

# UNIVERSEH

## European Space University for Earth and Humanity

Emmanuel Zenou <sup>1</sup>, Eric Tschirhart <sup>2</sup>, Tadeusz Uhl <sup>3</sup>, Jonas Ekman <sup>4</sup>, Stefan Marschall <sup>5</sup>

<sup>1</sup>) Université de Toulouse Midi-Pyrénées

<sup>2</sup>) University of Luxembourg

<sup>3</sup>) AGH University of Science and Technology, Krakow

<sup>4</sup>) Luleå University of Technology

<sup>5</sup>) Heinrich Heine Universität Düsseldorf

### Abstract

The conclusions of the 2017 Social Summit in Gothenburg encouraged the European Union members to strengthen strategic partnerships across the European Union between higher education institutions and encourage the emergence of “European Universities”, an innovative bottom-up networks of universities across the EU. Université Fédérale de Toulouse (France), in partnership with Université du Luxembourg (Luxembourg), Luleå Tekniska Universitet (Sweden), Akademia Górniczo-Hutnicza (Poland) and Heinrich-Heine-University (Germany) teamed up to develop the Alliance “European Space University for Earth and Humanity”, or UNIVERSEH. Within the Erasmus+ program funding, the European Commission selected UNIVERSEH as a broad space-dedicated “European University” in July 2020.

Almost all the space-related universities worldwide focus on Science & Engineering, with a very limited, if any, interest in other academic field. By contrast, UNIVERSEH identified four fields to be addressed:

1. **Space for societal challenges:** the most pressing challenges today, such as fighting climate change or managing natural resources are key applications of space. Space technology, data and services have proven to be indispensable in the life of Europeans and for sustainable development.
2. **Space sustainability:** space sustainability is essential to guarantee the ability of all human beings to continue to use outer space over the long term
3. **Space exploration:** EU member states committed to space exploration through their involvement in the International Space Station until 2030 and in “Space Gateway,” the first space station to orbit the Moon.

4. **Space resources and settlement:** questions and apprehensions have not been alleviated whether humans may be living and working beyond Earth. The concept of permanent, autonomous human habitation of locations outside Earth (Moon, Mars, in orbit) has been the subject of substantial literary, scientific, or artistic work the last years.

UNIVERSEH's objective is to establish a comprehensive, space-centred university. "Comprehensive" makes clear that courses offered by our Alliance will address all academic fields: Science & Engineering, Health & Medicine, Human & Social Sciences, Art & Cultural Studies, Management, Economy, Business & Finance, and Entrepreneurship & Innovation.

Conceptually, UNIVERSEH distributed the space sector into four differentiated segments:

- **Space for Earth and Society:** this section will tackle all social, societal, and environmental challenges (Earth Sciences, Climate change...)
- **New Space:** it considers access to space and all challenges around Earth (satellite constellations, space debris, space law, business...)
- **Space settlement and Resources:** the not-so-SF man settlement on Moon or Mars for instance remains a serious issue to permit human, plant, and animal life in space
- **Space Exploration and Deep Space:** this last segment challenges deeper exploration, and in which art studies are in advance for instance.

Within Erasmus+, the Alliance is committed to enhance mobility and multilingualism, address some of the barriers students face when it comes to joining higher education and studying abroad in particular, develop new joint interdisciplinary and cross-sectorial curricula, develop new pedagogical models, and become an entrepreneurial "university".

This article aims to present the overall context of the UNIVERSEH project, depict its philosophy, vision, and objectives, and describe the concepts of the project factually.