Horizon Europe

Action: EIC Pathfinder Open (Project No 101046909)
Reusable mask patterning (REMAP)

WP4: Task 4.1

Effective Societal Outreach

Dissemination level: PUBLIC

This report describes the work performed by INTERNATIONAL IBERIAN NANOTECHNOLOGY LABORATORY (INL) in the framework of the REMAP project pertaining to the communication activity at the *European Researchers' Night* held in Braga on the 26th of September 2025.

Acknowledgement and disclaimer

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1. Overview

On September the 26th 2025 INL participated in the European Researchers' Night (ERN) in Braga to illustrate REMAP's vision and research results to the public (Figure 1).
ERNs are organized by the European Commission since 2005, and are an initiative designed to celebrate science and bring it closer to the public, particularly students. Framed within the Marie Skłodowska-Curie Actions, this event takes place simultaneously in over 30 countries and 300 cities across Europe. The event showcases innovative research and scientific knowledge, and explores how science can address critical global challenges, ranging from environmental protection to economic development and social equity.

Figure 1. Overview of the INL zone for the event.

The Braga ERN 2025 event took place on September 26th in Fórum Braga. Main topics of the event were:

- Architecture, Art and Design
- Nature and Environmental Sciences;
- Biology;
- Health Sciences;
- Political Sciences;
- Human and Social Sciences;
- Engineering and Technology;
- Physics and Chemistry;
- Geology;
- History of Science;
- Mathematics, Computer Science and Statistics;
- Nanotechnology;
- Optometry and Vision Sciences;
- Psychology;
- Mental Health;

The event's participants were primarily students and children aged 6 to 16 years, accompanied by their families.

2. Description of the REMAP hands-on demonstrations

INL was actively involved in the organization of the event with more than 25 research projects covering fields from physics and chemistry to biology and engineering.
One of the projects presented by INL at the event was REMAP (Figure 2). To familiarize the participants with REMAP's innovative approach of creating reusable mask patterns through the manipulation of magnetic fields, they were given a hands-on task. Each participant was asked to generate the letters that spell out "R-E-M-A-P" using iron powder. This was achieved by positioning an array of magnets in a specific orientation, forming the intended pattern, as illustrated in Figure 3. In the background, a video was being exhibited in a loop explaining the project's vision, the cleanroom fabrication process and characterization of the magnetic devices.

Figure 2: Photos taken of the REMAP demonstration during the event.

Figure 3: Demonstration of the reusable magnetic patterning, or "magnetic writing," at a distance using the action of magnets on iron powder.

3. Wooclap quiz

During the REMAP demonstration, we gathered feedback from participants through informal conversations with the participants. These discussions allowed us to gather insights and perspectives in a comfortable and relaxed setting. Additionally, we provided a Wooclap quiz designed to assess the attendees' knowledge about the topic and collect additional feedback. However, due to the complexity of the quiz and the extensive number of questions included, we noticed a significantly low level of participation among the audience.