

eGovernment Benchmark Method Paper



Edition 2020-2023

A study prepared for the European Commission, DG Communications Networks, Content & Technology

This study has been prepared by Capgemini, IDC, and Sogeti for the Directorate General for Communications Networks, Content and Technology.



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Short summary of changes since previous method paper

The document before you is the proposed eGovernment Benchmark Method Paper 2020-2023, which is the result of the method consultation (October 2019), method workshop (February 2020) and Member States reflections on the basis of the method revision document (shared in April).

As compared to the previous method paper the following changes have been implemented:

1. **Life events:** the updated life events and services are included. Other life events, such as Healthcare, are still under development and therefore not included in this edition. Also the Starting a small claims procedure life event and Owning and driving a car life event may be updated prior to measurement in 2021 (potential changes are explored the coming months).
2. **Indicators:**
 - Pilot indicators are included. Importantly, these pilot indicators are not weighed as part of the key dimensions until agreed upon.
 - Based on final Member States reflections, the 'Transparency of public organisations' is reduced and adjusted to 'Transparency of service design' (two former E5 questions from the old indicator were kept, two related questions were added). This ensures there will remain a certain focus on transparency, while at the same time transparency is more closely linked to delivering eGovernment services. As a result domain websites are no longer separately landscaped (only as part of portal websites).
3. **Wording and clarity:**
 - A clear overview of historical changes and a glossary with key terminology are added.
 - More in general, also based on final Member States reflections, existing definitions and questions have been sharpened where necessary (e.g. regarding automated/proactive services, Transparency of service delivery). Clarifications are given to make the method paper easier to read and understand.

Synopsis and glossary of key terminology

When we publish the 2021 reports, we will add a specific synopsis for the publication of that year. This box captures the specific year/edition details (life events measured, potential changes etc.)

Key dimensions: the four main measurement pillars via eGovernment is measured, the aggregation of multiple indicators.

1. **User centricity:** the extent to which information and services are available online, supported online and compatible with mobile devices.
2. **Transparency:** the extent to which service processes are transparent, services are designed with user involvement and users can manage their personal data.
3. **Key enablers:** the extent to which main IT enablers (eIDs, eDocuments, Authentic sources, Digital post and security) are available during services processes, which can be used to assess the presence of the technical pre-conditions of the efficient and effective use of online services.
4. **Cross-border services:** the extent to which information and services are available online, usable, and integrated with eIDs and eDocuments for users from other European countries.

Life event: packages of government services which are usually provided by multiple government agencies around a subject that occur in relation each other, from the perspective of the citizen or entrepreneur concerned. The eGovernment Benchmark covers 8 life events (government domains).

Life event services: services within a life event journey used by that national and cross-border users.

- **Informational services:** services and procedures that provide users with adequate and personalised insight into his/her situation.
- **Transactional services:** services and procedures needed to fulfil the essential requirements of a life event through online interaction.
- **Portal websites:** an eGovernment website that gathers and provides information and services from multiple public administrations.
- **National user:** citizens and entrepreneurs that seek for information and services in their own country.
- **Cross-border user:** citizens or entrepreneurs that seek for information and services in another European country than their own.

Method: a way to collect data.

- **Mystery shopping:** the primary type of data collection in the eGovernment Benchmark, a proven evaluation method of online offerings of all kinds which places the user journey and experience at the centre of attention of the evaluators.
- **Automated tools:** online tests via which websites URLs are entered and assessed on a number of criteria.

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1. About the Method Paper

This Method Paper provides the detailed description of the method used for the European Commission eGovernment Benchmark, the annual measurement instrument to evaluate the availability and characteristics of eGovernment in Europe. The results of the study will be published in two separate volumes addressing different audiences: a high-level Insight report for eGovernment leadership, and a detailed Background report for anyone operating in eGovernment on a daily basis. The research data are available in machine readable format. Also, country factsheets present core data per country.

1.1. Background and ambition of the eGovernment Benchmark

The **eGovernment Action Plan for 2016-2020** is at the basis of the eGovernment Benchmark.¹ The Action plan envisions digital, border-less and open public administrations:

- **User-friendly, digital service delivery** to reduce administrative burden;
- **Connecting public administrations across Europe** to facilitate seamless cross-border service delivery and re-use of successful technologies;
- **Opening government data, services and processes** to engage third parties to create better or new services and help improve policies.



The following set of principles is supportive in determining the actions:

- **Digital-by-default:** actions should privilege online delivery of services while still enabling other channels for those who are disconnected by choice or necessity, to ensure inclusiveness;
- **Cross-border by default:** actions should not create new barriers to the internal market;
- **Once-only principle:** actions should require citizen / business data/information only if not yet in possession of an administration;
- **Inclusive by default:** actions should enable all citizens and businesses to interact with the administration;
- **Privacy & data protection:** all digital public services must be designed with full respect for the protection of personal data as a fundamental right;
- **Open & transparency by default:** actions should be open for reuse or transparency.

1.2. Overview of historical changes

The eGovernment Benchmark Method Paper was originally released in July 2012. It has been regularly updated to remain internationally recognised and relevant. The current version of the method builds on annual Member State workshops and a set of preceding Method Papers:

1. The original eGovernment Benchmark Framework 2012-2015² edition:
 - In 2011, the eGovernment Benchmark method was revised for the first time. The 'old' 20 services measurement had reached saturation, and new policy priorities adopted by the European Commission and Member States required new insights to monitor progress. Hence, in 2012, the method was aligned with the eGovernment Action Plan 2011-2015.¹ It evaluated the Action Plan across all four policy priorities through a multi-dimensional framework: User centricity, Transparency, Key enablers and Cross-border services. It focused on a new set of government domains and assessed many of them in-depth, from the viewpoint of the user (either citizen or business).

¹ <https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52016DC0179&from=EN>

² https://ec.europa.eu/digital-single-market/sites/digital-agenda/files/eGovernment%20Benchmarking%20method%20paper%20published%20version_0.pdf

- In 2012, a user survey was conducted to assess eGovernment use, satisfaction and fulfilment of citizens with 19 core eGovernment services. The method for this survey is still available online in the old method paper.
2. The 2015 edition³
 - The update in 2015 collated the complete series of seven life events (four of these were determined with Member States after the first measurement in 2012)
 - Updates were done to improve the questionnaires.
 3. The 2016-2019 edition⁴
 - Having concluded a full cycle in the period 2012-2015, 2016 was an appropriate timing to consider innovations in the method.
 - An eighth life event "Family" was added.
 - Albania and North Macedonia were included since the 2018 measurement, bring the total number of countries to 36.
 - Some indicators were removed: Ease of use and Speed of use, as well as eSafe and SSO. Some indicators were added: Digital post and some questionnaire updates related to Transparency of personal data and eID. This edition also introduced the security pilot.
 - The method for the separate user survey that was conducted in 2012 has been left out, as it was not part of the measurement in the recent years.
 4. The 2020-2023 edition
 - Based on a method consultation in October 2019 and a method workshop in February 2020 a follow-up Method Revision Document was shared with Member States.
 - The life event services were simplified: the citizen and business user journeys were simplified on the basis of a set of principles (e.g. highly identical services were merged, services not applicable in a substantial number of countries were removed, etc.). Moreover, the number of cross-border services was increased (for those services relevant and in line with the spirit of the Single Digital Gateway).
 - The Transparency of public organisations indicator was adjusted and renamed into the Transparency of service design indicator.
 - Some new pilot indicators were introduced: Findability and Search Engine Optimisation, Mobile service delivery, Accessibility foundations, Safe email.

1.3. How to read this document

Chapter 2: Overview of the benchmark framework

This chapter gives an overview of the benchmark framework. It explains how the framework relates to policy priorities and provides an overview of the indicators, life events and methods.

Chapter 3: Key indicators

This chapter explains what is measured in terms of eGovernment, by looking at the four key dimensions and underlying indicators.

Chapter 4: Life events

This chapter shows the scope of measurement, the life events and government domains covered by the assessment.

Chapter 5: Method

This chapter describes the type of data collection via which the indicators measured across the life events (mainly mystery shopping).

Annex A, B, C and D

The appendices further provide insight into the detailed questionnaire, scoring rules, country allocation and life event descriptions.

³ http://ec.europa.eu/newsroom/dae/document.cfm?action=display&doc_id=10036

⁴ https://ec.europa.eu/newsroom/dae/document.cfm?doc_id=55174

2. Method Framework (overview)

The eGovernment Benchmark brings together the following aspects: indicators, life events and methods. In effect, the different eGovernment themes (key dimensions divided into indicators) are measured within different life events (unit of analysis) using different ways to collect data (methods).

2.1. Overview of key dimensions and indicators

Although the policy priorities in the 2016-2020 eGovernment Action plan are slightly different, the analysis still covers the EU policy priorities. The benchmark analysis takes place along the lines of four key dimensions. The eGovernment benchmark framework is built on the foundation of the EU policy priority areas in the field of eGovernment. This foundation led to the selection of the key dimensions, with their underlying indicators as shown.

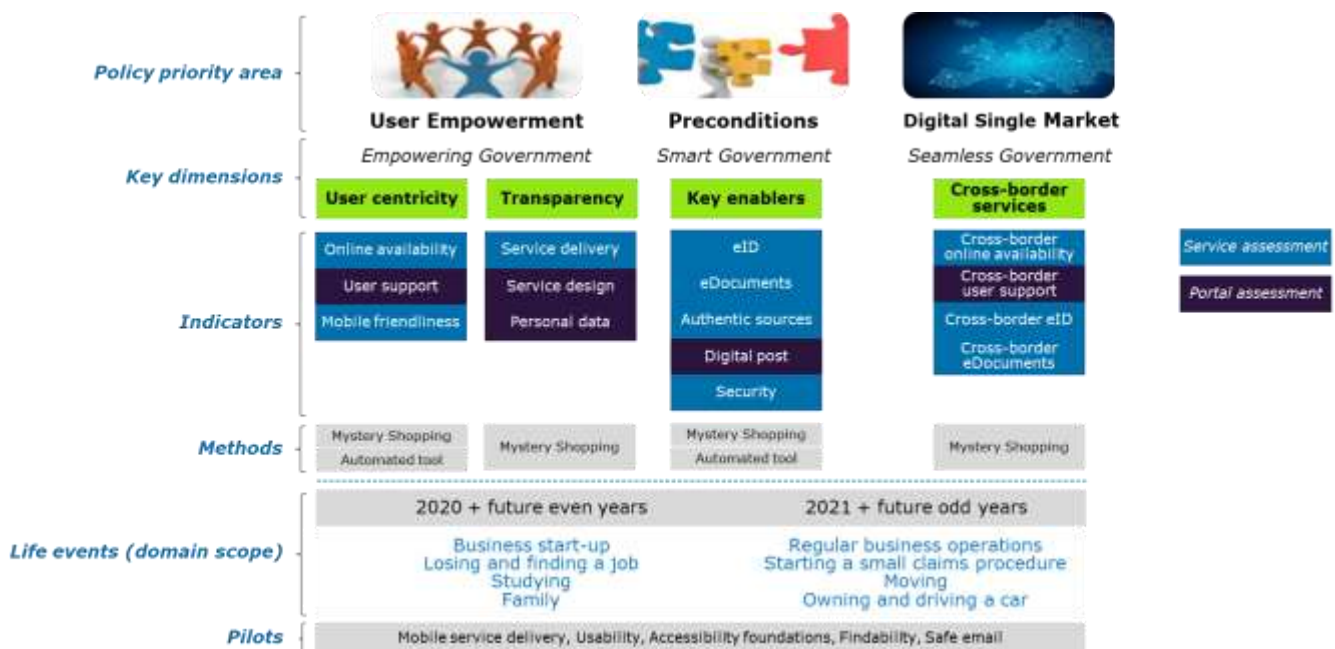


Figure 2.1 eGovernment Benchmark framework

The eGovernment benchmark framework also aligns with the new eGovernment Action Plan, and focuses on topics such as the *modernisation of public administrations*, *Cross-border services*, and *facilitation of digital interactions between citizens and administrations*. The progress in these areas is measured via four key dimensions, which comprise multiple underlying indicators:

1. User centricity

- Online availability
- Mobile friendliness
- User support⁵

2. Transparency

- Transparency of service delivery
- Transparency of personal data
- Transparency of service design

3. Key enablers

- eID
- eDocuments
- Authentic sources
- Digital post
- Security (not weighed in scoring)

4. Cross-border services

- Cross-border online availability
- Cross-border user support⁶
- Cross-border eID
- Cross-border eDocuments

⁵ Renamed, but same questions as the 2019 Usability indicator.

⁶ Renamed, but same questions as the 2019 Cross-border usability indicator.

2.2. Overview of life events

To measure the eGovernment state-of-play, this benchmark uses life events to capture the landscape of public services. Each life event is measured in a biennial cycle (once every two years). This means that Member States have two years to analyse findings and implement improvements in these domains. An evaluation every two years is better suited to capture improvements than a yearly evaluation. The life events are associated with a user-journey that businesses and/or citizens go through to attain specific goals. Importantly:

- The life events cover a reasonably wide range of government domains and functions impacted by eGovernment. Out of these eight life events, a few specifically relate to local government (e.g. Moving), some to eGovernment services for businesses (e.g. Business start-up and Regular business operations) and others to high impact eGovernment services for citizens (e.g. Car and Studying).
- Each life event consists of multiple services supported by one or multiple websites per service, as well as portal websites.
- Some services target domestic users, other services target foreign users (national versus cross-border services).

Given the biennial cycle, the life events are evaluated as follows (in the even and uneven years):

	2018, 2020, 2022	2019, 2021, 2023
Business life events	- Business start-up	- Regular business operations
Citizen life events	- Career - Studying - Family	- Starting a small claims procedure - Moving - Owning and driving a car

Figure 2.2 Overview of life events under assessment

2.3. Overview of methods

The following methods are being used:

1. The method most used in the benchmark exercise is **Mystery Shopping**. A Mystery Shopper is trained and briefed to observe, experience, and measure a given public service process. Mystery Shoppers act as prospective users and follow a detailed, objective evaluation checklist. Mystery Shopping forms the majority of inputs for the four key dimensions. It is a matured method that generates reliable and comparable data since 2012.
2. An **automated online assessment tool** is used for the assessment of **Mobile friendliness** and the **Security pilot**.
3. In addition, the Commission explores new methods for the eGovernment benchmark, so-called **pilot measurements**. The results of a pilot measurement will be published separately.

3. Key dimensions and indicators

The eGovernment Benchmark consists of four key dimensions. Each key dimension is the aggregation of multiple indicators. Each indicator is in its turn composed by multiple sub-indicators. This means, from the most abstract layer to the most specific layer:

- Key dimensions: the overarching metric relating to eGovernment policy priorities. For example: *User centrality*.
- Indicators: the aggregation of sub-indicators into comprehensive indicators. For example: *Online availability* (1 of the 3 indicators from the key dimension User centrality).
- Sub-indicators: average scores resulting from the questions asked in the questionnaire. For example: *A1 Is information about the service available online?* (1 of the 3 questions part of the indicator Online availability).

The following sections provide the definitions of the key dimension and indicators. The sub-indicator questions are listed in the Appendix, as well as the scoring calculation rules.

3.1. User centrality

Definition of the key dimension:

- The extent to which information and services are available online, supported online and compatible with mobile devices.

Definition of indicators:

- **Online availability:** the extent to which informational and transactional services and information concerning these services is provided online, and can be reached via a portal website.
- **User support:** the extent to which online support, help features, and feedback mechanisms are available.
- **Mobile friendliness:** the extent to which services are provided through a mobile-friendly interface, an interface that is responsive to the mobile device.

3.2. Transparency

Definition of key dimension:

- The extent to which service processes are transparent, services are designed with user involvement and users can manage their personal data.

Definition of indicators:

- **Transparency of service delivery:** the extent to which the service process and expectations are clarified.
- **Transparency of service design:** the extent to which user are informed on and involved in policy and service design processes.
- **Transparency of personal data:** the extent to which user can manage their personal data held by government organisations.

3.3. Key enablers

Definition of key dimension:

- The extent to which main IT enablers (eIDs, eDocuments, Authentic sources, Digital post and security) are available during services processes, which can be used to assess the presence of the technical pre-conditions of the efficient and effective use of online services.

Definition of indicators:

- **eID**: the extent to which electronic Identification (eID), any means accepted by eGovernment services (e.g. smartcards, username and password) for online identification, can be used during service processes.
- **eDocuments**: the extent to which electronic documents (eDocuments), any document in digital form that the user needs to submit/upload in order to complete an eGovernment service, or that the user obtains as a proof or a result of the service (e.g. certificate, diploma, proof of registration) can be used during service processes.
- **Authentic sources**: the extent to which Authentic Sources, base registries used by governments to automatically validate or fetch data relating to citizens or businesses, can be used during the service process.
- **Digital post**: the extent to which public authorities allow citizens to receive communications digitally only and opt-out for paper mailings. Digital Post refers to the possibility that governments communicate electronically-only with citizens or entrepreneurs through e.g. personal mailboxes or other digital postal solutions.
- **Security**: the extent to which government websites implemented basic security measures and internet standards.

3.4. Cross-border services

Definition of key dimension:

- The extent to which information and services are available online, usable, and integrated with eIDs and eDocuments for users from other European countries.

Definition of indicators:

- **Cross-border online availability**: the extent to which informational and transactional services and information concerning these services is provided online for users from other European countries.
- **Cross-border user support**: the extent to which online support, help features, and feedback mechanisms are available for users from other European countries.
- **eID**: the extent to which electronic Identification (eID) can be used during service processes by users from other European countries, a government-issued document for online identification, and authentication.
- **eDocuments**: the extent to which electronic documents (eDocuments) can be used during service processes by users from other European countries, documents that have been authenticated by its issuer using any means recognised under applicable national law, specifically through the use of electronic signatures, e.g. not a regular PDF or Word file.

4. Life events

4.1. Life events and persona stories

The eGovernment Benchmark covers **36 participating countries**: the 27 European Union Member States, Iceland, Norway, Montenegro, Republic of Serbia, Switzerland, Turkey and the United Kingdom, as well as Albania and North Macedonia. In each country, the status of eGovernment is measured in 8 different life events.

Life events are packages of government services which are usually provided by multiple government agencies around a subject that occur in relation each other, from the perspective of the citizen or entrepreneur concerned. In other words, life events are chains of services that are logically coherent from the perspective of actual users. This means that for each life event, all relevant interactions with government an individual or business may seek are measured. The life event methodology has been proven and used in the eGovernment Benchmark ever since 2010. In this way the eGovernment Benchmark applies to a variety of **government domains**. Each domain is measured in-depth through a life event approach. Listings of domains can for example be found in the classification of the United Nations which is adopted by Eurostat (to which the life events relate).⁷

A **biennial cycle** is used to evaluate a subset of four life events in year 1, another subset of four life events in year 2 and repeat the subsets every two years, in years 3 and 4 respectively. This approach builds the new basis for comparison gradually, over time as requested by Member States. It prevents a 'big bang' approach which would concentrate effort and workload over a much shorter period of time. It also better allows countries to implement improvements in time before the next measurement unfolds.

For each domain, use cases and life events modelling a potential **user journey** are defined. This helps to assess eGovernment service delivery from the user perspective, measuring public service processes alongside a user path, regardless of the administrative structure and service delivery responsibilities within a country. The life event approach enables the study team to integrate different aspects of public service delivery (such as online availability of services, cross-border mobility and key enablers) into a single, comprehensive measurement journey.

To ensure consistency and real-life services, the life event journeys are measured by researchers that put themselves in the shoes of a **persona**. A persona is a fictional character that represents a set of: demographic information, typical attitudes, behaviours, values and needs, useful in considering the goals, desires and limitations relevant to a life event. Each life event has its own specified persona description.

The approach used to shape life events consisted of four steps:

1. Desk research to identify relevant services with a clear description of the service, as well as minimal requirements for the services to be considered online. Commission and Member State websites were researched and relevant studies regarding the various domains were used to determine the individual process steps of each life event.
2. Describing a persona for each life event, based on the desk research and available statistics in the domain. Each persona is described through parameters such as locality, age, gender, occupation and needs.
3. Piloting the process model in randomly selected countries to determine if the process model is likely to apply in the benchmarked countries.
4. Finalisation of the draft process model based on Member State comments during the methodological preparations' phase. Each life event distinguishes a few general stages, composed of individual services.

⁷ [https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Glossary:Classification_of_the_functions_of_government_\(COFOG\)](https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Glossary:Classification_of_the_functions_of_government_(COFOG))

The eGovernment Benchmark consists of eight life events, which are defined as follows:

1. **Business start-up:** a business life event related to the economic affairs domain, covering services around: orientation, administrative requirements, basic registration, tax-related matters, insurance-related matters, hiring a first employee and request an environmental permit.
2. **Career:** a citizen life event related to the employment domain, covering services around: immediate actions for unemployed, guidance on additional benefits and allowances, maintaining applicable benefits, finding a new job and fulfilling duties being employed and retiring.
3. **Studying:** a citizen life event related to the educational domain, covering services around: orientation, enrolment and study guidance.
4. **Family:** a citizen life event related to the social protection domain, covering services around: birth, marriage, personal documents and registering death.
5. **Regular business operations:** a business life event related to the economic affairs domain, covering services around: tax and corporate finance, VAT and business changes.
6. **Starting a small claims procedure:** a citizen life event related to the justice domain, covering services around: preparing claim, issuing claim and monitoring status and appeal.
7. **Owning and driving a car:** a citizen life event related to the transport domain, covering services around: buying a car, and taxes, certificates and permits.
8. **Moving:** a citizen life event related to the housing domain, covering services around: find, adapt and move to new house, and moving and living abroad.

4.2. Life event services

All life event steps are operationalised by specific services. The elaborated life event model and persona for each life event can be found in the Annex. Three types of services/websites are distinguished:

1. Informational services
2. Transactional services
3. Portal websites

4.2.1 Informational services

Informational services are services and procedures that provide users with adequate and personalised insight into his/her situation. This ensures convenience: it facilitates and eases the user on its journey. The following informational services are distinguished:

- a. **Check:** information to understand service criteria, steps and/or requirements and know whether users are qualified or eligible for a service. This information helps users to know their rights and obligations.
- b. **Calculate:** compute and get insight into the amount of eligible financial benefits, based on current or future circumstances.
- c. **Get guidance:** information to help, guide and enable users how to carry out an activity or prepare for it up front (e.g. suggestions, practical tips, templates, etc.).
- d. **Monitor:** browse to compare information or stay informed via a registry.

4.2.2 Transactional services

Transactional services are services and procedures needed to fulfil the essential requirements of a life event through online interaction. The following transactional services are distinguished:

- a. **Register:** administer a person, business entity, object online when a change in status occurs and the competent authority needs to be notified. The service starts when entering the online form and is completed when the status change is being processed.

- b. **Apply:** make an online request in order to receive (financial) benefits or services. The service starts when entering the online form and is completed when the benefits are being provided.
- c. **Obtain:** make an online request in order to receive a document, certificate or permit. The service starts when entering the online form and is completed when the request is sent and the document is obtained.
- d. **Submit:** provide the competent authority with the documents, forms, evidence or data online in order to carry out a service. The service starts when entering the online form and is completed when the document is submitted.
- e. **Declare:** fulfil financial or government payment duties. The service starts when entering the online form and is completed when the financial information is declared.
- f. **Appeal:** issue an official complaint against (a decision made by) a competent authority online. The service starts when entering the online form and is completed when the appeal is issued.

Selection criteria applied when identifying informational and transactional services:

1. Applicability in most of EU27+ countries.
2. High-impact, including essential steps regarding the life event without which a user would not be able to complete the journey (e.g. key registration services, legal obligations).
3. Relevancy of a service based on desk research insights into relevant (Commission) studies.
4. Results of piloting the life event process model from the perspective of the persona, in a selection of Member States.
5. The collaborative process with Member States and European Commission consultation.

4.2.3 Portal websites

Next to specific services, portal websites are evaluated. A portal website is an eGovernment website that gathers and provides information and services from multiple public administrations. A portal can focus on one specific life event or target group (e.g. students, businesses, unemployed) or on multiple life events or target groups. These overarching government website are often referred to as a one-stop-shop websites. In some cases, users can complete services on the portal website itself, whereas in other cases the portal website operates as a navigation website that directs users to the websites of those government entities responsible for providing the service. From the life event concept a portal website is often the starting point for a user.

Types of websites used for type of indicator:

1. **Informational service websites:** Online availability, Cross-border online availability
2. **Transactional service websites:** Online availability, Transparency of service delivery, eID, eDocuments, Authentic sources, Cross-border online availability, Cross-border key enablers
3. **Portal websites:** User support, Transparency of personal data, Digital post, Cross-border user support

4.3. National and cross-border user perspectives

The beforementioned types of services can target two types of users: national and cross-border users.

- **National users** are citizens and entrepreneurs that seek for information and services in their own country.
 - o For example, a citizen that moves between places within one country (e.g. from Brussels to Antwerp in Belgium).
- **Cross-border users** are citizens or entrepreneurs that seek for information and services in another European country than their own.
 - o For example, a citizen that moves places from one European country to another European country (from Brussels in Belgium to Rome in Italy).

5. Methods

The method connects the indicators with life events. The eGovernment Benchmark uses two types of data collection, with Mystery Shopping being the most prominent one, supported by automated tools for a selection of indicators. These methods are further described below.

5.1. Mystery Shopping

5.1.1 Indicators covered by the Mystery Shopping method

Most eGovernment Benchmark data is collected via Mystery Shopping. Almost all indicators are covered by the Mystery Shopping method:

- User centricity: Online availability and User support.
- Transparency: Transparency of service delivery, Transparency of public organisations, Transparency of personal data.
- Key enablers: eID, eDocuments, Authentic sources, Digital post.
- Cross-border mobility: Cross-border online availability, Cross-border user support, Cross-border eID and Cross-border eDocuments.

5.1.2 The concept of Mystery Shopping

Mystery Shopping is a proven evaluation method of online offerings of all kinds which places the user journey and experience at the centre of attention of the evaluators. It involves the use of Mystery Shoppers (testers) who are trained and briefed to observe, experience, and measure a service process by acting as a prospective user. Mystery Shopping can be used for comparing service offerings in different EU countries in terms of the services available and their quality.

The Mystery Shopping methodology builds on prior benchmark experience with the web survey and the 2010 life events assessment. The methodology has been designed to effectively address the limitations of previous tools and reduce the workload of Member State legates. The box below further explains these considerations.

In terms of **scope** the following notions are relevant (in relation to a survey filled in by M:

- ✓ Mystery Shopping covers a set of interrelated services (i.e. a life event) instead of a single service.
- ✓ Mystery Shopping evaluates interactions with multiple administrations and across multiple websites.
- ✓ Mystery Shopping focuses on a few (high-impact) government domains and assesses them in depth via multiple key dimensions (with indicators and sub-indicators).
- ✓ Mystery Shopping is case-based. Each case is based on a fictive persona which is detailed in terms of age, gender, occupation, and needs parameters.
- ✓ Whilst Mystery Shopping remains strongly data-driven, Mystery Shoppers also report back on their Shopping experience to identify good practice.
- ✓ Mystery Shopping is a flexible method, it could in subsequent years evaluate additional services and/or an adapted scope.

In terms of **reduced burden** the following notions are relevant:

- ✓ Mystery Shopping is an external assessment conducted by analysts instead of Member State legates.
- ✓ Mystery Shoppers identify the URLs to survey and perform the actual evaluation.
- ✓ Training, Q&A and helpdesk support are fully centralised. Each Mystery Shopper receives the same training and briefing.
- ✓ For each country, two Mystery Shoppers conduct the same evaluation. Discrepancies in results are detected and resolved, before they are submitted to Member State legates for validation.

5.1.3 The process of Mystery Shopping

In terms of **process**, two main phases are concerned: the landscaping phase and the evaluation phase.

1. During the **landscaping phase** the applicability and characteristics of services is defined for each of the countries. This results in a contextualised picture, to make sure that only those services are measured in a country that is relevant. This results in a country-specific government 'landscape' with some services for instance applicable in one country and not applicable in another country.
2. During the **evaluation phase**, the mystery shoppers assess the identified websites using a predefined questionnaire. The quantitative data generated by the Mystery Shopping are put under the central experts' and Member State legates' scrutiny for sign-off to ensure their accuracy. Great care is given to the possibility for Member States to validate the results to the greatest possible extent. The validated data is used to calculate the eGovernment Benchmark indicators and key dimensions.

To successfully carry out these two phases the following steps are followed:

The Mystery Shopping begins with the landscaping phase

5.1.4 Develop/update life event services and personas by research team

To prepare the landscaping phase, the first step of the research is to model the **life event user journeys, services and describe the personas**. These are described in the Annex.

5.1.5 Recruitment of the Mystery Shoppers by research team

The Mystery Shopping work (both landscaping and evaluation) is conducted by **local analysts** (i.e. consultants). It supports the eGovernment Benchmark goal to obtain factually correct data (and not experience and perception-based data). Two evaluators carry out the analysis per country, to ensure inter-reliability of the findings. Local analysts can ensure a high-quality work as they have strong capabilities and knowledge on eGovernment context that is the public sector online landscape as well as the national system of public administration, language and relevant cultural aspects. The **recruitment requirements** for the Mystery Shoppers are:

- The detention of an eID is a pre-requisite. In other words, the provider consortium will only recruit Mystery Shoppers who hold a local eID (from the country he/she assesses).
- Knowledge of English language and language of the country to assess.
- PC with internet connection.
- Being a regular internet user.
- Good knowledge of a country's eGovernment and service delivery structure.

Although there are no formal requirements related to educational level it is worth mentioning that the majority of Mystery Shoppers are consultants with a university degree (in the age of 25-35, both men and women). In the context of the Benchmark, the local analysts are managed by the provider consortium's central team. As stated earlier, two Mystery Shoppers are recruited per country and will conduct precisely the same evaluation so to detect possible discrepancies in ratings upfront and mitigate them.

5.1.6 Training of Mystery Shoppers by research team

All Mystery Shoppers are briefed by the central research team to ensure consistent landscaping. The same training is given to all Mystery Shoppers.

5.1.7 Determining the sample size per country by research team

During the landscaping phase, website URLs are collected. Those websites will be evaluated during the evaluation phase. It varies per country and government level how large the

sample size is (i.e. the number websites to evaluate). The sample sizes are kept as consistent as possible across countries, taking into account the service delivery structure (i.e. services possibly being delivered at the regional or local level) and size of the country.

As a general rule, the sample size per country depends on three dimensions:

1. The service delivery structure of the life event
2. The service delivery structure of an individual eGovernment service
3. The country size

For informational and transactional services provided by **central government administrations**:

- 1 website is analysed.
- Whenever multiple public organisations are involved in providing a service (or sub-steps of the service process), all related websites will be sampled.

For informational and transactional services provided by **regional or local administrations**:

- For the life events of Family, Owning and driving a car and Moving (with a strong local focus):
 - o The websites of the 3 largest regions/local administrations are analysed for Cyprus, Iceland, Luxembourg, Malta and Montenegro.
 - o The websites of the 10 largest regions/local administrations are analysed for Albania, Croatia, Denmark, Estonia, Finland, Ireland, Latvia, Lithuania, Norway, Northern Macedonia, Slovakia and Slovenia.
 - o The websites of the 15 largest regions/local administrations are analysed for Austria, Belgium, Bulgaria, Czech Republic, Greece, Hungary, the Netherlands, Portugal, Romania, Serbia, Sweden and Switzerland.
 - o The websites of the 20 largest regions/local administrations are analysed for France, Germany, Italy, Poland, Spain, Turkey and the United Kingdom.
- For the life events of Business start-up, Career, Studying, Regular business operations and Starting a small claims procedure:
 - o The websites of the 3 largest regions/local administrations are analysed for Cyprus, Iceland, Luxembourg, Malta and Montenegro.
 - o The websites of the 5 largest regions/local administrations are analysed: for all other countries.

For **portal websites**:

- 2-3 portal websites are analysed (per life event).
- These are the most relevant portal websites, which means:
 - o To select the most relevant service providers/portals, Mystery Shoppers will count the number of times each service provider is listed across the life event services and select the 2-3 most listed service providers. In most countries this will be a government portal, i.e. an eGovernment website that gathers and provides information and services from multiple public administrations. A portal can focus on one specific life event or target group (e.g. students, businesses, patients) or on multiple life events or target groups.
 - o At least 1 of the portals should refer or give access to personal data management.
 - o At least 1 of the portals should refer or give access to a digital post/mailbox solution.
 - o In case there is 1 clear main service provider (e.g. a central government portal), only 1 website will be assessed.
 - o In case the main service providers are regional or local, the 3 largest cities/regions will be selected.

5.1.8 Country contextualisation by Mystery Shoppers

In order to tailor the questionnaire to the context of each participating country, the Mystery Shoppers indicate for each of the life event services whether the service is applicable, automated, on which government level the service is provided and whether the service is mandatory online. The country landscaping is organised according to a White Box approach (the opposite of a Black Box approach):

- A White Box approach is a research approach where the researcher is provided with all (historical) information on the research subject prior to the assignment.
- In the context of the eGovernment Benchmark, a White Box approach implies that the Mystery Shoppers receive all information the provider consortium holds prior to their assignment. They receive the service status from previous years and verify: whether the service status is still accurately matching the country context.

To define the specific government landscape of each country, the Mystery Shopper will verify the prefilled information and determine for each of the life event services:

1. Whether a given service is to be considered **not applicable**. Services considered that are considered not applicable in a country (and thus not admissible for scoring) are only services to which the following applies:
 - The service does not exist in the country (e.g. the country has no child allowance).
 - Ruling law makes digitalisation of the service impossible (e.g. the country requires users to physically identify themselves in person to obtain the service).
2. Whether a given service is provided **automatically**. Automated or proactive service provision refers to a service being provided to the user without the user having to request it. Automated service provision hence does not involve any interaction whatsoever of the user with the administration to obtain the specific service.
 - A service is entirely enabled via the back-office through base registries (e.g. an administration will never request a certificate of good conduct from a user when the administration has access to it via a base registry).
 - A service is the consequence of a previous interaction with the administration related to another service (e.g. business starter allowances are granted automatically, once the entrepreneur has registered his business with public authorities).
3. Whether the service is provided by a **central, regional or local government administration**.
 - Central: ministries, central government agencies, etc.
 - Regional: provinces, regions, bundesländer, cantons, etc.
 - Local: cities, municipalities, communes, etc.

Please note that central, regional and local government services can even include services that are provided by semi-public entities, intermediaries (e.g. a Chamber of Commerce) or private entities (no matter if explicitly on behalf of government or not). Given multiple updates this will be exceptional, but these entities will be taken into account for the measurement. When a specific service is provided by the private sector, this will be made clear in the presentation of results.

4. If a service is provided **mandatory online**.
 - No offline alternatives exist, the user has no choice to request the service via other channels than the online channel.
 - If the user does not request the service online, the user is excluded from the service.

Importantly, Mystery Shoppers will have to provide a detailed explanation in the landscaping for each and every service, when they consider the service as not applicable, automated, shifted to another government level or mandatory online.

5.1.9 Selection of URLs by Mystery Shoppers

Website URLs are identified and collected by Mystery Shoppers with support from the central research team in a dedicated preparatory fieldwork phase. The selection of URLs is organised according to a White Box approach (the opposite of a Black Box approach):

- A White Box approach is a research approach where the researcher is provided with all (historical) information on the research subject prior to the assignment.
- In the context of the eGovernment Benchmark, a White Box approach implies that the Mystery Shoppers receive all information the provider consortium holds prior to their assignment. They receive the URLs from previous years and verify: whether they are still operational and whether they are still accurately match the service under evaluation.

Thus, the Mystery Shoppers:

1. Corrects and adds new URLs whenever a more accurate website is available that matches the service or portal questions.
2. Provides the website URL where the service information can be found for informational services.
3. Provides the website URL where the service process or online form can be started for transactional services.
4. Provide the website URL where information and services from multiple public administrations can be found for portal websites.
5. Provides as many website URLs in line with the previously determined sample size per country and per government level as indicated before.
6. Lists per website URL which service provider (competent authority) is responsible for the website and respective service.

When verifying and identifying the URLs, Mystery Shoppers are further requested to note, whether there are any specific identity requirements for accessing the website. Depending on the outcome of this step, the provider consortium will ensure the obtainment of specific identifiers. Such requirements can be:

- A generic electronic identifier (e.g. a national eID card)
- A specific electronic identifier (e.g. a matriculation number for students)

5.1.10 Landscape validation by Member States

The motivated landscaping files are shared with Member State legates for validation. To facilitate this activity, the data is exported into a predefined format using a template. This template facilitates the comparison of landscaping data with previous rounds. Validation is voluntary. Member State legates may decide to validate the landscaping results themselves (as single-point-of-contact) or pass them on to subject matter experts across the different life events. Countries can request changes they deem necessary. These requests will be examined by the central research team.

Once the landscaping files are validated and finalised the evaluation phase begins

5.1.11 Preparation of draft questionnaire by research team

Based on the landscaping files the questionnaire is drafted on which Mystery Shoppers base their evaluation. This questionnaire is extensively based on previous benchmark studies. The indicators part of the questionnaire are predefined (e.g. on the basis of Member State method workshops). The detailed evaluation checklist which shapes the questionnaire objectively documents the availability of services and their features.

Evaluation questions are most often binary, with two (yes/no) answer options. Finally, Mystery Shoppers are requested to report on best practice cases. Mystery Shoppers are not allowed to actually transact. If this prevents a shopper from assessing a service, the shopper will search for general available information on the website that could give an indication and answer the question. The full questionnaire is provided in the appendix.

5.1.12 Programming, testing and finalisation of questionnaire by research team

The next step is the programming and testing of questionnaires to ensure the robustness of the methodology. Based on the previous steps, an electronic questionnaire is prepared. First, a functional analysis is carried out to highlight the appropriate solution to be implemented in order to facilitate the collection of the information and to allow an automated comparison of results with data collected in the previous rounds. A technical analysis then specifies the architecture of the questionnaire required for this activity. Finally, several test simulations are carried out on the questionnaire and supporting documentation is produced to facilitate the data collection.

The functional analysis of the future IT questionnaire is highly important. It requires thorough knowledge of questionnaires used in the past in order to provide an approach guaranteeing the compatibility of outputs produced so far. The technical analysis complements the functional analysis and leads to a complete prototyping of the questionnaire. This is conceptualised through a transaction flow graph i.e. the completion of the whole questionnaires through the following iterative steps:

- Selection of a given life event
- Selection of a given service
- Selection of a given URL
- Answering the predefined questions

The development of functions must also be in line with the functionalities defined in the functional analysis. If required, a sequential approach is used to define the sequence of services to follow. Furthermore, a user guide is produced to help the user throughout the process. Tests are performed to ensure that the IT questionnaire corresponds exactly to the user needs specified in the analysis and definition phases. Tests also aim to ensure constant high quality in deliverable items. Before roll-out, questionnaires are tested with involvement of Mystery Shoppers. Testing only comprises its functionality, not the content of the questions.

When the same life events are measured for a second time, the related questionnaires are prefilled with the data collected during the previous exercise. This action concerns only still relevant URLs and indicators.

5.1.13 Training of Mystery Shoppers by research team

Mystery Shoppers are trained and briefed entirely centrally. Each Mystery Shopper receives a detailed research manual. This research manual explains:

- the research context and scope (in particular, definitions to be respected: of life events, of their process steps and specific services)
- the research procedure (a briefing on the personas which Mystery Shoppers need to adopt; the order of steps to take; the time lapse to be respected; data entry requirements and typing rules)
- technical advice (activation of questionnaire functionalities)
- content advice (FAQs on the content of the questionnaire)

A few days after receipt of the manual, the central team organises an intake conference call with each researcher to discuss any outstanding matters. During the research, Mystery Shoppers receive automated feeds on FAQ and similar. A helpdesk is set up, providing continuous support to Mystery Shoppers. The central team can be reached via a generic email address.

5.1.14 Questionnaire roll-out by Mystery Shoppers

Following a comprehensive briefing, the Mystery Shoppers proceed to the Shopping. During the evaluation process, the Mystery Shoppers observe, record their experiences and then feedback the results via the detailed questionnaire, noting the information displayed on the web sites. For this, Mystery Shoppers enact pre-defined scenarios and adopt the personas.

As said, when the same life events are measured for a second time, the related questionnaires are prefilled with the series collected during the previous exercise. Therefore, during the assessment process, the Mystery Shopper is able to keep the prefilled answers or to update them when necessary. Changes can be motivated in a specific comments box. The gain of this approach is twofold: reduction of costs related to the fieldwork and improvement of the evaluation process by accentuating qualitative feedbacks (each change is conscientiously motivated).

Furthermore, for 'yes/no' questions, the questionnaire offers to the shopper the possibility to declare that the question is not relevant for the service (coded 'NR'). This information is extremely important for commenting the results. For each 'NR' answer, the shopper has to motivate his choice. The shopper might be contacted by the team in charge of data control for clarifications when required.

The Mystery Shopping stream has been designed in a way to balance Member States legates' workload.

- The Mystery Shoppers visits the website URLs identified during the landscaping.
- The Mystery Shoppers fill in the questionnaire items relevant to the website URL and service.
- The quality of results is optimised through the use of two shoppers for each Life Event (discrepancies in results will be automatically detected by the data gathering tool; the central team will arbitrate results before these are put forward to Member States for validation).

The quality of results is expected to be optimised through the use of local analysts from within the provider consortium for the work who have a good knowledge of eGovernment, and their country governance structures. These local analysts will supported in case they encounter difficulties evaluating a service, such as browsing the service descriptions, instruction texts and videos, reviewing handbooks available on the website.

5.1.15 Data processing and quality control by research team

Once the questionnaires are completed, the phase of data treatment commences. It consists of the importation of data, the implementation of automated comparisons and the exportation of consolidated data in a predefined template to facilitate the validation process for the Member States.

A macro is developed to facilitate the importation of answers collected with the questionnaire. During this importation process, various checks are implemented to evaluate the consistency of the questionnaires such as the types of records or the identification of empty cells. Any inconsistency is reported to the related Mystery Shopper in charge of a given country. Any correction is considered in an updated version of files that will be re-imported into the analytical programme.

At the end of this process, a single consolidated table is built. The key variables of this table are: country, Mystery Shopper ID, life event, related service steps, landscaping characteristics, related URL, question number, answer to the question. The table also includes comments made by shoppers and comments made by country representatives during the landscaping phase. This unique table is used for the computation of indicators. This approach facilitates the dissemination on request of collected data and the data treatment to be implemented in the next steps.

Once the raw data available in a standardised format, automated comparisons are launched at two levels:

- Quality check 1: comparison of results of two Mystery Shoppers. Each life event is evaluated by two Mystery Shoppers. Discrepancies between the two evaluations will be detected automatically with a predefined macro. The Mystery Shoppers are asked to review their data entries for the debated point. The central team arbitrates the process.
- Quality check 2: comparison of data with previous year data, detecting discrepancies compared to previous year assessments. In case of inconsistent results for URLs, the Mystery Shopper are asked to repeat the process. To carry out this activity, datasets collected in previous rounds are merged to the current results using a predefined key of variables (country/service/URL).

Importantly, these quality checks are performed before the data are shared with Member States and aim at maximising data quality and accuracy.

5.1.16 Validation by Member States

The detailed results obtained for each URL, and for each research question are shared as raw data with Member State legates for validation. To facilitate this activity, the data is exported into a predefined format using a template. This template facilitates the comparison of results with previous rounds. Validation is voluntary. Member State legates may decide to validate the results themselves (as single-point-of-contact) or pass them on to subject matter experts across the different life events. Requested changes are examined by the central team. Member States are also invited to share best practices.

5.1.17 Final data editing and computation of indicators by research team

Final data editing and computation rules will be defined once the raw data available. The indicators will be produced with the use of automated macros. This will be the basis on which the reports are written. Furthermore, the data will be made available in machine readable format.

5.2. Automated tools

Automated tools are online tests via which websites URLs are entered and assessed on a number of criteria (e.g. based on a pass or fail on multiple sub-tests). Indicators covered by automated tools:

- Mobile friendliness
- Security

5.1.18 Mobile friendliness

The Mobile friendliness indicator has been introduced in the eGovernment Benchmark 2016. The tooling implemented to classify the URLs has changed over the years. For the 2017 eGovernment Benchmark, URLs were evaluated using the Google Mobile friendliness test. As this service limited the automated processing of URLs, the Rankwatch tool⁸ became the default. Due to methodological differences URLs that were assessed as mobile friendly using Google were not mobile friendly based on Rankwatch. This subsequently can impact the Life event scores negatively compared to the last evaluation. Subsequently, we implemented the Google Mobile friendliness test to re-evaluate the URLs where Life events within countries had gone down. In several instances, the results of the assessment were still impacted negatively. Multiple websites had implemented temporary instances on the

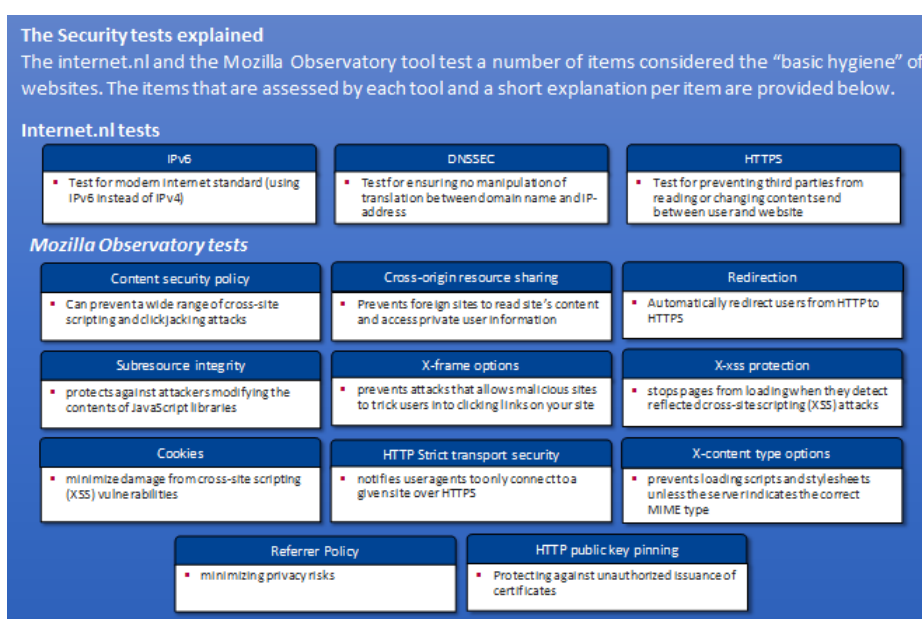
⁸ Rankwatch Mobile friendly check, available at: <https://www.rankwatch.com/tools/mobile-friendly-check.html>

public websites, e.g. satisfaction questionnaire pop-ups, that impacted the results, these portals were checked manually and set to Mobile friendly when relevant. In such cases, the websites were tested manually and corrected where relevant.

5.1.19 Security

Last year, the eGovernment Benchmark included the results of the first security pilot tests on the websites included in the Mystery Shopping. This pilot has been repeated for the websites in the assessment this year. All URLs are run through two publicly available security testing tools: one developed by the Dutch national government, internet.nl⁹, and one developed by Mozilla, [the Observatory](https://observatory.mozilla.org/)¹⁰. These tools both test several complementary items, which are considered basic cybersecurity hygiene; these items are further explained in the figure below.

The result of the tested items are combined on two axes in the Insight report, on the individual tests and on the results per URL. For the individual tests, the number of URLs that pass that test represent the Pass rate. For the individual URL, the number of tests the URL fails represent the Number of Security tests failed.



Details of the items in the cybersecurity tests of Internet.nl and Mozilla

5.3. Pilot indicators

The following pilots are concerned in this method. Pilots are only weighed for calculating the key dimensions, after successful completion and agreement.

5.1.20 Mobile Mystery Shopping

The previously described Mobile friendliness indicator is measured with two automated tools, capturing the compatibility of government websites on mobile devices. In addition, this pilot indicator provides more insight in whether the actual **delivery of public services is possible via mobile devices**. In effect, providing eGovernment services that are operable on mobile devices (a mobile first approach) is considered to be one of the policy priorities for governments, with more and more users using mobile devices to interact with

9 The tool is an initiative of the Dutch Internet Standards Platform: www.internet.nl

10 Mozilla security Tool: <https://observatory.mozilla.org/>

governments instead of using a desktop/laptop. In this way, the indicator would also further give substance to the eGovernment Action Plan principle of Digital by Default.

The indicator is defined as follows:

- Mobile service delivery: the extent to which users have the option to carry out key government services via a mobile device.

For each life event, 2 transactional services are evaluated via a mobile device:

- | | |
|---|---|
| <ul style="list-style-type: none"> - Business start-up: <ul style="list-style-type: none"> o 3.1 Register company for the first time o 6.1 Register your company as an employer - Career: <ul style="list-style-type: none"> o 1.1 Registering as unemployed o 1.3 Apply for unemployment benefits - Family: <ul style="list-style-type: none"> o 1.4 Apply for child allowance o 3.1 Obtain passport - Study: <ul style="list-style-type: none"> o 2.2 Register in higher education o 2.3 Apply for student grants | <ul style="list-style-type: none"> - Regular business operations: <ul style="list-style-type: none"> o 2.1 Declare VAT o 2.3 Appeal against VAT decision - Starting a small claims procedure <ul style="list-style-type: none"> o 2.1 Submit small claims procedure (issue the claim to court) o 3.2 Appeal against court decision - Moving: <ul style="list-style-type: none"> o 1.2 Register new address in municipality register o 1.4 Obtain proof of residence - Owning and driving a car: <ul style="list-style-type: none"> o 1.4 Register an imported car o 2.4 Obtain a parking permit |
|---|---|

The following steps are followed:

1. During the landscaping phase, Mystery Shoppers indicated whether a specific mobile application is available for the service (with a link where the application can be downloaded) or that the mobile version of the desktop website should be evaluated.
2. During the evaluation phase, and depending on the outcomes of the landscaping phase, the Mystery Shopper will either download the most recent mobile application or uses a mobile device emulator on a desktop, which simulates how the website operates on a common mobile device (e.g. iPhone).¹¹ This will ensure the reliability of the findings, minimising potential measurement differences due to the type of mobile device and operating system used by the Mystery Shopper.
3. The Mystery Shopper follows the steps of the life event service. The questions to be answered are similar to the questionnaire for transactional services via a desktop. The full list of questions is detailed in the Annex.

¹¹ See for instance the mobile device emulator in Google Chrome: <https://developers.google.com/web/tools/chrome-devtools/device-mode>

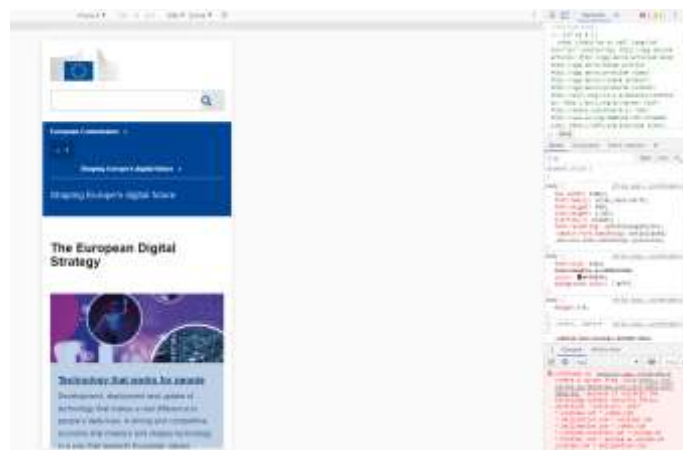


Figure 5.1 Mobile device emulator (mobile view on the left, settings on the right)

5.1.21 Usability (user panels and expert assessment)

The User support indicator measures the supply side of usability (whether governments provide for instance FAQ-pages and online support channels) and not from the demand side (from the perspective of actual users). This pilot indicator provides more demand-specific insight into user-friendly journeys, by setting up **user panels**. It gains insight in the usability as experienced by users, capturing the user perspective while using websites in practice. In this way, the indicator would also further give substance to for instance the 'usability' facet of the Tallinn Declaration user centricity principles.

The indicator is defined as follows:

- Usability: the extent to which users are able to find specific information and complete specific service tasks.

Participants to complete a task on a specific website. Tasks could be for instance: find information on how to obtain service X (e.g. how to declare taxes); find the (online) form for service X (e.g. tax declaration form); find the contact details to ask for more information about service X (e.g. contact information of the Tax Agency). During the user test it is tracked whether users are able to complete the task (they found the right email address, etc.) and how long it took to carry out this task.

The following steps are followed:

1. After selecting the pilot countries, the set of usability task and success criteria are determined and corresponding websites are collected. Based on this, a questionnaire is developed.
2. Per country, a panel is composed, consisting of 5-7 persons matching predefined characteristics (e.g. age, gender, educational level, internet experience).
3. Questionnaires are completed by panel member, and user behaviour/journey are analysed and documented.

In parallel, a usability pilot is conducted which assesses usability by **expert evaluations**, instead of user panels. This means, experts complete a checklist with a series of questions on usability factors, giving a rating according to how well websites meet general usability guidelines, including readability, accessibility, information architecture and content quality.

The indicator is defined as follows:

- Usability: the extent to which websites meet general usability guidelines.

The following steps are followed:

1. After selecting the pilot countries, the set of criteria is defined (e.g. following the European Commission's Europa Web Guide on Usability Expert Review¹²) and the portal websites to be evaluated are collected. Based on this, a questionnaire is developed.
2. Per country, a group of experts is composed, consisting of 1 representative from industry (e.g. business professional), 1 from academia (e.g. professor in this field) and 1 from government (e.g. European Commission professional with expertise in this field).
3. Questionnaires are completed by experts, and findings analysed and documented.

5.1.22 Accessibility foundations

Accessibility is one of the key principles articulated in the eGovernment Action Plan, Tallinn Declaration, and has been put forward by the Web Accessibility Directive. This indicator gains insight in the **accessibility status of websites**, indicating which websites are usable for a large variety of users (regardless of for instance their visual abilities). For this indicator the open source Axe-core tool (browser extension) is used.¹³ It was developed under the European WAI-Tools project and is considered to be the most complete and reliable automated testing tool at the moment.

It takes into account the most recent WCAG 2.1 guidelines and covers 20 of the 50 success criteria, with test across all of the 4 main principles (Perceivability, Operability, Understandability and Robustness). Although not all success criteria are measured, key aspects of accessibility in the light of eGovernment service delivery are captured, such as colour contrast, alternative texts for images, form elements are labelled, audio/video captions, web pages having titles that describe topic or purpose (therefore the name 'foundations'). This simplified evaluation method is considered to be a reliable smoke test preceding tests by human experts. If no violations are found, the website is at least potentially accessible. If violations are found, the website is at least not fully accessible. The tool reports on the number and type of violations found.

This indicator is defined as follows:

- Accessibility foundations: the extent to which websites comply compliant with foundational parts of the EN 301 549 standard (WCAG level AA).

The following steps are followed:

1. The URLs from the landscaping phase of the Mystery Shopping concerning informational and transactional services are combined in an overview.
2. Each URL is entered into the tool to run the test.
3. The tool score is captured in a results file, which can be used to calculate the results per life event and country.



Figure 5.2 Axe accessibility extension (website on the left, test results on the right)

¹² <https://wikis.ec.europa.eu/display/WEBGUIDE/05.+Usability+testing>

¹³ <https://www.deque.com/axe/>

5.1.23 Findability

This indicator addresses findability and has a user-focus: **how easy can users find information and services?** An automated SEO-tool is used to determine the findability of government. For this purpose, the Moz Domain Authority tool is used, a common way to define how well a website will rank on search engine result pages.¹⁴ The tool accurately predicts how well a website will rank on search engine result pages. It does so by evaluating multiple factors, including linking root domains and the number of total links. In essence, the more high-quality external links are referring to the government website, the stronger its domain authority and the easier it will be to find the government website on the basis of key words in search engines.

The indicator is defined as follows:

- Findability: the extent to which websites are optimised for search engines.

The following steps are followed:

1. The URLs from the landscaping phase of the Mystery Shopping concerning informational and transactional services are combined in an overview.
2. Each URL is entered into the tool to run the test.
3. The tool score is captured in a results file, which can be used to calculate the results per life event and country.

5.1.24 Safe email

Currently two automated tools measure the compliance with modern internet standards and fundamental security matters. In addition, this pilot provides more insight in the **compliance with standards for email domains** specifically. Users often receive email notifications after completing a service form. With this evaluation it can be checked whether the email domains used for sending these type of notifications (among other email functions) can be trusted. In this way, the indicator would also further give substance to the eGovernment Action Plan principle of Trustworthiness and Security.

The indicator is defined as follows:

- Safe email: the extent to which government email domains are meeting modern internet standards.

This assessment is conducted with the Internet.nl tool (which is now also used for measuring security of websites).¹⁵ After entering the domain name of an email service, it is tested whether the email service offers support for the following modern internet standards:

- IPv6: reachable via modern internet address?
- DNSSEC: domain names signed?
- DMARC, DKIM and SPF: authenticity marks against email phishing?
- STARTTLS and DANE: secure mail server connection?

The following steps are followed:

1. During the landscaping phase of the Mystery Shopping the email domains of service providers delivering basic services are collected.
2. Each URL is entered into the tool to run the test.
3. The tool score is captured in a results file, which can be used to calculate the results per life event and country.

¹⁴ <https://moz.com/learn/seo/domain-authority>

¹⁵ <https://www.internet.nl/test-mail?invalid>

Annex A. Mystery Shopping Questionnaire

A. Online availability of services:

Assessment of each informational and transactional service within a life event:

- A1 Is *information* about the service available online?
- A2 Is the actual *service* available online?¹⁶
- A3 Is the service/information about the service available through (one of the) relevant portal(s)?

B. User support:

Assessment of relevant portal(s):

Support & Help

- B1 Is a Frequently-Asked-Questions (FAQ) section available?
- B2 Is a demo available (any type: click-through demo, online video, downloadable manual explaining the steps the user has to take, ...) on how to obtain the service?

OR

Is there a live support functionality 'click to chat' available on the website?

- B3 Can the division/department responsible for delivery be identified and contacted (generic contact details do not suffice to positively score on this metric)?
- B4 Can the service be obtained via other channels than a website? (For instance, call centres, email, and small private businesses providing government services, customized applications (apps) or authorised intermediaries)

Giving feedback

- B5 Are feedback mechanisms available to the user to give his opinion on the service? (any type: user satisfaction monitoring, polls, surveys, ...; the provision of contact details does not suffice to positively score on this metric. A reference must be made to user satisfaction surveys, feedback options, complaints management and alike, clearly encouraging the user to provide feedback.
- B6 Are discussion fora or social media available? (any type: for online discussions amongst users and with the public administration, directed from/to the domain website(s))
- B7 Are complaint procedures available? (any type: redress, dispute resolutions)

C. Transparency of service delivery

Assessment of each transactional service in the life event process model:

- C1 Does one receive a delivery notice of successful completion of the process step online?
- C2 During the course of the service, is progress tracked? (i.e. is it clear how much of the process step you have accomplished and how much of it still remains to be done?)
- C3 During the course of the service, can you save work done as a draft (i.e. could you return to your draft work at another moment in time)?
- C4 Does the site communicate expectations on how long the entire process is estimated to take (i.e. how long it takes to fill in the online form)?
- C5 Is it clear what the delivery timelines of the service are (i.e. when the service is expected to be provided, ideally this is sooner than the legal maximum time limit)?

¹⁶ The meaning of 'online available' depends on the specific service and is hence integrated in the individual service definition and minimal requirements.

- C6 Is there a maximum time limit set within which the administration has to deliver (i.e. the legal and formal deadline that cannot be exceeded by the service provider)?
- C7 Is information available about service performance (any type: service levels, performance assessment, user satisfaction, user duration and completion rates)?

D. Transparency of personal data

Assessment of relevant portal(s):

- D1 What is the degree of online access for users to their own data (i.e. personal data held by the government):
 - o 0 = No access
 - o 1 = Information is given on the way to access own data through offline channels
 - o 2 = Data available on demand (specific facility on the website allows users to see what personal data is being held by the government)
 - o 3 = Is proactively informed by government about which data is being held about him/her (i.e. users are notified when new personal data/sources are held by government)
- D2 Is it possible for users to notify the government online if they think that the personal data held by government is incorrect/incomplete?
- D3 Is it possible for users to modify the personal data held by government online?
- D4 Is a complaint procedure available for users as regards their personal data?
- D5 Can you monitor who has consulted your personal data and for what purpose? (Monitoring in this case refers to the situation where a user can see – online – whether, when, by whom and why personal data was used; e.g. a civil servant looked up personal data for the purpose of answering a certain application):
 - o 0 = This information is not available
 - o 1 = You can monitor whether your data has been consulted
 - o 2 = You can monitor whether and when your data has been consulted
 - o 3 = You can monitor whether and when your data has been consulted and who (department/organisation) has consulted the data
 - o 4 = You can monitor whether and when your data has been consulted, who (department/organisation) has consulted the data and for what purpose

E. Transparency of service design

Assessment of relevant portal(s):

Transparency of policy

- E1: Does the website provide information on the administrations' key policy making processes?
- E2: Does the website provide information on the user's ability to participate in policy making processes?

Transparency of service design

- E3: Does the website provide information on the process via which digital services are designed (e.g. panels, expert groups and consultations involving citizen and stakeholders such as businesses, researchers and non-profit organisations)?
- E4: Does the website provide information on how users can enrol in any activity to improve the design and delivery of services (e.g. via panels, expert groups and consultations)?

F. Key Enablers

eID

Definition: *electronic identification (eID) is any means accepted by eGovernment services (e.g. smartcards, username and password) for online identification.*

Assessment of each transactional service in the life event process model:

- F1 Is any kind of (online/offline) authentication needed to access or obtain the service? (no score is attributed to this question, the question intends to landscape for how many/which process steps an eID is required)
- F2 If an authentication is needed, is it possible to authenticate online?
- F3 If it is possible to authenticate online, do you use a generic electronic identifier (e.g. a national eID card)? (if the service requires a specific electronic identifier (e.g. a matriculation number for students) provided by the involved service provider, and which is only suited for services from that single provider, the answer to this question is 'no')
- F4 If it is possible to authenticate online for a service, is it also possible to access another service in this life event (but provided by a different service provider) without re-authenticating? (if there is only 1 service provider in a life event, this question is redundant)
- F5 If it is possible to authenticate online for a service, can one also decide to use a private eID (like eBanking token)? This question is not scored, but aims to increase insights into the use of various electronic identification tools.

eDocuments

Definition: an eDocument is any document in digital form that the user needs to submit/upload in order to complete an eGovernment service, or that the user obtains as a proof or a result of the service (e.g. certificate, diploma, proof of registration).

Assessment of each transactional service in the life event process model:

- F6 Is any kind of documentation needed to access or apply for the service? (no score is attributed to this question; the question intends to landscape for how many/which process steps an eDocument is relevant)
- F7 Is it possible for the user to *submit* the document that is required by the service provider to complete procedures and formalities necessary to establish or to carry out a process step online (certificate, diploma, proof of registration, etc.) in an electronic form?
OR
Is it possible to *obtain* the document that is to be provided by the service provider to the service recipient when completing procedures and formalities necessary to establish or to carry out a process step online (certificate, diploma, proof of registration etc.) in an electronic form?

Authentic sources

Assessment of each transactional service in the life event process model:

- F8 Is any kind of eForm needed to access or apply for the service? (no score is attributed to this question, the question intends to landscape for how many/which process steps an eForm is required)
- F9 When applying for this service is personal data pre-filled by the service provider? (based on data from authentic sources¹⁷ such as National register, Tax registers, Company registers etc.)

Digital post

Assessment of relevant portal(s):

- F10 Is it possible for citizens and businesses to receive communication from the central government digitally only (eg by personal mailbox or MyPage)?

¹⁷ Idem, Authentic database: any data collection in which certain attributes of a clearly defined subset of entities are managed, and to which a particular legal of factual trust is attached (i.e. which are generally assumed to be correct). This includes National Registers, Tax Registers, Company Registers, etc

- F11 Is it possible for citizens and businesses to receive communication from local governments digitally only (eg by personal mailbox or MyPage)?

G. Cross-border online availability

Assessment of each transactional and informational service in the life event process model (when indicated as relevant for cross-border assessment):

- G1 Is information about the service available online for a cross-border user?
- G2 Can the service be obtained online by a cross-border user? (e.g. If needed, is it possible to submit a foreign version of a required document or does one need to translate first or request official recognition? If needed, is it possible to log in with a foreign eID?)
- G3 If the previous question is answered negatively, what barriers does a cross-border user encounter (multiple choice):
 - o National online identification/authentication required
 - o Foreigner cannot submit required eDocuments
 - o Need for translation or recognition of required document
 - o The website is not available in English (there is no integrated translation functionality on the website)¹⁸
 - o Lack of information aiming at foreign users
 - o Need for physical encounter
 - o Other (to be provided by Mystery Shopper)

H. Cross-border user support

Assessment of relevant domain websites and/or portal(s):

Support & help

- H1 Does the website contain a help functionality accessible for foreigners?
- H2 Are feedback mechanisms available for foreigners to give their opinion on the service? (feedback mechanism or discussion forum, not only in a national language)?

Giving feedback

- H3 Is it clear for a foreigner how to access complaint procedures? (taking into account possible language issues, eg referral to organisation that can provide additional information) (any type: redress, dispute resolutions)

I. Cross-border key enablers

Cross-border eID.

Assessment of transactional services:

- I1 Is any kind of (online/offline) authentication needed to access or apply for the cross-border service? (no score is attributed to this question, the question intends to landscape for how many/which process steps an eID is required)
- I2 If an authentication is needed for a cross-border service, is it possible to authenticate online using your national eID?

Cross-border eDocuments

- I3 Is any kind of documentation needed to access or apply for the cross-border service? (no score is attributed to this question, the question intends to landscape for how many/which process steps an eDocument is relevant)
- I4 Is it possible for the user to *submit* the document that is required by the foreign service provider to complete procedures and formalities necessary to establish or

¹⁸ Translation via browsers extensions (like Google Translate) are excluded here.

to carry out a process step online (certificate, diploma, proof of registration etc) in an electronic form?

OR

Is it possible to *obtain* the document that is to be provided by the foreign service provider to the service recipient when completing procedures and formalities necessary to establish or to carry out a process step online (certificate, diploma, proof of registration etc) in an electronic form?

J. Mobile online service delivery (pilot)

Assessment for 2 transactional services within each life event, using a predefined mobile device.

Mobile online availability

- J1 Is information about the service available online via a mobile app or responsive website?
- J2 Is the actual service available online via a mobile app or responsive website?

Mobile eID

- J3 Is any kind of (online/offline) authentication needed to access or obtain the service?
- J4 If an authentication is needed, is it possible to authenticate online via the app or responsive website?
- J5 If it is possible to authenticate online, can you use a generic electronic identifier via the app or responsive website?
- J6 If it is possible to authenticate online for a service, can one also decide to use a private eID (like eBanking token) via the app or responsive website?

Mobile eDocuments

- J7 Is any kind of documentation needed to access or apply for the service?
- J8 Is it possible for the user to submit the document that is required by the service provider to complete procedures and formalities necessary to establish or to carry out a process step online via the app or responsive website?; *OR* Is it possible to obtain the document that is to be provided by the service provider to the service recipient when completing procedures and formalities necessary to establish or to carry out a process step online via the app or responsive website?

Mobile authentic sources

- J9 Is any kind of eForm needed to access or apply for the service using the app or responsive website?
- J10 When applying for this service is personal data pre-filled by the service provider through the app or responsive website?

Annex B. Scoring rules

General scoring rules

Biennial averages of key dimensions

Half of the life events are measured in the even years (2020, 2022, etc.) and the other half of the life events in the uneven years (2021, 2023, etc.). For this reason, comparing 2020 with 2021 data is not accurate, because other life events are concerned. In order to know how a specific life event developed, one should compare 2020 with 2022 data only, as well as 2021 with 2023 data.

In order to capture all life events, biennial averages are used, the average of two subsequent years (e.g. the average score for 2020-2021). The biennial averages have been computed based on the rounded numbers historically. Biennials averages, based on rounded life event scores are used for the four key dimensions, as well as individual indicators to ensure comparability.

Rounding

Since the 2018 eGovernment Benchmark edition official scores are rounded to the first decimal. This is how they are displayed in the source data file. Due to aesthetic and legibility considerations, the scores in the Insight report, Background report and the Factsheets are frequently displayed or mentioned rounded to the whole number, with any additional calculation or transformation being based on the full scores.

Scores for individual indicators

In addition, there are some 'technical' rules when computing scores:

100% score

- If a transactional or informational service is automated, this service scores 100%
- This applies to section Online availability (section A), Transparency of service delivery (section C) and eID, eDocuments and Authentic sources (part of section F)

Best score

For services that are provided at the central government level, the best possible answer from the URLs related to the same service is taken. This applies to the following indicators:

- Online availability (section A)
- Transparency of service delivery (section C)
- eID, eDocuments and Authentic sources (part of section F)
- User support (section B)
- Transparency of personal data (section D)

Service 1.1	Answers to question A1
Central government URL 1	Yes (considered, best score)
Central government URL 2	No (not considered)

Average score

For services that are provided at the regional or local level, the average of URLs related to the same service is taken. This applies to the following indicators:

- Online availability (section A)
- Transparency of service delivery (section C)
- eID, eDocuments and Authentic sources (part of section F)
- Transparency of service design (section E)

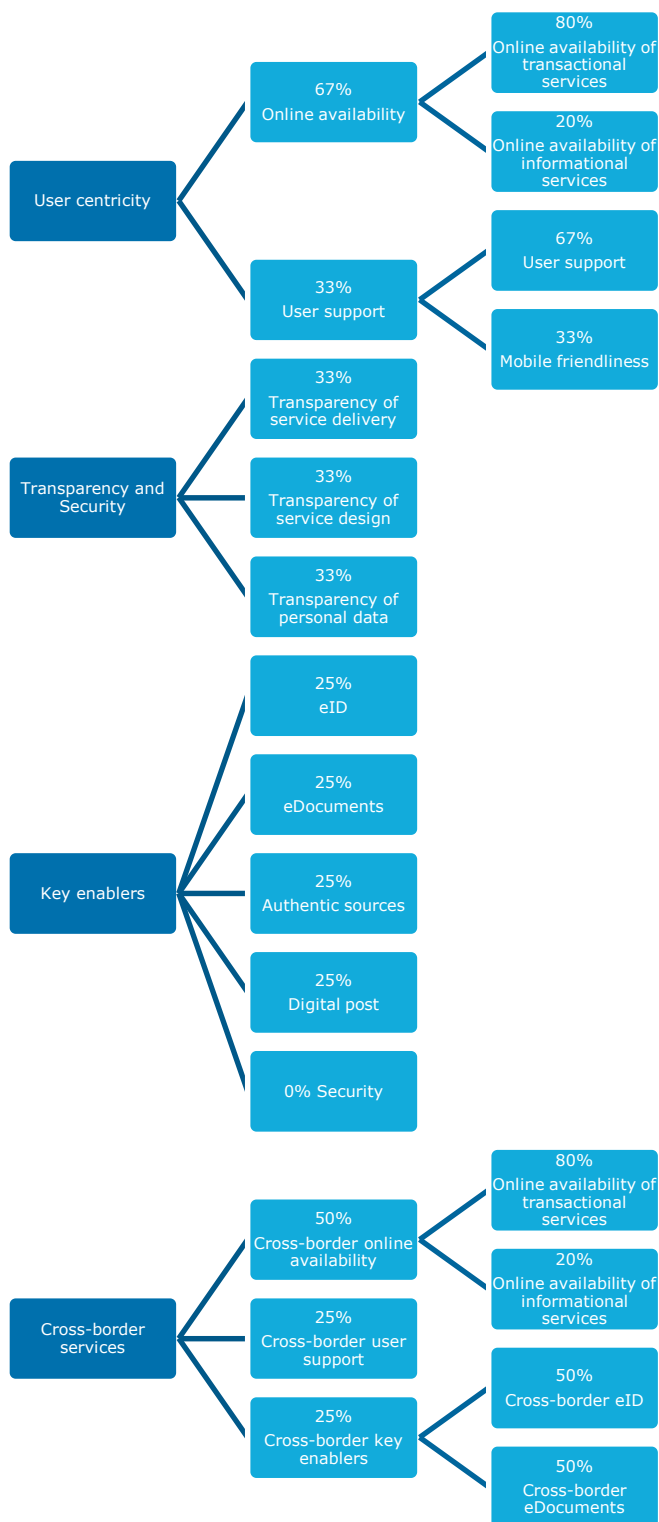
Service 2.2	Answers to question A1
Regional/local URL 1	Yes (considered, averaged)
Regional/local URL 2	No (considered, averaged)

No score

- No score is given for a service that has been identified as not applicable in a country.
- Individual questions are not taken into account when the question has been answered with NR (not relevant). The score is computed on the basis of the other questions.

- If all transactional services in a life event are not applicable in a country, no score is given to this country for the indicators Transparency of service delivery (section C) and eID, eDocuments and Authentic sources (part of section F).

Calculation of key dimensions



Calculation of individual indicators via Mystery Shopping

The score sheet for Member States needs to be composed of the following scores:

User centricity

Online availability (section A)

- Online availability of transactional services – average of all transactional services in life event. Per service the following scoring rules apply:
 - o If A1+A2+A3 = yes > 100%
 - o If A1+A2 = yes > 75%
 - o If A1+A3 = yes > 50%
 - o If A1 = yes > 25%
 - o If A1+A2+A3 = no > 0%
- Online availability of informational services – average of all informational services in life event. Per service the following scoring rules apply:
 - o If A1+A2+A3 = yes > 100%
 - o If A1+A2 = yes > 75%
 - o If A1+A3 = yes > 50%
 - o If A1 = yes > 25%
 - o If A1+A2+A3 = no > 0%

User support (section B)

- Average score B1-B7, whereby B2 = yes if B2.1 OR B2.2 are yes

Transparency

Transparency of service delivery (section C)

- Average score of C1-C7 (whereby all yes = 100%)

Transparency of service design

- Average score of E1-E4 (whereby all yes = 100%)

Transparency of personal data (section D)

- Average score of D1-D5 (whereby all yes = 100%)
- For D1: 0 = 0%, 1 = 33%, 2 = 67%, 3 = 100%
- For D5: 0 = 0%, 1 = 25%, 2 = 50%, 3 = 75%, 4 = 100%

Key enablers

eID (section F)

- If F1 = no > no score
- If F1 = yes, but the others are no > 0%
- If F1 + F2 = yes > 33%
- If F1 + F2 + F3 = yes > 67%
- If F1 + F2 + F4 = yes > 67%
- If F1 + F2 + F3 + F4 = yes > 100%
- F5 is not scored

eDocuments (section F)

- if F6 = no > no score is attributed
- If F6+F7.1 or F6+F7.2 = yes > 100% (if F7 no > 0%)

Authentic sources (section F)

- If F8 = no > no score is attributed
- If F8+F9 = yes > 100% (if F9 no > 0%)

Digital post (section F)

- if 10 and F11 = no > 0%
- if F10 or F11 = yes > 50%
- if F10 and F11 = yes > 100%

Cross-border mobility

Cross-border online availability (section G)

- Online availability of transactional services – average of all cross-border transactional services in life event. Per service the following scoring rules apply:
 - o If automated > 100%
 - o If G1+G2 = yes > 100%
 - o If G1 = yes > 50%
 - o If G1+G2 = no > 0%
- Online availability of informational services – average of all cross-border informational services in life event. Per service the following scoring rules apply:
 - o If automated > 100%
 - o If G1+G2 = yes > 100%
 - o If G1 = yes > 50%
 - o If G1+G2 = no > 0%

Cross-border user support (section H)

- Average score H1-H3

Cross Border Key Enablers (section I)

- Cross-border eID – if I1 & I2 are answered positively, this leads to a score of 100%. If I1 = yes, but I2 = no, this leads to a score of 0%. If both are 'no', there is no score (as it is not relevant)
- Cross-border eDocuments – similar approach. If I3 & I4_1 or I4_2 = yes > 100%. If only I3 = yes > 0%. If I3 = no > not relevant, no score.

Calculation of indicators via automated tools

Mobile friendliness

Mobile friendliness scores are calculated in a manner similar to other service-level indicators. In this new methodology the calculation of the scores depends on whether the service is provided by a central or local/regional government administration.

- If a website passes the test, a score of 100% is attributed.
- If a website fails the test, a score of 0% is attributed.
- A central government service is deemed mobile friendly if any included URL for that service passes the test (100%).
- A local or regional service is deemed mobile friendly if all included URLs for that service pass the test. If some local or regional URLs pass the test and some fail the test, the average score is attributed.

Security

The security indicator is not weighed as part of the key dimensions. Only aggregated results are reported. The result of the tested items are combined on two axes, on the level of the 14 tests and on the level of URLs.

- For the scores per test, the number of URLs that pass that test are presented as the pass rate (e.g. X% of the URLs passed for the IPv6 test, Y% of the URLs passed for the HTTPS test, etc.).
- For the scores per URL, the number of tests the URL passes are presented as the pass rate (e.g. X% of the URLs passes 1 test, X% of the URLs passes 2 tests, etc.).

Calculation of pilot indicators (not weighed as part of key dimensions)

Mobile service delivery

- *Mobile online availability*

- If J1+J2 = yes > 100%
- If J2 = yes > 75%
- If J1 = yes > 25%
- If J1+J2 = no > 0%
- *Mobile eID*
 - If J3 = no > no score is attributed
 - If J3 = yes, but the others are no > 0%
 - If J3 + J4 = yes > 50%
 - If J3 + J4 + J5 = yes > 100%
 - J6 is not scored
- *Mobile eDocuments*
 - If J7 = no > no score is attributed
 - If J7+J8.1 or J7+J8.2 = yes > 100% (if F8 no > 0%)
- *Mobile Authentic sources*
 - If J10 = no > no score is attributed
 - If F10+F11 = yes > 100% (if F11 no > 0%)

Usability (preliminary)

- *User panels*
 - If the task could not be completed, a score of 0% is attributed.
 - For all tasks that can be completed, a score of 50% is attributed.
 - If a task was completed in X (e.g. 30) seconds and with Y (e.g. 2) clicks or less, another 50% is scored (total of 100%).
 - If a task was completed in X (e.g. 60) seconds and with Y (e.g. 4) clicks or less, another 40% is scored (total of 90%).
 - If a task was completed in X (e.g. 90) seconds and with Y (e.g. 6) clicks or less, another 30% is scored (total of 80%).
 - If a task was completed in X (e.g. 120) seconds and with Y (e.g. 8) clicks or less, another 20% is scored (total of 70%).
 - If a task was completed in X (e.g. 150) seconds and with Y (e.g. 10) clicks or less, another 10% is scored (total of 60%).
- *Expert evaluation*
 - For each of the ten usability categories/criteria a score between 0-10 is attributed. This results in a country score from 0% to 100%.

Accessibility

- 0 violations found -> 100%
- 1-4 violations found -> 75%
- 5-8 violations found -> 50%
- 9-12 violations found -> 25%
- 13 or more violations found -> 0%

Findability

- The MozBar test results in a score from 0% to 100%.

Safe email

- The Internet.nl test results in a score from 0% to 100%.
- Similar to the website security test, findings can be reported on the level of tests (how many URLs passed that test) and on the level of individual URLs (how many tests were passed for how many URLs).

Annex C. Country allocation of Mystery Shoppers

The cross-border assessment will be done by two Mystery Shoppers from another European country (e.g. 2 Austrian Mystery Shoppers evaluate Hungarian and Estonian websites). The first country will be chosen based on migration flows data by Eurostat (the one with the most relevant flow will be chosen) while the second one will be chosen completely at random.

	Regular business operations	Moving	Transport	Starting a small claims procedure		Business start-up	Career	Studying	Family
AL	MK		MK	AL	MK		MK		
AT	HU		EE	AT	HU		EE		
BE	NL		LV	BE	NL		LV		
BG	TR		BE	BG	TR		BE		
CH	DE		CZ	CH	DE		CZ		
CY	EL		HU	CY	EL		HU		
CZ	SK		UK	CZ	SK		UK		
DE	CH		HR	DE	CH		HR		
DK	IS		AT	DK	IS		AT		
EE	FI		LU	EE	FI		LU		
EL	CY		ME	EL	CY		ME		
ES	PT		RO	ES	PT		RO		
FI	EE		PT	FI	EE		PT		
FR	LU		CY	FR	LU		CY		
HR	SI		IT	HR	SI		IT		
HU	AT		NO	HU	AT		NO		
IE	PL		DK	IE	PL		DK		
IS	DK		IE	IS	DK		IE		
IT	RO		RS	IT	RO		RS		
LT	LV		SI	LT	LV		SI		
LU	FR		EL	LU	FR		EL		
LV	LT		NL	LV	LT		NL		
ME	HR		FI	ME	HR		FI		
MK	AL		AL	MK	AL		AL		
MT	UK		SE	MT	UK		SE		
NL	BE		LT	NL	BE		LT		
NO	SE		PL	NO	SE		PL		
PL	IE		SK	PL	IE		SK		
PT	ES		MT	PT	ES		MT		
RO	IT		TR	RO	IT		TR		
RS	ME		BG	RS	ME		BG		
SI	RS		DE	SI	RS		DE		
SK	CZ		IS	SK	CZ		IS		
SE	NO		FR	SE	NO		FR		
TR	BG		CH	TR	BG		CH		
UK	MT		ES	UK	MT		ES		

Annex D. Life event service definitions

Each life event description consists of a persona profile and a list of all services which details the service, service definition, the service type (informational service (INF) or transactional service (TRA) and whether it is measured for national users (NAT) or foreign/cross-border users (CB).

Business start-up

Carl, 45 years, has made plans to start his own restaurant right at the centre of his lively city. He has found sufficient information online to help him prepare for the actual setting up of his business and made sure to obtain necessary administrative requirements online.

When starting a business in the catering industry, one needs a solid business plan. Furthermore, Carl has found out that his catering businesses must comply with environmental regulation concerning possible noise pollution and handling of waste. Applying for this permit is easily possible through the website of the local community.

Carl starts his business as a sole proprietor. Due to very successful opening event, which was part of the strategy he laid down in his business plan, he attracts a steady crowd in the weeks and months after. Soon he realises he needs some more help to ensure smooth service for his guests and he hires a chef and waiter. Information and the necessary actions needed as regards taxes and employment services are available online, which saves our busy restaurant owner some of his valuable time.

After a very successful first year, Carl wants to explore his horizons and considers opening a new restaurant in his favourite holiday destination. The online availability of information and services concerning the registration of his restaurant there, simply overcomes any barriers such as authentication, travelling or language.

Process stage	Definition of Service	Service type	Target user
1 Orientation			
1.1 Check requirements for starting a business	Minimal requirements for the service to be considered online: information on the required steps and other requirements needed to start a new business (e.g. a checklist)	INF	NAT
1.2 Get guidance with how to write a business plan	Minimal requirements for the service to be considered online: information on how to write a business plan (templates, examples, things to consider, etc.).	INF	NAT
1.3 Get guidance with how to explore financial possibilities	Minimal requirements for the service to be considered online: information on how to explore financial possibilities (e.g. references to government subsidies, templates for a financial plan, suggestions on where to look for crowd funding)	INF	NAT
2 Administrative requirements			
2.1 Obtain certificate of no outstanding charges	Minimal requirements for the service to be considered online: information on and the online form needed to obtain a certificate which proves that the entrepreneur has paid all his/her taxes and has no other outstanding social security and/or healthcare charges.	TRA	NAT+CB
3 Basic registration			
3.1 Register company for the first time	Minimal requirements for the service to be considered online: information on and the online form needed to register a company for the first time, e.g. providing details about you as an owner, define the company name, indicate the type of legal entity and register a business address	TRA	NAT+CB
4 Tax-related matters			
4.1 Obtain tax identification card/number	Minimal requirements for the service to be considered online: information on and the online form needed to obtain a taxpayer registration and identification card/number.	TRA	NAT+CB
4.2 Obtain VAT collector number	Minimal requirements for the service to be considered online: information on and the online form needed to obtain a VAT number so that the company can declare its VAT taxes	TRA	NAT+CB
5 Insurance-related matters			
5.1 Register with Social Security Office	Minimal requirements for the service to be considered online: information on and the online form needed to register with Social Security in order to fulfil related duties	TRA	NAT+CB
5.2 Get guidance with how to arrange (mandatory) pension insurance	Minimal requirements for the service to be considered online: information on how to go about (mandatory) pension insurance as an entrepreneur	INF	NAT
5.3 Get guidance with how to arrange (compulsory) healthcare insurance	Minimal requirements for the service to be considered online: information on how to go about (compulsory) healthcare insurance as an entrepreneur	INF	NAT
6 Hiring a first employee			
6.1 Register your company as an employer	Minimal requirements for the service to be considered online: information on and the online form needed to register as an employer, e.g. to create a PAYE (Pay As You Earn) scheme for tax, national insurance, before hiring an employee	TRA	NAT+CB
6.2 Register employee before first workday	Minimal requirements for the service to be considered online: information on and the online form needed to announce the start of a first employee before the first day of working (to prevent fraud and illegal work)	TRA	NAT+CB
6.3 Check contractual obligations for hiring employees	Minimal requirements for the service to be considered online: information on government regulations and obligations regarding contracts (information about minimum wages, maximum working day time, collective labour agreements, number of temporary contracts allowed); for cross border this means information about government regulations and obligations to hire an employee from abroad (e.g. information on the possibilities, guidelines on what should be arranged and what limitations apply as compared to hiring a national employee)	INF	NAT
6.4 Check working conditions for employing employees	Minimal requirements for the service to be considered online: information on government regulations and obligations regarding working conditions for employees (e.g. minimum working requirements for employees, safety measures required around working environment, requirements for fire exits, health and climate conditions at working space)	INF	NAT
7 Request an environmental permit			
7.1 Check conditions for environmental permits	Minimal requirements for the service to be considered online: information on the criteria when the company can register an exemption or needs a full permit for pollution (e.g. companies dealing with IPPC-regulation always need a full environmental permit)	INF	NAT+CB
7.2 Obtain pollution/environmental permit	Minimal requirements for the service to be considered online: information on and the online form needed to apply for the environmental permit, generally including the submission of supporting documents (e.g. engineering reports, geological evaluations and financial assurance instruments)	TRA	NAT+CB

Career

Marc, 29 years, lost his job as financial administrator because the company he was working for had to lay off employees due to decreased profits as result of economic crisis. After this nasty blow, Marc pulls himself together and decides to get back into work as soon as possible.

First of all, he registers himself as unemployed and he applies for unemployment benefits. He wonders how much benefits he is entitled to and for how long, and searches for this information in his personalised file. Marc is breadwinner in his family, which besides him consists of his wife and two little sons. Taking care of regular costs for housing, living and education of his children is a heavy burden (also affecting his physical and mental wellbeing), but he finds out there are several possibilities to get help and support from the government and also to ensure he receives additional benefits during his unemployment. He easily understands what documents are required when applying for these additional benefits and allowances.

Marc is very eager to go back to work as soon as possible and therefore immediately obtains information about the labour market and information on recruitment fairs. To increase his chances, he seeks help for assistance by a public officer. As Marc lives close to the border, he also favours the possibility of working abroad and looks for services related to job search and labour market in his neighbouring country.

When celebrating his 30th birthday with his new colleagues, he is very satisfied with the information, services and support delivered by the involved public organisations as they enabled him to apply for relevant benefits to support his family during his period of unemployment and at the same time provided him with the opportunities to get back into work in a relatively short period of time. A few weeks later, Marc's mom reaches the entitled age for receiving her pension. After being in contact with government himself, Marc decided to help her applying for her pension.

Process stage	Definition of Service	Service type	Target user
1	Immediate actions for unemployed		
1.1	Registering as unemployed	Minimal requirements for the service to be considered online: information on and the online form needed to register oneself as unemployed with a competent authority as soon as one gets unemployed	TRA NAT+CB
1.2	Calculate unemployment benefits (duration and height)	Minimal requirements for the service to be considered online: information on the amount of benefits to receive and reference to relevant laws/rules (this could be done with a test to assess how much benefits the job seeker is entitled to and for how long)	INF NAT+CB
1.3	Apply for unemployment benefits	Minimal requirements for the service to be considered online: information on and the online form needed to register for unemployment benefits; include providing documents (e.g. resign letter of employee, proof of identity, bank statements, proof of address)	TRA NAT+CB
1.4	Appeal against decision when unemployment benefits are not granted	Minimal requirements for the service to be considered online: information on and the online form needed to appeal against unemployment benefit decision, with explanation of the necessary steps to undertake when wrongly refused unemployment benefits	TRA NAT+CB
2	Guidance on additional benefits and allowances		
2.1	Check eligibility for additional unemployment benefits	Minimal requirements for the service to be considered online: information on additional benefits when losing your job (e.g. additional child allowances) and what criteria have to be eligible	INF NAT
2.2	Get guidance with how to arrange housing benefits	Minimal requirements for the service to be considered online: information on how to arrange for example rent supplements, applying for community housing, contact details of housing associations and legal advice	INF NAT
2.3	Get guidance with how to arrange debt counselling	Minimal requirements for the service to be considered online: information on how to arrange debt counselling service (e.g. related to problems with paying off mortgage)	INF NAT
2.4	Get guidance with how to arrange health promotion programmes	Minimal requirements for the service to be considered online: information on how to arrange medical checks, health or fitness programs to promote health care for unemployed	INF NAT
2.5	Get guidance with how to arrange help during invalidity, sickness and employment injuries	Minimal requirements for the service to be considered online: information on how to gain access to benefits and provisions in case of invalidity, sickness or employment injuries	INF NAT
2.6	Apply for a tax refund or other allowances affected by unemployment	Minimal requirements for the service to be considered online: information on and the online form needed to apply for additional housing or healthcare allowances, due to lower/lack of income.	TRA NAT+CB
3	Maintaining applicable benefits		
3.1	Check obligations for keeping unemployment benefits	Minimal requirements for the service to be considered online: information on the obligations and duties to keep unemployment benefits (e.g. how often a person needs to apply for a job, attend job interviews or participate in compulsory trainings).	INF NAT+CB
3.2	Submit evidence that proves you are looking for work	Minimal requirements for the service to be considered online: information on and the online form needed to prove a person is genuinely looking for work (e.g. provide evidence of application letters sent or proof of having attended job interviews)	TRA NAT+CB
3.3	Register circumstances that impede you from looking for work	Minimal requirements for the service to be considered online: information on and the online form needed to report reasons (e.g. sickness, holiday or other changing circumstances) why obligations and duties to receive unemployment benefits cannot be met temporarily.	TRA NAT+CB
4	Finding a new job and fulfilling duties being employed		
4.1	Get guidance with how to find a job	Minimal requirements for the service to be considered online: information on how to find a job, such as suggestions where to look for vacancies, CV templates, video tutorials, suggestions where to find online training courses, etc.	INF NAT
4.2	Register employment to stop unemployment benefits	Minimal requirements for the service to be considered online: information on and the online form needed to notifying the competent authorities to stop unemployment benefits when a person found a job.	TRA NAT+CB
4.3	Declare personal income taxes	Minimal requirements for the service to be considered online: information on and the online form needed to fill in tax returns or personal income taxes (tax paid for business earnings are out of scope here)	TRA NAT+CB
5	Retiring		
5.1	Calculate future pensions	Minimal requirements for the service to be considered online: information on pensions in general, as well as an estimation of the entitled state pension (height and by what age), e.g. through simulation or calculation tools	INF NAT
5.2	Apply for state pension	Minimal requirements for the service to be considered online: information on and the online form needed to claim and start receiving one's state pension; for cross-border the person applying for a state pension comes from another country than the country under evaluation	TRA NAT+CB
5.3	Check entitlement for pension when moving abroad or returning from another country	Minimal requirements for the service to be considered online: information on the situation of claiming a state pension when moving to another country (e.g. entitlement, process requirements) or about how to combine pension rights from different countries	INF NAT

Studying

Maria, 20 years old, wants to enrol in a Business Administration degree in her country. She searches online for information to help her make a choice and she wants to know how she can prepare for the start of the curriculum. She enrolls in the university in her capital city. In order to be self-supporting, she depends on Student finance and complementary social benefits. Insight into her financials is hence important for her. Keeping track of progress is easy as her university provides students with a personal page which enables to look up their grades online and register for additional courses and exams. The university also provides information for students who want to study abroad or want to apply for an internship.

After two years, Maria wants to engage in an international experience in another EU country, improve her language skills and is orientating to continue her study abroad for a period of 6 months. She searches for general information about possible destination countries and wants to know what is required for enrolment. Again, her financial situation requires she has clear understanding of what she can expect when studying abroad, including eventual possibility of keeping her student finance.

Process stage		Definition of Service	Service type	Target user
1	Orientation			
1.1	Monitor study programmes provided by universities	Minimal requirements for the service to be considered online: information on study programmes and the possibility for students to easily perform a search, which allows for viewing and comparing information between certain study programmes (from different universities)	INF	NAT
1.2	Check admission requirements for enrolling in higher education	Minimal requirements for the service to be considered online: information on what is needed when enrolling in higher education (e.g. a help-wizard or checklist tool with all the requirements)	INF	NAT
2	Enrolment			
2.1	Obtain recognition of diploma declaration	Minimal requirements for the service to be considered online: information on and the online form needed to obtain a status declaration or recognition statement of diploma when your diploma was obtained in another country than the country under evaluation	TRA	CB
2.2	Register in higher education	Minimal requirements for the service to be considered online: information on and the online form needed to enrol as a student in a university or another institution of higher education subsidised by an official administrative body in the country, including the provision of personal documents and/or eventual qualifications to be enrolled	TRA	NAT+CB
2.3	Apply for student grants	Minimal requirements for the service to be considered online: information on and the online form needed to apply for student grants given to higher education students	TRA	NAT+CB
2.4	Calculate additional financial possibilities	Minimal requirements for the service to be considered online: information on available additional grants, social benefits and loan, based on personal situation, making students aware of possible financial support (e.g. with a calculation tool)	INF	NAT
2.5	Apply for additional social benefits	Minimal requirements for the service to be considered online: information on and the online form needed to apply for additional benefits when enrolling in higher education (other than specific study grants) because of financial hardship or disability	TRA	NAT+CB
3	Study guidance			
3.1	Apply for portability of student grant (abroad)	Minimal requirements for the service to be considered online: information on and online form needed to keep a student grant when continuing a study abroad (temporarily)	TRA	NAT
3.2	Monitor grades and personal data	Minimal requirements for the service to be considered online: information on and online space to access personal data and get an overview of grades (e.g. via personal account/profile)	INF	NAT
3.3	Get guidance with how to arrange studying abroad (international office)	Minimal requirements for the service to be considered online: information on what a student needs to consider when planning to study abroad (e.g. references to other universities, tips about arranging accommodation abroad, suggestions on how to finance studying abroad)	INF	NAT
3.4	Get guidance with how to arrange internships and starting your career	Minimal requirements for the service to be considered online: information on where to look for vacant internships, how to write a CV, what to pay attention to when looking for a job after graduating etc.	INF	NAT

Family

Fiona, 34, is over the moon. She has just found out that she is pregnant! After telling her family and friends the good news, she starts to overthink the practicalities of the pregnancy. She, for instance, does not know how much maternity leave she will get and whether it is paid or unpaid.

7 months later she gives birth to a healthy boy, who she and her partner, Peter, name Steven. After a day of recovery in hospital they take Steven home. While resting in bed at home Fiona researches the amount of child allowance she will obtain and applies for the allowance. Fiona and Peter aren't married, and therefore Peter has not obtained parental authority when little Steven was registered. He therefore applies for parental authority.

After the happiest year of their lives Peter proposes Fiona to marry him, she accepts. They set their wedding date for June and start planning their honeymoon. While planning their honeymoon to North America, they suddenly realise they lost their child's birth certificate. They request a new certificate in order to get a passport for little Steven. Fiona also realises that her passport is about to expire, so she applies for a new one. During their honeymoon disaster strikes. They find out that Fiona's dad has passed away. When returning home, Fiona and Peter start arranging the funeral and necessary administrative processes.

Process stage	Definition of Service	Service type	Target user
1 Birth			
1.1 Check conditions for parental leave	Minimal requirements for the service to be considered online: information on paid/unpaid maternity and paternity leaves as regulated by government, as well as information on entitlement, eligibility and the claim procedure	INF	NAT
1.2 Register child with competent authority	Minimal requirements for the service to be considered online: information on and the online form needed to make an online appointment to register birth with competent authority to acknowledge the child (actual registration is expected to require authentication in person still)	TRA	NAT
1.3 Register parental authority (e.g. with court in case not married)	Minimal requirements for the service to be considered online: information on and the online form needed to register parental responsibility for the father (e.g. in case the mother and father are not married)	TRA	NAT
1.4 Apply for child allowance	Minimal requirements for the service to be considered online: information on and the online form needed to apply for child benefit (money from the government to accommodate for expenses of raising a child)	TRA	NAT+CB
2 Marriage			
2.1 Register with civil/local registry in order to get married or to close a civil partnership	Minimal requirements for the service to be considered online: information on and the online form needed to give notice about the intended marriage or partnership, including information about the procedure and requirements	TRA	NAT
2.2 Register divorce with civil/local registry in order to end marriage or a civil partnership	Minimal requirements for the service to be considered online: information on and the online form needed to give notice about the end of a marriage or partnership	TRA	NAT
3 Personal documents			
3.1 Obtain passport	Minimal requirements for the service to be considered online: information on and the online form needed to make an online appointment and request a new passport to identify one's nationality (actual registration is expected to require authentication in person still)	TRA	NAT
3.2 Obtain birth certificate	Minimal requirements for the service to be considered online: information on and the online form needed to obtain your birth certificate (or a copy of the certificate, other than the version obtained when born)	TRA	NAT
3.3 Obtain for a European Health Insurance Card	Minimal requirements for the service to be considered online: information on and the online form needed to obtain a European Health Insurance Card	TRA	NAT+CB
4 Registering death			
4.1 Check requirements for registering the death of a relative	Minimal requirements for the service to be considered online: information on how the authorities need to be notified of a death, where the registration should take place and which documents are required	INF	NAT

Regular business operations

Margo, female, 51 years old, has her own company in transportation of household goods. She is the Sole Proprietor and has 4 employees. Running her own business, she is required to keep a clear business administration. She has to declare corporate tax, submit VAT declarations and submit financial reports to the business registration office. Once in a while she also needs to submit company data to the national statistical offices. Because she has employees, she is also obliged to pay social contributions. After 2 months one of her employees falls ill. She reports it to the relevant authority and she might request compensation (e.g. financial compensation, tax benefit) for the ill employee at the government.

After having successfully run the transportation company for more than 10 years, Margo wants to set up an office in another EU country, so logistics can be arranged better and cross border movement of household goods become a possibility for client. She thus starts to gather information about how to set up an office abroad, what the requirements are in the other EU country, what the business environment is like and what business possibilities foreign companies have. After having obtained sufficient information Margo decides to take her chances and to set up an office abroad. She thus registers the new office at the relevant authorities.

Process stage		Definition of Service	Service type	Target user
1	Tax and corporate finance			
1.1	Declare corporate tax	Minimal requirements for the service to be considered online: information on and the online form needed to fulfill the yearly corporate tax submission by businesses (e.g. how to submit corporate taxes, deadlines, corporate tax form); for cross-border the entrepreneur declaring taxes comes from another country than the country under evaluation	TRA	NAT+CB
1.2	Declare social contributions	Minimal requirements for the service to be considered online: information on and online form needed to declaring the social contributions businesses are obliged to pay (e.g. information about which social contributions should be paid, such as unemployment, invalidity insurance, pension, as well as a description which steps should be taken to fulfil social contributions and the declaration form itself); for cross-border the entrepreneur declaring social contributions comes from another country than the country under evaluation	TRA	NAT+CB
1.3	Submit financial reports to business registration office	Minimal requirements for the service to be considered online: information on and the online form needed to submitting financial information (annual reports) to a competent authority (e.g. information on the requirements and how to provide the financial data, contact details of the competent authority and the submission form); for cross-border the entrepreneur submitting financial reports comes from another country than the country under evaluation	TRA	NAT+CB
1.4	Submit company data to statistical offices	Minimal requirements for the service to be considered online: information on and the form needed to submit data to national statistical office (NSO) used for macro-economic analysis by NSO's (e.g. process description how statistical data is gathered, when and what data is required, as well as the form or questionnaire to submit the statistical data)	TRA	NAT
2	VAT			
2.1	Declare VAT	Minimal requirements for the service to be considered online: information on and the online form needed to declare VAT (Value Added Tax) by businesses (e.g. information about how to submit VAT tax, when, to which governmental agency and the VAT tax form); for cross-border the entrepreneur declaring VAT comes from another country than the country under evaluation	TRA	NAT+CB
2.2	Apply for a refund of VAT	Minimal requirements for the service to be considered online: information on and the online form needed to claim a VAT (Value Added Tax) refund (e.g. information about the possibilities and conditions for claiming refund of VAT, administrative obligations and documentation needed); for cross-border the entrepreneur seeking for a VAT refund comes from another country than the country under evaluation	TRA	NAT+CB
2.3	Appeal against VAT decision	Minimal requirements for the service to be considered online: information on and the online form needed to appeal against a refund of VAT decision by a competent authority (e.g. information on which steps should be taken to make appeal, what documents are required, the appeal form); for cross-border the entrepreneur appealing comes from another country than the country under evaluation	TRA	NAT+CB
3	Business changes			
3.1	Register illness of employee with competent administration	Minimal requirements for the service to be considered online: information on and the online form needed to reporting sickness of an employee at a competent authority in order for the employee to be able to obtain social benefits for illness (e.g. information where and when illness of employee should be reported and the form to report the illness of employee); for cross-border the entrepreneur registering illness comes from another country than the country under evaluation	TRA	NAT+CB
3.2	Register the end of a contract of an employee with competent authority	Minimal requirements for the service to be considered online: information on and the online form needed to notify the social security schemes of the ending contract with an employee, excluding procedures for the collective termination of employee contracts; for cross-border the entrepreneur registering a contract end comes from another country than the country under evaluation	TRA	NAT+CB
3.3	Register new address with competent authority	Minimal requirements for the service to be considered online: information on and the online form needed to notify the competent authority when the business address changes; for cross-border the entrepreneur changing the address comes from another country than the country under evaluation	TRA	NAT+CB

Starting a small claims procedure

George, 25 years old, recently bought a new apartment. He hired a painter to re-paint his living room. When he came home, he discovered the painter had dropped a can of paint on the new hard-wooden floor. The floor had to be replaced entirely, resulting in EUR1500,- of additional costs. He now wants to file a claim against the painter to compensate the costs for the damage made.

Therefore, George first needs to obtain relevant information on how to file a claim, what the procedure is like and what his rights as claimant and consumer are. Once he knows where and how to file a claim, he starts the procedure at the relevant authority and defends his case. To support his case, he shares the evidence of the damage (e.g. pictures and invoice of painter) with the authority. During the handling of the claim he actively keeps track of the proceedings (e.g. time to verdict, steps to be taken, dates, case-handling judge). After some time, he retrieves the judgement. Unfortunately, the judge has decided against his claim, George has lost his case. As he truly feels the costs for the new floor should be paid by the painter, George decides to appeal against the court decision. This time George wins and receives compensation for the costs he has made.

To celebrate his win, George decides to go on a short city trip in another EU country. Unfortunately George discovers that his camera has been stolen from the hotel's safe, worth EUR1000,-. The hotel refuses to pay for the damage, therefore George decides to report this offence by local authorities. He obtains information on how to file a claim for an offence which took place abroad and the regulation and procedures that apply for cross-border claims. He files the claim (including the invoice of his stolen camera) at the relevant authority in the country of his holiday and obtains information about the case handling.

Process stage		Definition of Service	Service type	Target user
1	Preparing claim			
1.1	Check procedural steps for starting a small claims procedure	Minimal requirements for the service to be considered online: information on how to start a small claim procedure, under 2000 euro (e.g. a checklist or guidelines on which steps should be taken and where the small claims procedure can be started)	INF	NAT
1.2	Check relevant legislation and rights for defending your case	Minimal requirements for the service to be considered online: information on the legislation which is applicable for a small claim procedure (e.g. relevant legislation texts with an explanation, guidelines on when the small claims procedure is applicable and when not)	INF	NAT
2	Issuing claim			
2.1	Submit small claims procedure (issue the claim to court)	Minimal requirements for the service to be considered online: information on and the online form needed to find, retrieve, fill in, sign and submit the small claims procedure	TRA	NAT+CB
2.2	Submit evidence/supporting documents	Minimal requirements for the service to be considered online: information on and the online form needed to provide proof (e.g. information on what documentation is required, uploading and actual submission of evidence/supporting documents to support the claim)	TRA	NAT+CB
3	Monitor status and appeal			
3.1	Monitor status of case	Minimal requirements for the service to be considered online: information on and the online space to follow the status of the claim, (e.g. proceedings, judge, steps to be taken, time to verdict/judgement)	INF	NAT
3.2	Appeal against court decision	Minimal requirements for the service to be considered online: information on and the online form needed to appeal against a court decision (e.g. information on the necessary steps when a person feels the judgement is not correct and the formal appeal form with supporting documents if needed)	TRA	NAT+CB

Moving

Joyce, 44 years old, married and mother of three children has bought a new family house in another municipality and region within her country of residence. Before moving she obtains information on the local facilities, e.g. what schools are there for her children, what sports facilities are available and where she can go to a general practitioner. She also makes sure she registers her new address in the municipality register and all other relevant authorities are notified about her changed addresses. Mail sent to her previous house would be a pity. Finally, she signs out at the old municipality and registers herself as the new owner of the house in the land register.

After five years in her house, Joyce gets a new job in another EU country. She and her husband decide to move the family there for at least two years. She again obtains information on the local facilities and required permits to move there. She also obtains information on her rights and obligations when moving abroad. Finally, she registers her new address in the register of the country of destination.

Process stage		Definition of Service	Service type	Target user
1	Find, adapt and move to new house			
1.1	Monitor the availability of local facilities (e.g. schools, health facilities, sport facilities)	Minimal requirements for the service to be considered online: information on healthcare facilities, schools and sports facilities to be known before moving to a community	INF	NAT
1.2	Register new address in municipality register	Minimal requirements for the service to be considered online: information on and the online form needed to register one's new address with the competent authority when moving (e.g. steps explained how to register a new address with the new municipality, registration for local taxes if applicable and the registration form)	TRA	NAT+CB
1.3	Register new address with additional organisations	Minimal requirements for the service to be considered online: information on and the online form needed to notify other government organisations (at least tax agency and health care institutions) about your new address (e.g. steps explained how to register a new address at these organisations and the registration form)	TRA	NAT
1.4	Obtain proof of residence	Minimal requirements for the service to be considered online: information on and the online form needed to obtain a confirmation of your registration at the current address (e.g. information on how to request a proof of residence and form to request proof of residence)	TRA	NAT+CB
1.5	Register you signing out from old municipality	Minimal requirements for the service to be considered online: information on and the online form needed to sign out at your old municipality, other than notifying the new municipality (e.g. information about how and where to sign out at old municipality and the sign-out form)	TRA	NAT
1.6	Apply for disabled facilities grant or similar benefit to cover for costs for making changes to a house in order to allow to continue living at one's property independently	Minimal requirements for the service to be considered online: information on and the online form needed to apply for a grant in case one needs to make changes to one's home due to a disability (widening doors, access improvements such as lifts)	TRA	NAT
2	Moving and living abroad			
2.1	Check rights and obligations for moving into country	Minimal requirements for the service to be considered online: information on entering the country (e.g. information about how to obtain a house, whether special housing requirements apply for foreigners, additional registrations deeds such as registration certificate for foreigners or maximum length a stay might last)	INF	CB
2.2	Obtain a registration certificate	Minimal requirements for the service to be considered online: information on and the online form needed to make an online appointment as to obtain a registration certificate; if a foreign residence takes longer than 3 months, a registration certificate should be issued to prevent that this person becomes a burden to the social system, Directive 2004/38/EC of the European Parliament article 8 (e.g. what documents are needed to obtain the registration certificate; the actual obtainment of the certificate is expected to require authentication in person still)	TRA	CB

Owning and driving a car

Steven, a 19-year old student living in a large city in the country, just passed his driving exam. He has his driving licence and decides that he wants to buy a car. He searches the internet for information on taxes, insurances, registration obligations and price comparison. After a thorough search, he decides to buy a second-hand car, a VW golf GTi which is 5 years old. Before buying the car, he checks the car register to check the details of the VW Golf GTi he found. Everything seems alright and Steven decides to buy the car, especially because he likes to 180pk engine the car has. He registers the car at his own name, making sure that previous owner is de-registered as owner of the car.

After the successful buy, Steven registers the car for road tax and informs about the possibilities to obtain a parking permit for his city of residence. He also arranges the required emission stickers, just in case he crosses the border where these are mandatory.

Process stage		Definition of Service	Service type	Target user
1	Buying a car			
1.1	Check rights and obligations for buying a car	Minimal requirements for the service to be considered online: information on typical government requirements when considering buying a car (e.g. which taxes apply and difference in amounts of different taxes, obligatory insurances, where and how to register your car, information on subsidies to buy a car such as a refund for green/environmental friendly cars)	INF	NAT
1.2	Monitor vehicle details in car register	Minimal requirements for the service to be considered online: information on the car via a public registry (e.g. building year, car characteristics, owner of car, status of the car being stolen)	INF	NAT
1.3	Check requirements for registering a new or second-hand car (including changing the status of a car)	Minimal requirements for the service to be considered online: information on where you should register the car under your name (which agency) and what the procedure is (which steps should be followed) to make sure you become the official owner of the car and the former owner is de-registered	INF	NAT
1.4	Register an imported car	Minimal requirements for the service to be considered online: information on and the online form needed to register an imported car from abroad on your name as the owner of the car (e.g. information what the constraints are regarding importing of a car, where you should register the imported car, the procedure/steps, as well as the registration form)	TRA	NAT
2	Taxes, certificates and permits			
2.1	Declare vehicle/road tax	Minimal requirements for the service to be considered online: information on and the online form needed to declaring/paying vehicle and/or road taxes when you possess a vehicle (e.g. information about the amount of taxes for different vehicles, procedure how to arrange vehicle/road tax paying and the form to register for vehicle and/or road tax payment)	TRA	NAT
2.2	Obtain permit for toll roads or vignettes	Minimal requirements for the service to be considered online: information on and the online form needed to obtain access/stickers for the use of the national road infrastructure, such as time-based charges (vignette) or distance-based charges (toll), issued by the competent authority (e.g. information about how to register for access to toll roads and amount of toll fee, form to obtain vignettes)	TRA	NAT+CB
2.3	Obtain emission stickers	Minimal requirements for the service to be considered online: information on and the online form needed to obtain emission stickers issued by the competent authority (e.g. information about how to register for emission stickers and the form to register for emission stickers)	TRA	NAT+CB
2.4	Obtain a parking permit	Minimal requirements for the service to be considered online: information on and the online form needed to obtain a parking permit for car (e.g. information about possibilities to obtain a parking permit and costs and form to obtain the permit).	TRA	NAT
2.5	Obtain replacement vehicle registration certificate (after loss)	Minimal requirements for the service to be considered online: information on and the online form needed to obtain a replacement for a lost (or stolen) license plate or vehicle registration certificate (e.g. information on what to do when a license plate or registration certificate is lost/stolen and form to obtain replacement)	TRA	NAT