Report on OpenLabs at Universities and R&D Institutions

University of Oviedo

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DISCLAIMER

EXECUTIVE SUMMARY

This document synthesizes the OpenLab that took place on Wednesday 19, 2020, at the University of Oviedo. The event's objective was to inform society about the benefits of harnessing renewable energy and sustainability in ports and the role of the Atlantic Area programme and the PORTOS project in this matter. Several industry presentations and a colloquium on marine renewable energy and ports were organized with this purpose. In addition, the most advanced research infrastructures in the field of renewable energy at the University were shown to students, who also received PORTOS's gifts and learnt about the marine renewables and sustainability. The detailed programme is attached and an overview on the participants, guests, attendees, activities and media impact is given.

GENERAL INDEX

INDEX OF FIGURES

1. INTRODUCTION

On Wednesday 19, 2020, University of Oviedo's first OpenLab took place, at the Mieres' University Campus, located in Mieres del Camino, Asturias. This was a full-day event which involved over 100 registered participants from a wide variety of contexts, so as to promote marine renewable energies (MRE) at ports.

2. DETAILED PROGRAMME

The programme of the OpenLab is shown in Figure 1.

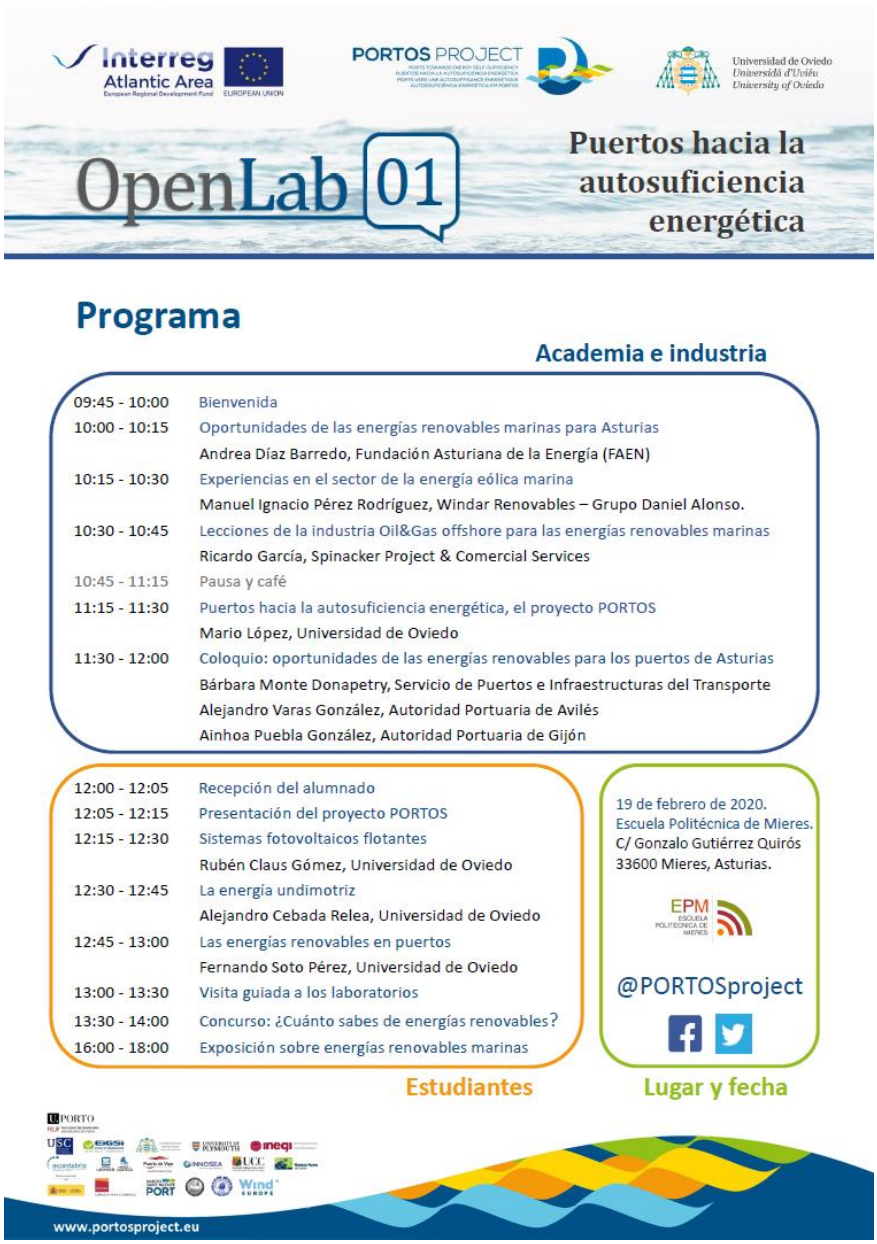

Figure 1. Detailed programme of the OpenLab (in Spanish).

3. PARTICIPANTS

In the following sub-headers, some information regarding the event´s participants is provided.

3.1. ORGANIZERS

PORTOS team at UniOvi:

- Mario López Gallego (Principal Investigator, PI);
- Rubén Claus Gómez; and
- Eduardo Álvarez Álvarez.

Other collaborators:

- Antonio Navarro Manso;
- Zenaida Aurora Hernández Garrastacho;
- Fernando Soto Pérez;
- Alejando Cebada Relea; and
- Aitor Fernández Jiménez.

3.2. GUESTS

Several guests were invited to both give presentations (these can be seen in the Detailed programme section) and discuss PORTOS concerning issues.

- Andrea Díaz Barredo. Fundación Asturiana de la Energía (FAEN), a regional public foundation in Asturias for the promotion, realization and development of any advisory activities, research, technological progress, services, awareness and education on energy, environmental and sustainability (www.faen.es).
- Manuel Ignacio Pérez Rodríguez. Windar Renovable, a private company in Asturias that offers global solutions for manufacturing of wind towers for wind turbines and offshore foundations. Due to their expertise, we are a reference company ahead of the most important wind turbine manufacturers in the world (www.windar-renovables.com).
- Ricardo García. Spinacker Project & Comercial Services. An Asturian company that supports, assist and guides other companies during any phase of an engineering, procurement, construction and commissioning contracts related to offshore wind energy projects (http://spinacker.com/).
- Bárbara Monte Donapetry. Servicio de Puertos e Infraestructuras del Transporte, the department of the Regional Government of Asturias that manages more than 100 harbours and port facilities (www.asturias.es).
- Alejandro Varas González. Autoridad Portuaria de Avilés, one of the reference ports in Asturias and in the North of Spain, with a long experience in the logistics of offshore wind energy (www.puertoaviles.es).
- Ainhoa Puebla González. Autoridad Portuaria de Gijón., the other reference port in the region of Asturias (www.puertogijon.es).

3.3. NUMBER AND TYPE OF ATTENDEES

The number of registered attendees was 104, including pre-university and university students, academia and industry. Note that many attendees (bystanders and other sorts of general public) could not be registered, so

the actual number of people that benefited from the OpenLab is substantially larger. A summary of the number of attendees is presented in the list below and in Figure 2.

- Pre-university students: 50 students and 3 teachers.
- University students: 11 students.
- Academia and industry: 39 attendees.

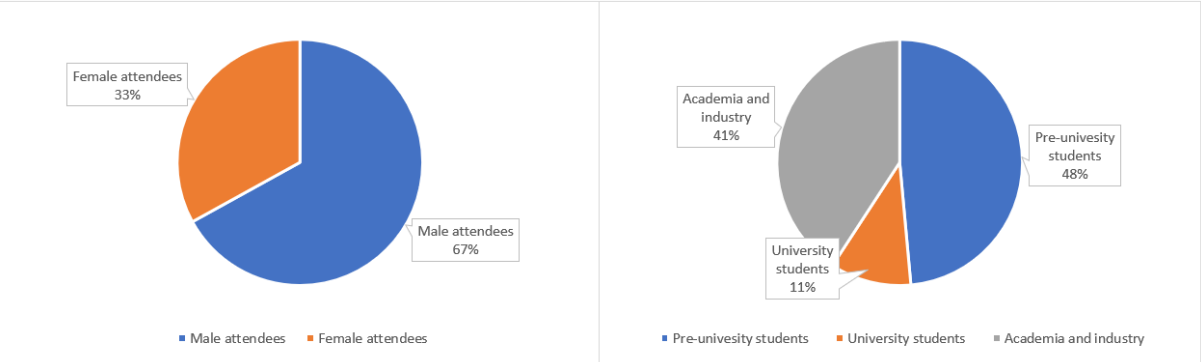

Figure 2. Attendees sorted by type and gender.

4. SUMMARY OF THE ACTIVITIES PERFORMED

A brief description of the activities that took place within the OpenLab exhibition is presented in the following sub-headers.

4.1. ACTIVITIES TARGETED AT PORT SYSTEM, INDUSTRY AND ACADEMIA

This section of the programme includes several talks and discussions that took place in the Investigation Building's assembly hall at the Mieres University Campus of the University of Oviedo.

4.1.1. WELCOME AND INAUGURATION

The attendees were welcomed at 9:45 so that the event could start at 10:00. An opening act was held with the participation of distinguished figures of the University of Oviedo, namely: José Ramón Obeso, Vice-rectorate for Research, and Eduardo Álvarez, Deputy Director of External Relations of the Technical School of Mieres (Figure 3).

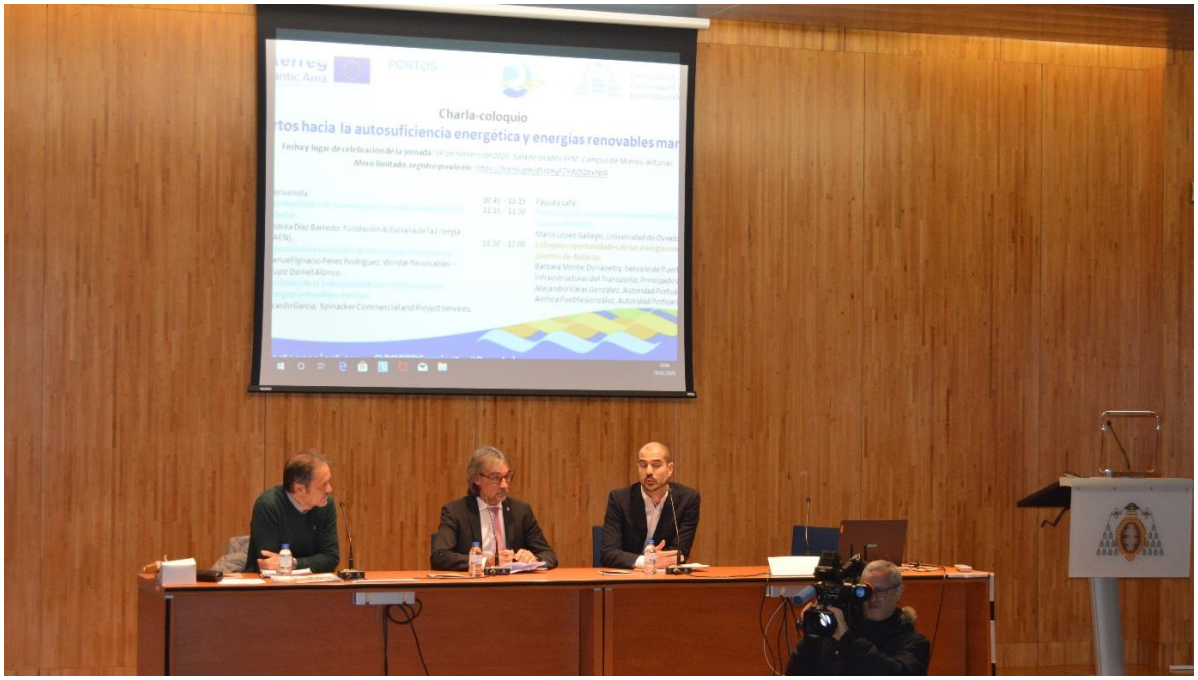

Figure 3. Opening act. From left, Eduardo Álvarez, Deputy Director of External Relations of the Technical School of Mieres and researcher of PORTOS; José Ramón Obeso, Vice-rectorate for Research; and Mario López, PI of PORTOS project.

4.1.2. KEYNOTES FROM ACADEMIA AND INDUSTRY

Three presentations from the academia and industry took place, with the participation of FAEN – Asturian Foundation of Energy (Figure 4) and two companies from the renewable energies sector: *Windar Renewables* (Figure 5) and *Spinacker Project & Comercial Services* (Figure 6).

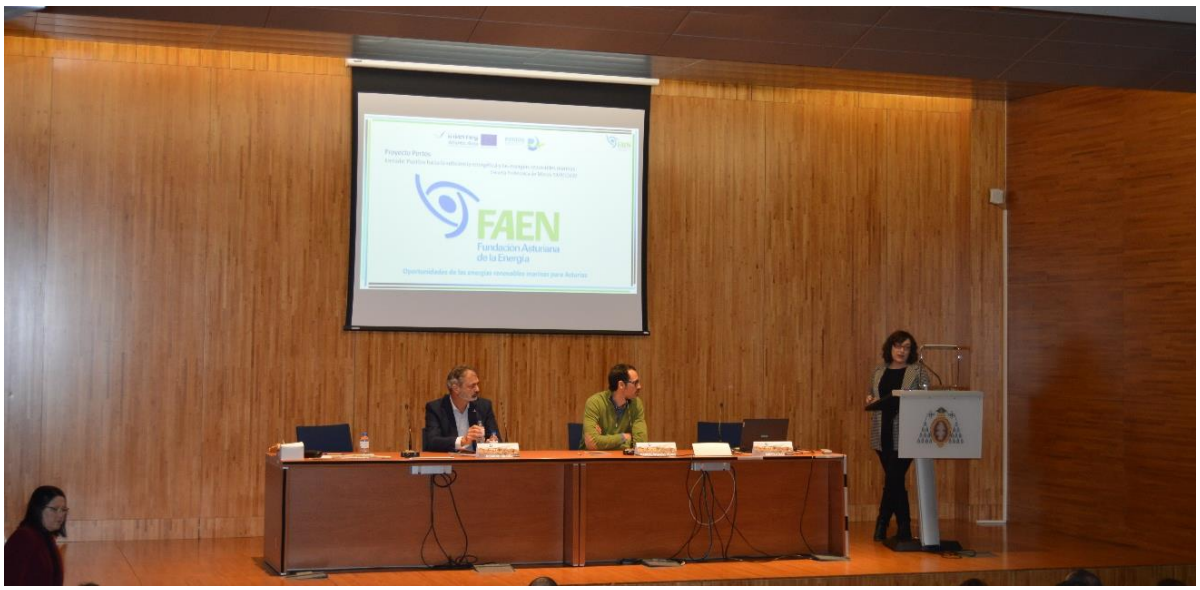

Figure 4. Presentation by FAEN.

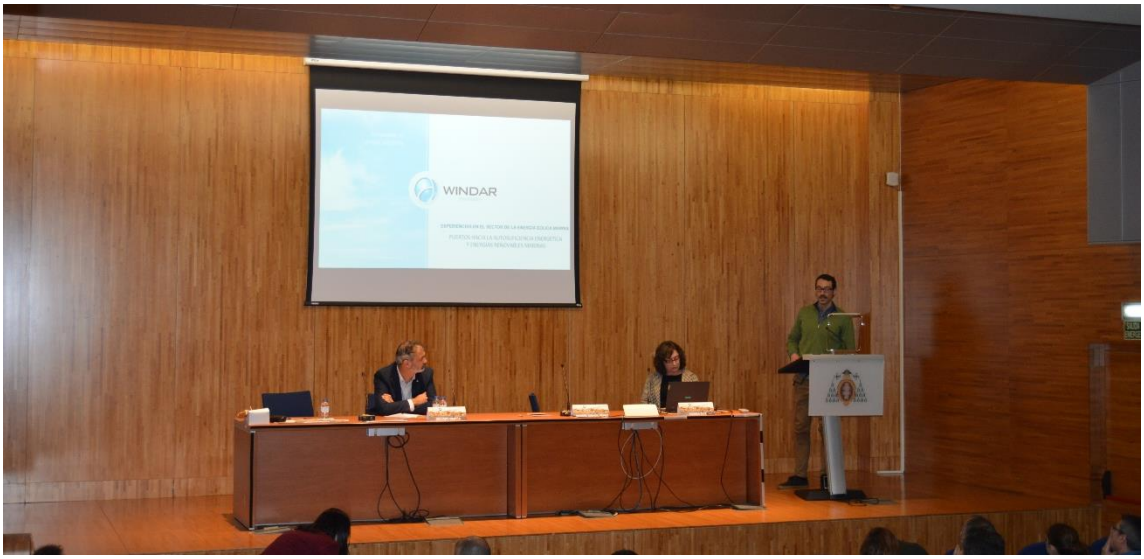

Figure 5. Presentation by *Windar Renewables.*

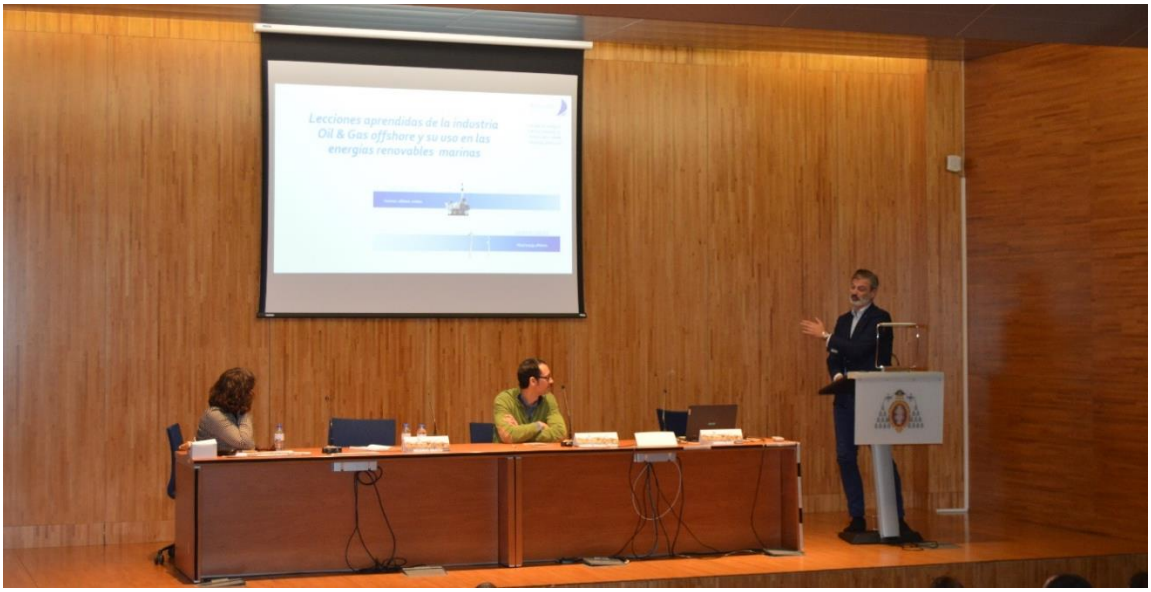

Figure 6. Presentation by *Spinacker Project & Comercial Services.*

4.1.3. COFFEE BREAK

A coffee break was organized for all the attendees.

4.1.4. COLLOQUIUM: RENEWABLE ENERGIES, OPPORTUNITIES FOR ASTURIAN PORTS.

After a brief presentation about the PORTOS project by Mario López (Figure 7), a colloquium was organized to encourage debate among all the invited attendees, including the academia, industry and representatives from three different Asturian port authorities: the Port of Gijón, the Port of Avilés (both dependant on Puertos del Estado, a national public organization and associated partner of PORTOS) and the Servicio de Puertos e Infraestructuras del Transporte, the Asturian port administrative body. The discussed topic was the opportunities that renewable energies could provide to the Asturian port system (Figure 8).

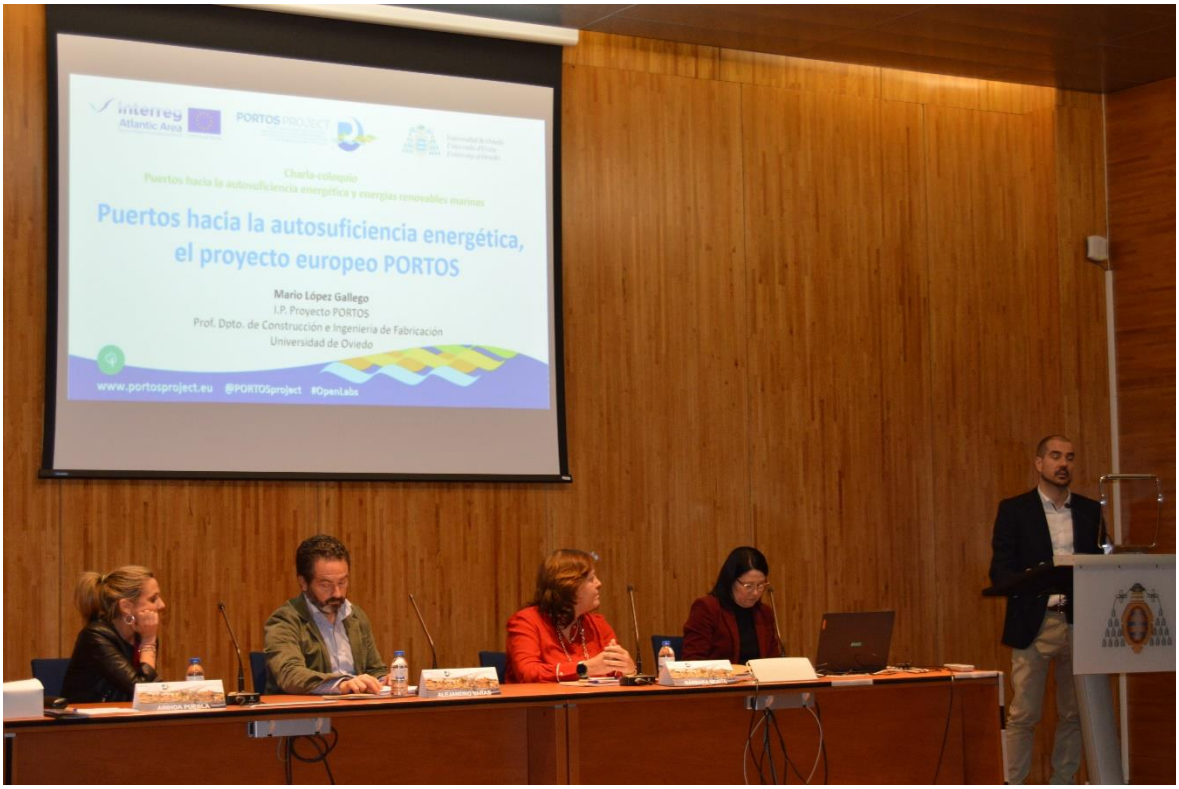

Figure 7. Presentation of the PORTOS project, by Mario López, PI at University of Oviedo.

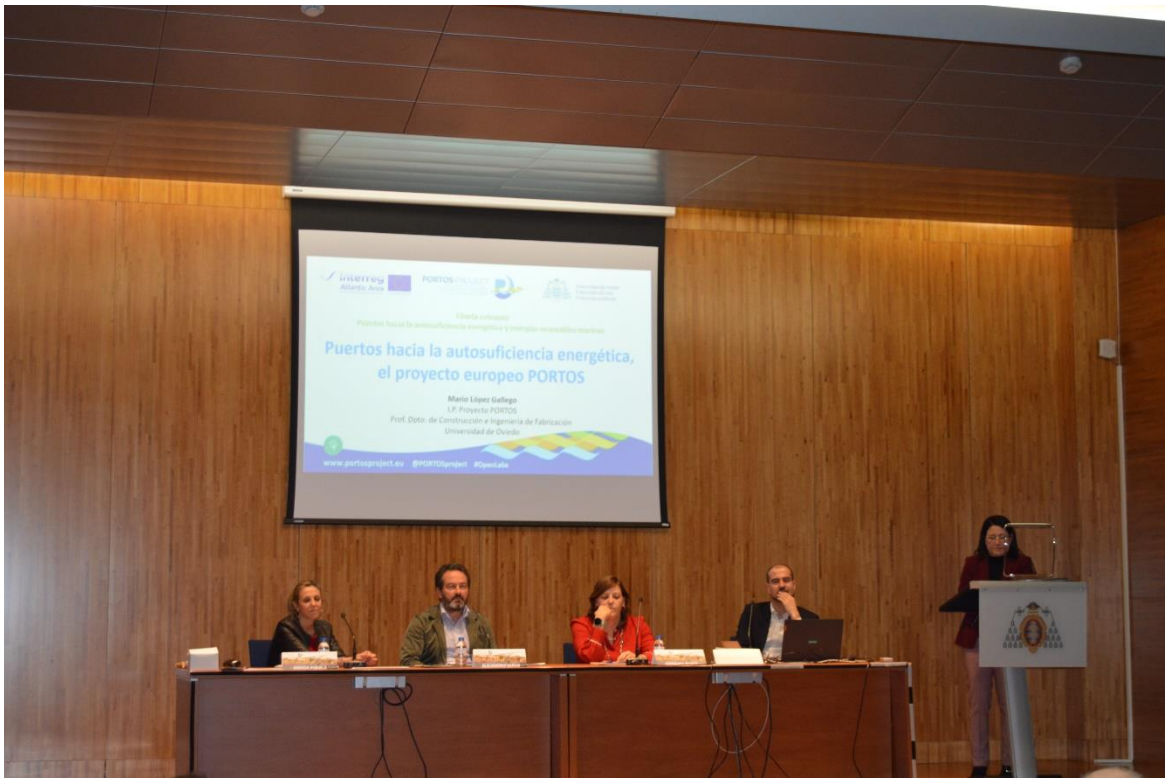

Figure 8. Colloquium on renewable energy opportunities for Asturian ports. From left, Ainhoa Puebla, Alejandro Varas, Bárbara Monte, Mario López and Zenaida A. Hernández (standing).

4.2. ACTIVITIES TARGETED AT UNIVERSITY AND PRE-UNIVERSITY STUDENTS

This section of the programme includes a gift-bag delivery, several talks, a quiz and some guided lab tours that took place in one of the Scientific-Technological Building's assembly halls at the Mieres University Campus of the University of Oviedo.

4.2.1. RECEPTION OF THE STUDENTS AND GIFT-BAG DELIVERY

To be able to reach the target audience for this section of the agenda, several high schools, from Gijón and Mieres (two cities of Asturias, Spain) were contacted. Fifty students showed a high interest in participating in this event and signed up for it. The students were accommodated in a conference that was reserved for these activities. Each student received a gift bag containing the following items (Figure 9):

- PORTOS Project blue bag;
- PORTOS Project notebook (made from recycled material);
- PORTOS Project pen (made from recycled material); and
- PORTOS Project USB stick (4 GB).

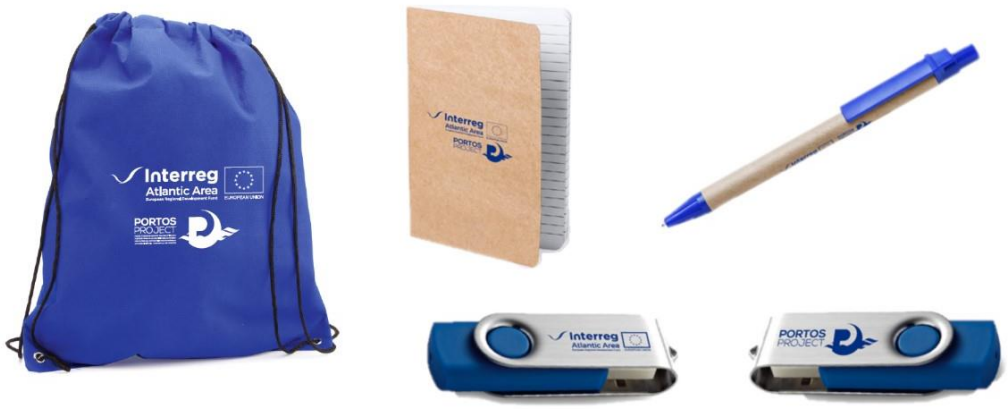

Figure 9. PORTOS giftbag delivered to the students.

4.2.2. KEYNOTES FROM THE ACADEMIA

A series of MRE themed divulgative talks were given to the students (Figure 10). The specific topics were floating photovoltaic systems, wave energy and its converters and renewable energies at ports. Three talks and a general introduction to the matter at hand took place within this activity. Both the name of the presentation itself and the name of the speaker can be seen in Figure 1. The general goal was to inform the students about the benefits of harnessing renewable energy and sustainability in ports and the role of the Atlantic Area programme and the PORTOS project in this matter. The students were very participative and showed a great interest in the topic.

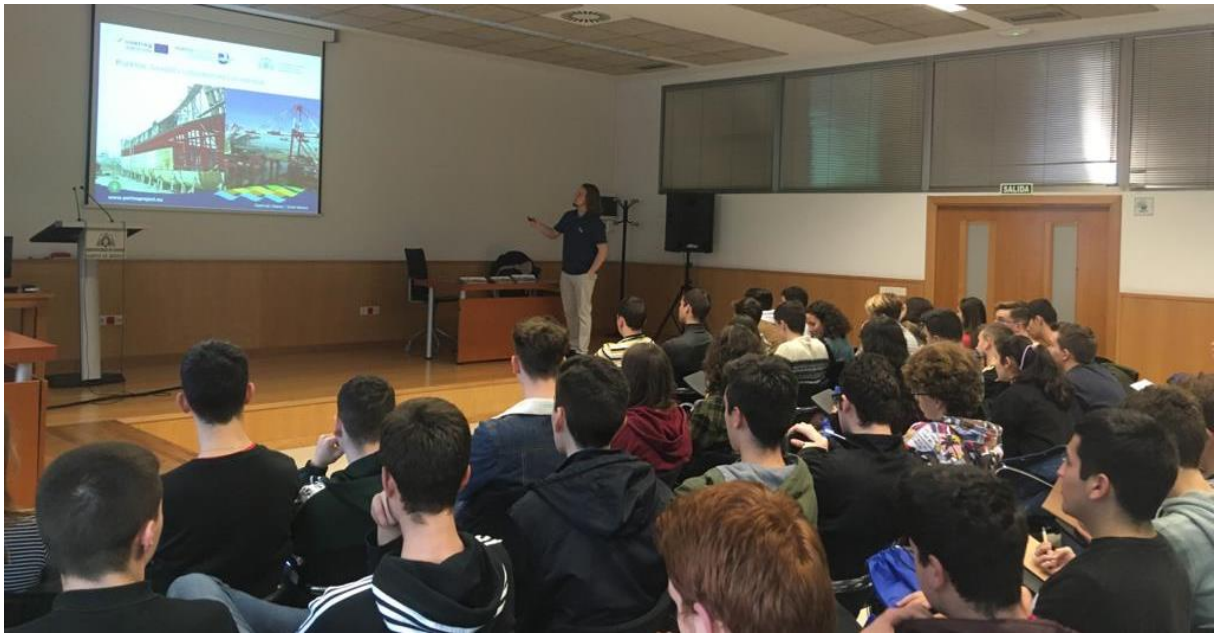

Figure 10. Presentation on MREs at ports, by Rubén Claus, researcher of PORTOS project.

4.2.3. QUIZ ON RENEWABLE ENERGIES

A quiz on renewable energies, using *Kahoot*! (a game-based learning platform), was organized for the students that attended the previous presentations (Figure 11). The quiz name in Spanish was *¿Cuánto sabes de energías renovables?* (Figure 12), that translates to *How much do you know about renewable energy?*, and covered some general renewable energy aspects and some more specific issues previously discussed.

The quiz consisted on 12 multiple choice questions weighted regarding difficulty. These questions included many renewable energies, emphasizing marine ones. A solar backpack will be rewarded to the student that proves to be the most knowledgeable on the topic (Figure 13).

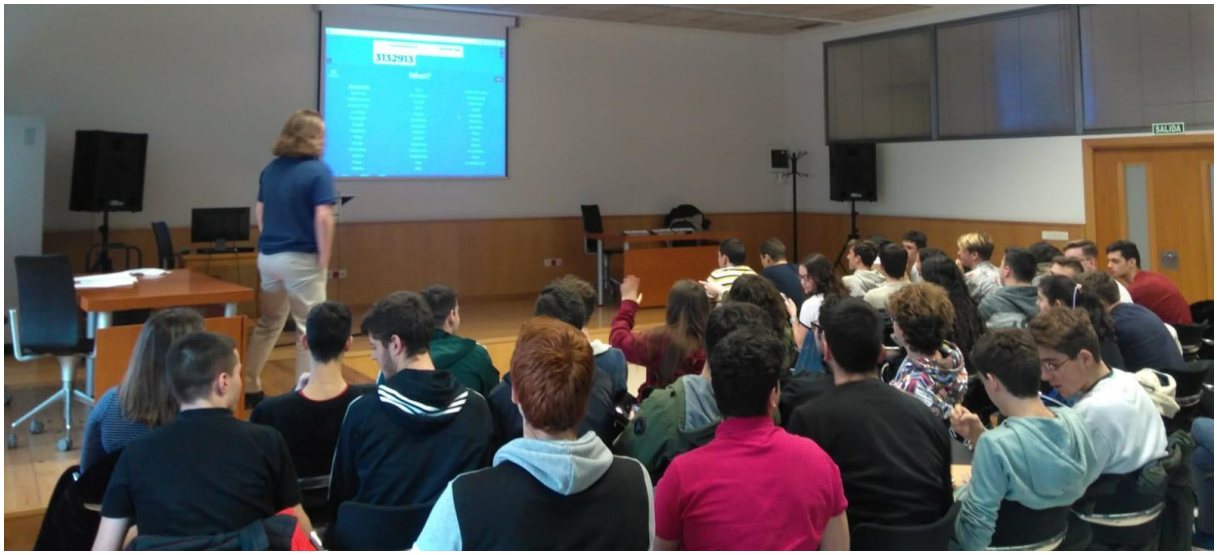

Figure 11. Students participating in the organized quiz on renewable energy and sustainability.

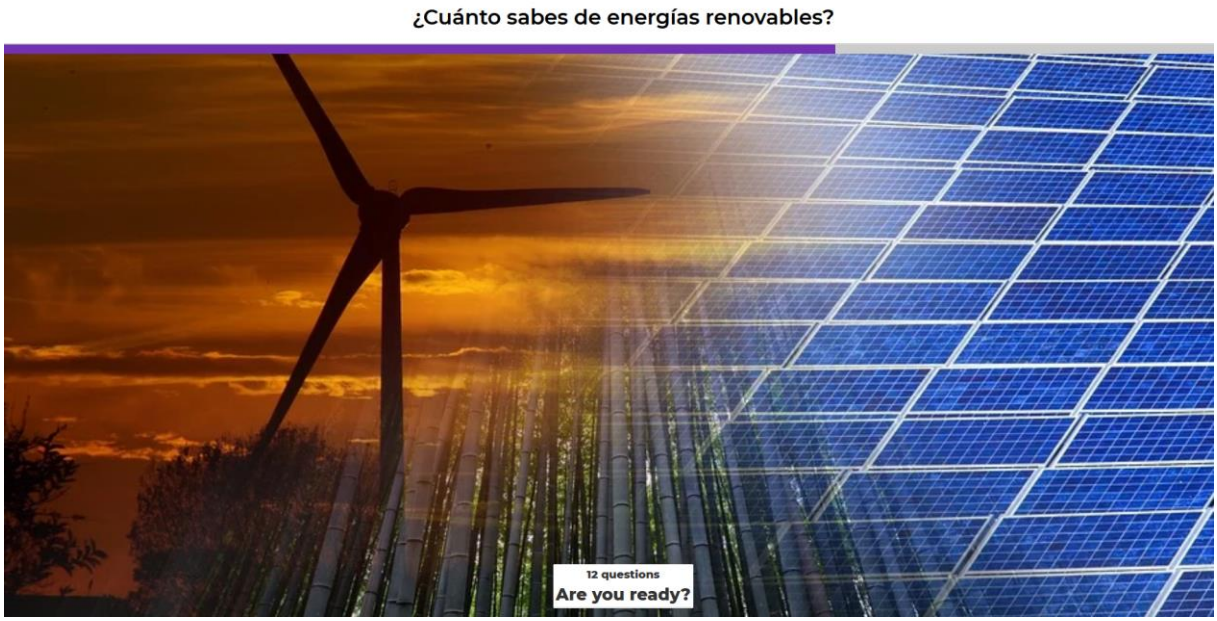

Figure 12. *Kahoot!* quiz on renewable energy and sustainability.

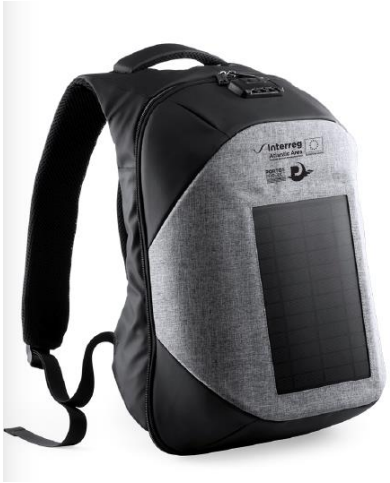

Figure 13. Solar backpack to be rewarded to the wining student.

4.2.4. LAB TOURS

The most relevant installations regarding marine renewable energies were shown to the students. First, they had a guided visit through the hydraulics lab (Figure 14), were they saw a model turbine that was being tested in a hydrodynamic channel. Afterwards, they visited the insides of a wind tunnel. In both laboratories, students received detailed explanations on how the installations were used and which purpose they served. The students were again very participative.

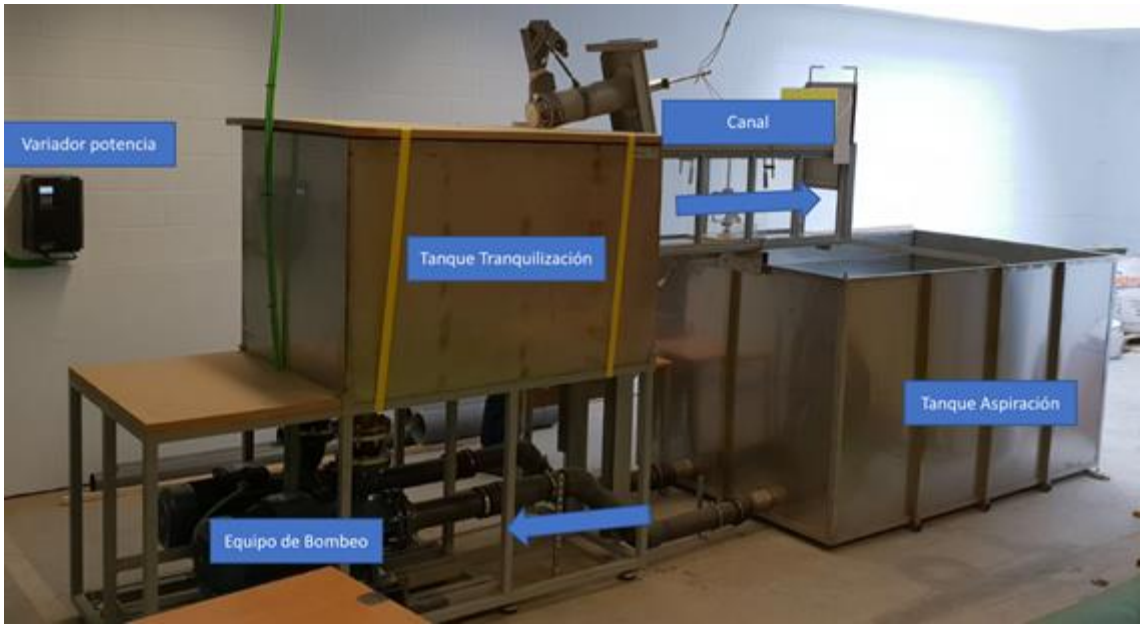

Figure 14. Hydraulics Laboratory of the University of Oviedo, one of the visited facilities.

4.2.5. THEMATIC EXHIBITION ON RENEWABLE ENERGIES

A thematic exhibition on renewable energies took place within the scope of this event (Figure 15) with a view to, again, inform the students and the general public about the benefits of harnessing renewable energy and sustainability in ports and the role of the Atlantic Area programme and the PORTOS project in this matter. For such purpose, a permanent exposition of panels was placed on the Escuela Politécnica de Mieres, and such panels (Figure 16) were explained to university students and other bystanders.

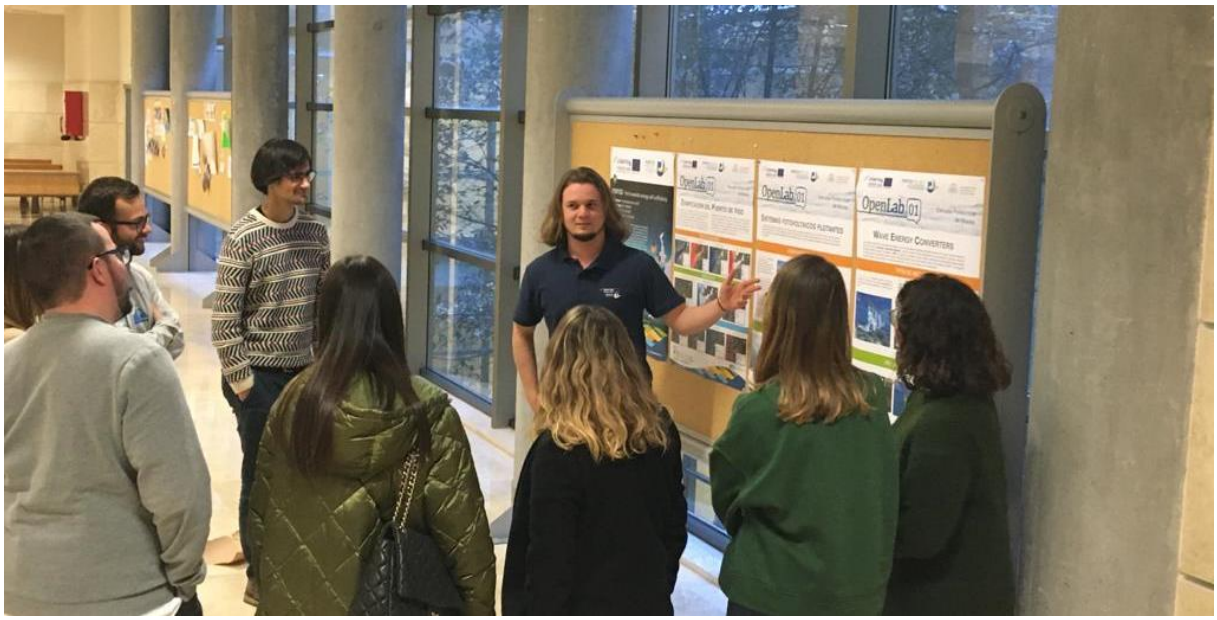

Figure 15. Exhibition and explanation of the MRE panels.

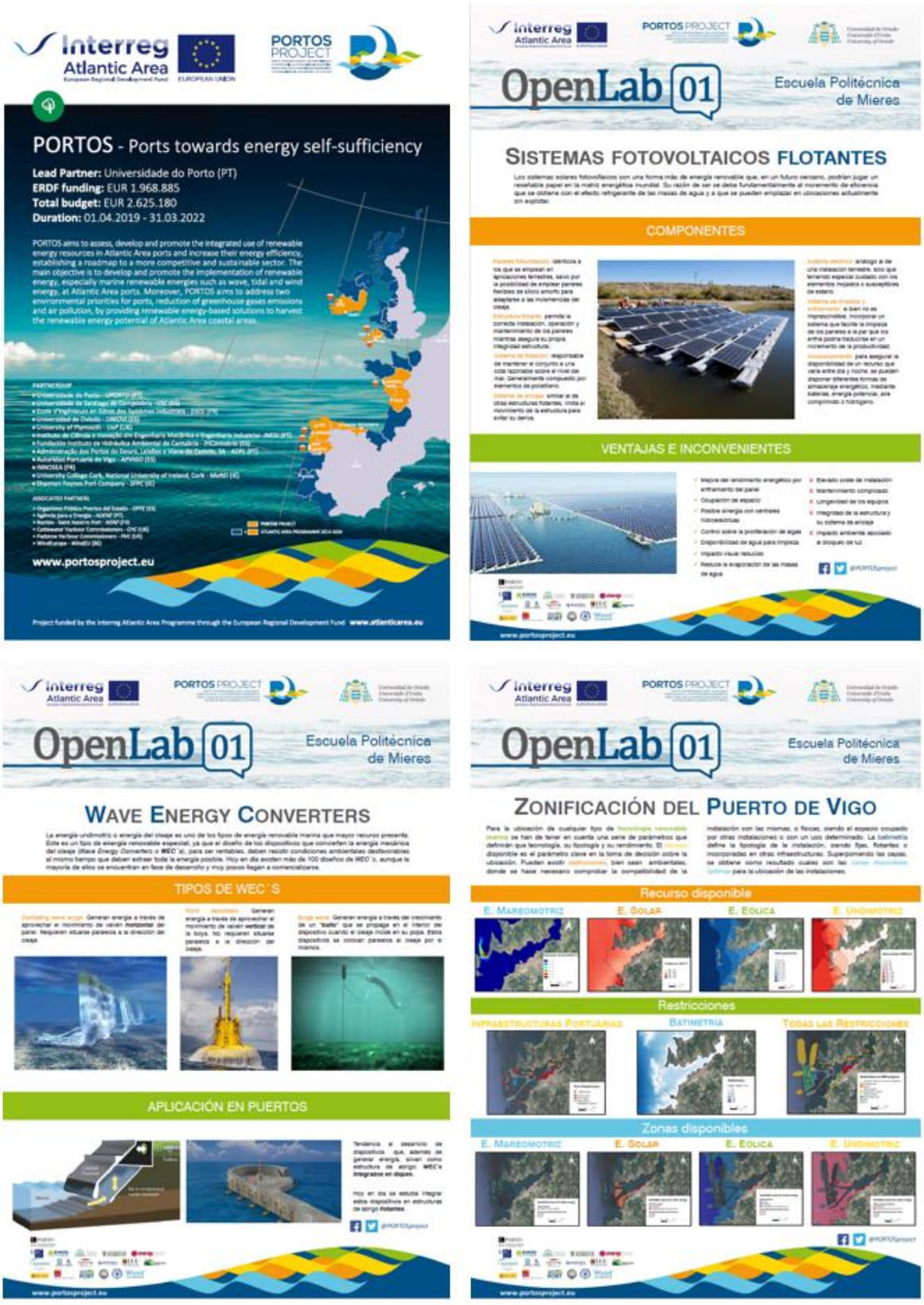

Figure 16. Exposed panels.

5. MEDIA IMPACT

The event was broadcasted on Panorama Regional, a television program from La 1, the most relevant channel of TVE, Spain's Public National Television (Figure 17). This transmission was emitted on the date of the event.

Link to the retransmission: https://www.rtve.es/alacarta/videos/panorama-regional/panorama-regional-19-02-20/5517211/?fbclid=IwAR1wUR5I7UVLS27fDeSNXryBiNOwrF-tkhnBclNqmchYG8cuo0sIEwS0PDs.

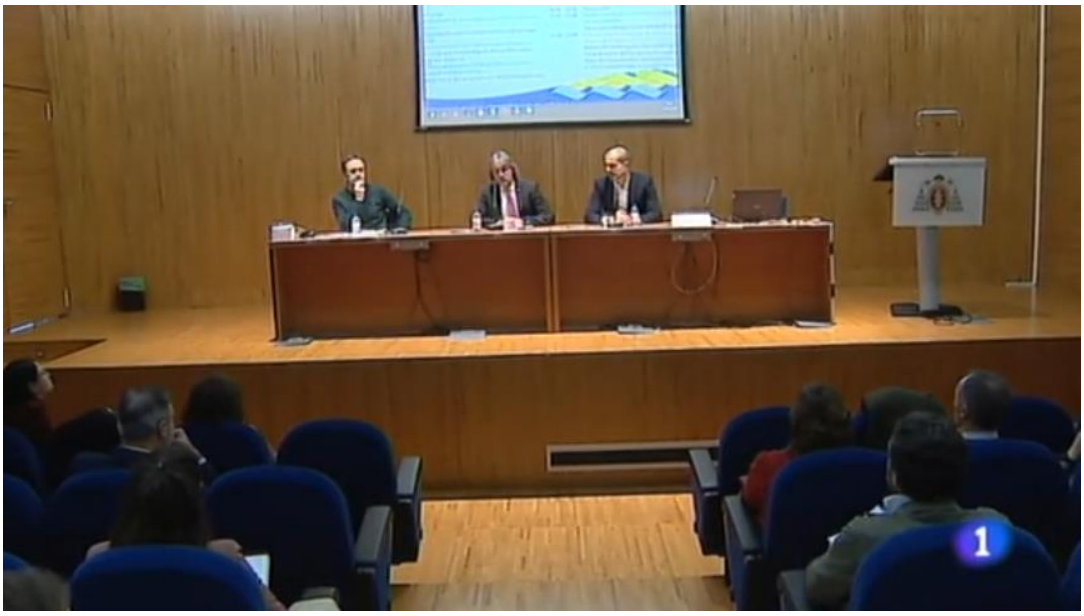

Figure 17. Screen capture of the broadcast of the OpenLab at University of Oviedo.