

Handling with AI-enhanced Robotic  
Technologies for flexible ManUfacturing

## D6.2 Dissemination and Communication Plan - Update















<b>Deliverable ID:</b>	D6.2
<b>Project Acronym:</b>	HARTU
<b>Grant:</b>	101092100
<b>Call:</b>	HORIZON-CL4-2022-TWIN-TRANSITION-01
<b>Project Coordinator:</b>	TEKNIKER
<b>Work Package:</b>	WP6
<b>Deliverable Type:</b>	Report
<b>Responsible Partner:</b>	DBL
<b>Contributors:</b>	ALL
<b>Edition date:</b>	28 June 2024
<b>Version:</b>	04
<b>Status:</b>	Final
<b>Classification:</b>	PU



This project has received funding from the European Union's Horizon Europe - Research and Innovation program under the grant agreement No 101092100. This report reflects only the author's view and the Commission is not responsible for any use that may be made of the information it contains.

## HARTU Consortium

HARTU “Handling with AI-enhanced Robotic Technologies for flexible manufactUring” (Contract No. 101092100) is a collaborative project within the Horizon Europe – Research and Innovation program (HORIZON-CL4-2022-TWIN-TRANSITION-01-04). The consortium members are:

1	 <p><b>Tekniker</b> MEMBER OF BASQUE RESEARCH &amp; TECHNOLOGY ALLIANCE</p>	FUNDACION TEKNIKER (TEK) 20600 Gipuzkoa   Spain	Contact: Iñaki Maurtua inaki.maurtua@tekniker.es
2	 <p><b>dfki</b> Deutsches Forschungszentrum für Künstliche Intelligenz German Research Center for Artificial Intelligence</p>	DEUTSCHES FORSCHUNGSZENTRUM FUEF KUNSTLICHE INTELLIGENZ GMBH (DFKI) 67663 Kaiserslautern   Germany	Contact: Vinzenz Bargsten vinzenz.bargsten@dfki.de
3	 <p><b>aimen</b> TECHNOLOGY CENTRE</p>	ASOCIACIÓN DE INVESTIGACIÓN METALÚRGICA DEL NOROESTE (AIMEN) 36418 Pontevedra   Spain	Contact: Jawad Masood jawad.masood@aimen.es
4	 <p><b>eng</b></p>	ENGINEERING INGEGNERIA INFORMATICA S.P.A. (ENG) 00144 Rome   Italy	Contact: Riccardo Zanetti riccardo.zanetti@eng.it
5	 <p><b>TOFAŞ</b> TÜRK OTOMOBİL FABRİKASI A.Ş.</p>	TOFAS TÜRK OTOMOBİL FABRİKASI ANONİM ŞİRKETİ (TOFAS) 34394 Istanbul   Turkey	Contact: Nuri Ertekin nuri.ertekin@tofas.com.tr
6	 <p><b>PHILIPS</b></p>	PHILIPS CONSUMER LIFESTYLE BV (PCL) 5656 AG Eindhoven   Netherlands	Contact: Erik Koehorst erik.koehorst@philips.com
7	 <p><b>ULMA</b></p>	ULMA MANUTENCION S. COOP. (ULMA) 20560 Gipuzkoa   Spain	Contact: Leire Zubia lzubia@ulmahandling.com
8	 <p><b>deepblue</b></p>	DEEP BLUE Srl (DBL) 00193 ROME   Italy	Contact: Erica Vannucci erica.vannucci@dblue.it
9	 <p><b>FMI ImProvia</b></p>	FMI HTS DRACHTEN B.V. (FMI) NL-4622 RD Bergen Op Zoom, Netherlands	Contact: Floris goet floris.goet@fmi-improvia.com
10	 <p><b>TECNOALIMENTI</b></p>	TECNOALIMENTI S.C.p.A (TCA) 20124 Milano   Italy	Contact: Marianna Faraldi m.faraldi@tecnoalimenti.com
11	 <p>Dipartimento Meccanica Matematica Management</p> <p>MUR Dipartimento di Eccellenza 2018-2022 2023-2027</p>	POLITECNICO DI BARI (POLIBA) 70126 Bari   Italy	Contact: Giuseppe Carbone giuseppe.carbone@poliba.it
12	 <p><b>OMNIGRASP</b></p>	OMNIGRASP S.r.l. (OMNI) 70124 Bari   Italy	Contact: Vito Cacucciolo vito.cacucciolo@omnigrasp.com
13	 <p><b>ITRI</b> Industrial Technology Research Institute</p>	INDUSTRIAL TECHNOLOGY RESEARCH INSTITUTE INCORPORATED (ITRI)	Contact: Curtis Kuan curtis.kuan@itri.org.tw
14	 <p><b>INFAR</b> INFAR INDUSTRIAL CO., LTD.</p>	INFAR INDUSTRIAL Co., Ltd (INFAR) 504 Chang-hua County   Taiwan	Contact: Simon Chen simon@infar.com.tw

## Document history

Date	Version	Status	Author	Description
07/06/2024	01	Draft	Marta Cecconi (DBL)	Document creation
14/06/2024	02	First version	Vera Ferraiuolo, Erica Vannucci	First content review
25/06/2024	03	Peer review version	Consortium	Feedback from consortium
28/06/2024	04	Final version	DBL	Version submitted

## Executive Summary

---

This deliverable is an update of the D6.1 Dissemination, Communication and Exploitation plan submitted in June 2023. It provides an overview of the progress and effectiveness of HARTU's communication strategy at the 18-month mark. It encompasses a comprehensive review of past events, communication actions implemented, graphical products developed, and an evaluation of the communication success against the Key Performance Indicators (KPI). Additionally, the update identifies deviations and areas for improvement observed as the project has advanced.

### Key Highlights:

- Section 1: this section showcases the evolution and implementation of HARTU's communication strategy, restating the dissemination goals and further detailing the target audience of the project.
- Section 2: this section illustrates graphical products created for HARTU (e.g., poster, concept images, videos, newsletters, press releases) as well as a list of all social media content reviewed assessing their effectiveness in conveying project messages and engaging the target audience. Moreover, an analysis of events, including webinars, conferences, and workshops illustrates the project's visibility and outreach efforts.
- Section 3: in this section an evaluation of KPIs is provided, to share some insights into the impact of communication activities; also, an identification of deviations and areas for improvement is presented for refining the communication strategy and optimising future outreach efforts.
- Section 4: this section is dedicated to the analysis of the actions undertaken in terms of stakeholders' engagement, the activities conducted, their outcomes, and future plans for further engagement efforts.
- Section 5: in this section final remarks and conclusions are drawn.

## Table of contents

Project overview .....	8
1. Dissemination overview.....	9
1.1. Dissemination goals .....	9
1.2. Target audience .....	10
2. Dissemination Actions.....	11
2.1. Dissemination pack .....	11
2.2. Concept images.....	11
2.3. Flyers and poster.....	13
2.4. Presentations .....	13
2.5. Videos.....	13
2.6. Website and news.....	14
2.7. Scientific articles and papers .....	16
2.8. Social networks .....	17
2.9. Newsletters .....	19
2.10. Press releases.....	20
2.11. Events.....	21
2.11.1. Public events attended .....	21
2.11.2. Organised events: open days and webinars .....	22
2.12. Internal dissemination .....	23
3. Monitoring and KPIs.....	24
3.1. Deviations.....	25
4. Stakeholders' engagement .....	26
4.1. Target audience .....	26
4.2. Approach.....	26
4.1. Stakeholders' engagement actions.....	27
4.1.1. Ongoing projects in the same topic .....	27
4.1.2. DIHs, National and International activities .....	28
4.1.3. Advisory board .....	29
4.1.4. Standardization .....	30
5. Final remarks and conclusions .....	31
A. Annex .....	33
A.1. Dissemination pack .....	33

A.2. Poster/Flyer.....	35
------------------------	----

## List of figures

---

Figure 1 - Current manufacturing scenario (figure above) and Future, flexible manufacturing scenario (figure below) .....	12
Figure 2 - Challenges and need - concept image .....	12
Figure 3 - HARTU first video's storyboard.....	14
Figure 4 - Website visits (figure above), website visitors' locations (figure below) (June 2023 - June 2024).....	16
Figure 5 - LinkedIn impressions (figure above) and LinkedIn followers (figure below) (June 2023 - June 2024) .....	18
Figure 6 - X impressions (April 2024 - June 2024).....	19
Figure 7 - HARTU 1st newsletter .....	20
Figure 8. HARTU at the ERF23, presented by Ander Ansuategi (TEK) .....	27
Figure 9. Open Day Event co-organized with 5R at TEK facilities .....	28
Figure 10. From left to right: Steven Su, Senior VP (Itri), Su Huang, Director Intelligent Robotics (ITRI), Chyou-Huey Chiou, Director General Department of Industrial Technology Ministry of Economic Affairs Taiwan and Curtis Kuan, Intelligent Robotics (ITRI).....	29
Figure 11. The HARTU demonstrator presented in the FTV tv channel .....	29
Figure 12 - 1st EAB meeting agenda .....	30
Figure 13 - HARTU style guide (logo, colour palette, font).....	33
Figure 14 - HARTU document templates .....	34
Figure 15 - HARTU poster/flyer.....	35

## List of tables

---

Table 1 - HARTU blogposts.....	14
Table 2 - List of HARTU scientific publications up to M18.....	17
Table 3 - HARTU references online .....	20
Table 4 - List of external events and conferences .....	21
Table 5 - Dissemination and Communication KPIs .....	24

## Acronyms

List of the acronyms	
<b>CMS</b>	Content management system
<b>GDPR</b>	General Data Protection Regulation
<b>EAB</b>	Executive Advisory Board
<b>EC</b>	European Commission
<b>EU</b>	European Union
<b>HARTU</b>	Handling with AI-enhanced Robotic Technologies for flexible manufactUring
<b>WP</b>	Work Package
<b>KPI</b>	Key Performance Indicator
<b>SQL</b>	Structured query language
<b>SEO</b>	Search engine optimisation

## Project overview

---

The HARTU project is an industry-driven research project that addresses the key challenges of parts handling, including grasping, assembly, and releasing, by leveraging innovative technical approaches.

The project will develop tools to achieve four main goals. Firstly, HARTU will establish self-supervised grasp and release planning policies identification and control. Secondly, it will teach and control contact-rich assembly skills from human demonstrations. Thirdly, HARTU will develop an AI-based multi-modal perception for visual-servoing and continuous monitoring in handling operations, supported by virtual and continuous learning. Finally, the project will create versatile and dexterous soft grippers with electro-active fingertips.

The project is driven by the industry and will include the deployment of technologies in five industrially relevant scenarios, including automotive, household appliances, hand tool manufacturing, food processing, and logistics. These scenarios offer a wide range of products in terms of shape, material, and size, enabling HARTU to increase the flexibility, reconfigurability, and efficiency of manufacturing lines. Additionally, HARTU aims to contribute to the user acceptance and adoption, identification of skills development needs, and compliance with the liability/legal and ethical aspects.



## 1. Dissemination overview

---

Dissemination, communication, and exploitation activities are crucial for the HARTU project to convey information, share new knowledge, and raise awareness through various channels. These activities ensure that project results and outputs are accessible to interested parties and key decision makers, promoting HARTU's achievements to a broader audience.

Work Package 6 is dedicated to communication, dissemination, and exploitation tasks, with specific actions aligned with the project's phases to bring EU-funded research and its results to the attention of multiple audiences. The dissemination efforts span the entire project duration (36 months), consistently communicating progress and results to engage all identified target audiences. Over the past 12 months (from June 2023 to June 2024), these strategies were implemented and adapted following the project's approach and communication objectives:

- **Disseminate key messages and goals**, according to the strategic approach of the project.
- **Attract stakeholders** by finding key targets interested in the project's outcomes and adapt events and activities based on the audience HARTU wants to network with.
- **Tailor information** by personalising communication content, style, and support based on stakeholders' interests and needs, and the project's development as well.
- Ensure **knowledge sharing**
- **Measure impact** thanks to the use of indicators to track dissemination activities and monitor progress, ensuring the strategy achieves expected results

### 1.1. Dissemination goals

The communication and dissemination parts of the project adopt an inter- and transdisciplinary approach to deliver societal, industrial, and technical objectives. The key objectives are to engage stakeholders and end-users to raise awareness and social acceptance and to communicate milestones, results, and HARTU's outcomes. The success of dissemination tasks is linked to reaching the widest possible audience of stakeholders who will adopt and validate the project's results.

Depending on the project phase and expected stakeholder involvement, the dissemination activities aim to:

- **Grant visibility** to the research at all levels, ensuring content reaches policy makers, relevant stakeholders, and communities.
- **Create a community** of interested stakeholders and contribute to increased acceptance of developed solutions, making the project well-received, likely to be adopted, and effective in achieving its goals.
- **Provide increased acceptance** of HARTU's developed solutions by end-users according to ethics, safety, and regulatory frameworks.
- **Make project results available** to the scientific community, potential industrial partners, and policy makers through a tailored communication and dissemination strategy.

- **Define an effective exploitation** plan for the project results to ensure effective use and maximum possible impact.

In the first part of the project (M1-18), our focus was on raising awareness and grant visibility to the research, reaching primarily the scientific and the industrial community. We shared project results and progress on social media and our website and participated in conferences to promote our early achievements. Now, at the halfway point of the project, we will intensify our efforts to engage more deeply with end-users and policymakers. This shift aims to continue our research and validate the effectiveness of the ongoing work.

## 1.2. Target audience

In the first version of this document D6.1 – Dissemination, Communication and Exploitation plan, HARTU's target audiences has been outlined. Four main clusters were identified:

- 1) **International industry**, interested in the innovations and technologies developed within the project for potential adoption of the new handling and assembly technology in different kinds of sectors.
- 2) **Scientific community at international level.**
- 3) **Standardization and regulation bodies, policy and decision makers** to which HARTU would provide relevant information concerning the results of the most recent research initiatives, e.g. EU commission, standardization bodies, entities dealing with ethics.
- 4) **End users**, especially people interested in the topic of our research, and workers who fear and do not trust AI based robotics.

During the first half of the project, the primary target audiences that were successfully engaged included the general public, end users, the scientific community, and people from the international industry. This was achieved by focusing on HARTU's online presence and attendance of events and conferences where these audiences were participating, allowing us to present the project and its demonstrators effectively. Notably, the webinar and the open day organised in M14 and M16, attracted a significant number of end users and specialised audiences, two critical target groups for HARTU and its research.

In the second half of the project, with more tangible results available, our efforts will expand to also reach the European Commission, a broader scientific community, and policy makers. This strategic shift aims to ensure that HARTU's outcomes are disseminated to influential stakeholders who can further the project's impact and adoption.

## 2. Dissemination Actions

---

The communication and dissemination of the HARTU project is a collaborative activity managed by Deep Blue and supported by the entire consortium to ensure effective diffusion of information.

In this section, an update on the completed activities, means, and channels of communication and dissemination that were outlined in D6.1 is provided. Each section details accomplishments, highlights the adjustments made to address project needs, and describes any changes implemented to enhance the communication strategy.

### 2.1. Dissemination pack

Distribution of branded multimedia products has been crucial for the project identity and recognisability. They were used during organised presentations, public events, forums, and conferences, to reinforce the project messages with visual representation as well. Simultaneously, the same products were uploaded and made accessible via the website, ensuring shareability and readability to the largest audience.

The dissemination pack (see Annex A.1) is composed of a set of products associated with the project image: the logo, the style guide, and the document templates. It is developed to ensure consistency to the project communication. It is a practical framework shared with all HARTU consortium and updated throughout the project duration.

The dissemination pack can be consulted in the D6.1 – Dissemination, Communication and Exploitation plan and it contains: different versions of the logo, the font styles, the style guide, the word template for deliverables and the power point presentation template. All materials have been made available to partners on the shared repository and updated when needed.

### 2.2. Concept images

A significant effort has been allocated to the development of the concept images of the project. Initially, we aimed to create a conceptual image that highlighted the central theme of HARTU. We finally developed two paired images (see Figure 1) which represent the pilot cases, the core of HARTU's work, showcasing them before and after the implementation of HARTU technologies. This includes representations of the current scenarios, and the future, flexible scenarios where HARTU technologies, AI, and the human role come into play.



Figure 1 - Current manufacturing scenario (figure above) and Future, flexible manufacturing scenario (figure below)

Furthermore, a third concept image (see Figure 2) was created, focusing on the challenges and needs of the project, the actors involved (both technical studies and user-related studies), the solutions, and their implementations in real-world cases.

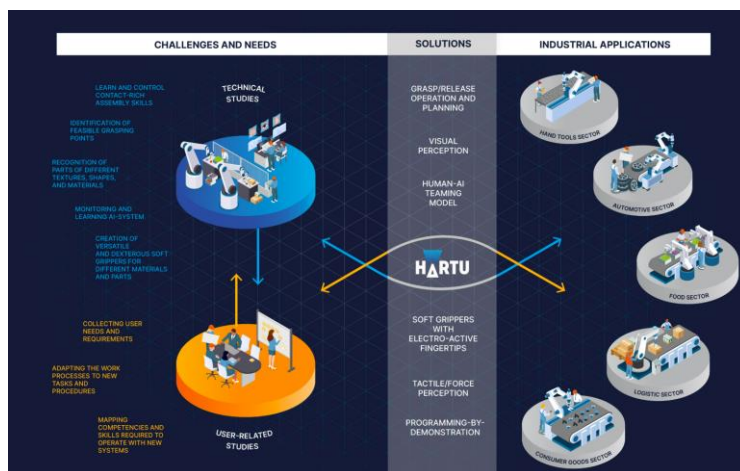


Figure 2 - Challenges and need - concept image

Initially released in October 2023, these images were later refined to enhance the realism of the scenarios during the production of the video in April-May 2024. These images are featured on the website, respectively in the “Homepage” and “About” sections. Partners are encouraged to use them during presentations. The images are also included in the flyer, poster and project video. Additionally, these images are available for download on the website.

### 2.3. Flyers and poster

One flyer has been produced to present HARTU’s objectives and concept. It is available for download on the website and can be found in Annex A.2. A project poster was designed as well, based on the content used in the flyer. Posters were printed and showcased during public project events and at conferences and workshops (see 2.11.1 paragraph)

### 2.4. Presentations

Different presentations have been prepared for the participation in conferences, workshops, third-party events, and internal meetings. The presentations have always included the main project references, such as the link to the project website, social media pages and contacts.

### 2.5. Videos

Two project videos are planned to be produced to disseminate project objectives and results. A project presentation video has been produced during HARTU’s first phase (M01-18), and a preliminary results video will be published during the second phase of the project (M19-36). The videos will be posted on HARTU's YouTube channel<sup>1</sup>.

As of the time this document is written (June 2024, M18), the first video production has just been completed<sup>2</sup>. Therefore, metrics on views and interactions are not available yet as its launch is very recent. The video is entirely in motion graphics, and it starts providing a general overview of the project, followed by a second part dedicated to HARTU’s demonstrators. It illustrates the challenges of each pilot cases and how HARTU's technologies will be implemented in futuristic scenarios.

The video incorporates graphical materials produced for the concept images and additional materials developed for the video's sake. The video was produced by DBL, which managed the whole process encompassing of: scriptwriting, storyboarding, motion graphics production, release, and dissemination via social media, the project website, and newsletters. Throughout the process, the consortium supported the activity, and it was consulted to ensure an accurate representation of the scenarios and validate the correctness of the information presented both graphically and verbally through the voiceover.

This video will be displayed at conferences, public and online events and whenever there is the need to provide an overarching understanding of the project research aims and goals. In Figure 3 some scenes from the storyboard are presented.

---

<sup>1</sup> <https://www.youtube.com/channel/UCZRalkULYephAant7vG0uJQ>

<sup>2</sup> <https://www.youtube.com/watch?v=1CJm7az7Xio>

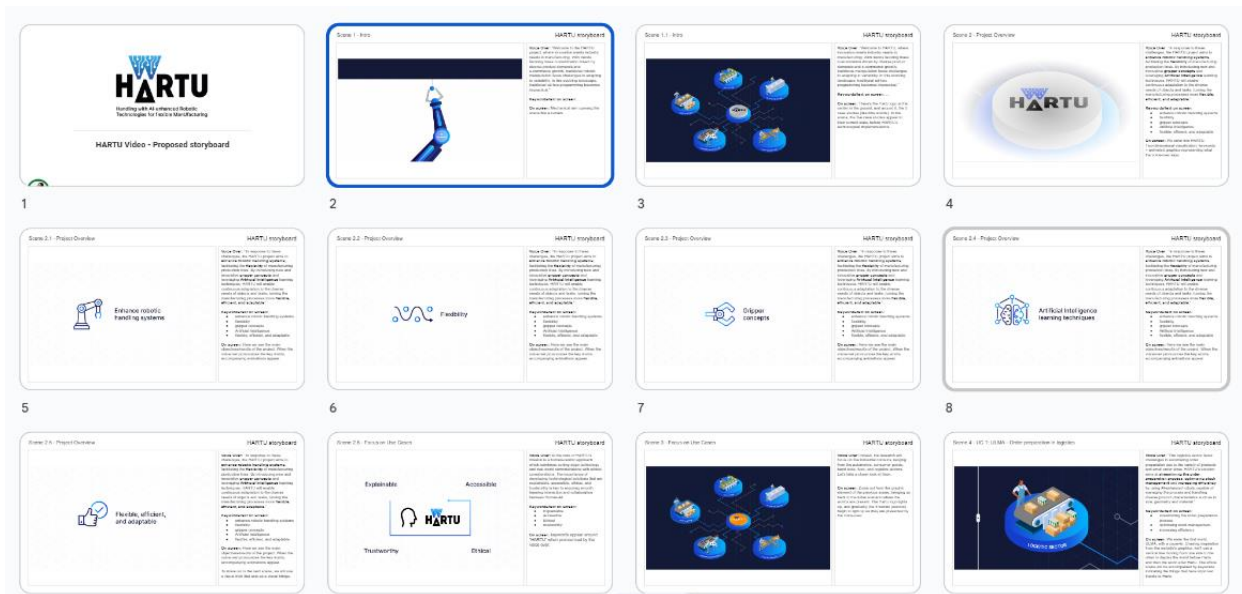


Figure 3 - HARTU first video's storyboard

The second video will be produced at the end of the project, likely focusing with more details focussing on the solutions and results achieved over the three years of work. Unlike the first video, which used motion graphics, the second video will likely feature interviews with partners, showcasing the project's achievements through the very words of the people who worked on them. Moreover, in the second video a collection of demos of the solutions developed from the different use cases will be implemented.

### 2.6. Website and news

The website has been constantly updated and it represents the main dissemination activity channel: news, progresses, events, incoming webinars and any other announcement are issued via its news section. It is also used as a repository of relevant documents, public deliverables, and scientific publications. The website has been updated with news regarding events organised by the project and those in which the project participated, along with the addition of blog posts that are of interest to the audience. All project partners are supporting this task by sharing updates about publications, participation in conferences or new project results.

In Table 1, all the articles published in the news section of the website are listed:

Table 1 - HARTU blogposts

N°	Title	Link
1	HARTU official website is finally online!	<a href="https://www.hartu-project.eu/2023/07/21/hartu-official-website-is-finally-online/">https://www.hartu-project.eu/2023/07/21/hartu-official-website-is-finally-online/</a>
2	HARTU official kick-off meeting in Eibar	<a href="https://www.hartu-project.eu/2023/06/30/hartu-official-kick-off-meeting-eibar/">https://www.hartu-project.eu/2023/06/30/hartu-official-kick-off-meeting-eibar/</a>

3	HARTU #1 press release	<a href="https://www.hartu-project.eu/2023/07/26/hartu-press-release/">https://www.hartu-project.eu/2023/07/26/hartu-press-release/</a>
4	Industry 5.0 is here with the HARTU project	<a href="https://www.hartu-project.eu/2023/10/20/manipulating-the-unknown-with-artificial-intelligence/">https://www.hartu-project.eu/2023/10/20/manipulating-the-unknown-with-artificial-intelligence/</a>
5	Manipulating the unknown with Artificial Intelligence	<a href="https://www.hartu-project.eu/2023/10/20/manipulating-the-unknown-with-artificial-intelligence/">https://www.hartu-project.eu/2023/10/20/manipulating-the-unknown-with-artificial-intelligence/</a>
6	HARTU's human-centered approach: a progress update	<a href="https://www.hartu-project.eu/2023/12/13/hartus-human-centered-approach-a-progress-update/">https://www.hartu-project.eu/2023/12/13/hartus-human-centered-approach-a-progress-update/</a>
7	Grippers and the future of object grasping in manufacturing	<a href="https://www.hartu-project.eu/2024/01/15/grippers-and-the-future-of-object-grasping-in-manufacturing/">https://www.hartu-project.eu/2024/01/15/grippers-and-the-future-of-object-grasping-in-manufacturing/</a>
8	HARTU Showcases Robotics Advancements at the Cibus Tec Fair	<a href="https://www.hartu-project.eu/2023/11/14/hartu-showcases-robotics-advancements-at-the-cibus-tec-fair/">https://www.hartu-project.eu/2023/11/14/hartu-showcases-robotics-advancements-at-the-cibus-tec-fair/</a>
9	1st HARTU newsletter	<a href="https://www.hartu-project.eu/2024/02/12/1st-hartu-newsletter/">https://www.hartu-project.eu/2024/02/12/1st-hartu-newsletter/</a>
10	1st HARTU webinar on soft grippers. Join us!	<a href="https://www.hartu-project.eu/2024/01/30/1st-hartu-webinar/">https://www.hartu-project.eu/2024/01/30/1st-hartu-webinar/</a>
11	OPEN DAY – Robotic Technologies: from manufacturing to the medical and healthcare environment	<a href="https://www.hartu-project.eu/2024/04/04/open-day-robotic-technologies-manufacturing-medical-healthcare-environment/">https://www.hartu-project.eu/2024/04/04/open-day-robotic-technologies-manufacturing-medical-healthcare-environment/</a>
12	Empowering flexible robotic assembly in industrial operations	<a href="https://www.hartu-project.eu/2024/05/22/empowering-flexible-robotic-assembly-in-industrial-operations/">https://www.hartu-project.eu/2024/05/22/empowering-flexible-robotic-assembly-in-industrial-operations/</a>
13	What happened at the General Assembly in Bari?	<a href="https://www.hartu-project.eu/2024/06/17/what-happened-at-the-general-assembly-in-bari/">https://www.hartu-project.eu/2024/06/17/what-happened-at-the-general-assembly-in-bari/</a>

To enhance the website's visibility on search engines, we've implemented Search Engine Optimization (SEO) functionalities. Matomo analytics<sup>3</sup> is adopted to monitor website analytics, usage and access, providing valuable navigation insights while protecting visitors' privacy and online security. HARTU's website is fully compliant with GDPR regulations, utilising trusted services like Iubenda<sup>4</sup>, with Deep Blue acting as data controller. The website privacy policy is continuously updated to comply with the latest EU provisions.

Below, the annual (June 2023 – June 2024) website activity, including the number of visits and the geographical locations of the visitors, are displayed in Figure 4.

<sup>3</sup> <https://matomo.org/>

<sup>4</sup> <https://www.iubenda.com/en/>

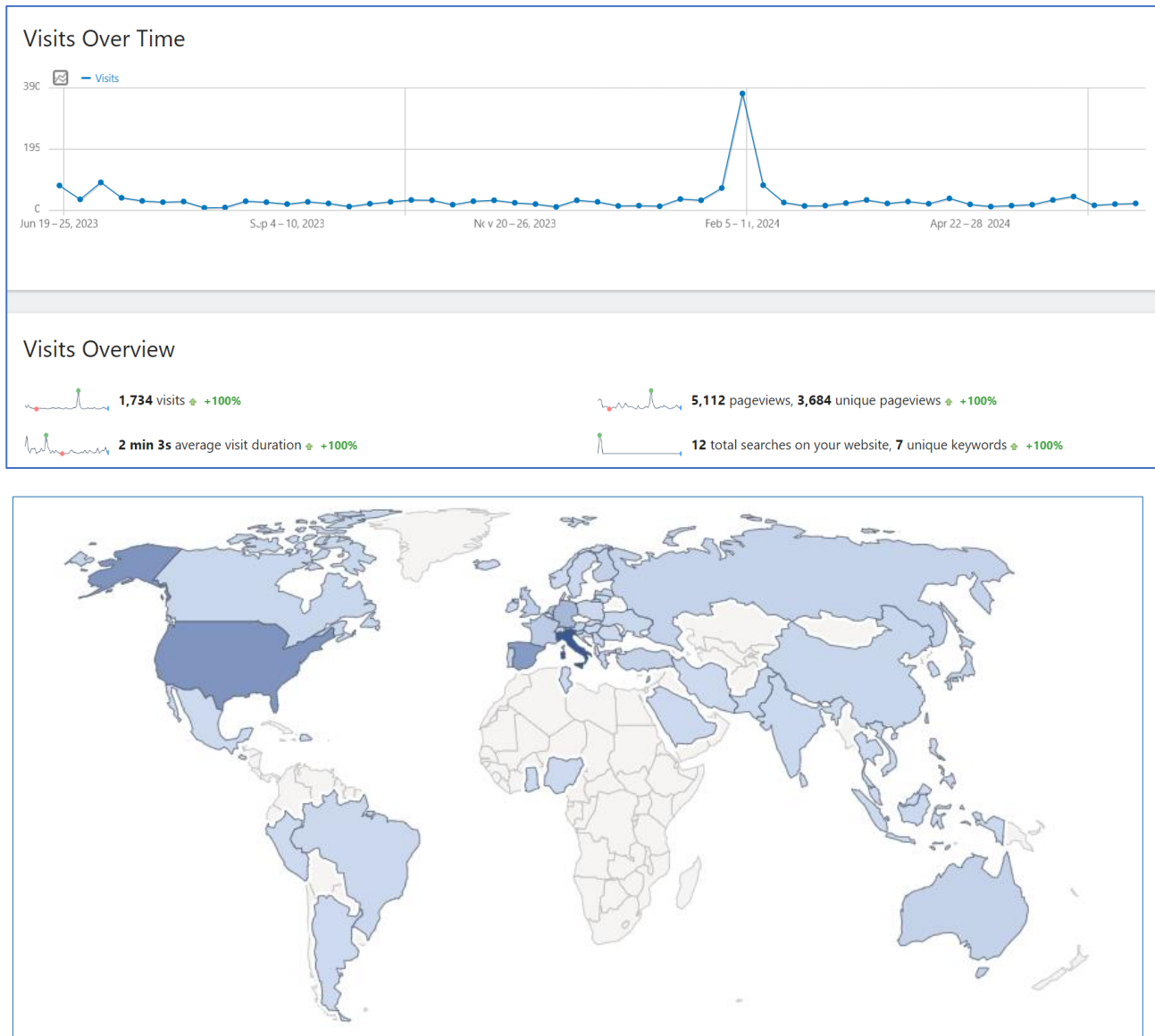


Figure 4 - Website visits (figure above), website visitors' locations (figure below) (June 2023 - June 2024)

## 2.7. Scientific articles and papers

During the lifetime of the project, it is expected that 18 scientific publications will be released as Gold Open Access: six in the first phase (M1-18), twelve in the second one (M19-36). These scientific and technical publications must be published on international peer-reviewed scientific journals to ensure the quality and accuracy of the research.

HARTU will follow the European guidelines on the large-scale accessibility of project findings; in fact all the scientific articles and papers are available on the HARTU website.

Given the challenging target for scientific publications in the initial project phase, the partners published only 3 out of the planned 6 scientific papers. A paper presented in June is currently under review for approval. The full abstract has been submitted, and if accepted, it will be presented in September 2024. This deviation is understandable as the project did not have sufficient results at the time to support a larger number of scientific publications in the first year. To mitigate this issue,



in the second part of the project, efforts will be intensified to address this aspect, although the number of publications to be produced will be adjusted in the KPI section to reflect a more realistic target.

Additionally, to share scientific papers, datasets, and other project outputs, a dedicated space was also created on the ZENODO<sup>5</sup> platform. ZENODO is a general-purpose data repository built on open-source software that accepts all forms of research output, from data files to presentation files. This platform facilitates the sharing and dissemination of HARTU's research findings, ensuring that they are accessible to the wider scientific community and other interested parties.

Table 2 - List of HARTU scientific publications up to M18

Date	Title	Name of the event/journal	Peer-reviewed	Partners involved
March 2024	Robotic grasping decision making assisted by AI and simulation	European Robotic Forum - ERF24 (approved)	Y	TEK
March 2024	Preliminary Evaluation of an Embedded FBG-Based Force Sensor for In-Hand Grasp Monitoring	European Robotic Forum - ERF24 (approved)	Y	AIMEN
May 2024	Gaussian Mixture Likelihood-based Adaptive MPC for Interactive Mobile Manipulators	2024 IEEE International Conference on Robotics and Automation (approved)	Y	DFKI
June 2024	Towards human-centric industrial training	International Conference ADM2024 (waiting for approval)	Y	DBL

## 2.8.Social networks

For disseminating the project outcomes, the consortium has chosen to use the following social media networks: LinkedIn, Twitter, and YouTube. These channels help open discussion around the project topics, not only among a specialised audience but also involving the general public.

Since M3 HARTU is present on these platforms. HARTU is using social networks to enlarge its group of followers and ensure a broader dissemination of its findings and results towards different kinds of audiences. During its first 6 months, the project reached 51 followers across its social media (33 on LinkedIn and 17 on X), and its updates received almost 3.000 views. From M7 to M12, the project reached 126 followers across its social media (95 on LinkedIn and 31 on X), and its updates received more than 6.000 impressions. During the last six months (M13-M18), the project reached 225 followers (189 on LinkedIn and 36 on X), keeping the trend of interactions positive.

- **LinkedIn** link: <https://www.linkedin.com/company/hartu-project/>
- **X** link: [https://twitter.com/HARTU\\_project](https://twitter.com/HARTU_project)

<sup>5</sup> <https://zenodo.org/communities/hartu/records?q=&l=list&p=1&s=10&sort=newest>

- **YouTube** link: <https://www.youtube.com/channel/UCZRalkULYephAant7vG0uJQ>

LinkedIn was launched in March 2023. In Figure 5 the most relevant analytics from the last 12 months (June 2023-June 2024) are reported.

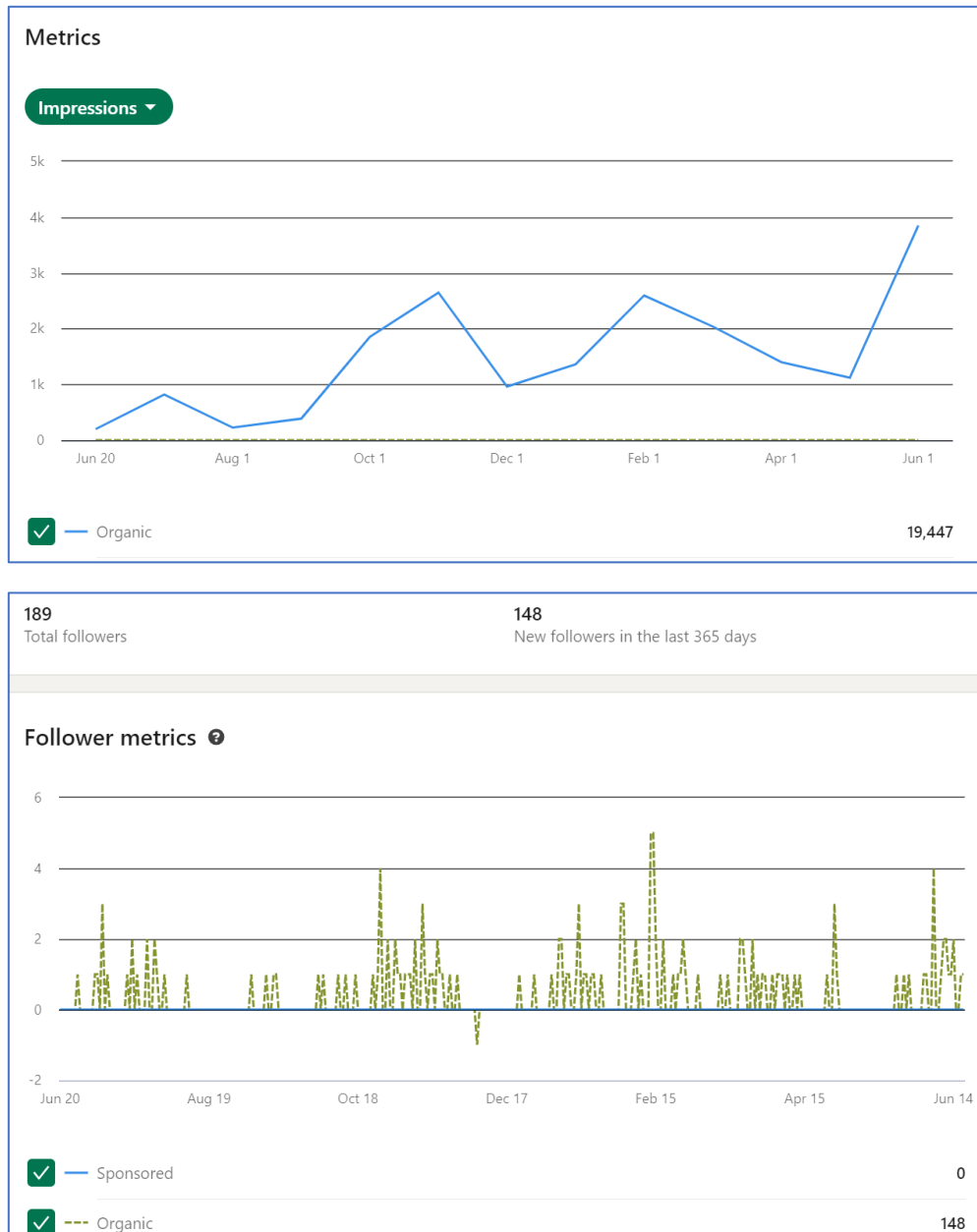


Figure 5 - LinkedIn impressions (figure above) and LinkedIn followers (figure below) (June 2023 - June 2024)

X was launched in March 2023, as well. It has been observed that impressions and followers on X are not very high, especially when compared to the positive performance on LinkedIn. This is likely due to the declining user base on X and the platform's limitations in facilitating the dissemination of non-sponsored content. As a result, raising awareness about the project is more challenging on X. However, we will continue to use it as a platform, while fine-tuning our dissemination efforts through more effective channels like LinkedIn.

Since the platform does not give the possibility to have an annual report of the analytics, in the Figure 6 below the impressions from April 2024 to June 2024 are presented.

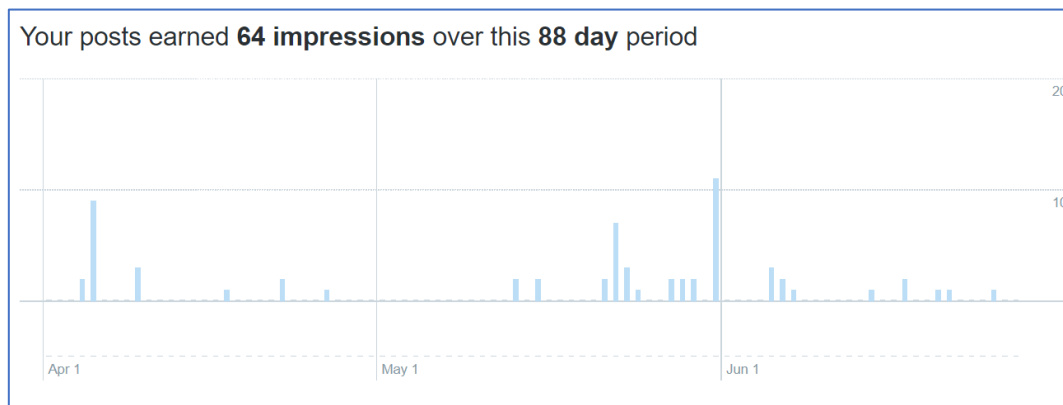


Figure 6 - X impressions (April 2024 - June 2024)

Currently, regarding YouTube, only one video (the webinar recording) has been published. The video is the recording of the first webinar of the project. It was uploaded to the project's YouTube channel, emailed to registered participants, and shared on the website and social media for further dissemination. Currently, it has garnered over 100 views (see 2.11.2 paragraph).

## 2.9. Newsletters

The project planned to send out a bi-annual project e-newsletter to partners, key stakeholders, specific audiences and interested contacts who have subscribed to the form on the website. The newsletter's aim is to keep the audience interested and informed about activities and results, public deliverables presentation, project progression, and publications, by providing insights, useful links, and relevant contents related to the manufacturing and robotics domain in Europe.

The first newsletter was sent in February 2024 ([link](#)). The decision to skip the first year was related to the low number of subscribers and the fact that a press-release was already sent out (see section 2.10). The second one has been sent by the end of Month 18, June 2024 ([link](#)) and another one is planned by the end of the year.

The newsletter layout was divided into three sections: "Latest News", featuring the latest project updates and events; "Articles", showcasing articles published on the project website; "Focus", a section dedicated to a specific theme, different in each issue; and "Around the web", to recommend interesting readings on HARTU topics that the consortium might find on the Internet. Some screenshots from the first issue are displayed in Figure 7.

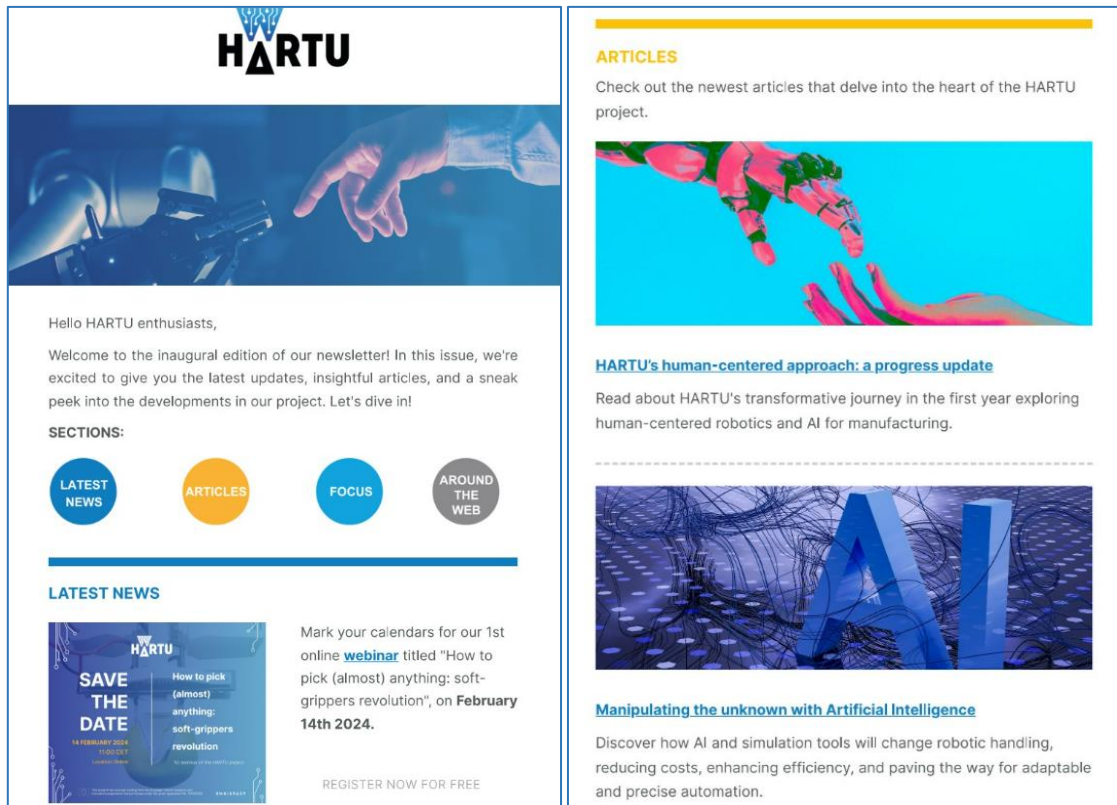


Figure 7 - HARTU 1st newsletter

## 2.10. Press releases

The first press release was sent out by the consortium at the end of April 2023, four months after the project kicked-off. This press release introduced the project, its objectives, methodology, the consortium, and included a quote from the coordinator. We prepared an English version of the press release, which every partner could tailor and translate in their own local language to spread it through their national press contacts. Then, the press release news was published on social media and the website, where the English versions is available for download. The media coverage recorded 6 websites who reported the news of the HARTU’s launch. Below, a list of the websites and news outlets is presented:

Table 3 - HARTU references online

Date	Link
July 2023	<a href="https://www.tekniker.es/en/robotic-product-handling-more-flexible">https://www.tekniker.es/en/robotic-product-handling-more-flexible</a>
July 2023	<a href="https://dblue.it/hartu-ia-industria-manifatturiera/">https://dblue.it/hartu-ia-industria-manifatturiera/</a>
July 2023	<a href="https://industry.itismagazine.it/approfondimenti/hartu-accompagna-il-manifatturiero-verso-lindustria-5-0/">https://industry.itismagazine.it/approfondimenti/hartu-accompagna-il-manifatturiero-verso-lindustria-5-0/</a>
July 2023	<a href="https://www.giornaledellepmi.it/lintelligenza-artificiale-per-incrementare-la-produzione-dellindustria-manifatturiera/">https://www.giornaledellepmi.it/lintelligenza-artificiale-per-incrementare-la-produzione-dellindustria-manifatturiera/</a>

July 2023	<a href="https://polibachronicle.poliba.it/sistemi-di-intelligenza-artificiale-per-il-settore-manifatturiero/">https://polibachronicle.poliba.it/sistemi-di-intelligenza-artificiale-per-il-settore-manifatturiero/</a>
July 2023	La Repubblica – Puglia Economia, printed newspaper
August 2023	<a href="https://www.itri.org.tw/english/ListStyle.aspx?DisplayStyle=01_content&amp;SiteID=1&amp;MmmID=617731531241750114&amp;MGID=1220026645146162735">https://www.itri.org.tw/english/ListStyle.aspx?DisplayStyle=01_content&amp;SiteID=1&amp;MmmID=617731531241750114&amp;MGID=1220026645146162735</a>
August 2023	<a href="https://opengovasia.com/taiwan-improves-manufacturing-with-ai-enhanced-robotics/">https://opengovasia.com/taiwan-improves-manufacturing-with-ai-enhanced-robotics/</a>

## 2.11. Events

Participating and organising events is a core part of HARTU dissemination strategy. Partners have participated in numerous live events, conferences, and fairs to understand what is new in the manufacturing sector, raise awareness on the project, and forge relationships and synergies.

### 2.11.1. Public events attended

Participating in events increases visibility and helps connect with stakeholders and other experts in the field. Our partners have actively participated in several strategic events to promote HARTU and disseminate its findings. In the table below a list of events and fairs that the consortium attended during the first 18 months of the project is presented.

Table 4 - List of external events and conferences

Date	Event	Target audience	Partners involved
March 2023	European Robotic Forum 2023 (ERF23)	Mainly European robotics researchers	TEK
August 2023	ITRI ROBOTIC FORUM	Automation Industries Robot manufacturers	ITRI
October 2023	V Sener Innovation Forum	Workers of this large Spanish Engineering company and their collaborators	TEK
October 2023	CIBUS TEC fair	Experts in the food and beverages sector	TCA
March 2024	European Robotic Forum 2024 (ERF24)	Mainly European robotics researchers	TEK AIMEN
March 2024	RIN event	RIN Members	ITRI
April 2024	AIMEN event	Industry and research centres	AIMEN
May 2024	IEEE International Conference on Robotics and Automation (ICRA24)	Industry, companies, academia, researchers	OMNI

June 2024	BIEMH 2024 fair	Industrial companies: providers and purchasers. system	TEK
June 2024	Secpho 2024	Industry and research centres working on vision applications	AIMEN
June 2024	10th International Summer School on Industrial Agents 2024	University students and professors	TEK
June 2024	Intelligent Motion Control under Industry4.E (IMOCO4.E) – Clustering event	Coordinators and representatives of 33 EU funded projects on AI and robotics	TEK

### 2.11.2. Organised events: open days and webinars

According to the first Dissemination, Communication and Exploitation plan (D6.1), the HARTU project must organise:

- one workshops in the form of webinar per year
- two virtual open days
- one intermediate dissemination event (M18) in synergies with other EU activities/projects
- a final dissemination event (M36).

In M14, February 2024, the project's first webinar was held online. This webinar, titled “How to pick (almost) anything: the soft grippers revolution”, was focused on the innovative gripper technologies that HARTU intends to implement in its case studies.

Publicity campaigns were planned in the months leading up to the event, targeting a wide audience, particularly end users, system integrators, and robotic companies. The webinar was successfully conducted and was well-received. Over 100 participants registered, and more than 80 remained active throughout the 1.5-hour session. The webinar was recorded, uploaded [to the project's YouTube channel](#), emailed to registered participants, and shared on the website and social media for further dissemination. Currently, it has garnered over 100 views. In the coming months, efforts will be directed towards organising another webinar, focusing on a topic as compelling as the first one.

Regarding the open days, the first one was held by TEK in the company’s facilities. It was an in-person event designed to showcase the advancements in robotic technologies, including robots capable of perceiving their environment, manipulating objects, and interacting seamlessly with humans

At the heart of this event were three groundbreaking projects: the Cervera 5R Network<sup>6</sup>, the HARTU project, and the MASTER project<sup>7</sup>. The Cervera 5R Network focuses on robotic technologies in smart manufacturing, while HARTU is dedicated to developing flexible and versatile robotic handling

<sup>6</sup> <https://red5r.es/5r-project-cervera-network-of-robotic-technologies-in-intelligent-manufacturing/>

<sup>7</sup> <https://cordis.europa.eu/project/id/101093079>

systems. The MASTER project explores the integration of augmented and virtual reality technologies into robotic applications. Together, these initiatives offer innovative solutions that push the boundaries of traditional robotics.

During the conference, attendees had the opportunity to delve into real-world use cases and explore the potential applications of these technologies across various sectors, including medical and healthcare. The event featured presentations by experts involved in these projects, providing valuable insights into the future of robotics.

Finally, the intermediate dissemination event, as of the time this document is being written, has not yet taken place. Efforts are currently underway to organise this event in collaboration with other projects in the field of manufacturing. The event is planned to be held around September/October. We are currently considering participating in an event organised by other EU projects in the field of manufacturing in Norway in October, though we do not have detailed information yet. Alternatively, we are planning to secure a space, possibly with a workshop or a poster session, during the 2024 [IEEE 20th International Conference on Automation Science and Engineering](#) in Bari in September. Both OMNI and POLIBA will be attending this conference, so it would be beneficial for HARTU to sponsor the event and gain visibility in such a prominent setting. However, at the time of writing this document, these plans are not yet finalised.

## 2.12. Internal dissemination

The internal communication strategy focused on raising interaction and knowledge transfer between partners to ensure the project's success. Partners interacted through regular teleconferences and other multi- and bi-lateral contacts with each other. All partners interact regularly, with periodic updates provided during monthly meetings and planned General Assemblies.

Internal communication is facilitated through emails, a SharePoint document management system, and with regular dissemination meetings to maintain a coordinated and cohesive approach to the project's dissemination. During the first year of the project, a monthly dissemination meeting was implemented to keep everyone updated and to receive direct feedback from partners on important communication and dissemination activities. However, over time these meetings became less frequent and were held as needed, particularly when it was necessary to discuss more complex topics. For example, a series of dedicated meetings were conducted regarding the development of the concept for the video.

### 3. Monitoring and KPIs

To ensure the effectiveness of our dissemination strategy, Key Performance Indicators are used to track progress. Below, the table will display their status as of month 18.

Table 5 - Dissemination and Communication KPIs

KPIs for Dissemination & Communication activities	Phase 1 (M1 – 18)	Phase 2 (M19 – 36)	Overall
N° of open days organised reaching 200 participants in total	1/1	0/1	1/2
N° of workshops in form of webinar organised (one per year)	1/1	0/2	1/3
Intermediate dissemination event in synergies with other EU initiatives/projects	0/1	0/0	0/1
Final dissemination event organised	0/0	0/1	0/1
Presence at fairs	2/1	0/2	2/3
Presence at conferences	12/3	0/7	12/10
Focus groups/meetings (remote) with stakeholders	5/5	0/7	5/12
Number of synergies created with other relevant H2020 and HE projects	4/4	0/6	4/10
Number of articles published (including scientific publications as Open Access)	3/3	0/14	3/17
Number of press releases delivered to traditional media	1/1	0/2	1/3
Number of unique visitors to the website (based on Google Analytics)	1.734/1.000	3.000	1.734/4.000
Social media followers (LinkedIn and Twitter)	225/200	300	225/500
Project videos	1/1	0/1	1/2

The monitoring of the KPIs has been crucial in understanding the project's progress and in identifying what needed to be implemented and what was truly effective. HARTU is not only on track with its objectives for M18 but, in some cases, it has also greatly exceeded expectations. As visible in the table, we have put significant effort into dissemination through social media and the website, allowing us to reach a broad audience. Currently, we have 220 followers (185 on LinkedIn and 35 on X). This success is due in part to the consortium's support in resharing and engaging with posted content, as well as the interesting articles published on the website that have captured the public's interest. Additionally, the participation of partners in fairs and events has greatly helped in raising awareness about the project and expanding our network.



In the second part of the project, we will focus more on publishing papers to further engage with the scientific community and on organising more events to attract our desired target audiences.

### 3.1. Deviations

In a research project and communication strategy, deviations and modifications to the original plans are common and often necessary. These adjustments are typically driven by the dynamic nature of the research, where initial assumptions and plans may need to be re-evaluated as new data and insights are gathered. Additionally, the feedback from stakeholders and the evolving context in which the project operates can necessitate changes to better align with the goals and enhance the overall impact. Also, HARTU needed some adjustments to its original plans. Below, all deviations from the initially agreed KPIs are listed:

- **N° of open days organised reaching 200 participants in total:** initially, the KPI for the open days was set as "Virtual open days reaching 200 interested companies." However, we opted to hold the first open day in person at TEK, taking advantage of the opportunity for participants to visit the labs and demonstrators' sites where researchers are working on some of HARTU's case studies. We did not engage 200 companies as initially planned, recognising that this goal was very challenging and ambitious. Instead, we adjusted our target to involve 100 participants in the first open day and 100 in the second, totalling 200 participants. This revised goal is more realistic while still effective in promoting HARTU among our target audiences.
- **Intermediate dissemination event in synergies with other EU initiatives/projects:** during the first 18 months of the project, it was not possible to organise this event. The first 12 months were entirely dedicated to study and research, and partners participated in many events and conferences to present the project. An opportunity arose to participate in a joint event with our sister projects, but it coincided with an intense reporting period for the project, making participation impossible. Therefore, the event will be organised, still in synergy with other projects, possibly around September/October 2024. This represents only a slight deviation from the original plan, which aimed to have it by month 18.
- **Number of articles published (including scientific publications as Open Access):** the target for publishing scientific articles was quite challenging, particularly in the first 18 months when the project did not have tangible results yet. The number has been recalibrated to reflect this. Initially, the plan was to have six scientific articles in the first 18 months and twelve in the second half of the project. This has now been adjusted to three in the first half and fourteen in the second half.

## 4. Stakeholders' engagement

---

The purpose of these activities is to organise a structured dialogue between the project and several European stakeholders, either from public or private entities, in order to maximise HARTU's outreach. It includes clustering and cross-fertilisation activities with other EU funded projects, such as sister projects funded under the same topic and other relevant international projects and initiatives within the field, dissemination activities and exchange of best practices and challenges and increase the uptake potential of HARTU across Europe and beyond (i.e., EU-Taiwan Robotics Working Group).

An additional objective is to contribute to standardisation activities, in particular with standardisation bodies working on benchmarking for handling tasks.

### 4.1. Target audience

HARTU considers the following stakeholders as the most relevant to engage with:

- Industrial manufacturing companies in different sectors;
- System integrators and application builders;
- Robot manufacturers and automation industry;
- Decision and policy makers: European commission, industrial associations, stakeholder communities and networks, such as the Made in Europe partnership, the Industry4Europe coalition, national manufacturer associations, Food industrial associations, etc.
- Standardisation bodies;
- Scientific and academic community;
- Workers and managers working in the manufacturing sector;
- Other projects working in the field, in particular the 3 sister projects funded in the same topic;
- Interested general public.

### 4.2. Approach

Besides the communication and dissemination activities focused on those groups, HARTU consortium is committed to collaborating with other stakeholders to boost the robotics industry in Europe. This collaboration is underpinned by four initiatives:

1. An External Advisory Board has been created to receive feedback from relevant external experts
2. Collaboration with the more relevant DIHs and National initiatives
3. Collaboration with ongoing projects and platforms
4. Collaboration with standardization bodies working on benchmarking mechanisms for handling tasks

## 4.1. Stakeholders' engagement actions

Several actions have been carried out with the objective of establishing a structured dialogue and collaboration between the project and several European stakeholders, either from public or private entities, in order to maximise the outreach of the project.

### 4.1.1. Ongoing projects in the same topic

As reported in D6.1, during the period, HARTU, with the support of the PO, Mr. Giovanni Emma, has established a link with the sister projects in the Call HORIZON-CL4-2022-TWIN-TRANSITION-01-04: i.e., SMARTHANDLE, MASTERLY and AGILEHAND.

Besides the actions reported in D6.1, new actions have been carried out:

- **Communication and Dissemination coordination group:** meetings were conducted with the communication and dissemination teams of HARTU's sister projects. These collaborative efforts led to our participation in the Horizon Booster program for Communication and Dissemination as a cluster. We are continuing working together, seeking potential synergies and formulating joint actions, including newsletters, posts, conferences, and webinars. This approach aims to enhance communication efforts across projects, maximising the impact and reach of our shared knowledge and achievements.
- A joint event was organised by our sister projects, featuring a workshop to present the four projects during the "[International Conference on Engineering, Technology, and Innovation 2024](#)" in Madeira. Unfortunately, HARTU couldn't attend due to prior commitments that overlapped, but we actively participated in promoting the event on social media.
- Participation of the 4 projects in two workshops: the "*10<sup>th</sup> Hybrid Production Systems workshop*" in the context of the ERF2023, held in Odense (Denmark), as well as in the "*11<sup>th</sup> Hybrid Production Systems workshop*" in the context of the ERF2024, held in Rimini (Italy).

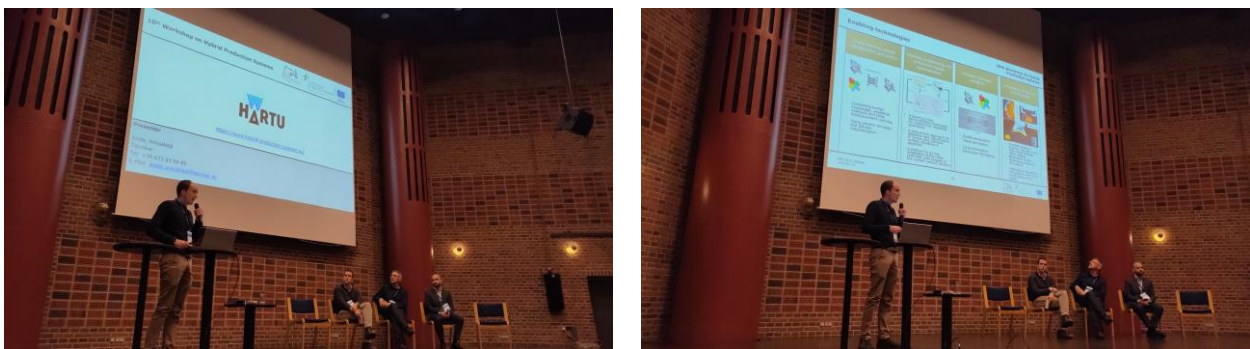


Figure 8. HARTU at the ERF23, presented by Ander Ansuategi (TEK)

In addition, HARTU has participated in the IMOCO4E (Intelligent Motion Control under Industry4.E, <https://www.imoco4e.eu/>), project Clustering initiative with an initial project presentation on 18 June.

### 4.1.2. DIHs, National and International activities

Partners of HARTU are members of several Digital Innovation Hubs, initiatives and associations. Through this participation, collaboration in co-organising events, workshops, open days, etc. will be explored (see D6.1).

Some of these initiatives done have been:

- On 23 February 2023, ITRI and TEK took part in the “**Horizon Europe Info Session 2023**” event to explain the project and explain the experience of Taiwanese partners’ participation in the proposal phase. The event was organised in Taipei by the ‘Directorate-General for Research and Innovation’ of the European Commission and both HARTU presentations were done remotely.
- **5R, Spanish Network of excellence** in robotics technologies in manufacturing (TEK and AIMEN), HISPAROB: Spanish robotic platform (TEK). The event organised by TEK 25 April which included visit to the 5 demonstrators of HARTU available at TEK, was done in collaboration with both organisations.



Figure 9. Open Day Event co-organized with 5R at TEK facilities

- As a further collaboration with the 5R network, TEK has used the virtual image generator component developed in HARTU to create a dataset of images that the students participating in the 5R Prize used to demonstrate their AI skills.
- On 27 March 2024, ITRI took part in an event organized by **EARTO/RIN** in Taiwan. ITRI showed the HARTU demonstrator in its booth showing HARTU.



Figure 10. From left to right: Steven Su, Senior VP (Itri), Su Huang, Director Intelligent Robotics (ITRI), Chyou-Huey Chiou, Director General Department of Industrial Technology Ministry of Economic Affairs Taiwan and Curtis Kuan, Intelligent Robotics (ITRI)

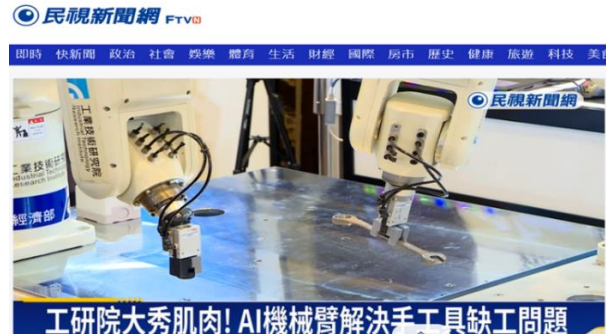


Figure 11. The HARTU demonstrator presented in the FTV tv channel

### 4.1.3. Advisory board

The consortium has created the External Advisory Board (EAB) with the objective of advising the HARTU consortium on technical developments and their commercial exploitation and business opportunities.

The composition of the EAB is a combination of different technical and business profiles:

- Javier García (SCHUNK)

As managing director for Spain and Portugal of this German company, he represents the industrial perspective of a manufacturer of industrial robotic grippers, which will provide valuable insights mainly for the new gripper concepts we are developing.

- Alfio Minissale ( COMAU S.p.A )

Alfio is an experienced researcher at this Italian robot manufacturer. His vision combines both the scientific side on different aspects of robotics and the needs of the robotics industry, seeking to increase the added value they offer to their customers.

He is also taking part in the sister project MASTERLY.

- Nicola Pedrocchi (CNR STIIMA)

Nicola works in the “Istituto di Sistemi e Tecnologie Industriali Intelligenti per il Manifatturiero Avanzato” and his research interests include control techniques for industrial manipulators in advanced applications requiring the interaction of robot-environment or robot-human operator (e.g., workspace sharing and teach-by-demonstration).

In addition, we have contacted with Tiziana Callari, a professor at Università di Torino specialised in user-centred design, specifically focussing on manufacturing industries, to give us her opinion on issues related to human aspects, but she was unable to attend on this occasion, as she was in Japan at the time.

The EAB met on May 30th, according to the following Agenda:

Start (CET)	Duration		Presenter
12:00	0:05	Welcome, objectives and organization of the meeting	TEK
12:05	0:05	Presentation of the members of the EaB	Alfio Minissale Nicola Pedrocchi Javier García
12:10	0:20	Project Overview	TEK
12:30	0:10	Grasp planning approach	TEK
12:40	0:15	Learning from demonstration. Control of contact rich assembly	DFKI
12:55	0:10	Application Manager Tool. Codeless programming	TEK
13:05	0:15	Electro adhesion technologies applied in HARTU. New gripper concept	OMNI, POLIBA
13:20	0:10	Initial feedback	EaB
13:30		End of meeting	

Figure 12 - 1st EAB meeting agenda

Even this was the first meeting and not all developments could be presented, the initial feedback was positive, and some interesting comments and discussions emerged.

The next EAB meeting is scheduled for the end of 2024, where new developments will be presented.

#### 4.1.4. Standardization

DFKI has adopted the task board proposed by NIST in “Assembly Performance Metrics and Test Methods”.

In the second period, it is expected that the activities in “T1.6 Evaluation of HARTU results on real Prototypes: System validation” can contribute to standardization in benchmarking.

## 5. Final remarks and conclusions

---

The HARTU project has made significant progress in its dissemination and communication activities. This is crucial to ensure that the innovative solutions developed within the project are effectively communicated, widely accepted, and ultimately adopted by end-users and stakeholders.

### Achievements to date:

- **Engagement with target audiences:** during the first 18 months, HARTU has successfully engaged with key target audiences, including end-users, the scientific community, and international industry representatives. This has been achieved through active participation in events, conferences, and the organization of open days and webinars.
- **Creation of high-quality dissemination materials:** a range of dissemination materials, including a motion graphics video, concept images, and posters, have been produced. These materials have been integral in communicating the project's goals and achievements to a broad audience.
- **Internal and external communication:** the project has maintained strong internal communication channels through regular teleconferences and meetings. Externally, we have utilised social media platforms and our website to share updates and results.
- **Collaborative efforts:** HARTU was committed to collaborating with sister projects. Joint efforts in promoting shared events have helped broaden our network and visibility within the EU research community.

### Future directions:

As we move into the second half of the project, our focus will shift towards more in-depth engagement with end-users and policy makers. This is crucial for validating our research and ensuring that the solutions developed are practical, effective, and ready for real-world implementation. Key activities planned for the upcoming period include:

- **Organising an intermediate dissemination event:** this will be held in collaboration with other EU projects, likely around September/October 2024. This event aims to showcase the progress and findings of HARTU to a wider audience.
- **Increasing scientific publications:** with more tangible results now available, we will intensify our efforts to publish and disseminate our findings through scientific journals and conferences.
- **Enhanced stakeholder engagement:** we will continue to refine our stakeholder engagement strategy, ensuring that we reach and involve the most relevant and influential audiences. It will be achieved through the organisation of webinars, open days and Advisory Board meetings.
- **Continuous improvement of dissemination practices:** by analysing the effectiveness of our current dissemination practices, we will make necessary adjustments to maximise impact and reach.

In conclusion, the HARTU project is well-positioned to achieve its dissemination, communication, and exploitation objectives and no major deviation are foreseen at this time in the project. Through strategic planning, active engagement, and continuous improvement, we are committed to ensuring that the innovative solutions developed within HARTU will have a meaningful impact on the manufacturing industry.



# A. Annex

## A.1. Dissemination pack

HARTU  
LOGO

INTRO COND  
ABCDEFGHIJKLMNOPQRSTUVWXYZ  
1234567890

INTER  
ABCDEFGHIJKLMNOPQRSTUVWXYZ  
1234567890

#000000 #00b3fd #173fce

---

HARTU  
COLOR PALETTE

	#00b3fd		#117dc1		#173fce
	#29316a		#8182b6		#6563aa
	#f9b233		#e33143		#000000

---

HARTU  
WEB FONT

USED FOR TITLES AND TEXTS ON WEBSITES AND DIGITAL PLATFORMS  
weight: bold and regular style: normal

**Inter**

Aa Bb Cc Dd Ee Ff Gg  
Hh Ii Jj Kk Ll Mm Nn  
Oo Pp Qq Rr Ss Tt Uu  
Vv Ww Xx Yy Zz  
1234 /()&!@\$

HARTU  
FONT

USED FOR MAIN TITLES AND BODY TEXTS ON PRINT AND SCREEN MATERIAL  
weight: bold and regular style: normal

**Calibri**

Aa Bb Cc Dd Ee Ff Gg Hh Ii Jj  
Kk Ll Mm Nn  
Oo Pp Qq Rr Ss Tt Uu  
Vv Ww Xx Yy Zz  
1234 /()&!@\$

Figure 13 - HARTU style guide (logo, colour palette, font)

Handling with AI-enhanced Robotic Technologies for flexible Manufacturing

**Document number**  
**Name of the document**  
Name of the authors

Deliverable ID:	[DXC]
Project Acronym:	HARTU
Grant:	101092100
Call:	HORIZON-CL4-2022-TWIN-TRANSITION-01
Project Coordinator:	TEKNIKER
Work Package:	[Click here or tap here to enter WP]
Deliverable Type:	[Click here or tap here to enter Type]
Responsible Partner:	[Click here or tap here to enter Partner]
Contributors:	[Click here or tap here to enter Contributors]
Edition date:	[Click or tap to enter a date]
Version:	00.01
Status:	[Draft/Official]
Classification:	[FU]

This project has received funding from the European Union's Horizon Europe - Research and Innovation program under the grant agreement No 101092100. This report reflects only the author's view and the Commission is not responsible for any use that may be made of the information it contains.

Document title  
Version 0.0X

**HARTU Consortium**

HARTU "Handling with AI-enhanced Robotic Technologies for flexible manufacturing" (Contract No. 101092100) is a collaborative project within the Horizon Europe – Research and Innovation program (HORIZON-CL4-2022-TWIN-TRANSITION-01-04). The consortium members are:

1		FUNDACION TEKNIKER (TEK) 20600 Gipuzkoa   Spain	Contact: Itaki Maurtua itaki.maurtua@tekniker.es
2		DEUTSCHES FORSCHUNGSZENTRUM FUER KUNSTLICHE INTELLIGENZ GMBH (DFK) 67663 Kaiserslautern   Germany	Contact: Dennis Mronga dennis.mronga@dfk.de
3		ASOCIACIÓN DE INVESTIGACIÓN METALÚRGICA DEL NOROESTE (AIMEN) 36418 Pontevedra   Spain	Contact: Jawad Masood jawad.masood@aimen.es
4		ENGINEERING INGEGNERIA INFORMATICA S.P.A. (ENG) 00144 Rome   Italy	Contact: Riccardo Zanetti riccardo.zanetti@eng.it
5		TOFAŞ TÜRK OTOMOBİL FABRİKASI A.Ş. FABRİKASI ANONİM ŞİRKETİ (TOFAŞ) 34394 Istanbul   Turkey	Contact: Nuri Ertekin nuri.ertekin@tofasa.com.tr
6		PHILIPS CONSUMER LIFESTYLE B.V (PCL) 5656 AG Eindhoven   Netherlands	Contact: Erik Koehorst erik.koehorst@philips.com
7		ULMA MANUTENCION S. COOP. (ULMA) 20560 Gipuzkoa   Spain	Contact: Leire Zubia lzubia@ulmahandling.com

**Presentation title**  
*Sub-title*

Presenter's name,  
role,  
company

Funded by the European Union

Event name, location, date

1

**Click to add title**

Click to add text

Funded by the European Union

Event name, location, date

2

Figure 14 - HARTU document templates

A.2. Poster/Flyer

**HARTU**  
Handling with AI-enhanced Robotic  
Technologies for flexible Manufacturing

Project Duration  
January 2023 - December 2025

**PROJECT IN A NUTSHELL**

HARTU is an industry-led research project addressing the main challenges of **part handling in the manufacturing lines**, including gripping, assembly and placement, using **innovative and AI-enhanced technical approaches**.

The project will apply innovative techniques in industrial case studies to develop tools capable of **handling a wide range of products** in terms of shape, material and size, enhancing the **flexibility, reconfigurability and efficiency** of production lines.

**OBJECTIVES**

Techno-industrial:  
**Automated grasping**

Techno-industrial:  
**Contact-rich assembly**

Techno-industrial:  
**AI-based visual handling**

Techno-industrial:  
**Electro-active soft grippers**

Techno-industrial:  
**Optimised handling systems**

Societal:  
**Human-AI teaming**

CHALLENGES AND NEEDS	SOLUTIONS	INDUSTRIAL APPLICATIONS
<ul style="list-style-type: none"> <li>LEARN AND CONTROL CONTACT-RICH ASSEMBLY SKILLS</li> <li>IDENTIFICATION OF FEASIBLE GRASPING POINTS</li> <li>RECOGNITION OF PARTS OF DIFFERENT TEXTURES, SHAPES AND MATERIALS</li> <li>MONITORING AND LEARNING AI SYSTEM</li> <li>CREATION OF VERSATILE AND DEXTEROUS SOFT GRIPPERS FOR DIFFERENT MATERIALS AND PARTS</li> <li>COLLECTING USER NEEDS AND REQUIREMENTS</li> <li>ADAPTING THE WORK PROCESSES TO NEW TASKS AND PROCEDURES</li> <li>MAPPING COMPETENCIES AND SKILLS REQUIRED TO OPERATE WITH NEW SYSTEMS</li> </ul>	<ul style="list-style-type: none"> <li>GRASP/RELEASE OPERATION AND PLANNING</li> <li>VISUAL PERCEPTION</li> <li>HUMAN-AI TEAMING MODEL</li> <li>SOFT GRIPPERS WITH ELECTRO-ACTIVE FINGERTIPS</li> <li>TACTILE/FORCE PERCEPTION</li> <li>PROGRAMMING-BY-DEMONSTRATION</li> </ul>	<ul style="list-style-type: none"> <li>WIND TOOL&amp;S SECTOR</li> <li>AUTOMOTIVE SECTOR</li> <li>FOOD SECTOR</li> <li>LOGISTIC SECTOR</li> <li>CONSUMER GOODS SECTOR</li> </ul>

Funded by the European Union

This project has received funding from the European Union research and innovation programme Horizon Europe under the grant agreement No. 101092100.

**CONTACT US**

Project Coordinator:  
Inaki Maurtua  
inaki.maurtua@tekniker.es

Dissemination Manager:  
Marta Cecconi  
marta.cecconi@dblue.it

**FOLLOW US**

@HARTU\_project

HARTU project

www.hartu-project.it

Produced in October 2023

Figure 15 - HARTU poster/flyer