



TORNADO

ADRF26 Workshop

Porto, 14 October 10am
Arrábida Room

FOR IMMEDIATE RELEASE

When Robots learn to interact: TORNADO brings foundation models for human-robot collaboration to ADRF26 in Porto

The [TORNADO](#) EU-funded project leads an interactive workshop on trustworthy, dexterous robots for healthcare and industry as part of the ADRF26 programme on 14 October 2026, while [NSBproject](#) presents the project at its booth.

- <https://adrforum.eu/workshop-when-robots-learn-interact-foundation-models-human-robot-collaboration-and-dexterous>

Porto, Portugal – October 14, 2026 - The Horizon Europe project TORNADO, coordinated by [ITML](#), will take part in the AI, Data and Robotics Forum 2026 (ADRF26) in Porto with a dedicated workshop in the official forum programme. The session, "*When Robots Learn to Interact: Foundation Models for Human-Robot Collaboration and Dexterous Manipulation in Healthcare and Industry*", takes place on **14 October 2026 at 10:00 in the Arrábida Room**.

The workshop explores how large language models, vision-language models and multimodal perception can help robots leave the laboratory and work safely alongside people in hospitals and factories. It brings together researchers from Istituto Italiano di Tecnologia (IIT); [Human-Robot Interfaces and Interaction Lab \(HRI²\)](#), Universitat Politècnica de Catalunya (UPC); [Institut de Robòtica i Informàtica Industrial \(IRI\)](#) and Eurecat.

Throughout the forum, NSBproject will also host a TORNADO booth, where visitors can learn more about the project, its use cases and the activities currently under way. **Visit us at Booth.**

From the lab to hospitals and factories

Foundation models are changing how robots perceive, reason, communicate and act. Yet deploying them in the real world remains hard, especially when robots must handle small, soft, delicate or deformable objects in busy, human-populated spaces.

The TORNADO workshop tackles this gap through concrete use cases: changing IV drip sets in a hospital ward, handling delicate gears and deformable ply-sheets in manufacturing, and adapting robot behaviour



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TORNADO | foundation mOdelS for Robots that haNdle smAll, soft and Deformable Objects. The project funded under Grant Agreement No. 101189557 is supported by the EUROPEAN HEALTH AND DIGITAL EXECUTIVE AGENCY (HADEA) HADEA.B – Digital, Industry and Space | B.2 – Digital





when objects, users or conditions change unexpectedly. Discussion will cover safety, validation, human trust, domain adaptation, regulatory readiness and value creation with end-users.

The session is closely aligned with the ADRF26 themes of Europe's resilience, competitiveness and strategic autonomy. It looks at how Europe can build trustworthy, human-centred physical AI for strategic sectors such as healthcare and manufacturing – robots that people can instruct in natural language, teach by demonstration, and understand through explainable decisions.

Speakers and programme

Three short talks open the session, followed by a hands-on design sprint in which the audience takes the lead.

Time	Session	Speaker
10:00–10:15	Why foundation models matter for real-world robotics: dexterous manipulation of small, soft and deformable objects	Marta Lagomarsino, Technologist, HRIL Lab, Istituto Italiano di Tecnologia (IIT)
10:15–10:30	Foundation models for human-robot interaction: intention, engagement and trust	Valerio Bo, Assistant Professor, UPC, and Researcher, IRI (CSIC-UPC)
10:30–10:45	From lab prototypes to deployment in healthcare and industry	Néstor García Hidalgo, Head of Robotic Manipulation, Robotics and Automation Unit, Eurecat
10:45–11:00	Interactive design sprint: "How might we validate a robot that continuously learns in a hospital or factory?"	Participants in small mixed groups
11:00–11:10	Group pitches (2 minutes each) and audience vote	All
11:10–11:15	Outcomes and recommendations	All

Marta Lagomarsino works on human ergonomics, socio-physical human-robot interaction and mutual human-robot adaptation. Her work has earned several awards, including the 2026 IEEE CIS TCDS Outstanding Paper Award, and she contributes directly to TORNADO.

Valerio Bo studies multimodal perception and proactive decision-making that let robots recognise human intentions and build trust in shared spaces. He holds a PhD in Robotics from the University of Siena and IIT.

Néstor García Hidalgo leads Eurecat's research on task and motion planning, human-robot interaction and robot learning. He also coordinates GRAIL (Generative AI for Robotics & Industrial Automation), a European initiative on foundation models for industrial robotics.

During the design sprint, each group picks a scenario – a robot learning to change IV drip sets, a mobile manipulator handling ply-sheets, or a robot adapting to new objects and instructions – and drafts a validation pathway. Each pathway covers technical, safety and trust requirements, human-in-the-loop mechanisms, measurable KPIs and the evidence end-users need to adopt the system.



Expected outcomes

The workshop aims to turn promising prototypes into a practical roadmap for trustworthy deployment. Expected results include:

- a short list of deployment barriers for foundation-model-based robotics;
- practical validation criteria for adaptive robots in healthcare and industry;
- recommendations for European research, innovation and industrial uptake;
- potential links to ADRA Topic Groups and future collaborative initiatives.

"Foundation models give robots the ability to keep learning on the job, and that is exactly what hospitals and factories need: tasks change, objects vary, and no two days are the same. But a robot that adapts is also a robot whose behaviour evolves after it has been certified. Nurses, operators and safety managers will only welcome these systems if they can trust them, which means being able to check, explain and validate what the robot has learned at every stage. That is why validation is not the final step of TORNADO, but something that runs through the entire project. In Porto, we want to work with the ADRF community on practical, shared criteria that turn adaptive robots from impressive prototypes into tools Europe's hospitals and industries can confidently adopt." – [Nikos Nikolaou, Project Coordinator, [ITML](#)]

Event details

Event AI, Data and Robotics Forum 2026 (ADRF26), organised by ADRA and INESC TEC
Venue Alfândega do Porto Congress Centre, Porto, Portugal
Forum dates 13–14 October 2026
Workshop 14 October 2026, 10:00–11:15, Arrábida Room
Registration [ADRF26 event page](#)

TORNADO booth: hosted by NSBproject, open throughout the forum on 13–14 October 2026.

About TORNADO

[TORNADO](#) (foundaTion mOdelS for Robots that haNdle smAll, soft and Deformable Objects) is a Horizon Europe project running from January 2025 to June 2028. It is developing a cloud robotics platform that lets autonomous mobile robots navigate complex, human-populated indoor environments and handle small, soft and deformable objects. The robots interact naturally through voice and gestures, learn new skills from AR-based demonstrations, and adapt continuously through real-world feedback. Use cases are being validated in a gears factory, a hospital and a plant distribution centre. Project Coordinator: [ITML](#)

More at tornado-horizon.eu.

About NSBproject

[NSBproject](#) is an Italian innovative SME and registered research organisation based in Mantua, specialising in research, innovation, technology transfer and the exploitation of R&D results. It is an active





member of European partnerships including ADRA, EFFRA, EPOSS, EHTEL and the Bio-based Industries Consortium.

In TORNADO, NSBproject leads the work on communication and dissemination, helping partners turn research results into market-ready solutions. To do so, it uses [C-Tech Navigator®](#), its proprietary strategic intelligence system. The tool combines AI with competitive analysis, patent and prior-art analysis, technology assessment and scale-up evaluation, and turns them into technology roadmaps, scenarios and decision-support tools for companies, research centres and investors.

More at nsbproject.com.

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Links

- [TORNADO website](#)
- [TORNADO – NSBproject](#)
- [ADRF26 – ADRA](#)
- [ADRF26 - Workshop](#)
- [ITML](#)
- [Istituto Italiano di Tecnologia](#)
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