EUROSPACEHUB: A EUROPEAN-LED PROJECT TO FACILITATE ENTREPRENEURSHIP, INNOVATION, ACCESSIBILITY, INCLUSION AND DIVERSITY IN THE SPACE-TECH ECOSYSTEM.

S. Crotti[1,2], J. Pascual[1,3], V. Puriené[1,4] B. Foing[1,2,5], and EuroSpaceHub Team,
[1] EuroSpaceHub, [2] Lunex EuroMoonMars, [3] Collabwith, [4] Vilnius Gediminas Technical University, [5]Leiden Observatory

The EuroSpaceHub project to facilitate accessibility to the Aerospace sector. EuroSpaceHub is a European-led project with collaborators worldwide, funded by the EIT HEI initiative, led by EIT Manufacturing and EIT Raw Materials. The EIT HEI initiative - Innovation Capacity Building for Higher Education - is a key objective of the European Institute of Innovation and Technology as part of its Strategic Innovation Agenda 2021-2027. The project was born from the collaborative efforts of six different international partners: Vilnius Gediminas Technical University, the International Space University (ISU), Universidad Complutense de Madrid, Igor Sikorsky Kyiv Polytechnic Institute, Collabwith and Lunex EuroMoonMars.

The project was created to foster collaboration, innovation and entrepreneurship in the European Aerospace sector. EuroSpaceHub adresses an issue that is occurring in the existing Space and Aviation landscape: the lack of a well-structured ecosystem that facilitates the connection and exchange of knowledge among different players. The project aims to connect realities that are not sharing their knowledge and that are working in silos, with the overall idea that more cooperation produces more innovative and effective results [1]. These actors include Researchers and Universities (Individual researchers, academics, PhD students, Professors, University departments and other Research institutions), Industry, Startups, Incubators and Accelerators (Technology parks, innovation teams, consultants, corporates, companies, SMEs, Tech transfer offices and Crowdsourcing platforms). EuroSpaceHub was created to bridge the existing gap between academic institutions and industry. This gap results in difficulties for new players to enter the industry and in missed opportunities for those who want to increase their impact and innovative contribution by benefiting from the network [1].

EuroSpaceHub aims to foster an accessible, global, inclusive, efficient and transparent collaboration between different players in the Aerospace sector. In order to reach its goal, the project relies on three strategic pathways: 1. The development of a dedicated digital platform; 2. The creation of new educational programmes for entrepreneurship and innovation in Space, including analog missions and analog astronauts' trainings; 3. The promotion of events and initiatives with students and non-academic staff to attract multi-disciplinary Space professionals and to facilitate networking.

EuroSpaceHub platform: a digital, global and inclusive tool for efficient collaborations in the Space industry. Through a dedicated digital platform, EuroSpaceHub democratizes aerospace information exchange and collaboration between the different players. The digital platform is powered by Collabwith, one of the founding partners. It is a tool designed to simplify and accelerate the whole collaboration process. The platform includes specific features to digitalize the collaboration procedure, from searching for a partner for a specific project to negotiating and legal payment of the involved parties. The EuroSpaceHub digital platform was specifically developed by Collabwith to facilitate this type of operations within the Aerospace ecosystem.

Digitalization of the networking is a catalyst to open the doors to new innovation ecosystems, networks and opportunities [2]. The digital tool offers significant possibilities for making knowledge sharing more inclusive and open to all. Any user can join from any part of the world and have access to content from anywhere: he/she can become aware of existing opportunities in the market for possible collaborations, events, conferences or special calls in Aerospace. Users can also get access to dedicated online trainings and learning classes on the topics of innovation, entrepreneurship in Space and Space technologies. These dynamics offer the possibility of efficiently including certain categories of users who are often disadvantaged in collaborations. Primarily, industry newcomers who do not have their own network yet and who are approaching the aerospace reality at the beginning of their careers. These may be recent graduate and PhD students or individual researchers, as well as new-born startups.

However, these categories of users are not the only ones getting benefits from the EuroSpaceHub digital platform. Transversal networking is also a powerful mean to support women from different origins, countries, cultures and backgrounds to be connected with other non-accessible networks, funding opportunities and capital [2]. Globally, women represent only 19,9% of Science and engineering professionals and they are a minority in STEM education (35%) [3]. Moreover,

beyond the aerospace ecosystem, only 30% of women pursue a career into entrepreneurship [2]. The EuroSpaceHub digital platform is an effective tool to facilitate the role of women in building relationships with other business ventures in Aerospace. EuroSpaceHub efforts are an ongoing drive to connect women who are building their own companies or startups with funding opportunities and resources.

Thanks to the data that can be collected through the platform, it is possible to accurately track the amount of aerospace collaborations that are led by women and the number of startups founded by them. In this way, EuroSpaceHub contributes to the collection of quality data to monitor the gender gap in the Aerospace sector. In addition, through mentoring sessions, the project will give female entrepreneurs and researchers international access to training. It also gives visibility to female role models in Aerospace, which is fundamental to inspire women pursuing a career in the Space-Tech sector.

EuroSpaceHub training programme for Space entrepreneurs: making Space accessible to young innovators with the analog missions. Within the context of the training programs offered by EuroSpaceHub is the EuroSpaceHub Academy. This program aims to train young students and entrepreneurs through their participation in analog missions as terrestrial astronauts. This initiative builds on the decade of experience of Lunex EuroMoonMars, one of the founding partners of EuroSpaceHub consortium, in organizing field campaigns and analog missions for students and researchers in different locations worldwide since 2009, including Hawaii HI-SEAs, Utah MDRS, Iceland, Etna/ Vulcano Italy, Atacama, AATC Poland, ESTEC Netherlands, Eifel Germany, etc. [4-11].

The EuroSpaceHub project is now co-funding, sponsoring and co-organizing a large number of these missions with LUNEX EuroMoonMars, with the overall goal of enabling a growing number of students to train as astronauts and enrich their scientific-technical knowledge of Space and instruments, as well as their soft skills and entrepreneurial mindset.

Missions provide a practical ground in which students can test the notions learnt at the university in a realistic simulation context. Over the course of these missions, students have access to special Space instrumentation, laboratories, facilities and operational settings that would otherwise be precluded to them. By partnering with the Analog Astronaut Training Center in Poland (EMMPOL missions), students can carry out their own experiments in the various disciplines in a unique scenario, which replicates several aspects of Space, at an affordable price. EuroSpaceHub is supporting through dedicated grants the participation of students and professionals in such activities.

The consortium is also actively delivering dedicated training sessions, thus contributing to the training of young people in aerospace. Crew selection for these analog missions pays attention to gender balance and multiculturality and encourages young female students in the STEM field to get involved. In this way, EuroSpaceHub actively contributes to bringing young female scientists closer to opportunities in aerospace. Thanks to the EuroSpaceHub Academy's educational and outreach activities, moreover, young students and researchers have access to a vast network of experts to whom they can refer to take the first steps in their careers in the Space industry.

Through this comprehensive set of activities, together with the digital platform tool, EuroSpaceHub sheds light on the possibilities there are for young entrepreneurs in Space and helps lower the barriers to entry into this field.

Acknowledgments: We thank collaborators and partner institutions from EuroSpaceHub Consortium, EIT HEI initiative, EIT Manufacturing and EIT Raw Materials. We acknowledge EuroSpaceHub core partners: Vilnius Gediminas Technical University (V. Puriené, L. Pečiūrė et al), Collabwith (J. Pascual et al), International Space University (W. Peteers, N. Peter, C. L'Habitant), Universidad Complutense de Madrid (A.I. Gomez, J.C. Vallejo), Igor Sikorsky Kyiv Polytechnic Institute, Lunex Foundation and EuroMoonMars programme (B. Foing, H. Rogers, Taisik Lee, S.Crotti, B. Reymens, K. Gautam, I.R. Perrier, S. Baatout, S. Pavanello et al), the Analog Astronaut Training Center (A. Kolodziejczyk et al).

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