PILLAR ROBOTS

Purposeful Intrinsically motivated
Lifelong Learning Autonomous Robots

D11.1
Dissemination and Exploitation Plan

This project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement no. 101070381.

Change Control

1.1. Document Properties

Name deliverable	**Dissemination and Exploitation Plan**
Deliverable No.	**11.1**
Work Package title	**Dissemination, communication and exploitation**
Author/s	**DI FAVA, Alessandro (PAL), BOTIFOLL Lluís (UDC); DI MUZIO, Maria Luisa (A2L).**
Contributor/s	**MCKINLAY, Lorna (PAL); TERRERI, Sarah (PAL); ROSA, Marco (PAL)**
Reviewer/	**DURO, Richard (UDC)**
Editor/s	**DI MUZIO, Maria Luisa (A2L)**
Dissemination Level	**Public**

1.2. Revision History

Version	Date	Change	Modified by
0.1	08/02/2023	First draft - Communication Section	A. Di Fava
0.2	07/03/2023	Second draft - Exploitation Section	Ll. Botifoll
0.3	19/03/2023	Updated draft with contribution of all partners	M.L. Di Muzio
0.4	21/03/2023	Updated draft after Management Committee meeting	A. Di Fava
0.5	28/03/2023	Final full draft submitted for internal review	Ll. Botifoll
0.6	30/03/2023	External version approved	R. Duro
1.0	31-03-2023	Final submission to EC	R. Duro

2. Contents

.

3. Background

PILLAR-Robots is a four-year EU-funded project that aims to establish the foundations for a new generation of robotics applications in which robots with a higher level of autonomy determine their own goals and determine their own strategies, creatively building on the experience acquired during their lifetime, to provide for the desires of their human designers/users.

The Project takes results from previous EU projects at TRL2 and 3, in order to integrate them in a novel Purposeful Lifelong Open-ended Learning Cognitive Architecture that is able to provide robots with Lifelong Open-ended Autonomy. It aims first to validate this architecture in laboratory and to develop prototype conditions considering three real application scenarios to reach TRL4, and then validate in real use-cases with the aim of achieving TRL5 and creating a first series of three demonstrators that could take the technology to TRL6 - 7.

To drive the developments of PILLAR-Robots technologies, three application fields have been selected that are highly representative of attractive future markets for robotic technologies and have an high level of domain variability: Agrifood application, focusing on post - harvesting agri-food activities of picking, sorting, and packaging of fruits and vegetables; Edutainment, focusing on robot autonomous adaptability to maximise learners' attention and motivation; Industry/retail, focusing on robots used in industrial setups to make them more adaptive and easier to deploy by non-expert end-users.

PILLAR-Robots will also perform a complete evaluation of the possibilities and impacts of purposeful lifelong open - ended autonomy in these application realms from an operational, a market and a societal perspective, including the ethical and regulatory aspects involved in such high levels of autonomy.

To define an Exploitation Plan is among a series of the further specific actions that have been planned for fostering adoption and sustainability of the PILLAR - Robots framework across key stakeholders and maximise its impact: 1) Build an IMOL/PIMOL community; 2) Knowledge exchange with the 'AI, Data and Robotics European Partnership', other PPPs and platforms; 3) Business agreements with industrial players, SMEs, entrepreneurs, start-ups, in order to ground the field for further TRL advancements; 4) Designing and delivering specific training program to the industrial community and other stakeholders.

4. Executive summary

This document is a deliverable of the PILLAR-Robots project, funded by the European Union's Horizon Europe Research and Innovation programme under grant agreement No 101070381. The aim of this document is to provide the first version of the Dissemination and Exploitation Plan, produced at M6 as part of Work Package 10 on dissemination and exploitation.

The objective of the Dissemination and Exploitation Plan is to provide the PILLAR-Robots partners with guidelines on the different communication and dissemination activities that are planned and their schedule, who are the partners responsible for each activity, what tools and channels are available for dissemination and what are the actions planned to achieve the broad transferability of the project outcomes for the further TRL6 advancement of the PIMOL-based technologies.

The document is drafted by A2L (Task leader) and PAL (WP11 leader), with inputs from all partners. To achieve a greater impact, all members of the consortium have the responsibility to participate in the communication activities and dissemination and exploitation of the project results in line with the Grant Agreement (Article 29).

The Dissemination and Exploitation Plan is an evolving document which will be updated throughout the duration of the project. In the deliverable *D 11.2 Dissemination and Exploitation Impact Report* (M48), results of the Dissemination and Exploitation implemented activity will be presented. The implementation of the plan will be presented also in the periodic reports.

5. List of Acronyms and Abbreviations

Abbreviation	Explanation
AI	Artificial Intelligence
ARC	Athena Research Centre
A2L	AI2life Srl
CA	Consortium Agreement
CC	Creative Commons
CITIC	Centro de Investigación en Tecnologías de la Información y las Comunicaciones
CNR	Consiglio Nazionale delle Ricerche
EC	European Commission
ERF	European Robotics Forum
EU	European Union
FAIR	Findable Accessible Interoperable Reusable
GA	Grant Agreement
GDPR	General Data Protection Regulation
HE MGA	Horizon Europe Model Grant Agreement
ICRA	International Conference on Robotics and Automation
IEEE	Institute of Electrical and Electronic Engineers
IPR	Intellectual Property Rights
IROS	IEEE/RSJ International Conference on Intelligent Robots and Systems
KER	Key Exploitable Results
KPI	Key Performance Indicator
PAL	PAL Robotics SL
PILLAR	Purposeful Intrinsically motivated Lifelong Learning Autonomous Robots
PIMOL	Purposeful Intrinsically Motivated Open-ended Learning
PPP	Public-Private Partnership
ROL	Results Ownership List

RSJ	Robotics Society of Japan
SMA	Social Media Account
SME	Small Medium Enterprise
SU	Sorbonne Université
SW	Software
TRL	Technology Readiness Level
UDC	Universidade da Coruña
URL	Uniform Resource Locator
WP	Work Package

6. List of Figures

7. List of Tables

8. Introduction

8.1 Scope and objective of the deliverable

This deliverable presents the communication, dissemination and exploitation plan of the PILLAR-Robots project. It is based on the preliminary plan drafted on the project proposal, adding relevant material on the dissemination and communication strategy, and detailing the exploitation activities.

More specifically, in terms of dissemination and communication, this deliverable will:

- Propose a communication and dissemination policy, and define the objectives of the actions; Identify the target audience for each objective or main result;
- List the communication and dissemination channels to be used for project promotion;
- Present a schedule of the communication and dissemination actions throughout the project duration;
- Define and monitor a series of Key Performance Indicators (KPIs) to assess the success of the implementation (e.g. number of publications, size of the audience reached, number of visits to the website, feedback received from audiences at conferences, etc.) and update the plan according to the evolution of the project.

In terms of the exploitation of the results, the Dissemination and Exploitation Plan will:

- Outline the methodology that will be used to identify PILLAR-Robot's exploitable outputs (or Key Exploitable Results - KER);
- Set a strategy to identify relevant (target/end) users, suitable transfer activities, and IP management;
- Identify framework conditions and other factors influencing exploitation of the project's results;
- Combine the overall project expected impact and the individual exploitation perspective of each partner.

Results of the Dissemination and Exploitation implemented activities will be presented in deliverable *D11.2 Dissemination and Exploitation Impact Report* (M48) with reference to the activities carried out in *T11.2 Production of communication materials*; *T11.3 Project results presentations*; *T11.4 PIMOL Community Building, T11.5 Liaison activities*, *T11.6 Stakeholder engagement* and *T11.7 Delivery of specific training*. The final deliverable will analyse impact creation of all community awareness and engagement.

8.2 Links with other project activities

This deliverable is part of Work Package 11 on Communication, Dissemination and Exploitation, whose principal objective is to support the alignment of PILLAR–Robots to industrial partners and foster their adoption.

WP11 is a transversal work package integrating the results of all the WPs for the dissemination, communication and exploitation process: it will ensure that the outputs arising from all the activities of the project are visible to the different targeted audiences (industrial partners, European platforms, society).

In terms of exploitation links, those with some WPs will be stronger than others. In particular, we expect to have synergies with the following WPs and related deliverables:

WP6 - validation in laboratory, that provides results and instruments to move to the validation phase in industry relevant scenarios:

- D6.1 Guidelines for testing cognitive-based autonomous robots (M36). Methodology of the performance, functional and online test processes;
- D6.2. Report on the testing process and definition of modifications and improvements.

WP7 - Purposeful open-ended learning systems for agri-food environments: fruits and vegetables post-harvesting processes applications:

- D7.1 Agri-food post - harvesting KPIs (M36): Report on KPIs for validation of the robot picking, sorting and packaging skills of natural fruits and vegetables;
- D7.2 Post-harvesting SME environment (M36): Report illustrating the SME simplified post-harvesting environment;
- D7.3 Post-harvesting SME software / hardware adaptation (M36): Report illustrating the software / hardware adaptation to face the simplified SME environment;
- D7.4 Post-harvesting SME robot validation (M42): Report illustrating the results of the validation of the PILLAR technology in post-harvesting activities carried out in a SME factory floor.

WP8 - Purposeful open ended learning systems for social environments: Edutainment Application:

- D8.1 Report on the specific KPIs defined for this WP (M18);
- D8.2: Report on the specifications of the validation scenarios and their implementation (M24);
- D8.3: Report on the hardware/software adaptations to Robobo and Tiago robots to cope with the Edutainment requirements (M24);
- D8.4: Report on the validation results, and improvements (M42).

WP9 - Industrial Application:

- D9.1 Report on the KPIs used for this use case (M18): Descriptions of the KPIs used to evaluate the success, together with the target values that are aimed at;
- D9.2 Report on the scenarios (M24): Description of the scenarios used for the validation;
- D9.3 Report on the hardware and software adaptations (M30): Adaptations performed, from hardware to software, including the integration of the architecture and the interface;
- D9.4 Report on the validation experiments (M42): Experimental results obtained with the KPI values attained.

WP10 - Socio-economic, ethics and regulation impact of open-ended learning systems:

- D9.1 Socio-economic Impact Assessment (M36): Report based on indicators/variables to measure the socio-economic impact of PILLAR-Robots products;
- D9.2 Ethical Impact Assessment (M36): Analysis of the ethical implications of the results;

- D9.3 Legal Impact Assessment (M36) : Legal requirements for the technology and products are defined in order to help different early adopters to identify and assure their legal compliance;
- D9.4 Socio-economic, Ethical and Legal Recommendations and Guidelines (M48): Report on practical conclusions addressed to the AI, data and robotics ecosystem at large and policy makers.

WP12 – Management:

- D12.4 IPR Agreements (M45): Collection of the collaborative and business agreements as well as the internal agreement, complementary to the CA, paving the way to further agreements with external parties.

9. Communication and Dissemination Plan

9.1 Policy and rules following the Grant Agreement

9.1.1. Article 17 of Annex V of the Grant Agreement

The project Grant Agreement explains the policy and rules that will drive the dissemination and communication activities in Article 17 of Annex V.

Annex V includes the obligation to disseminate the results by disclosing them to the public by appropriate means. This does not change the obligation to protect results (Article 16), the confidentiality and security obligations (Article 13), the ethics and values obligations (Article 14) and the obligations to protect personal data (Article 15).

Article 17 explains the policy and rules of the communication activities. The beneficiaries must promote the action and its results, by providing targeted information to multiple audiences (including the media and the public) in a strategic and effective manner. Before engaging in a communication activity expected to have a major media impact, the beneficiaries must inform the granting authority.

The Management Committee[1] decided to specify the scope of Art. 17 in three aspects:

1. Depending on the type/form of communication and dissemination products, different application conditions are distinguished:

   A. Scientific-technical publications

   a) Freedom to disseminate the results of the research without any consortium-based restriction, when these results have been produced by the same partner.

   b) When the results of the research have been produced jointly by several partners, what has been established in advance by the partners involved will be followed. In the event that nothing has been established, the notification and a 10-day advance notice rule will apply.

[1] Meeting held the 21st March 2023

c) When the partner that is disseminating has not participated directly in the production of the results of the research, the notification and a 10-day advance notice rule will apply.

Members of the Management Committee are those expected to be notified and react.

B. The rest of communication and dissemination products:

The project description points different types of communication and dissemination products to be employed:

a) Updates project website
b) newsletters (quarterly);
d) leaflets and brochures;
e) press releases;
f) video and other graphical material; and
g) online media (accounts in Twitter and LinkedIn).

Only newsletters, leaflets, brochures and videos need the notification and the information period of 10 days. The rest of products, even other forms of dissemination that are not foreseen in the above mentioned list, can be published/updated without any duty of prior notification. However, its rectification can be requested in the following 10 days after publication by a concerned partner. Dissemination Contacts are those expected to be knowledgeable/notified and react.

2. Form of approval. When the notification according to a 10-day advance notice rule is required, we will use the "silent approval" mechanism. This means that if a partner approves the dissemination proposed, then the partner does not need to respond. Only if the partner does not approve the dissemination content, then it is requested to react.

3. Procedure of reaction. The partner concerned should send an email to the person who notified the dissemination content (with copy to Richard Duro, Lluís Botifoll and pillar-robots@pillar-robots.eu) explaining why he/she is objecting. A decision about this point will then be adopted at the next ordinary meeting of the competent body (Management Committee or Dissemination Contacts Committee). If the partner concerned considers that the breach is urgent, an extraordinary meeting of the body may be called.

9.1.2. Open access to publications

Each beneficiary must ensure open access (free of charge online access for any user) to all peer-reviewed scientific publications relating to its results. In particular, it must: a) as soon as possible and at the latest on publication, deposit a machine-readable electronic copy of the published version or final peer-reviewed manuscript accepted for publication in a repository for scientific publications.

Moreover, the beneficiary must aim to deposit at the same time the research data needed to validate the results presented in the deposited scientific publications. Ensure open access to the deposited publication — via the repository — at the latest: (i) on publication, if an electronic version is available for free via the publisher, or (ii) within six months of publication (twelve months for publications in the social sciences and humanities) in any other case. Ensure open access — via the repository — to the bibliographic metadata that identify the deposited publication. The bibliographic metadata must be under a Creative Common Public Domain Dedication (CC 0) or equivalent, in line with the FAIR principles (in particular machine-actionable) and provide information at least about the following: publication (author(s), title, date of publication, publication venue); Horizon Europe or Euratom funding; grant project name, acronym and number; licensing terms; persistent identifiers for the publication, the authors involved in the action and, if possible, for their organisations and the grant. Where applicable, the metadata must include persistent identifiers for any research output or any other tools and instruments needed to validate the conclusions of the publication.

The project Data Management Plan (Deliverable 11.2, Month 6) describes the open access to research data.

9.1.3. Use of communication & dissemination products by the EC

The granting authority may use, for its communication and publicizing activities, information relating to the action, documents notably summaries for publication and public deliverables as well as any other material, such as pictures or audio-visual material received from any beneficiary (including in electronic form). This does not change the confidentiality and the security obligations in Article 13 and the obligation to protect results of Article 16, all of which still apply. If the granting authority's use of these materials, documents or information would risk compromising legitimate interests, the beneficiary concerned may request the granting authority not to use it (see Article 16.3). The right to use a beneficiary's materials, documents and information includes: (a) use for its own purposes (in particular, making them available to persons working for the granting authority or any other EU service (including institutions, bodies, offices, agencies, etc.) or EU Member State institution or body; copying or reproducing them in whole or in part, in unlimited numbers; and communication through press information services); (b) distribution to the public (in particular, publication as hard copies and in electronic or digital format, publication on the internet, as a downloadable or non-downloadable file, broadcasting by any channel, public display or presentation, communicating through press information services, or inclusion in widely accessible databases or indexes); (c) editing or redrafting (including shortening, summarising, inserting other elements (e.g. meta-data, legends, other graphic, visual, audio or text elements), extracting parts (e.g. audio or video files), dividing into parts, use in a compilation); (d) translation; (e) storage in paper, electronic or other form; (f) archiving, in line with applicable document-management rules; (g) the right to authorise third parties to act on its behalf or sub-license to third parties the modes of use set out in Points (b), (c), (d) and (f), if needed for the information, communication and publicity activity of the granting authority and (h) processing, analysing, aggregating the materials, documents and information received and producing derivative works.

9.2 Communication and social media guidelines

This subsection provides partners with key initial guidelines regarding communication and dissemination activities and introduces the main dissemination monitoring tools that partners are kindly asked to use throughout the project.

9.2.1 Main guidelines

1. Actively contribute to the dissemination of project results and key messages.

2. If possible, follow the style guidelines below concerning writing style, formatting options, numbers and currency, abbreviations and acronyms, captions, electronic cross-references, naming conventions, citation style. In general:
   a. Use Arial as the font for documents generated with MS Office programmes and for web applications;
   b. Always use the same style for references, both for in-text citations and in the bibliography/footnotes;
   c. Be consistent in using currency references (for example, use EUR instead of € throughout);
   d. Be consistent in the numbering format; comply with the British usage (e.g. 75,000, or 239.23), unless otherwise indicated;
   e. If you abbreviate a word, use the correct abbreviation (for instance, “m” for million, not “mn”);
   f. Make sure to introduce each abbreviation and acronym the first time you use it and create an abbreviation/acronym list at the beginning of the document;
   g. Review the language and the coherence of the structure of the text you drafted.

3. For events, PAL Robotics will provide templates for leaflets and brochures for use throughout the project.

4. In terms of dissemination and communication activities that partners plan to carry out, if they are:
   a. Social media messages → Please tag PILLAR-Robots’ social media profiles so that appropriate resharing can be conducted;
   b. Relevant materials such as videos, blog posts, articles on websites or magazines, case studies and press releases → Always inform PAL so that we will be able to publicise it through the PILLAR-Robots communication channels;
   c. Events (both in terms of organisation and participation) → Always inform PAL Robotics in order to enable PAL to communicate with them in a timely and appropriate manner.

5. In terms of reporting, if the communication and dissemination activities consist of:
   a. Social media posts → Report them in the Social Media (SM) report template;
   b. Relevant materials like videos, blog posts, articles on websites or in magazines, case studies, and press releases → Report them in detail through the News Reporting template that PAL will provide.

6. Always report on meetings and events each partner organised and/or participated in.

7. In compliance with GDPR requirements, always gather consent, when collecting, using and storing personal data during your events/conferences.

.

8. Always be respectful and professional in your online communications. Avoid using language or tone that could be perceived as aggressive or offensive.

9. Keep your communications on topic and relevant to the research project. Avoid sharing personal opinions or unrelated information.

10. Protect the confidentiality and integrity of the research project. Do not share any sensitive or proprietary information online.

11. Be accurate and transparent in your communications. Avoid making statements or claims that cannot be backed up with evidence.

12. Use appropriate language and tone for the audience and platform. For example, more formal language may be appropriate for an official project website, while a slightly more casual tone may be acceptable on social media.

13. Monitor and respond to feedback and comments in a timely and appropriate manner. Address any concerns or questions raised by stakeholders or the public.

14. Be aware of the potential reach and impact of your online communications. Remember that anything you post online may be seen by a wide audience and can have lasting effects.

15. Use online communication as an opportunity to engage with stakeholders and the public and promote the research project and its goals.

9.2.2 Guidelines for enhancing PILLAR-Robots online presence

This subsection provides partners with some key initial guidelines regarding partners' expected contribution and use of the PILLAR-Robots website and Social Media Accounts (SMAs).

Website

1. Actively contribute to the news section of the website by sending PAL each news item to be published. For all PILLAR-Robots activities, it is important to collect good quality photos, and also videos if possible, and to share them with PAL for publication on the PILLAR-Robots website and on social media. In terms of guidelines for images, please note that:

    a. The PILLAR brand should be visible in photos and videos if possible;
    b. Generic images should be royalty-free and should be accompanied by a description of the purpose in relation to the activity. For relevant items such as videos and images in blog posts, case studies, and press releases, images are to be reported in the News Report as in the template provided;
    c. Regarding the images to be published on the website, they should be of good quality, specific formats (JPG, JPEG, PNG, WEBP) and, if possible, also optimised so as to

reduce their digital weight and avoid slowing down the website.

2. Inform PAL regarding every event each partner organises or take part in for the purposes of the project (e.g., conferences, workshops, seminars etc.) and provide PAL Robotics with a link to the event if available, so that it can be posted online in the dedicated section of the website.

3. Inform PAL about news articles (e.g., newspaper article, blogpost, TV interview etc.) mentioning partner activities for the PILLAR-Robots project and providing PAL with a link/scan for giving it more visibility online.

Social media accounts

1. Follow all PILLAR-Robots social media profiles (Twitter, LinkedIn and Facebook) and make use of them by monitoring announcements and interacting with the content published on social media such as by replying, commenting, and resharing.

2. Do make your own posts to and tag the project in order to foster discussion and help keep the social media pages as active as possible.

3. Promote PILLAR-Robots' social media within your network of contacts and on your website.

4. Signal to PILLAR-Robots relevant profiles that we could follow (on Facebook, Twitter, LinkedIn). Select among the following available project and add them to your posts when deemed appropriate: #PILLARRobots #PILLAR, #HorizonEurope, #robots, #robotics and #innovation #EUproject

5. Tag PILLAR-Robots project social media accounts, if you plan on receiving a reaction on posts made on your corporate social media accounts.

6. When considering making a short video, be sure that you are enhancing the project identity by adding the project name, the EU flag and the funding statement with the disclaimer caption "Funded by the European Union". Views and opinions expressed are nonetheless those pertaining to the author only and do not necessarily reflect those of the European Union, as the granting authority (the EU) cannot be held responsible for any views expressed.

7. Use online communication as an opportunity to engage with stakeholders and the public and promote the research project and its goals.

The above-mentioned points will be updated, when necessary, to be in line with the project's requirements and progress.

If the partner has a dedicated marketing/communication department, please inform them about the project and the guidelines shared.

.

9.3 Management of activities

The management of activities will be led by PAL. All the partners will participate in the full management of the communication and dissemination activities. A good example will be the joint coordination of workshops in top conferences such as ERF, ICRA or IROS; the shared participation in fairs and events and the combination of scientific, industry and end users' efforts in the development of seminars in the robotics and in the use cases related communities.

The project activities, news and results will be communicated on the website and in the social media channels – Twitter, LinkedIn and Facebook. All the project publications and public deliverables will be accessible on the website. The dissemination mechanisms will include branding, flyers and brochures. The project partners will engage in communication with local, regional and national mass media with the goal of reaching the widest possible public. PAL has a strong communication team. PAL will provide regular social media coverage (PILLAR-Robots official posts across social media channels twice per month starting January) and blog posts.

PAL Robotics will create a leaflet/brochure at M6, as indicated in the activities overview in the subsection 8.4, to be available to the whole consortium for project dissemination, very useful especially during events attendance. We plan to create a two-side leaflet, with catchy graphics, that will contain the description of the project, the use cases description, the partners logos and the QR codes of the social media profiles and website of the project.

With respect to the participation in Fairs / Events / Open days, each partner will create a short press note/release describing the event or specific news. PAL, with the participation of all the partners, will create the press releases and the regular news articles for press media. Each partner will contact their academic, sector, local, regional and national press. PAL will contact the European and international press. Radio and TV interviews and participation will be managed by each partner, in addition to identification of the target groups as well as the media and means to be used.

A final video with the project developments will be recorded by the end of the project to increase the visibility and dissemination of the PILLAR-Robots project.

The following robotics and AI events and conferences are examples of events recommended for PILLAR-Robots' dissemination:

- European Robotics Forum (14-16 March 2023)
  Annual meeting of the European robotics community (including a proposed dedicated workshop).
- Advanced Factories (18-20 April 2023)
  Congress and exposition on industrial automation.
- Hannover Messe (17-21 April 2023)
  Annual industrial technology trade fair in Hannover, Germany.
- Food4Future (16-18 May 2023)
  Annual trade fair on food tech in Bilbao, Spain.
- ICRA (29 May-2 June 2023)
  International Conference on Robotics and Automation.

- Automática (27-30 June 2023)
  Exhibition for Smart Automation and Robotics including industrial & service robotics.
- IROS (1-5 October 2023)
  The IEEE/RSJ International Conference on Intelligent Robots and Systems.

As described in the "PILLAR-Robots project Grant Agreement", the project communication and dissemination should be done structured in targeted groups. We will address our activities to the scientific community – Coordination and participation in international scientific conferences and workshops -, the industry – international fairs and industrial conferences -; end users – use cases related associations -; and last but not least, the general public – open days, open laboratories, science festivals. We will collect a stakeholders database useful for community engagement.

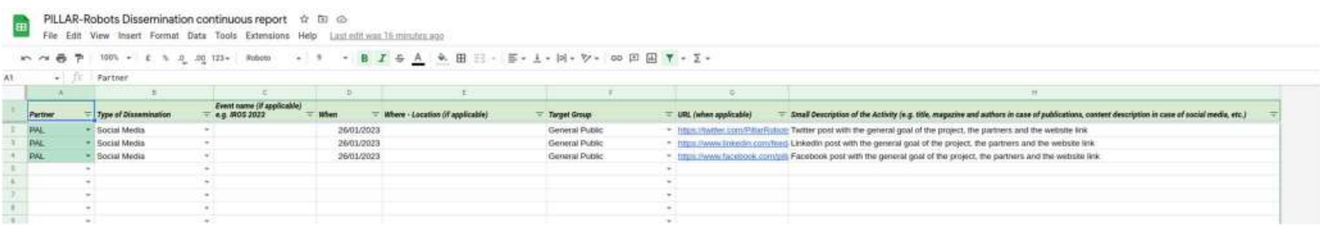
The academic partners will boost the publications in scientific journals, for example – IEEE Transactions on Robotics, IEEE Transactions on Pattern Analysis and Machine Intelligence, Journal of Autonomous Robots, Journal of Field Robotics, Robotics and Autonomous Systems, International Journal of Computer Vision, Computer Vision and Image Understanding-; and the participation in international conferences, for example – ICRA, IROS, Robotics Science and Systems, International Conferences on Pattern Recognition and Computer Vision. The consortium will participate in relevant conferences and workshops.

The industrial partners – PAL and A2L - will participate in industrial fairs and will organise presentations and workshops throughout the project.

A special mention will be the liaison and synergies with the AI, Data and Robotics European Partnership and other relevant platforms and PPPs and established collaboration agreements.

In order to coordinate all the information about communication and dissemination activities to be carried out during the following years, PAL prepared a tentative program that is summarized in the next section. Moreover, PAL collected dissemination contacts, company descriptions and logos from each partner and has prepared a template, the dissemination continuous report, to be circulated among the partners every six months to report on dissemination activities.

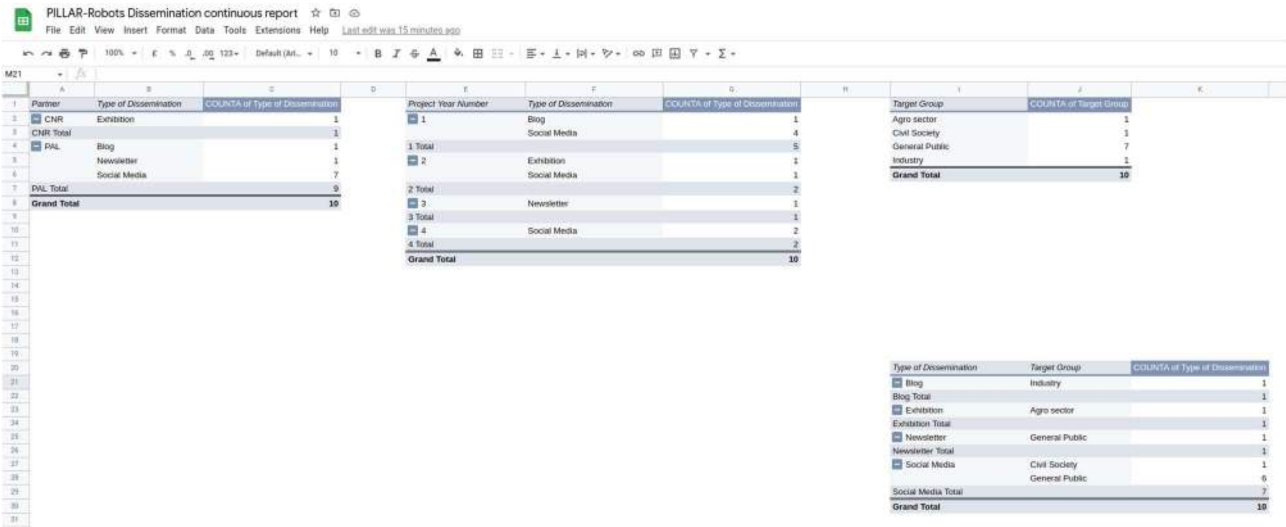
The aim of the dissemination continuous report is to keep track of the dissemination activities throughout the project duration and to collect them in a spreadsheet format so to allow easier manipulation of data to extract useful information such as the ones shown in the pivot tables of the following images (the data are filled as an example).


PILLAR-Robots Dissemination continuous report

Partner	Type of Dissemination	Event name (if applicable) e.g. IROS 2023	When	Where - Location (if applicable)	Target Group	URL (when applicable)	Small Description of the Activity (e.g. title, magazine and authors in case of publications, content description in case of social media, etc.)
PAL	Social Media		26/01/2023		General Public	https://twitter.com/PillarRobots	Twitter post with the general goal of the project, the partners and the website link
PAL	Social Media		26/01/2023		General Public	https://www.linkedin.com/feed	LinkedIn post with the general goal of the project, the partners and the website link
PAL	Social Media		26/01/2023		General Public	https://www.facebook.com/pil	Facebook post with the general goal of the project, the partners and the website link

Figure 1 - Dissemination continuous report table

.



PILLAR-Robots Dissemination continuous report

File Edit View Insert Format Data Tools Extensions Help Last edit was 15 minutes ago

Partner	Type of Dissemination	COUNTA of Type of Dissemination
CNR	Exhibition	1
CNR Total		1
PAL	Blog	1
	Newsletter	1
	Social Media	7
PAL Total		9
Grand Total		**10**

Project Year Number	Type of Dissemination	COUNTA of Type of Dissemination
1	Blog	1
	Social Media	4
1 Total		5
2	Exhibition	1
	Social Media	1
2 Total		2
3	Newsletter	1
3 Total		1
4	Social Media	2
4 Total		2
Grand Total		**10**

Target Group	COUNTA of Target Group
Agro sector	1
Civil Society	1
General Public	7
Industry	1
Grand Total	**10**

Type of Dissemination	Target Group	COUNTA of Type of Dissemination
Blog	Industry	1
Blog Total		1
Exhibition	Agro sector	1
Exhibition Total		1
Newsletter	General Public	1
Newsletter Total		1
Social Media	Civil Society	1
	General Public	6
Social Media Total		7
Grand Total		**10**

Figure 2 - Dissemination continuous report table data

Only the sheet corresponding to the related tracking period will be unlocked to avoid unexpected changes in the previously collected data.

.

9.4 Communication activities overview

Figure 3 - Communication activity overview

.

9.5 Newsletter and social media channels

The project will maintain a social media presence across three main channels: Twitter, LinkedIn and Facebook. Here we share the PILLAR-Robots social media channels for the project:

- Twitter: @PillarRobots
- Facebook: PILLAR-Robots
- LinkedIn: PILLAR-Robots

Partners are requested to tag the project, and where relevant project partners, in all project-related news and developments across social media. Following the previously indicated Communication guidelines (subsection 8.2) that partners are kindly asked to use throughout the project to facilitate and homogenize the dissemination activities.

The project social media strategy is to have PILLAR-Robots official posts across social media channels twice per month starting from January.

The project will release a newsletter published on the project website and social media channels. The aim of the newsletter is to share news of developments and dissemination in the project. Examples of news to be shared in the newsletter:

- Project pilots news;
- Event attendance;
- Research papers;
- Achievement of project milestones.

Partners will be requested to provide content for the project newsletter following the plan illustrated in the subsection 8.4.

9.6 Logo and branding

For communication purposes the partner PAL has executed a branding study to look for the brand images and colours that better represent the PILLAR-Robots ideas and that establish a clear visible brand identity for the project.

PAL presented to the project partners three possible options for the PILLAR-Robots logo and branding, as reported in the following subsections. Each of the three options present a logo proposition, the related website template and the presentation template (see Annex 1 - Logo and branding proposals)

The final choice of the consortium was Option A. Annex 2 presents the brand book and the whole study that was done for Option A showing the reasoning behind this option, some logo variations and templates. In particular, the Mood board shows the thinking behind the choice of the brand colours related to this option. Style Mood boards are physical or digital collages that arrange images, materials, text, and other design elements into a format that's representative of the final design's style. It helped to define the project colours which are often associated with the neuronal connections in Artificial Intelligence, and to technology, energy and electric connections and lights.

9.7 Website

The website will ensure that interested stakeholders will be informed of the latest achievements of the PILLAR-Robots project. The website was launched at M4, in January 2023, as reported in the plan in the subsection 8.4, using the following domain: http://www.pillar-robots.eu

The website design follows the logos and branding style chosen by the consortium as indicated in the previous subsection 8.6. In the following picture an overview of the website's simulated design is shown.

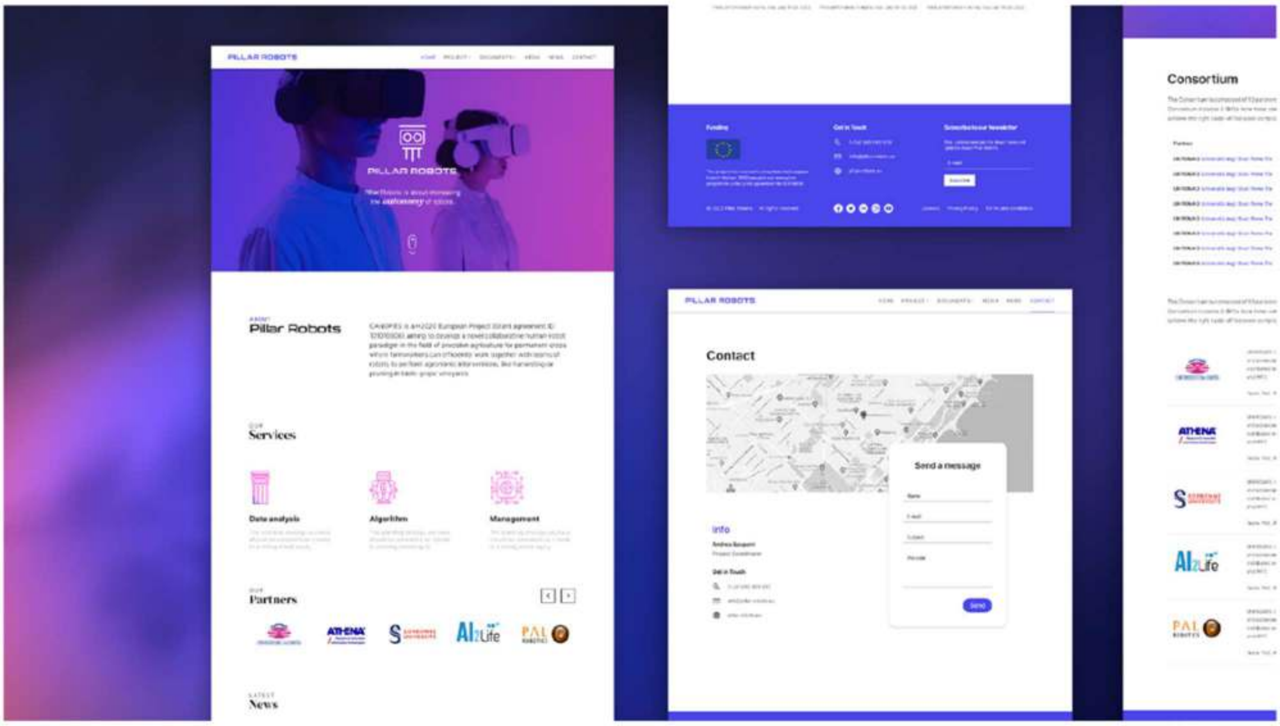


Figure 4 - Website

Partners are requested to provide a project news story for the website. One partner every two months is requested to send a news story starting from May 2023 (M8) as indicated in the plan illustrated in the subsection 8.4. A preliminary plan for the requested contribution for the next two years is reported in the following table:

Organisation	Month
Universidade da Coruña	M8 (May 2023)
AI2Life	M10 (July 2023)
Consiglio Nazionale delle Ricerche	M12 (September 2023)
Sorbonne Université	M14 (November 2023)
ATHENA	M16 (January 2024)
PAL Robotics	M18 (March 2024)
Universidade Da Coruña	M20 (May 2024)
AI2Life	M22 (July 2024)
Consiglio Nazionale delle Ricerche	M24 (September 2024)

Table 1 - First 2 year plan for news story

9.8 Measurements and KPIs of the dissemination and communication activities

To evaluate the success of the dissemination and communication action, some key measurement indicators have been defined. These indicators can be seen in the following table.

Measure	Driver	Action	KPI
Monthly web content	Regular information updates of project activities and main results	Identify and publish new content on a regular basis	Number of visits/year on website
Newsletters	Different stakeholders are properly informed in a timely manner	Produce / circulate quarterly newsletter based on targets	From M7, 14 issues (quarterly)
Promotional material, including	Specific audiences receive tailored and	Design and produce focused material (for	5 materials (updated yearly)

.

video content	timely messages	stakeholders' events)	
Press releases targeting major stakeholders	Raise interest on media (paper & audiovisual) searching the multiplier effect)	Produce press releases targeting different media channels and audiences	≥ 6 units
Press releases		Lightweight blog for non specialized channels	≥ 2 press clippings
Visibility of PILLAR-Robot in channels used by different stakeholders categories	Ensure back-links / branding recognition to website through synergies and social media; general brand recognition is demonstrated	Liaise and engage with initiatives with journalists and LinkedIn groups; Produce a survey for brand recognition	≥ 15 back-links across major stakeholders ≥ 25 responders identified
Social media content: Twitter	Grow community; regular stakeholder engagement provides good insights into interests / concerns	Publish tweets, including social media campaigns & monitor impact	Ensure direct engagement with 'friendly stakeholders' min. 2 posts (monthly)
Social media content: LinkedIn	Grow community; regular stakeholder engagement provides good insights into interests / concerns	Publish posts, make relevant tweets, including campaigns & monitor impact	min 2 posts (monthly)
Stakeholders database	Early identification of prospective marketplace and service stakeholders	Develop a database of contacts for community and stakeholder engagement	150 profiled & engaged stakeholders
Free Exhibitions / workshops	Ensure outreach to non specialised audiences	Show PILLAR-Robot use cases to visitors in lively, lightweight environment	≥ 1 exhibitions / workshops ≥ 25 non-specialized attendees
Online and/or F2F bilateral meetings &	Ensure general public is "educated" about	Provide a service for non-IT savvy to show	≥ 5 online session(s)

.

training sessions	need to advanced research to address their needs	what the new service means for them	≥150 non-specialized attendees
Marketing events	Ensure direct engagement with friendly stakeholders	Ensure direct engagement with 'friendly stakeholders'	2 exploitation workshops

Table 2 - Dissemination and communication KPIs

10. Exploitation Plan

10.1 General exploitation plan

The main objective of the PILLAR Robots exploitation strategy is:

- Finding industrial partners to further develop the PIMOL technology for industrial uptake, from TRL 5 (Technology validated in relevant environment) to TRL 6 (Technology demonstrated in relevant environment) and increase market access.

The core of the exploitation strategy is stakeholder involvement and engagement, centered on building a more structured PIMOL community as a tool to facilitate the early adoption of project results, the dissemination of promising KPIs obtained, the creation of a wider interdisciplinary and transversal collaborative business environment, in order to set new collaboration agreements with industrial players and leverage private investments. Support to PILLAR-Robots exploitation activities will mainly be provided by the companies PAL and A2L.

10.2 Exploitation KPIs

To evaluate the success of the exploitation activities, some key measurement indicators have been defined in the project proposal and reviewed here to better fit the real challenges. These indicators can be seen in the following table.

Type	KPIs
Industrial & Stakeholder impact (software and services, IMOL Community, Industrial events)	n. 10 Collaboration agreements with Platforms, public-private partnerships (e.g. ADRA), sister projects; n. 5 Success stories in the form of tech transfer agreements; n. 10 industrial events attended; n. 5 individuals from engaged industrial and other stakeholder organizations in the Advisory Board; n. 50 Friendly Stakeholders; n. 25 bilateral meetings held with stakeholders, including regulators.
Technological impact (co-design and early adopters)	n. 10 Early adopters; n. 5 Endorsements by prescribers and other

	stakeholders.
Scientific & technological impact (publications)	n. 10 publications in peer-reviewed journals; n. 10 paper communications to international meetings; n. 5 researchers involved in non-specialized target participatory events.

Table 3 - Exploitation KPIs

10.3 Exploitable results identification

PILLAR-Robots' central concept is an integrated cognitive architecture system that can be deployed in multiple configurations. The modularity of the results supports the creation of different solution packages, and the consortium intends to adopt a flexible approach to exploitation, in order to be able during the implementation of the activities to address the most promising market opportunities, in line with the industrial needs that will be assessed in the stakeholders engagement activities.

The Innovation Manager will identify results created during the project implementation and will collect them with the help of the partners through structured questionnaires (such as Innovation Radar Questionnaire) and interviews with partners responsible for developing the results (Project Leaders).

Collected results will be assessed based on criteria related on their innovation capacity, relevance to the sector, expected impact, by the innovation manager together with the Management Committee and the Advisory Boad, in order to identify Key Exploitable Results (KER) with higher stakeholder engagement potential and to determine any IP protection requirements.

10.4 Stakeholder engagement plan

There are three tasks in WP11 that are directly related to stakeholder engagement. *Task 11.4 'PIMOL community building'*, *Task 11.5 'Liaison activities'* and *Task 11.6 'Stakeholder engagement'*. These activities are interrelated and will report their activity in common deliverables; on the one hand in the D11.2 'Dissemination and Exploitation Impact Report' and, on the other hand, in the *D11.3 'Stakeholders Activity Report'*.

10.4.1 Stakeholder mapping

Under *Task 11.4 'PIMOL community building'*, a stakeholder mapping will be carried out. The consortium partners will conduct a stakeholder analysis at European level based on a template, included below, in order to identify specific organisations and groups to which the dissemination and communication activities will be targeted. Stakeholders will include organisations that may be end users of the proposed solutions (research centres, industries, SMEs) but also those European partnerships, European Associations, sister projects or other initiatives to be considered for synergies. The stakeholder mapping process includes the identification of groups, organisations and individuals that are likely to be interested or involved in the project themes; and grouping them based on their impact and interest factors. More specifically, the stakeholder mapping will include:

- Stakeholder Category (Industry, Research, Public Body, Media Outlet, etc.);
- Name of Organization;
- Importance/Impact/Role;
- Names of Persons to Reach Out to;
- History of Past Contacts and/or Interaction;
- Potential Entry Points and Forms of Involvement.

Stakeholder Category	Organization's Name, Type	ImportanceImpact, Role	Persons to Reach Out (name, contacts)	History of Past Contacts / Interaction	Potential Forms of Involvement
Industry Community					
Research					
Communities of Users					
Public Bodies					
NGOs					
Media Outlets					
General Public					

Table 4 - Proposed template for stakeholder analysis

With this tool, the PILLAR-Robots consortium will have a filtered list of recipients from which will work on the Exploitation project dimension and for this the identification of Friendly Stakeholders is essential. The role of 'Friendly Stakeholder' will be proposed to all third organizations connected to the AI, Data and Robotics ecosystem that are interested in the project results. Friendly Stakeholders constitute a first step towards PILLAR-Robots. Among these, an attempt will be made to identify those most interested, some of which may become Associated Partners, that is, new members of the PILLAR-Robots consortium. The role of Associated Partners will be proposed to those organizations interested in further engagement in order to explore future alignment and business collaborations. The Associated Partners would thus be the last step of the approach to PILLAR-Robots.

Organizations such as the AI, Data and Robotics European Partnership and other relevant European platforms and PPPs that are the subject of *Task 11.5 Liaison activities* are a type of stakeholder that deserves particular treatment. They are stakeholders who may be interested in the results of the project, but by their nature, often from a different perspective (policy related, regulatory, etc.) to that of an end user (industry, SME, etc.). With these organizations, beyond the fact that they become Friendly Stakeholders, it is interesting to be able to attend their events, organize joint activities, use their participation channels, etc.

The activity developed in *Task 11.4 'PIMOL community building'* and in *Task 11.5 'Liaison activities'* culminates in *Task 11.6 'Stakeholder engagement'*. This task is aimed at formalizing in contractual agreements with different levels of collaboration that can be maintained beyond the duration of the project and in more advanced TRLs.

10.4.2 Network creation

With the partners identified in *Task 11.4 PIMOL community building* and *Task 11.5 Liaison activities* the basis for a network will exist.

The PILLAR-Robots consortium will seek to foster information sharing and cross-learning with the PIMOL community as well as other similar initiatives and projects. To this end, PILLAR expects to achieve coordination and synergies, which would enable productive cross-project collaboration and alignment. The synergy plan's overarching assumption is that the other relevant platforms, projects and initiatives would be accessible, open to communication and interaction with PILLAR-Robots, and would demonstrate willingness to share knowledge and experiences and cooperate in further actions.

Networking building will be done by:
1. Following the other projects' social media accounts;
2. Inviting other projects and project consortium members to follow PILLAR-Robots' social media accounts;
3. Subscribing stakeholders in the project newsletter;
4. Publishing articles, publications, and news on the websites of other projects and publishing news about and research outputs of other platforms, projects and initiatives on PILLAR-Robots' website.
5. Examining the possibility for joint press releases and articles;
6. Examining the possibility for specific joint social media campaigns to improve the visibility of the results of the projects;
7. Requesting from other projects a specific session in their conferences/workshops and other

public events; and
8. Exploring the possibility for joint participation in other meetings and events to jointly promote the visibility and outputs of the respective projects.

Following the collection and review of the information gathered through these data-screening activities, PILLAR-Robots will proceed with developing of a simple three-step action plan for cooperation and synergies, which will be an integral part of the partner's annual dissemination and communication plans:

1. Initiating contact with stakeholders: This direct contact is necessary for building trust between organisations. Once trust and common understanding have been established with the interested stakeholders, PILLAR-Robots will identify the space for synergies and coordination;
2. Establishing synergies: Concrete actions will be implemented;
3. Reporting on synergies: The outcomes of the conducted actions will be rigorously documented and included in PILLAR-Robots' reporting, as necessary. Importantly, in order to enhance ensure a better visibility of this stakeholder collaboration and to further maximize its impact, a section in the project website will be accordingly dedicated.

10.4.3 Business agreements

Task 11.6 'Stakeholder engagement' concentrates the greatest added value of exploitation. Firstly, UDC will investigate models of business agreements, with different ranges of collaboration, in order to facilitate the demonstration at TRL6-7 level and joint exploitation opportunities. This engagement can be full when reaching the role of Associated Partners (Art. 9 GA) but may contain other levels of minor involvement. When the stakeholder becomes Associated Partner, it is expected this organisation to some extend will analyse the validity, acceptance and finally impact of the exploitable assets developed in PILLAR-Robots. Secondly, PAL makes contact with Friendly Stakeholders and explores collaboration possibilities with the collaboration of the rest of the partners. Finally, based on the results obtained, PAL adapts the business agreement models to each case and propose agreements between the Consortium, or one or several individual members, with third-party organizations. When necessary, UDC, as coordinator, initiates the administrative process for these organizations to become Associated Partners.

10.5 IPR management

From the start, all partners will receive assurance that their contributions to the project based on their pre-existing know-how will be identified and recognized as such by the other participants. Pre-existing know-how means knowledge developed before the beginning of the project, regardless of its being patented or secret, as well as results obtained outside the project after its start date. Knowledge exploitation will be administered pursuant to the general provisions and the specific rules defined in the project's Consortium Agreement that follows the highest EC standards. The exploitation of knowledge will involve all activities related to the protection of the intellectual property and the plans for its use. In view of the partners' specific legitimate interests, intellectual property rights (including patent searches, filing of patent or other IPR applications, etc.) will be protected and safeguarded to ensure the smooth and efficient use of results. This approach to knowledge and the IPR management is regulated in detail in the Consortium Agreement and is agreed upon by all partners.

The Innovation Manager will also propose appropriate IPR management. See Table n.5 for preliminary expected results overview and related preliminary agreement on IP Management.

According to the GA, Beneficiaries which have received funding under the grant must adequately protect their results — for an appropriate period and with appropriate territorial coverage — if protection is possible and justified, taking into account all relevant considerations, including the prospects for commercial exploitation, the legitimate interests of the other beneficiaries and any other legitimate interests.

All Partners should be aware of IP Policy and the code of Practice recommended by EC https://intellectual-property-helpdesk.ec.europa.eu/system/files/2021-02/EU-IPR-Guide-to-IP-in-Horizon-2020-EN%20%282%29_0.pdf

All Partners should be, as well, aware about the newly introduced obligation about the Ownership of Results and Results ownership list: The Results Ownership List (ROL) is to be fulfilled in the final periodic report listing the owner of the results (be it a beneficiary or other legal entity). In case of joint ownership, all joint owners must be listed even if (some of) the joint owners are not members of the consortium. The results ownership list provides a snapshot in time meaning that ownership changes may happen after the submission of the final periodic report. Failure to fill in the results ownership template will block the submission of the final periodic report and hence the final payment. However, difficulties in determining the ownership of the results will not bar the submission of the results ownership list. If the ownership of the results is not clear, the beneficiaries will have to indicate all potential owners.

Some of the aspects covered will be considered:

- Confidentiality: Each partner will treat information and data from other partners as confidential and will not disclose it to third parties without explicit authorization, unless the information is demonstrably already public;
- Ownership of Knowledge: Knowledge is owned by the partners whose work has originated the knowledge, or on whose behalf such work was conducted. Partners wishing to assign knowledge to a third party, should inform other partners and the granting authority accordingly, and request their consent. If any results are created jointly by two or more project partners, and it is not possible to distinguish between the contributions of each, such work will be jointly owned by the contributing partners. Specific details about jointly owned results, jointly owned inventions, and joint patents and patent applications will be managed by the Consortium Agreement. New agreements can be considered to further detail more specific aspects (costs of protection, licencing, transfer of ownership, etc);
- Patents: Partners who own patentable knowledge may (and are encouraged to) at their own expense apply for a patent or a similar form of protection and shall supply the details of such an application to the other partners and to the Project Management Committee to ensure that where needed decisions on protection take due account of the interests of all beneficiaries

concerned.

- Access Rights: Partners will grant each other royalty-free access to any knowledge generated within the project, to the extent needed for the project to be successfully carried on. Access rights to pre-existing knowledge needed for use outside of the project shall be granted by owners to other partners at preferential conditions and only to the extent needed to enable the use of the project results;
- Open Access Publishing: PILLAR-Robots will promote publishing the results in open access journals to ensure online access to scientific information for free to the international research community. Open access to scientific peer reviewed publications has been anchored as an underlying principle in Horizon Europe and is explained in the Regulation and the Rules of Participation as well as through the relevant provisions in the GA. it will be taken into account that in addition to fulfilling the other costs eligibility criteria, publication fees are only eligible when publishing in full open access publishing venues and not hybrid venues. (see Annex 5 GA).
- Associated Partners: According to the Associated Partner role, those 'friendly stakeholders' interested in becoming early adopters of PILLAR-Robots products will sign a collaboration agreement. Through this role (accepted under Art 9.1 GA), PILLAR-Robots is favouring a 'fast track' business exploitation channel.

The Consortium Agreement has as an objective to establish a legal framework for the project. This is to provide clear regulations for issues within the consortium related to IP Ownership, Confidential Information, Open-Source issues and Access Rights to Background and Results for the duration of the project and any other matters of the consortium's interest. However, the consortium has already reached preliminary agreements on the strategies that should be followed concerning IPR issues for the main results of the project. The basic agreement is that the research and development results must facilitate early adoption of results. All these while having options in place for rewarding those that invested. The table below describes the consortium's preliminary agreement:

	Contributing partners	Consortium partners	Associated Partners
Algorithms	Unprotected		
Subsystems/components (SW modules)	IPR	Use rights	Use rights
Integrated architecture	IPR	Use rights	Use rights
Hardware adaptation	IPR	Use rights	Use rights
Ready to use solutions (SW + interface)	IPR	Use rights	Use rights
Training material	Available to all 'friendly stakeholders'		

Table 5 - Initial expected results and related IP-management strategy

During the project implementation an additional agreement is planned that will be established by the Consortium and will be reported in the D12.5 IPR Agreements due by the end of the project. This additional agreement will complement (and be annexed to) the Consortium Agreement and will a) allow the consortium to appropriately react to external or internal opportunities/threats, and b) pave the way for further agreements with Associated Partners and other parties.

.

10.6 Exploitation activities overview

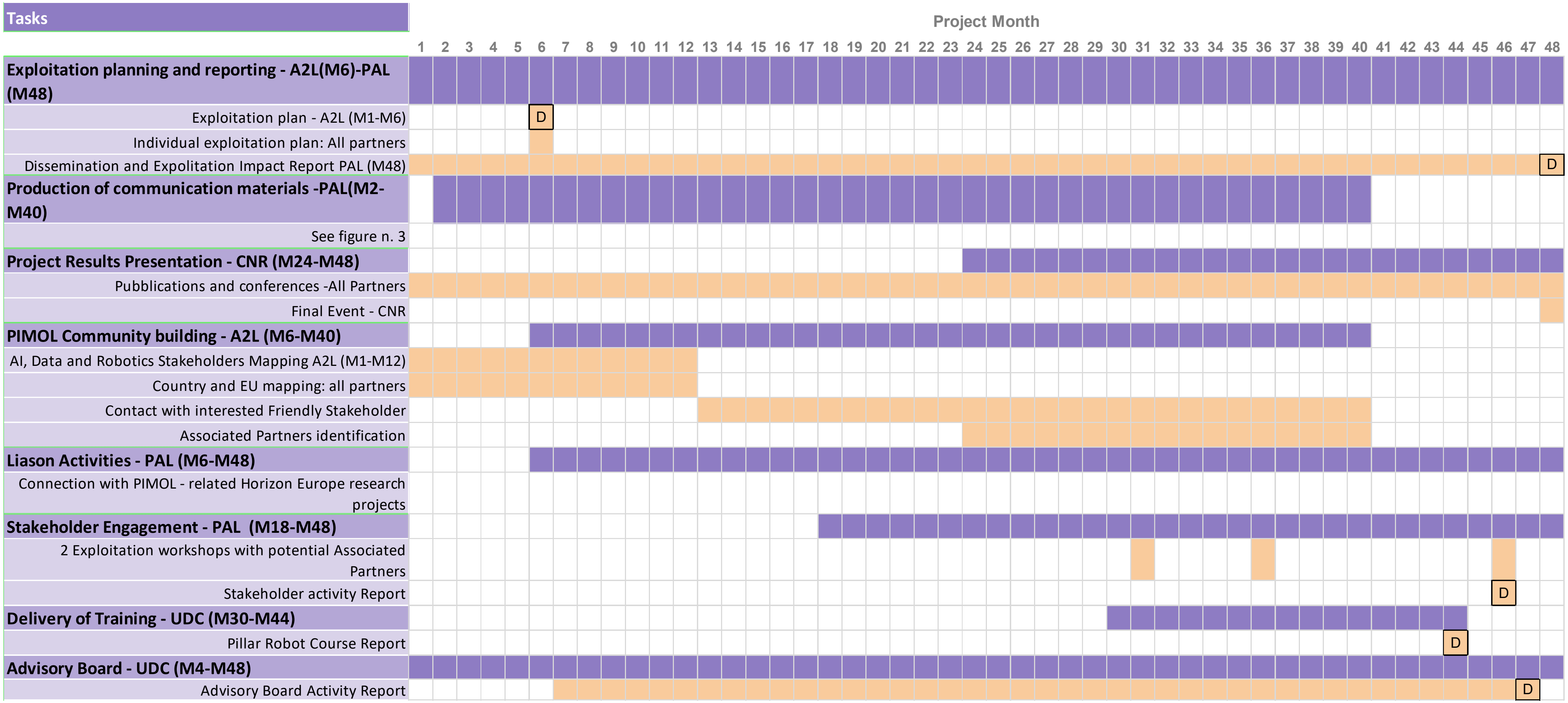


Figure 5 - Exploitation activity overview

10.7 Individual exploitation plans

This section provides the PILLAR Robots partners' individual exploitation plans. the organisations can be categorised into 2 groups:

a) Research and academia partners: UDC, SU, CNR and ARC.
b) Industrial partners: PAL and A2L. Support for PILLAR-Robots exploitation activities will mainly be provided by them.

10.7.1 UDC exploitation plan

Partner	CITIC-UDC
Organization profile	Public University
Strategic Focus Area	Learning & research
How is PILLAR Robots relevant to your organization?	PILLAR-Robots is a milestone within the CITIC, which is the ICT research centre of the UDC. This project may be relevant to create a stable research environment that attracts researchers as well as the interest of other stakeholders in the field of autonomous robots. However, the impact of this project will be scientific and technical. The CITIC may consider further research in the future with a more advanced TRL and closer to the market, but it does not consider getting directly involved in the exploitation of research results.
What content could be exploited?	No direct exploitation is envisaged. Training and technical assistance can be provided to final users in cooperation with the organisations directly involved in the exploitation.
Approach to exploitation	The approach to exploitation is indirect. The UDC considers establishing collaboration or commercial agreements with the partners, or third parties, directly involved in the exploitation of the PILLAR-Robots results in order to provide specific services (training, consultancy).

Table 6 - UDC individual exploitation plan

10.7.2 ISTC -CNR exploitation plan

Partner	ISTC-CNR
Organization profile	Research Institute
Strategic Focus Area	Autonomous/Cognitive Robotics, Machine Learning, Intrinsically Motivated Open-ended Learning
How is PILLAR Robots relevant to your	Development of cognitive architecture for robotic control; Base research related to AI and Machine Learning;

organization?	Application oriented robotics; Impact of new technologies on society/economy/etc.
What content could be exploited?	Algorithms and modules (as well as integrated architecture) for the autonomous selection of tasks and goals in robots; Development of motivational systems for autonomous agents; Algorithms for the management of autonomous deliberative processes; Algorithms and modules for autonomous exploration; Regulation of new technologies (and autonomous AI in particular).
Approach to exploitation	Direct exploitation is envisaged. The exploitation potential of the project results will be assessed with the support of the central CNR Technology Transfer Office (TTO), that is responsible for all the activities related to protection of research results, IPR management end exploitation, possible promotion and support for spin-off creation, marketing and promotion of research results, building partnership with companies and other institutions (public or private). ISTC-CNR is interested to be involved in the future with consultancy activities to stakeholders for adopting, implementing and using the innovative techniques and algorithms developed within the project.

Table 7 - CNR individual exploitation plan

10.7.3 SU exploitation plan

Partner	Sorbonne University
Organization profile	Public University
Strategic Focus Area	Machine learning and Robotics
How is PILLAR Robots relevant to your organization?	PILLAR robots allow SU to integrate the work done in several research teams of the lab. It concerns in particular research on representation learning, reinforcement learning, natural language processing, decision, coordination of different learning processes and ethics and to apply it to concrete industrial use cases.
What content could be exploited?	SU will develop algorithms and libraries that could be used by industrial partners to solve problems they are facing.
Approach to exploitation	The approach applied so far is the ”innovation loop” (cf EIC PathFinder VeriDREAM https://www.veridream.eu/). In this approach, SU works jointly with industrial partners to better identify their needs and adapt its methods to the industrial use case specifications. This needs to be done in a specific project.

Table 8 - SU individual exploitation plan

.

Partner	SU
Organization profile	Public University
Strategic Focus Area	Learning & research
How is PILLAR Robots relevant to your organization?	PILLAR robots allows us to integrate the work done in several research teams of the lab. It concerns in particular research on representation learning, reinforcement learning, natural language processing, decision, coordination of different learning processes and ethics and to apply it to concrete industrial use cases.
What content could be exploited?	No direct exploitation is envisaged. Training and technical assistance can be provided to final users in cooperation with the organisations directly involved in the exploitation.
Approach to exploitation	The approach to exploitation is indirect. SU considers establishing collaboration or commercial agreements with the partners, or third parties, directly involved in the exploitation of the PILLAR-Robots results in order to provide specific services (training, consultancy). The exploitation of the results require a specific ”innovation loop” (cf EIC PathFinder VeriDREAM https://www.veridream.eu/) that is not be the goal of the PILLAR-robot project.

Table 9 - SU individual exploitation plan

10.7.4 ARC exploitation plan

Partner	ARC
Organization profile	Research Institute
Strategic Focus Area	Basic & Applied Research, Technology Transfer and Entrepreneurship
How is PILLAR Robots relevant to your organization?	The PILLAR-Robots project is highly relevant to ARC, since one of the areas that are actively developed and researched is Robot Perception, i.e. behavior recognition, multimodal scene analysis, human and object detection, among others. In the future ARC also plan to further advance the perception modules that will be developed during PILLAR-Robots.
What content could be exploited?	The perception modules that will be developed as well as the overall research conducted by the ARC team.
Approach to exploitation	The approach to exploitation is indirect. The ARC considers establishing collaboration or commercial agreements with the partners, or third parties, directly involved in the exploitation of the PILLAR-Robots results in order to provide specific services (training, consultancy).

Table 10 - ARC individual exploitation plan

10.7.5 A2L exploitation plan

Partner	AI2life
Organization profile	AI Software Company
Strategic Focus Area	Autonomous Robotics, Artificial Intelligence, Computer vision, Industrial networking, AI&Robotics applications for agrifood
How is PILLAR Robots relevant to your organization?	Development of the network of scientific and technological collaborations, both with academia and industry, and improvement of the company skills and competences in autonomous robotics. Higher specialization in the agrifood industrial needs as company targeted market.
What content could be exploited?	Both material (applications of PIMOL autonomous robotics) and immaterial (knowledge, methodologies, requirements, etc.) content are exploitable. In particular, applications of PIMOL autonomous robotics in the agri-food industrial segment, responding to business needs already expressed by stakeholders in the company network.
Approach to exploitation	The project will enable the company to develop new powerful automation tools for the application in unstructured agrifood domains typical of SME companies. The collaboration agreements with domain stakeholders will hopefully set the ground for further TRL advancements. Depending on the interest and the extent of these agreements the company business development unit will be able to figure the most suitable IPR management and commercial strategy, in accordance with the provisions of the general Consortium agreement and the indications of the general exploitation plan, and in collaboration with PAL. Such strategy may include, and is not limited to licencing, spin-off creation, investor search.

Table 11 - A2L individual exploitation plan

10.7.6 PAL exploitation plan

Partner	PAL ROBOTICS
Organization profile	Industrial Robot Company
Strategic Focus Area	PAL has major experience in commercializing robotics solutions and in exploiting research outcomes of its research groups and projects, as a result of more than 18 years of experience in the robotics sector

.

How is PILLAR Robots relevant to your organization?	In the PILLAR-Robots project, PAL aims to further advance its manipulator platform and its autonomy during tasks execution in order to increase opportunities in worldwide markets. More specifically PAL Robotics, intends to expand its extensive experience in the development of cobots and robots in general, in the design and development of advanced manipulators, humanoid robots and human-robot interaction algorithms.
What content could be exploited?	PAL is interested in the operation of the generated outcome (robot platform and software applications) in end-user set-up to gather relevant end-user feedback to prepare a comprehensive business plan. The demonstration validations will be useful to get the possibility to execute more tests for PAL platform in complex environments including the presence of humans, that is the basis of the targeted PAL Robotics roadmap for service robots.
Approach to exploitation	PAL is both interested in the exploitation of the overall project outcome, together with other partners of the project and in accordance with the IPR defined during the project, and also for other components and constituent technologies that will result from the project. PAL will continue to investigate the exploitation potential of the proposed outcomes (overall and partial results) along with the duration of the project, with the main objective of integrating these results in other robots of the Company. PAL's steps to get from research results to successful marketing are 'business as usual': (a) market research among potential buyers to determine functional requirements and acceptable price levels, (b) desk research into existing products and competitive developments, (c) engineering, to proceed from the research prototypes towards a software application ready for release, including functional and usability testing and (d) marketing communication, sales, distribution, and after-sales support. Internal exploitation activities for PAL will include regular meetings with the other PAL business units and managers to show the case studies and the methodology applied within the project, highlighting the possible benefits coming from the approach and technologies developed for the project. In order to achieve this, we foresee a market analysis that will be done to define, characterize and segment the potential opportunities for different solutions developed in the project, as well as describe the value chains serving each technology. We will carry out a feasibility study in order to assess the pros and cons of different aspects of the commercialization of the developed technology. Preliminary business models will be identified taking into account the outcomes of the market analysis and the identified new value chains. We also will study the possibility to extend the tests to the real-world environment with different scenarios as well as other potential applications so as to ensure full functionality of all features of the technology.

Table 12 - PAL individual exploitation plan

.

11. Conclusion

The high-level strategy from the outset of the project and the dissemination strategy assures that our results will outlive the duration of the project by: i) making the results of our proposal known to those who could benefit from the results directly (end-users) or indirectly (producers, operators); ii) generate interest in the research world which may multiply the results; and iii) creating the context for possible follow-ups.

The overall aim of the exploitation process is to identify value in the whole PILLAR Robots system, and/or some of its components (SW Modules, Interfaces, applications domain-specific, etc) that can be pre-industrialized at the end of the project for suitable areas of application and related addressable markets, depending on the opportunities created by the stakeholder engagement activity.

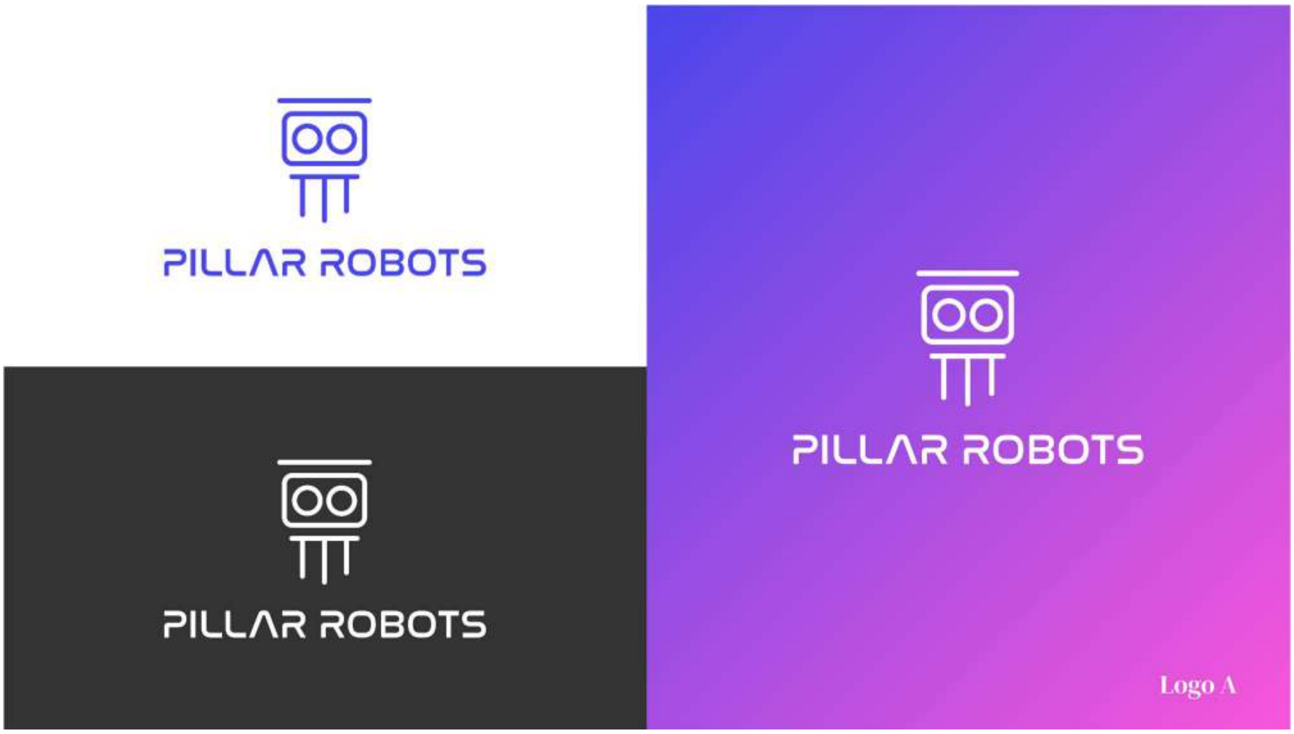
During the development of the project it will be necessary to assess for each component the TRL achieved or achievable and the related market potential, and start discussing models for IPR management and strategy and the possible business strategies.

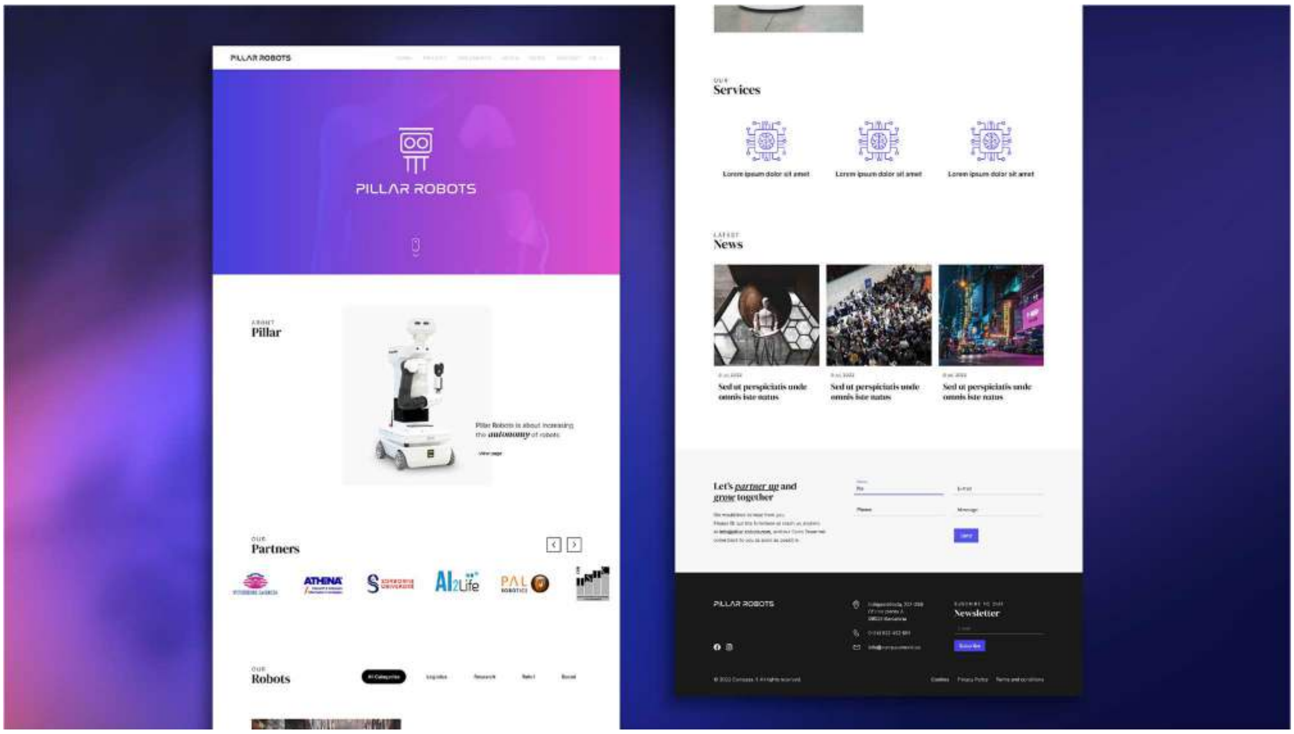
.

10. Annexes

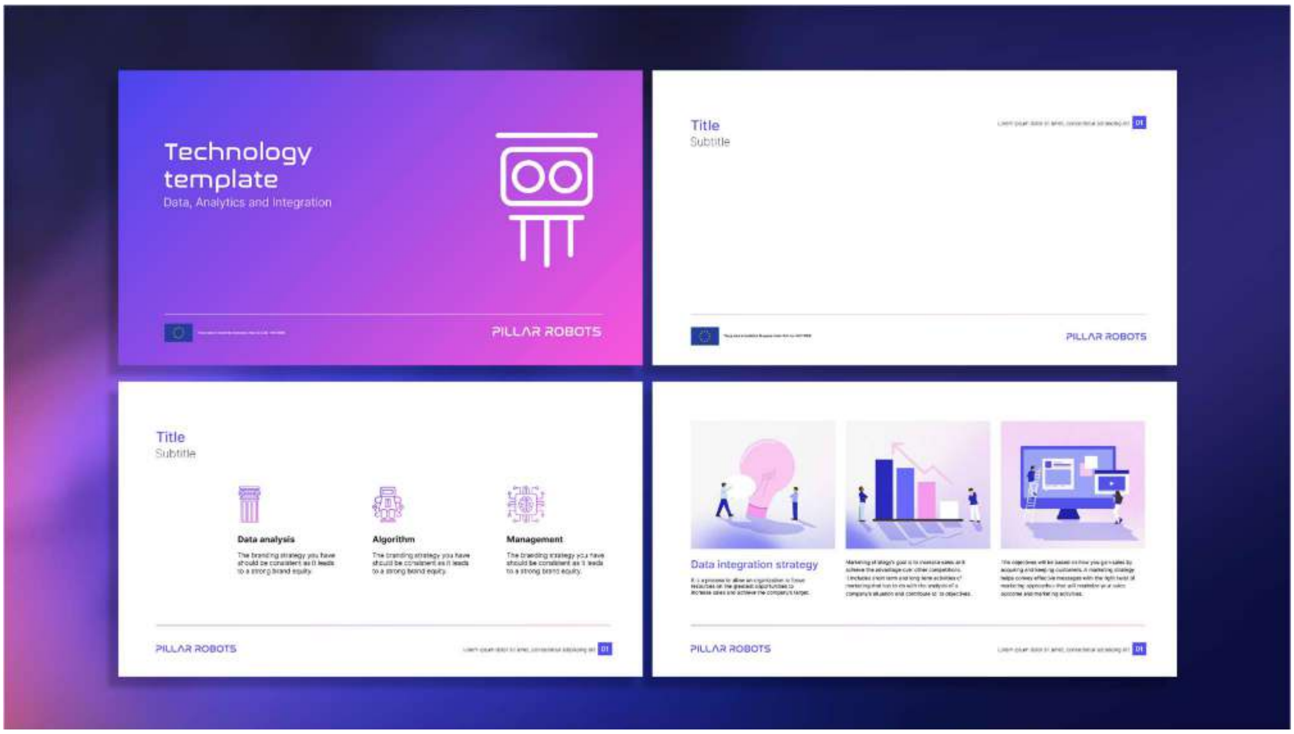
10.1 Logo Proposals

Branding proposal - Option A

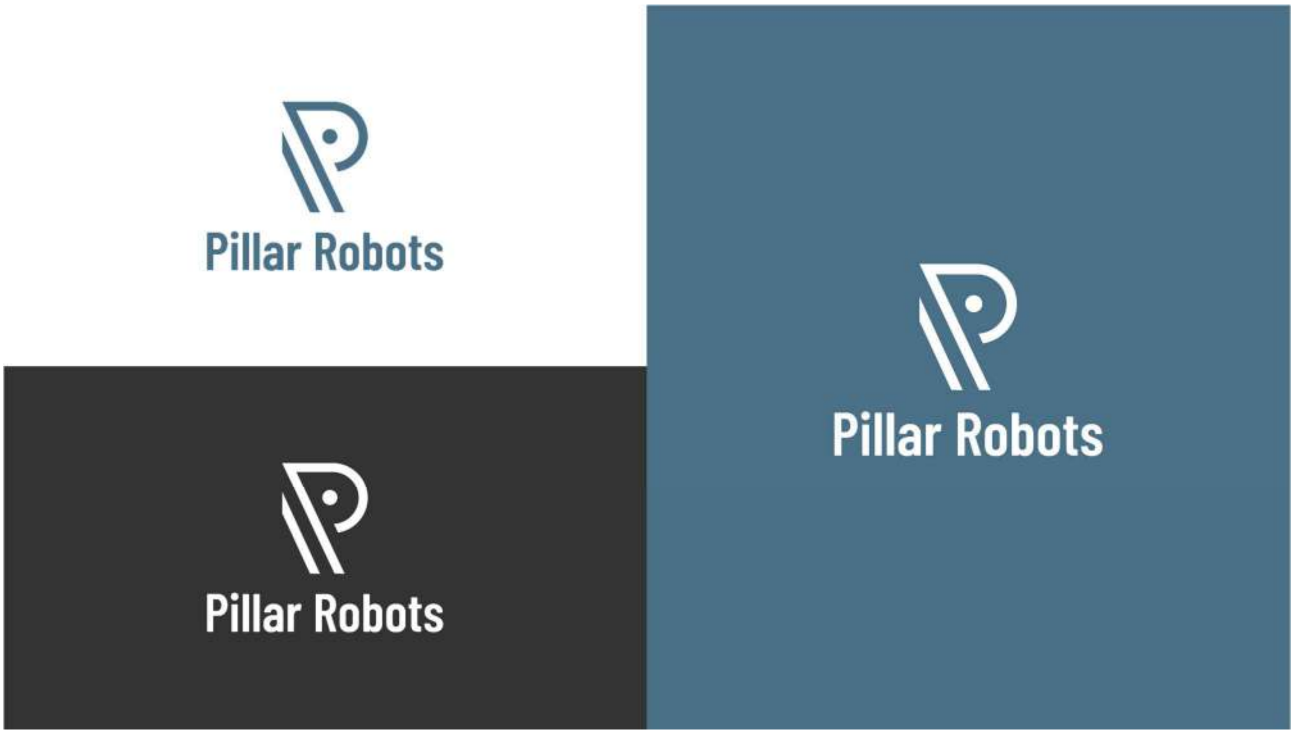




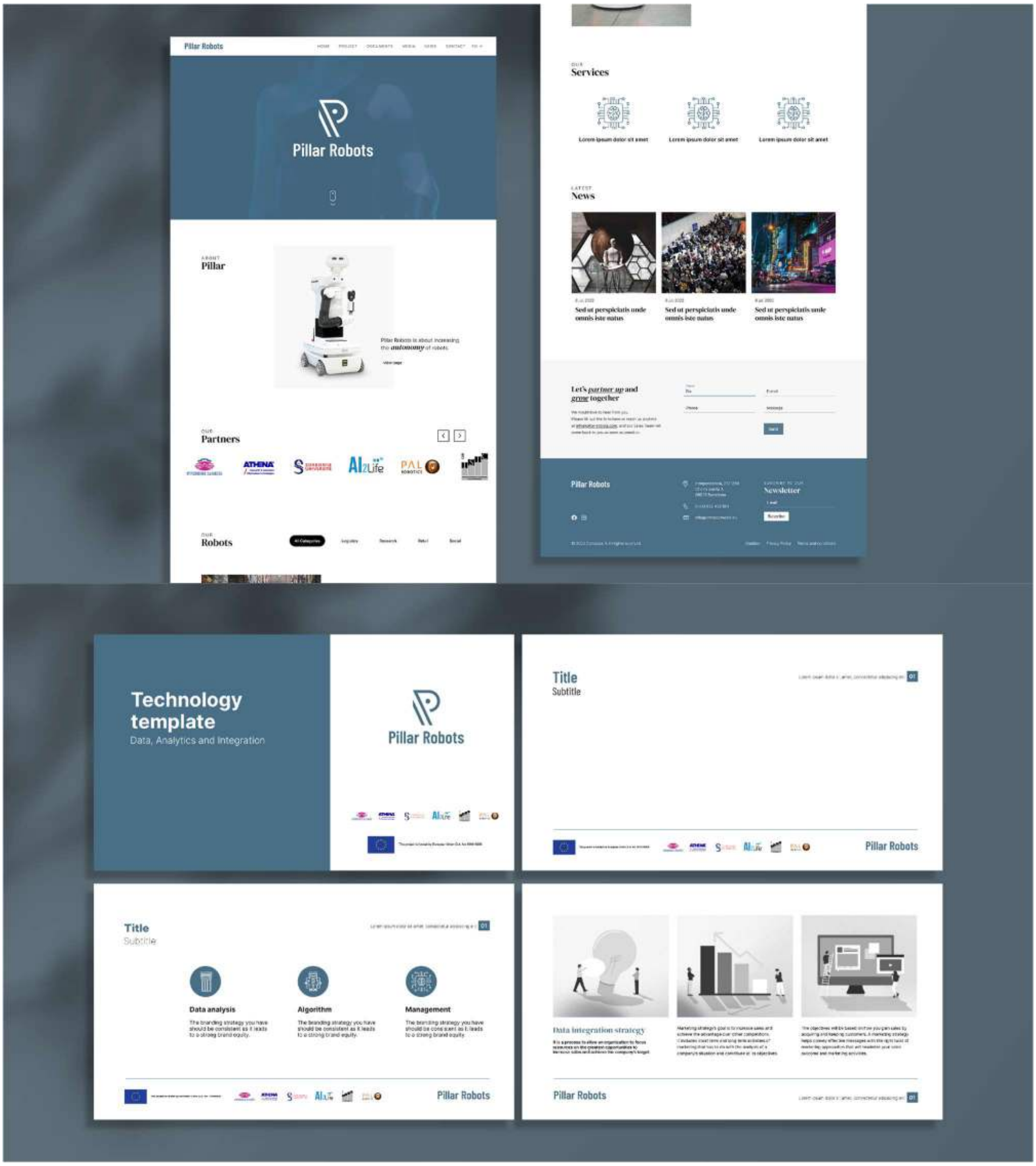
.



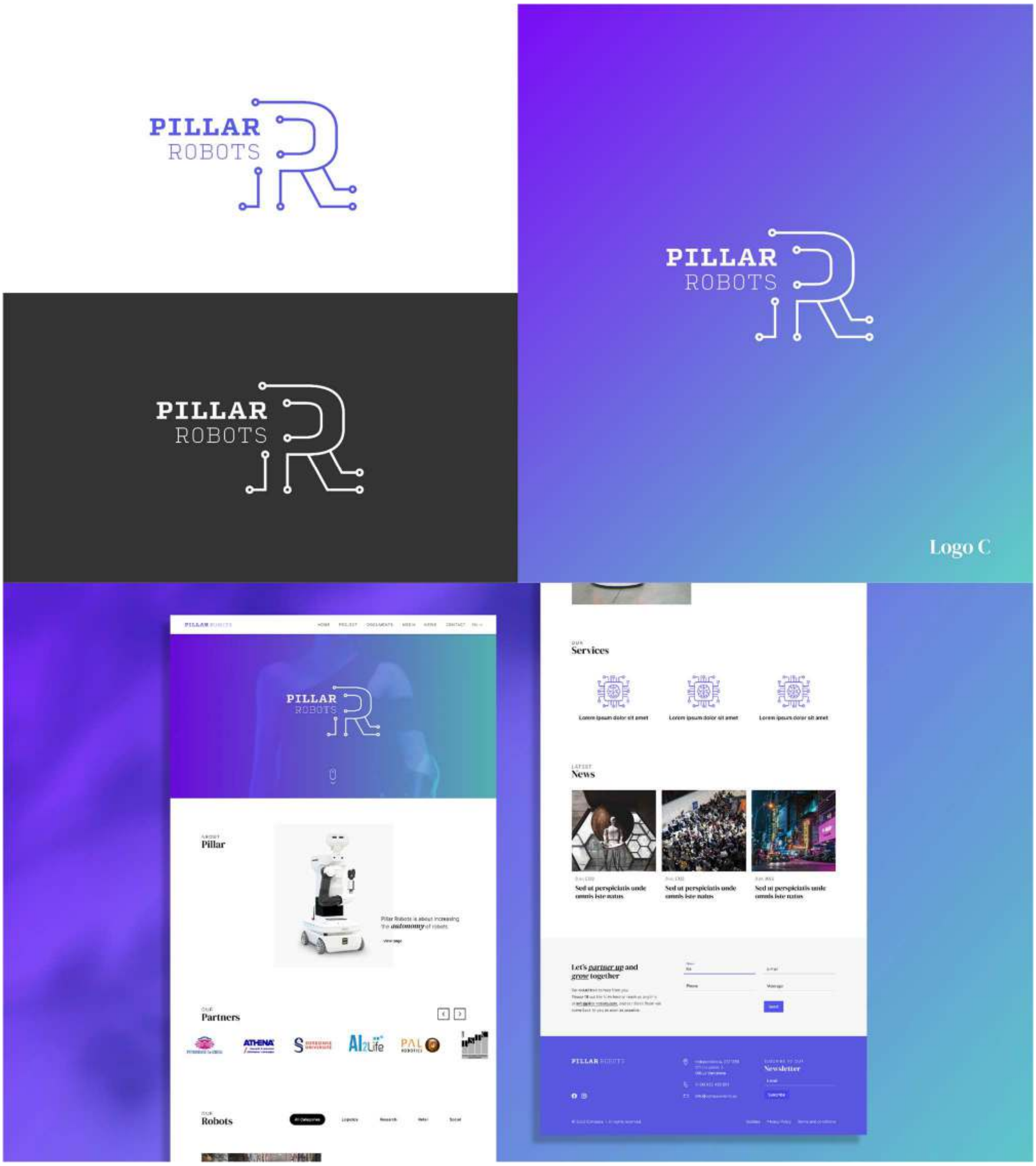
Branding proposal - Option B



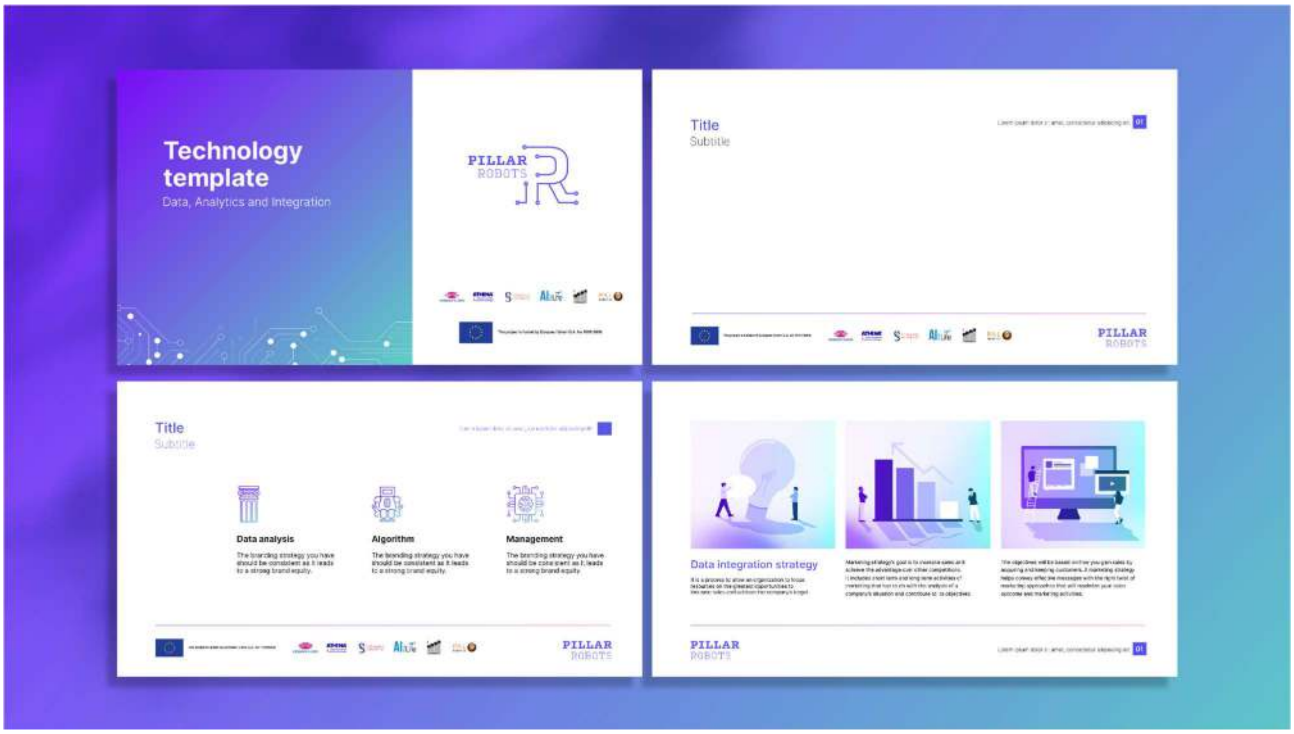
.


Pillar Robots
About
Pillar
Our
Partners
Our
Robots
Our
Services
Latest
News
Sed ut perspiciatis unde omnis iste natus
Let's partner up and grow together
Newsletter
Technology template
Data, Analytics and Integration
Title
Subtitle
Data analysis
Algorithm
Management
Data integration strategy

Branding proposal - Option C



.



10.2. Brand book

To access the brand book, the follow the link below:
D11.1 Annex 1 - Pillar Robots - Brand Book.pdf

.

PILLAR ROBOTS

www.pillar-robots.eu

Funded by the European Union