FACT SHEET BIP

Name institution	ISEL – Instituto Superior de Engenharia de Lisboa
Title / Name BIP *(Enter the official name of the BIP)*	Sustainable Engineering in Action: from idea to impact
Abstract *(Brief summary of the activity – what it is about in 3–5 lines)*	This Blended Intensive Programme (BIP) focuses on sustainable engineering practices within a circular economy framework. Through a series of expert talks, group activities, and industry visits, students explore themes such as green engineering, sustainable materials, life cycle assessment, and green chemistry. The programme fosters practical and interdisciplinary learning, culminating in the development and presentation of business models aimed at environmental sustainability.
Goal *(What is the main objective or purpose?)*	Understand the Principles of Green Engineering: Gain knowledge of sustainable engineering practices and their importance. • Explore Sustainable Materials: Learn about different sustainable materials and their applications in engineering. • Develop Business Models: Understand and create business models that integrate sustainable engineering practices. • Innovate for the Future: Identify and propose innovative solutions for future sustainable engineering challenges.
Topics covered *(List the key themes or subject areas that will be addressed)*	• Green Engineering and Sustainability • Circular Product Design • Sustainable Materials and Advanced Composites • Green Chemistry • Business Models for the Circular Economy • Life Cycle Assessment (LCA) • Energy Efficiency

	• Science Communication and Presentation Skills
Expected outcome(s) *(What should students gain or achieve by the end?)*	Identify and Evaluate Sustainable Materials: Assess the properties and applications of various sustainable materials. • Conduct Lifecycle Analysis: Perform lifecycle assessments to determine the environmental impact of materials. • Design Sustainable Solutions: Create engineering solutions that incorporate sustainable materials and practices. • Develop and Present Business Models: Formulate business models that support sustainable engineering initiatives. • Collaborate and Communicate Effectively: Work effectively in teams and present their findings clearly and concisely.
Start and end date of the BIP	23-27 March 2026
Content of virtual component *(Describe any online or hybrid elements – e.g., webinars, online modules, collaborative tools)*	**Week 1/2: Research Phase** 1. **Topic Selection and Group Formation.** ○ In this step we will divide students into groups and let each group select one of the seven key areas; 2. **Research Objectives of each topic (Task of each group)** *Each group should address the following research objectives within each topic* ○ **Drivers**: The group needs to identify what drives sustainability and circularity in the chosen sector (selected topic). The group must consider environmental, economic, and social factors. ○ **Obstacles**: The group needs to determine the challenges that the selected sector faces in implementing sustainable engineering practices. ○ **Legislation and Regulations**: The group needs to Investigate existing laws and policies affecting the selected sector. Consider both EU-wide and national regulations.

	○ **Innovation Needs**: The group needs to explore what innovations are required to enhance sustainable engineering. The group needs to think about new technologies, processes, etc. 3. **Resource Gathering** ○ The students must use a mix of academic articles, industry reports, government publications, and credible news sources, databases and so on. **Week 3/4: Analysis and Presentation Preparation (Task of each group)** 1. **Analysis and Synthesis** ○ The students need to analyze findings from the research phase. ○ Discuss within the group to synthesize information into a coherent narrative. 2. **Presentation Preparation** ○ Each group needs to structure the presentation to cover all research objectives. ○ Include case studies or examples of companies/products that embody sustainable engineering practices in their chosen area. ○ Develop visual aids such as slides, charts, or diagrams to enhance the presentation. 3. **Rehearsal** ○ Practice delivering the presentation within the group. ○ Provide feedback to each other to improve clarity and engagement. The students need to submit the presentation and all the gathered materials in a shared place, used by each group (Teams). ISEL needs to define and provide the workspace
Start and end date of the virtual component	23/02/2025 a 23/03/2026
Maximum number of students *(Total number of participants allowed)*	30 international students

Maximum number per university *(Limit per institution, if applicable)*	6
Webpage	https://isel.pt/ensino/programas-de-mobilidade/bip program 2025/2026 not available
BIP ID *(If already available)*	Not available