



ACROBA
connect & produce through agile production

D7.7

Final Dissemination & Communication Plan

WP7.

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Table of Contents

Introduction	7
1. Communication strategy	8
1.1 General principles	8
1.2 Visual identity and communication materials	8
1.3 Communication tools and channels	9
1.3.1 Website	9
1.3.2 Social media	11
1.3.3 Press, magazines and public media	12
2. Dissemination strategy	15
2.1 Target groups	15
2.2 Stakeholders database	16
2.3 Monitoring process	17
3. Dissemination activities	18
3.1. Actions targeting the scientific community	18
3.2 Lectures to students	24
3.3 Actions targeting industrial stakeholders	26
3.4 Actions targeting the robotics community and relevant networks	33
3.5 ACROBA Hackathons	39
4. WP7 KPIs	42
5. Conclusion	43

List of Tables

Table 1. List of ACROBA communication materials	9
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Table 2. List of articles	12
Table 3. Target groups of stakeholders for dissemination	15
Table 4. List of journal papers	18
Table 5. List of conference papers.....	19
Table 6. List of book chapters and PhD thesis	21
Table 7. List of scientific events and symposiums.....	22
Table 8. List of lectures	25
Table 9. List of industrial events	27
Table 10. List of events targeting industrials	31
Table 11. List of ERF editions attended.....	33
Table 12. List of robotics events	36
Table 13. List of DIH ² events attended	37
Table 14. List of clustering actions.....	38
Table 15. List of ACROBA hackathons.....	40
Table 16. Communication and dissemination KPIs	42

List of Figures

Figure 1. Overview of the communication strategy	8
Figure 2. Overview of ACROBA website articles and videos	11
Figure 3. Examples of social media publication	12
Figure 4. Overview of magazine articles mentioning ACROBA	14
Figure 5. Communication and dissemination monitoring process.....	17
Figure 6. ROSConFr 2024	23
Figure 7. Pictures of the ROSConFr 2024 : ACROBA workshop and ACROBA pitch	24
Figure 8. Lectures at BFH and DEUSTO.....	26
Figure 9. Fairs attended by ACROBA partners	29
Figure 10. ACROBA partners at Automatica 2023	30
Figure 11. Open Day organised by STERIPACK, 2024	32
Figure 12. Robotics Day organized by EMC2, 2024	33
Figure 13. ACROBA at ERF 2022 and 2023	34
Figure 14. ACROBA at ERF 2024	35

Figure 15. ACROBA at the West Data Festival 2023 and Teknologia Expo 2023	36
Figure 16. Visit of the ACROBA cell during the final DIH2 meeting at IMR, 2023	37
Figure 17. ACROBA hackathons: DEUSTO (2022), BFH, IMR, SIGMA (2024)	41
Figure 18. ACROBA hackathons: BIBA	41
Figure 19. ACROBA Master-hackathon organized by ROBOCOAST and VICOMTECH in Finland, 2024	42

Introduction

This report provides an overview of the dissemination and communication activities carried out by the ACROBA consortium throughout the implementation of the project (January 2020 – December 2024) with a focus on the last period of the project (M19-M48).

This report builds on two previous deliverables:

D7.1 Initial Dissemination and Communication Plan was submitted in M3 (March 2021) and provided a detailed overview of the communication materials and tools created at the beginning of the project and a description of the action plan to raise awareness of the ACROBA project among its target audiences.

D7.5 Updated Dissemination and Communication Plan provided was released at M18 (June 2022) and provided an overview of the actions carried out in the framework of WP7 between M1 and M18. This report was also an opportunity to review, refine and adjust the communication and dissemination strategy based on the ACROBA project progress and challenges to ensure that the project achieves its full impact.

1. Communication strategy

1.1 General principles

The overall objective of the communication strategy is to raise public awareness of the ACROBA project and ensure the highest possible visibility of the project results and activities. The communication strategy supports to the dissemination objectives (see section 2 Dissemination strategy) and contributes to engage target audiences and networks. The communication strategy is summarized in Figure 1 below:

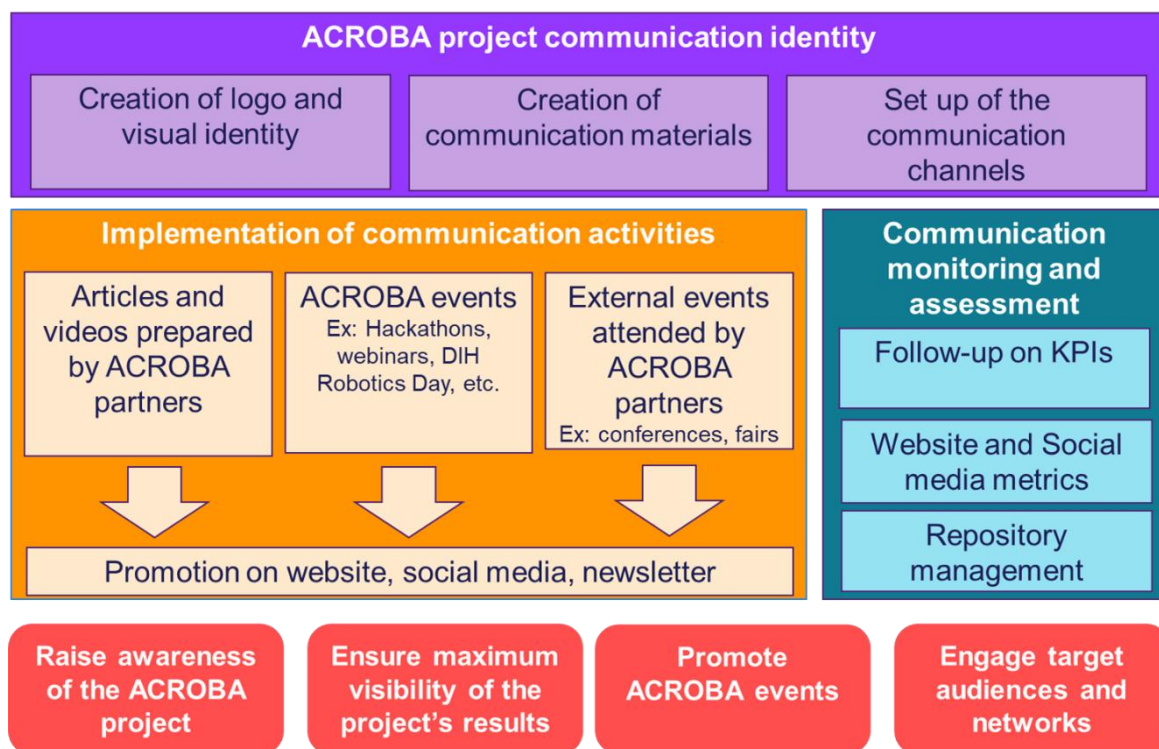


Figure 1. Overview of the communication strategy

1.2 Visual identity and communication materials

To support the communication strategy, a visual identity and a set of communication materials were created at the beginning of the project to build the ACROBA project identity. The table

below provides an overview of these materials, which are also presented into details in the *D7.1 Initial Dissemination and Communication Plan*. All these resources are saved in the Microsoft Teams workspace, in the section “WP7 – Dissemination and Communication” and hence are accessible to all partners. The communication materials were updated whenever necessary to reflect the progress and evolutions of the project.

Table 1. List of ACROBA communication materials

Category	Material	Responsible partner	Status
Visual identity	Logo	EMC2	Delivered in M3 D7.1 First batch of communication materials
	Graphic identity (Font)		
	Templates (Word and PowerPoint)		
	Guidelines on visual identity		
Communication materials for events	General presentation of the project	EMC2	Delivered
	Poster	EMC2	Delivered in M6 D7.2 Second batch of communication materials
	Roll-Up/kakemono		
	Factsheet		
Videos	Introduction video	EMC2	Delivered in M48
	Final pilot videos		
Press Releases	1 st Press release – Launch of ACROBA	EMC2	Delivered in M3 - D7.1

1.3 Communication tools and channels

1.3.1 Website

The ACROBA website (<https://www.acrobaproject.eu/>) is the main source of information on the project. It provides a comprehensive overview of the ACROBA objectives, use cases, partners, and activities. Specific attention is paid to making the website content adapted to a broad range of audiences, including scientists and experts, industry players, policy makers and the general public. The website is subject to continuous improvements to ensure that the project progress and results are timely showcased. EMC2, as WP7 leader, is in charge of keeping the website up-to-date.

In the “Latest news” section, articles and video were published on a regular basis to promote the outputs and activities of the project. Although most results arrived in the last year of the project, the ACROBA partners strived to communicate on the activities and progress already achieved since the launch of the project. The publication of articles and demo videos was coordinated by the WP7 leader EMC2, and partners were encouraged to contribute with contents. The figure below provides an overview of the articles and videos published between M1-M48.



Skill Development Workflow for a 6-DOF Robotic Arm to Reach Targets Using Deep Reinforcement Learning

The University of Deusto has been exploring and designing different strategies for autonomous learning of robotic skills ...

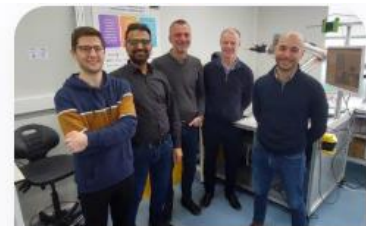
[read more](#)



Meet the ACROBA partners: SteriPack Ireland !

During the last consortium meeting in Mullingar (Ireland), the project partners got the chance to visit SteriPack facilities and met with Alejandro Muñoz Espiogo, Director of Technology who is...

[read more](#)



Meet the Acroba partners : IMR !

During the last consortium meeting in Mullingar (Ireland), the project partners got the chance to visit the IMR and Steripack facilities. We met with Sunny KATYARA one member of the great IMR team...

[read more](#)



A first success for the Hackathons by ACROBA !

The University of DEUSTO (Bilbao, Spain) took the first crack at organising a hackathon by ACROBA on 15 december 2022. Twenty-four students took on the challenge to develop new robotics skills using...

[read more](#)



MEET THE ACROBA PARTNERS : NUTAI

During the last consortium meeting in Valencia, the project partners got the chance to visit the NUTAI's facilities. A great opportunity to meet with Mónica Pérez, the face of NUTAI within the...

[read more](#)



Meet the ACROBA partners!

On 20-21 September 2022, the ACROBA project partners met in Valencia (Spain) for a general meeting hosted by CABKA. On this occasion, we spoke with Paula Llopis (Automation Team Lead) and Sergio...

[read more](#)

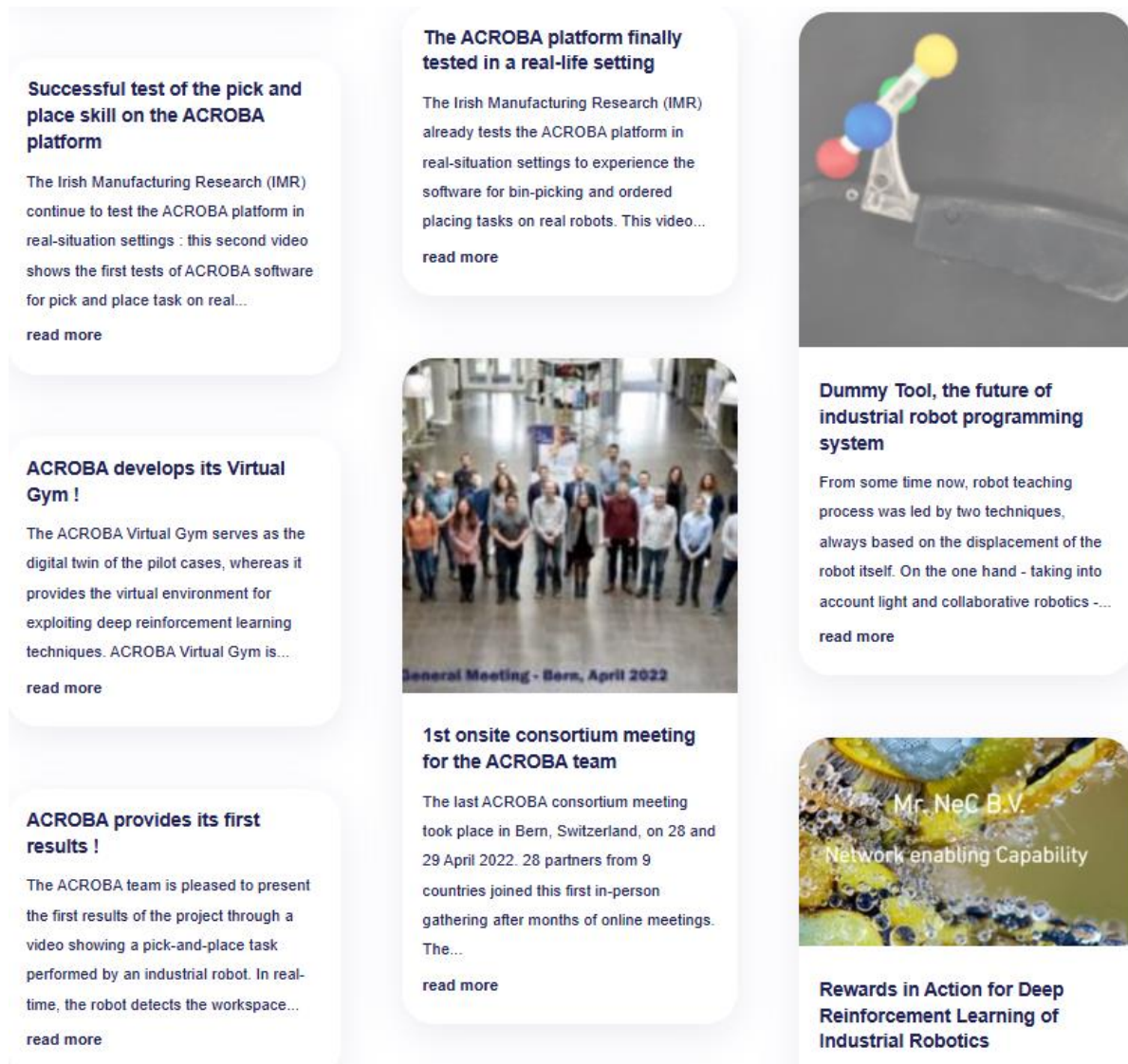


Figure 2. Overview of ACROBA website articles and videos

1.3.2 Social media

Social media played a key role in increasing visibility, with LinkedIn serving as the primary platform for raising awareness of website content and sharing updates about partner participation in relevant events such as fairs and conferences. By M48, the ACROBA LinkedIn account had 298 followers, reflecting significant growth due to consistent and targeted publications.

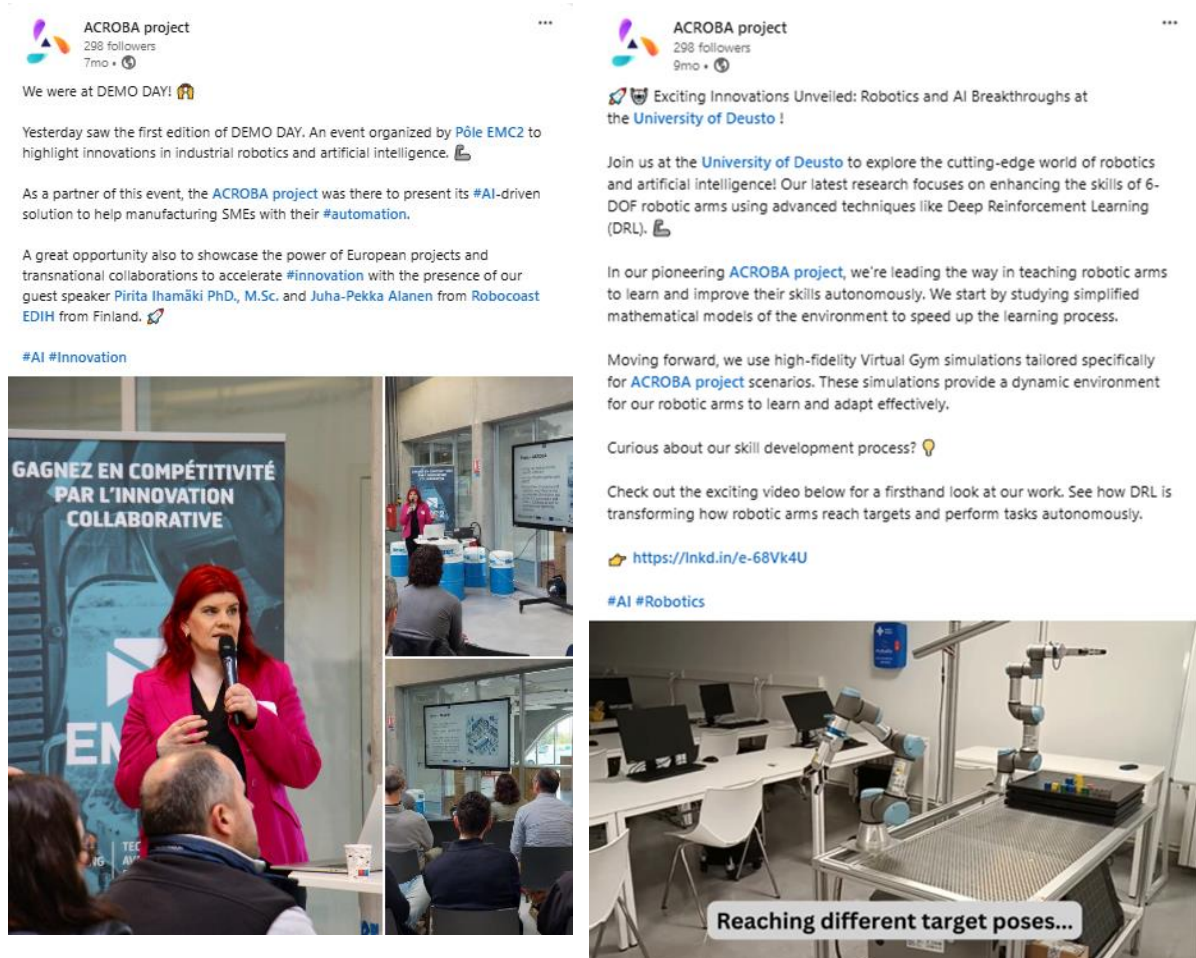


Figure 3. Examples of social media publication

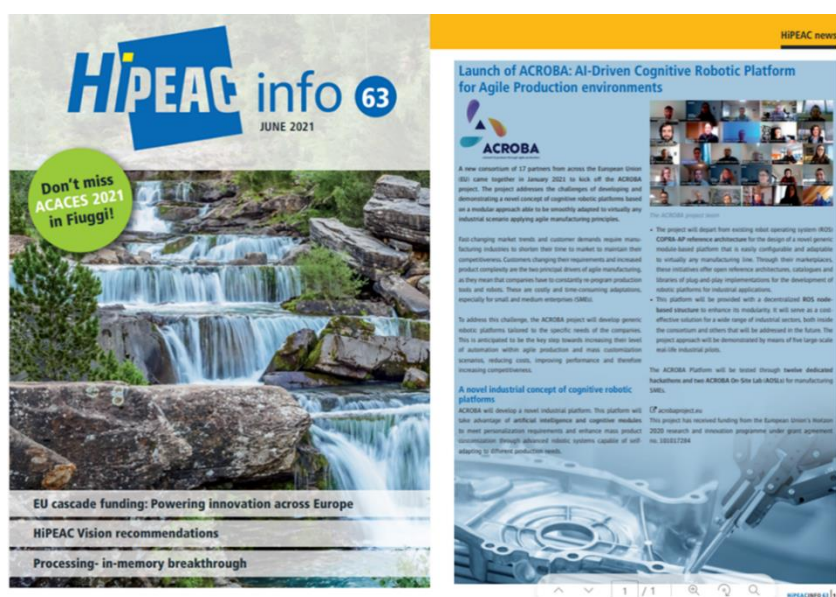
1.3.3 Press, magazines and public media

Alongside the communication via the website and social media, the project was also mentioned in magazine articles:

Table 2. List of articles

Year	Partner	Comment / Description	Media	SCOPE
2022	AITIIP	Article in Actualidad Económica Magazine, one of the most popular national media in Spain, mentioning ACROBA	Actualidad Económica-El Mundo	national
2021	BFH	Im Interview: Dr. Norman Baier über das EU-Projekt ACROBA	Technik und Wissen #13	national

2021	ROB	1-page article about ACROBA in the HIPEAC magazine	HIPEAC magazine	European
2022	AITIIP	Article in Guía de Prensa mentioning ACROBA	Guía de Prensa	national
2022	AITIIP	Article in INTEREMPRESAS magazine	INTEREMPRESAS	national
2023	AITIIP	Mention of the ACROBA project in an interview	Easy Engineering Magazine	European
2024	ROB	interview about ACROBA played in the news broadcast	Finnish National Broadcast company YLE Radio	national



2. Dissemination strategy

2.1 Target groups

The table below provides an overview of the target groups identified by the ACROBA partners at the beginning of the project, and the specific dissemination actions suggested to engage them.

Table 3. Target groups of stakeholders for dissemination

Manufacturers / Agile Production / Industry 4.0 stakeholders	
<i>Manufacturing SMEs and large enterprises in healthcare, plastic industry, consumer electronics and electric motors. Other industrial sectors embracing agile production principles</i>	
Interests in the project	• Learn/get trained on the project's results • Establish cooperation agreements with related ACROBA partners to adopt the Platform for their production facilities • Participate in the project's events
Targeted dissemination actions	Open Days; ACROBA On-Site Lab ; Robotics Day ; Direct pitch; presentation at industrial fairs; articles in technical magazines
Robotics systems manufacturers and integrators	
<i>Provider of robotic systems, including sensors and special equipment suppliers, robotic systems integrators.</i>	
Interest in the project	• Learn/get trained on the project's results • Use the results to improve their customer's processes • Participate in the project's events
Targeted dissemination actions	Open Days; ACROBA On-Site Lab ; Robotics Day ; Direct pitch; presentation at industrial fairs; articles in technical magazines
Industry associations, clusters and DIH	
<i>EU and national initiatives, technology clusters and DIH networks dedicated to new manufacturing technologies and agile production</i>	
Interest in the project	• Disseminate the results and ACROBA events to their members • Include the project's results in collaborative research activities • Knowledge exchange.
Targeted dissemination actions	Robotics Day ; Direct pitch; hackathon; Robotics events (ERF)
4: IT and professional services	
<i>ICT, software engineering and other professional service. companies that provide software or consulting for manufacturing.</i>	
Interest in the project	• Participate in the project's events

	Exploit the project's open results or get inspiration for new ideas.
Targeted dissemination actions	Hackathons; Open Days; ACROBA On-Site Lab ; Direct pitch; presentation at industrial fairs; articles in technical magazines
5: Academia and Researchers	
<i>Individuals and organisations engaged in Industry 4.0 research</i>	
Interest in the project	- Advance the project's research - Extend the innovations to other areas of application - Inspire future research initiatives - Participate in the project's events.
Targeted dissemination actions	Hackathons ; Scientific publications and conferences
6: Public Authorities and Policy makers	
<i>Public authorities interested in the industrial development, including Standardisation and certification authorities for robot systems</i>	
Interest in the project	- Evaluate the project's impact - Consider project's experience for further research or innovation initiatives - Get input for standardisation activities.
Targeted dissemination actions	Open Days; Robotics Days, ACROBA On-Site Lab; Hackathons ; Direct pitch; presentation at European events (ERF, etc)
7: General public	
<i>Worker unions, civil society representations.</i>	
Interest in the project	Understand the innovation activities and the benefits on social improvement.
Targeted dissemination actions	Open Days; Robotics Days, ACROBA On-Site Lab; Hackathons ; Website and social media publications

2.2 Stakeholders database

A stakeholder database (D7.4) was created in M6 by IMR. This database contains 335 DIH contacts (publicly available email addresses). This database was aimed to promote the ACROBA events among DIH networks, who will act as multipliers to disseminate the ACROBA actions and opportunities among European SMEs.

2.3 Monitoring process

EMC2 as WP7 leader is in charge of supporting and monitoring partners dissemination efforts. A continuous monitoring of the communication and dissemination activities has been implemented to measure the quantitative and qualitative impact of WP7 activities and implement corrective actions whenever needed.

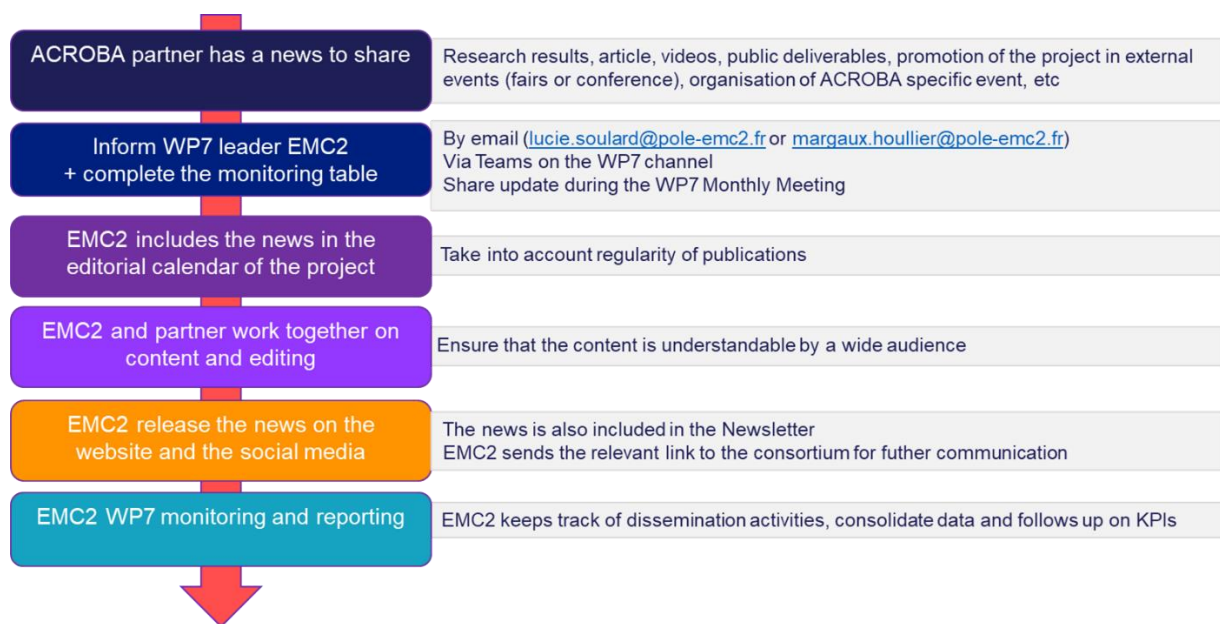


Figure 5. Communication and dissemination monitoring process

A common Excel file has been set up to collect data on all dissemination and communication activities undertaken by project partners. Each partner must report in this Excel file their activities, and provide information such as the type of activity, the date, the place, the target group(s) addressed, the geographical coverage (local, national, European or international), the number of people reached. Pictures, attendance lists and feedback must be saved in the relevant folder on the Teams repository. This monitoring file serves as a basis to complete the technical periodic reports, to keep track of the KPIs and facilitates the identification of risks and deviations related to established objectives and performance indicators previously set.

3. Dissemination activities

3.1. Actions targeting the scientific community

3.1.1 Journal publications

At M48, the project totalizes 6 journal papers published, 1 under review, 4 in preparation.

Table 4. List of journal papers

Journal papers published (6)		
Title	Authors	Journal
BFH		
RTMN 2.0—An Extension of Robot Task Modeling and Notation (RTMN) Focused on Human–Robot Collaboration	C. Zhang Sprenger, J. A. Corrales Ramón, N. U. Baier	Special Issue AI Technologies for Collaborative and Service Robots, applied sciences Journal
ORPP – An Ontology for Skill-based Robotic Process Planning in Agile Manufacturing	C. Zhang Sprenger, J. A. Corrales Ramón, N. U. Baier	Electronics Journal, Special Issue Application of Artificial Intelligence in Robotics
SIGMA		
Multi Actor-Critic for Robot Action Space Decomposition: A Framework to Control Large 3D Deformation of Soft Linear Objects	Melodie Daniel, Aly Magassouba, and Youcef Mezouar	IEEE Robotics and Automation Letters
IMR		
Collaborating for Success: Optimizing System Efficiency and Resilience under Industrial Settings	Sunny Katyara, Ted Morell, Francis O’Farell, Philip Long, Court Edmondson	IEEE CASE 2024
DEUSTO		
Adaptive Robot Behavior Based on Human Comfort Using Reinforcement Learning	Gonzalez-Santocildes, A; Vazquez, J.I.; and Eguiluz, A.	IEEE Access, vol. 12, pp. 122289-122299
Enhancing Robot Behavior with EEG, Reinforcement Learning and Beyond: A Review of Techniques in Collaborative Robotics	Gonzalez-Santocildes, A.; Vazquez, J.-I.; Eguiluz, A	Applied Sciences. 2024, 14, 6345
Journal papers in review (1)		
Title	Authors	Journal
BIBA		

Interaction Clustering in Human-Robot Co-work using Spatio-Temporal Graph Convolutional Networks	Aaron Heuermann, Zied Ghrairi, Anton Zitnikov, Abdullah al Noman, Klaus-Dieter Thoben	Frontiers in Robotics and AI: Human-Centered Design for HRI in Manufacturing (edited by Marcello Valori, Ganix Lasa, Irene Fassi)
Journal papers in preparation (4)		
BIBA		
Key Performance Indicators for Human-Robot Collaboration in Industry 5.0	Zied Ghrairi, Guoyi Xia, Aaron Heuermann	Frontiers in Robotics and AI: Human-Centered Design for HRI in Manufacturing (edited by Marcello Valori, Ganix Lasa, Irene Fassi)
Human-centric risk assessment procedure for human-robot interactive workspaces	Zied Ghrairi, Guoyi Xia, Aaron Heuermann	Frontiers in Robotics and AI: Human-Centered Design for HRI in Manufacturing (edited by Marcello Valori, Ganix Lasa, Irene Fassi)
Technology selection framework for the design of human-centred industrial applications	Zied Ghrairi, Guoyi Xia, Aaron Heuermann, Klaus-Dieter Thoben	TBD
Enhancing Sustainability of Human-Robot Collaboration in Industry 5.0: Context- and Interaction-Aware Human Motion Prediction for Proactive Robot Control	Guoyi Xia, Zied Ghrairi, Aaron Heuermann, Klaus-Dieter Thoben	Journal of Cleaner Production

3.1.2 Scientific conferences

At M48, the project totalizes 11 conference papers published, 2 in process of publishing, 1 under review.

Table 5. List of conference papers

Conference papers published (11)		
Title	Authors	Conference
DEUSTO		
On the creation of a robotics software architecture for AI-based advanced applications	Ignacio Fidalgo, Alberto Tellaeche, Borja Sanz, Juan-Ignacio Vazquez, Iker Pastor	ETFA 2022, Stuttgart, 6-9 September 2022
A method for multi-robot arm system implementation using the ROS framework	Ignacio Fidalgo, Alberto Tellaeche, Juan-Ignacio Vazquez	ICMECE 2022, Barcelona, 6-7 October 2022

On selecting optimal hyperparameters for Reinforcement Learning based robotics applications. A practical approach.	Ignacio Fidalgo, Guillermo Villate, Alberto Tellaeche and Juan Ignacio Vázquez	ICINCO 2023
BFH		
Behavior Trees based Flexible Task Planner Built on ROS2 Framework	Thomas Ribeaud, Congyu Zhang	ETFA Stuttgart september 2022
Robotic Process Automation with Ontology-enabled Skill-based Robot Task Model and Notation (RTMN)	Congyu Zhang, Thomas Ribeaud	IEEE RAAI 2022, Singapore, 09-11 Dec
VICOMTECH		
Simulation based initial feasibility analysis pipeline for small-sized part picking	Iñigo Mendizabal, Antonio Tammaro, Marco ojer Andres, Xiao Lin	CEIG, 5-8th july 2022, Vic, Spain
Robot Controller Parameter Identification for Simulated Environment	Marco Ojer, Xiao Lin, Iñigo Mendizabal	AIRC 2023 9-11 Egypt 2023
Acroba Gym: A Unity-based ROS compliant simulator for robotics	Marco Ojer, Xiao Lin, Iñigo Mendizabal, Antonio Tammaro	ERF 2024, March 13-15, 2024 - Rimini, Italy
BIBA		
An Approach for Individual Behavior Labeling in Industrial Assembly	Guoyi Xia, Zied Ghrairi, Karl Hribernik, Aaron Heuermann, Klaus-Dieter Thoben	
Capturing and Modelling Variety of Human-Robot Interactions at Complex Production Workplaces	Aaron Heuermann, Zied Ghrairi, Anton Zitnikov, Abdullah al Noman	57th CIRP Conference on Manufacturing Systems 2024 (CMS 2024)
Conference papers in preparation (3)		
BIBA		
Increase Flexibility for Adaptive Human-Robot Co-Work at Complex Production Workplaces	Aaron Heuermann, Zied Ghrairi, Anton Zitnikov, Artem Schurig	6th International Conference on Industry 4.0 and Smart Manufacturing
Towards Human Modelling in Human-Robot Collaboration and Digital Twins in Industrial Environments: Research status, prospects and challenges	Guoyi Xia, MSc, Zied Ghrairi, Thorsten Wuest, Karl Hribernik, Aaron Heuermann, Furui Liu, Hui Liu, Klaus-Dieter Thoben	Robotics and Computer-Integrated Manufacturing
DEUSTO		
Reinforcement Learning for Dynamic Trajectory Adjustment in Human-Robot Interaction Within Virtual Simulations	Gonzalez-Santocildes, A., Vazquez, JI., Eguiluz, A., Bringas, P.G	HAIS 2024, Salamanca, 9-11 October 2024

3.1.3 Other scientific outputs

The project totalizes 2 book chapters and 4 PhD thesis.

Table 6. List of book chapters and PhD thesis

Book chapters			
Partner	Title	Authors	Conference or Journal
IMR	Machine Intelligence for Agile Manufacturing	Sunny Katyara, Lubina Luxmi Dhirani, Philip Long, Ted Morell, Francis O'Farell, Court Edmondson, Bhawani Shankar	CRC book series
IMR	Benchmarking Sim2Real Gap: High Fidelity Digital Twinning of Agile Manufacturing Scenarios	Sunny Katyara, Ted Morell, Francis O'Farell, Court Edmondson	CRC Book Series
PhD thesis			
BIBA	PhD Research Proposal Detection, Analysis, and Prediction of Human-Robot Interactions at Complex Production Workplaces	Aaron Heuermann	APMS 2023 IFIP, Trondheim Norway
DEUSTO	An approach for designing real-world cognitive robotics solutions using deep reinforcement learning	Ignacio Fidalgo-Astorquia	In progress, expected by the end of 2025
DEUSTO	Reinforcement Learning in Collaborative Robotics: a Study on the Influence of Human Parameters in Robotic Skill Development	Asier Gonzalez-Santocildes	In progress, expected by the end of 2025
BFH	Process oriented ontology based robotic task planning and modelling	Congyu Zhang Sprenger	In final stage, expected by early 2025

The link to the open access version of the publications and conference proceedings are uploaded on the ACROBA project website to facilitate the access for potential readers.

3.1.4 Other scientific events and symposiums

Table 7. List of scientific events and symposiums

Year	Partner	Event	Comment / Description
2021	DEUSTO	Workshop on Reinforcement Learning for Humans, Computer, and Interaction	Exchange and discuss research directions and build a community for investigating reinforcement learning problems in human-computer interaction.
2022	ROB		Meeting with local Univ. representatives, ACROBA presentation
2021	ROB	ROS-days in RoboAI-week	Presentation of ACROBA; Pori University consortium and Satakunta University of Applied Sciences co-hosted a week with seminars and an Innovation Challenge hackathon. Two days were dedicated for ROS.
2022	ROB	FIIF EVENT: ROBOT OPERATING SYSTEM	ACROBA was presented to audience interested in ROS
2022	BFH	researchXchange of the BFH	Robot Task Model and Notation
2022	BFH	researchXchange of the BFH	Flexible Programming of Industrial Robots for Agile Production Environments
2022	IMR	4th International Workshop on Functional Reverse Engineering of Machine Tools	Invited talk and book chapter inclusion
2022	VICOM	Vicomtech Area Day	ACROBA team shared technically with around 20 researchers the current status of ACROBA. The presentation focused on the challenges and explored the possible collaborations between other projects in Vicomtech and ACROBA.

3.1.5 ROSConFr 2024

A major highlight from the last year of the project was the participation of the ROSConFR 2024, held in Nantes, France. ROSConFr is a scientific and technical conference dedicated to robotics engineering. It covers artificial intelligence, advanced robots and robotics technology. With the increasingly widespread adoption of the ROS open source ecosystem across the robotics community, ROSConFr is the reference conference to interact on this technology.



Figure 6. ROSConFr 2024

The 2024 edition took place over 4 days in June 2024 and attracted over 160 participants from the broader French-speaking ROS community with various profiles: experts, developers and engineers from academia or industry, but also doctoral students and students.

As a sponsor of the event, ACROBA had a great visibility. The project contributed in different activities:

- Organization of a workshop “How to create an assembly task with behaviour trees with the ACROBA platform.” This 2hr-workshop gathered 20 participants and was facilitated by BFH and provided a fantastic opportunity to have robotics engineers and

researchers test and explore the functionalities of ACROBA and provide feedback for further developments.

- Pitch of the ACROBA project during the conference, in front of an audience of 160 attendees. The presentation was done by BFH.
- The project also had a booth at the venue of the social / networking evening.

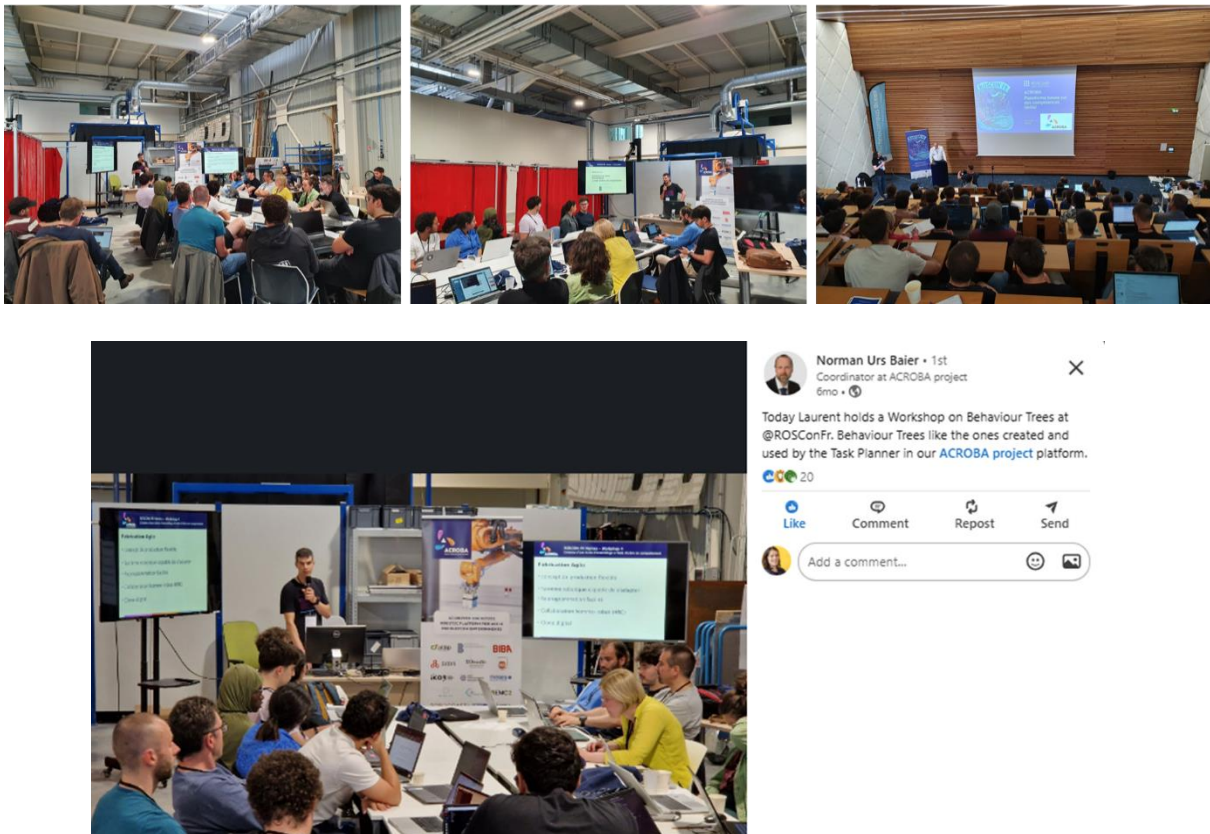


Figure 7. Pictures of the ROSConFr 2024 : ACROBA workshop and ACROBA pitch

3.2 Lectures to students

The academic partners DEUSTO, BFH and SIGMA have trained students to use the ACROBA platform as part of engineering practical courses. In addition, AITIIP, IKOR and MOSES have presented the ACROBA project to students within their networks.

Table 8. List of lectures

2023	
BFH	<u>Automation course</u> Students build a smart factory assembling fans using ACROBA to handle the parts from the 3D printer and putting them on the AMR. Duration of the course: 8 weeks
DEUSTO	<u>Reinforcement learning</u> Description of the Deep Reinforcement Learning module design for ACROBA, demonstration of use, analysis of prospective industrial applications. Discussion about the technical requirements for developing the course project using the ACROBA architecture. ⇒ 4-hr course given to 35 students from 4th year of Bachelor's Degree in Data Science and AI
DEUSTO	<u>Reinforcement learning</u> Description of the Deep Reinforcement Learning module design for ACROBA, demonstration of use. Comparison with other approaches. Discussion about the technical requirements for developing the course project using the ACROBA architecture. ⇒ 4-hr course given to 24 Students of the Master's Degree in Computation and Intelligent Systems
DEUSTO	<u>Intelligent robotics</u> Introduction to the ACROBA architecture and the Deep Reinforcement Learning module. Skill development using the DR module. Analysis of the interfaces between Gymnasium and ROS and their associated technical requirements. ⇒ 4-hr course given to 15 students in 4th year Robotics Engineering
SIGMA	<u>ACROBAHand project – industrial project</u> Students' project spanning over 2 semesters and consisting in building a gripper that is able to pick small electronic components. Course for graduated students over 2 semesters
AITIIP / MOSES	ACROBA presentation to Students and teachers from Industrial Mechatronics studies (30 people).
2022	
BFH	<u>Distributed Control Systems Lecture 3: Acroba</u>

	The structure and the benefits of using Acroba have been presented as part of an advanced laboratory course in automation technology. Emphasis was put on flexible programming of robots and its advantages in production of smaller lot sizes.
IKOR	Presentation of Acroba project to students from Industrial Electronics Engineering from TECNUN
MOSES / AITIIP	Dummy Tool showcasing and presentation of ACROBA project to 30 bulgarian commerce students from Erasmus + Programme
2021	
DEUSTO	<u>Advances in application of AI techniques</u> the ACROBA project was presented and discussed, especially in terms of AI applied to robotics and its implications. The event increased awareness about application of AI in robotics and its implications and helped to gather students interested in collaborating in research and final-degree projects, aligned in ACROBA goals.



Figure 8. Lectures at BFH and DEUSTO

3.3 Actions targeting industrial stakeholders

3.3.1 Industrial fairs

The ACROBA project partners attended a number of industrial fairs, where they promoted ACROBA among an audience of industrials.

Table 9. List of industrial events

Partner	category	Event	Location	scope
BIBA	oral presentation	Hannover Messe 2021	Online	international
AITIIP	oral presentation	Advanced Factories 2022	Zaragoza, Spain	national
AITIIP	booth / demonstration	Advanced Factories 2022 Industry 4.0 Congress	Barcelona, Spain	international
BFH	oral presentation	Burgdorfer Industrienacht	Burgdorf	local
AITIIP	oral presentation	SUM 2022	Capri Island	international
ICPE	oral presentation	Eurosatory 2022	Paris, France	international
ICPE	oral presentation	Space and Security for Eastern Europe	Bucharest, Romania	international
BFH	booth / demonstration	Schweizer Digitaltage	Biel	national
BFH	oral presentations	SAMCE 2022	Zürich	national
AITIIP	Networking	Metalmadrid /Advanced Manufacturing	Madrid	international
EMC2	Booth / demonstration	Robot4Manufacturing	La Roche sur Yon	local
AITIIP	oral presentation	COMPOSIFORUM 2022	Zaragoza, Spain	international
NUTAI	booth / demonstration	Hispack 2022	Barcelona, Spain	international

NUTAI	booth / demonstration	BIEMH 2022	Bilbao, Spain	international
IKOR	Networking	BIEMH22 - BEDIGITAL22	Bilbao, Spain	international
EMC2	Oral presentation + booth / demonstration	Full Robotics 2023	La Roche sur Yon, France	local
ALL	Oral presentation + booth / demonstration	Automatica 2023	Munich, Germany	international
AITIIP	booth / demonstration	Meetech 2023	Madrid, Spain	national
BFH	booth / demonstration	SINDEX 2023	Bern, Switzerland	national

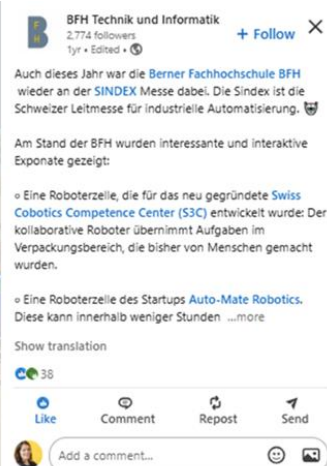
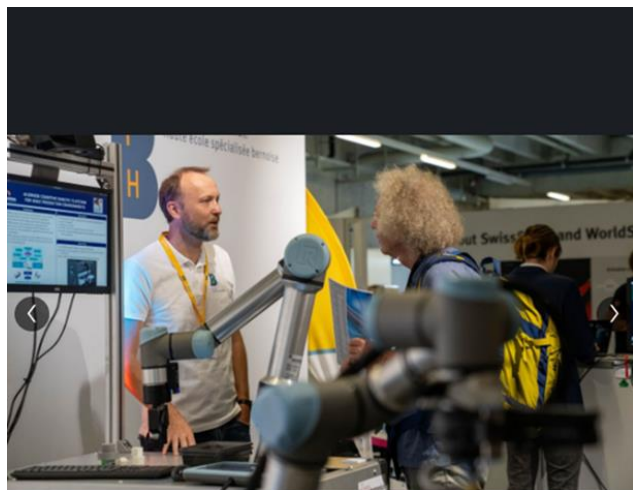




Figure 9. Fairs attended by ACROBA partners

Among those events, a major highlight was ACROBA's participation in Automatica 2023: the ACROBA consortium attended this leading fair in smart automation and robotics in Munich, Germany in June 2023. This event attracted over 40 000 visitors from 92 countries and hence represented a unique opportunity to showcase ACROBA. In addition to a booth presence with a robot demonstration, this event was an opportunity to conduct a market survey among potential end users to nurture the exploitation strategy of ACROBA. On the top, ACROBA was selected to pitch¹ during the Automatica Forum, which was a great opportunity to raise awareness of the project among top players in the field of automation.



Figure 10. ACROBA partners at Automatica 2023

¹ The pitch is available on Youtube :
<https://www.youtube.com/watch?v=si2Z17y5oJE&list=PLGD8fyzcQSRGecH03QKIh8VnKYb4yHCj&index=12&t=1s>

3.3.2 Open Days and trainings

ACROBA partners actively engaged with their industrial networks by organizing sites visits at their facilities to present the ACROBA pilots and provide trainings to professionals.

Table 10. List of events targeting industrials

Partner	Activity	Comment / Description
AITIIP	Open Day	Presentation of ACROBA during AITIIP Open Day; presentation of the dummy tool functionalities.
IMR	Open Day	Industry Members Network Day in IMR's Advanced Manufacturing Lab in Mullingar with 160+ people on site.
STER	Open Days	Visit of the ACROBA pilot cell.
NUTAI	Training to professionals	NUTAI explains its client FORD about ACROBA and its objectives in the context of a training course, over 10 sessions, along the year 2022. Keep our customer informed of new advances in the collaborative technology.
AITIIP	Training to professionals	Training to professionals - Project presentation and Dummy Tool's functionalities showcasing to 30 industrial manufacturing professionals from Italy.
NUTAI	Oral presentation	Presentation of ACROBA to an industrial audience among the new reconversion and oportunities that are arising in collaborative robotics in the automotive industry. Event hosted by Universal Robots.
AITIIP	Oral presentation and demonstration	Presentation of ACROBA and demonstration of the Dummy Tool at the scientific seminar at Aitiip's headquarters to dozens of companies involved in IA.
NUTAI	Oral presentation	Provate technical presentation - NUTAI explains its client FORD about ACROBA and its objectives. Keep our customer informed of new advances.
ROBOCOAST	Direct pitch	Meeting with potential customer, Digital Twin creator company ALL3D Ltd.

ROBOCOAST	Oral presentation	Bi annual meeting with professionals from manufacturing industry and robot specialist. Presentation by Juha of the concept of agile manufacturing and how ACROBA can help.
IKOR	Networking with public authorities	Presentation of Acroba project to the Basque Government in order to get it visualized. basque Government is a key to introduce Acroba project to industrial partners.
BFH	Networking with public authorities	Burgdorfer Industrienacht - Municipality of Burgdorf organised a public event addressing all kind of public to get informed about industrial progress in the region. BFH presented its work in Acroba and possible uses of collaborative robotics.
NUTAI	Webinar	Webinar targeting industry stakeholders with a focus on the technical problems in the industrial automation need to be addressed.
IKOR	Webinar	Webinar targeting industry stakeholders with a focus on the technical problems in the industrial automation need to be addressed.
EMC2	Workshop	Matinée Techno EMC2 - Oral presentation of ACROBA during workshop organized by EMC2 "Vers l'industrie 5.0 L'humain au cœur de l'industrie".

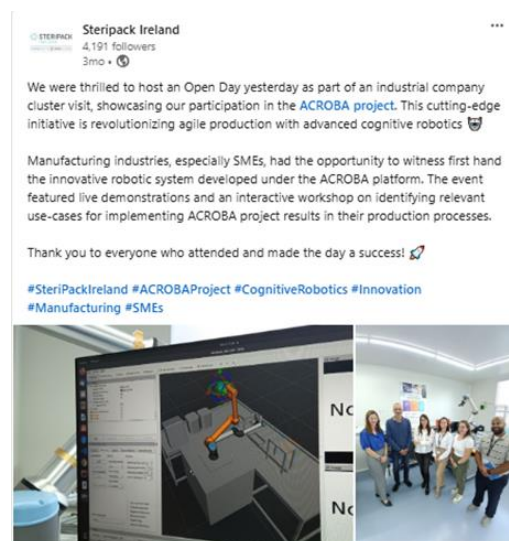


Figure 11. Open Day organised by STERIPACK, 2024

3.3.3 Robotics Days

In May 2024, Pôle EMC2 in collaboration with ROBOCOAST organized a Robotics Day in the region of Nantes, France. Targeting industry players in the region, this 1-day event gathered 80 participants with an agenda focused on round tables and demonstration around novel solutions in the field of AI and robotics for the industry. This event also had a European scope since it provided an opportunity to establish connections between EDIH DIVA (Pays de la Loire, France) and EDIH ROBOCOAST to discuss collaboration opportunities.



Figure 12. Robotics Day organized by EMC2, 2024

3.4 Actions targeting the robotics community and relevant networks

3.4.1 European Robotics Forum

The ACROBA project was represented each year at the European Robotics Forum, the most influential gathering of the robotics community in Europe.

Table 11. List of ERF editions attended

Event	Location	Comment / Description
ERF 2021	Online	Oral presentation
ERF 2022	Rotterdam, The Netherlands	Networking
ERF 2023	Odensee, Denmark	Booth presence and poster presentation
ERF 2024	Rimini, Italy	Workshop + booth

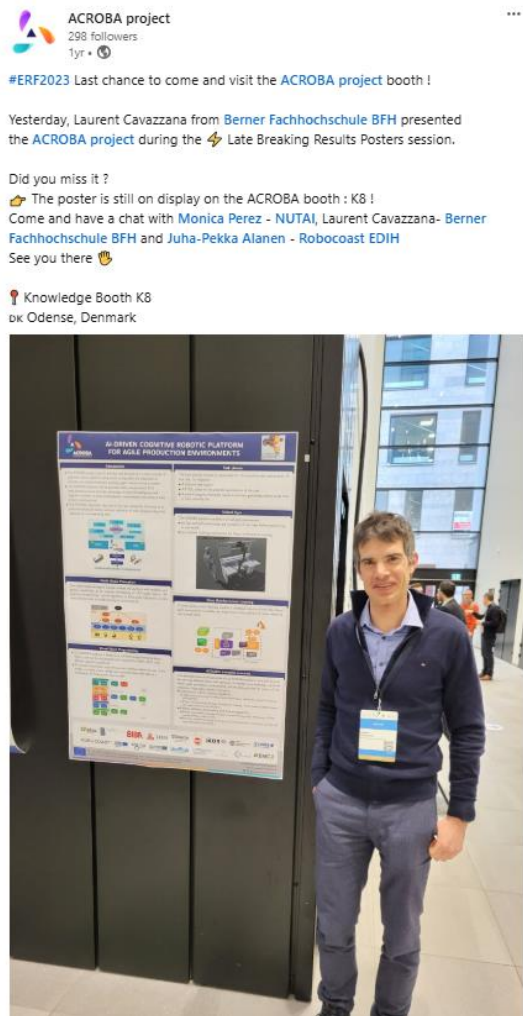


Figure 13. ACROBA at ERF 2022 and 2023

In particular, the project had a strong presence in the 2024 edition of ERF:

- Organization of a workshop entitled “Shaping Tomorrow’s Factory: HRC and Agile Production” together with sister projects ODIN and DrapeBot. In this workshop,

partners from STAM, BFH, and STERIPACK delved into the objectives and challenges of implementing cutting-edge technologies across various industrial sectors.

- Booth presence to facilitate connections with stakeholder from the sector as well as DIH networks (ROBOCOAST).
- Presentation of a conference paper by VICOMTECH: “ACROBA Gym: a Unity-based ROS compliant simulator for robotics”.



Figure 14. ACROBA at ERF 2024

3.4.2 Other robotics events

Table 12. List of robotics events

Year	Partner	Comment / Description	Location	scope
2023	EMC2	West Data Festival Oral presentation of ACROBA	Laval, France	local
2023	ROBOCOAST	Teknologia Expo 2023 Shared booth between ACROBA, Robocoast EDIH and Level Up	Helsinki, Finlande	national
2023	ROBOCOAST	Teknologia Expo 2023 Oral presentation of ACROBA	Helsinki, Finlande	national
2022	EMC2	Nantes Digital Week Booth presence to showcase ACROBA at the Nantes Digital Week. Conference "la robotique au service de l'humain"	Nantes	local

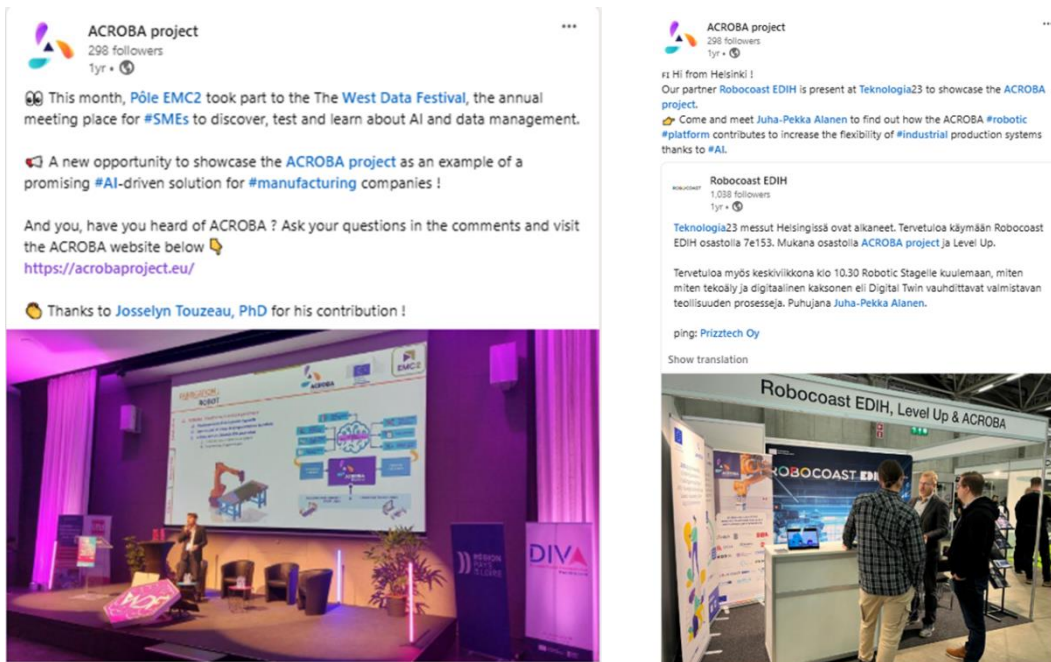


Figure 15. ACROBA at the West Data Festival 2023 and Teknologia Expo 2023

3.4.3 DIH² network

DIH² is a European network of robotics DIHs for Agile production. ACROBA partners IMR, ROBOCOAST and EMC2 were actively involved in this network and used it as a platform to disseminate the ACROBA project.

Table 13. List of DIH² events attended

Date	Place	Partner involved	Description
28/06/2022	Rotterdam	ROBOCOAST	Participation to DIH2 meeting.
20/10/2022	Bratislava, Slovakia	ROBOCOAST	ACROBA was used as an example in a workshop how to use AI to solve industry problems. Networking with manufacturing DIHs.
12/07/2023	Mullingar, Ireland	IMR	ACROBA demonstration during the DIH2 final meeting held at IMR.

The final meeting of the DIH² project was held at IMR in Mullingar, Ireland in July 2023. On this robotics day, a visit of the ACROBA cell was included, giving the opportunity to present a demonstration do the 37 partners of the DIH² consortium.



Figure 16. Visit of the ACROBA cell during the final DIH2 meeting at IMR, 2023

3.4.4 Links with other clusters and EU-projects

Specific attention has been paid to developing strong links with other relevant EU-funded projects and initiatives to exploit synergies and collaboration opportunities. In particular, ACROBA was actively involved in the working group coordinated by the Robotics4EU project together with the other ICT-46-2020 projects. In addition, ACROBA co-organized a workshop together with the sister projects DrapeBot and ODIN at ERF 2024.

Table 14. List of clustering actions

Year	Partner	Comment / Description
2021	STAM	ACROBA project was presented as an example of a European funded project in the field of collaborative robotics
2021	BIBA	Presentation of ACROBA at the kick off meeting of a new funded Erasmus+ Project
2021	STAM	RAIC is a virtual conference on cross-sectoral innovation. The matchmaking event brings together stakeholders from a large number of European countries to generate cross-sectorial collaboration driving innovation through Advanced Robotics, AI, IoT, Cybersecurity and Data technologies. ACROBA project was presented as an example of project in the field of collaborative robotics
2021	BIBA	Event “Batir les competences humaines pour l'industrie du futur” organised to present interesting research and innovation activities, how research/innovation projects could contribute to business creation, success stories for Business Creation(start-ups), Industry 4.0 technologies and application scenarios. Presentation of ACROBA platform and use-cases.
2022	AITIIP	Attendance to the METRIC webinar, contact with ACRE project. In ACRE, robots and smart implements demonstrate their ability to perform agricultural tasks requiring autonomous capabilities. These abilities are crucial for the transition of traditional agricultural practices to Agriculture 4.0, where Artificial Intelligence and Robotics support Precision Agriculture
2022	BFH	Presentation of ACROBA recent achievements to representatives of ICT-46-2020 projects
2023	BIBA	Presentation and demo at ZIM-MRK Network meeting in BIBA
2023	BIBA	Presentation and demo at Rotary Club meeting in BIBA

2024	EMC2 - ROB	Meeting EDIH ROBOCOAST – EDIH DIVA alongside the Robotics Day organized by EMC2
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3.5 ACROBA Hackathons

The ACROBA project has actively engaged the academic and industrial communities through a series of hackathons across Europe. The “Acrobathons” contributed to disseminate the project outputs towards all targeted audience groups, to build a community around the ACROBA solution, and strengthen collaboration with the robotics DIH.

The Acrobathons are largely inspired by the hackathons, these competition-style events where a project must be completed in a short time frame (typically 24 or 48 hours) and are designed to bring developers, designers, innovators, and other domain experts together to solve specific problems. Hackathons are inclusive, agile, multidisciplinary, and collaborative. They lead to shorter innovation cycles and hence are ideally suited to ensure that the ACROBA solution will be adopted and taken to the next level by the community.

The original plan was highly ambitious: it included the organization 11 mini-Acrobathons and 1 Master-Hackathon during the project lifespan. The mini-hackathons included:

- 8 mini-Acrobathons organized by consortium members.
- 3 mini-Acrobathons organized by DIH. DIH orchestrators would have to provide a use-case of agile production coming from a manufacturer of their region. Two DIH will be supported by ROBOCOAST, and one by EMC2, with guidelines and meetings at their facilities two days ahead of the event to help to settle the details and promote ACROBA with a dedicated booth on site during the event. The DIH organizing the further 3 mini-hackathons will be selected on the bases of a call for expressions of interest that will include the capacity to provide SME industrial use case as basis for the mini-hackathon challenge.

As recommended by the Project Officer and the reviewers after the review meeting held at M27, the consortium partners have agreed on reducing the number of mini-hackathons initially planned (11) in order to redirect part of the dedicated budget and efforts towards activities that

will target more directly potential users of the ACROBA solution. This deviation made it possible to ensure a participation of ACROBA in major events: the industrial fair Automatica 2023, the European Robotics Forum 2024 and the ROSConFr 2024. These three events are served as replacement of hackathons.

According to this new action plan, the ACROBA consortium has delivered 5 mini-hackathons and 1 master-hackathon with 3 mini-hackathons. All together these events have gathered +150 participants.

The majority of these hackathons have been organized in the last period of the project:

Table 15. List of ACROBA hackathons

Partner	Date	#active participants for competition
DEUSTO	Dec 2022	24
BFH	Mar 2024	8
BIBA	Apr 2024	8
SIGMA	May 2024	16
IMR	Oct 2024	15
ROB&BFH + VICOM + BIBA – > ROB Mega-hackathon	Oct 2024	64

A detailed overview of the hackathons organized by the ACROBA project is available in *D7.6 Report on the hackathons*.



Figure 17. ACROBA hackathons: DEUSTO (2022), BFH, IMR, SIGMA (2024)



Figure 18. ACROBA hackathons: BIBA



Figure 19. ACROBA Master-hackathon organized by ROBOCOAST and VICOMTECH in Finland, 2024

4. WP7 KPIs

The Key Performance Indicators have been established as follows:

Table 16. Communication and dissemination KPIs

No.	Indicator	Method of measurement	Target	Update M48	% completion
1	Project website / Stats	No. of unique visitors	5000	5000	100%
2	Peer-reviewed articles	No. of published articles	8	14	175%
3	Articles in industry magazines	No. of published articles	16	6	38%

	Articles and interviews in industry magazine and media				
4	Participation at conferences (no. of visitors >1000), target events with presentation/ papers	No. of conferences, workshops, events, attended	12	13	108%
5	Participation at conference, target events with presentation/poster/paper in proceedings	No. of visitors to presentation / poster / conference booth	1500	1500	100%
6	Organisation of Hackathons or alternative events	No. of successful Hackathons completed or alternative events	12	12(9+3)	100%
7	Organisation of target events	No. of events organised	6	6	100%
8	Organisation of target events	No. of participants	400	300	75%
9	Dissemination to networks and on-going projects. e.g. DIH2, AI Europe, AI4EU,	No. networks and on-going projects	10	11	110%
10	Dissemination to networks and on-going projects	No. of professionals/ organisations	1000	1000	100%
11	Relevant stakeholders' peer-to-peer contact	No. of relevant stakeholders contacted	200	200	100%
12	Relevant stakeholders involved	No. of relevant stakeholders involved	100	100	100%
13	Interviews with public media	No. interviews on media	3	2	67%
14	Movie/clips	No. of published movies/clips	2	2	100%
15	Press release	No. of press releases published	3	1	25%

5. Conclusion

Throughout the ACROBA project, significant efforts were dedicated by the project partners to communication and dissemination activities to maximize the visibility and impact of the project's outcomes. Key actions within WP7 included the development of a comprehensive communication strategy, the creation and maintenance of a dynamic website, and the active management of social media channels to engage stakeholders and promote project milestones.

Targeted publications in scientific journals, as well as presentations at international events, ensured the widespread dissemination of project results. The project was promoted in multiple events at the regional, national and European level to engage with stakeholders from industry, research, and the relevant robotics networks. In the last period of the project, the main highlights were:

- Automatica 2023
- European Robotics Forum 2024
- ROSConFr 2024
- Completion of the series of 8 mini-hackathons + 1 mega-hackathon

These actions have successfully contributed to raise awareness of ACROBA's achievements and laid the groundwork for the exploitation of the project's results beyond its conclusion.