



Report

European Inventor Network Workshop on Composites in Boat Building

Nuno Correia
nov.2025
Aveiro, Portugal

Place and Venue

Date: 8 November 2025

Location: Sporting Club of Aveiro, Sailing Academy Facilities, Aveiro, Portugal

Organised by: Nuno Correia, with support from the European Inventor Network

In cooperation with: Sporting club de Aveiro, Inclusive Sailing Project Ria Ativa

Duration: 1 hour 30 minutes

Context of the session

In the context of the European Inventor Network I organized a practical educational workshop at the Sailing Academy of the Sporting Club of Aveiro to introduce young participants to the advanced composite materials used in modern boat building.

The session involved approximately 20 teenagers aged between 12 and 18, accompanied by their parents. The event was organised in cooperation with Ria Ativa, an inclusive sailing initiative promoting accessibility and participation in nautical activities.

The workshop combined theoretical and practical elements to illustrate how innovation in material science contributes to marine design and manufacturing. It was done as a part of my interpretation of the European Inventor Network's outreach effort to stimulate early scientific curiosity and connect invention to real-world engineering contexts.

Objectives

My objectives with this session were:

1. Present the principles and uses of composite materials in boat construction
2. Demonstrate basic fabrication techniques and the practical implications of material selection.
3. Link the scientific understanding of materials to innovation, sustainability, and STEM education.
4. Provide a direct, hands-on learning experience in a child accessible but also an inclusive format.

Activities and Content

My 1h30 session included a presentation prepared specifically for a younger audience, in Portuguese, with both the original and an automatically translated version attached. A supporting poster was also developed (using AI) to advertise the event.



Figure 1. Poster of the session. It is titled: Session on the use of composites in boat building. It highlights support from INEGI (my institution) and the European Inventor Network.

Following the presentation, participants engaged in a live demonstration using real materials and small laboratory equipment. The materials included glass fibres, resins, ancillary consumables, and a small vacuum pump used to simulate composite layup and infusion processes. Two flat plate moulds were employed: the first served to demonstrate the full layup and preparation process; the second contained a pre-made, partially infused part used

to illustrate the next manufacturing stage, following the “TV chef” approach to demonstrate continuity between process steps.

Participants were encouraged to handle materials, observe texture and layering, and discuss how fabrication parameters influence performance. The demonstration linked these tactile observations to fundamental principles such as strength-to-weight ratio, fibre orientation, and curing behaviour.

The workshop had a very active participation from both teenagers and parents. Interaction with me remained high throughout, and participants showed a lot of curiosity about how similar technologies are applied in actual boats and other composite structures (and asked about recycling, aircraft, etc). Parents discussed with me the educational value and inclusivity of the initiative at the end and asked if there could be subsequent sessions with an actual building activity for children.

I truly believe that this session is in line with the European Inventor Network’s goal of promoting early awareness of invention, innovation, and applied science with these advanced materials focus and ideas on boat building. It also contains the concept of working with young people in a familiar (their sailing club) context (with parents, trainers, and teammates). It reinforced the link between creativity, materials research, and sustainable technological development. I also feel that the inclusive nature of the RIA ATIVA project at the Sporting Club de Aveiro sailing club, which adds an element of accessibility, equal opportunities, and representativeness, in line with my experience with the ideals of the EIN.

Attachments

- Presentation (original in Portuguese and automatically translated version)
- Photographs of the workshop

Aveiro, November 8, 2025

A handwritten signature in black ink, appearing to read 'Nuno Correia'. The signature is fluid and cursive, with a large initial 'N' and a long horizontal stroke extending to the right.

Nuno Correia