

INTERMEDIATE REPORT- EXTRACT
ESTABLISHING THE EUROPEAN TRACKING SERVICE ON PENSIONS
PROJECT VP/2018/0392

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Front matter

Abbreviations

AEIP	European Association of Paritarian Institutions
CMU	Capital Markets Union
CoT	Circle of Trust
EaSI	Employment and Social Innovation
EC	European Commission
EIOPA	European Insurance and Occupational Pensions Authority
ESIP	European Social Insurance Platform
ETS	European Tracking Service on Pensions
FYP	FindyourPension
GDPR	General Data Protection Regulation
HLF	High-Level Forum
LoA	Level of assurance
LoR	Level of reliability
MS	Member states
NTS	National tracking services
OAuth	Open Authorisation Standard
POC	Proof of Concept
PTS	Pension tracking systems
TAIEX	Technical Assistance and Information Exchange
TTYPE	Track and Trace Your Pension in Europe
VBL	Versorgungsanstalt des Bundes und der Länder

Introduction

Project Background

In 2018 the European Commission (EC) called for the “*development of web-based cross-border pension tracking services that help mobile workers follow their pension rights accrued in different Member States and pension schemes in the course of their career*” (EC call for proposals). A consortium of European pension stakeholders took up the challenge of carrying out the EC’s action towards the development of the pilot stage of a European Tracking Service (ETS) on Pensions for the following three years.

The ETS project builds up on the results of the earlier Track and Trace Your Pension in Europe (TTYPE) initiative. The TTYPE project ran from 2013 to 2016 and served as a feasibility study on the possible design, business plan and policy recommendations for a European pension tracking service.

For the past three years, the project was building the pilot under the already existing brand www.FindyourPension.eu (FYP) – a website which has been supporting mobile researchers in dealing with their various pension claims since 2011. As of February 2022, the ETS project consortium is in the process of finalizing the pilot stage of the ETS project.

In its first phase, the ETS Pilot was aimed at offering general information on pension landscapes in a wide range of European countries and assisting mobile workers in finding their pension providers in at least five member states (MS). Following a step-by-step approach, the ultimate goal to be achieved through the following project stage is to roll out the service and connect as many national tracking services (NTSs) and pension providers as possible to the platform.

Policy context

Given the persisting gaps in the access to information on individual pension entitlements, which create obstacles for the transparency and pension coverage for mobile workers, an ETS has the potential to become an important element for the facilitation of cross-border mobility in Europe. In addition, the development of a pension tracking service for individuals is considered a key step towards protecting the rights of mobile workers and for improving future pension adequacy and sustainability.

In that sense, the ETS project’s targeted impacts are relevant to a wide range policy development at the European level, including broad initiatives on social protection, pensions, the completion of the capital markets union and labour mobility, including those targeting workers in non-standard forms of employment. Within this context, for its 3 years of operation, the project has faced a rapidly changing policy environment and an evolving European pension market.

One of the important policy developments linked directly to the core purpose and objectives of the ETS project is the implementation of the **European Pillar of Social Rights**. As part of this initiative, in November 2019, the European Council adopted its **Recommendation on access to social protection for workers and the self-employed**, where the effective provision and preservation of social security rights, including pensions, was highlighted as a priority. Specifically, Council Recommendation 15 referring to transparency in the provision of social protection states that: “*Member States are recommended to ensure that the conditions and rules for all social protection schemes are transparent and that individuals have access to updated, comprehensive, accessible, user-friendly and clearly understandable information about their individual entitlements and obligations free of charge.*” Recital 22 of the Recommendation further establishes that: “*Digitalisation can, in particular, contribute to improving transparency for individuals.*” From the perspective of the project consortium, the ETS is well positioned to contribute to the realization of Council Recommendation at national level, as it focuses particularly on the development of a digital service for improving access to information on pension rights for mobile workers.

In addition, as part of **the new Action Plan on the implementation of the European Pillar of Social Rights**,¹ launched by the EC after an extensive public consultation in March 2021, it was recognized that *“Innovative solutions, notably digital ones, can facilitate the physical and virtual mobility of citizens, support the portability of social security rights and the cross-border verification of social security coverage by administrations, and address challenges in the identification of people for social security coordination purposes”* (p.30). Being highly relevant to this context, the successful realization of the mission and vision of the project and the implementation of the full roll-out stage of the ETS, will support the further integration of the European labour market, facilitating an improved access to social protection.

The functional ETS will be especially beneficial to the operation of all pension providers (statutory, occupational, and personal pensions) as the platform will aim to provide information on individual pension entitlements per pension pillar, which is currently not possible in the case of workers who are no longer residents but have previously accrued pension rights in a European MSs. The improved access to information and the identification of past and current pension systems of affiliation will help in the acquisition and preservation of pension rights for mobile workers and will improve the overall operation of the European pension systems. These aspects of its operation make the project relevant for several legislative initiatives which are foreseen or in the process of implementation, including the **IORP II Directive**,² adopted in 2016 and **the updated rules on the coordination of social security systems**.

Within this context, the ETS will be especially relevant and will facilitate the compliance with the provisions of the *so-called Portability Directive*³, which lays down the rules for effective preservation of supplementary pension and ensures adequate information, especially on the impact of mobility on individual pension rights. In its report on the application of the Portability Directive⁴ published in July 2020, the EC referred specifically to the ETS Project in the context of the observed implementation of information requirements as part of the Directive’s application at national level (p.12). In that sense, the ETS will be also beneficial **for ensuring the protection of the pension rights of mobile workers**.

The ETS will support the process of **modernization and digitalization of social protection systems across Europe** through the provision of its digital service, providing structured information on pension benefits on a centralized European platform. This has the potential to substantially improve communication on pensions also at national level, which is a crucial factor towards future adequacy and sustainability of the MSs’ pension systems.

This particular aspect was further recognized in June 2020 in the **final report⁵ of the High-Level Forum (HLF) on the Capital Markets Union (CMU)**, which outlined a series of clear recommendations aimed at moving the EU’s capital markets forward. In the final report, the HLF recommended that: *“the Commission encourages the development of pension tracking systems for individuals”* (p.22) in the context of improving future pension adequacy and sustainability (p.32).

As a result of the HLF’s report an important development came in July 2021, when the **European Insurance and Occupational Pensions Authority (EIOPA) published its consultation paper on a technical advice on national pension tracking services**. Following a call for advice from the European Commission, the Authority aimed at providing impartial advice and good practices on technical matters for Member States that would like to set up a pension service. The ETS figured prominently in the recently published consultation paper e.g., with regard to digital nudging and citizens’ engagement, EIOPA promoted

¹ Action Plan European Pillar of Social Rights, available [here](#)

² See recital (19)

³ Directive 2014/50/EU on minimum requirements for enhancing worker mobility between Member States by improving the acquisition and preservation of supplementary pension rights

⁴ Report from the Commission on the application of Directive 2014/50/EU on minimum requirements for enhancing worker mobility between Member States by improving the acquisition and preservation of supplementary pension rights, available [here](#).

⁵ Final Report of the High-Level Forum on the Capital Markets Union capital markets, available [here](#).

the practices brought forward by the ETS. The newly designed pilot version of the ETS is shown as an excellent example of user experience customization by allowing the individual to compile a 'To-do list', but also by showcasing different personas and their representative life-situations. EIOPA also highlights the importance of the ETS initiative overall, as it is perceived as an important enabler and precondition for mobile workers to be better informed and to exercise their social rights.

As an additional point, in a very recent development as of January 2022 the European Commission and the OECD's International Network on Financial Education published the joint **EU/OECD-INFE financial competence framework for adults**⁶, as a concrete measure stemming from Action 7 of the 2020 Capital Markets Union Action Plan ('*Empowering citizens through financial literacy*'). This framework aims to improve individuals' financial skills and to enable them to make sound decisions regarding their personal finances. Hence, it has as a main goal to support the development of public policies, financial literacy programmes and educational materials through the involvement of Member States, educational institutions and the industry.

The EU/OECD-INFE framework highlights retirement as an important area for the financial education of adults and describes several key aspects for tackling the issue of raising awareness. The aim is that the individual understands the importance of ensuring financial security in old age and the need to start saving for retirement as early as possible. At the same time, the individual should be familiar with the different pension pillars and have a good understanding of the different options for building retirement savings. This will help people to make informed choices based on the combination of their different pension schemes as well as to make plans throughout their career paths which will ensure an adequate retirement income in the long-term. The ETS project is designed with this overarching goal, thus being an important tool for the retirement awareness and planning for EU citizens.

Considering this outline of the relevant policy developments and with a view of the next steps in the development of the ETS, the consortium considers that there is a high level of complementarity between the objectives of the project and the objectives of the existing policy framework at the EU level in the context of social protections and specifically, pension provision.

The following sections of this report include a detailed overview of the next key steps towards the realization of the strategic vision and mission of the ETS project and the full ETS roll out.

Our approach

The starting point of the ETS project was the detailed formulation of a mission and vision statement, defined and enforced by all consortium partners, as described below:

What is our vision?

All residents in European countries should have access to information on their pension entitlements no matter where they were acquired within Europe and regardless of their country of residence.

The ETS project's perspective is: *Without information, no insight, without insight no informed decisions.*

What does that mean for us?

Our mission is to create the means for people to get an overview of the pension entitlements they have acquired across Europe and to give them tailored as well as personal information on their European pensions. We also aim to support pension tracking services

⁶For more information [here](#).

and pension providers in providing targeted communicating towards their participants (or finding them).

The ETS project's perspective: *The information related to mobile workers is often available as providers focus on their citizens and not the provision of information towards mobile workers. In any case, the information needs to be aggregated and made accessible to both citizens and mobile workers.*

How is our mission realized?

- We aim to create awareness and get engagement for our mission from the European pension sector (including governments) by providing information on the project, support the creation of national tracking services, make NTSs and providers connect to the ETS, etc.
- We will create an infrastructure for the collection of personal pension information (from all relevant European pension providers) so that the information becomes accessible.
- We will create a platform that provides tailored information (to the needs of the user) on pensions across the European countries as well as personalized information on pension entitlements.

The end-users of the ETS are mobile workers currently working, having earlier lived and/or worked abroad or those considering going abroad (ETS Proposal, page 62).

In order to implement the defined mission and mission of the ETS project, the consortium structured the project execution across four interrelated work streams, where the lead partner, the Versorgungsanstalt des Bundes und der Länder (VBL), provides the project coordination and mainly works on the implementation of the pilot ETS (content provision and process, platform building). All partners are represented in the project steering group and cooperate in one or more of the ETS work streams described below:

- WS1. Implementation of the Pilot European Tracking Service (ETS), design and functionalities, information input, pension landscapes, technical part.
- WS2. Connection concept (Proof of concept level 2, data processing, authentication and General Data Protection Regulation (GDPR)).
- WS2. Full roll-out concept (report) and additional functions (also technical requirements).
- WS3. Establishing a management organization for the European Tracking Service (ETS), legal conditions, requirements, contracts.
- WS4. Communication strategy and activities, aiming at raising awareness, mobilizing relevant stakeholders, and striving for broad interest and buy in.

1. WS 1: Development of the PILOT website

To realize and implement the ETS different components have to be delivered. We distinguish between the website part and the technical implementation of the necessary connection to access personal data from national data sources, mainly the National Tracking Services. From the customer perspective it will, of course, be one service offering different customer journeys for different needs. The subproject "Pilot" has the task to set up the technical website, work out a concept for holistic (cross pillar) and cross-country content creation as well as edit the content for the first countries together with country editors.

The conception and implementation of the pilot has built upon the functionalities and experiences of the former FindyourPension.eu, a website which has been supporting mobile researchers in dealing with their various different pension claims since 2011. The newly created ETS pilot website will continue the former brand and name "FindyourPension". When launching the technical website in June 2021, parts of the content (data and texts) of the past FYP were transferred to the new website. According to the proposed phased approach by setting up different functionality or ambition levels step by step, the ETS pilot develops and implements the first steps and functionalities of the ETS, 'Level1'⁷ and 'level2'⁸.

1.1. Methodology of drafting a concept for the FYP content design

The basic idea of the ETS is to support mobile workers in assessing their pension situation so that they can take actions upon that information. Information on pension topics is broadly provided but the target group of mobile workers often do not have access to it. This applies not only in lingual matters but also in matters of understandability or even technical access. To improve the understandability of such information, targeted and tailored content is needed. In recent years a lot of research was undertaken in the field of pension or financial literacy. Nevertheless, mobile workers are different from the usual addressees of national services. Regarding tailoring the pension information for mobile workers, the project aimed to designing the pension landscapes on an evidence-based and customer-oriented approach.

Therefore, first work of WS1 was to define and explore the target group, their specific needs and pain points to draft a methodology on content creation. All this work has been accompanied by scientific advice through Prof. Lisa Brüggem from the university of Maastricht.⁹ Results were presented at our webinars on pension communication and the ETS event provided during the European Retirement Week¹⁰.

One of the tasks undertaken in an agile approach together with the workstream members, was to define personas to derive use cases later from them for the technical development of the website. A first source of information to define the target group and understand the perspective and characteristics is the annual EU-intra labour report¹¹ which provides updated information on labour-mobility trends in the EU and EFTA countries. The analysis covers the mobility of all working age citizens (20-64 years) as well as the mobility of those who are active (employed and unemployed). The report also looks at indicators of economic integration of mobile citizens, such as employment /unemployment rates and occupations.

⁷ Level 1 functionality provides general pension information on different countries and systems as well as guiding participants to locate their possible pension providers.

⁸ At the same time the project will create the first connection to the Belgian PTS as a Proof of Concept in order to prepare the Level 2 functionality which shows personal pension information.

⁹ Single elements of the consultation work: Conduction and evaluation of a communication survey, develop interview format for professionals consulting the target group, work on the concept elements, review of text examples, content guideline.

¹⁰ More details on the work can be found in our newsletter and event reports retrievable on the FYP website as well as in the final report of the project.

¹¹ The actual EU Intra-labour mobility report used was the one from 2018, retrieved on 15/01/2021 <https://ec.europa.eu/social/main.jsp?catId=738&langId=en&pubId=8242&furtherPubs=yes>.



The EU-intra labour mobility report 2018 states that EU-28 movers were frequently employed in construction, accommodation and food service activities (10% each).¹² Due to already existing evaluation of construction sector workers by the cooperating Soka-Bau, a former partner in the TTYPE project, the first persona was drafted out of this sector.

Another important group mentioned are workers in the health sector since healthcare, long-term care professionals and live-in care workers often pursue their careers in countries other than their countries of origin. Due to the aging population and the already existing shortage of medical staff in many European countries the increasing demand is likely to lead to increase the professional mobility across the EU/EEA.¹³



According to recent developments an increasing tendency towards highly skilled working groups of movers (i.e., those requiring a tertiary degree or further qualifications) can be observed, and slightly fewer in elementary or manual work, which is one reason why we picked a representative of that specific group as one of the FYP personas. One

important subgroup of the highly skilled working groups originates in science and engineering.¹⁴ Due to the previous project, in which the ETS Project team members could already gain experience in the work with mobile researchers, it was decided to create a persona from this sector in addition.



To conclude, sectors to represent large groups of mobile workers as well as different understandings and perspectives were chosen to create our personas:

- Construction/manufacturing
- Health
- Research

Thereby, it's also possible to cover different levels of education as well as prior knowledge and understanding of pensions on the ETS website. On the basis of the personas, customer journeys were designed: What are their problems/obstacles and. questions the personas are facing concerning old-age in different life-stages? What are the solutions we could offer? Customer journeys are a visual representation of the process a persona or a mobile worker goes through when needing information on pensions. Specific touch-and pain points are taken into account in order to design so called "guided tours", leading users to the information they need in order to answer their specific needs.

In order to determine the pain points and the most frequently asked questions, interviews with people who are in direct contact with the different personas and mobile workers were conducted.¹⁵ In order to evaluate whether the question and pain points we crystallized are the same in other countries, a standard interview format has been developed with which these needs can be identified. In the agile and iterative approach used for the development, the content team started the work with setting up contents of pension information from 2 example countries (Germany and Sweden) to be used for the edition of the ETS content guideline.

¹² EU Intra-labour mobility report 2018, retrieved on 27/10/2021

¹³ EU Intra-labour mobility report 2018, retrieved on 27/10/2021

¹⁴ EU Intra-labour mobility report 2018, retrieved on 27/10/2021

¹⁵ For the construction sector research and experiences from Soka-Bau could be used. For the health sector, the persona of the "nurse", we have been in contact with different HR departments of the hospitals and a representative from a professional association as well as people in charge of questions related to pension rights (e.g., Charité, University Clinic Freiburg). As mentioned already, for the researcher, the VBL team can make use of the experience gained with more than 2000 researchers participating at consultations and events provided by the FYP team.

1.2. Functionalities and concept of the pilot

Following the predefined ambition levels, the information to be presented on the ETS/FYP website is seen as general information meaning it does not contain personal data from pension providers or national authorities. In the project work, we have developed an approach that is named tailored information meaning that the users find information that suits to their personal situations and needs. In order to achieve this goal we have created the guided tour functionality allowing users to find information quicker and more targeted to specific personal features like age, profession, life events etc.. in the EIOPA advice on Pension Tracking the ETS approach was mentioned as good practise form of customization of information. The overall motto of the information concept is "Find, inform and activate". This means that the website supports the user in Finding important questions to be answered, retrieve and understand the information and gets activated to take care of the pension situation.

To put this motto into practise, the first edition of the website offers three different functionalities:

- 1) Structured and tailored pension information targeted to mobile workers from different professions, educational levels and life situations. In addition, the pension landscapes section provides users with an overview as well as background information on the national system of pension provision country per country. A pension landscape in the ETS context is the pension system of a country comprising all sources of old-age pension, namely: Statutory pension, occupational pension and personal pension. The information is split according to three sources.
- 2) The pension compass – find your provider
This functionality guides participants to locate possible pension providers from different countries by using questions and answers entered by the users. The user can find their pension providers this way, getting contacts as well as information on providers presented. This functionality will be necessary for countries without a working NTS, respectively, as long as NTSs are not connected.
- 3) My Dashboard/ personal account
Personal area after logging in to save the personal overview via a dashboard design including the personal pension provider list, overview on entitlements via a self-track option and later on the data of connected data sources as well a to-do list created during the guided tour.

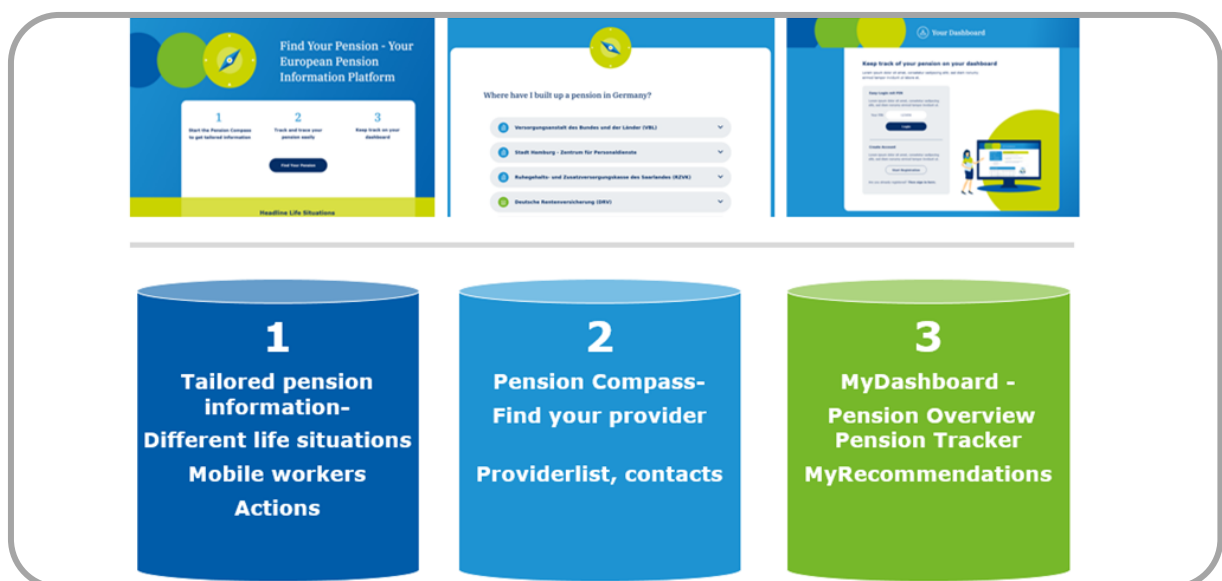


Figure 1: The website's three different functionalities.

1.3. Tailored information design

The purpose of a guided tour is to shape the pension information according to the user's needs. Therefore, the search should be designed as comfortable as possible to motivate the user to continue the search until all the questions are answered. The users are guided through the content with the help of a predefined questions – answer system based on their pension information needs. The result depends on the choices the user made during the guided tour. The information guided tours are centred on key questions that mobile workers have which were identified based on user journeys from mobile workers as well as evidence-based insights from qualitative interviews.

The information of the guided tour is designed according to the following approach:

In general, the guided tour will be accessible from different entry points:

- Young and starting career
- Family and pension
- Generation 50plus

The guided tours start after the user has chosen the one of the entry points for life situations or the pension compass.

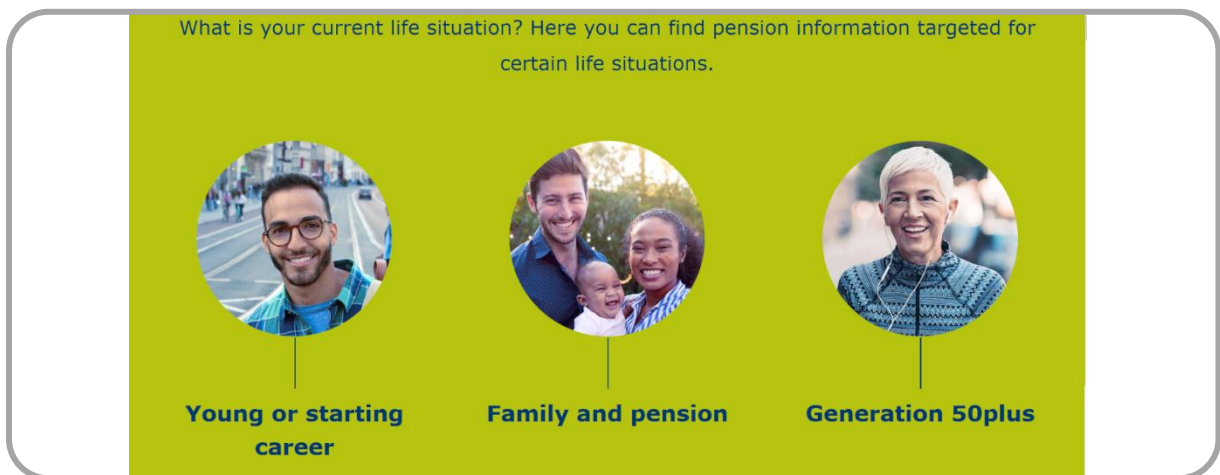
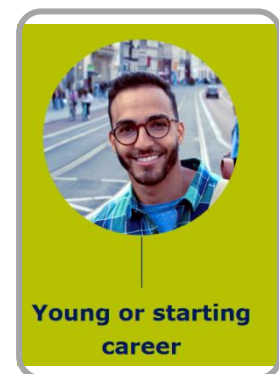


Figure 2: Selection of a life situation.

Key topics for the entry point: Young and starting career.

After users have selected the entry point "life situations", they can select from several key topics we have identified as most interesting topics for the respective age group. The information is shaped according to the selected entry point respectively target group.

- Pension provision: How does it protect and accompany me through my life?
- What happens with my pensions when I move across Europe?
- What happens when I am ill or can't work anymore?
- How do I increase my pension?
- Family & pension



Key question

After the user has selected the key topic, a key question can be selected.

The key questions differ from key topic to key topic depending on the key topic which was chosen.

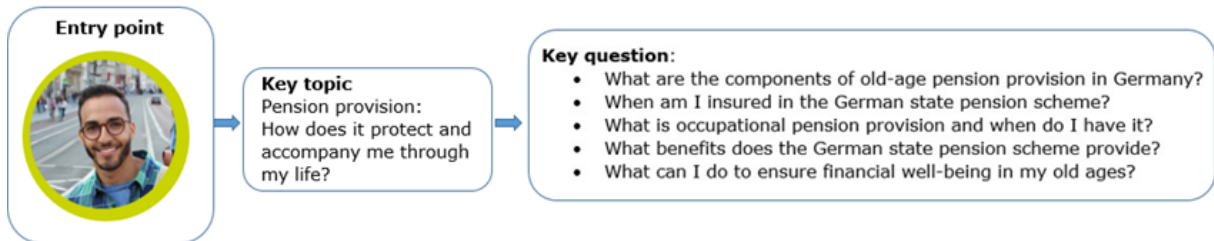


Figure 3: Getting from the entry point to the key questions.

The information is always shaped in specific manner to ensure comprehensibility: Examples include a short description of the pension system of a country, the main factors that contribute to the height of the pension income, or how the different pillars relate to each other.

What are the components of old-age provision in Germany?

To get to know your opportunities, it is important to understand how the German pension landscape looks like. It is composed of 3 different elements to build up pension for the old-ages.

- #1 State pension insurance
- #2 Occupational pension provision via your employer
- #3 Private savings for the old-age using different products

Good To Know

1. Occupational and private old-age provision are becoming increasingly important in order to be able to maintain the standard of living in old age.

Figure 4-5: First and second layer example.

- #1 State pension insurance
- #2 Occupational pension provision via your employer

Employees in Germany may receive occupational old age provision, if their employer promises to provide such a provision on the occasion of the employment. The occupational provision can be offered in different forms and vehicles.

Your employer:

- selects the form of occupational pension to be provided
- decides on the contributions and
- takes care of its payment.

You may also contribute to your occupational pension provision yourself. Employees have a legal right to an occupational pension provision in the form of *deferred compensation*.

1.4. "FindyourProvider" – Pension Compass

Through the "Find your Provider" functionality, users are guided to identify providers that they have been affiliated with. The past and current pension affiliations are identified through questions on employment status, sectors, branches, liberal professions, and regional or multinational companies. At the end of the search per country, users receive an overview of a number of institutions they have probably been affiliated with. It has to be underlined here that the pension compass can be used where no connections to national tracking systems can be built. The completeness as well as the number of providers included depends on the composition of the single landscapes but on the expectation to have a connection with the NTS soon as well. Therefore, in the case of Belgium, the compass will mainly include the state pension providers and direct the user to the pension tracker to find and retrieve their individual pension overview.

Directing the user to a national tracking system not connected to the ETS would only make sense if non-national and non-residing users will have technical access to the NTS. Links to NTSs and the requirements to be used are already contained in the section called pension landscapes in FYP.

Each compass tour is ended by a recommendation which encourages the user to perform a specific action. The recommendations are diverse in nature and can be general or provider specific.



Figure 6: Pension compass example from Switzerland.

My Dashboard

The dashboard feature includes two main functionalities, namely:

- the "**Pension overview**" and
- the "**Recommendations**".

The Dashboard is accessible via the landing page and the menu. In order to access the dashboard, the user has to login with the pincode or create a personal account. After login the user can choose between the functionalities mentioned above.

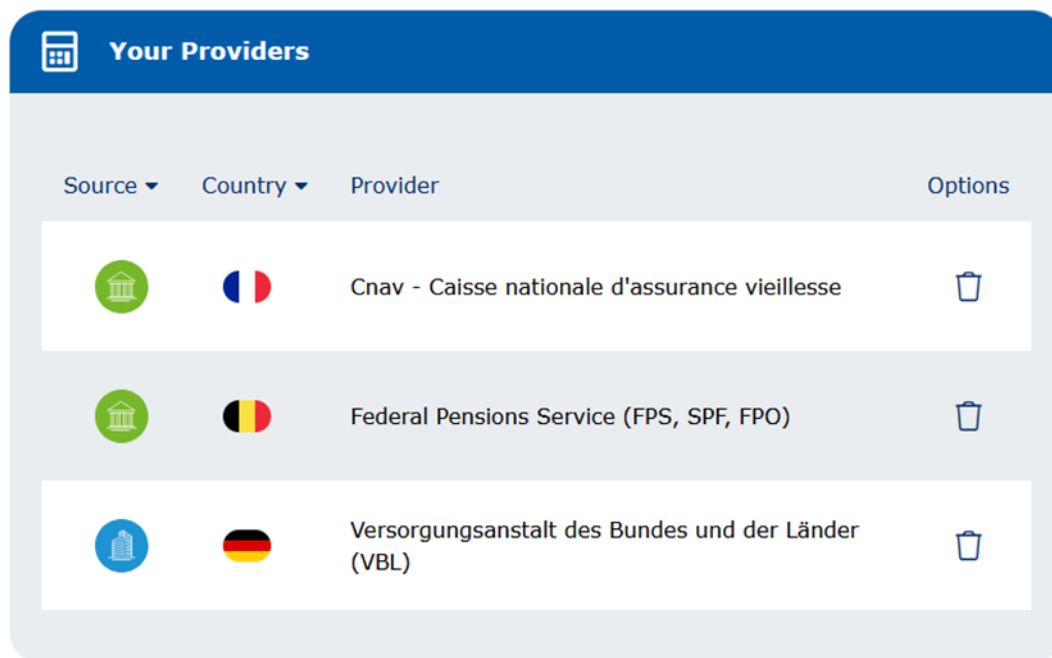
The pension overview has different features

- Saving all pension providers and institutions users have been affiliated in the **pension overview** to keep track of their pension provision

- **Add Provider:** The user can get an overview of the individual pension claim/s in different countries by adding pension providers to the user's list. The provider can be found via a search function.
- **My Payout:** The feature allows to enter and add up the individual pension entitlements, separated and sorted to the different pension sources (state and occupational pension systems). In the explanation of this feature users are made aware that they need their annual pension statements to create their overview.
- **Pension tracker:** In a later phase, after connection of the PoC and later other data sources, the pension tracker functionality will enable the user to access the personal pension information. The first country available will be Belgium.

Creating a Pension overview

If the user clicks the "Add Provider" button the search for the relevant pension institutions starts. The filtering function can be used to search by country or source. When the user has found the provider he or she has been searching for it can be saved on the Pension overview by clicking on desk symbol. This way the user can create a provider list.












Source	Country	Provider	Options
		Cnav - Caisse nationale d'assurance vieillesse	
		Federal Pensions Service (FPS, SPF, FPO)	
		Versorgungsanstalt des Bundes und der Länder (VBL)	

Figure 7: The relevant pension institutions if the user clicks the "Add Provider" button.

My Payout functionality

After the users have found the pension provider with the help of the add provider functionality, they can enter some information to be taken from pension statements received. The tool shall activate users to get in touch with providers to ask for statements or to work with information they find there. This functionality will have to be extended in the next phase. E.g., we are considering more wallet options to create one's own pension folder.

Pensionable age

Payment Method

Amount Euro €

Reference date

Save Changes

Figure 8: Add provider – activating users with my payout functionality

The My Payout functionality serves as an interim solution until the Pension tracker is available. Additionally, the functionality can be of use for countries which do not have an NTS. It is considered that how the pension is paid out, the pensionable age etc. may vary from member state to member state. Additionally, it is pointed out on the website that pensions can be paid in different forms, such as an annuity, monthly or annually, but also as a once and for all or lump sum payment.

Recommendation

This action starts at the end of a the FindyourProvider guided tour. After the users have finished the guided tour they will be offered recommendations. Short information is accompanied by proposals for recommended actions that can be added to a to-do list and saved in the user’s personal Dashboard on the website. The so-called ‘recommendations’ can serve as reminders, be ticked off and deleted after the tasks have been completed. The Recommendations aim to activate the user to do something.

The user starts by clicking on the Pension Compass. Saving the recommendations, the user automatically receives a clickable action list which can be saved on „ your profile“. The recommendations can be deleted once the action is completed!

Your Recommendations

- Inform yourself whether your company offers or has offered occupational pension provision.
- In case you have left or plan to leave Germany, ask for an account clarification at the DRV to find out wheter you have any pension entitlements there.

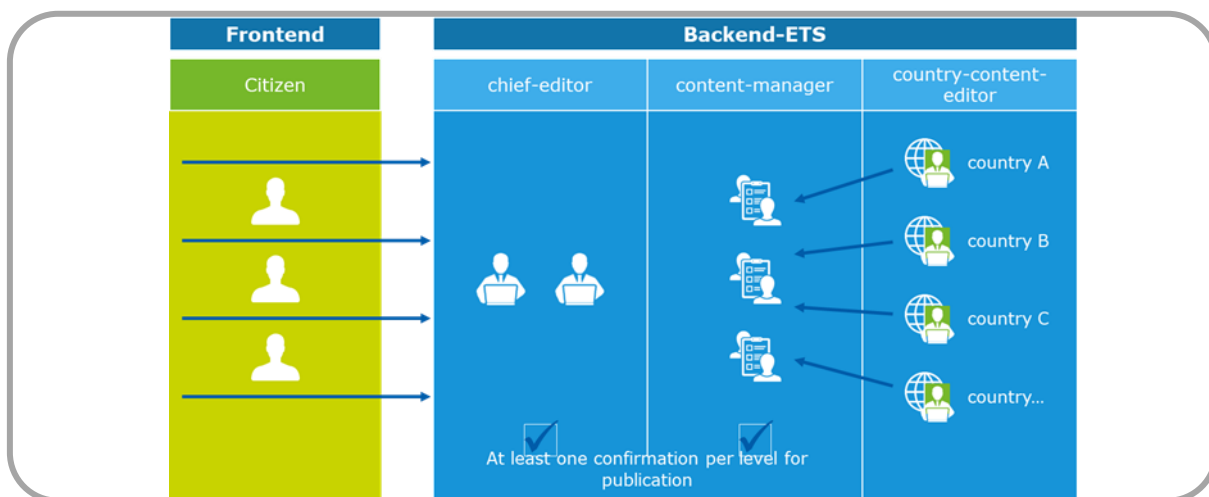
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Figure 9: A recommendation example.

1.6. Website communication concept

To make sure that pension information and landscapes are always up-to-date and accurate, the FYP portal is based on a content management system which will be maintained by editors from different countries. Part of the pilot work stream is therefore a so-called ETS content guideline, settling and documenting the design and process of content provision. Here, the different pension concepts of the European states are recognized and best practises of pension providers of all pillars will be taken into account. The FYP portal is based on a content management system TYPO 3 CMS (version 10.4). The CMS programme allows to create, edit and organize various content without prior formatting. In addition, the CMS can be used by editors with hardly any knowledge of common programming languages and therefore supports the ETS publication process.

a. Editorial process



The goals of the ETS project is to have pension information on a range of countries accessible on the FYP Website. To accomplish this ambitious goal, the CMS supports to build a network of different editors in the frame of a clearly described editorial process. The latter is technically established using different roles and rights established in the CMS.

In a first step, country editors will be asked to provide pension information on the respective country. To simplify the process for the editors the ETS project team will provide templates which show the way the information is supposed to be drafted when it comes to structures and language use. The editors can either fill in the templates and send them to the ETS editorial team or put the information directly into the backend of the CMS. Before the information is published on the frontend it will be forwarded to the content manager. If requested by the country editor, the information can be checked again. The final check-up and publishing will be done by the chief editors.

Figure 10: ETS communication – editorial process.

b. Content Guideline – principles for a clear communication

In addition to setting and documenting the design and process of content provision, the content guideline also ensures compliance with the communication standards of the ETS. The content guideline sets out rules for language use and structure for all content which is put on the website (Layering, Recommendation, Good to know). The process of development of the content guideline is accompanied by Prof. Dr. Lisa Brüggem.

Concept framework

An important precondition to write content for mobile workers is to be aware of the fact that “pension” has different meanings even in a national context. Pension can refer to a form of deserved rest, a form of insurance, etc. This is even more the case in a European context. That is why we encourage the editors of the website to take a walk in the mobile workers shoes and be aware that the mobile worker might have a different understanding of pension.

The term “concept framework” was first used by Prof. Yves Stevens from the KU Leuven who did a lot of research regarding pension communication in the last decade. He gave some input to the project from his work and presented his findings during the ETS kick-off event as well as at the first webinar on pension communication held at the beginning of July 2020.

The concept framework serves as a kind of “construction manual” for future editors and guides them through the whole process.

Example of editor instructions:

- Make yourself aware of the different perceptions described above.

- Explain the basics of your country's pension concept in the section of the pension landscapes and repeat it in the guided tour where it helps the user to understand the context.
- When answering the questions in the life situation guided tours: Distinguish between the pillars and try to cover the holistic perspective as far as possible. However, do not overload the users with too detailed information.
- Always try to give a holistic overview and do not cover only your own scheme.

End with a concrete recommendation for the users' action lists where possible

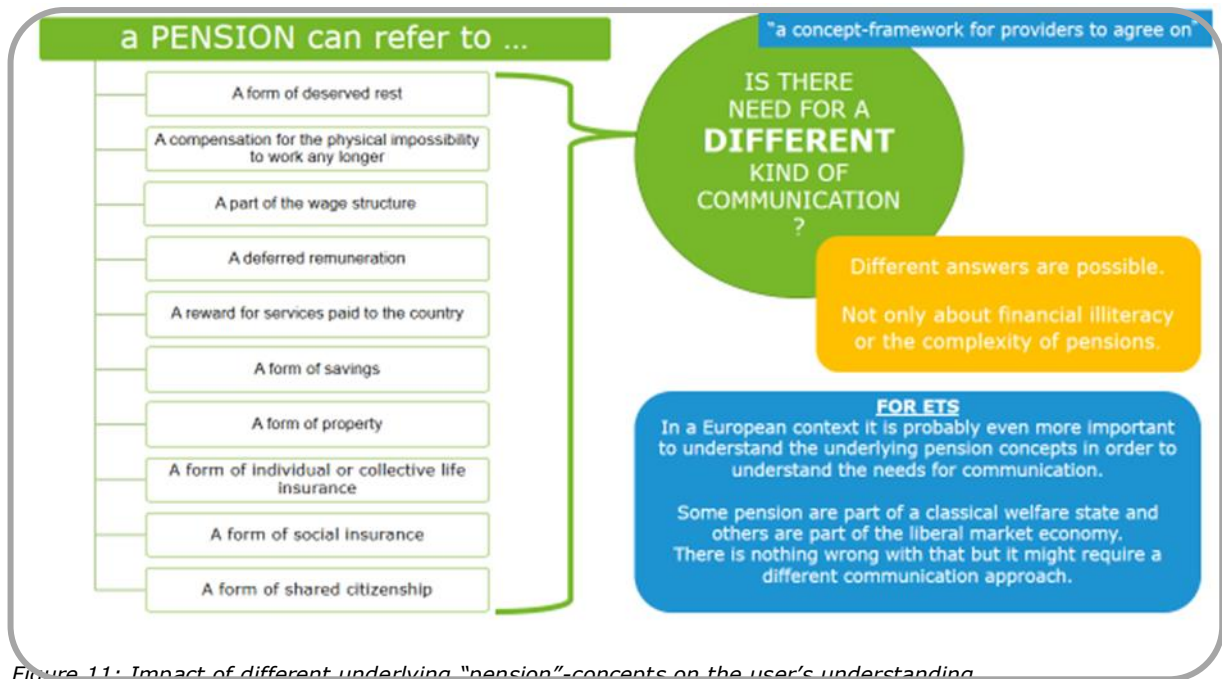


Figure 11: Impact of different underlying "pension"-concepts on the user's understanding

1.7. Outlook

a. Combination POC and Website

Apart from the tailored but general information provided on the FYP website, the long-term goal of the ETS is presenting the personal pension overview. Recent work of WS1 and WS2a dealt with the questions how those data can be contextualised with to- does and general information from the website Therefore the combination of POC and the Findyour-Pension website to offer users the optimal journey will be needed. Thus, the user has the possibility to retrieve personal pension data, meaning the information which is normally given by a Pension tracking service and receives pension information related to the data. We aim to show the contextualised personal pension information on the Dashboard. Discussion and work on the data model continues that is why the next version of an extended dashboard is intended for the next phase.

b. Issues and risks to monitor

- 1) Finding partners who are willing and able to contribute content to the FYP Website
- 2) Ensure quality control in terms auf language use, structure and correctness of content.
- 3) Combination personal pension data and pension data – contextualisation of pension information.

Of course, editing the website as described encounters some issues and risks as all editorial work does. Therefore, it is vital to use and enlarge the network of the former FYP editors as well as the TTYPE network. The community building and buy-in shall take place in the so called "Forum on Pension Communication" which is part of our ideas and activities mentioned in the chapters below.

2. WS 2: ETS Proof of Concept – tentative roll-out strategy

2.1. What did we implement?

In this section we will give a detailed description of the Proof of Concept (POC) of the Connect Concept. The POC of the connect concept envisages to visualize individual pension information, coming from national data sources, in a secured way to the end user via the Find Your Pension-portal.

The work done is described from two different perspectives: first from a functional perspective focusing on the user journey of the end-user; second from a technical perspective focusing on what happens behind the screens on the level of the ETS and NTS. To conclude, we will also briefly give an overview of what an NTS has to do to onboard to FindYourPension.eu from a technical point of view.

The goal of this section is not to repeat the description given in the proposal but rather give insights on the effective definition and implementation of the POC, but also on where the POC differs of what is stated in the proposal.

Goal of the Proof of Concept of the Connect Concept

As stated in the Proposal, the proof of concept of the connect concept envisages to visualize individual pension information, coming from national data sources, in a secured way to the end user via the FYP-portal.

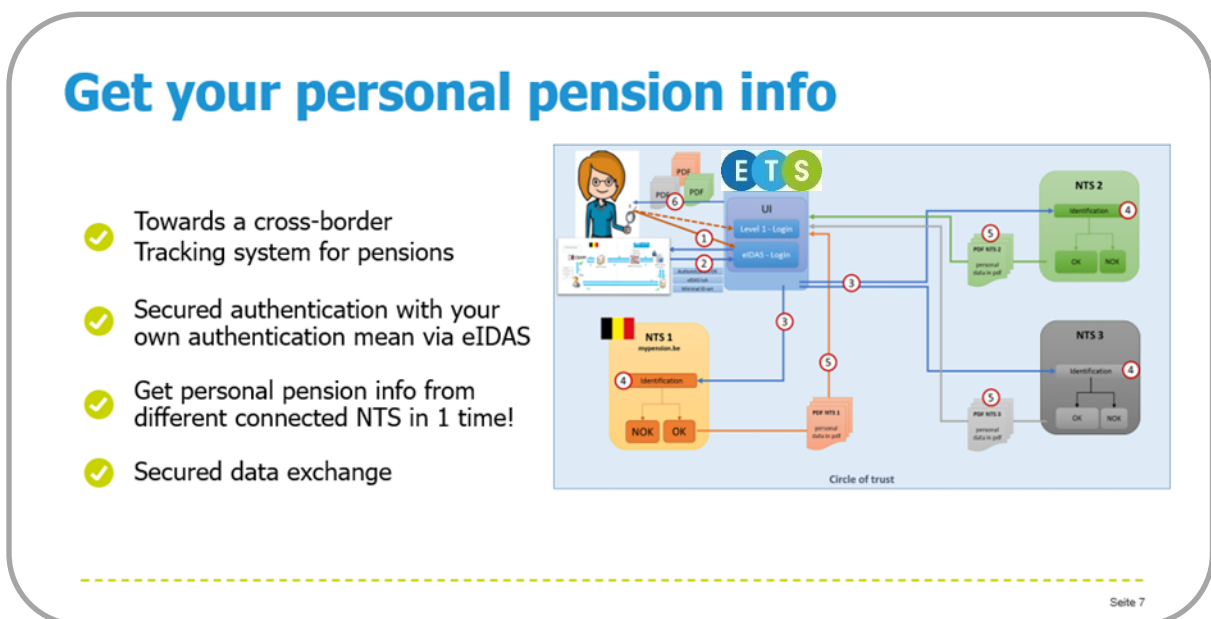


Figure 12: PoC goals.

To guarantee a secured data exchange the connect functionality uses the **eIDAS-framework for authentication**. More concretely, the FYP-portal (re-)uses the EU-eIDAS node – building block. This synergy ends the long-term challenge as already described in the TTYPE reports on how to authenticate users of ETS and guaranteeing that they are who they claim to be (this will be called here after their authenticated identity). As will become clear more in detail, one of the remaining challenges is the identification of the person in the national registers (i.e. the matching between an authenticated identity, on one hand, with the administrative identity, being the way, the user is known in the national register, on the other).

Since the ETS-functionality proves its added value first and foremost in a context

- (1) where multiple data sources have to deliver information to answer the request of the user to find his pension, and
- (2) where this user has no access to a home NTS that delivers this functionality (as is today the case with all NTSs),

the proof of concept consists of setting up a central FYP/ETS – infrastructure that will connect to several (in the case of Belgium: two) data sources:

- first, the Federal Pension Service who will deliver information on the Belgian statutory pension and
- second, Sigedis who will deliver information on the Belgian occupational pension.

This set-up replicates -within one state - the test case of ETS connecting to two NTS'es.

2.2. User journey¹⁶

Imagine a European worker, let's call her Alexia. Alexia has worked as a sales representative in several European countries, more specifically in Belgium and the Netherlands. Now that she is settled down in Germany, she wants to get a complete picture of her pension situation. But how will she manage to find all the information... On the Your Europe – portal she finds a link toward the FindyourPension-portal.

Eager to know more she starts scrolling the homepage for more information. On the homepage of the FYP-portal she finds a direct link towards the section 'Find my pension in Europe'.¹⁷

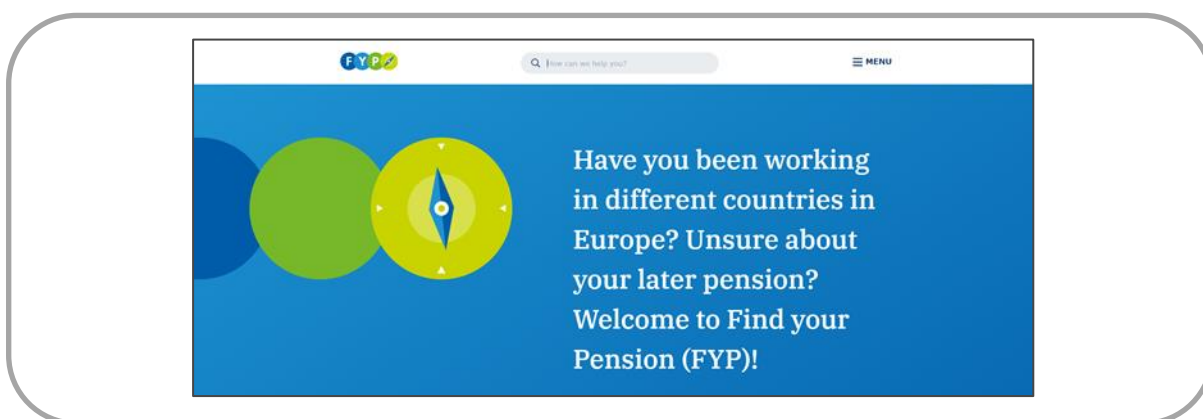


Figure 13: Homepage FindyourPension-Portal

On the homepage of the 'Find my pension' – functionality Alexia gets an overview of:

- The different steps she has to follow to – in the end – find her pension
- The countries that are already connected to ETS
- The countries that will be soon connected to ETS

After reading the information, she knows that she will find in one click more information on her pension in Belgium, but not yet on her pension in the Netherlands and Germany. Curious to know more, she clicks on the login-button.

¹⁶ The used screen shots only serve to illustrate the interaction between the FYP-portal and the end user. The integration of the user interface in the more general look and feel of the portal will be envisaged before the end of the project

¹⁷ The integration of the 'Find my pension in Europe' – functionality in the FYP-portal has to be defined.

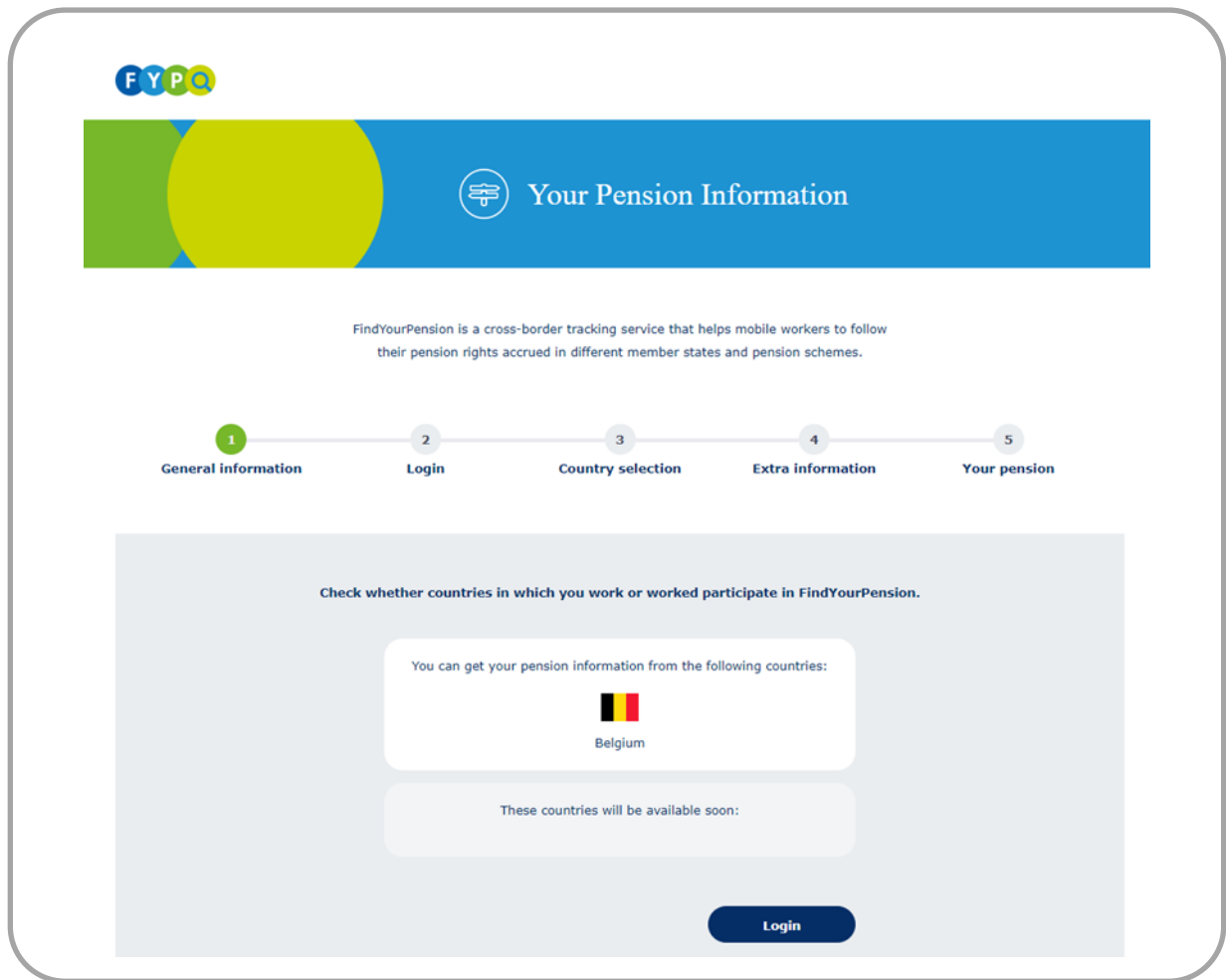


Figure 14: Homepage Find my pension (1).

In a next step Alexia has to connect to the secured part of the FYP-portal via the eIDAS authentication module. After first choosing 'Sign in with your eID' (step 2) and second selecting the country which issued her identity card (step 3),¹⁸ in her case Germany, she is redirected to the German authentication page (step 4). From Alexia's point of view the authentication part of the process goes in the exact same way as if she wants to enter a German digital service.

¹⁸ Situation January 2022: eIDAS is available for 16 countries: Austria, Belgium, Croatia, Czechia, Denmark, Estonia, Germany, Iceland, Italy, Latvia, Lithuania, Luxembourg, Netherlands, Portugal, Slovakia and Spain. A [complete overview](#) of the status of the notification process can be found on the EC-website.

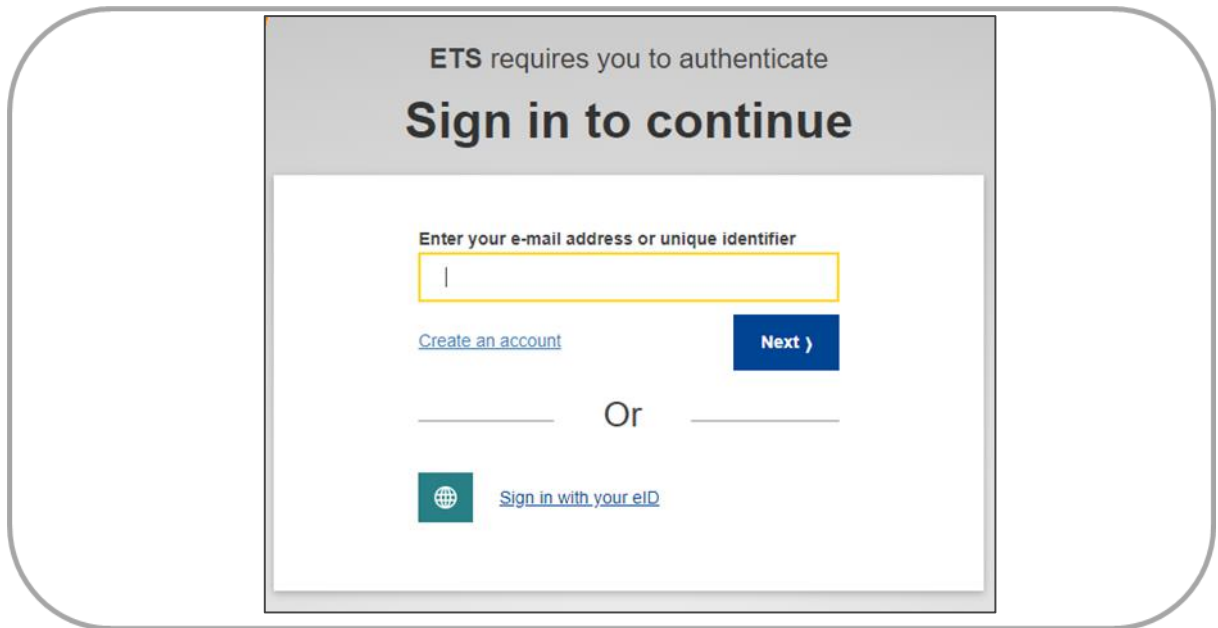


Figure 15: eIDAS start screen (2).

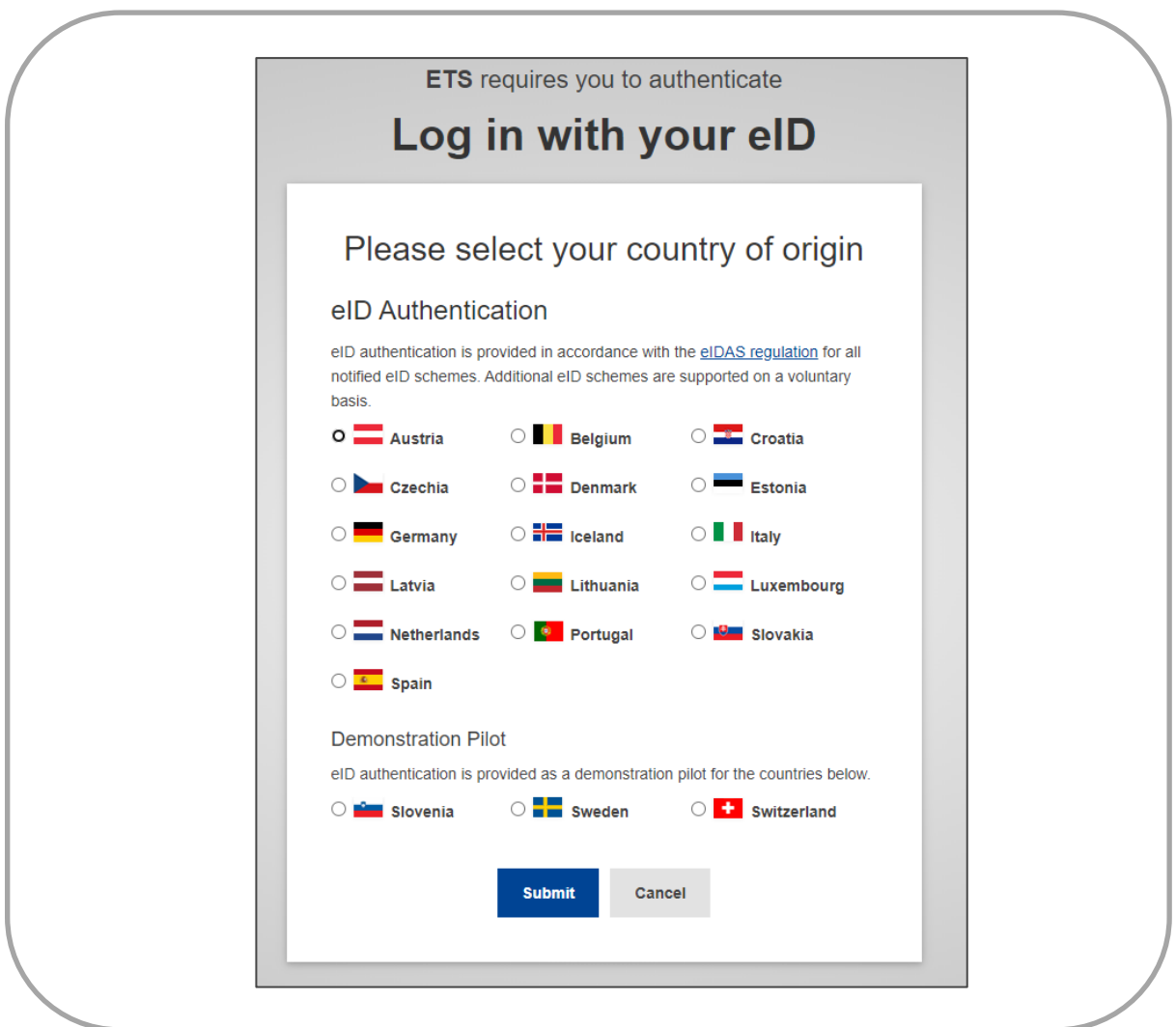


Figure 16: eIDAS select screen: select country that issued ID (3).

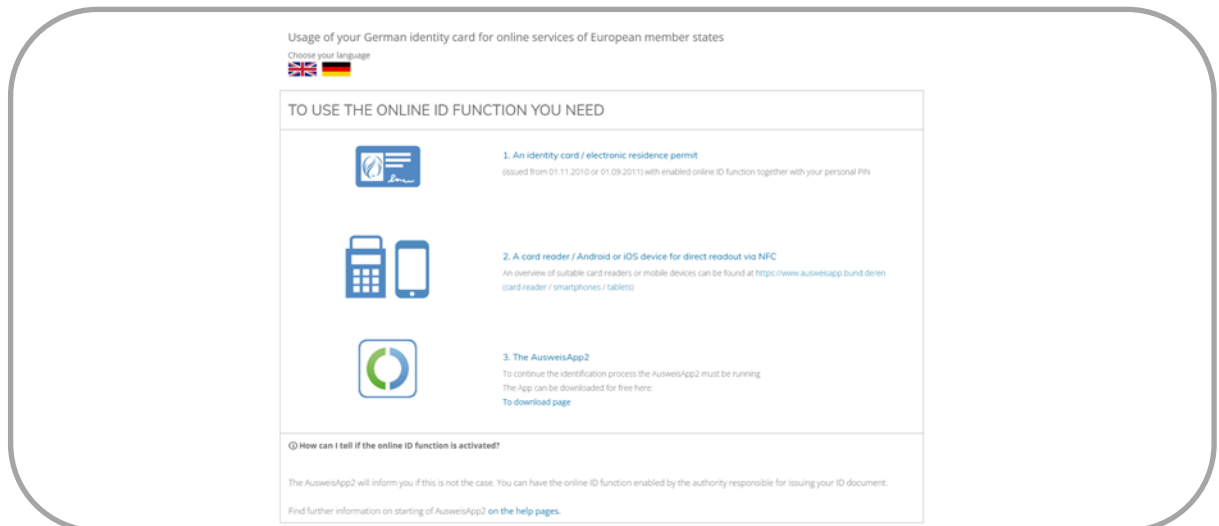


Figure 17: Authentication with German ID in German authentication module (4)

After succeeding to authenticate herself, Alexia will get in a following screen (step 5) an overview of the data on her identity that will be shared with the FYP-portal.

This doesn't concern Alexia but technically speaking we call this her eIDAS minimum identity (data)set, which consists of a unique eIDAS identifier, her first name, family name and date of birth. Countries could choose to share also the name of birth, place of birth, address and sex.

The transfer of data is only executed as she confirms it by clicking on the 'submit' button. With this action she consents with the data sharing.

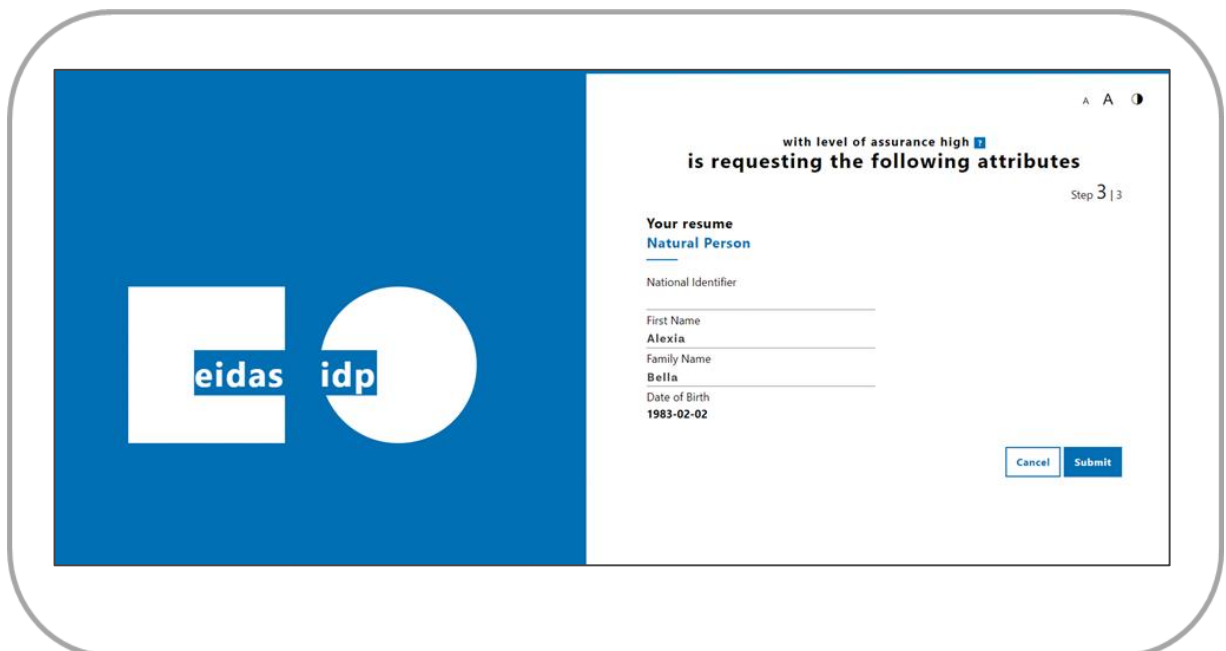


Figure 18: Overview of identity data that will be shared with FYP-portal after consent (5).

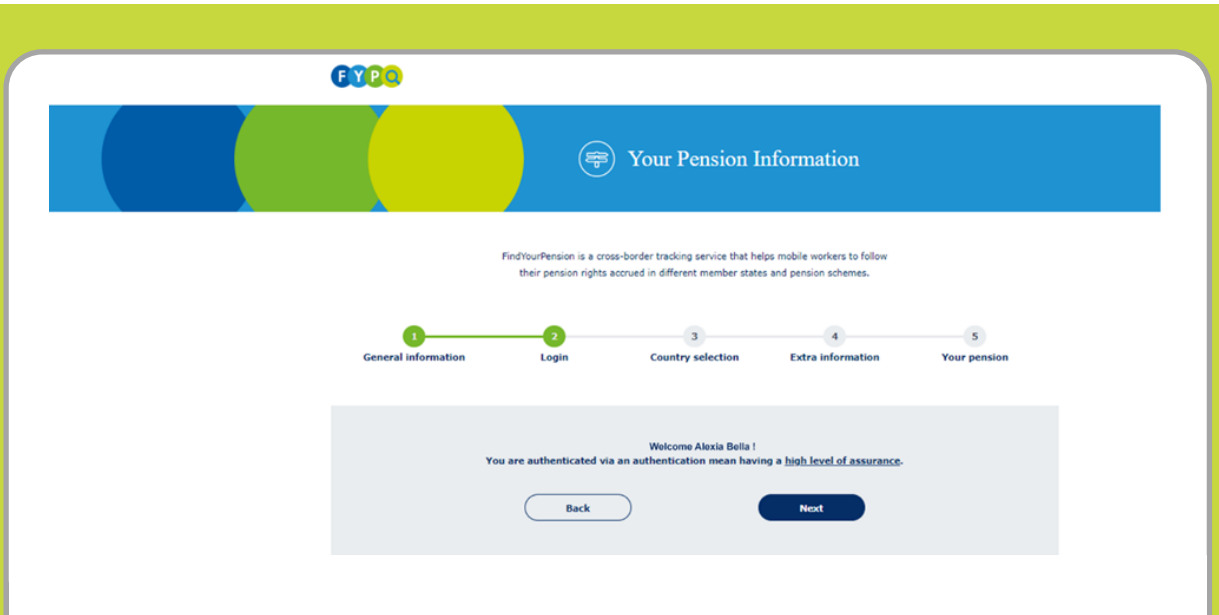


Figure 19: Homepage Find my pension after authentication (6).

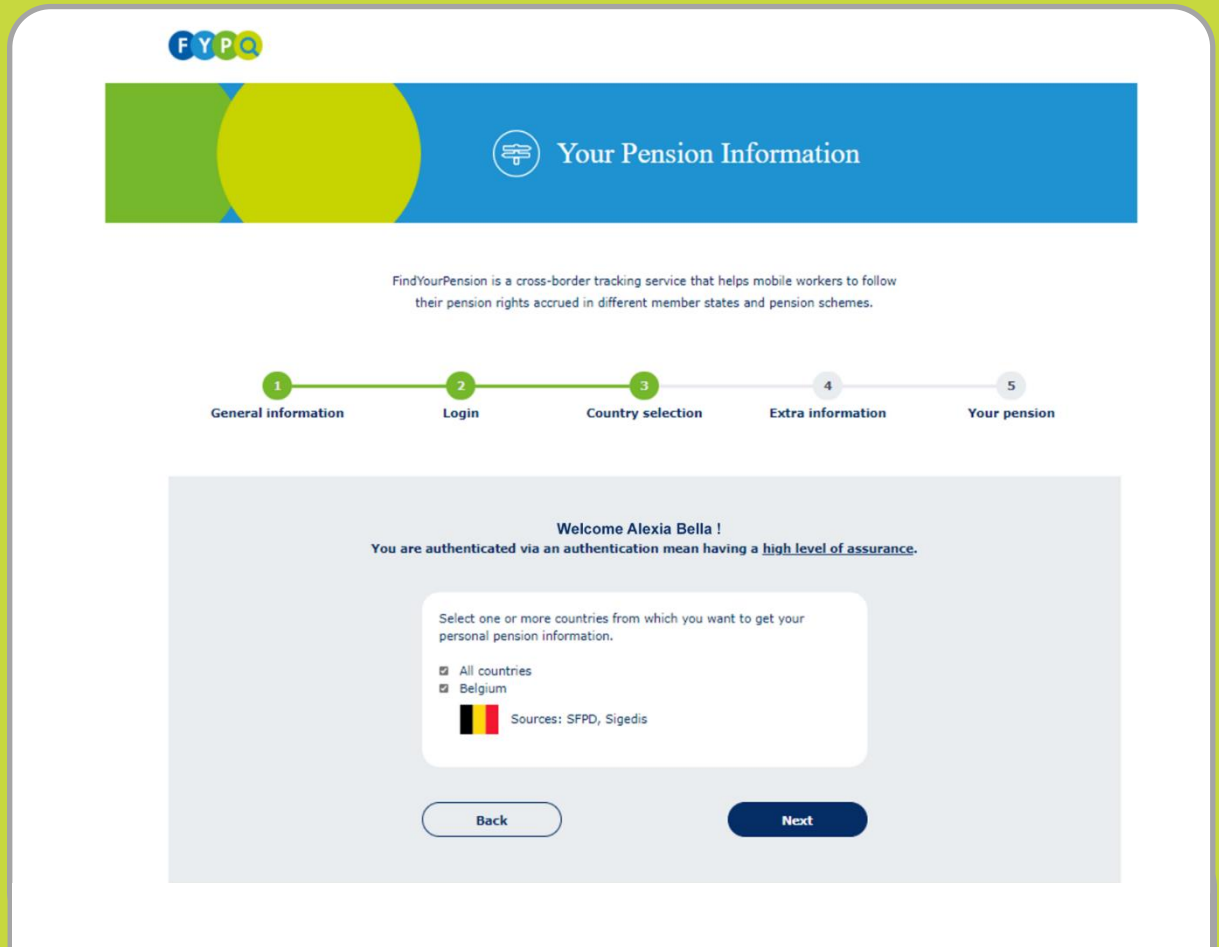


Figure 20: Country selection in Find my pension (7).

Yes, Alexia managed to get into the secured part of the FYP-portal (step 6). But before she gets to her pension information in Europe, she needs to indicate in which country she wants FYP to search for her pension (step 7)

Alexia (or you) maybe wonders why she has to indicate the countries where she wants FYP to search. This is to secure the performance of the 'find my pension' functionality and avoid unnecessary calls to the different national tracking services/data providers. She can however select all countries if she really has no idea of where she accumulated entitlements.

In a final step (step 8) Alexia is asked to add some extra information to her profile to facilitate her identification and finally make the search of her pension in the selected countries possible. More specifically, she is asked to add her country and place of birth.

She has to explicitly consent with the sharing of her data with the data providers who will use it for identification purposes. She has also to agree with the saving of the data in her FYP-profile, so the information can be used to enhance her user experience if she visits the FYP-portal again in the future.

The screenshot shows the 'Your Pension Information' page of the FYP portal. At the top, there is a header with the FYP logo and the title 'Your Pension Information'. Below the header, a progress bar indicates five steps: 1. General information, 2. Login, 3. Country selection, 4. Extra information, and 5. Your pension. The current step is 'Extra information', which is highlighted in green. The main content area displays a welcome message for Alexia Bella, stating that she is authenticated via a high level of assurance. It then prompts her to provide additional information for identification. The form includes fields for 'Name information' (First name(s)*: Alexia, Surname(s)*: Bella) and 'Birth information' (Date of birth*: 1983-02-02, Country of birth*: Please select, Place of birth*:). Below the form, there are two checkboxes for consent: 'I accept the sending of this information to the different data sources in the selected countries.' (unchecked) and 'Please remember my profile information so I don't have to enter it again on a future visit.' (checked). At the bottom, there are 'Back' and 'Get Data' buttons.

Figure 21: Completion of FYP-profile and consent (8).

And finally, there it is: per country and data provider Alexia gets access to a PDF, in English, which resumes the pension information that is available for her by the data source. She can download the pdfs on her device.

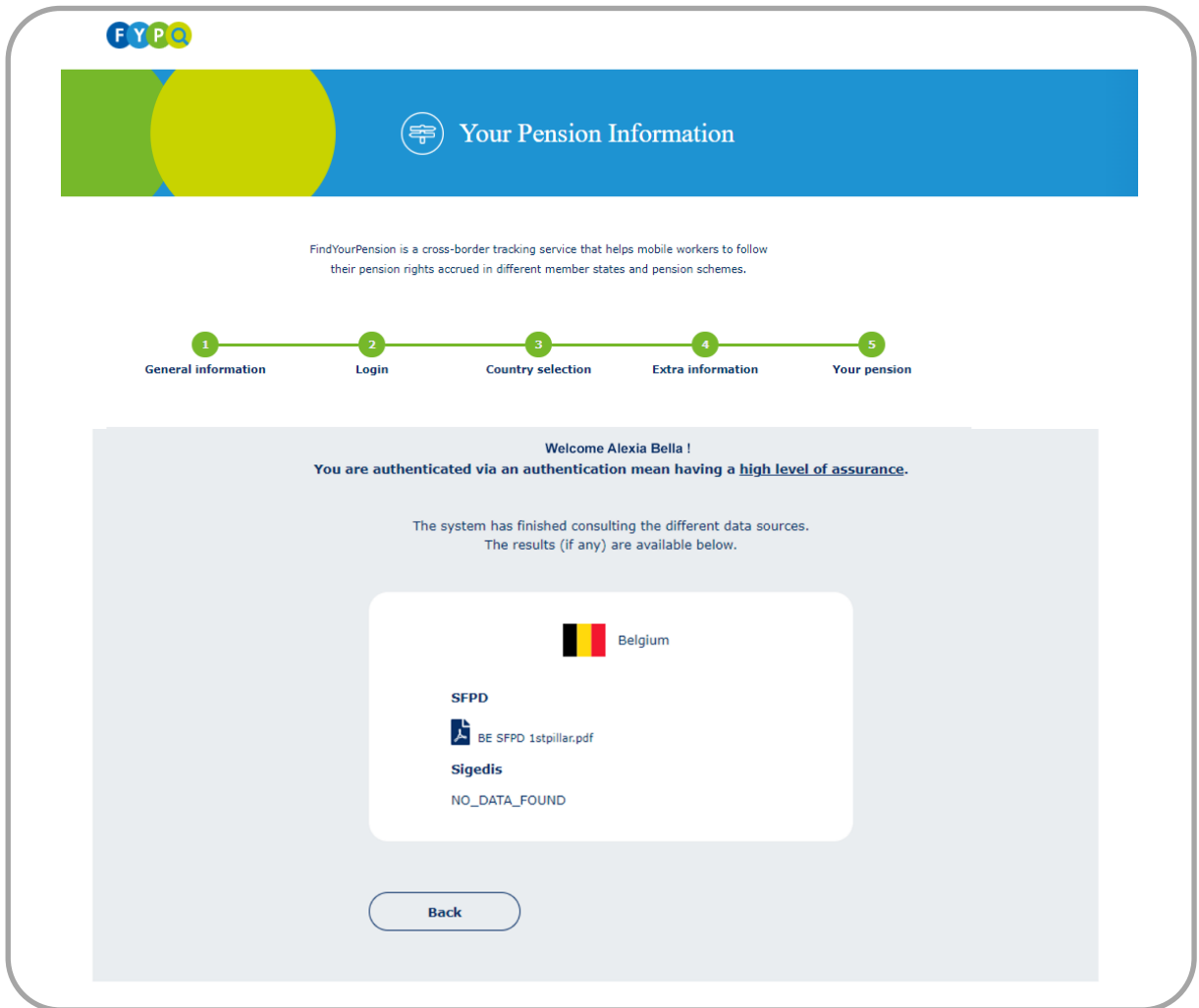


Figure 22: Result page (9).



Figure 23: Result PDF – Federal Pension Service – statutory pension Belgium.

estimation@mypension.be

Toll-free telephone number: **1765**

Your pension file on www.mypension.be

TEST

File number	Date	Annexes
	20/01/2022	1

Estimation of the amount of your future pension

Dear Madam

We have foreseen one or several scenarios in order to help you plan your retirement. These scenarios take the possible pension start dates and the estimated amounts of your future pension into account. The estimate on the back is based on your career data that was available to us on **20/01/2022**.

According to your career data, you have built a pension right as a Civil servant as a employee
To get more details on your personal career, go to mypension.be.

How do we calculate this estimate?

Regarding your past career, we based the estimate on the career information that we received from your employers and from the social security organisms.

Regarding your future career, we based the estimate on your last known professional situation and we extrapolated it as if it would remain the same until your pension date. If you work part-time, or if you are in an assimilated part-time period, your earliest final pension date may be different than the current estimated pension date.

We hope that this letter will help you in your choices and we are always available if you need any further information.

Your pension estimate

On the basis of the current rules and regulations, we can provide an estimate for the following scenarios:

- You stop working at the **first possible pension date**, which will be the **01/05/2047**.
On this date, we estimate the net amount of your pension at € **579,16** per month.
- You stop working at the **legal pension date**, which will be the **01/03/2050**.
On this date, when you turn 67, we estimate the net amount of your pension at € **579,16** per month.

You will find enclosed an overview of our calculation.

Important information

This estimate does not open any pension rights and is for information only.
Do you want to retire? Submit your request a maximum of one year in advance on mypension.be or during a Pointpension organized by the 2 pension institutions. Check the timetables for our Pointpensions on www.pensioenpunt.be.

TEST

Figure 24: Result PDF – Federal Pension Service – statutory pension Belgium – Details.

2.3. Behind the screens: conceptual framework of the ETS – connect concept

2.3.1 Basic architecture of the ETS – connect concept

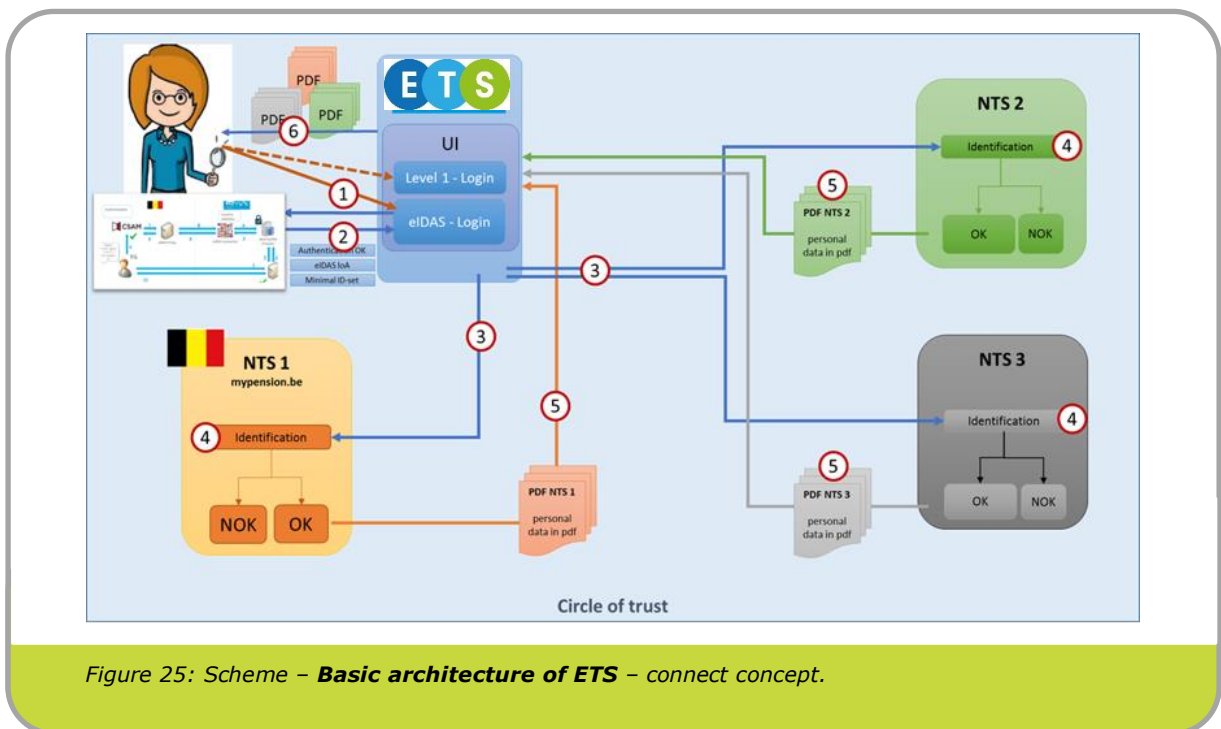
Behind the screens of the FYP-portal, different actors are at work to get the user authenticated – identified – his pension information collected and visualized. Together they can be referred to as the ETS – ecosystem. A short introduction to the different actors.

The **FYP-portal** is responsible for all interaction and communication with the user. The **eIDAS – ecosystem** deals with the communication between the FYP-portal and the authentication authority which issued the authentication mean chosen by the user.

The **ETS-backend** works as an orchestrator – ensuring the communication between the FYP-portal, the eIDAS – ecosystem and the NTS/data providers.

The **NTS/data provider** is responsible for the identification of the user and the collection and transmission of the correct personal pension information.

The following scheme illustrates the process and the implication of the different actors. A short overview of the different steps and its lead actor follows below.



FYP-portal or ETS-frontend

1. As the user journey of Alexia above showed, the process starts when a user goes to the FYP-portal, starts the 'find my pension'-functionality and chooses the authentication system of his choice within the eIDAS-framework.¹⁹

eIDAS – ecosystem

2. The authentication authority (on the national level, that issued the authentication mean) confirms the authentication at a given eIDAS level of assurance (LoA) and sends back the minimum identity set to ETS.

¹⁹ In the visual above this is the authentication system of the same country as the NTSs, but this does not need to be the case.

ETS (backend)

3. ETS checks the LoA of the authentication mean used by the citizen and checks it with the required LoA of the data provider.
4. If there is **not a match**, a message will be shown to the citizen and the provider cannot be selected by the user on the FYP-portal.
5. If there is **a match**, ETS 'calls' the webservice of the data provider chosen by the user. It transmits all necessary information (confirmation of authentication, LoA, the personal dataset (= Minimum Identity Set of eIDAS plus additional data added by the citizen in FYP-portal) to allow the data provider to decide whether it has enough certainty about the identity and consent of the individual to supply information.

NTS (backend)

6. The NTS applies its own identification routines and standards and concludes that there is a match between the personal dataset of the authenticated user and an individual in its own data.

The NTS sends back the available information in pdf-format to ETS.

7. FYP-portal
8. ETS visualizes the received information, i.e. makes the PDF accessible, on the FYP-portal

2.3.2 Creation of a FYP-profile: why and how?

To improve future user experience and facilitate the identification process on the national level, we propose that FYP will create a user profile with the consent of the user as described in step 8 of the user journey.

In the user profile, FYP will store:

1. Personal data coming from eIDAS.
Minimal: First name, Last name, Date of birth.
The level of reliability of the data is high and cannot be changed by the user.
2. Personal data added by the user.
Some NTS need additional data on the user to help their identification process. This data is asked, after eIDAS authentication, on the FYP-portal. With consent of the user this data is stored in the FYP-profile so it can be reused, without asking again, when the user logs on to the FYP-portal in the future.
The level of reliability (LoR) of the data provided by the user is not the same, but lower, as the LoR of the official data (1), because although authenticated there is no guarantee that the data added by the user is correct.
It is up to the data source to decided how to qualify and use these data, since the outcome and reliability of the identification process is the sole responsibility of the NTS.
3. national ID's coming from NTS after the identification (Level of Reliability = high)
If an identification has been executed successfully by the NTS, the national ID is stored on the FYP-portal. This to facilitate the identification when the user reconnects on the FYP-portal in the future.

The user can always view and delete her/his user profile via the FYP-portal.

2.3.3. Trust in the ETS-ecosystem: building a Circle of Trust

In the previous parts we answered multiple questions on how the user will experience the functionality and also how the technical architecture was implemented. Questions as how are we going to authenticate the user (using eIDAS), how the user is giving consent for data transfer (to the FYP-portal), how we are going to identify the user (via national procedures), ...

As discussed, it is the ETS that will make a **'package'** of all information gathered and sends this to the NTS/data provider to evaluate if they can show the information and if yes, send back the pension data to ETS.

But with this a basic question remains: how can a NTS trust that ETS only calls for data if the user is on the FYP-portal and trust that the user has given consent for the data exchange?

The mere fact of authentication via eIDAS doesn't solve the trust issue, because with the creation of the FYP-profile, after a first consultation ETS has all information to start a new request for data without the user being online on the FYP-portal.

So, **how is trust organized in the ETS-ecosystem?**

As already indicated in the Proposal (3.2.2), different solutions can be envisaged to organize the requesting of data by the ETS towards the NTS/data provider. The most future proof being the combination of the OpenID-protocol and the Open Authorisation Standard (OAuth).

Within the project framework –time but mostly budget – it was not possible to implement an architecture with an OpenID-protocol and Open Authorization Standard.²⁰

Therefore, for the proof of concept the choice has been to explore the possibility of an alternative option, namely the creation of a **circle of trust between the ETS-ecosystem and the connected NTS**, as also indicated on the scheme of the basic architecture.

This in combination, on a technical level, with the implementation of **secured exchange channel** between the ETS-backend and the NTS/data provider. This means that there is a secured and trusted physical and logical communication infrastructure between ETS as service provider, NTS as resource server and eIDAS as identity provider. The data exchange between the ETS and an NTS/data provider will be secured by encrypting the messages that are exchanged.

- During the onboarding procedure, the NTS/data provider has to provide a certificate that can be used by the ETS to encrypt and decrypt messages exchanged between the 2 parties.
- This should be a private certificate only shared between the ETS and the NTS/data provider
- Messages that are sent to the NTS/data provider by the ETS will be encrypted using the certificate. That way the NTS/data provider knows that the request came from the ETS.
- Messages that are sent from the NTS/data provider to the ETS will also be encrypted using that same certificate. That way the ETS knows that the message came from the NTS/data provider.

This creates a secure tunnel between the ETS and the NTS.

But **no technical mean is foreseen to check at each exchange that the citizen is behind the request of data.**

²⁰ Estimated implementation cost of an OAuth and openID-architecture was 95.000 EUR. To compare – the complete implementation budget for the Proof of Concept of the Connect concept was € 200.0000.

The **Circle of Trust** implies that you trust each partner within the circle. Trust issues are dealt with beforehand, in the onboarding process by signing a **legal contract** between ETS and NTS/data provider and communicating the certificate.

By onboarding, the NTS/data provider confirms its trust in the ETS and accepts the rules that govern the Circle of Trust. The mere fact that a partner has been admitted into the circle proves that certain checks have been executed, that legal provisions have been accepted and that the certificates are communicated.

The NTS/data provider has to fully trust ETS and its security measures and vice versa. The NTS accepts and trusts that a request for data coming from ETS is legitimate, meaning the request for data is coming from ETS and there is a user on the FYP-portal requesting it and the consent is still valid.

The viability of the circle of trust is tested in the bilateral talks with a selection of NTS (cf. infra). The option of introducing an Open Authorization server in the basis architecture has been discussed in the bilateral talks as an alternative for the Circle of Trust.

2.3.4. Onboarding checklist: what has to be done to connect a NTS to FindYour-Pension.eu today (January 2022)?

To conclude, in this chapter we give a short checklist of what must be done by the NTS and ETS to realize a connection.

Administrative onboarding:

- NTS and ETS have to sign a **formal agreement** to form a **Circle of Trust** and thus accepting the rules that govern the Circle of Trust
- NTS has to register the **minimum Level of Assurance** of the authentication means that the citizen can use to access the data at the ETS.
- In this way the NTS can block access to the data if the authentication means used has a too low level of assurance. The level of assurance can differ between connected NTS.
- NTS has to register the **minimum personal dataset** of the citizen that is required to execute the **identification** process by the NTS
Some NTS cannot come to a reliable identification solely on the basis of the eIDAS minimum identity set. In the onboarding process they can register additional data needed for user identification. This data is asked, after eIDAS authentication, on the FYP-portal as described in step 7 of the user journey. The additional data is, with consent of the user, saved in the FYP-profile for future usability purposes.
- NTS has to communicate its certificate to ETS and ETS has to implement it to guarantee a secured data exchange.

Technical onboarding:

- ETS has to communicate the ETS API to the NTS and the NTS has to implement it as defined.
- NTS has to identify the citizen with the received dataset.
- NTS has to send a response to [FYP.eu](https://fyp.eu)

2.4. What's in place today? Status of implementation (January 2022)

All components of the proof of concept 'Find my pension' - functionality, as described in the following scheme of the ETS-ecosystem, are effectively developed, implemented and deployed on a test environment (Quality assurance environment). All functionalities as described in the previous chapters are developed. In point 1.3.1 a more detailed, technical overview of the implementation in place is given.

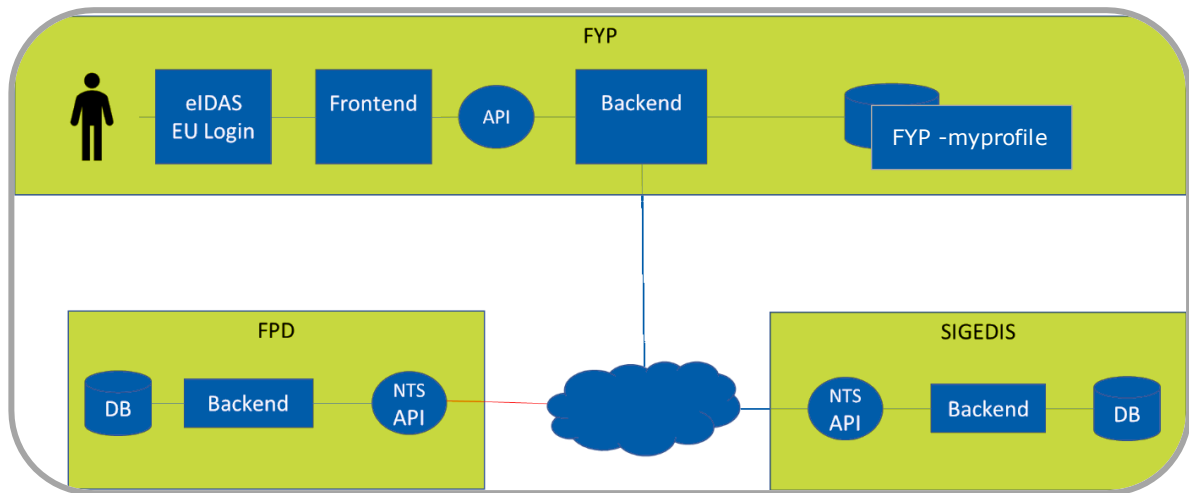


Figure 26: ETS-ecosystem 'Find my pension' – functionality.

Also, the necessary accompanying technical documentation for the maintenance and further roll-out of the 'Find my pension' - functionality is delivered, like the description of the POC-infrastructure, the data structure and data dictionary, the API – rest service definition,...

So, both the central components at the FYP-level as the connection with the local components, developed by the Federal Pension Service for the Belgian legal pension and by Sigedis for the Belgian complementary pension, are in place.

Concrete: a user can access his data of the Belgian data providers starting from the frontend of the 'Find my pension' – functionality after having authenticated himself via eIDAS.

So, what is left to do to release the functionality in production?

First, end-user testing has to be organized – does a real-life user manages to successfully complete the user journey?. To this end the full implementation has to be deployed on an acceptance environment. From the user testing also, valuable information on the usability and comprehensiveness of the developed functionality will be gathered.

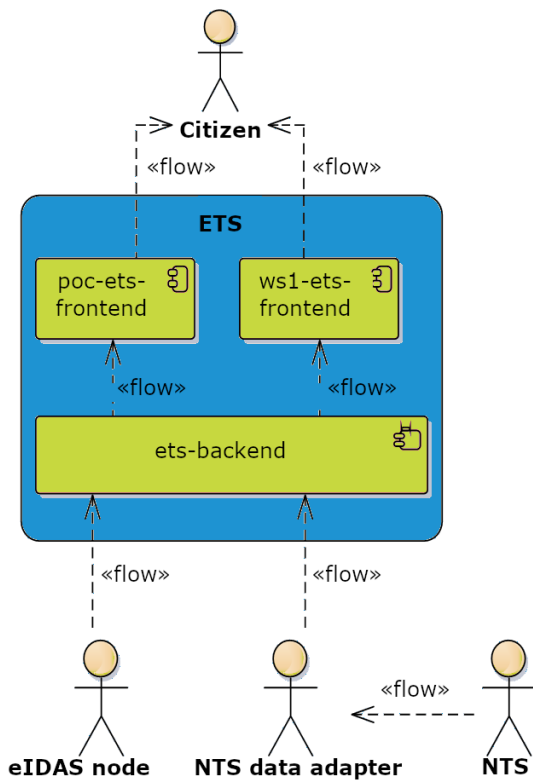
Second, the functionality of the proof of concept has to be integrated in the larger 'Find your pension' – portal. The functionality has been developed as a stand-alone module. The **integration within the portal** is a necessary condition before going into production and releasing it the functionality to the outside world.

To guarantee a seamless integration a rework of the look and feel of the functionality and its screens could be necessary, as also the integration of the functionality in the information architecture of the general pension information as developed in WS1.

Third and finally, **the production environment** has to be set-up and deployed to make the public release of the functionality possible.

Detailed overview of the ETS-ecosystem implementation

The ETS solution consist out of two major components: the ETS-frontend and the ETS-backend.

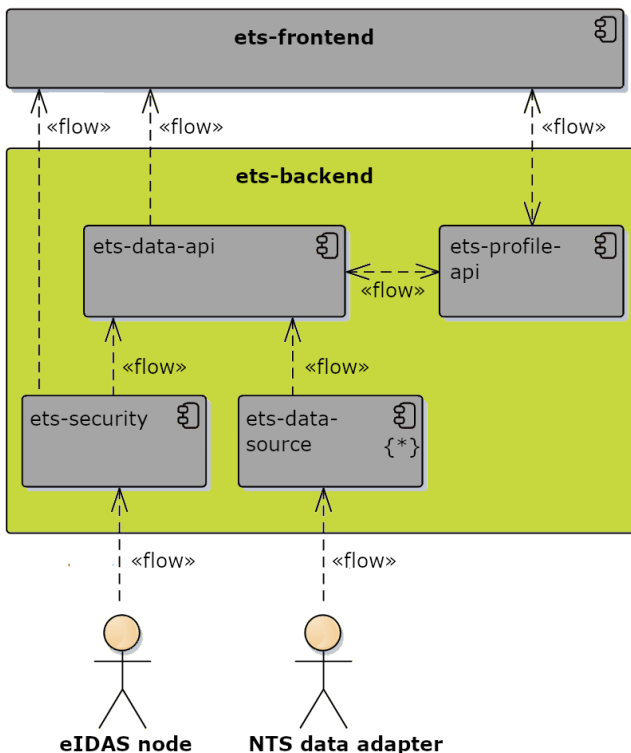


ETS – frontend is the web application allowing a user to access his/her pension information in different European countries.

In the solution today, the 'Find my pension' - functionality is in principle accessible via 2 distinct front ends:

- **the poc-ets-frontend**: the initial frontend developed by WS2 as a proof of concept (as shown in the screens of the user journey – and implemented);
- **the ws1-ets-frontend**: the future frontend that will be designed and developed during WS1 and that will become the final user interface after the integration of the POC in the FYP-portal (as discussed above and to be developed before going into production). This will make **the poc-ets-frontend** obsolete.

Both front ends will use the ETS-backend to get things done and will offer the same global functionality.



The second scheme of the two figures on the left goes into more detail on the architecture of the ETS-backend component.

ETS – backend is the module offering the ETS service backend functionality.

The ETS backend exposes 2 API's:

- **ets-profile-api**: the API for managing the (optional) ETS profile
- **ets-data-api**: the key API exposing the pension data towards the ETS-frontend/FYP-portal

The data API uses the **ets-data-sources** to get the data from the **NTS** via its **NTS data adapter**.

Figure 27: The ETS-frontend and -backend relation.

The ETS solution interacts with the following actors:

- **Citizen:** A citizen accessing his/her pension information in different European countries
- **NTS data adapter:** An external system hosted by a NTS/data provider that has implemented the data provider API as defined by the ETS and which offers access to the pension data of a specific country/institution/data provider.
- **NTS:** The national counterpart of the European pension tracking service. This can be a NTS following the commonly used strict definition of National Tracking Service or a national data provider.
- **eIDAS node:** An external system capable of authenticating a citizen using the eIDAS protocol

The complete ETS solution is deployed on the Belgian government G-Cloud environment.²¹

From a hosting perspective ETS will be secured by

- A firewall on G-Cloud level
- A bastion on ETS level

The ETS bastion will act as

- A firewall mimicking the G-Cloud firewall allowing only HTTPS and SSH traffic
- A jump host towards systems lying behind the bastion

This security setup will ensure that

- We have one single entry point towards the ETS environment
- There is only HTTPS access to data and functionality knowingly exposed via HTTPS
- Trusted parties can be granted low level access to the environments using registered users and their SSH key
- SSL offloading is done in the ETS runtime environment ensuring that all network traffic remains encrypted until it reaches its final endpoint

²¹ See <https://www.gcloud.belgium.be/nl/home> for more information.

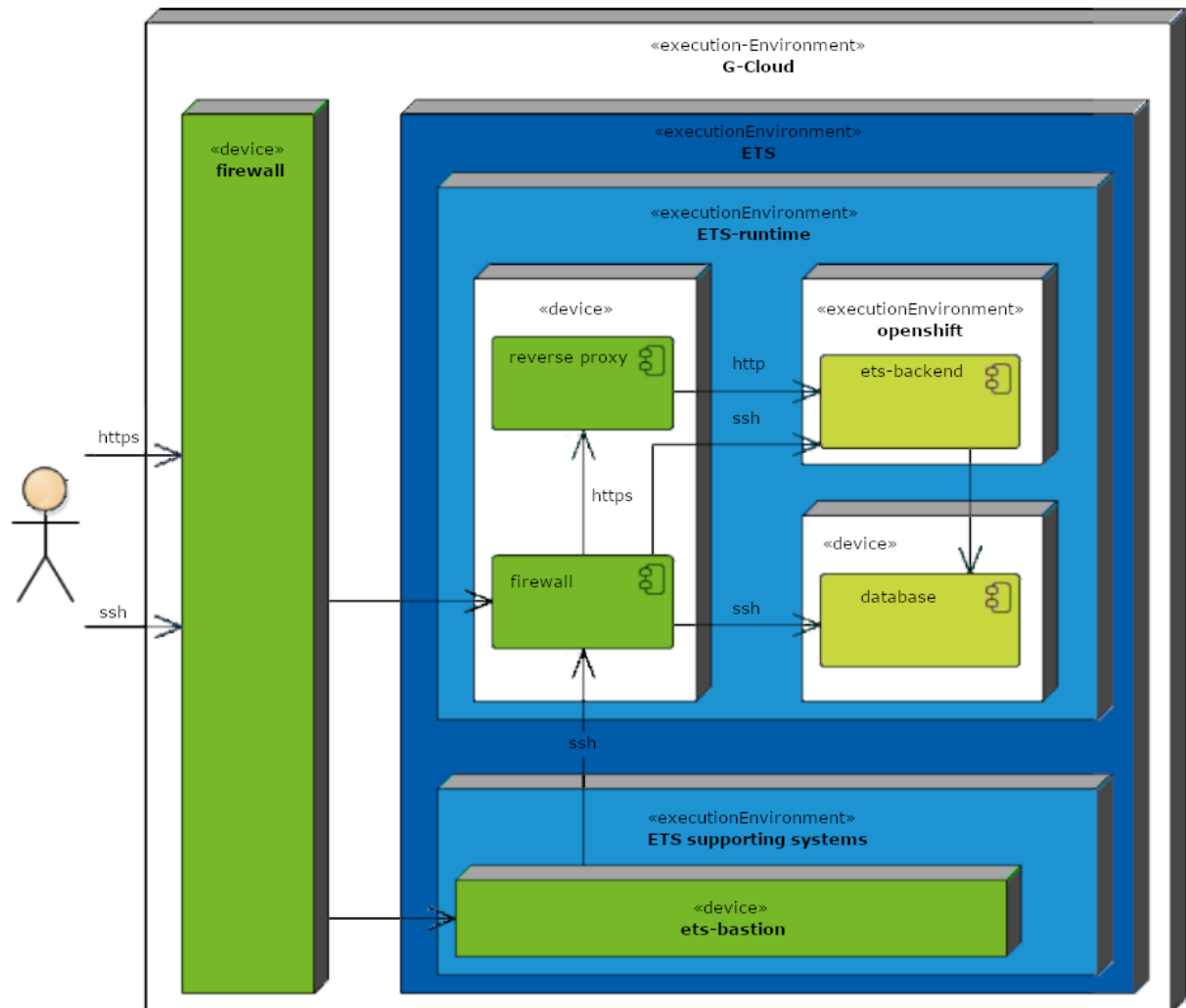


Figure 28: The security set-up.

2.5. What did we learn from the bilateral talks with NTS?

Designing a solution to a problem in the vacuum of a project team is one thing, testing its viability in the 'real' world is another.

The design of the ETS connect concept - solution has been described in detail in the previous chapter. That it can technically work has been proven by the implementation by the Belgian project partners. But that the solution design is acceptable and thus viable for other parties was the object of the bilateral talks that were organized with the representatives of different NTS.

The approach of the bilateral talks was:

1. Explain the design of the proof of concept in detail
2. Go through the conceptual choices made in the solution design to determine if they were accepted by the NTS and if applicable under which conditions
3. Identify blocking issues on the national level for the roll-out of the ETS connect concept.

The following topics were discussed in detail:

- Trust in the ETS-ecosystem
- Consent of the citizen
- State of play of eIDAS onboarding on the national level
- Required level of assurance on the national level
- Identification in the ETS-ecosystem

- Constructing the FYP-profile

The focus was on the exploration of the technical feasibility of the POC, and with the exception of the issue on trust and the consent of the user, the topics of privacy by design and GDPR were out of the scope of the bilateral talks. These were dealt with in Workstream three of the project.

In total 4 bilateral talks were conducted, firstly with the project partners with an operational ETS, Sweden and the Netherlands, secondly with the representatives of the NTS of Denmark and France.

All bilateral talks were conducted by Giselda Curvers and Danny Dhondt (lead of implementation ETS - connect concept) to guarantee a coherence of approach and interpretation.

Table 1: The approach of the bilateral talks

2.5.2 Main conclusions: overview of blockers for future technical roll-out

Circle of Trust: acceptable a priori but the devil is in the details

Circle of Trust would be acceptable for the majority of the NTS but only if sufficient accompanying security measures are taken in the onboarding process, like for example an audit

Date	Country	Organization/Participants
June 2020	Sweden	MinPension: Anders Lundstrom Patrick Lundstrom Pensionsmyndigheten: Alexandra Bateman
December 2020	Netherlands	Mijn Pensioenoverzicht.nl / Cognizant: Rik Van Amelsfoort
December 2020	Denmark	Forsikringogpension: Michael Rash
February 2021	France	Union retraite: Philippe Retailleau

of the implementation upfront but also an audit trail that can be consulted in the case of suspect of misuse.

The effective acceptance of the Circle of Trust is thus highly dependent on the details of the agreement governing the Circle of Trust.

Circle of Trust as potential blocker for future enhancements

From the bilateral talks we also could conclude that the scope of the Circle of Trust would be limited to the scope of the proof of concept, namely NTS sends pdf/data to ETS to show on ETS-portal. As in most NTS-architecture, this would be the result of an online, synchronized data exchange.²²

²² Storing pension data on the ETS-level was not acceptable for the consulted NTS.

The Circle of Trust would not be sufficient anymore if the ETS would evolve to a data hub in a later stage. Data hub being defined as an ecosystem via which data is not only shown on the ETS-portal but also exchanged between the members of the ecosystem to be shown on e.g. the NTS-portal. Following the consulted NTS, if ETS would function as a data hub in the future, the inclusion of an OAuth-server in the basic architecture of ETS would be necessary.

Introduction of Open Authorisation server (OAuth) in ETS – basic architecture

OAuth is an open standard for access delegation, commonly used as a way for Internet users to grant websites or applications access to their information on other websites but without giving them the passwords.

It allows access tokens to be issued to clients by an **authorization server**, with the approval of the resource owner (i.e. citizen). The client/service provider (i.e. FYP/ETS) then uses the access token to access the protected resources hosted by the resource server (i.e. NTS).

The protocol and standard are used to communicate between the parties that a user is authenticated and that the requesting party has the necessary consent of the user. The data source will then have the necessary guarantee that the data request is initiated by the authenticated user.

In the next scheme the OAuth-server is introduced in the basic architecture of ETS by adding a distinct **Identity and Authorization module** with the following functionalities: Authentication via eIDAS, Authorization via OAuth. Next, we will give an overview of the responsibilities of the different actors in this type of architecture.

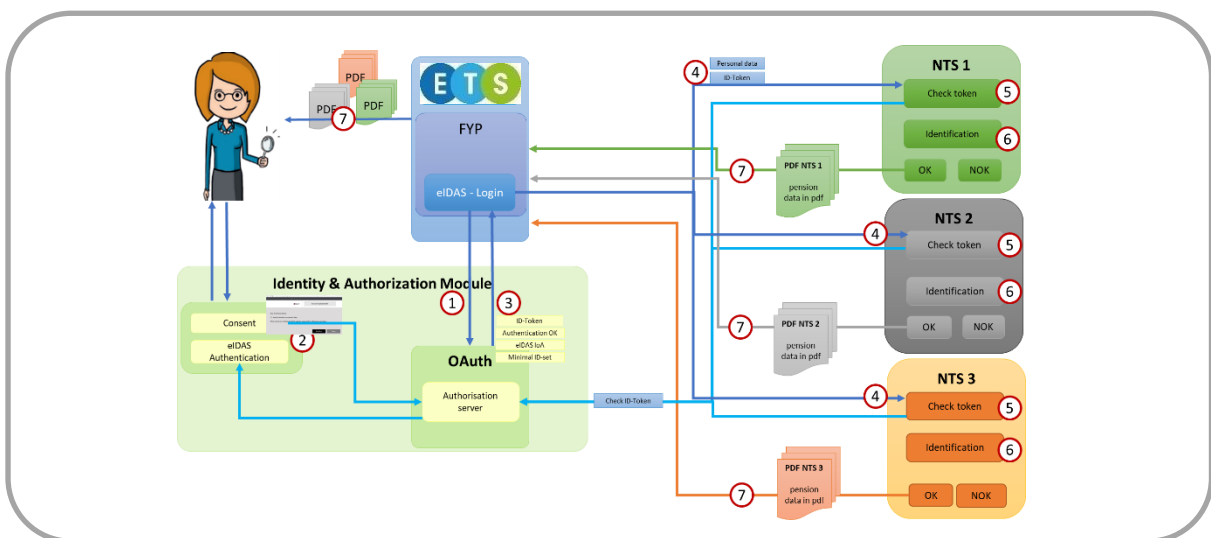


Figure 29: Scheme: Basic architecture of ETS – connect concept with OAuth (proposition).

The **Identity & Authorization module** would be responsible for:

- the communication with eIDAS to authenticate the user
- storing the consent of the citizen to exchange data between FYP and the requested NTS/data providers at the OAuth-server
- sending the eIDAS-dataset and ID-token of OAuth to ETS

ETS would be responsible for:

- sending the ID-token of OAuth to the NTS/data provider
- requesting the pension data at the requested NTS/data providers

NTS/data provider would be responsible for:

- checking the ID-token at the OAuth-server
- sending back the pension data to ETS

Regardless the consent of the user, national legal restrictions could block data exchange between ETS and NTS

Depending on the governance and organization of the NTS, the consent of the user is or isn't enough to authorize the data exchange between the NTS and the ETS. In some countries it will be necessary to adapt legally binding agreements with national data providers or even national legislation wanting to protect citizen's data but in an ETS-context blocking participation in the connect concept.

If the consent of the user is sufficient for a NTS, in some cases it was mentioned that it will be necessary to add 'national' terms of use to be 'signed' by the user when using the ETS-portal to retrieve the national data.

In all cases the citizen should have the possibility to withdraw its consent to the ETS and to the 'national' terms of use if applicable.

This point will be elaborated further in the part on the security by design and GDPR.

Identification of the citizen needs to be solved on the national level, but this doesn't mean a NTS has a hold on it

The bilateral talks made clear that identification is the biggest challenge in the proposed ETS-architecture. Identification of the citizen is left to the national level, ETS provides via eIDAS the minimum dataset to facilitate the task. But identification is not done on a transversal level.

eIDAS, thus, solves the authentication part, but leaves the identification of the end user to the national level. The minimum dataset offered is for several countries not sufficient to successfully complete the task. Often national ID's, social security numbers, etc. are needed in addition in order to come to a successful identification.

Although the ETS-user flow showed that it is foreseen that this information is asked by the citizen, at least two considerations have to be made:

1. the reliability of the data is far less secure because coming from the end user, making it – at least in theory – more vulnerable to identity fraud and misuse;
2. in the context of multiple mobile workers (our core audience group) it's not likely to expect that the end user has all of these credentials at hand when using the ETS-portal.

In our discussions with the NTS-managers also became clear that the authentication/identification of users was often implemented in the NTS as an external service provided by a national third party. The way authentication/identification was organized and would evolve during the coming years was in some case even a real black box.

The identification issue is thus a real threat to the future success of the ETS-portal. Put it bluntly: because it's no fun getting a box of pension 'toys', if you cannot open it.

2.5.3. Recommendations

The success of ETS is directly linked with the success of eIDAS: further investment in eIDAS onboarding and marketing are needed

In theory eIDAS solves the authentication issue.

But as with all new technology, its success in facilitating the use of digital applications in Europe is directly linked with the end user/citizen being able to use its national authentication mean and knowing it can be used in a European context. To this end more marketing and direct communication towards the end user could be useful.

The eIDAS front end is clearly built for use in a professional context and could use some finetuning to make it more user friendly and intuitive. Ideally, the eIDAS flow reassures and encourages the user to succeed in its user journey. This is today not the case and the current implementation could cause fall out in the use.

The developments in the realm of the Single Digital Gateway could also have a promoting effect on the use of the national authentication mean via the eIDAS ecosystem, but also in this case the same pitfalls apply: SDG will not be successful if the citizen doesn't know how to work with his national authentication means, and doesn't know he can open up European doors.

That the room for growth is substantial is illustrated by the following: today only 0,02% of all authentications in the domain of Belgian social security is done via eIDAS. In absolute figures this accounts for on average only 300 eIDAS authentications per month. If foreign people known in the Belgian administrative datasets were to use Belgian online applications to the same extend as Belgians (given the relative size of their presence in the data), that number should be around 2%.²³

Member states should be stimulated to invest in notifying authentication means with a sufficiently high level of assurance

We already discussed the issue of identification, that could frustrate the citizen not getting the information because identification failed. Another threat is the level of assurance of the authentication mean a Member State notifies in the eIDAS-framework.

If the result of the peer assessment is a (too) low level of assurance, the citizens of the member state will not be able to see their pension data coming from other member states that require a higher level of assurance. It is the data provider that decides in the onboarding process of the ETS what level of assurance is acceptable to see its pension data.²⁴

A (European) obligation to notify an identification means with a sufficiently high level of assurance, e.g. LoA higher or equal to substantial, would enhance the use that is made of European applications and the user experience of the citizens using European applications. This remark goes equally for the Find your pension – portal as for the online procedures foreseen in the Single Digital Gateway.

Extending the minimum identity dataset of eIDAS to guarantee the once only principle and successful identification in the future

After authentication with eIDAS only the MID (minimum identity dataset) is send to the demanding application. As also the NTS – bilateral talks showed, most countries cannot sufficiently secure identify a person with only the MID.

In the onboarding process to the ETS the NTS can register additional data needed for user identification. This data is asked, after eIDAS authentication, on the FYP-portal as described in step 7 of the user journey. The additional data is, with consent of the user, saved in the FYP-profile for future usability purposes.

This data is often available at the authentication source, but not communicated via eIDAS. This is not user-friendly and reduces to usefulness of eIDAS. Moreover, it also breaches the once only principle – a European citizen is asked to take unnecessary administrative steps, while the information is at hand with the authentication source.

²³ Estimate based on figures of the Federal Pension Service: Proportion of EU pensioners paid out by FPS on total number of pensioners paid out = 7,47% (=185.000/2.471.000). Assumption based on general use of mypension.be = 25% of population uses mypension.be. So expected proportion of eIDAS in the future = 1,87% or rounded 2% of all authentications in the domain of BE social security.

²⁴ Accepting a certain means of authentication, or not, is a decision that is the sole competence and responsibility of the data source. In as far as these sources are public authorities that are, in addition, participating in the eIDAS-framework, certain rules could apply that limit their possibility to refuse a given means of authentication if that means of authentication qualifies as equal – in terms of the so-called Level of Assurance or LoA – to the national means that are accepted. But it will not oblige them to accept foreign means of authentication of a LoA that would not be accepted form national means either.

Therefore, we recommend to **extend the personal data exchanged via eIDAS** beyond the minimum identity dataset with for example, the national ID, sex, current address, birthdate, birthplace, ... This data coming from an authentic data source, opposed to self-declaration by the citizen, will have a high level of reliability (LoR). Hence, it would also increase the reliability of the use of this data in the identification process of the citizen in the national databases.

To do:

- European building blocks are needed to enhance the development of European digital services: a strong case for a European authorization server, digital identity and identification module
- Legislation could solve the national data exchange issues

Appendix to Chapter 2: Bilateral talks: detailed overview of agenda

Part 1: How do we deal with trust in the ETS ecosystem?

- Does your NTS accept the Circle of Trust (CoT) between FYP & NTS?
- If no, is CoT with authorization server for your NTS an acceptable alternative for the 'pure' CoT between FYP & NTS?

Part 2: How do we deal with consent of the citizen in the ETS ecosystem?

- Is users consent enough to exchange data between ETS & NTS?
- Is a contract required to exchange data between ETS & NTS?
- Is a legal change required to exchange data between ETS & NTS?

Part 3: How do we deal with authentication in the ETS ecosystem?

- What is the minimum required LoA (Level of Assurance) for access to your NTS? High, substantial or low?

Part 4: How do we deal with identification in the ETS ecosystem?

- Is the identification of the user a problem for your NTS?
- Are there special requirements for the execution of the identification routine by your NTS?
- Can your NTS do an identification on the basis of the minimum dataset of eIDAS (name, first name, date of birth)?
- If not, which additional data are required for executing the identification routine?

Part 5: Constructing MyProfile@FYP

- Does your NTS accept:
- to send the found National ID in the identity database of the NTS to FYP
- and that FYP stores the National ID in the user profile if the user gives his consent for it?

Part 6: Last topics

- Is it possible/feasible to have an in sync exchange of pension data between your NTS & ETS?
- Would it be envisageable for your NTS to store pension data centrally at ETS if a future enhancement of the concept would require this?

3. WS3: Future ETS organisation – taskforce on the initial organisation

Two remarks as an introduction: The ETS, when successful in the years to come, will go through many stages of development from the perspective of user engagement, stakeholders' involvement, services provided, technology used, etc. Each of these stages will come with its own requirements and challenges for the ETS organisation. This is in line with the vision of EIOPA that pension tracking systems (PTS) and the ETS should be developed in a step- by- step approach as well as with our project proposal. But it also means there is not a single image of the future ETS organisation. With this in mind, we decided to construct the image of the ETS organisation corresponding to the first ETS version. That is (where functionality and number of connections is concerned) the very first phase of the ETS, one that has the potential to develop further, but already has a sustainable structure.

Second remark is that the findings of the TTYPE report with respect to the ETSs organisation did form an important starting point for many of the discussions and research of the project. We did discuss and validate their validity, but many of the basic ideas remained unaltered.

3.1. Need for an organisation

The need for an organisation developing and operating the ETS was already addressed in the TTYPE report. Apart from the operation, all tasks related to the legal ownership of the ETS also need to be taken care of. Finally, given the dependency of the ETS on other European organisations (for example data and content providers), stakeholder involvement needs to be organized as well.

The properties of the ETS organisation like the business model, the governance model and the legal structure depend on its purpose.

3.2. Purpose and dependencies

The purpose of ETS is (indirectly) defined by the EC in that it sees a necessity for mobile worker to be able to track and trace their pensions. So, the goal of the ETS organisation is to develop and operate a service that does just that.

At the beginning of the project, we defined a mission and vision for the future ETS organisation:

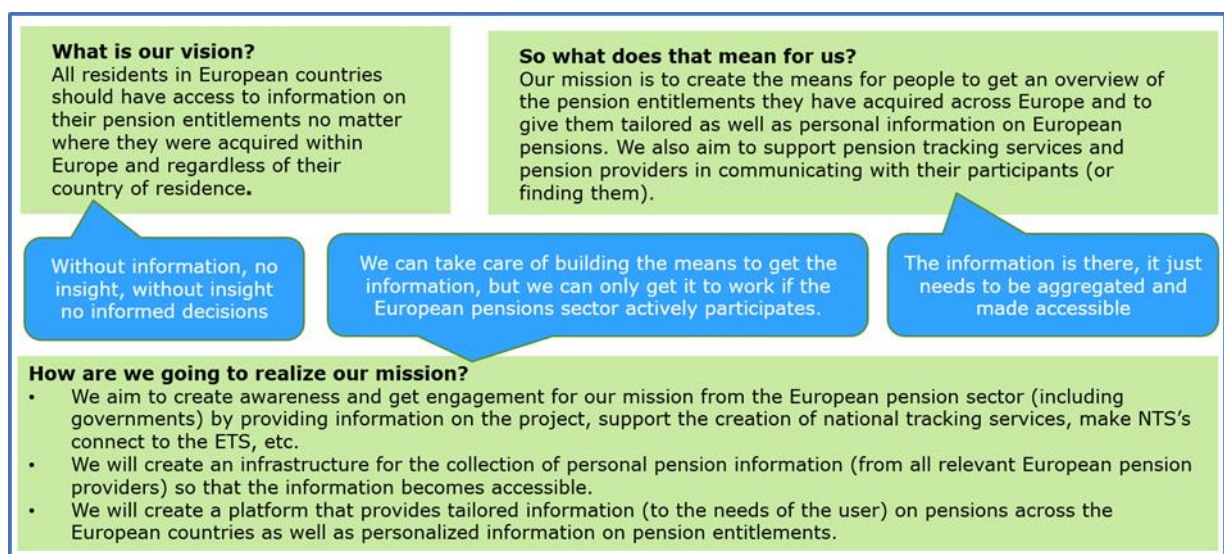


Figure 31: Mission and vision for the future ETS organisation at the beginning.

Starting from this mission we used the following model to explore aspects of the ETS organisation and of its services. It is to show the dependencies between several aspects of the ETS organisation and how the business model of the organisation is related to the services provided by the portal.

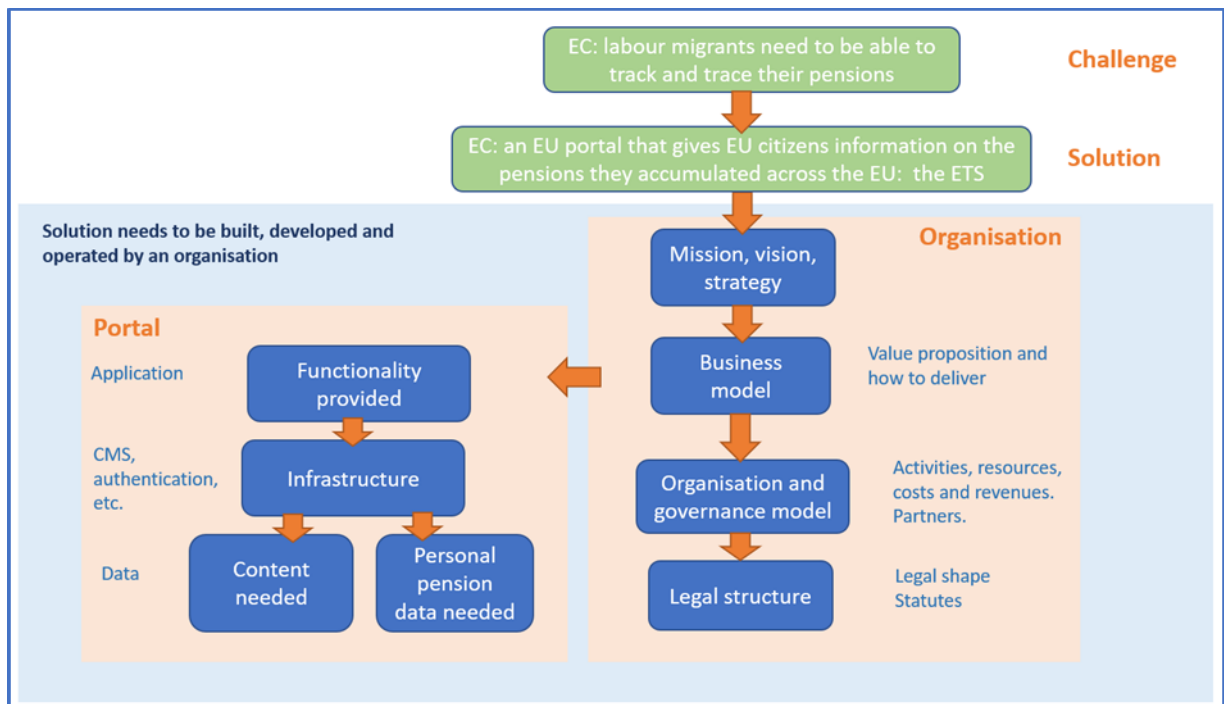


Figure 32: Further exploration of the mission – the relation between organisation and services.

This model roughly describes the approach we are taking in defining the future ETS organisation. The strategy describing the way it wants to achieve the goals, the business model describing the value proposition of the ETS organisation (to a large part provided by the ETS itself) and how it will deliver it. Then the organisational and governance model to describe how the main tasks (Operation, ownership, stakeholder management) are carried out and finally the legal structure of the organisation.

3.3. Digression: External Developments

The original ideas on the ETS were developed in 2013 and 2014. Many things have changed since then, but the basic idea of the ETS, being a portal that would provide pension information on entitlements accumulated across member states hasn't changed. The project does not have the impression that the ETS concept is outdated, or its necessity is less urgent. But it does recognize the possibility that legal, technical, social or other types of developments could change that. Therefore, we did a reconnaissance session to explore possible developments that could have an impact on the future ETS in either a positive or negative way. This kind of monitoring the conditions that influence the business model, will be an ongoing part of the management of the future ETS organisation. At the time of drafting this intermediate report, we can share the following results without giving a complete overview of the developments:

- We see several new NTSs being established in Europe. Examples are Germany, the UK, Croatia, Austria. This of course supports the foundation of the ETS where it needs NTSs as data sources. But it also shows that the concept of giving a comprehensive overview of an individual's pension situation is still a very convincing solution. The ideas behind the new NTSs are also interesting because they all did thorough research on the structure of current NTSs in other countries. Of course, they had to modify the design to the specific properties of the pension industry and needs and priorities of citizens in their own countries and fit it into the dynamics and interests of their stakeholders. So, for the ETS they are an important learning ground.

- Another observation is that we see existing NTSs have an internal focus, meaning that they are driven by national developments in pensions, have national stakeholders and are financed either through state funding or through national players in the pension sector. Their agenda is based on what happens in their member state (changes in legislation, topics of national interest, etc.) and the interests and of their stakeholders. For most of the NTSs, mobile worker form only a small portion of their users, so facilitating them is not the highest on their priority list. This of course does not help if the ETS seeks the engagement of NTSs.
- One development with significant impact is, that citizens are getting increased control over their own data, particularly data that is held by organisations and governments. We see legislation on PSD2 and GDPR as an example and the EC's open finance strategy as another. For citizens this means that pension data will be available through a multitude of channels and that offering pension data might become subject to businesses of more service providers. One example of that is NTSs building API's (Denmark, Netherlands) that make data transfer to other organisations possible, another example is that of screen scraping tools. These tools interact with existing applications to read the data that they show on the user interface which can then be used for other purposes. Websites like NTSs have no influence over their use because they behave like users accessing the website.

For the ETS it is important to realize that it might not have the monopoly on pension data as transmitted by data sources on a European level. This is important for its strategy and underlines the necessity of contextualisation of data for the mobile users. One finding of the project group's discussions on this issue was, that the ETS will have to move fast and establish a strong position in the field of pension communication to citizens ahead of this development or change its proposition.

3.4. Value proposition and business model

The basic idea of the ETS is to help mobile worker assess their pension situation so that they can act upon that information. ETS does that on basis of personal pension information that is explained and contextualised. So that describes the value proposition for the user.

But the ETS will be dependent on NTSs and pension providers building the data sources for the ETS. If there is no legal obligation for them to do this, they will need an incentive. One incentive we considered could be that the data the ETS has accumulated could be transferred back to data providers if requested. A construction like that could make it possible for a citizen to log on to his national tracking service and have them connect to the ETS and gather the relevant pension data from other member states. An ETS with this functionality does have an additional value proposition, one of a datahub for NTSs.

The options for the ETS on value propositions are summarized in the diagram below. Notice that the two bottom layers describe the ETS in its basic form as defined by TTYPE and de project proposal.

		Value proposition	Opportunities	Revenue options
ETS as a data hub	4.	Providing personal pensions data to other organisations (on basis of user consent)	<ul style="list-style-type: none"> Opening for a wide range of services 	<ul style="list-style-type: none"> Advertisements Subscriptions (of commercial vendors) Fee per data-transaction
	3.	Providing personal pensions data to pension providers and NTS's (on basis of user consent)	<ul style="list-style-type: none"> Opening other trusted channels for information provision on personal pension situation Incentive for providing data 	<ul style="list-style-type: none"> Pension providers and NTS's. Membership fees or other forms of yearly contributions
ETS as a portal	2.	Providing comprehensive overview on personal pension situation	<ul style="list-style-type: none"> Basis for all evaluations of personal pension situation 	
	1.	Providing general pension info, answering questions, find my provider, etc.	<ul style="list-style-type: none"> Building knowledge base on pensions across Europe and on questions of labour migrants Bringing (lost) members and providers into contact 	<ul style="list-style-type: none"> Public funding. Primarily EC Funding through other organisations that feel strongly about the goal of the ETS.

Figure 33: Value proposition and business model – opportunities and revenue options.

For the project it was clear that, though levels 3 and 4 offer clear additional value for future stakeholders, they also come with a cost.

		Value proposition	Issues	Legal issues
4.		Providing personal pensions data to other organisations (on basis of user consent)	<ul style="list-style-type: none"> Commercial application of the data (= organisations making money on the data that is provided by the ETS community) 	<ul style="list-style-type: none"> Contracts
3.		Providing personal pensions data to pension providers and NTS's (on basis of user consent)	<ul style="list-style-type: none"> Misuse of personal data if it falls in the wrong hands What do pension providers and NTS's (data receivers) do with the data? 	<ul style="list-style-type: none"> GDPR data receivers Agreements between ETS and data receivers about liability, use of data, etc.
2.	ETS level 2	Providing comprehensive overview on personal pension situation	<ul style="list-style-type: none"> Identification of users Making it consistent, complete, useful and simple 	<ul style="list-style-type: none"> Legal restrictions data providers GDPR ETS organisation including user consent
1.	ETS level 1	Providing general pension info, answering questions, find my provider, etc.	<ul style="list-style-type: none"> Liability in case of incorrect info 	<ul style="list-style-type: none"> Establishing ETS organisations as legal entity Terms of use

Figure 34: Value proposition and business model – issues and legal issues.

The data hub business has been discussed within the project. Conclusion was that this is a logical extension to the ETSs basic value proposition and should therefore be part of its future service. However, at the same time this functionality would present the ETS with legal (GDPR), security and political barriers that could discourage NTSs from connecting. So, this option, even though interesting and in the future maybe even unavoidable, was left out for the first scoping of the ETS.

When focussing on the ambition levels 1 and 2, the project initially defined a value proposition for users based on a concept of the ETS, like an NTS but on a European level. This value essentially was: Presenting a comprehensive²⁵ overview on the personal pension situation in addition to providing general pension info focused on the situation of mobile worker. Research of WS2a has shown that this ambition level of comprehensiveness is not feasible in the short term.

1. There are many differences in the information NTSs have and present to their users (some show projections, others do not, some show a survivor's pension, or the combined pensions of partners, some show only DC plans, others both DB and DC plans). Being dependent on the data that NTSs will be able and want to share, on the short term the ETS will need to be looking for a common denominator in terms of the information it can show. In practice this means it will only have a reduced set of functionalities when compared to most NTSs.
2. Since you need to define standards for every bit of information provided, the more information is put into the ETS, the more standards you need. That could become extremely complicated and labour intensive because it requires a lot of tuning.

Also, being able to present a comprehensive overview may not be necessary to help individuals. If the first need for mobile worker is to know if they accumulated a pension in a specific country (Hence the name Find Your Pension), could get an impression of how much it is, get some basic questions answered and get help in exploring it deeper, this could be a very good start.

Starting from that viewpoint the basic value proposition for the ETS (with respect to citizens) becomes:

Providing basic information on pensions accumulated across the EU and helping the individual in answering their primary questions on these pensions.

This value proposition can form the basis for a business model that could look like this (draft version):

Key partners <ul style="list-style-type: none"> • Pension data providers like NTSs • Content providers • Funding partners 	Key activities <ul style="list-style-type: none"> • Developing and improving user interaction and ETS services • Developing and improving pension system content • Connecting NTSs 	Value propositions <i>Individuals</i> <ul style="list-style-type: none"> • Help individuals in finding accumulated pensions or pension entitlements in European member states • Answering basic questions • Help in getting more detailed information <i>NTSs</i> <ul style="list-style-type: none"> • Extra channel for labour migrants, that redirects them to NTSs when they have questions or need additional info 	Customer relationships <ul style="list-style-type: none"> • Automated 	Customer segments <ul style="list-style-type: none"> • Mobile / cross border workers, European citizens • NTS's and pension providers
Cost structure <ul style="list-style-type: none"> • Customer research • Development of the platform and the connection concept • Maintenance of the platform • Connecting NTS's • Finding and contracting new members 		Revenue streams <ul style="list-style-type: none"> • EC • Other sources of public funding • NTS's • Membership fees 		

Figure 35: Draft version of the business model.

²⁵ Comprehensive in the same sense as NTSs with a detailed pension overview on all details of pension entitlements

The business model needs detailing. It is clear though that finding a sustainable and sufficient income stream is going to be a challenge. The reduced value proposition makes the construction of the ETS less complicated and more feasible. But at the same time, it reduces the number of opportunities for finding revenue streams because the added value it delivers focuses on individuals and has less to offer to other types of organisations, making it less interesting to invest and fund.

A possible solution may lie in the fact that EIOPA in its advice labelled the Pension Tracking Systems as a 'public good'²⁶. In case the EC embraces this consideration, it could mean that the development and operation of the ETS could be understood as a public task. Also, it could mean providing data to it could become less voluntary.

Organisation and governance model

The organisation form of the ETS should support its business model.

Basic starting point (also partly mentioned in the proposal) for the governance and organisation of the ETS:

1. It should be a structure that incorporates stakeholder involvement, legal ownership and operation of the ETS services
2. It should have a governance model in which members govern the ETS organisation
3. It should be non-profit, not owned by others and financially independent
4. It should be ready for expanding to other value propositions (like ETS as a data hub)
5. Several options for the legal form were suggested: including the German association or Belgian non-profit society.
6. The initial setup should be simple and practical but with future growth in mind.

The basic idea behind the organisation was that NTSs and pension providers do not just connect to the ETS. They would become a member of the ETS organisation and, consequently get direct influence in it. Another consequence would be that by appropriate membership regulations, much of the groundwork for a legal basis for exchanging pension information could already be done.

EIOPA has looked at governance models for PTS's. They have many similarities with the starting point we are using:

EIOPA is of the view that a well-governed PTS will foster citizens' trust and should therefore be underpinned by principles of good governance listed below:

- **Non-profit**
- **Independence**
- **Credibility**
- **Transparency.**

The public good attributes of a PTS would rule out a commercial governance model such as privately-owned, for-profit entities, hence leaving two possible governance structures of non-profit PTS: a public entity and a public-private partnership. In EIOPA's view, the public-private partnership model provides additional advantages such as pooling together resources, expertise and innovation from both public and private sectors and fostering the involvement from representatives of pension funds and providers.

²⁶ In the technical advice of EIOPA, No. 22, page 11/116, EIOPA states: "In fact, a PTS as a **trustworthy 'public good'** (see section on governance) can help people better trace their pensions (minimise the risk of 'lost pots' and hence unclaimed pension entitlements), trust in the pension system through greater transparency, provide them with information to engage with their pension fund (e.g. increase contributions), and facilitate financial planning. **Nearly the same scope and goals also hold true for the European Tracking Service (ETS).**

The starting point for the decision-making process on the legal form was the ETS proposal which stated that the ETS could have several legal forms: “the limited liability company, the association and the foundation.” In order to arrive at the best result, we developed exclusion criteria (again on the basis of the ETS proposal) which corresponded to necessary characteristics which the ETS should have. The registered non-profit association according to the German civil code scored the best on all of the criteria

Exclusion criteria	Definition
Not for profit	A legal structure which allows us not pursue economic profit targets.
Flexible shape resp. body	A legal structure which provides leeway in designing the future ETS and supports the basic underlying principles. (TYPE/ ETS Proposal).
Easy access for possible partners	A legal structure which allows growth resp. the incorporation of possible partners in the future ETS.
Easy to set up	A legal structure which allows an effective and quick founding procedure with few administrative barriers.*
Cost oriented	A legal structure which offers the possibility to keep costs as low as possible (No starting capital, low founding costs)

Figure 36: Exclusion criteria and how these are defined.

So, the basics of the proposed governance structure were:

- The basic legal structure is a registered association according to German law
- The members of the association define its purpose and direction. Membership is voluntary
- The association has statutes that describe the organisation’s goals, governance and regulations and the members responsibilities
- Members meet and decide upon key issues in the General Assembly
- The General Assembly appoints a Board that monitors the realisation of the organisation’s goals.
- NTS committee is built to secure participation in decisions regarding data exchange and presentation

3.5. Initial ETS organisation – taskforce

In September 2021, members of the project group discussed the issues of governance and business model in the light of the external developments described above, as well as EIOPA's draft TA on Pension Tracking and its implications. The results of this workshop were summarized in a report which was subject to discussion during the next PSC meeting in October 2021.

The PSC in its meeting agreed that the EIOPA consultation paper “Technical advice on the development of pension tracking systems” provided valuable input for the governance of the ETS organisation and that the EIOPA’s findings essentially confirmed the results of the WS 3 work regarding the governance model. Furthermore, it was concluded in the meeting that following the “public good” considerations of EIOPA, the ETS with its already established deliverables and products would need a holder organisation to promote the service and apply for the necessary financial resources to run and manage it. Already in the proposal it was stated (page 60): “At a given point during the project the entity will be officially established, and tasks and responsibility will be carried over from project partners to the new organisation. Also, the ownership of the ETS will be carried over to the new entity.”

Finally, as it was now a matter of completing the project tasks, the PSC agreed to the coordinator's proposal to set up a task force that would quickly examine the necessary conditions for founding the ETS association in 2022, draw up a concept and explain the conditions and details of the organisation to be founded in discussions with the consortium members.

A first concept of the taskforce was sent to the members of the PSC at the beginning of the new year 2022. Following a set of bilateral talks, it was planned to hold a physical meeting at the end of January in order to agree on the basic principles and decide on the next steps to set up the association. Due to the COVID situation in Europe, we could only hold a remote PSC meeting again in which the first elements were agreed on and open issues were put on the table to be reconsidered. A new date for a physical meeting is now fixed for March 22, 23, 2022. Since the whole concept could not be agreed in full by the time to deliver our intermediate report, we decided to just share the basics of the initial organisation to be set up as deliverable of the ETS project in this report.

Most important elements and characteristics of the ETS association to be founded

The initial ETS organization should be structured as a lean and effective organization, but scalable for the requirements of the ETS to be developed later with more members and connections. Therefore, it was suggested to choose a registered association under the German Civil Code as the legal form. To set up an association under German law, seven founding members are necessary. The ETS consortium comprises eight members. Therefore, the basic consideration is, to found the association together with the consortium members. As already stated, the consideration process of the institutions involved is going on.

The legal form of an association (eingetragener Verein) provides the necessary flexibility to allow for growth and development, as well as cost efficiency, which is of course reflected in the governance model. The association needs a non-commercial purpose to be acknowledged as non for profit. The purpose has to be defined clearly in the statutes.

Necessary bodies prescribed by law are the General Assembly and the Board. The governance model will be laid down in the statutes. A nearly final draft of initial statutes has been set up and revised by a lawyer and a tax consultant. After discussion with the EC, they will have to be finally concluded by the founding members.

General Assembly

The members of the ETS association form the General Assembly²⁷. Membership will be open for stakeholders from all pension pillars, private and public entities engaged in the process of pension administration (primary process chain, no consultants). Members would be only legal entities from public and private sector because we believe like EIOPA in the advantages of a public private partnership that brings together the best competences and practices.²⁸ A public private partnership ensures an exchange between stakeholders as well as the different sources and categories of pensions. Additionally, it is guaranteed that neither national nor single stakeholder interest would determine the strategy and business model **to ensure that mobile workers are in the focus of the ETS.**

Members of the ETS may participate in the work of the association differently, depending on the engagement in connections or content provision. In addition, all members will be charged a membership fee to be defined. In exchange they will be able to join the work of the ETS work groups on best practise in pension communication etc. **However, membership fees will only cover the very basic costs of the ETS. To fully develop and evolve, the ETS will need European funding.**

Board

In the initial ETS organisation all founding members could form the Board of Directors of the ETS to be elected by the GA. The management of the ETS in the early initial phase could be provided by one or two members of the Board who are elected by the entire Board as first and second chairperson taking over the role of the Executive Board respectively be the legal representatives of the ETS organisation. At a point to be defined when business

²⁷ The General Assembly can be competent for:

- Control of the Board by accepting the annual report and finances
- decisions about the budget for the coming year
- changes of the purpose of the association by approval of all members
- changes of the statutes

is increasing, a managing director would be hired who will be delegated to take over the tasks of the daily management and would not be a member of the Board. All tasks and competences will be described in the statutes.²⁹

To ensure a balanced and most competent representation of members in the Board of Directors, the composition should be defined in the statutes of the association. By defining the composition of the Board, an unbalanced (per pillar or country) representation can be excluded. The suggested statutes define as follows: The Board of Directors is comprised of a minimum of five and a maximum of seven members, as to be determined by the General Assembly. There are 3 categories defined: two to three representatives of national Pension Tracking Services (PTS), two to three representatives of pension institutions providing or administering pension provisions and one representative of other organisations/associations dealing with pension provision. This way again, a balanced representation will be secured. In addition, the statutes can fix a certain number of countries which the Board members should come from. This way it can be avoided that there are too many members from one country in the Board.

The balanced Board composition fixed in the statutes leads to the fact that members' passive election right is in a way restricted. This way any "takeover" e.g. of private pension industry or any unbalanced country representation can be avoided. The proposal on the regulated composition of the Board is inspired by settlements of the Steering Committee of the newly established German agency for digital pension overview.

Advisory Committee

Furthermore, the suggested statutes comprise the establishment of a small Advisory Committee in order to ensure participation of important stakeholders that do not fit in the categories defined for the Board of Directors composition. For example, consumer representatives, social partners, representatives from science and research as well as European authorities. The Committee may assist the Board in achieving the objectives set in the statutes by making recommendations.

Expert groups may assist the Board in technical questions and/or may undertake tasks which were assigned to them.

PTS committee

We suggest to setup a specific PTS committee which will have a role in the decision process regarding the data model and transfer conditions. In the beginning of the project, it was proposed to address mainly PTSs and gain them as members for the ETS (meaning also as governing committee). Admittedly, PTSs play a vital role for the ETS but they have completely different forms of setups and governance. Therefore, it would be in the sphere of the PTSs and their stakeholders to decide on the representation in the ETS and that may complicate the process of membership.

Furthermore, the concept foresees a defined representation of a certain number of PTSs in the Board but among other stakeholders. This way, the participation of PTSs is secured but without overwhelming them with the responsibility for the development of the whole ETS.

In our point of view, this proposition is ideal for the initial setup. It is ready for enlarging the number of members but not too complicated in governance and management. On the one hand the membership is not reduced to PTSs but at the same time, we make sure that this group is well represented and has an impact on the decisions regarding transmission of personal data.

²⁹ The term "Board" according to the German law on associations means "the legal representative" of the association. The Board represents the association judicially and in- and out-of-court.

3.6. Questions of privacy and GDPR



Figure 37: Legal restrictions.

The ETS gets personal pension data from data providers (mostly NTSs) and presents these data to the individual. There may be several legal restrictions in play here:

- A. The legal restrictions that apply for the data providers to process the data
- B. The legal restrictions that apply for the data provider to transfer data to the ETS
- C. Legal restrictions that apply for the ETS to process the data

In all cases, General Data Protection Regulation (GDPR) applies. In addition to that, additional national legislation may apply. Realizing that this topic is very relevant for the ETS, the project decided to dive more deeply into it.

GDPR states that personal data may not be processed unless there is at least one legal basis to do so. Article 6 states the lawful purposes, in short:

- (a) Consent of the data subject to process his or her personal data;
- (b) The fulfilment of contractual obligations with a data subject;
- (c) To comply with a data controller's legal obligations;
- (d) To protect the vital interests of a data subject or another individual;
- (e) To perform a task in the public interest or in official authority;
- (f) For the legitimate interests of a data controller or a third party

We are currently doing a survey with legal experts from different member states (Denmark, Netherlands, Germany, Belgium, Sweden – planned: Italy, France, Austria) to see how legislation and particularly GDPR, helps or hinders them in operating the NTS and how they deal with it. We also look into how they legitimise their own processing of the data (topic A) and the possibilities exchange of the data with the ETS (topic B).

4. WS4: Building the ETS-network

Setting up the Pilot ETS is not just a technical exercise, it is a real communication challenge as well. The project proposed by the consortium included an extensive communication strategy towards existing and potential stakeholders (such as NTSs, pension providers, pension funds etc.) and end users (individual pension plan members) during the course of the project.

Objectives of this communication strategy are:

- Raising awareness
- Mobilizing relevant stakeholders
- Striving for broad interest
- Buy in of pension providers and NTSs without forgetting the wider community of pension stakeholders.

A corporate design was created and is used for the project communication including logos, defined colours and font, a standard presentation and a mood board. At the same time the website has to find its users. The users of the already existing FYP website (approximately 100.000 users annually) will be informed about the new ETS and probably be its first customers. To gain the attention of additional users a communication strategy is needed for the roll-out-phase that involves associations of certain professions and employees as well as employers and branches where professional mobility is a given fact. Those stakeholders are the gateway to address the mobile workforce in Europe.

4.1. Raising awareness and mobilizing relevant stakeholders

End users

In order for the project to start communicating with potential end users first more general (and personal) information, see PoC and Portal, on pensions in different member states has to be included. Through the portal we still communicate with the existing end users about the progress of the project, events and portal updates.

During the development of the new Find Your Pension-portal, which went live in Q4 2021, several user-tests were held to check the user-friendliness of the portal and the information communicated through the portal.

It is foreseen that at the end of the project a communication strategy, together with the NTS, in the member states with a connected NTS can be rolled out.

Stakeholders

Since the start of the project involving stakeholders in the (technical) development of the portal and information provided through the portal was an important part of the project.

Therefore, the project started with identifying the stakeholders for the ETS. These are on a national level: National Tracking Services, Pension Providers, National Pension Federations and Ministries of Social Affairs. On a European Level, stakeholders are: European Associations like AEIP, Pensions Europe and insurance Europe, European Social Partners like Business Europe, European Trade Union Confederation and European Construction Industry Federation. Last there are the international organizations as NGO's, ILO and OECD Working Party on Private Pensions. The project didn't involve this last group of stakeholders so far.

Also, decision makers on a European Level were identified as important stakeholders for the project. Since the beginning of the project members of the project have been frequently in touch with DG EMPL/VISMA, EIOPA and OPSG, European Parliament and Presidency of the European Council in order to keep them updated on the projects developments and providing input on for example pension communication.

PTSS

As the ETS-project depends on data and information provided by NTSs much effort throughout the project is put in having them involved in the development of the portal, technical-, data- and communication standards and governance model. Surveys and bilateral talks with NTSs from different member states were used to get input on technical-, data- and communication standards and the governance model of the ETS.

The information retrieved through the surveys and bilateral talks was periodically discussed in NTS meetings, which were also open to other stakeholders, to get a common sense on the development of the ETS. The meetings were also used to update the NTSs on the progress of the ETS-project and share best practices between NTSs. As we see it the NTS meetings are a forerunner for a forum on pension communication.

4.2. Broadening the horizon

To get other stakeholders involved in the ETS-project the project also invested in research on pension communication and pensions across borders (which difficulties do mobile workers face). The research reports were published and sent to different stakeholders, participants and other interested parties. To reach a broad audience the reports were made public during special events, mostly webinars, on the topic researched. The last event the project did was a webinar during the European Retirement Week. With the European Retirement Week, which is to become a recurring event on the European calendar, the associations aim to provide a platform for a wide range of stakeholders to debate the future of pensions in Europe and to raise citizens' awareness of the need to save for retirement.

Forum on Pension Communication

We will continue the various exchange with different stakeholders. The ETS will hereby serve as a Forum on Pension Communication as mentioned in EIOPA's technical advice on the development of NTSs. The input from various stakeholders can be combined in order to work on technical aspects of providing personal data as well as offering tailored information to enable the citizen to understand and take action. Figure 38 shows the institutions which can deliver input for the forum as well as the possible outcome and benefit of the exchange.



Figure 38: ETS European Forum on Pension communication.

Events

During the course of the Project, the ETS has been presented on several events and meetings. Some examples are listed below.

- ETS Kick-off-event
- 3 Webinars on pension communication
- 3 Open information meetings of EAPSPI
- 3 European Social Insurance Platform (ESIP) pension committee
- Mutual learning session on CMU
- Technical Assistance and Information Exchange (TAIEX) meeting

- European Association of Paritarian Institutions (AEIP) conference, 2 AEIP work group meeting
- Several ETS/NTS meeting
- The Employment and Social Innovation (EaSI) conference
- German Association of Insurance Law and Design (GVG) conference, 3 presentations at committee meetings

Examples publications:

- 5 Newsletters
- ETS survey 'Digital pension communication in Europe – state of play 2019
- 2 IPE articles
- 2 press releases
- 2 European Pension articles

5. Conclusions of the work so far – goals and scope after the project

5.1. Establishing a European Pension Tracking Service: first important steps are taken.

ETS foundation is built. By the end of 2021 we have created the important building blocks for the ETS with the FYP Portal. To support users in not losing sight of their pension provision and acquired entitlements even with their professional career in different countries, two elements are important. First, comprehensible, and tailored information that answers the users' most important questions and encourages them to take necessary actions such as account clarifications. Second, a pension tracker that helps users find their entitlements and get an overview of how much they are. Prerequisite for compiling the personal information via the ETS is of course that the existing PTS are "connected".

Progress made in ETS setting. The technical means of APIs still is the most appropriate way and developing an interface is not a big issue. According to the EIOPA technical advice financial support would also be possible. Furthermore, EIOPA and our discussions with the NTS group have revealed, that NTSs should use an authentication method recognized in the eIDAS framework to enable mobile users to access their systems directly or through the ETS. The emerging systems in Germany and Austria will fulfil this requirement.

Next step is solution on fitting data structure and start roll out. For the remainder of the project, we will continue the joint work on a suitable and feasible data structure allowing the presentation of entitlements from different countries in Europe in a contextualized overview in a way that is understandable but also reliable for users. As proposed by EIOPA, we plan to concretize this European data model and develop it together with the NTSs involved. Here we continue to follow the original proposal to implement the concept of a consolidated pension overview in the rollout phase from a functional and technical point of view. This step- by- step approach will be necessary since it requires the connection of further NTSs besides Belgium to fill this overview with data. However, the option to create a personal provider list manually and make use of the provisional dashboard version will play a role until it is possible to obtain data from all countries. The general information on the individual countries and how to deal with mobile careers in matters of old-age provision must also be completed step by step.

Scope of the ETS

Following these findings, the scope of the ETS to be founded can be defined in **5 activities**:

1. ETS with its FindyourPension portal supports mobile workers to manage their pensions as well as pension provision.
2. ETS/FYP searches individual pension entitlements in Europe and presents users their pension overview.
3. ETS provides best practice exchange and mutual learning in its European Forum on Pension Communication.
4. ETS supports the establishment of new national pension tracking services.
5. ETS helps NTSs to improve the information offered to their clients with periods abroad.

A joint task to fulfil the rights to execute professional mobility

The task to fulfil the ETS vision and mission can only be reached in partnership. From the very beginning, the ETS was a stakeholder driven initiative. To cover the diverse pension landscapes in Europe with the different forms of pension provision a broad participation of the players involved is needed. Setting up an association will be the way forward. This ETS association can be aligned with the concept of **the Forum on Pension Communication**. This network of actors can learn from each other and help shaping the further development of user-friendly pension information.

PTs play an important role in this development, as they are the main sources of personal pension information. However, EIOPA's technical advice has rightly pointed out that, due to its portfolio, a tracking service must always act in the public interest. This means that a balanced cooperation of the different actors in the interest of the users is essential. Working in a public-private partnership is the appropriate basis, and must be provided by a fitting governance to administer and manage the service.

The ETS Association seeks the membership of stakeholders from all kinds of pension provision in Europe and will also need the requirements from the Technical Advice to be recognized in its statutes. However, it is also clear that the public funding is needed to secure that the ETS can operate independently, neutrally and on a not-for-profit basis. Revenues/income can only come from grants and, to a lesser extent, from membership fees, as any form of advertising or influence for private interests would be in counter interest with its independence and neutrality. As a truly European service the public authority to be addressed with this request would be the European Commission.

5.2. How can the ETS organization be supported by the EC?

Looking back at the work undertaken by the project, in particular the experience with representatives of PTs as well as the network assembled by the EIOPA project on Pension Tracking, we identified different areas in which certain measures could facilitate the rollout of the ETS: two areas are linked to the technical connectivity of the NTs to the ETS, the third deals with the legal framework the ETS would be acting in and the last one concerning the necessary raising of financial resources to roll-out, upscale and run the ETS.

In terms of making the compilation of personal pension entitlements via the ETS possible towards many countries, further investment and promotion of **onboarding to the eIDAS framework** would be helpful. In addition to the participation as such and more authentication means with a high level of assurance, an extension of the minimum dataset of eIDAS to guarantee a successful identification of users in the national datahubs would be recommended (please refer to chapter two on authentication and identification).

In the initial phase of the ETS, users will have to register and enter the necessary identifiers of the countries they worked in themselves. Storage of the different IDs in the FYP personal account is possible but of course an **additional building block in the eIDAS framework** would be much more attractive for the users.

Legal questions related to ETS

Another field of possible need for policy or legislative measures is the issue of data exchange between ETS and NTs. As mentioned by EIOPA in their technical advice, it has been reported that in certain countries NTs have or need a specific legal basis to define the ability of giving access to personal pension data. The project has not yet finalized its study about the national conditions in this regard but it is already apparent that some countries do need an additional legal basis to connect to the ETS.

Such a legal framework could be established in the context of information obligations of the different pillars but on a European level with specific link to the free movement of workers. Other initiatives could be possible as well and should be applicable to all pillars.

Finally, as already stated, the consortium members fully agree with EIOPA's findings on the public good definition of tracking services on pensions and a public or at least a combined funding necessity. Therefore, to enter the next phase of the ETS, a reliable commitment of the EC to continue the public sponsorship in the future would be more than helpful.

5.3. What do we plan for the rollout phase?

Referring to our initial project proposal from 2018 (page 19), we assume a time frame of 5 years after the end of the project duration as planning period for the next phase (rollout). Since it will take more time to connect a relevant number of PTSs to the ETS, this perspective seems to be necessary and appropriate. For our planning, we have considered 3 time periods. The years 2023 and 2024, followed by the next years 2025-2027.

In the planning chart below, we have aligned the main goals/milestones to the overall goals summarized in the first paragraph.

Goal 1: ETS with its FYP portal supports mobile workers to manage their pensions and pension provision.

- More pension landscapes and information are included
- Information is available in more languages
- Users learn basics of pension planning and e.g. categories of pension products etc. in line with the financial competence framework for adults recently published by the EU/OECD
- Possible users are addressed via multi-channel/ social media campaigns
- User experience and effect of information is constantly evaluated and improved
- Users can access FYP from other websites and services
- Dashboard includes more tools

Goal 2: ETS/FYP searches individual pension entitlements in Europe and presents users their pension overview.

- ETS infrastructure is technically prepared for further connections
- First edition of data model to build a pension overview including personal information from different countries is concluded
- FYP pension overview includes personal data with tailored information (Contextualization)
- 2nd and more countries are connected

Goal 3: ETS offers best practice exchange and mutual learning in its European Forum on Pension Communication.

- Current and new editors are trained how to fill the pension landscapes
- Pension communication: best practice and standards are exchanged in several workgroups
- ETS network is built, membership acquisition continues
- ETS/ PTS committee meets frequently
- Stakeholder events are managed (seminars, General Assembly, conferences)
- European data standard and other questions of data transmission are being discussed in PTS committee
- Pension Events for cross border workers (online) are offered
- ETS association includes the first 15 members

Goal 4: ETS supports the establishment of new national pension tracking services (PTSs).

- The added value of setting up of PTSs is communicated and promoted.
- Events for exchange on ETS/PTS experiences and best practices are organized
- A digital platform for information exchange is offered.
- Contacts with gov. authorities and/or other representatives of countries with emerging/planned PTSs
- Interested parties are interconnected in the expert network

Goal 5: ETS helps NTS/PTSs to improve the information offered to their clients with periods abroad.

- Discussion with PTSs on need and interest to receive data from ETS
- Feasibility study on data exchange in the ETS Crossroad application (Privacy, legal basis, technical matters, app development)
- FYP Crossroad: data to PTSs

See next page figure 39: Planning chart – the main goals/milestones to the overall goals.

