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Final Report on Exploitation and Sustainability Strategy

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Acronyms

AISBL	Association internationale sans but lucratif (Association without lucrative purpose)
API	Application Programming Interface
CFO	Chief Financial Officer
CNR	Italian National Research Council
CNRS	French National Centre for Scientific Research
DESCA	Development of a Simplified Consortium Agreement
DTC	Data & Tool Committee

EC	European Commission
EGI	European Grid Infrastructure
EKT	National Documentation Centre
EOSC	European Open Science Cloud
ERIC	European Research Infrastructure Consortium
EU	European Union
FAIR principles	Findable, Accessible, Interoperable, Reusable
GA	Grant Agreement
GDPR	General Data Protection Regulation
GoTriple	The discovery platform developed by the TRIPLE project
HRB	Horizon Results Booster
IP	Intellectual Property
IPR	Intellectual Property Rights
KNOW/KC	Know-Center GmbH
MoU	Memorandum of Understanding
NGO	Non-Governmental Organisation
NPO	Non-Profit Organisation
OPERAS	Open Scholarly Communication in the European Research Area for Social Sciences and Humanities
OS	Open Source
PEDR	Plan for Exploitation and Dissemination of Results
R&D	Research and Development
RI	Research Infrastructure
SAC	Scientific Advisory Board
SC	Strategic Committee
SLA	Service Level Agreement
SME	Small and Medium sized Enterprise
SSH	Social Sciences and Humanities
SSHOC	Social Sciences and Humanities Open Cloud Project
TBS	Trust Building System
TRL	Technology Readiness Level
UES	User Engagement Subgroup
USP	Unique Selling Proposition

Publishable Summary

Within the present report, we provide the final outcome of TRIPLE's exploitation and sustainability strategy. Our primary focus was and still is on creating a valuable and viable business model for TRIPLE's main Key Exploitable Result (KER 1): the GoTriple Discovery Platform¹. At the very beginning of the report, we give an update on all our exploitation activities and an overview of the exploitation related-reports created within the project runtime.

Besides the GoTriple platform, the TRIPLE project has achieved even more exploitable results. Section 2 gives an overview of these and briefly describes five KERs (KER 2-6) by providing a short description, a maturity classification and information on sustainability. Three KERs (KER 2, 5 and 6) are described in more detail due to the integration in the Horizon Results Booster Service² (EC support action to maximise the impact of publicly funded research within the EU) activities.

The main focus of this report lies in the business plan for GoTriple to secure the economic sustainability of the platform. Herewith we are covering all relevant aspects of the business plan starting with the results of a Business Opportunity Self-Assessment, followed by a definition of a Unique Value Proposition (UVP) for GoTriple, providing market insights regarding early adopters, market size estimations, market trends, and competition. After that, we present the TRIPLE Governance framework in the form of the "GoTriple Committee" which defines the responsibilities, practices and procedures to set the strategic direction, allocate the resources and specify the integration into OPERAS. In the financial section of the business plan, we provide insight into the cost estimates and the expected revenues. In the last part of the business plan, we give an outlook on the activities, roles and milestones for the first year after the end of the project.

In the report's final section, we summarise the project's contribution to the European Open Science Cloud (EOSC) in the form of a position paper of the TRIPLE consortium by pointing out concrete needs and open questions.

¹ <https://gotriple.eu/>

² <https://www.horizonresultsbooster.eu/>

1 | INTRODUCTION

Within the TRIPLE project, we follow the approach promoted by the European Commission (EC) that publicly-funded research should lead to the exploitation of results, which goes one step further than the mere production and dissemination of new scientific knowledge³. With our project activities, we want to overcome the "European paradox" and show that a translation of scientific advances into marketable innovations is possible. Our understanding of innovation is not only the promotion of results but especially the subsequent exploitation of the project results. Considering the increasing demand for Open Source (OS) resources and the growing number of OS platforms, it is relevant to strategically design an economically sustainable business model for the GoTriple platform. Since GoTriple will be integrated into the OPERAS service catalogue⁴, all business-related considerations need to be well coordinated with OPERAS.

The present report is the final outcome of work package WP7 (Innovation, Exploitation and Sustainability), which aims at creating a valuable and viable business model for GoTriple that is sustainable beyond the project end. Within WP7 and its assigned tasks, we are continuously detailing exploitation plans and innovation and commercialisation activities. These include:

- Constant monitoring of the competition
- Designing business models for GoTriple and related project KERS
- Testing of business models
- Defining and further development of a suitable governance model
- Development of a business plan for GoTriple
- Defining the TRIPLE exploitation roadmap

The content of this report is sourced by current WP7 activities, contributions from other WPs and also builds on the findings of previous reports such as:

- D7.1 "[Report on Stakeholder and Opportunity Analysis](#)" - 30 April 2020
- D7.2 "[Intermediate Report on Exploitation and Sustainability Strategy](#)" - 30 Sept. 2020

³ European Commission (2013): How to convert Research into Commercial Success Story
<https://era.gv.at/object/document/751>

⁴ <https://operas.hypotheses.org/category/services>

- Horizon Results Booster: PDES - Module C final report for TRIPLE project⁵- 1st February 2022
- D7.3 “[Business Model Design and Evaluation Results](#)” - 30 Nov. 2022
- Horizon Results Booster Service: BPD final report for Triple project⁶ - January 2023

Objectives and structure of the report:

The present report outlines the final version of the Exploitation and Sustainability Strategy for the TRIPLE project. The results are a joint work of the WP7 team with support from the whole consortium. The main objectives of the Final Report on Exploitation and Sustainability Strategy report are to:

- Present the outcome of the projects’ exploitation activities
- Present the Key Exploitable Results (KER) of TRIPLE project
- Outline the Business Plan for the project’s main KER, the GoTriple platform, to ensure economic sustainability
- Describe the EOSC interoperability with TRIPLE developments

Section 1 outlines basic information on TRIPLE exploitation and sustainability activities. A general overview of the TRIPLE KERs including a closer look at two distinctive KERs is outlined in Section 2. Section 3 provides a comprehensive Business Plan for the GoTriple discovery platform, which should act as a roadmap for the sustainable operation of the GoTriple platform and as guidance to secure funding, attract new partners, and make informed decisions. The outlined business plan includes details on GoTriple’s offerings, target market, competition, governance model, operations, and financial projections. Section 4 gives an overview of the positioning of GoTriple in the EOSC framework. This includes challenges and expectations as well as concrete needs and open questions. Finally, the report concludes with a summary and outlook (Section 5).

2 | TRIPLE KEY EXPLOITABLE RESULTS (KER)

Within this section, we provide an overview of all the KERs developed within the TRIPLE project (see Figure 1). Although the GoTriple platform is the main KER of the TRIPLE project (KER 1), additional 5 KERs (KER 2-6) are described briefly by providing a short description, a maturity classification and information on sustainability (see Section 2.1). Three KERs (KER 2, 5 and 6) are

⁵ PDES stands for Portfolio Dissemination and Exploitation Strategy provided by Virag Zsar from the European HRB program. The report is confidential but has been sent to the Project Officer.

⁶ BPD stands for Business Plan Development service provided by Virag Zsar from the European HRB program. The report is confidential but has been sent to the Project Officer.

described in more detail (see Sections 2.2 and 2.3) due to their integration in the first Horizon Results Booster Service (PDES - Module C⁷).

2.1 Overview of TRIPLE KERs

Figure 1 presents the developed TRIPLE KERs classified into four areas, Data Sets & Management, Processing, Methodologies & Analysis, Training & Support, and the TRIPLE innovative Services.

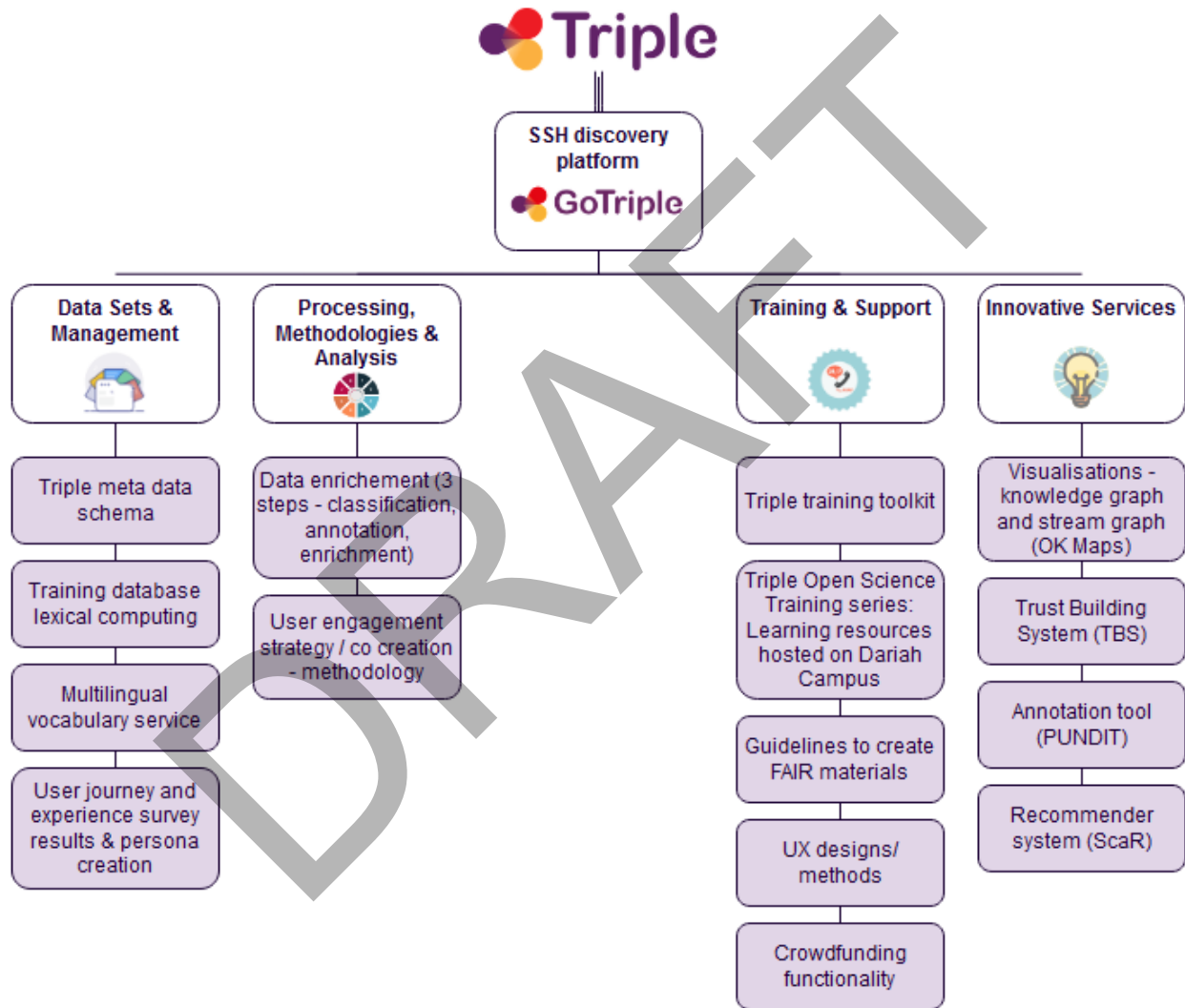


FIGURE 1: OVERVIEW OF TRIPLE KEY EXPLOITABLE RESULTS

⁷ PDES stands for Portfolio Dissemination and Exploitation Strategy provided by Virag Zsar from the European HRB program. The report is confidential but has been sent to the Project Officer.

KER 1: GoTriple Discovery platform for SSH resources*Description:*

GoTRIPLE is a multilingual and multicultural discovery solution for the social sciences and humanities (SSH). Based on the Isidore⁸ search engine developed by the French National Centre for Scientific Research (CNRS), [GoTriple](#) platform provides a single access point for users (researchers, institutions such as universities and libraries, but also enterprises and the media). It offers the ability to:

- Discover and reuse open scholarly SSH resources in 11 European languages⁹, i.e. research data and publications, which are currently scattered across local repositories;
- Find and connect with other researchers and projects across disciplinary and language boundaries;
- Make use of innovative tools to support research (e.g. visualisation, web annotation, trust building and recommender system);
- Discover new ways of funding research through crowdfunding.

The core of the GoTriple platform is mainly a “pipeline” where data are ingested, classified, enriched and categorised so they can be easily found and retrieved by the users. The platform increases the visibility and quality of SSH research. GoTriple facilitates more efficient and effective SSH research for societies at large by involving civil society, public institutions and companies in scientific projects, thus strengthening the links between different stakeholders. Non open access sources are not displayed first and get marked as not open access. The current version is available via <https://www.gotriple.eu/>

Maturity: TRL9¹⁰

Sustainability:

A dedicated governance and business model have been developed (more details in section 3). A Memorandum of Understanding (MoU) is available that describes how the individual partners will continue to coordinate and sustain the overall service, along with Operational Level Agreements (OLAs) or Underpinning Agreements (UAs)¹¹ with the individual service component providers to maintain and evolve the technical aspects of the service, which is aimed to be in place before the end of the project. The Research Infrastructure OPERAS will lead the partners involved in the platform, support its maintenance, and provide the service’s legal, administrative and organisational sustainability.

⁸ <https://isidore.science/>

⁹ Croatian, English, French, German, Greek, Italian, Spanish, Polish, Portuguese, Ukrainian and Slovenian

¹⁰ For the classification of TRLs see https://en.wikipedia.org/wiki/Technology_readiness_level

¹¹ OLAs for OPERAS members; UAs for external suppliers

KER 2 - Multilingual Vocabulary Service

Description: The solution is a publicly available SSH vocabulary, published in an open format (e.g. SKOS) - and vocabulary data are downloadable as XML or JSON files. Future possibilities include the development of an API for automatic integration in digital environments to enable dynamic translation and classification. The multilingual vocabulary is already scalable and may be developed further as the classifications expand. The vocabulary covers 11 different languages by now. Still, it is expandable to other languages (this is relatively easy because the structure already exists, and therefore, a native speaker can enrich this structure with their language). It can be integrated into various different types of platforms (via JSON/database file import or more dynamically by using the API that will be developed). The methodology of the classification process is unique: algorithms for automatic classification and translation and human-curated classification and translation.

Maturity: TRL8

Sustainability: Since the Vocabulary Service is an integrated component of the GoTriple platform, economic sustainability is associated with the GoTriple business plan considerations. Nevertheless, we have also considered separate exploitation in the context of the first Horizon Results Booster Module PDES¹². Herein we researched suitable target markets, identified customer segments and designed a draft Business Model that covers defined roles, cost estimations and potential revenue streams. Currently, 11 languages have been targeted, but more can be added. This work is very valuable to increase the impact and foster the reuse of research for the SSH communities worldwide. More information regarding sustainability can be found in section 2.2.

KER 3: SSH corpus for Machine Learning Training

Description: Constitution of a textual training dataset of SSH sources that can be reused for training machine learning and artificial intelligence tasks. This corpus covers each one of the 27 SSH disciplines identified in TRIPLE. It is a multilingual set covering 11 European languages: This corpus currently comprises more than 250,000 documents and has been tested in production to implement the automatic classification service in GoTriple.

Maturity: TRL8.

Sustainability: Similar to the previous KER 2, sustainability aspects of the SSH corpus for Machine Learning Training need to be addressed in the context of the GoTriple business plan. The costs incurred for maintaining the service and necessary updates were considered in the general cost assessment for the GoTriple platform (see section 3.4). Expansion, e.g. adding a new language, causes high efforts in training and providing databases for each discipline. The decision on such an extension and how the expenditure could be covered will be taken by the GoTriple Committee.

¹² PDES stands for Portfolio Dissemination and Exploitation Strategy provided by Virag Zsar from the European HRB program. The resulting final report is confidential but has been sent to the Project Officer.

KER 4: FAIR Metadata schema

Description: The FAIR Metadata schema is a reference data model for describing research documents, projects, authors, and research profiles of the SSH community and beyond. It is based on a standard and well-known ontology, such as schema.org. It provides links with the TRIPLE vocabulary concepts. Before the end of the project, it will be formally described through a machine-readable standard ontology, paving the way to publish GoTriple data (and possibly all services reusing it) as linked data.

Maturity: TRL8.

Sustainability: The sustainability aspect (maintenance and required updates) of this KER is covered by the general GoTriple business plan (see section 3).

KER 5: TRIPLE Open Science Training Series

Description: A series of 12 online training events on Open Science and the EOSC to support the uptake of open research practices¹³. The training and the related materials are available in Open Access to the SSH community (on Zenodo and [DARIAH-Campus](#)).

Maturity: TRL8

Sustainability: All training material is available via Zenodo ensuring their long-term availability. The GoTriple Committee will monitor its usage and continue to disseminate and communicate them. No additional costs are foreseen. Additional information can be found in section 2.3.2

KER 6: TRIPLE Training Toolkit

Description: The TRIPLE Training Toolkit¹⁴ is an open and reusable workflow to design and deliver training events that follow the FAIR principles and publish training materials as OERs. It contains reproducible files to help trainers minimise the time they spend designing and delivering. FAIR training events and supports them in addressing the frequent findability and reusability issues related to the management of digital training resources. To facilitate the uptake of the FAIR-by-design method, the Toolkit comes with a step-by-step illustration of the user journey.

Maturity: TRL8

Sustainability: In general, this KER is finalised, and no further costs are envisioned. Within our exploitation activities, we identified early adopters and specified customer segments for the KER. The Toolkit will be made available for free for the members of the GoTriple Committee. More details can be found in section 2.3.1.

¹³ <https://project.gotriple.eu/triple-open-science-training-series/>

¹⁴ <https://zenodo.org/record/7309919#.Y-uVNezMITs>

2.2 Multilingual Vocabulary KER

The multilingual vocabulary service for SSH research fields and concepts including their translations in different languages is the only (as far as we know) truly multilingual solution that can be provided. With the multilingual solution, we hope to save users a lot of time/resources and to enable researchers to publish and make visible research results that still need to be available in English and to find other results.

The solution is a publicly available SSH vocabulary published in an open format (e.g. SKOS)

- Vocabulary data are downloadable as XML or JSON files
- Future developments potentially include an API for automatic integration in digital environments to enable dynamic translation and classification

The multilingual vocabulary is already scalable and may be developed further as the classifications expand. It will also be interoperable.

- The vocabulary covers 11 different languages (at the time of writing) but is expandable to other languages, which is relatively easy because the structure already exists and therefore, native speakers can enrich this structure with their language
- It can be integrated into various types of platforms (via. JSON/database file import or more dynamically by using the API that will be developed)
- The methodology of classification process is unique: algorithms for automatic classification and translation and human-curated classification and translation

The markets that we are targeting with this service are other discovery platforms, libraries (approx. 65,000 public libraries in Europe), Universities/University libraries (approx. 2,725 higher education institutions in Europe), existing SSH communities (e.g. SSHOC), emerging SSH communities (e.g. new EU projects), and research communities beyond SSH.

For this KER, we identified the following customer segments:

- Researchers: in general, there are approx. 1.89 million researchers in Europe
- Students: in general, there are approx. 17.5 million university students in Europe
- Citizens
- Other aggregators

We see similar platforms to GoTriple that can be the early adopters as their needs most likely correspond to the ones identified within the project (e.g. [SSHOC](#), [OpenAIRE](#), [COESO](#)). Additionally, we also target Libraries of European Universities as early adopters. In terms of competition, we identified various national libraries with their own vocabularies in vernacular languages, which are sometimes aligned with some other languages but are usually not multilingual. Our strength lies in the common aim (build mapped vocabulary) and a strong base of Library of Congress Subject Headings, which are universal.

Go to Market Use Model: Vocabulary will be published as Linked Open Data on open licences, so it will be free to use. We need to work out a solution for updating it with other languages after the end of the project, but it will be an activity part of the GoTriple Committee Data & Tool

Subgroup. An automatic classification that might be offered for a fee in the future (API) - the possible types of revenue need to be clarified. To clarify this, we plan to contact and interview early adopters to validate their willingness to pay for it and present possible use models (e.g. subscriptions, licensing). We will also ask for concrete needs and wishes that we might tailor the service and use models in the sense that it applies to the main stakeholders needs.

Roles of TRIPLE partners:

Developer and owner: EKT

Supporter: CNRS, Lexical Computing, IBL-PAN, OPERAS AISBL

Expected Costs - main cost factors to sustain the service:

- Hosting/maintenance of data dump
- Development of API (personnel costs)
- Marketing costs
- Expansion of languages (personnel cost)

Expected Revenues:

One possibility would be to offer a paid service for providing the vocabulary data via an API, additionally, we expect In-Kind contributions from development partners, and furthermore, we are trying to acquire grants and look for other funding opportunities.

Impact in 3 years time: Possible impact could be that many European libraries, other scientific databases and other platforms. Thus, also their users will be supported by our multilingual vocabulary so that research work can be more efficiently categorised and found. This will save time and increase efficiency on the part of the users. In addition, further jobs could be created to expand the service and integrate it into the existing databases. As demand for the service grows, investments could emerge to support the vocabulary expansion.

2.3 Training KERs

2.3.1 TRIPLE Training Toolkit

The **TRIPLE Training Toolkit** provides open access training materials, including videos and written material. The files are intended to minimise the time required to design and deliver FAIR training events. To highlight the training materials from a business perspective, WP7 and WP6 have carried out some activities to make the training series produced by WP6 optimally usable. A characterisation table was filled out leading to the following information among other things:

Problems that this KER can solve:

- Lack of practical resources for trainers to design and manage online training events and materials following FAIR standards

The description of how this KER can solve this problem (including the USP):

- The toolkit helps trainers within projects who want to create FAIR training events and materials by providing a reusable workflow to make FAIR training events and materials (as OERs)

Identified early adaptors for this KER:

- Recently funded projects (as they will probably be the most in need of the reusable process offered by the toolkit)

Go to market use model:

- The toolkit will be made available to GoTriple “members” (for free)

WP6 provided a reproducible workflow to make FAIR training events and materials openly accessible, ready to use and adapt, see Figure 2.



FIGURE 2. TRIPLE TRAINING TOOLKIT WORKFLOW

2.3.2 TRIPLE Open Science Training series

The **TRIPLE Open Science Training** series included 12 online training events on Open Science and the EOSC. This training series aimed to support the adoption of open research practices. The series and the resulting associated materials are available to the SSH community as open access (on Zenodo, [DARIAH-campus](#), and [YouTube](#)). A characterisation table was filled out leading to the following information among other things:

Problems that this KER can solve:

- The research community lacks knowledge and skills in Open Science practices
- Relevant training on how to apply Open Science practices to research workflows is scattered across the web: issues in findability and reusability

- Making the research lifecycle FAIR is a time-consuming task

The description of how this KER can solve this problem (including the USP):

- 12 online training events on important Open Science topics with training materials in Open Access that help researchers gain new skills and reduce the time they spend implementing new practices

Identified early adaptors for this KER:

- (early) career researchers in SSH disciplines

Go to market use model:

- The Training series is made available on the [TRIPLE project website](#), Zenodo, Youtube and Dariah-Campus

To support users in finding the relevant training materials, we created a decision tree. First, we did a brainstorming in which we matched which materials could be suitable for which users, see Figure 3.

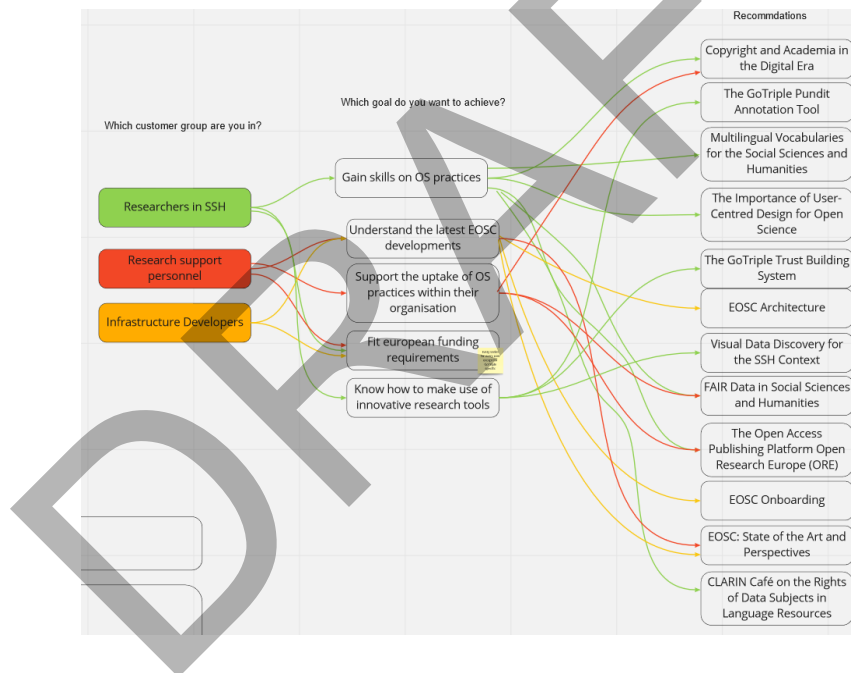


FIGURE 3. BRAINSTORMING AND CREATION OF THE LOGIC OF THE DECISION TREE

A clickable decision tree was developed after the brainstorming session. The tree works as follows: a user selects in the layer “I am” via clicking on the node to which group they would see each other (SSH researcher, support personnel, infrastructure developer). Next they decide in the “I want” which goals they have, e.g. I want... *to fit EU requirements*. In the next layer, they see the recommended training sessions (e.g. Copyright and Academia in the Digital Era); the titles of the training sessions are clickable and redirect the user to the website where the training session and materials are available. This clickable decision tree can be accessed via:

<https://project.gotriple.eu/triple-open-science-training-series/> by clicking on the button “Training Series Selection Tool”. This will open up a pop-up window with the clickable decision tree, as depicted in Figure 4.

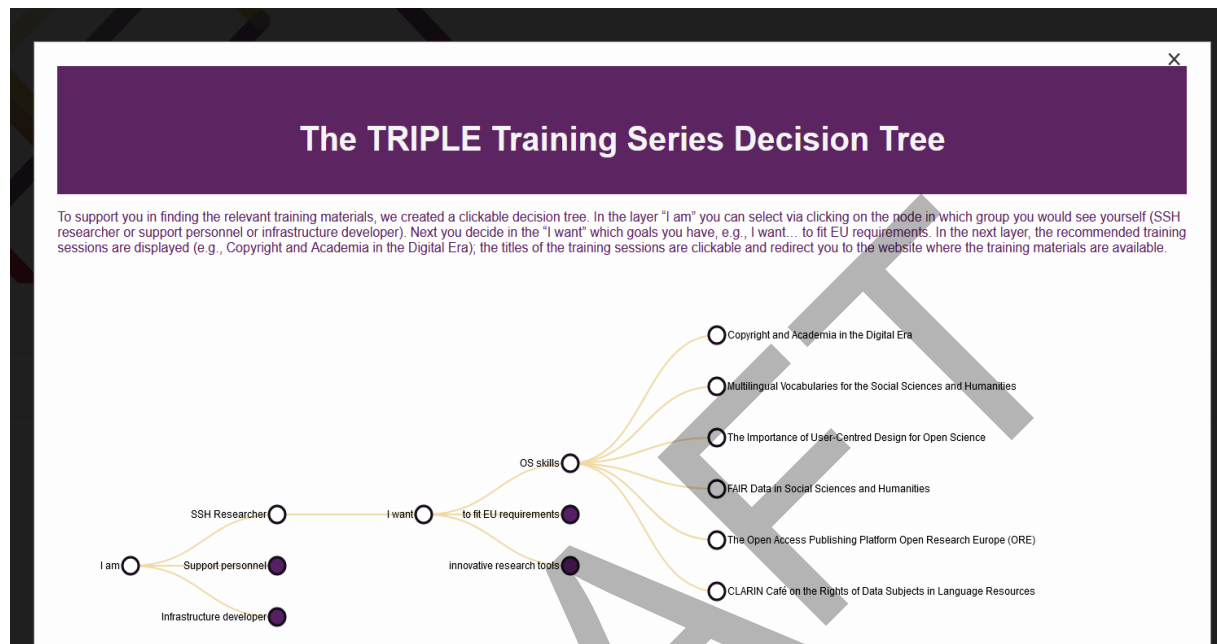


FIGURE 4. CLICKABLE DECISION TREE

3 | BUSINESS PLAN GOTRIPLE PLATFORM

One of the main objectives of WP7 (Innovation, Exploitation and Sustainability) activities was to ensure that the main Key Exploitable Result of the TRIPLE project, the GoTriple discovery platform, is financially sustainable after the project ends. To ensure this, the preparation of a business plan is essential. Many of our activities in WP7 and in all other WPs, have contributed to the development of the GoTriple business plan. By a business plan for GoTriple, we understand it as a comprehensive document that outlines the strategies, the organisational structure (governance model), market analysis, financial projections, etc. It should act as a roadmap for the operation and growth of the GoTriple platform and should be used to secure funding, attract new partners, and make informed decisions. Our business plan includes details on GoTriple’s offerings, target market, competition, governance model, operations, and financial projections. We see the GoTriple business plan as a tool for tracking progress, making adjustments, and ensuring the business's long-term success.

Based on the successful collaboration with Horizon Results Booster experts working on the TRIPLE Portfolio Dissemination & Exploitation Strategy (Module C), we again decided to request

assistance on developing the TRIPLE Business Plan. The most important activities in the development process are described below.

The Horizon Results Booster (HRB) Business Plan Development service was launched on 21 April 2022. On that day, a first online meeting with representatives from HRB and the WP7 core team was organised to agree on activities, discuss expectations, including maturity stage based on the pre-assessment, get a first insight on the state of the art, clarify the service delivery, and introduce preparatory activities. On 11 May 2022, the first session was organised with the TRIPLE project Coordinator, the WP7 team, and partners involved in the development of the GoTriple platform. The session gave an overview of the Business Plan Development and an introduction to the Lean Canvas. After the session, the HRB expert sent to the WP7 lead partner the guidelines to use and the template of the Lean Canvas, the KER Form and the Exploitation Roadmap. On 25 May, the second session was organised with the same group of partners to introduce the Value Proposition Canvas and the Javelin Board that supported the WP7 team in the preparation of the BPD workshop.

On 22 June, the WP7 lead partner sent to the HRB experts 3 Lean Canvases, 2 Value Proposition Canvases and 2 Javelin boards in line with the discussions at the seminar. In the third session, we focused on reviewing the KER Forms, Exploitation Roadmaps, and the Lean Canvases for brainstorming on the next steps. Following the session, the HRB team shared the “First Set of Guidelines” including comments and suggestions on how to improve the canvases and the KERs characterisation and roadmap to exploitation. After a further intensive development of the GoTriple Business Plan between July 2022 and December 2022, the WP7 team submitted a revised version of the Business Plan on 21 December and received the final report from the HRB team on 22 January 2023.

At the very beginning of the Business Plan Development, the HRB experts recommended applying the Business Opportunity Self-Assessment (BOSS) tool to the GoTriple platform. BOSS is an open, multilingual and web-based platform designed to stimulate students’, researchers’ and teachers’ ability to use their research results and to start and carry out entrepreneurial projects. Figure 5 below shows the business opportunities status of the GoTriple platform in April 2022 with already decent scores in the areas of Technology, Market and UVP (Unique Value Proposition) but relatively low scores in the fields of IP, Financials and Team.

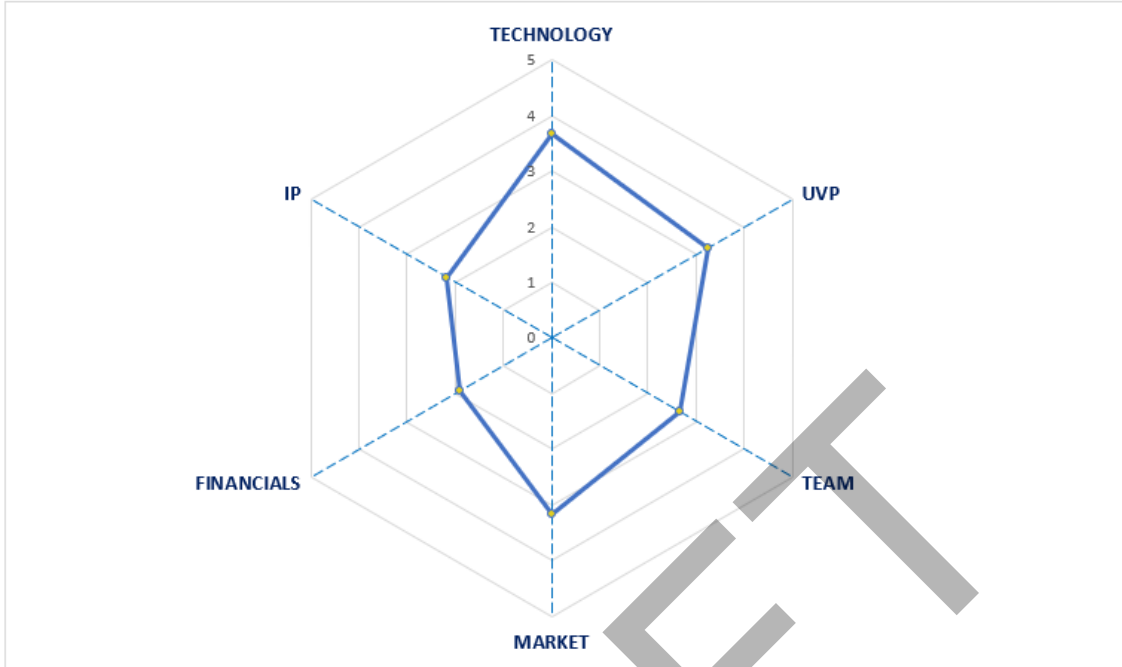


FIGURE 5. STATUS OF GOTRIPLE BUSINESS OPPORTUNITIES APRIL 2022

After carrying out the entire HRB Business Plan Development process and further planned exploitation activities within WP7, we repeated the BOSS assessment in December 2022. The scores in the radar plot (see Figure 6) shows significant improvements in nearly every area.

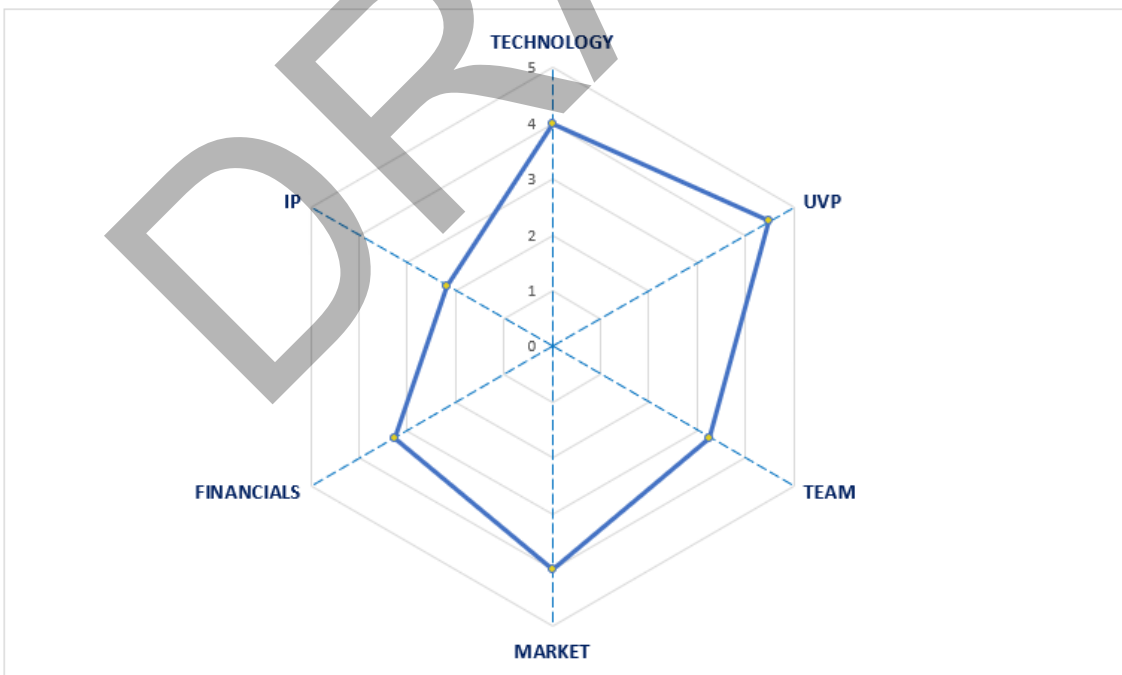


FIGURE 6. STATUS OF GOTRIPLE BUSINESS OPPORTUNITIES DECEMBER 2022

Overview of GoTriple actual state

At the time of writing, about 5.100.000 documents (publications and datasets) have been retrieved via a pipeline where data are ingested, classified, enriched, and categorised so that users can easily find and retrieve them. The following aggregators and data providers are progressively imported into the platform: DOAJ, EKT, Isidore (which includes DOAB and OAPEN), OpenAIRE, Biblioteka Nauki, CESSDA, ZRC-SAZU, COIMBRA, Open Edition, Clarin, Econstor and BASE. Both aggregators and providers cover the eleven languages of GoTriple (Croatian, English, French, German, Greek, Italian, Spanish, Polish, Portuguese, Ukrainian and Slovenian). 27 SSH disciplines are also covered in each of the eleven languages.

GoTriple currently allows multilingual search, which means that users can find publications in a specific language by using keywords in one of the eleven languages supported by the platform. A TRIPLE thesaurus is integrated into the platform containing exactly 3375 concepts available in all languages. Documents are annotated with the concepts of the TRIPLE thesaurus on the page of each document.

The search engine allows different filters such as publication type, author, year and discipline. Figure 7 (right side) shows the results for “french art history” authors. The number of publications per author containing this concept is indicated in front of each author. Clicking on the number of publications per author gives access to the details of the publications.

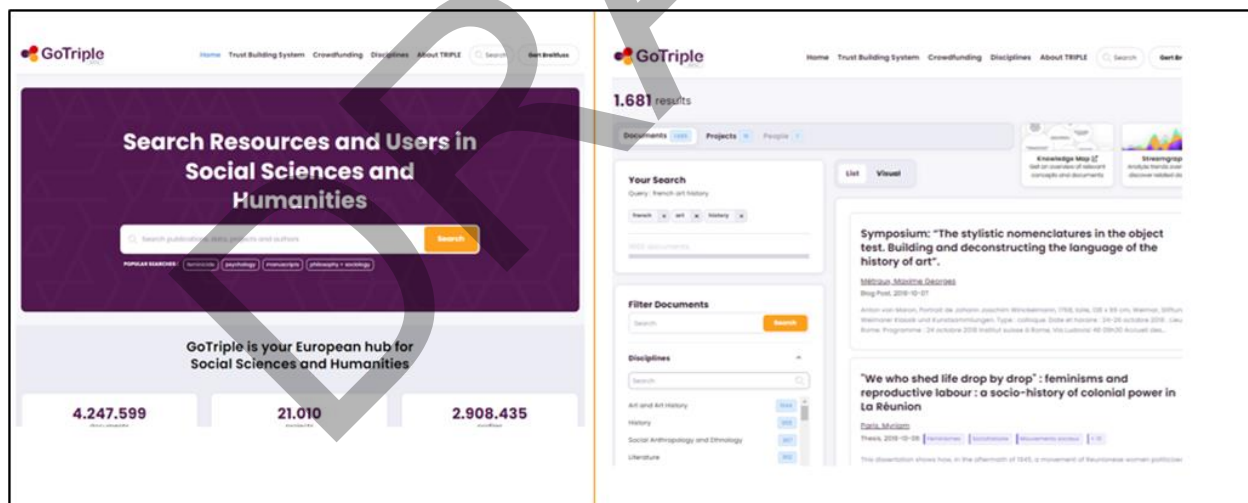


FIGURE 7. SCREENSHOT OF THE GOTRIPLE MAIN PAGE AND SEARCH RESULTS

All six planned discovery features have been implemented:

- Textual Search
- Visual Search (Knowledge Map, Streamgraph)
- Social Network (Trust Building System)

- Recommender
- Annotation (web-annotation tool)
- Crowd-Funding

The following sections (3.1 - 3.6) present the most important aspects of the GoTriple business plan.

3.1 Unique Value Proposition (UVP)

A key success factor for launching and sustaining a newly offered service, such as the GoTriple platform, is to define and formulate a compelling Value Proposition. After several iterations within the HRB business plan activities, we (the WP7 team and interested project partners) agreed on the following definitions and claims for our two main customer segments.

GoTriple improves access to open content and resources of social sciences and humanities (SSH) research and facilitates collaborations across disciplinary and language boundaries through innovative services such as web annotations, a trust-building system, new visualizations (knowledge maps, stream graphs) and crowdfunding possibilities. GoTriple is connected to the European Open Science Cloud (EOSC) and integrated into OPERAS (open scholarly communication in the European research area for social sciences and humanities).

GoTriple's UVPs can be summarized as follows:

- Offering multilingualism
- Creating links and connections to different data sources
- Bridging disciplines
- Offering integrated services
- Offering crowdfunding

No other platform is covering the combination of features that the GoTriple platform offers (plus SSH explicitly is not covered by the platforms we included in our competitor analysis); thus, we assume that the GoTriple platform could bring added value to the open science landscape.

UVP claim for Institution segment:

- Make SSH research visible to the world (Sustaining member)
- Shape the future of exploring SSH research (Visionary member)

UVP claims for the Researcher segment:

- Find resources across language barriers
- Easy exploration of SSH research
- Fund your SSH research project
- Connect with SSH researchers to collaborate

3.2 Market Insights

Early Adopters

We first addressed SSH researchers/SSH institutions via TRIPLE academic partners (Abertay University, CNRS etc.) to gain friendly user feedback for bug identification and further development ideas of the platform. In terms of beta testing, we used the help of <https://www.reachout-project.eu/>. Through the ReachOut project beta testing, we got valuable feedback about the UI and the general usability of the platform. The final report about user testing and evaluation will be published in D3.6 - Report on User Evaluation. Below, we present some preliminary outcomes.

The ReachOut platform provides a framework for beta testing and defining potential scenarios that the users have to conduct. After the scenarios are completed, users are required to fill in a questionnaire containing some quantitative measures (mostly in the form of Likert scales) as well as qualitative fields where the users can write their observations. While the ReachOut platform had a set of predefined questions, we modified these questions to make them more suitable for the GoTriple testing. Twenty-eight users participated in this campaign, with a total of 20 fully completed questionnaires having been submitted.

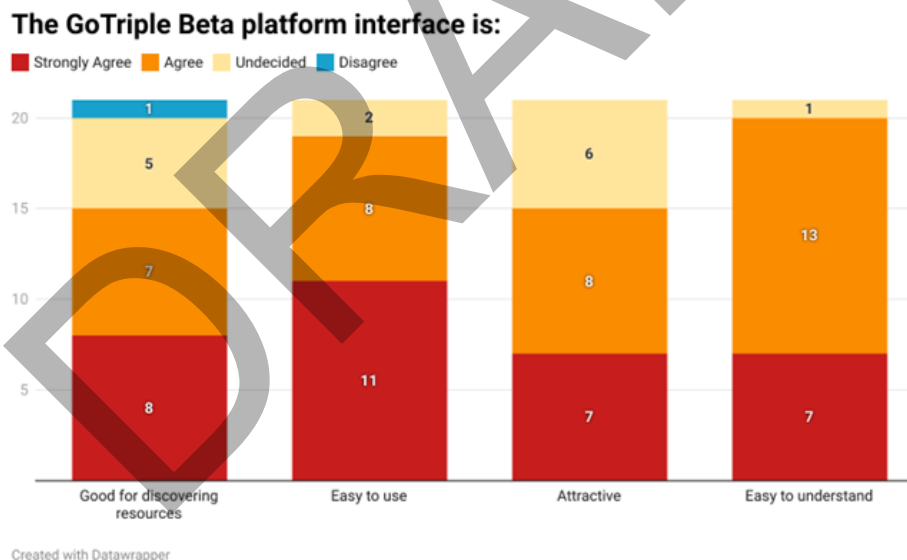


FIGURE 8: USER FEEDBACK ON GOTRIPLE INTERFACE (FORBES, P., PAOLI, S. ET AL., 2022)¹⁵

¹⁵ Forbes, Paula, Paoli, Stefano De, Andreini, Giulio, Papaki, Eliza, & Jääskeläinen, Taina. (2022). TRIPLE Deliverable: 3.6 Report on User Evaluation (Interim) (Draft). Zenodo. <https://doi.org/10.5281/zenodo.6410713>

The interface of the GoTriple Beta appeared overall easy to use and easy to understand for the majority of respondents. The Beta interface was clear and also very attractive for the majority, but with some users remaining uncertain.

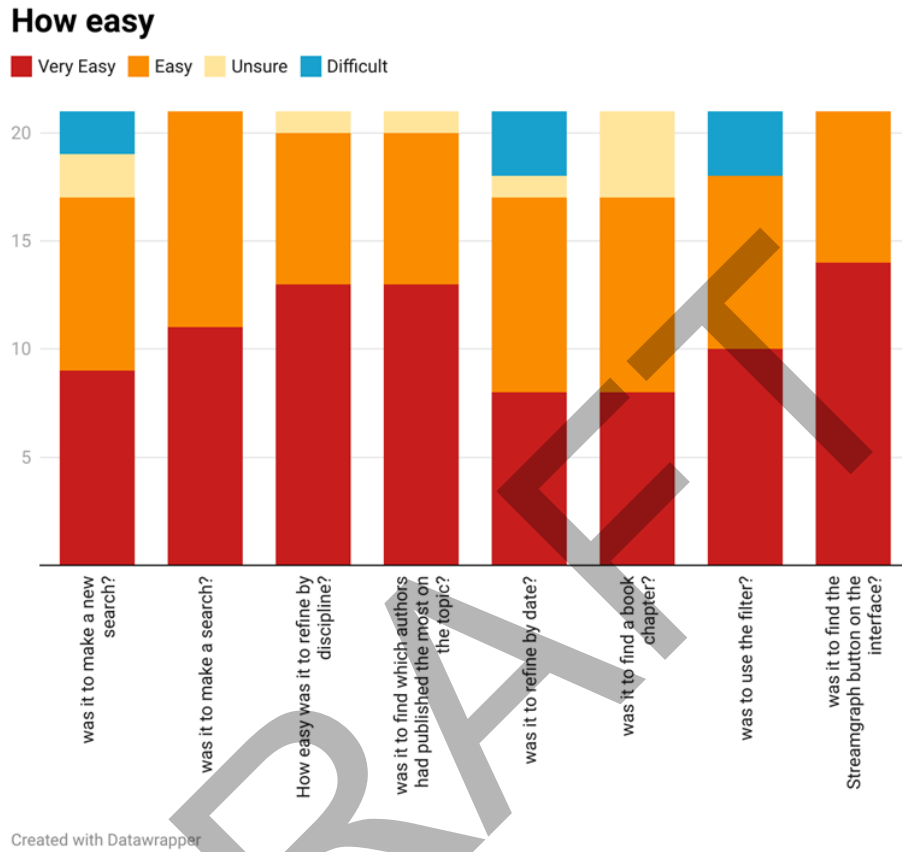


FIGURE 9: USER FEEDBACK ON GOTRIPLE EASE OF USE (FORBES, P., PAOLI, S. ET AL., 2022)¹⁶

Overall, we could see positive responses across all the items. The platform is still evolving in terms of additional functionality and the last months of the TRIPLE project will be a crucial time for the evaluation and subsequent iterative development of the features. Within the last 2 months of the project, we planned a concentrated effort on testing and evaluation. A final survey on user satisfaction is also planned for the project's final phase.

As part of Task 1.5 (joint task of CNRS, Net7, Abertay and Know-Center), a dashboard to monitor different metrics of the platform (users and documents) based on the data from the GoTriple database was created. The dashboard visualizes the following indicators to evaluate the success of the platform among **users** (also see Figure 10. for an overview):

¹⁶ Forbes, Paula, Paoli, Stefano De, Andreini, Giulio, Papaki, Eliza, & Jääskeläinen, Taina. (2022). TRIPLE Deliverable: 3.6 Report on User Evaluation (Interim) (Draft). Zenodo. <https://doi.org/10.5281/zenodo.6410713>

- Gender: Balance of female/male/other users
- User type (on onboarding): The type of user (academic researcher, private sector, NGO, someone interested in citizen science, policy maker, etc.)
- User disciplines. Representation at the discipline level
- User status: Current use of the status in the profile (e.g. open for collaboration)

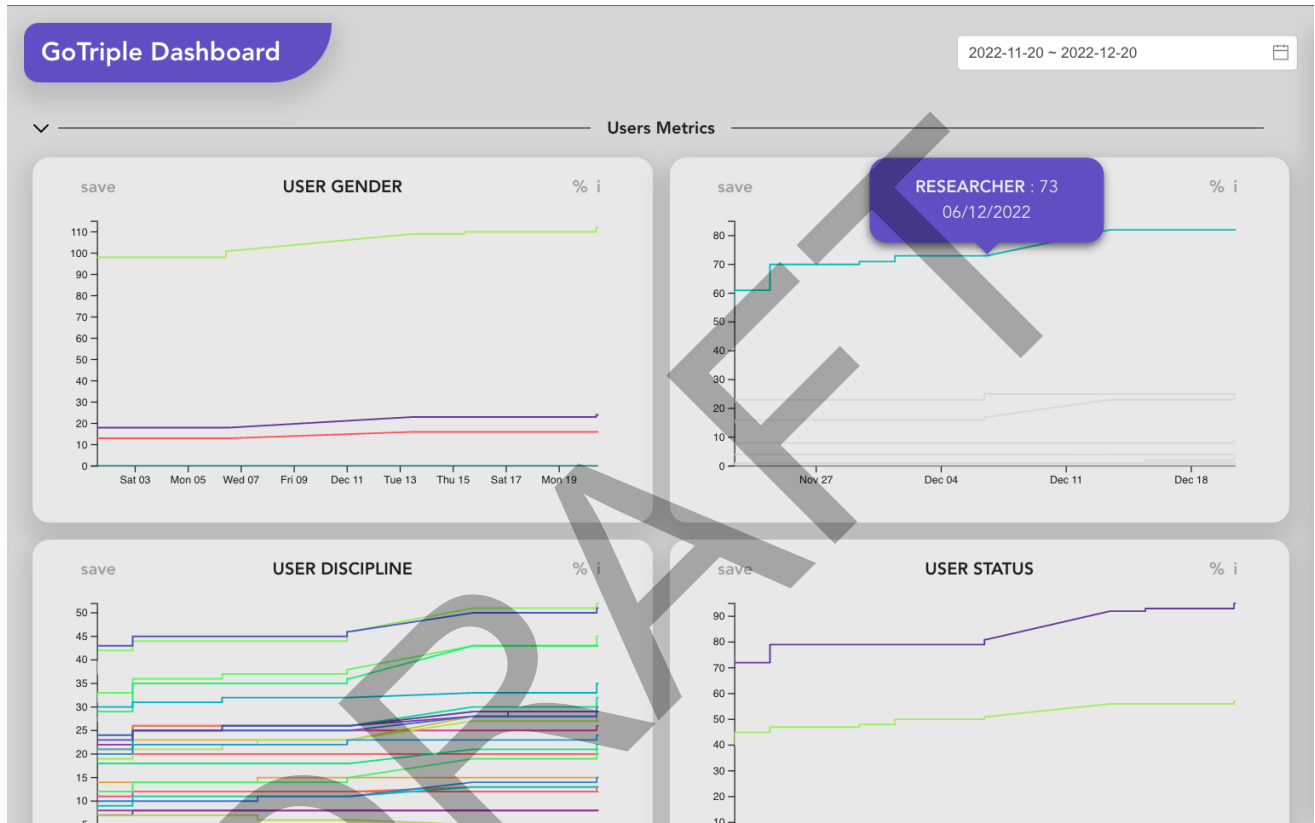


FIGURE 10. GOTRIPLE INDICATORS DASHBOARD - USER METRICS

The dashboard visualizes the following indicators to evaluate the success of the platform regarding **documents** (also see Figure 11. for an overview):

- Docs claiming: % of registered users that have claimed at least one document
- Docs claimed vs proposed: Number of claimed documents vs number of documents whose authorship has been suggested by the platform
- Documents language: Overall language spread of all of the publications in GoTriple (track variation in time)
- Documents claimed language: Overall language spread of the claimed publications



FIGURE 11. GOTRIPLE INDICATORS DASHBOARD - DOCUMENTS METRICS

Tracking and monitoring these parameters allows us to monitor user acceptance and make informed decisions about the business model. For example, in terms of marketing, you can see if a group is underrepresented and needs to be addressed more strongly in campaigns or through components of the platform.

Market Size

To get a rough picture of the market size, we have, in addition to the information from the competitor analysis and the actual market trends, conducted secondary research which delivered the following results:

End users (SSH researchers, researchers, governmental researchers)

- Approx 900,000 SSH researchers in EU+UK
- EU + UK Labour Force approx. 246 million (OECD) and 9,18 of 1000 employed are researchers on average in EU27. That means we have a market of approx. 2.255 million researchers in EU + UK (increasing rate see Figure 12)
- Government researchers are professionals working for government institutions engaged in the conception or creation of new knowledge, products, processes, methods, and systems and also in managing the projects concerned. Here, we do have another (10,9 of 1000 employed) potential user group of 2.681 million.

- Institutions: We have identified 275 universities in the EU+UK working in SSH fields. No current estimation of the number of libraries and other potential institutional customers.



FIGURE 12. DEVELOPMENT OF NUMBER OF RESEARCHERS PER 1000 EMPLOYED, 2000 – 2020, OECD TOTAL¹⁷

Determining a specific market size is a complex process and requires additional data and research beyond what is possible within the WP7 resources.

Market Trends:

As TRIPLE's main target groups are knowledge workers and the population with tertiary education. According to OECD numbers, these groups are on the rise, which can be seen as a positive factor. The same is true for a pan-European increase in people employed in research. Statistics derived from the OECD state that the gross domestic spending on R&D is on the rise across Europe.

One major technological trend is the increased relevance of Artificial intelligence/Machine Learning. This is in line with raising interest in AI development and EC funding areas. For this reason, TRIPLE investigates AI technology to improve the searching capabilities. Reduced costs for increased availability of high-performance networks have a beneficial effect. TRIPLE can thus rely on external computer resources to scale up service provisioning (e.g. EGI Federation). Also, network bandwidth is getting cheaper and more ubiquitous (e.g. GEANT). More details can be found in [D7.1 chapter 3 PESTLE Analysis](#).

¹⁷ OECD (2020), Researchers (indicator). <https://doi.org/10.1787/20ddfb0f-en> (Accessed on 01 February 2023)

Market Competitors

Within the project's runtime, we regularly investigated the market environment and especially competitor platforms. To gain a deep insight into the already existing offers, we carried out an extensive competitor analysis in the first year of the project. This analysis allowed us to identify and understand competitors' strengths and weaknesses in relation to the service developed by TRIPLE and helped us to develop effective competitive strategies.

A list of competitor platforms that offer similar services and share target markets was created in collaboration with the project members. A total of forty-seven platforms were identified as potential challengers. The top ten ranked platforms were included in the competitors' analysis. In order to represent the competitive environment of the TRIPLE platform in the best possible way concerning different platform types and geographical origins, a further 16 platforms were included in the analysis. Information about the 26 platforms was retrieved from their websites and documented in a template to gain a good understanding of the competitive environment of the TRIPLE platform. The essence of this documentation was then transferred to a summary table and analysed through qualitative content analysis, with a focus on offered platform features and functions, organisational insights, strengths and weaknesses as well as insights into usability and user experience. An interview study with general Open Science experts (three participants) and executives from existing scholarly communication platforms (six participants) was conducted to complement the vantage points gained from the web-based competitor analysis. The qualitative interviews were designed as guideline-based expert interviews and evaluated through qualitative content analysis.

Analysis results: The main competitors have an established presence in the market, and the brands are well known. We need to pay the most attention to platforms such as Frontiers, Lens.org, Academia.edu, ResearchGate, Iris.ai, due to their innovation strategy and constant release of new innovative features. However, we were unable to identify very successful platforms which specifically target the SSH community. A comprehensive description of the results can be found in deliverable [D7.1 "Report on Stakeholder and Opportunity Analysis"](#) (see pages 23 onwards).

Based on the available results from the initial analysis, we subsequently took a closer look at organisational and financial aspects. Our main aim was to get inspiration and learnings for the future TRIPLE organisation/governance model and potential revenue sources. Regarding forms of organisation, our analysed sample showed a very broad spectrum of opportunities. In our analysis, we distinguished basically between "non-profit" and "for-profit" organisations. Most of the non-profit ones are structured as independent associations or are part of institutions (mostly linked to universities or research institutions). Organisations in the form of projects and start-ups are rare. Since the future GoTriple organisation will most likely be non-profit-oriented, we have analysed the revenue opportunities only for the non-profit organisations (17 platforms). Similar to the forms of organisation, the picture in terms of revenue sources was also diverse. Different forms of funding (public, private, institutions) are the dominant income stream for the analysed

non-profit platforms, followed by revenues out of membership fees, donations, and paid services. Further, less common revenue sources are premium subscriptions, in-kind contributions, partner/membership contributions, and sponsorships.

To get a more detailed view on organisational and financial aspects, we selected four organisations (two independent associations, two as part of an institution) for further investigations. All details are described in [D7.2 “Intermediate Report on Exploitation and Sustainability Strategy”](#).

During the business model design and testing activities in the last project year (mainly in 2022), we conducted an advanced analysis (24 platforms) on promising revenue possibilities with a focus on pricing models and inspiring implementation examples. Based on this information, we identified the membership models and donations as additional revenue streams for sustaining the GoTriple platform. More details can be found in [D7.3 “Business Model Design and Evaluation Results”](#).

Market Channels

Based on our competitor analysis results and the targeted audience for GoTriple we defined the following market channels per customer segment:

Channels for Researcher segment:

- Word of mouth
- GoTriple website
- Social Media & Google Ads
- SSH ERICS communications and events (DARIAH, CESSDA, CLARIN)

Channels for Institution segment:

- Partner networks
- GoTriple website
- Univ/Lib. associations
- SSH ERICS communications and events (Dariah, Cessda, Clarin)

We do have a dedicated project team embedded in WP3 (Co-Design and User Research), which is responsible for the User Engagement Strategy and the respective roadmap. Several activities have been carried out: collaboration with OPERAS national nodes, video tutorials for each innovative service, build-up of GoTriple Ambassadors, paid ads campaign for FaceBook, LinkedIn, etc. The most active phase was in the period of the final release of the platform between January and March 2023.

3.3 GoTriple Governance Model

To ensure financial sustainability for GoTriple, we developed a reliable Governance Model. The TRIPLE Governance framework named “GoTriple Committee” defines responsibilities and practices, policies, and procedures used to set strategic direction, achieve objectives, manage risks, and allocate resources. The current status of the GoTriple Governance Model (see Figure 13) consists of the GoTriple Committee with 2 subgroups (User Engagement Subgroup and Data & Tool Subgroup), a Change Advisory Board (CAB) and includes the collaboration with OPERAS in its role as future operator of GoTriple. This collaboration is ensured by the involvement of a GoTriple representative in the OPERAS Service and Technology Board (STB), which manages the overall OPERAS service portfolio.

The Partners’ participation in the GoTriple Committee is voluntary, based on service to the community with a not-for-profit purpose. However, it is expected that Partners are strongly committed to the purpose of the GoTriple Committee activities. The establishment, governance, and operation of the GoTriple Committee are described in a Memorandum of Understanding (MoU). This MoU does not constitute a binding contract, nor does it create any financial obligation on either Partner towards the other Partner.

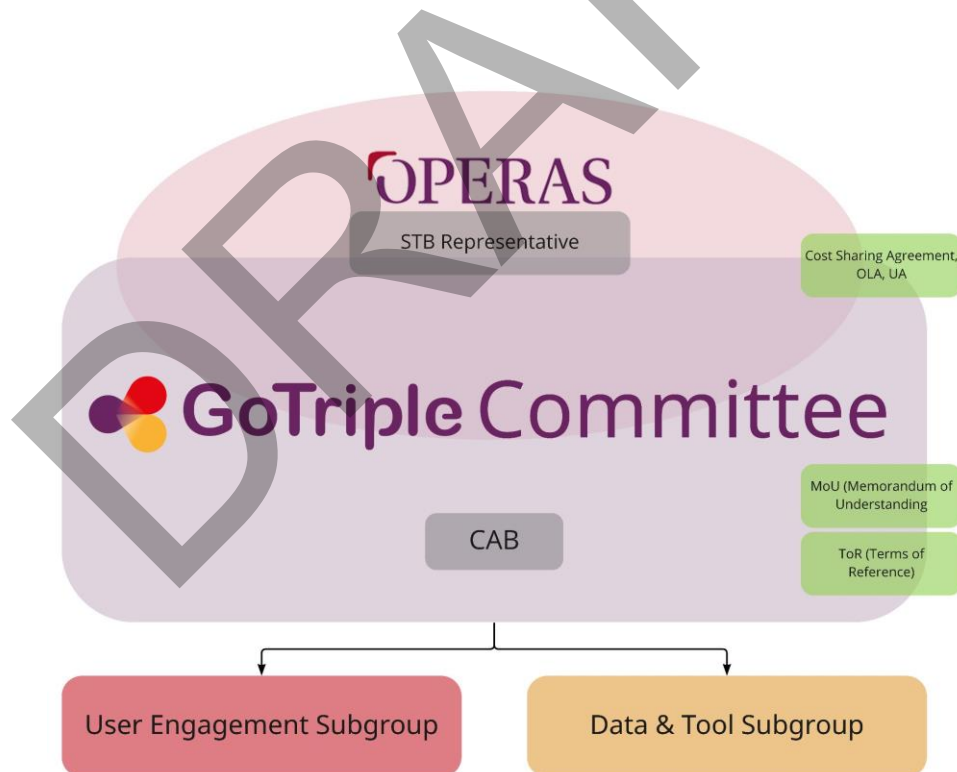


FIGURE 13. GO TRIPLE GOVERNANCE MODEL

GoTriple Committee

The people, entities, and projects are the basis that enables the GoTriple Committee to work. This general assembly of the GoTriple Committee consists of the partners of the Data & Tool Subgroup (mainly service providers), the partners of the User Engagement Subgroup, the Change Advisory Board (CAB) and some internal experts.

The roles of the different subgroups are specified below:

Data & Tool Subgroup

- Direction and coordination of technical developments (innovations)
- Maintenance of services (updates)
- Ensure the quality of data sources
- Expansion of data sources

User Engagement Subgroup

- Collection and analysis of user feedback → suggestions for improvements or further developments
- Community management and user support
- Support of GoTriple communication channels
- IPR practices

OPERAS (AISBL)

- Legal and administrative coordination and support
- Dissemination, communication, marketing support
- Coordination of service management
- Community engagement
- Project funding scouting and coordination

Change Advisory Board (CAB)

- Maintain a list and descriptions of standard changes
- Evaluate non-standard changes, taking into account at least: benefits, risks, potential impact, technical feasibility, effort /cost, etc.
- Monitor the overall progress of change evaluation, approval, and implementation
- Review the change records in regular intervals to identify trends or nonconformities or poor documentation/traceability

GoTriple Service and Technology Board (STB) Representative (in OPERAS STB Board)

- Advise OPERAS management on the priorities for evolving GoTriple
- Contribute to the OPERAS service strategy
- Communicate relevant developments regarding the service
- Share best practices with other service owners
- Identify opportunities for reuse

The project consortium agreed on a Memorandum of Understanding (MoU), which acts as a framework for cooperation between the Partners regarding the establishment, governance, and operation of the GoTriple Committee. It covers topics such as Partners’ Rights and Expected Contributions, Voting procedures, Acceptance, Withdrawal and Removal of Partners, Entry in Force and Termination, Resolution of Conflicts, and a description of roles and responsibilities.

Contribution survey

We have conducted a survey to collect information about the project partners’ willingness to participate in the activities of the GoTriple Committee after the funding period of TRIPLE. For this purpose, WP7 brainstormed about the tasks that need to be done by the future GoTriple committee (governance body). This survey helped us to plan the Governance activities for the GoTriple committee. The following questions were asked in this survey, and the results are presented respectively in orange:

n=14 partners took part in the survey

General Information

- *Is your institution willing to support the sustainability of the GoTriple platform and thus become a member of the GoTriple Committee after the funding period?* Figure 14 shows the results on this question.

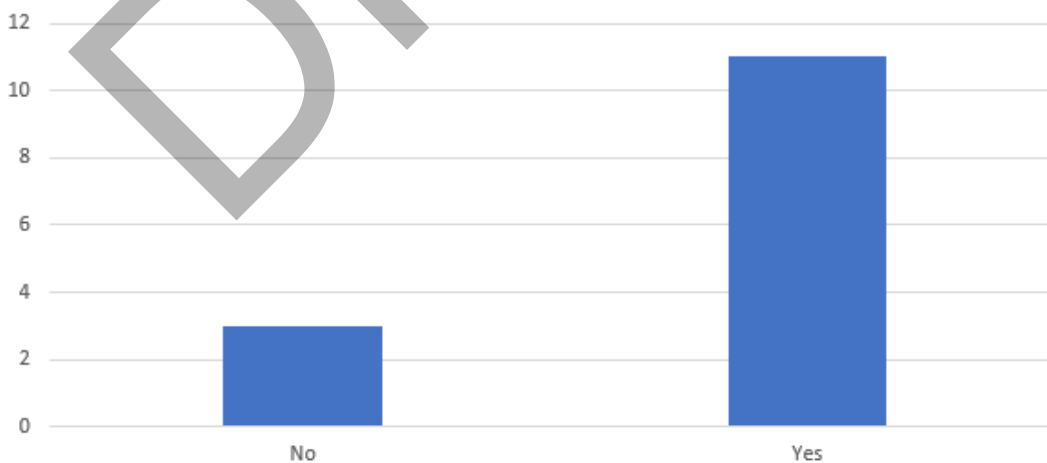


FIGURE 14: PARTNER FEEDBACK ON GO TRIPLE COMMITTEE MEMBERSHIP

Topics & Activities

- *To which of the following main topics would your institution like to contribute?*
 - **Governance (7 partners want to contribute)**
 - *To which activities would your institution contribute w.r.t. Governance (if possible, please already provide a name of a person who can do this activity in the comment field next to the activity)?*
 - *steering the direction of the GoTriple Committee (6 partners)*
 - *planning meetings (0 partners)*
 - *writing minutes (1 partner)*
 - *approving and defining tasks for subgroups (5 partners)*
 - *onboarding new committee members (3 partners)*
 - *Other: Exploring funding opportunities (1 partner)*
 - **User engagement (7 partners want to contribute)**
 - *To which activities would your institution contribute w.r.t. User engagement (if possible, please already provide a name of a person who can do this activity in the comment field next to the activity)?*
 - *reviewing user survey (4 partners)*
 - *reaching out to new users (4 partners)*
 - *monitoring user metrics (dashboard) (3 partners)*
 - *Other: Testing (1 partner)*
 - **Data (4 partners want to contribute)**
 - *To which activities would your institution contribute w.r.t. Data (if possible, please already provide a name of a person who can do this activity in the comment field next to the activity)?*
 - *ensuring the quality of data sources (2 partners)*
 - *expanding data sources (1 partner)*
 - *developing data-related functionalities (1 partner)*
 - *other general data-related activities (3 partners)*
 - *Other: support maintaining vocabulary (1 partner)*
 - **Technical consultancy and support (5 partners want to contribute)**
 - *To which activities would your institution contribute w.r.t. Technical consultancy and support (if possible, please already provide a name of a person who can do this activity in the comment field next to the activity)?*
 - *supporting the change advisory board (2 partners)*
 - *contributing to technical developments (3 partners)*
 - *Other: Interface evaluation (1 partner)*
 - **Service component provider (5 partners want to contribute)**
 - *To which activities would your institution contribute w.r.t. Service component provider (if possible, please already provide a name of a person who can do this activity in the comment field next to the activity)?*

- *providing a technical service component part of the GoTriple platform (3 partners)*
 - *Other: Willing to explore funding to become service component provider (1 partner); Non-technical service component (1 partner)*
- **Communications and dissemination (6 partners want to contribute)**
 - *To which activities would your institution contribute w.r.t. Communications and dissemination (if possible, please already provide a name of a person who can do this activity in the comment field next to the activity)?*
 - *planning events (4 partners)*
 - *supporting general marketing activities (marketing campaigns) (5 partners)*
 - *Other: Training (1 partner); Presenting GoTriple (talks, publications) (1 partner)*
- **Business support (3 partners want to contribute)**
 - *To which activities would your institution contribute w.r.t. Business support (if possible, please already provide a name of a person who can do this activity in the comment field next to the activity)?*
 - *monitoring membership activities (income & how many) (2 partners)*
 - *monitoring donation activities (income & how many) (2 partners)*
 - *support tailored marketing activities for donations and memberships (1 partner)*
 - *recruiting new members (1 partner)*
 - *evolving (new) business models (3 partners)*
 - *scouting project funding (2 partners)*
 - *other:*
- **Other: Open science (1 partner wants to contribute)**
- *How many in-kind person-months per year would your institution contribute for all the activities in total? On average 1,25 person-months per year*

GoTriple embedded in OPERAS

OPERAS is a Research Infrastructure that supports open scholarly communication in the social sciences and humanities (SSH) in the European Research Area. Its mission is to coordinate and federate resources in Europe to efficiently address the scholarly communication needs of European researchers in the field of SSH.

OPERAS has three types of services as part of its portfolio: Managed, Community, and Internal.

- Managed services are when OPERAS is responsible for the overall service and coordination of the service delivery and evolution. This provides value when a sustainable structure is required and/or is strategic for OPERAS.

- Community services are services that are discoverable from the OPERAS website but are managed directly by the community provider. This is valuable when there is a sustainable structure established and amplification along with direct OPERAS participation, contribution, support is beneficial.
- Internal services are not orderable but are necessary for managing or operating the OPERAS federation. These comprise both technical and non-technical services that must still be managed though not requestable by those outside of the federation.

OPERAS' strategy is to find a balance between the types of services that match available resources as it grows over time.

GoTriple is thus a perfect example of OPERAS' mission to not only make Open Science a reality for research in SSH, but also benefits as a managed service where the legal entity established (OPERAS AISBL) provides a solid legal and administrative support, along with the value add brought around dissemination, communication, community engagement, and service management support. This organisation has been formalized via the definition of a Memorandum of Understanding, including a Terms of Reference, the outlines both the management and coordination of the service as well as the commitment of the various partners to continue to actively contribute to maintaining and evolving the service and community.

In addition to the organisation aspects, in order to keep GoTriple technically sustainable after the project ends, we conducted a categorisation of GoTriple into service components with specifications of each comprising: type (enabling, enhancing), short description, service component provider, and technology readiness level (TRL). Within this activity, we identified 18 service components, provided by 12 different providers. Agreements are being established with each component provider (supplier) to ensure that each component will be provided beyond the life of the project. The names of the agreements will depend on the type of supplier (i.e. Operational Level Agreements with internal suppliers, Underpinning Agreements or Contracts with external suppliers). This agreement structure, methodology, and terminology follow the FitSM lightweight service management standard that is being used as the underlying framework¹⁸.

¹⁸ www.fitsm.eu

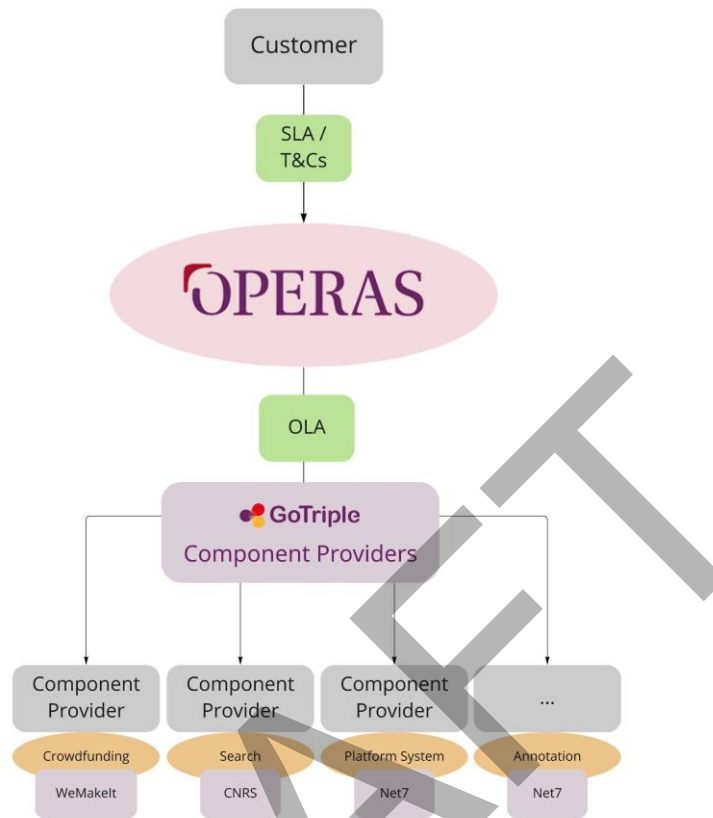


FIGURE 15. GOTRIPLE WITHIN OPERAS LANDSCAPE

3.4 Costs

Within the business plan development, we conducted a cost estimation survey for all GoTriple service components. As mentioned, the GoTriple platform currently consists of 18 service components provided by 12 partners. We divided the services into two types, the enabling services (eight pieces) and the enhancing services (10 pieces). Without the enabling services, the platform would not run. The currently 10 enhancing services could be terminated if necessary (not useful, no financing, etc.) without interfering with the basic function of the platform.

Type	Components	Description	Agreement Type (OLA, UA)
Enabling	GoTRIPLE Frontend	Javascript react application for user facing presentation of info/services	OLA
Enabling	AAI	Platform for user registration (provides SSO)	OLA
Enabling	Privacy and Data protection	GDPR compliance, cookie policy, terms and conditions	UA
Enhancing	Diagram-components (Charts)	Personalise / tailor diagrams i.e. bar, line, pie, geo map	OLA
Enhancing	Web Annotation (Front)	A tool to take notes in the margins of a webpage	OLA/UA
Enhancing	Crowdfunding	Allows researchers to fund research via crowdfunding	UA
Enhancing	Knowledge map and streamgraph	Automatic visualisation (frontend) and discovery system (backend)	UA
Enhancing	Trust building system	Closed social platform/network	OLA
Enhancing	OPERAS Metrics	Data about publication usage	OLA
Enabling	GoTRIPLE Backend	Backend business logic (search server, data base)	OLA
Enhancing	Recommender (ScaR Framework)	Automatic suggestions of content for users	OLA
Enabling	Content Ingestion and curation	SCORE pipeline	OLA/UA
Enhancing	eTranslation	Automatic translation (title, abstract if not in EN)	UA
Enabling	TRIPLE Keyword Annotation	Tagging with TRIPLE keywords	UA
Enabling	Classify	Automatic classification with moress categories (27 discl)	UA
Enhancing	Mixpanel	Track user activity and get some quantitative data	UA
Enabling	Hosting Infrastructure	VMs, networking	OLA
Enhancing	OPERAS Value Add Services	Coordination, dissemination, administration, etc.	--

TABLE 1. COST ESTIMATION SURVEY IN EURO PER YEAR FOR GOTRIPLE SERVICE COMPONENTS

We currently do have three external service component providers for the GoTriple Platform:

- WeMakelt (Crowdfunding service provider)
- Iubenda (Privacy and Data Protection)
- Mixpanel (User Behaviour Analytics)

The expenses associated with using the above-listed services are included in the cost overview.

However, the development status at the end of the project comprises the sum of enabling and enhancing services. The main objective is to guarantee this status in any case (**Basic Scenario**) or, at best, a continuous further development (**Improvement & Development Scenario**). For both scenarios, we have collected the estimated costs from all providers through cash requirements and additional in-kind contributions.

Cash Requirements	Basic Scenario	Improvement & Development Scenario
Enabling services	€ 10.300	€ 13.900
Enabling + enhancing serv.	€ 67.770	€ 125.100

TABLE 2. CASH REQUIREMENTS FOR DIFFERENT SCENARIOS

These figures show that we do have a funding gap in the Basic Scenario of max € 67.770 (min € 10.300) and max € 125.100 (min € 13.900) in the Improvement & Development Scenario. Our target corridor lies between the two scenarios. To cover these costs, we need to generate

revenues via membership fees, donations, additional funding and check possible transformation of cash requirements into In-Kind contributions (see next section 3.5 on revenues).

Type of costs:

- maintenance
- hosting
- user support
- bug fixes
- storage
- sources-management
- license
- web interface updates
- servers
- developer support
- regular releases of new features
- administration

Cost drivers:

- Number of Users
- Hosting Costs
- User Support
- Number of Updates
- Degree of standard services usable

Apart from the service provision costs, there are additional costs for all the governance-related activities within the GoTriple Committee, such as:

- User engagement activities (e.g. monitoring user metrics)
- Communication and dissemination (e.g. marketing campaigns)
- Business support (e.g. membership acquisition, business model development, scouting project funding)
- Data (repositories) related activities (e.g. expanding data sources, ensuring the quality of data sources)
- Administrative governance activities (e.g. meeting organisation, onboarding of new committee members)

Cost estimation for the above-listed activities: 12-15 person-months (max €82.500). This cost will be covered by the party already confirmed in-kind contribution commitments by the future GoTriple Committee members.

3.5 Revenues

We identified different revenue streams and worked on a specific revenue strategy for the platform. Supported by the WP7 partners, we conducted an in-depth revenue analysis and workshops to identify promising revenue possibilities for the GoTriple platform based on successful revenue models of other open science platforms. The selected revenue options are described below.

The GoTRIPLE platform will be free for end users while also considering three types of revenue streams:

1. Institutional Membership options (Sustaining and Visionary membership pricing structure in below as well as Figure 17)
2. Institutional donations (one-time or recurrent)
3. Individual user donations (one-time or recurrent)

When considering the fee-based components of the sustainability model, the specifics of the cross-border VAT need to be considered. At the time of writing, the “place of supply” (and the country where the VAT should be paid) requires determining the place of residence of the end-user. Minimising overheads.

Suggested Pricing Model for Memberships:

Institutions will have two membership options (see details of benefits included in “description” or in “use model”). What follows is an initial pricing structure that will be consulted within the project consortium and decided by the GoTriple Committee after the project ends. The same applies to the country assignment to the two income groups low & middle vs. high.

Sustaining Membership:

- Lower & middle-income countries: EUR 500 / year
- High-income countries (small organisations): EUR 1,500 / year
- High-income countries (large organisations): EUR 3,000 / year

Visionary Membership:

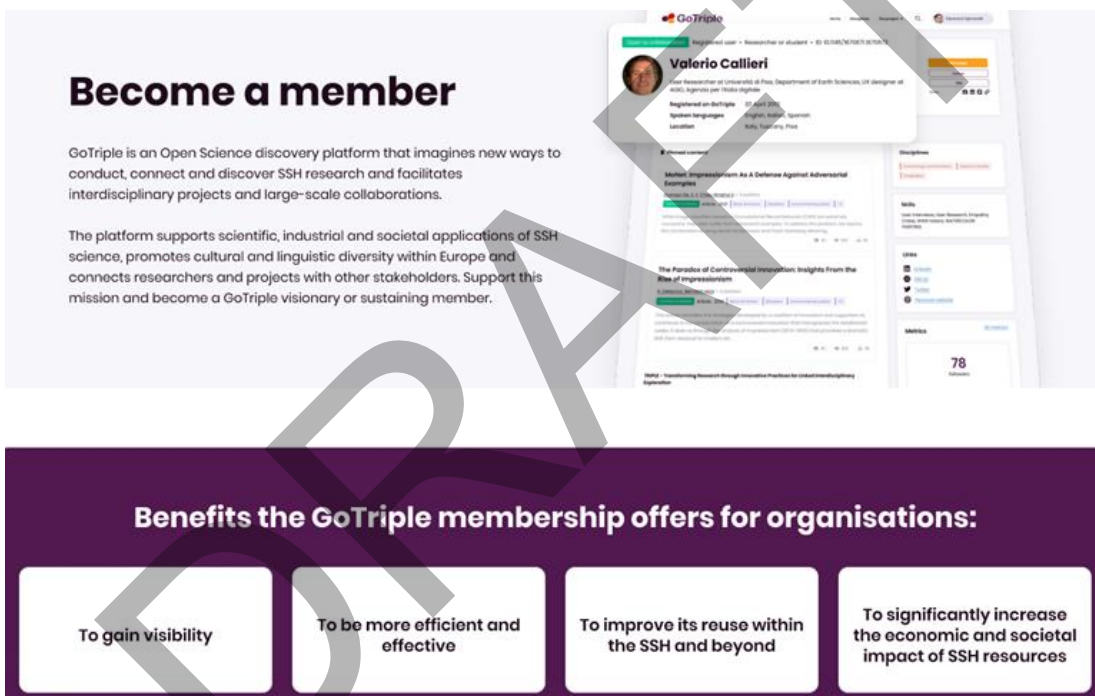
- Lower & middle-income countries: EUR 900 / year
- High-income countries (small organisations): EUR 3,000 / year
- High-income countries (large organisations): EUR 6,000 / year

A 20% discount for consortiums of 5 or more organisations is available.

Subpage designs for Donations and Memberships

The membership subpage is already implemented (see screenshots Figures 16 and 17 and on <https://www.gotriple.eu/membership>) and consists of the following components:

- Content on the GoTriple mission
- Benefits of becoming a member of GoTriple
- Logos of recent GoTriple members
- Motivations of recent GoTriple members
- Membership plans for “visionary” and “sustainable” memberships (what will be offered)
- Get in touch form



Become a member

GoTriple is an Open Science discovery platform that imagines new ways to conduct, connect and discover SSH research and facilitates interdisciplinary projects and large-scale collaborations.

The platform supports scientific, industrial and societal applications of SSH science, promotes cultural and linguistic diversity within Europe and connects researchers and projects with other stakeholders. Support this mission and become a GoTriple visionary or sustaining member.

Benefits the GoTriple membership offers for organisations:

- To gain visibility
- To be more efficient and effective
- To improve its reuse within the SSH and beyond
- To significantly increase the economic and societal impact of SSH resources

FIGURE 16. UPPER PART OF THE MEMBERSHIP SUBPAGE

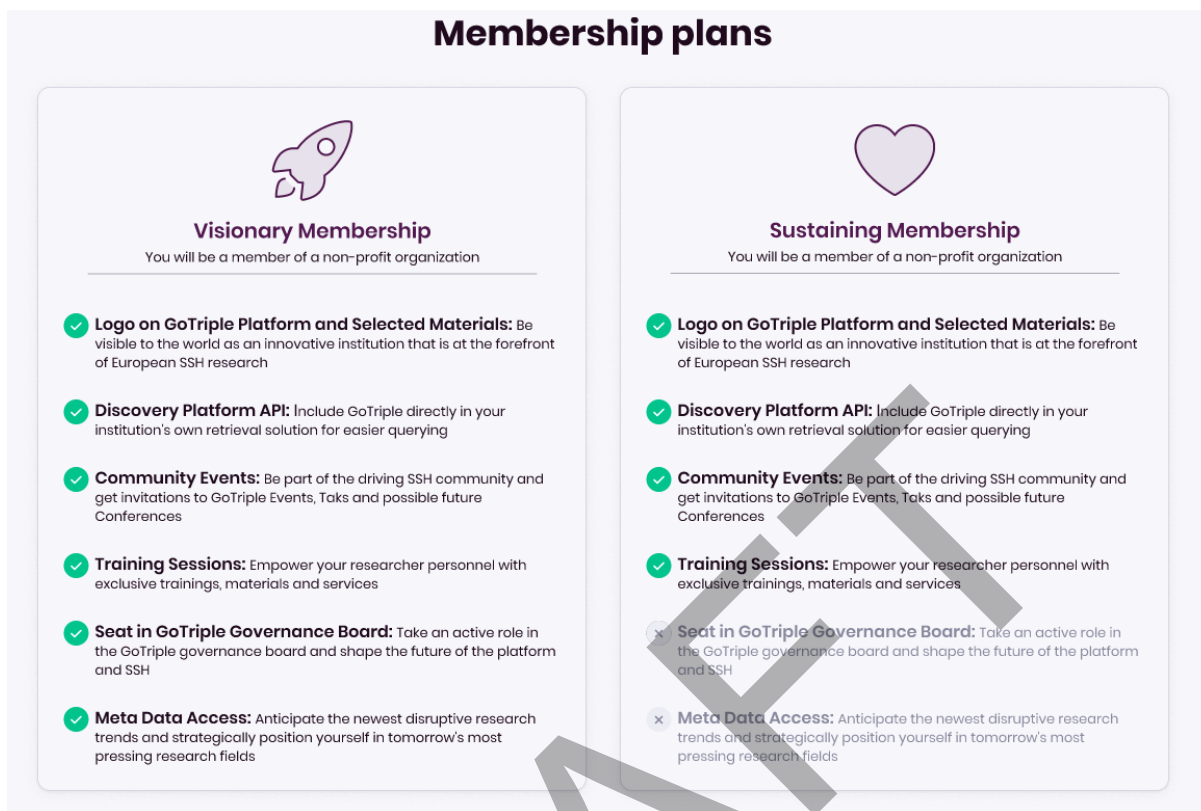


FIGURE 17. OVERVIEW OF MEMBERSHIP PLANS

As an additional revenue stream, we also created a subpage for collecting micro-donations from ordinary users or one-time donations from institutions. The implementation is planned for March 2023 right before the project ends.

The next steps are to integrate the information on donations and memberships on the GoTriple platform. To do so, we designed and created subpages on the platform for these two revenue streams. Planned components for the **donation subpage** are:

- Content on the GoTriple mission
- Main impacts of GoTriple
- Reasons for donating to GoTriple
- Explanations of what will be achieved with the donations
- Donation form (add-in by DonorBox)
- Get in touch form

Donating to GoTriple

GoTriple is an Open Science discovery platform that envisions innovative approaches to conducting, connecting, and discovering SSH research. It supports interdisciplinary projects and substantial collaboration. The platform fosters cultural and linguistic diversity in Europe, supports scientific, industrial, and societal applications of SSH science, and links researchers and projects with various stakeholders. Boost this effort with your donation.



FIGURE 18. PLANNED DONATION SUBPAGE

Other sources of income for cost coverage:

The main contribution for covering the costs to maintain the GoTriple will be committed in-kind contributions from the project partner. The actual partner surveys show an In-Kind contribution commitment from the service component providers between € 44.000 and € 63.000. The potential GoTriple committee members have already committed 17,5 person-month of in-kind contributions. Conversion of these in-kind contributions by using an average person-month rate of 5.550 € leads to an expected income of approx. € 97.100 provided by the GoTriple committee members.

Furthermore, we are applying for suitable EU and national project funds to cover actual costs and secure further developments of the GoTriple platform.

OPERAS (GoTriple will be a managed service of OPERAS) recently became an official project partner of the TRIPLE project and is willing to support the GoTriple platform in terms of in-kind and potentially cash contribution after the project end to help cover the cost for the “enabling service components”.

3.6 Roadmap

We are currently developing a detailed roadmap (schedule of specific activities) for the first year after the completion of the project. To do so, we collected important upcoming activities per governance body of the GoTriple platform (see Section 3.3). Figure 19 shows an overview of the roadmap, which can also be read in more detail under the figure. We have clustered the activities by governance body, namely: **GoTriple Committee (core team)**, **User Engagement Subgroup**, and **Data & Tools Subgroup**.

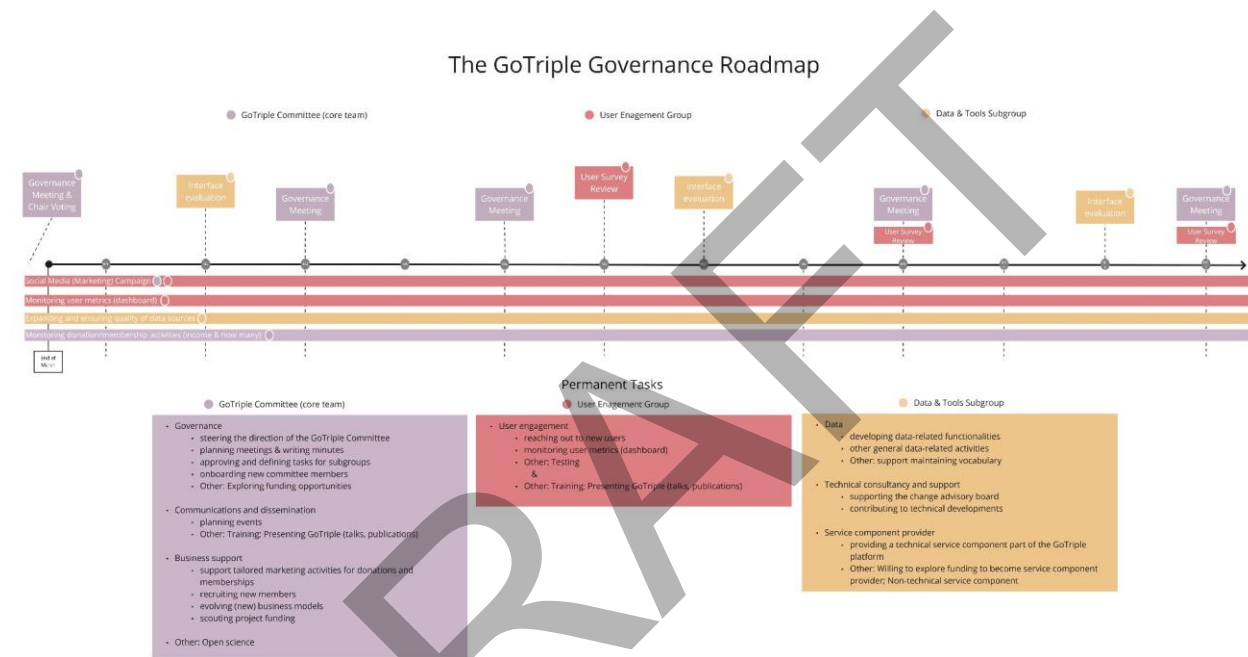


FIGURE 19. GOTRIPLE GOVERNANCE ROADMAP

Important upcoming activities for the first 12 months after the end of the project are outlined below, including a rough time schedule.

GoTriple Committee (core team):

- Governance meeting and chair voting (1x before project end)
- Governance meeting (M3, M5, M9, M12)
- Monitoring donation/membership activities (income & how many) (as often as possible & necessary in the first 12 months)
- Social Media (Marketing) Campaign (as often as possible & necessary in the first 12 months)

User Engagement Subgroup:

- User survey review (M6, M9, M12)
- Social Media (Marketing) Campaign (as often as possible & necessary in the first 12 months)
- Monitoring user metrics (dashboards) (as often as possible & necessary in the first 12 months)

Data & Tools Subgroup:

- Interface evaluation (M2, M7, M11)
- Expanding data sources (as often as possible & necessary in the first 12 months)
- Ensuring quality of data sources (as often as possible & necessary in the first 12 months)

The following is a list of permanent tasks for the GoTriple Committee that cannot be firmly scheduled at this point in time:

Permanent tasks for GoTriple Committee (core team):

- Governance
 - steering the direction of the GoTriple Committee
 - planning meetings & writing minutes
 - approving and defining tasks for subgroups
 - onboarding new committee members
 - Other: Exploring funding opportunities
- Communications and dissemination
 - planning events
 - Other: Training; Presenting GoTriple (talks, publications)
- Business support
 - support tailored marketing activities for donations and memberships
 - recruiting new members
 - evolving (new) business models
 - scouting project funding
- Other: Open science

Permanent tasks for User Engagement Subgroup:

- User engagement
 - reaching out to new users
 - Other: Testing; Training; Presenting GoTriple in talks and publications

Permanent tasks for Data & Tools Subgroup:

- Data
 - developing data-related functionalities
 - other general data-related activities
 - Other: support maintaining vocabulary
- Technical consultancy and support
 - supporting the change advisory board
 - contributing to technical developments
- Service component provider
 - providing a technical service component part of the GoTriple platform
 - Other: Willing to explore funding to become service component provider; Non-technical service component

Roles:

The roles and responsibilities are described in the MoU, ToR, and OLA in the course of the governance model developments (see section 3.3 GoTriple Governance Model). The agreed MoU/ToR is ready for signing and the OLA/UA/service contracts are available as draft.

Milestones:

The following milestones for the first year are currently defined as:

M1: Constitution of the GoTriple Committee (chair/vice chair elected, OPERAS STB representative defined, all needed roles assigned) at the end of M1 (April 2023)

M2: All contracts with service component providers signed → M2

M3: User Survey Results available → M6

M4: Financial sustainability secured (costs are covered by revenues) → M12

4 | EOSC INTEROPERABILITY REQUIREMENTS

Within this chapter, we summarise the projects' contribution to the European Open Science Cloud (EOSC) in the form of a position paper of the TRIPLE consortium by pointing out concrete needs and open questions.

4.1 Introduction and rationale

The present position paper is the result of a joint decision following a workshop on the European Open Science Cloud (EOSC) general interoperability requirements held at the TRIPLE Consortium meeting in Athens on 29 September 2022. The workshop aimed to provide the consortium with the latest updates regarding the EOSC, and to discuss their current understanding and expectations of the EOSC. The open discussion addressed many relevant issues and strongly highlighted the need to write the present position paper given the high-level nature of the shared uncertainties regarding EOSC interoperability.

The purpose of this position paper is thus to emphasise TRIPLE's needs regarding the identification and setting up of the general interoperability requirements of the EOSC. Furthermore, it is expected to reflect the difficulties other EOSC-related projects and actors may face in the current context who wish to further take part in the EOSC and benefit from it.

The TRIPLE project was financed under the [INFRAEOSC-02-2019](#) funding framework "Prototyping new innovative services" for a duration of 42 months (2019-2023). Its main output, the [GoTriple discovery platform](#), provides a single access point that allows the discovery, enrichment, semantic filtering, intelligent linking and reuse of all kinds of research artefacts that are relevant for the wide variety of disciplines under the umbrella domain of Social Sciences and Humanities (SSH). The GoTriple platform, an [OPERAS service](#), is among the European discovery services designed with the specific needs of SSH in mind. It will also serve hand in hand with the [SSH Open Marketplace](#), a resource to search for and find a wealth of research tools, data and training materials (developed during the [SSHOC project](#), and now maintained by the SSH Open Cluster), as an EOSC SSH component. Specifically, GoTriple is designed to link different types of objects (publications, data, projects and researchers' profiles) in a multilingual perspective.

The EOSC enables open research and data workflows in all disciplines and scholarly domains for the whole European scientific community. GoTriple is designed to be integrated into the EOSC and thus to enrich the services within it for the SSH communities across Europe and beyond. By registering GoTriple in the EOSC, the European scientific communities at large can discover and reuse SSH resources across disciplinary and language boundaries. Specifically:

- The GoTriple platform will play a crucial role in breaking down the silos that currently challenge multidisciplinary research both within and across the SSH domain by bringing together digital scholarly objects of all kinds from a wide range of databases, data repositories, publishing and aggregation services.
- Furthermore, GoTriple enables interoperability with the larger Open Science and technical framework of the EOSC, thereby connecting the SSH data landscape with the

European scholarly data commons as well as the larger Open Science frameworks and infrastructures.

Within the TRIPLE project, a dedicated [work package \(WP6\)](#) ensured that the development of the GoTriple platform was strongly aligned with the evolving technical, interoperability, sustainability and governance standards of the EOSC ecosystem. This work package was also responsible for [adding the GoTriple platform to the EOSC Catalogue and Marketplace](#).

A first overview of EOSC interoperability requirements and provisional solutions for TRIPLE to align with them was provided in the [Deliverable 6.1 Report on the General Interoperability Requirements](#) in September 2020. However, the rapidly and continuously evolving EOSC ecosystem continues to pose challenges in identifying long-standing sustainable interoperability requirements understood in the larger sense.

In general, the **TRIPLE consortium recognises that the EOSC has a prominent role and potential in facilitating scientific collaborations and multidisciplinary in Europe with the specific aim to increase impact and quality of science at large**. Moreover, the consortium recognises EOSC's role as a unique promotion channel to increase the visibility of services such as GoTriple.

In the following section, we present the **results** of the open discussion held at the Consortium meeting in September 2022 in the form of a **position paper to be shared publicly where we draw attention to the challenges we identified, in terms of needs and expectations**.

4.2 Challenges and expectations

The challenges and related expectations we identified are listed below with a set of actions that could be taken to address these issues outlined in the last section (TRIPLE Consortium positioning).

1. Understanding the EOSC

A first high level challenge concerns the **definition and understanding of the EOSC itself**. This issue affects primarily, but not only, the interoperability requirements definition.

2. Contributing to the EOSC (providing services to the EOSC)

A second challenge regards the service providers' contribution to the EOSC.

3. Sustainability of EOSC Services

Finally, it is still difficult to understand how the EOSC will provide, support, and facilitate the sustainability of the services. There is a **need from the service perspective to understand what is the added value of being part of EOSC and how EOSC will contribute concretely to the sustainability of the service**.

4.3 TRIPLE consortium positioning

The TRIPLE consortium has decided to stick as much as possible to the evolutions of the EOSC without modifying its own agenda and internal decisions. This section intends to highlight how the consortium conceives the role of the EOSC Association in solving the aforementioned needs and how it has chosen to proceed.

1. Understanding the EOSC

Coordination: The EOSC Association is seen as the voice of the community and is a very powerful instrument in the context of the partnership. We believe that **the EOSC Association should have a stronger role in the global EOSC context** as it would facilitate the global understanding of the EOSC state of the art and evolution.

Communication: The Consortium understands the EOSC is evolving and will continue to do so in the coming years and affirms the need for someone to translate the complexity of EOSC to the community, including the spreading of a shared wording and an explanation of the benefits the EOSC can provide in researchers' real life. **An enhanced flow of information is needed** to address this issue.

2. Contributing to the EOSC/Building an EOSC-related service

Collaboration: The consortium states a **strong need for enhanced cross-collaboration between projects and EOSC Task Forces** which will require much stronger support from the EOSC Association.

The TRIPLE Consortium is committed to identifying EOSC-related projects where TRIPLE partners are involved to maintain knowledge sharing.

The consortium will continue to build the GoTriple platform with the existing knowledge without waiting for future updates (Onboarding of services or Rules of Participation for instance).

3. Sustainability of EOSC services

The TRIPLE Consortium has decided that GoTriple will be part of EOSC-Exchange as it seems to be the most relevant section for the service. The sustainability of the service will be ensured both by organisations willing to contribute and by the EC to support future updates of the platform.

5 | CONCLUSION AND OUTLOOK

Within this final report on TRIPLE's exploitation and sustainability strategy, we summarised our exploitation achievements based on all exploitation activities and related reports that have been created within the project runtime. In section 2, we gave an overview of the five KERs besides the TRIPLE main Key Exploitable Result (KER 1), the GoTriple Discovery Platform. These 5 KERs were briefly described by providing a short description, a maturity classification and information on sustainability. Three KERs (KER 2, 5 and 6) were described in more detail due to the integration in the Horizon Results Booster Service (EC support action to maximise the impact of publicly funded research within the EU) activities.

The main part of the report describes the elaborated business plan for GoTriple to ensure the continuation of the platform after the end of the project. We addressed all relevant aspects of the business plan, starting with the results of a business opportunity self-assessment, followed by the definition of a unique value proposition (UVP) for GoTriple, with market insights into early adopters, market size estimates, market trends and took a look into relevant competitor platforms. After that, we presented the TRIPLE Governance framework in the form of the "GoTriple Committee" and outlined the future integration into OPERAS. In the financial section, we took a close look into cost estimations and expected revenues. The figures showed a financial gap which needs to be covered with income from membership fees, donations and additional funding. In the last part of the business plan, we gave an outlook on the activities, roles and milestones for the first year after the end of the project.

Finally, we presented a summary of the project's contribution to the European Open Science Cloud (EOSC) in the form of a position paper of the TRIPLE consortium by pointing out concrete needs and open questions.