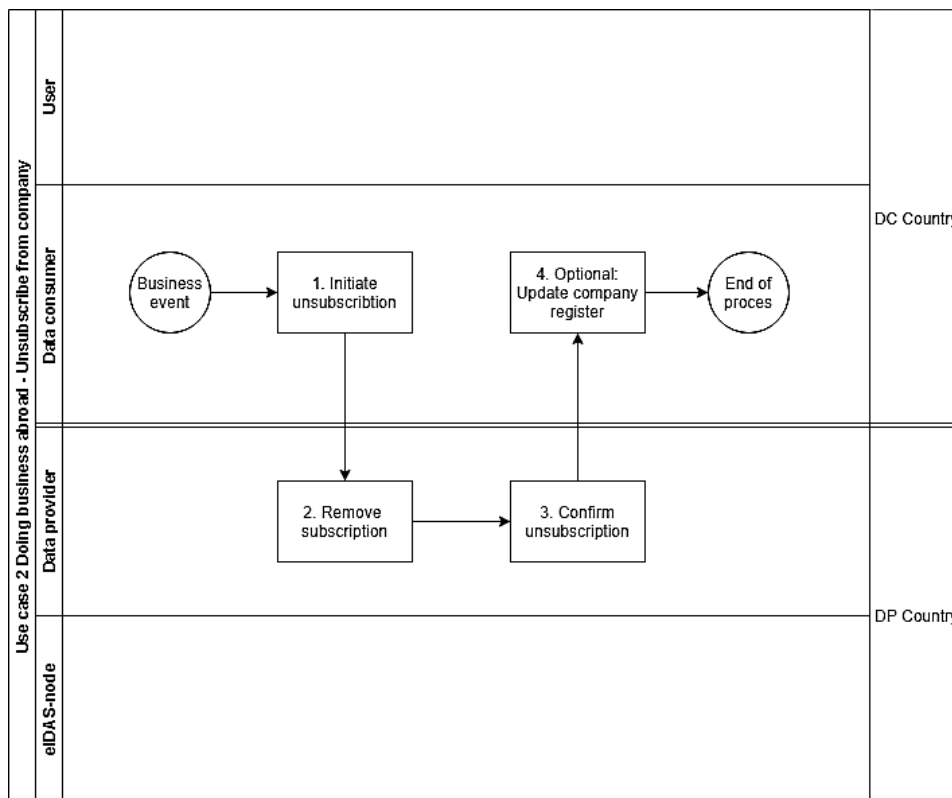


Figure 6 process: unsubscribe

This process results in the cancelling of a subscription. After unsubscribing the data consumer does not receive any notifications for the selected company anymore. This process will be executed in the following steps:

1. The data consumer initiates the unsubscription after a specific business event has taken place (see first process of this use case). E.g. once the company stopped being active or when the company is not doing business with the data consumer anymore.
2. The data provider receives the unsubscription request and removes the subscription.
3. After successful removal, the data provider confirms the unsubscription to the data consumer.
4. Optionally the data consumer may update its company register. Possibly it needs to remove the company record completely from its database.

### Postconditions

Table 23 : UC#2 postconditions

NR	Condition	Comment
1	The data consumer no longer receives notifications.	

## Use case limitations

The UC2 will be limited on some aspects.

Table 24 : UC#2 limitations

NR	Description	Comment
1	A limited list of business events will be piloted, e.g. change in legal form, change in company status, change in contact info.	Potentially, the list of business events to notify may grow very large. This would require extensive efforts to harmonise the type of business events. This effort is out of scope of the Doing Business Abroad pilot. See 'Barriers and challenges relevant to the pilot' for more information on business events.
2	The pilot will demonstrate the impact of business events on their services as much as possible. Running processes may be cancelled, altered, etc.	E.g. a company merger may alter the tax obligations of the companies involved. The notification process initiates reassessment of the tax obligations in the consuming Member State. The retrieval of additional sector specific data is out of scope of the pilot.

## Requirements

Table 25 : UC#2 Functional requirements

NR	Requirement	Comment	MoSCoW
DBA02-MFLE-01	The data provider should be able to send 'fire-and-forget'-style notifications.	The processes of the data provider may not depend on availability and response times of all the data consumers it has to inform. Possibly a central notification queue needs to be implemented in the OOP technical system.	M
DBA02-MFLE-02	The OOP technical system should facilitate instant delivery of notifications.	Some of the business events may require action of the data consumer without delay. The data consumer requires to receive notification instantly.	S
DBA02-MFLE-03	The OOP technical system should facilitate delayed/batch delivery of notifications.	Some of the business events may not require any swift response from the data consumer. For the consumer it is more efficient to process notifications once a while, like once a day or week. The OOP technical system should facilitate this.	S

Table 26 : UC#2 Non-functional requirements

NR	Requirement	Comment	MoSCoW
DBA02-LEG-01	Legal clarity needed on the preview requirement (SDGR).	The SDGR gives the user the opportunity to preview data (evidence) before it will be transferred to the data consumer. At the moment of updating the company data, there is	M

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NR	Requirement	Comment	MoSCoW
		<p>no user online to accept or reject the preview. The question is:</p> <ul style="list-style-type: none"> <li>- in which cases no preview is required by SDGR;</li> <li>- under which conditions the updating mechanism may be implemented;</li> <li>- what adaptations to the SDGR are needed to fully implement the updating mechanism.</li> </ul> <p><i>Please refer to the questions raised in section 3.1.6.</i></p>	
DBA02-INT-01	<p>Some Member States already operate a national notification mechanism. The OOP technical system should allow national solutions in place to be connected to the technical system as much as possible without impact on national mechanisms.</p>	<p>These Member States nationally rely heavily on the notification mechanism in place. These mechanisms probably will (and should) not be altered to allow for cross-border notification.</p>	M
DBA02-INT-02	<p>BRIS needs to be evaluated as a component to integrate in the OOP technical system.</p>	<p>All business registers are connected to BRIS. BRIS provides for the standard and technical system to exchange company data. It is likely that BRIS will be one of the OOP components. The use of BRIS for the Doing Business Abroad pilot needs to be analysed in in conjunction with the architecture and components work packages.</p> <p>See 'Annex V BRIS overview and preliminary analysis' for more information and questions on BRIS.</p>	M

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Other non-functional aspects for the pilot:

O = Organisational complexity

T = Technical complexity

Table 27 : UC#1 Other non-functional aspects

NR	Description	O	T	Implementation
DBA01-PRI-01	<p>Privacy:</p> <p>This aspect is about a "privacy by design" approach for the data management in the system and the pilot. The recommendations and obligations for that NFR have to be defined in WP7 and has to comprise the whole processes (organisational and technical).</p>	high	high	<p>Definition of privacy requirements</p> <p>Implementation in pilot</p>
DBA01-COM-01	<p>Compliance:</p> <p>This aspect addresses mechanisms to meet standards and (legal) rules within all phases of the pilot development and execution (specification, implementation, test, execution and evaluation)</p>	high	low	<p>Definition of legal requirements</p> <p>Definition of standards (and good practices)</p> <p>Implementation in pilot (alongside the live cycle)</p>
DBA01-INT-06	<p>Interoperability:</p> <p>This aspect considers the overall capability of technical processes to work seamlessly together; within the different system components of all systems involved. This addresses mainly the semantic data view and the interface definitions, which strictly have to follow open standards.</p>	low	high	<p>Definition of interoperability frameworks and standards</p> <p>Definition of a process model</p> <p>Implementation in pilot</p>

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NR	Description	O	T	Implementation
DBA01-TRA-01	<p><b>Transparency:</b></p> <p>This aspect addresses all means of making the business processes visible and understandable to the actors involved, especially the organisations and persons involved in effect with their data.</p>	high	high	<p>Definition of data and information areas concerned</p> <p>Definition of transparency processes</p> <p>Deriving of transparency functionalities from the transparency processes</p> <p>Implementation in pilot</p>
DBA01-STB-01	<p><b>Stability:</b></p> <p>This aspect is in regards to specific requirements which derive from both actor areas, the central and the local implementations, possibly as an overarching NFR. This NFR are about SLAs and possibly other service delivery rules, recommendations and practices. It maybe requires additional technical functionalities, such as measuring functionalities and reporting.</p>	middle	high	<p>Evaluation of existing rules and practices</p> <p>Definition of methods of measurements</p> <p>Recommendations to the pilot or provision of functionalities</p> <p>Implementation in pilot</p>
DBA01-ROB-01	<p><b>Robustness:</b></p> <p>This aspect reaches beyond DBA01-STB-01 but is to be considered/realised following the same method. While DBA01-STB-01 addresses the quality of performance within main business processes, this NFR addresses mainly the behaviour of the system (or system compound) at bordering system situations or even beyond the main business processes (peaks, attacks, other particular situations). This NFR addresses critical system processes.</p>	low	high	<p>Evaluation of existing practices</p> <p>Definition of a catalogue of possible situations and /or processes that could cause robustness incidences</p> <p>Definition of methods of measurements</p> <p>Recommendations to the pilot or provision of functionalities</p> <p>Implementation in pilot</p>

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NR	Description	O	T	Implementation
DBA01-OPE-01	<p><b>Operability:</b></p> <p>This aspect addresses the capability and the technical ability to operate the systems, which are developed and provided from the project. This comprises both technical and organisational requirements, whereas the organisational dependencies (handover processes, support, debugging, provision of test reports) are specifically important.</p>	high	middle	<p>Definition of a catalogue of possible technical and/or organisational requirements</p> <p>Definition of methods of measurements</p> <p>Recommendations to the pilot or provision of functionalities</p> <p>Implementation in pilot</p>
DBA01-MAI-01	<p><b>Maintainability:</b></p> <p>This aspect reaches beyond DBA01-OPE-01 in so far that it reflects mainly on the processes of upkeeping the proper working alongside the product cycle (incl. release management, quality assurance of software).</p>	high	low	<p>Definition of a catalogue of possible technical and/or organisational requirements</p> <p>Definition of methods of measurements</p> <p>Recommendations to the pilot or provision of functionalities</p> <p>Implementation in pilot</p>
DBA01-POR-01	<p><b>Portability:</b></p> <p>This aspect reflects on the ability of the systems to exchange operating systems (generally, versions). It regards not only on the portability of the system as such, but has also be considered in the specification and implementation of the system to support possible porting processes (e.g. architecture and development principles).</p>	middle	middle	<p>Definition of a catalogue of possible technical and/or organisational requirements</p> <p>Recommendations to the technical architecture</p> <p>Principles are manifest in implementation (system)</p> <p>Implementation in pilot</p>

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## 4 Barriers and challenges relevant to the pilot

There are some barriers to overcome for successful piloting Doing Business Abroad.

*The most important barrier will be the “explicit request and preview” obligation for use case 2 (see nr. 7). The SDGR requirements might seriously limit the possibility to implement use case 2.*

Table 28 : Barriers and challenges relevant to the pilot

Nr.	Barrier type	Name of gap	Brief description of the gap
1	User involvement	Insufficient real company participation.	The first use case focusses on starting a business in another Member State. On a European scale, this happens quite often. It might be difficult though, to find companies that are on the verge of expanding to one of the piloting Member States. Lack of real companies participating is a threat to the pilot’s success but mitigation of this risk will be addressed from early planning stages.
2	Political	Focus on BRIS	Extracting company data from authentic sources (business registers) often triggers discussion on use of BRIS. This may lead to time-consuming discussions that distract from achieving pilot value. Please note that the pilot is oriented mainly on registration on company portal registries, like MijnRVO.nl, Verksam.se, USP.gv.at. Although these portals are closely linked to the authentic business registers (that operate BRIS), these are not the authentic sources of company data themselves. The focus of these portals is more on starting and doing business than on opening a new company or branch.
3	Political	Low participation due to national priorities and current crisis.	The DE4A project will involve all pilot partners in the upcoming phases to ensure an agile approach and active partner involvement, including in phases that do not require pilot partners to actively work on deliverables.
4	Political	eID notification status	The Doing Business Abroad pilot can move to production with Member States that notified their eID only. Not all partners have notified so far. This might limit the possibility to pilot on production with all partners.  An upcoming eIDAS node release, supporting the usage of non-notified eID’s might solve this issue to a certain extent. Further research is needed though.
5	Technical	Impact on eIDAS implementation	Successful piloting might require an eIDAS extension for powers attributes. Not all partners may be willing to deviate from using their eIDAS reference software in production. Alternatives will be considered, see ‘Annex IV Business events’.
6	Semantical	Powers validation mechanism required	A mechanism to validate powers cross-border is a pre-condition to successful piloting. This mechanism is not in place yet and is semantically challenging. This topic will be addressed in the DE4A architecture.

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Nr.	Barrier type	Name of gap	Brief description of the gap
7	Legal	Little legal room for fully implementing the subscribe & notify mechanism of use case 2.	<p>SDGR requires a user to do an explicit request for evidence exchange. It is not fully clear whether this may be done for future updates upfront. Furthermore, it is not fully clear how in the case of 'upfront explicit request' the user should be able to manage his requests afterwards. Furthermore, the preview obligation will be very hard to implement in the update mechanism as the user is not inline to accept or reject the preview. This might seriously limit the ability to implement use case 2 but grounds for exceptions will be assessed.</p> <p>See the requirements formulated on "explicit request and preview" for both use cases as well as section 3.1.6 for a more detailed discussion on this topic.</p>
8	Legal	Fees for retrieving company data	<p>Some business registers charge fees for retrieving company data. Pricing models usually cater for national data consumers, not for cross-border ones. This might limit piloting with company data in the production environment.</p> <p>There should be a legal / financial arrangement for the piloting phase (and preferably beyond). For the short (pilot) term financial issues probably can be solved, for the long term an EU-wide solution is needed.</p>
9	Technical	eIDAS-node implementation status	Not all partners might have implemented the eIDAS node in time for piloting. AT, BE, SE and NL have an eIDAS node up and running.

In general, the company data requested by the data consumers is available in the business registers in a structured and machine-readable manner. So far, cross-border retrieval of company data is done via websites (user-to-website communication) and not fully automatic (system-to-system). The national mechanisms for system-to-system communication may need to be extended to foreign data consumers.

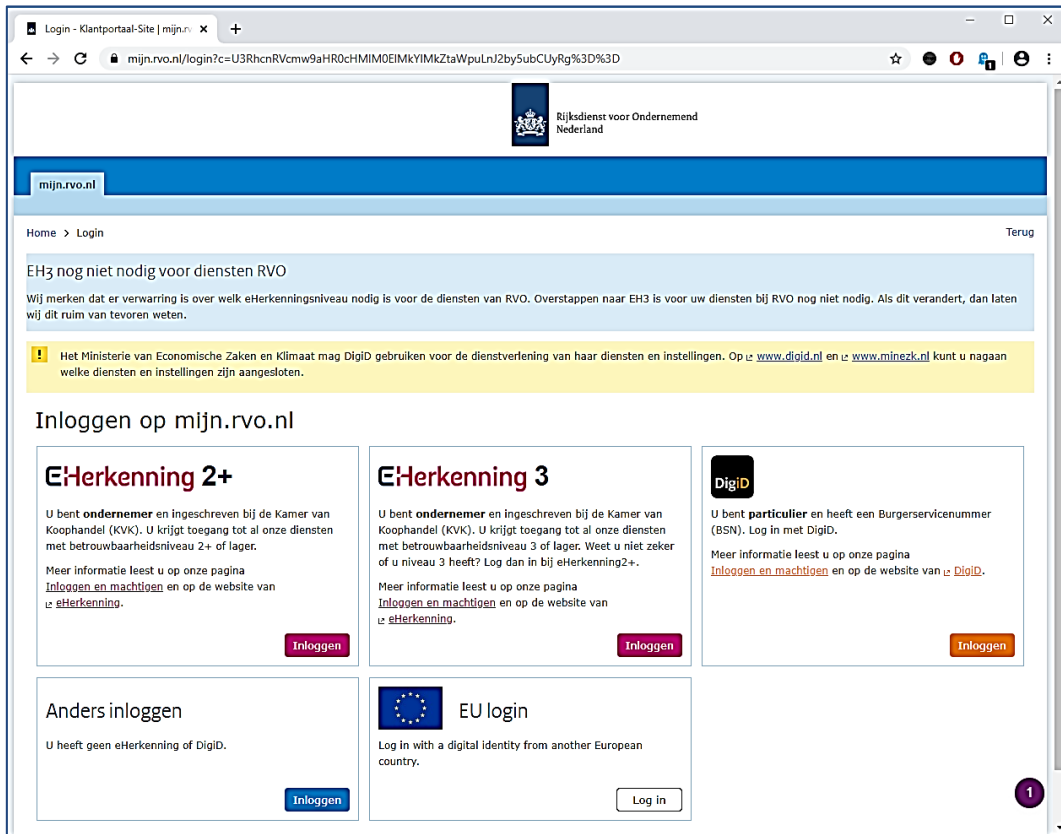
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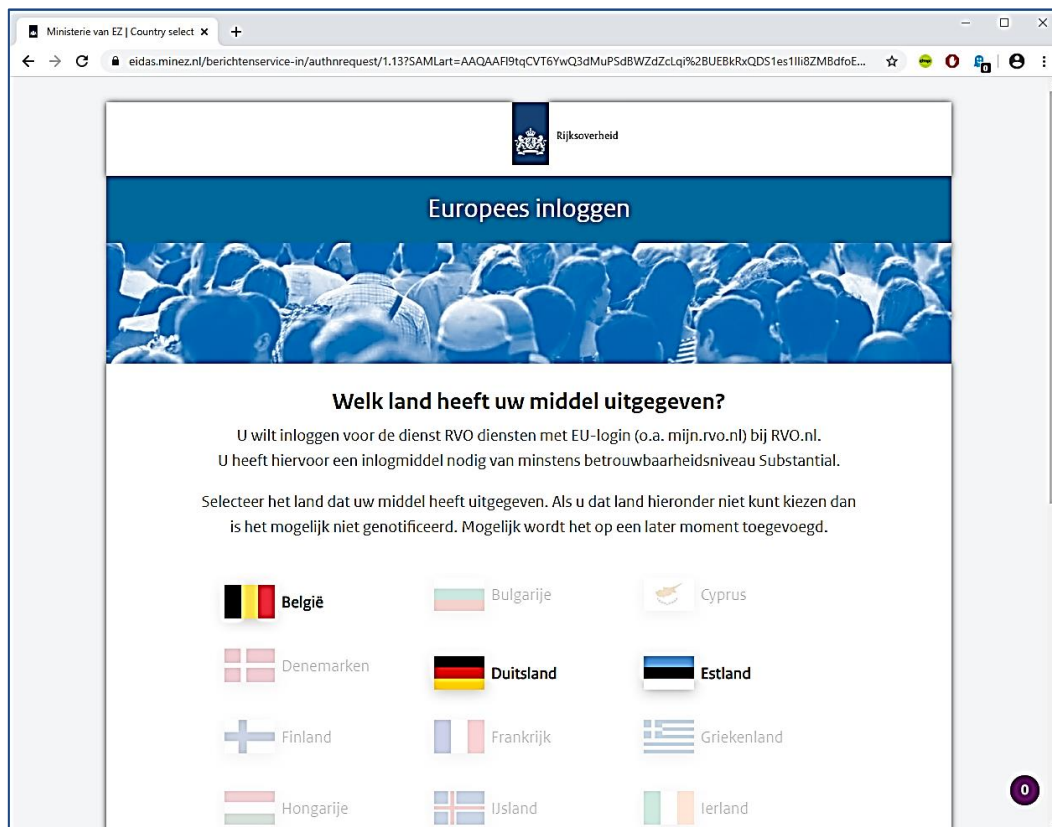
## 5 Example of an existing service

The webpages below show an example of enrolment of a company to the portal MijnRVO.nl in use case 1.

### 1. Authenticate user



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## 2. Identify company and validate powers to represent



## 3. Request company data & Provide company data

Currently implemented by filling in paper forms.

## 4. Enrol to the company portal

Enrich company data with non-authentic and service provider specific elements.

Home > Login

### Inloggen - Nieuwe registratie

Hartelijk welkom. U bent nog niet bij ons bekend. Wij hebben uw gegevens nodig, zodat u gebruik kunt gaan maken van onze diensten. De onderstaande gegevens uit het Handelsregister hebben wij gekregen:

Kvk-nummer	90006011
Naam	Leroy's bloemenhandel
Bezoekadres	Madelifjeslaan 804
Postcode	4208KZ
Plaats	Maastricht
Soort inschrijving	hoofdvestiging
Rechtsvorm	EENMANSZAAK

Als u op Registeren klikt, zullen wij u met deze gegevens registreren. U kunt vanaf dat moment gebruik maken van onze diensten. Als u onder uw persoonlijke naam en Burgerservicenummer van onze dienstverlening gebruik wilt maken, dan vragen wij u in te loggen met DigiD.

#### Extra gegevens

Vul hieronder de gegevens in waarmee wij u kunnen bereiken. Dit is niet verplicht.

E-mailadres	<input type="text" value="leroy@domeinnaam1.nl"/>
Vast telefoonnummer	<input type="text" value="0102368028"/>
Mobiel nummer *	<input type="text"/> (Voorbeeld: 0612345678 of +31612345678)

Wilt u subsidie aanvragen, vul dan ook uw IBAN-rekeningnummer en BIC-code in. Dit is niet verplicht.

IBAN	<input type="text"/>
BIC	<input type="text"/>

Voor een aantal van onze diensten heeft u TAN-codes nodig om ingevulde gegevens elektronisch te ondertekenen. TAN-codes kunt u ontvangen via SMS. Wilt u dat, plaats dan hieronder een vinkje en vul uw mobiele nummer in. Wilt u liever TAN-codes via de post? Ga dan naar Mijn dossier nadat u bent ingelogd. U kunt daar TAN-codes aanvragen.

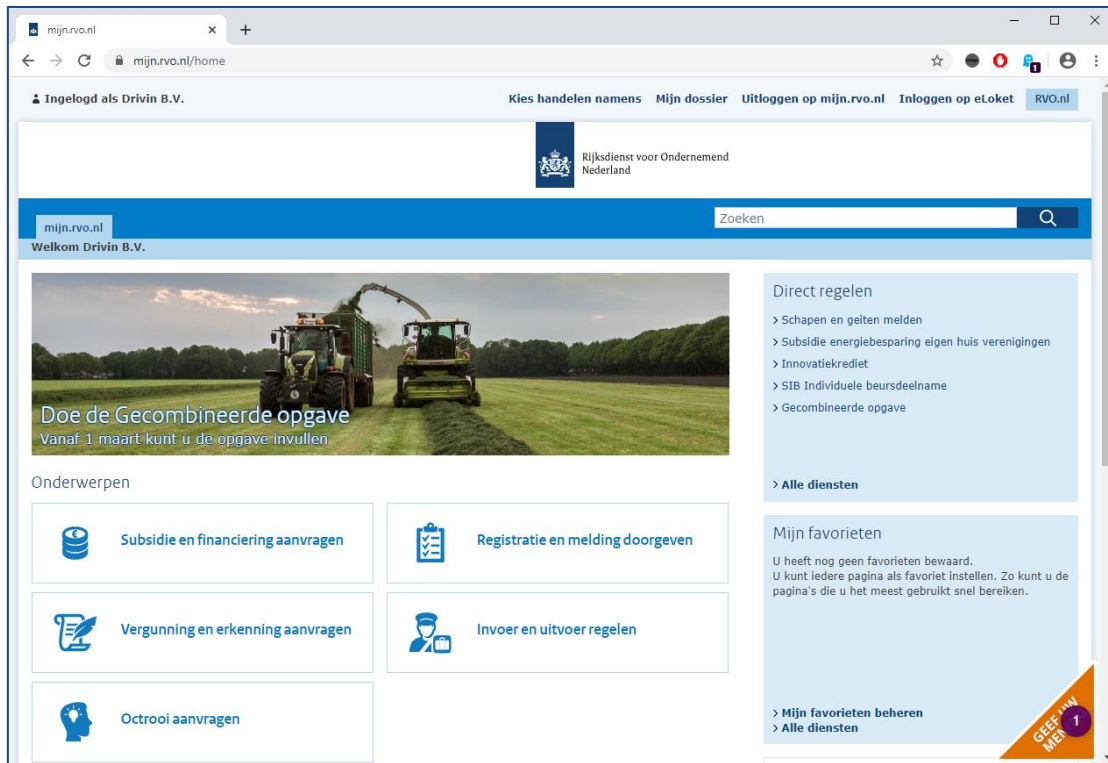
Verstuur de TAN-codes per SMS naar mijn mobiele nummer, zodat ik gegevens direct elektronisch kan ondertekenen en indienen.

\* Verplicht veld bij TAN-codes via SMS.

**Annuleer** **Registreer**

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5. Apply for services



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## 6 Conclusions

This document identifies the use cases of the Doing Business Abroad pilot. It specifies the process flow and defines data requirements for data providers as well as the requirements for the DE4A “Architecture vision and framework” (WP2), “Semantic interoperability solutions” (WP3), “Common component design & development” (WP5) and “Legal compliance and consensus building” (WP7). This document will be input for the next project phase “analysis & technical specification”. The pilot partners conclude:

- The pilot mainly requires data on companies abroad. This information is available in business registers in a structured and machine-readable way. Member States have services available for retrieving this information. The national implementation of the data sources and retrieval mechanisms vary to a large extent though. It is unlikely that national mechanisms will be harmonised for cross-border data provision. To reap the benefits of existing systems, the pilot will work with other technical work packages to have an architecture and an OOP evidence exchange solution that will be able to provide flexible interoperability with minimum impact on the current national systems for data provision.
  - Authentication of a natural person and validating his/her powers is crucial for the Doing Business Abroad pilot. Authenticating will be handled by eIDAS. Not having a notified eID may limit the extent of production piloting. Furthermore, currently there is no EU-wide solution for cross-border powers validation. WP2 (architecture), WP3 (semantics) and WP5 (components) should provide for a powers validation mechanism to pilot. Finally, WP7 (legal) should provide for an arrangement by which Member States can (and must) rely on powers validated in another Member State.
  - SDGR requires an explicit request of the user to use the OOP technical system and the user should have the option to preview the evidence itself. Expectedly, this requirement does not apply to company data that is open to all. This needs to be legally confirmed. Furthermore, it is not clear how other regulations might lower the SDGR restrictions, e.g. BRIS that allows the exchange of some company data without explicit request and preview. Finally, the preview requirement cannot be easily fulfilled in use case 2 as there is no user present to accept or reject the preview at the time of updating the company data. As a consequence, and depending on suitable and applicable exceptions to offering preview possibility in this use case, the implementation of the subscription & notification pattern may be heavily limited by SDGR in the Doing Business Abroad pilot. Further research is required to:
    - determine the conditions under which the update mechanisms can be implemented in the OOP technical system;
    - define the situations in which the update mechanism cannot be implemented in the OOP technical system;
    - define the adaptation required to the SDGR to fully allow the push model in the OOP technical system.
- Company data in the portal’s registries should be up to date at any time. This requires implementation of the push-model (“Subscription and Notification Pattern”). The data consumer subscribes to updates of the companies in its register. The data provider notifies in case of changes to the company concerned. Finally, the data consumer requests new company data. Several Member States have national solutions for the push-mechanism in place. From DE4A architecture and common components this requires a cross-border extension to current solution that focusses on interoperability and not on standardisation. Minimising impact on currently operating systems is crucial.

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- The Doing Business Abroad pilot will implement two patterns for cross-border data requests. DE4A architecture, semantics and common components should support both patterns:
  1. The messaging (intermediation) pattern characterised by a flexible mechanism for discovery of evidences available and the data providers to contact (see D2.1: intermediation pattern, fully user-managed access pattern and supported user-managed access pattern). This pattern is applicable to pilot scenarios that require data from multiple data providers (eventually from all over Europe).
  2. The lookup pattern (D2.1 section 8.8) to retrieve company data from a specific source in a swift and efficient manner. This pattern is most suitable for data consumers that require data from just a couple of data providers. E.g. almost all cross-border companies active on MijnRVO.nl are from Germany or Belgium due to its physical borders. RVO is familiar with the data sources in these countries and is able to transform data 1-to-1. There is no need for data discovery and for flexible semantic transformation mechanisms.

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## Annex I Requirements classification table

Pilot		Non-functional (NFR)		Functional (FR)	
Prefix	Definition	Prefix	Definition	Prefix	Definition
STA	Studying abroad	ACC	Accessibility	PREV	Previous phase
DBA	Doing Business abroad	ADA	Adaptability	MFLE	Main Flow event
MVA	Moving abroad	AUD	Auditability and control	POST	Post phase
		AVA	Availability		
		COM	Compliance		
		CFG	Configuration management		
		INT	Data integrity		
		DEP	Deployment		
		EFF	Efficiency		
		EXP	Exploitability		
		IMP	Implementation		
		INT	Interoperability		
		LEG	Legal		
		MAI	Maintainability		
		OPE	Operability		
		PER	Performance		
		PRI	Privacy		
		POR	Portability		
		QUA	Quality (e.g. faults discovered, faults delivered)		
		REL	Reliability		
		RES	Response time		
		REU	Reusability		
		ROB	Robustness		
		SCA	Scalability (horizontal, vertical)		
		SEC	Security		
		STB	Stability		
		STA	Standards		
		TES	Testability		
		TRA	Transparency		
		USA	Usability		

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## Annex II Background on powers validation

This annex presents more background details on the concept of powers validation. Texts are taken from the SEMPER project's deliverable M3 "Report on mandate attributes and solutions for cross-border mandate attributes".

With eIDAS the European Union adopted a cross-border solution for identifying & authenticating natural and legal persons cross-Member State, breaking the first barrier for digitalization of cross-border services. Nowadays, persons can digitally apply for services cross-border on their own behalf in a reliable and easy way. The second barrier to break is cross-border powers validation for persons representing others, e.g. an employee representing its company, an accounting firm representing a client and a parent representing a child. Cross-border powers validation is much less straight forward as it might seem due to differences in national legal frameworks, semantics, governance and organisation and technologies deployed. The ISA2 2016.12 (representation powers and mandates) initiative touches a lot of these topics and brings to light the complexity of the matter. It is unlikely that cross-border powers validation can be tackled at once EU-wide. Controlled steps are needed in designing, implementing, and validating a cross-border solution for powers validation.

With the introduction of eIDAS, authentication can be handled cross-border and communicated to the service provider in another Member State. eIDAS does not specify the powers of representation though. SEMPER extends on eIDAS to provide the service provider with proper information on the powers a (natural or legal) person has to represent another (natural or legal) person. The SEMPER model specifies the information flow between mandate attribute providers and service providers through the eIDAS network in order to provide access to electronic services in another Member State. Furthermore, SEMPER extends eIDAS nodes to perform semantic translation of powers of representation from formats that are specific to Member States to SEMPER's format.

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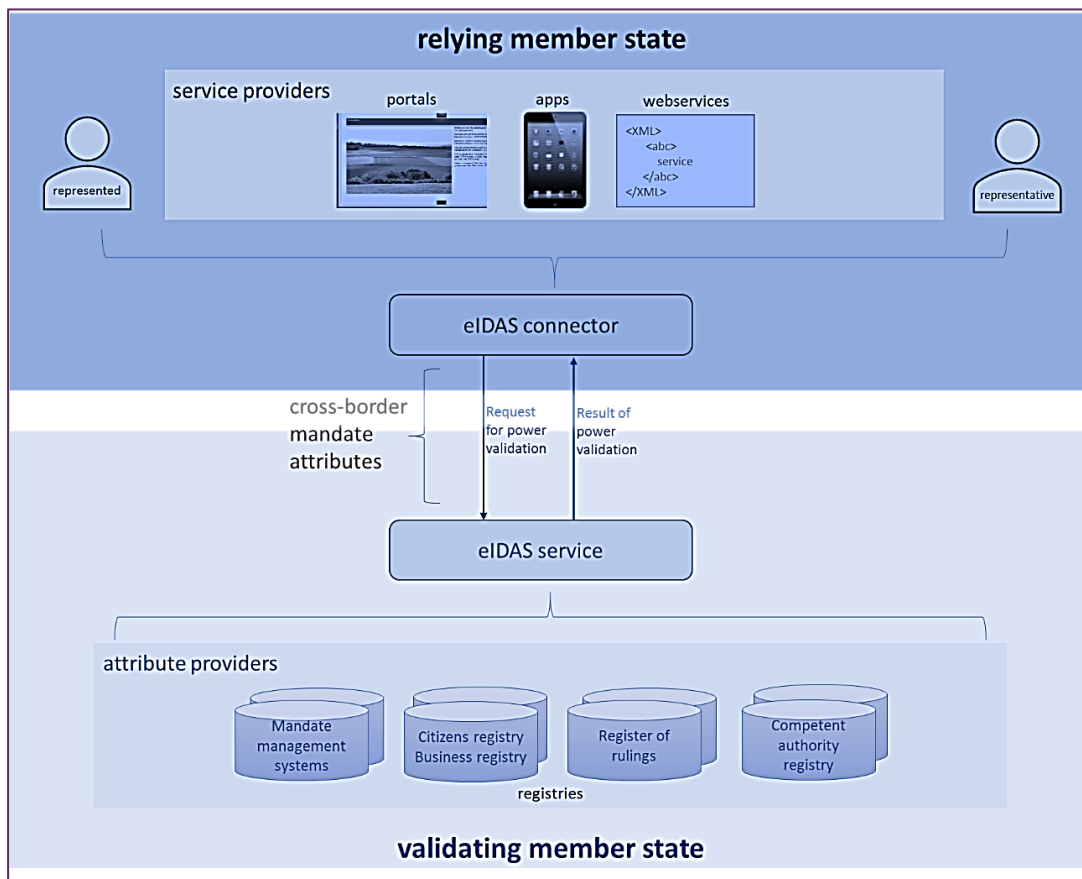


Figure 7 powers validation context

The SEMPER scenario supports authenticating and validating powers of a person in one Member State and accessing the electronic service in another Member State. This corresponds with RPAM<sup>21</sup> scenario 1.12 of the ISA<sup>2</sup> 2016.12 action. This SEMPER baseline scenario is eIDAS-driven: powers will be validated as part of the online eIDAS authentication flow.

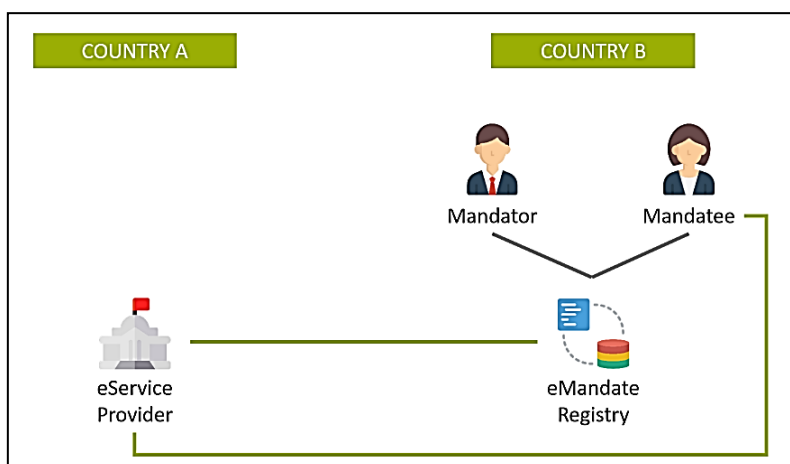


Figure 8 RPAM scenario 1.12

<sup>21</sup> ISA<sup>2</sup> 2016.12: Semantic interoperability of the representation of powers and mandates, RPAM\_Description of cross-border scenarios for eMandates\_v2.0.

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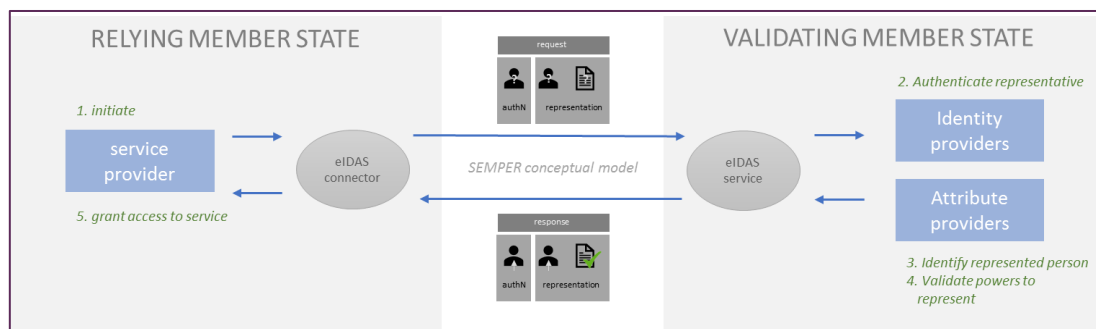


Figure 9 baseline SEMPER scenario

The process flow of this scenario is:

**1. relying Member State - initiate:**

A person browses to the website of a service provider and chooses to log in on behalf of another person from another Member State. The service provider initiates a cross-border authentication by sending a request to the (central or decentral) eIDAS connector. The service provider specifies the person attributes it wants to receive and the powers that need to be validated. This request is validated and forwarded to the eIDAS service of the Member State the person has an eID of (the validating Member State).

**2. validating Member State - authenticate representative:**

(One of) the identity providers of the validating Member State authenticates the person at (at least) the requested level of assurance (LoA).

**3. validating Member State - identify represented person:**

The mandate management system of the validating Member State identifies the represented person. This can be done by the mandate management system in several ways, e.g. by requesting the representative to enter the identifier of the represented person or by presenting a list of mandators he may represent. As an alternative, the mandate management system may require the representative to select the mandate to use directly.

**4. validating Member State - validate powers to represent:**

The mandate management system validates the powers of the representative to act on behalf of the represented person. The powers should be sufficient to access the service defined by the service provider: the scope of powers. Note that the scope of powers as registered in the mandate management system may be broader than needed for this service. E.g. full powers will be sufficient to apply for any service. After validation of powers, the response will be sent to the eIDAS connector of the relying Member State via the eIDAS service of the validating Member State. The response contains the scope requested and the outcome of the validation of the powers (the powers are either sufficient or insufficient for the requested scope).

**5. relying Member State - grant access to service:**

The relying Member State uses the response to decide upon granting access to the representative to apply for the requested service on behalf of the represented person (eAuthorisation).

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Therefore, it assesses the authentication of the representative as well as the powers. Both need to provide enough assurance<sup>22</sup>.

As SEMPER is eIDAS-driven, powers will only be validated as part of (or directly following) the authentication process. Service providers might want to validate powers again later on in the service fulfilment process, e.g. when user interaction takes place by phone or paper. This is out of scope for SEMPER although there might be a need to add this in the future.

---

<sup>22</sup> In validating powers, the mandate management system has to validate the assurance level of the mandate as well. In compliance to STORK 2.0 this model uses the same eIDAS LoA's for expressing assurance for authentication and mandates. E.g. a service requiring LoA substantial needs a mandate that provides LoA substantial as well. A mandate that has been registered on LoA low must not lead to a successful powers validation on a service requiring substantial.

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## Annex III Powers validation mechanism

The pilot partners without exception identified the need for a cross-border powers validation mechanism. Ultimately, they see the solution in extending eIDAS with powers validation functionality and attributes. At the same time, pilot partners realise this functionality might not be available to all partners during the project lifespan. This annex sketches some alternative flows for the time being.

### Problem statement

The Doing Business Abroad pilot retrieves company data directly from the authentic source (OOP). Often, this will be initiated by a company's representative (natural person) logging in at the website of the data consumer using eIDAS to apply for a service. For fully digital service fulfilment, the service provider probable requires:

- natural person data (representative)
- the company identifier (represented) for retrieving company data at the authentic source
- the powers the representative has to apply for this service on behalf of the represented or at least the confirmation that powers are sufficient to apply for this service

There are two bottlenecks for piloting at this point in time:

1. although eIDAS supports attributes of the represented, today there is no notified eID that will provide these attributes;
2. eIDAS has not implemented powers validation yet.

### Overview of solutions

This annex sketches some possible solutions for overcoming these bottlenecks. The possible solutions will be presented along 3 main options:

1. Using eIDAS for natural person, plus:
  - user input for company identifier
  - other procedure for validating powers
2. Using eIDAS for natural person *and* companies, plus:
  - other procedure for validating powers
3. Using SEMPER extended eIDAS for natural person, company and powers validation

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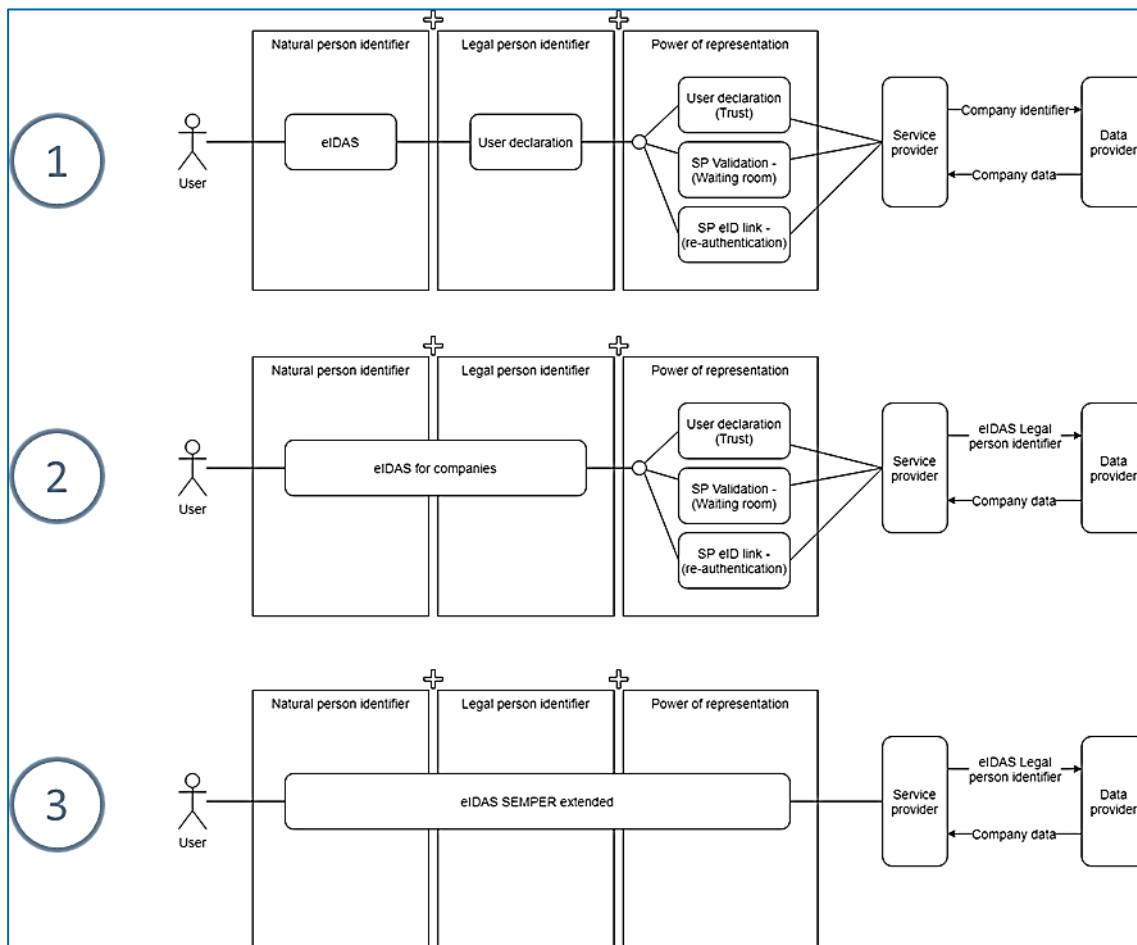


Figure 10 powers validation mechanisms

**Option 1: Using eIDAS for natural person only**

The first option uses eIDAS for authenticating the natural person only. This is the closest to the current eIDAS-situation in most of the Member States. As the data consumer receives the natural person attributes only, it has to implement an additional process for (1) receiving information on the company represented and (2) validating the powers of the natural person to represent the company. This assumes input from the user for getting information on the company represented: the user enters the national identifier of the company he would like to represent and enters additional company information (like the company’s name and address). Powers validation can be implemented in several ways:

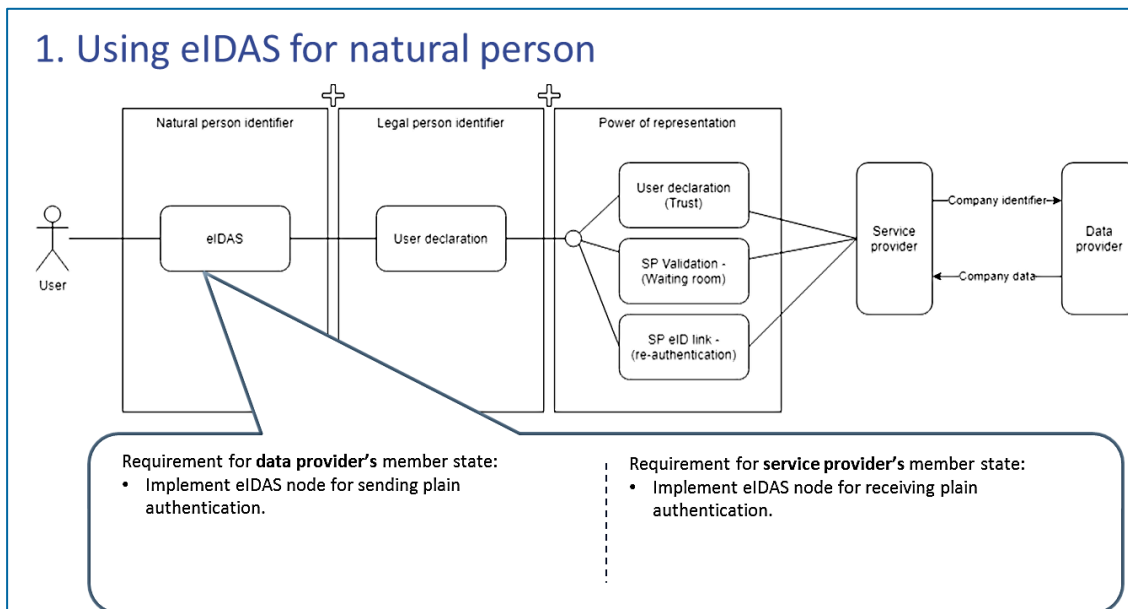
- Requesting the user to confirm powers to represent. This is a trust-model, as it uses a self-declaration of powers. There is no real validating of the powers by the data consumer. Although this might be suitable for piloting with non-sensitive data, this model will probably not be usable in large scale production scenarios.
- Requesting documents to proof powers of representation. This model is called the waiting room, as validation of powers will be a manual process. The user has to wait (log in at a later moment) until the document proving his powers have been checked by a public servant.

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- c. Requiring the user to re-authenticate with a second eID to prove the powers to represent. For this to work, the second (probably data consumer specific) eID should have the users powers validated at least at the moment of issuing the eID, but preferably also afterwards. Furthermore, the level of assurance of the eIDAS eID needs to be lowered by the data consumer as soon as its specific eID has a lower LoA (the lowest of the LoA's of both eID will be the resulting LoA).

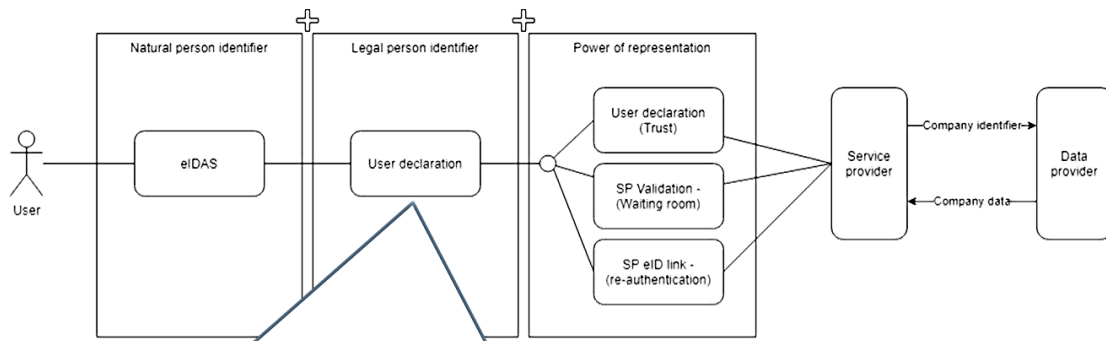
The waiting room principle in option 1 and 2 can possibly be implemented with the DG-GROW IMI system.

*Please note that there is another opportunity to get information on the company and the user's powers. The data consumer's Member State may operate a mandate management system in which the company has to register the powers of its employees / associates. The eIDAS authentication of the natural person will be starting point for querying that national mandate management system at the same way it would have done for person's authenticating with the eID of the Member State itself. This scenario has not been depicted in the diagrams, as the diagrams assume the eID and the mandates are managed in the same country. That will not always be the case though, e.g. in the Belgian use case.*



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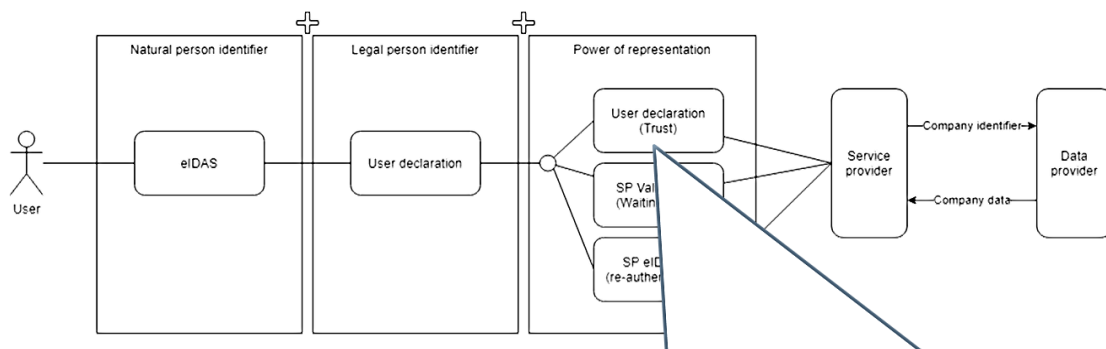
## 1. Using eIDAS for natural person



Requirement for **service provider's** member state:

- Create user form for entering company identifier (member state of registration, type of ID and ID)

## 1. Using eIDAS for natural person



Requirement for **service provider's** member state:

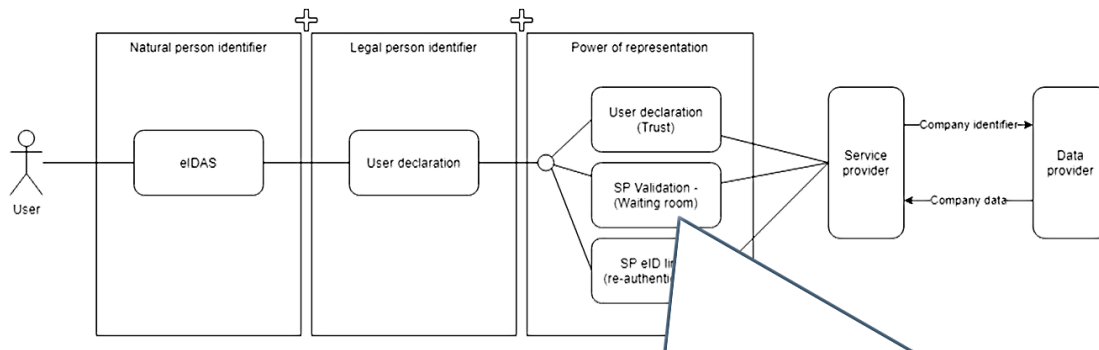
- Allow user to confirm powers to represent (user input)
- Trust the representative
- Inform company of representation (opt-out) or do not use this in production for services that require any level of assurance

Accept that any person can act on behalf of any company.

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### 1. Using eIDAS for natural person

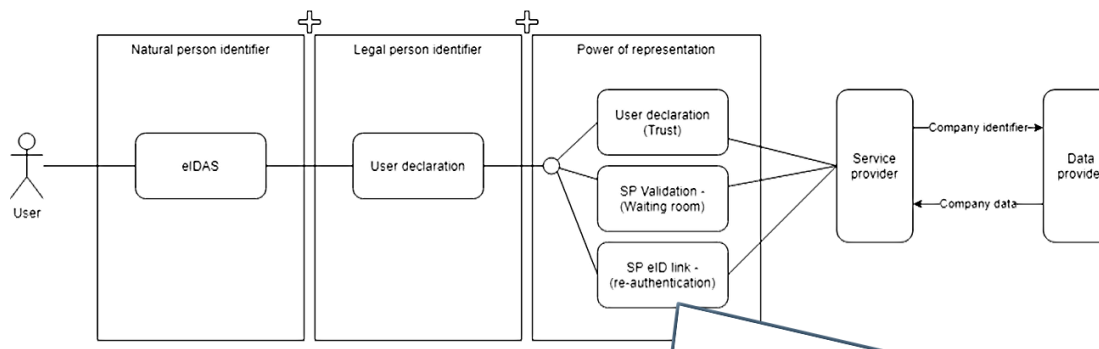


**Requirement for service provider's member state:**

- Allow for user input of evidence documents from the business registry / mandate registry (unstructured information)
- Implement the processes to manually validate the evidences provided (the waiting room)
- Create linking record for linking of the natural person to the company

Accept that linking data may be outdated once the linking-record has been created and access will be granted to a person who has on longer the powers to act (as a person's powers may change over time).

### 1. Using eIDAS for natural person



**Requirement for service provider's member state:**

- Have a SP-specific eID up and running in which the powers to represent have been validated
- Implement the processes to re-authenticate with this eID after eIDAS authentication.
- Create record for linking of the natural person (input: eIDAS) to the company (input: SP-specific eID).

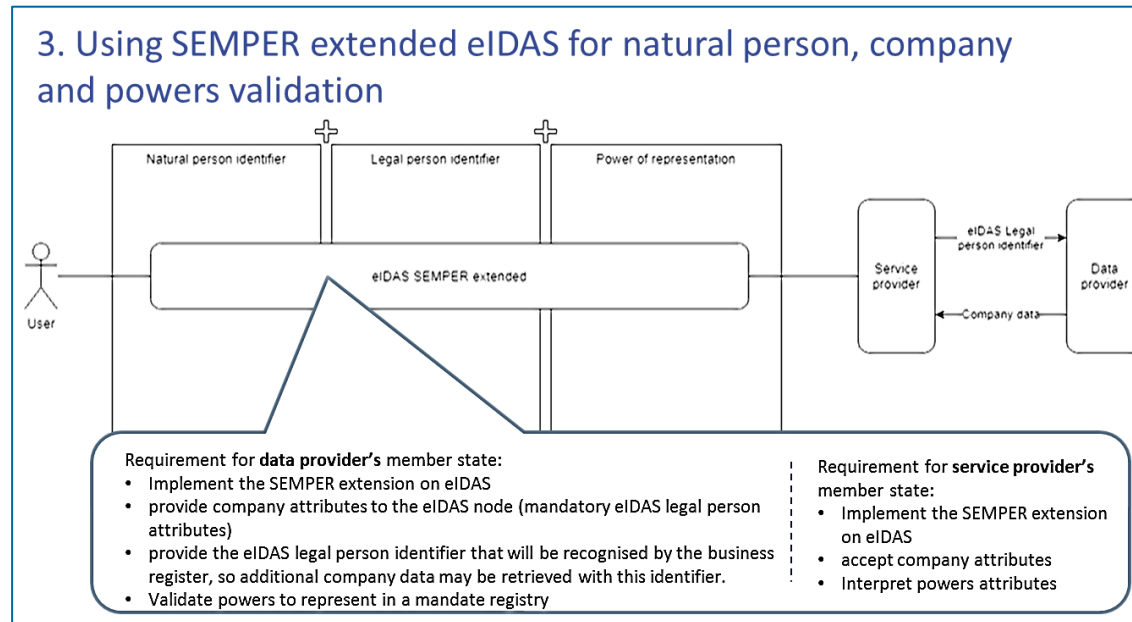
Accept that linking data may be outdated once the linking-record has been created and access will be granted to a person who has on longer the powers to act (as a person's powers may change over time).

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**Option 3: Using SEMPER extended eIDAS for natural person, company and powers validation**

The third option uses a SEMPER – or likewise - extended eIDAS node to be able to provide information on the powers to represent as well. The data consumer’s Member State does not need to implement an additional process for retrieving company data and/or validating the user’s powers. More information on the SEMPER concepts can be found in annex 2.



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## Annex IV Business events

The process of updating company data starts with sending a notification by the data provider. See the process as described in section **¡Error! No se encuentra el origen de la referencia..** Along with the company code the data provider reports which business event has occurred. In order to implement an automated process to assess the relevance of the business event for the data consumer it is necessary to have a standardised way of reporting the business event. There are several possible options:

a) A DE4A standardised set of business event

Within the DE4A pilot a specific set of values of business events is determined. This creates a set of values which will be a precise match for the pilot-processes and thus cover all situations relevant for the update company data process. On the other hand, the data consumers and the data providers need to implement the new set in their processes and there is a risk that it will be another standardised set which is not per se useful for other processes

b) List of the names of attributes effected

The data provider includes in the notification the list of attributes that are changed as a result of the business event. This will be the names of the attributes and not their values. The attributes to be used are described in Table 10: UC#1 Identified relevant company attributes. The data consumer can check whether the attributes registered by the data consumer are affected in an automated process and can decide to request a new dataset or not. The data consumer and data provider do not need to implement a new code list / list of values to direct the process of data exchange.

c) A flag 'change of data Y/N'

The data provider only states that the data has changed and does not provide further details of the change. This is the simplest but least informative way of notification. The data consumer will not be able to assess the relevance and has to request a new data set for each notification received. This could be a first step in an iterative process of improvement as it is easy to implement.

d) Using the BRIS standard

The notification process of BRIS is regulated by EU-regulation 2015/884. Among other attributes the element Proceeding Type is used to indicate the type of proceeding leading to a branch disclosure event. Expected is that the code-list of the Proceeding type is not sufficient for the Update company data process of the DBA pilot. Analysis of the future development of BRIS is needed to decide whether this standard suits the DE4A requirements.

e) Other standards

Further analysis is needed to identify and review other standard code-lists to describe business events.

As a part of the DE4A architecture and semantic work packages it needs to be established which scenario is to be used.

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## Annex V BRIS overview and preliminary analysis

### Introduction

As all participating Member States are already connected to BRIS – Business Registers Interconnection System – it seems logical to exchange company data using BRIS. In WP2 Architecture it needs to be established if the pilot requirements can be met by BRIS and if not, what measures need to be taken. Prior to a thorough analysis to be done by WP2, the Doing Business Abroad pilot team has performed a quick analysis to get a first impression on BRIS. The results of this quick analysis are described in this annex.

### Legal basis BRIS

The legal basis for BRIS is formed by:

- Directive 2017/1132 [6] relating to certain aspects of company law (codification);
- Regulation 2015/884[7] establishing technical specifications and procedures required for the system of interconnection of registers.

The EU also hosts the e-Justice portal which contains:

- information on BRIS: ‘Business registers at European level’ [8];
- access to BRIS content: ‘Find a company’ [9].

### Overview of BRIS functionality

#### - Architecture:

BRIS is the interconnection of business registers, allowing business registers to exchange cross-border messages on mergers and branches, and the users of the e-Justice portal to obtain multilingual information on EU companies. The system has been operational since June 2017. BRIS uses the Connecting Europe Facility eDelivery building block for exchanges of standardised messages. The system is decentralised with a central component (the European Central Platform) storing and indexing company names and registration numbers.

The business registers and other optional access points of the Member States are connected to the European Central Platform as depicted below:

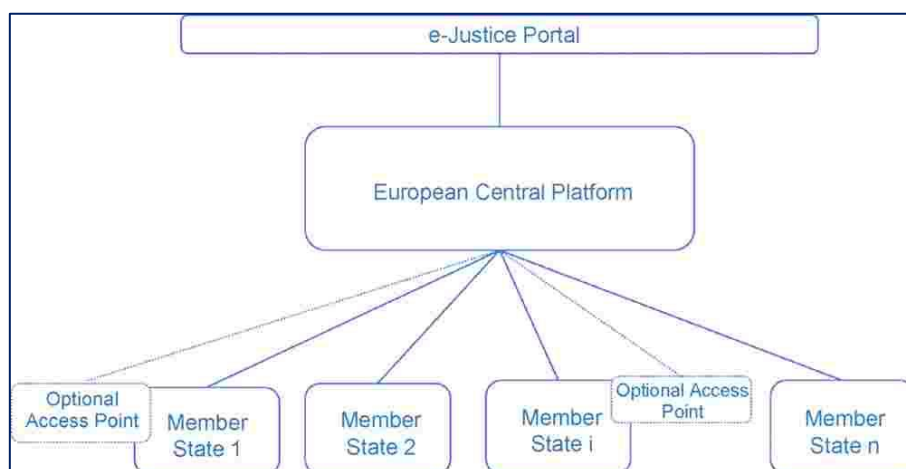


Figure 11 BRIS Connections

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- **Exchange process:**

the BRIS-data can be accessed publicly via the portal and via a messaging system that is restricted to business registers. The process of data exchange via BRIS consists of a push and a pull part:

- Pull: via the e-Justice portal company data can be retrieved; this is public information, for some documents a fee is required and some documents can only be requested at the portal of the business register itself.
- Push: via the restricted messaging system of the central platform notifications can be send; this is restricted to notifications on branch disclosures and cross-border mergers. Member States can subscribe to companies that they would like to be notified on.

- **Scope:**

limitation in scope:

- Type of business: the scope of BRIS is limited to limited companies<sup>23</sup>.
- Connecting to BRIS is mandatory for all EU-Member States, though not all Member States may have yet realised the connection.
- Notification: notification is required in case of certain *proceeding types or merger types* regarding a branch (see regulation 2015/884 annex 5.1 and 5.2). Other business events are not supported.
- The messaging system is restricted to business registers; other organisations or service providers cannot be connected.

- **Data:**

the company data exchanged via BRIS consists of a structured part and an unstructured part:

- Structured: company name, company registration number, company type and registered office (address). This information is exchanged in a machine readable manner.
- Unstructured: documents and particulars (e.g. instrument of constitution). This information could be exchanged for example as an PDF-document.

### Preliminary findings

A brief analysis of the functionality of BRIS leads to the findings below:

1. Public sources seem to provide only basic information on the implementation of BRIS and corresponding specifications. In order to obtain a thorough understanding of the current functionality of BRIS further analysis is needed. The same holds for the future development of BRIS.
2. BRIS does not support exchange of data for all types of companies that are in scope of the Doing Business Abroad pilot (e.g. sole trader).
3. Connecting to BRIS is not permitted for all participants of the Doing Business Abroad pilot (e.g. RVO, Skatteverket).

<sup>23</sup> 2017/1132 Annex I and annex II: Austria: Aktiengesellschaft, die Gesellschaft mit beschränkter Haftung; Belgium: naamloze vennootschap/société anonyme, commanditaire vennootschap op aandelen/société en commandite par actions, personenvennootschap met beperkte aansprakelijkheid/société de personnes à responsabilité limitée; the Netherlands: naamloze vennootschap, besloten vennootschap met beperkte aansprakelijkheid; Romania: societate pe acțiuni, societate cu răspundere limitată, societate în comandită pe acțiuni; Sweden: aktiebolag.

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4. BRIS does not support notifications on all events regarding company data that are in scope of the Doing Business Abroad pilot (e.g. change in representatives).
5. BRIS provides only basic company data as structured data; this does not cover all data in scope of the Doing Business Abroad pilot and is blocking for a fully automated data exchange.

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