UNIVERSEH is an alliance of five European universities established to develop a new way of collaboration in the field of Space, within the "European Universities" initiative.

The alliance aims to create new higher education interactive experiences for the university community, teachers and students, and for the benefit of society as a whole. Such initiatives will enable broadminded, informed and conscientious European citizens to capture and create new knowledge and become smart actors of European innovation, valorisation and societal dissemination within the Space sector, from science, engineering, liberal arts to culture.

European Space University for Earth and Humanity

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D5.4 Report on the GeoData program

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Version: draft/final

Dissemination level

PU	Public	X
CO	Confidential, only for members of the consortium	

1 Document History

Version	Date	Author	Partner	Summary of main changes
1.0	18/10/21	Lucie Loyon	UT (UT2J)	Information about Participants
2.0	19/10/21	Josiane Mothe	UT (UT2J)	skeleton

2 Table of content

3 Objective of the deliverable

In UNIVERSEH, we wish to create new higher education interactive experiences for the university community, teachers and students, and for the benefit of society as a whole. Student-centered learning, peer-to-peer and collaborative teaching designs is the cornerstone of UNIVERSEH's educational endeavour.

WP5 focuses on Entrepreneurship. This deliverable, D5.4, is related to Task 5.2 "Developping entrepreuarial and innovative mind set using Geo-data". This task aims at developping entrepreneurship and innovation students' spirit using Geodata. In the first year of UNIVERSEH, we implemented a program allowing about twenty master students from various disciplines to discover entrepreneurship in practice. This deliverable reports the program, the attendees's profiles, a resume of the projects pitched and the methodology.

4 Startech program

4.1 Content of the training

The Startech program has been launched by WSL in Belgium in 2012, with the original idea to inspire and support students from engineering schools to test and grow their entrepreneurial skills. Josiane Mothe coordinator of the European project FabSpace 2.0, has successfully transferred the Startech program for Earth Observation data-driven applications in 2019. Today, she is implementing the program with a new consortium as the UNIVERSEH Startech.

The Startech module aims at coaching students towards the spirit of innovation. Students are put in a leadership position where they have to act as a project manager to make their ideas a marketable prototype/product/project. All through the training, they develop a set of skills that are crucial when developing new projects, new research directions or a new company.

The Startech is based on creativity methods. The students define projects and form groups that will last through the programme. Sessions are then organized in which business coaches are available. Between the sessions, online lectures, business development objectives, or/and on-the-field assignments are provided, students will expand this idea to reach a marketable prototype/project.

4.2 Methodology

In groups, students choose an idea (e.g. a new application that uses Earth observation data to help monitoring the gas pollution in the seas). The students receive lectures on the different steps: creativity, business models (See Figure 1), canvas, lean start up, IP, presentation, etc. There are 8 coaching sessions in total. The sessions are collective (peer-learning) and face-to-face in Toulouse and allow the exchange of experiences between the groups of students and the coaches. Courses on specific concepts and important phases of the idea/product/project development are provided using both videos and presentations. These courses are commented and the groups of students are coached to apply what they have just learned on their project. Throughout the process, students are accompanied by teachers and by several experts. At the end of the training, the students pitch their project in front of a jury.

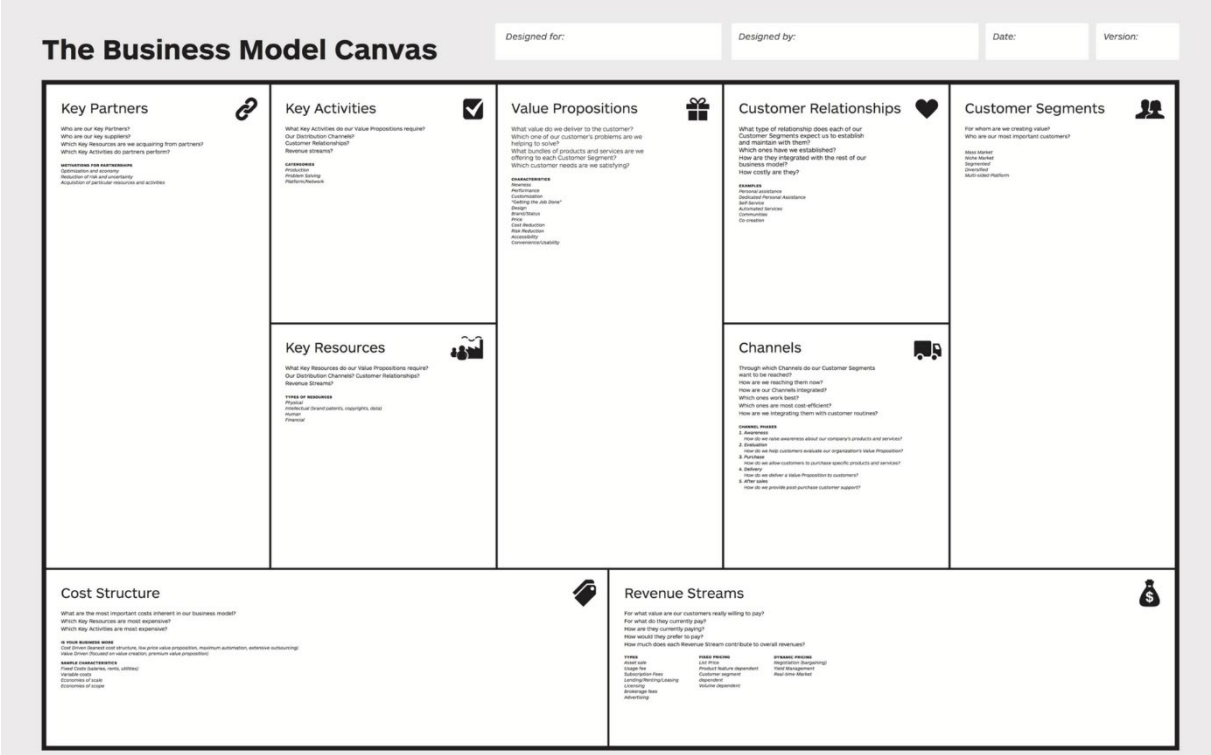


Figure 1: The Business Model Canvas
[Source: https://en.wikipedia.org/wiki/Business_Model_Canvas#/media/File:Business_Model_Canvas.png]

4.3 Training schedule

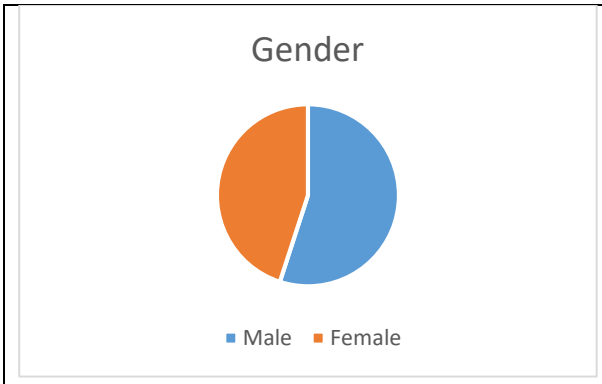
Day 1: - Welcome - Game for team building - knowing each other - Program presentation and round table - Idealisation - Value proposition - Market and customer segments	**Day 2:** - Preparing interviews - Interviews with customers and experts - Market size - Minimum viable product - Presentations
Day 3: - Networking activities - Personal career project - Meeting start-ups - Discussion with experts & researchers	**Day 4:** - Channels - Customer relationships - Revenue models - Presentation of the work
Day 5: - Partners - Resources, activities and costs - Pitching - Discussion & Conclusions - Evaluation	

5 Information about participants' profiles

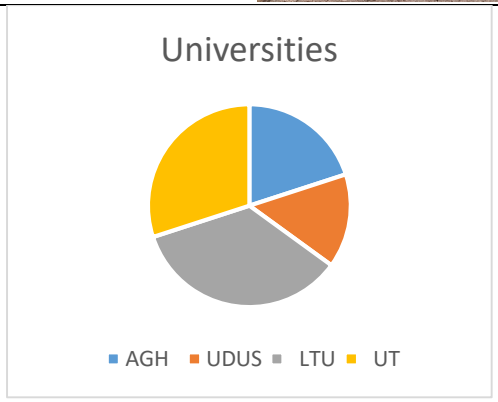
20 European students from the consortium have been selected to participate to the Universeh Startech. 19 only could join because of a visa problem for one of them. The pandemia did not affect the running of the training program apart for the sanitary measures that had to be respected. The training was hosted by the teacher training school (INSPE department) of Université Toulouse Jean-Jaurès of UT partner, from October the 4th to October the 8th.

5.1 Gender and university of origin

Figure 2 presents the breakdown by gender and university of origin. The parity is respected. While during the preparation of the startech program we targeted a balance in between the different partners, the applicants were more numerous from LTU than from the other universities. This is also reflected in the repartition of the participants. There were slightly more students (8) from LTU than from other universities.



a) Gender repartition



b) University of origin repartition

Figure 2: gender and university of origin.

While the students are registered in the partner universities, it is worth to mention that the students have very diverse nationalities: Ethiopia, France, Germany, Ideland, India, Mozambique, Sir lanka, Spain, Sweden, …

5.2 Level of studies and domains

Figure 3 presents the breakdown by the level in studies of the students and Figure 4 reports their domain of studies.

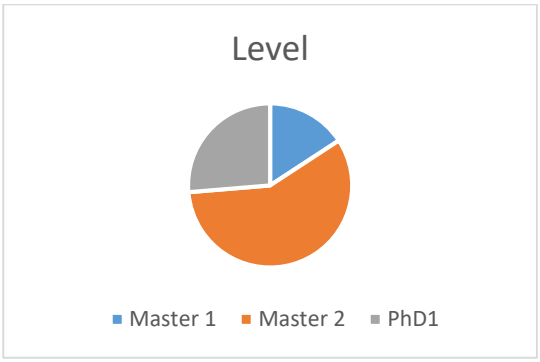


Figure 3: Level of studies of the students

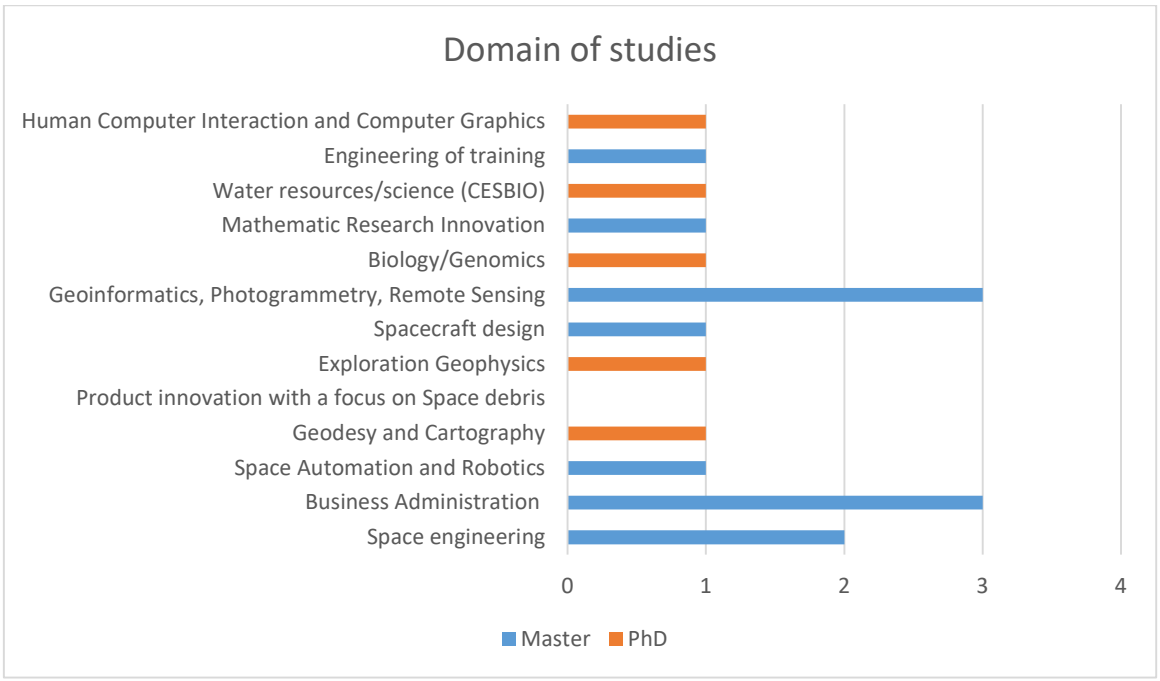


Figure 4: Domain of studies of the students

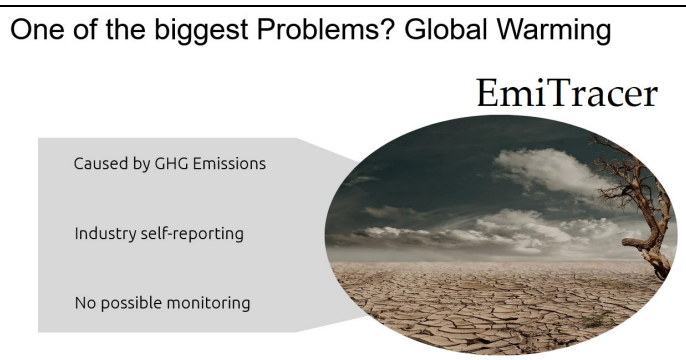
The students were mainly from M2 and PhD thesis. The call for participants has been distributed at the end of the university year and the training planed at the beginning of the next university year. It was thus easier for students from PhD and M2 levels to be free of other lectures for this first Stratech. For the next Startech, we plan to call for participation earlier in the year and to schedule it on a week where more students could be available and free of other classes in their university.

There is a large variety of domains of studies in the group which make the entrepreneurship program very interesting for students who have not many opportunities to mix up.

6 Project pitched and other results

6.1 Pitches and video

The Startech program resulted into 4 ideas, one per group of students. The groups have been consitituted so that groups were mixed considering the university of origin, their studies and gender of the students.



6.1.1 EmiTracer

The objective of this application is an instant monitoring of emissions and tracing pollution.

6.1.2 TreeMonitor

The objective of this application is to be able to monitor trees and forest.

6.1.3 RapidEO

This application is about rapid deployable EO command center as well as providing vulnerability maps (based on a variety of proprietary data and models)

	6.1.4 Plastic motion This application aims at identifying plastic in oceans, volume, density and type.

Table 1: Frame of the pitches (on display on the FabSpace YouTube Channel)

6.2 Interviews

We also made two interviews.

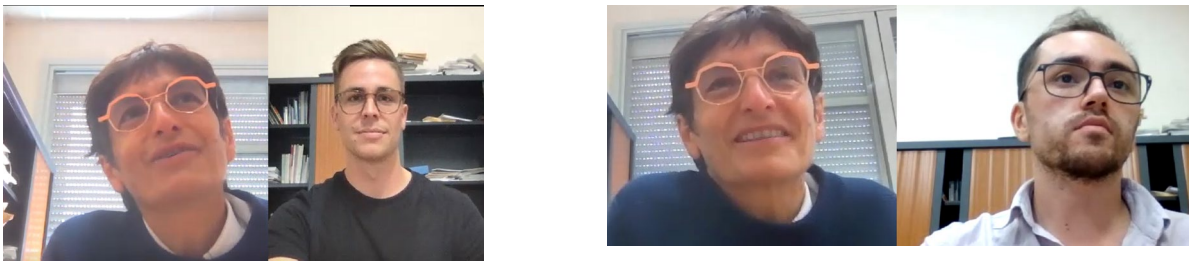


Table 2: Frame of the interviews (on display on the FabSpace YouTube Channel)

7 Methodology

7.1 Call for participation

7.1.1 Content of the call

Prior to the training program, we have spread a call for participation. The call was the same whatever the university, although each university could personalize the call according to some specific constraint. The students were asked to send a CV plus a short video where they presented themselves as well as their professional objective and expectations.

The call provided also information on the objective and content of the training program and the schedule.

7.1.2 Distribution of the call

The distribution of the call was left to the decision of each partner to adapt to the local constraints. In some universities, the call was sent to targeted training programs, in others the call was also advertised more widely.

7.2 Selection of the students

In Luleå (LTU), UDUS, Uni.lu, and Toulouse (UT), the selection followed the standard approach suggested in the call, with students sending in CV and short video then participants were selected.

AGH implemented an original methodology where 3 groups were working on a local entrepreneurship program. The winning group travelled to Toulouse (either the entire group or part of it, or parts of different groups).

7.3 Mentors and experts

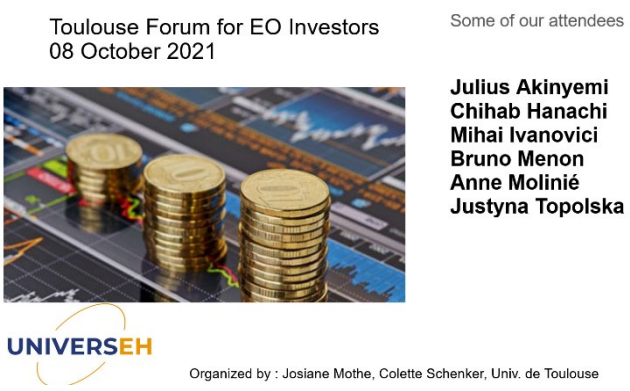
The training was conducted by two main trainers, Josiane Mothe, professor at the INSPE department of the Université Toulouse Jean-Jaurès, UT2J from UT partner and Colette Schenker from Catalyseur, Université Toulouse Paul Sabatier, UT3 from UT.

In addition, we asked for experts (both from industries and university) to play the role of potential customers for the designed applications or to play the role of investors. We had 13 experts. Five of the experts were members of the UNIVERSEH partner universities. This was of collaborative enhancement of the program and for close collaborations within the consortium.

Some experts were playing the role of customers. The students interviewed them. Others played the role of investors within an investor forum where the students pitched.

Experts

- Julius Akinyemi, working at TBS (UT) played the role of an investor,
- Sivakumar Bactavatchalou, University of Luxembourg, played the role of a citizen who recently experienced having water in his house for RapidEO, the owner of a textile company who would like to compete with the major shoes' makers for plasticMotion and the secretary of the minister of environment who has to write frequent reports on different types of pollutions,



- Jean-Baptiste Faure, catalyseur UT3 (UT partner) played different roles including the owner of a forest for TreeMonitor,
- Chihab Hanachi, assistant professor at University Capitole, Toulouse, played the role of a consultant for the French government and of an investor,
- Mihai Ivanovici is professor at the Brashov university (Roumania) played the role of investor from Romania, specifically for the TreeMonitor application which targeted the Poland and Romanian markets,
- Aude Nzeh Ndong, engineer at Aeropspace Valley (Toulouse). She played the role of a worker in an agroforestry industry,
- Bruno Menon, engineer in computer science (Toulouse), played the role of an investor,
- Anne Molinié (Toulouse) played the role of an investor,
- Brice Mora, engineer at C-S (Toulouse) was invited to play a role in TreeMonitor,
- Frédéric Migeon, assistant professor, UT3 (UT partner) played the role of a major of a city for RapidEO application,
- Maude Perier-Camby, engineer at Aeropspace Valley (Toulouse) was invited to play a role for EmiTracer,
- Romain Raux, professor at the University of Luxembourg played the role of a worker at the Ministry of Environment in Romania for TreeMonitor, an engineer in food quality at Yuka for PlasticMotion and an active and engaged member of the Respire NGO for EmiTracer
- Sajad Tabibi. Postdoctoral researcher at University of Luxembourg, played the roles of a worker at the environmental and climate hazard institute from Haiti for RapidEO application and of the owner of a small company that can provide the location of micro splastic in the ocean for PlasticMotion.
- Justyna Topolska, professor, played the role of an NGO for PlasticMotion application as well as investor the last day.

7.4 Lessons learnt

7.4.1 Feedback from the participants

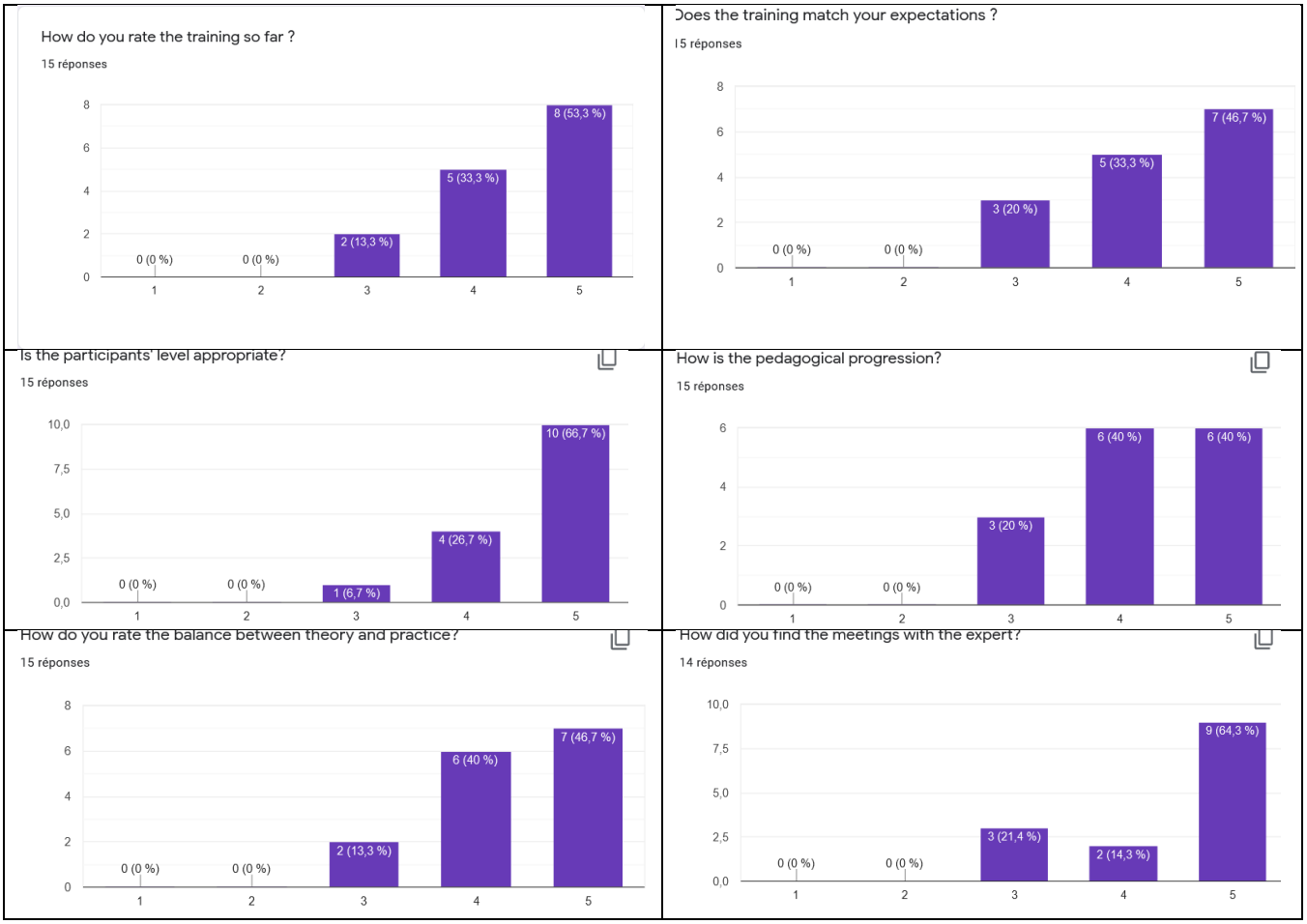
Two satisfaction questionnaires were sent to the participants, one after two days of training, the other at the end of the training after 5 days.

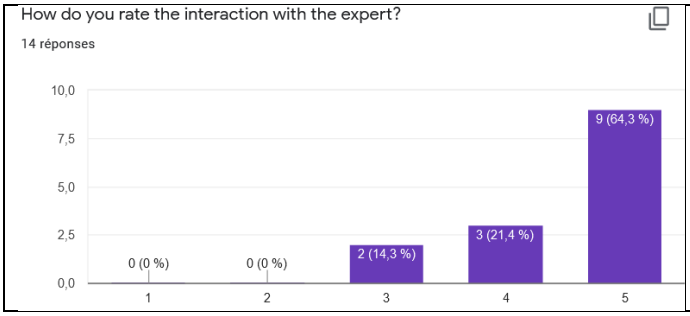
In general, the majority of participants found that the training met their expectations and was appropriate to their level. The pedagogical progression as well as the composition and size of the groups corresponded to their expectations. They were rather satisfied with the balance between theory and practice and with the meetings and interactions with the experts.

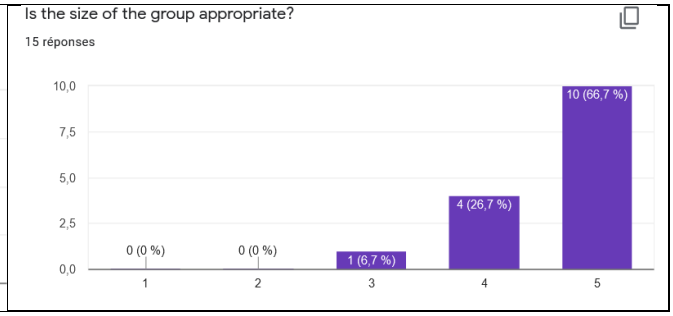
Fifteen participants answered the first questionnaire while seventeen answered the second one.

7.4.2 After 2 days of training

Responses on the questionnaire after 2 days of training. 1 means low, 5 means high.

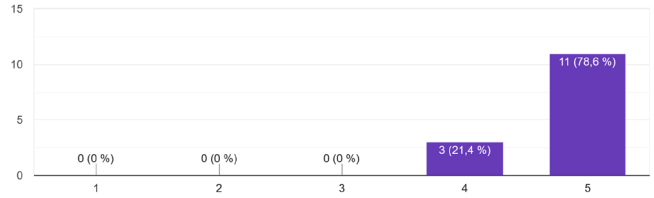
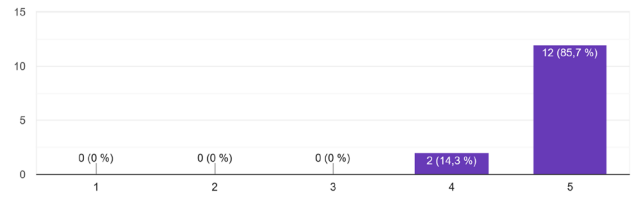
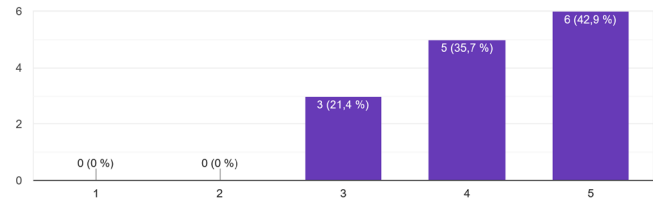
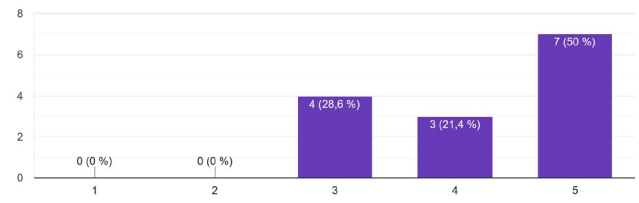
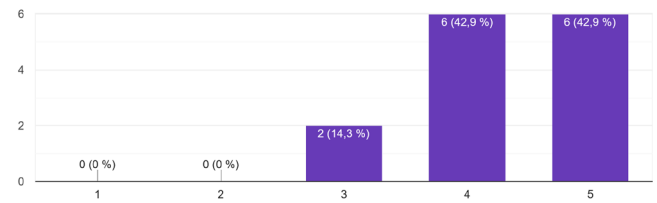
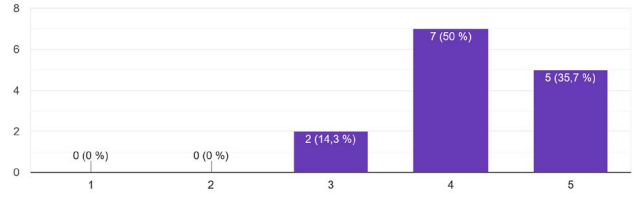


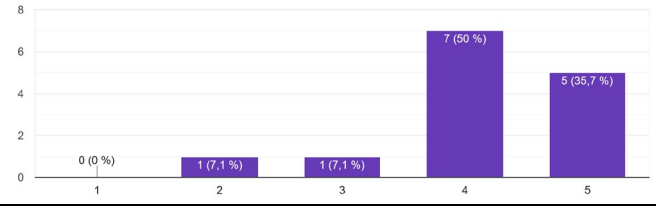


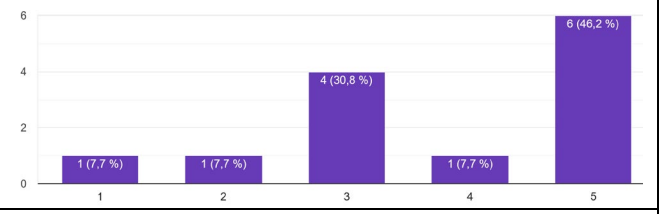


7.4.3 Feedback after the end of the program

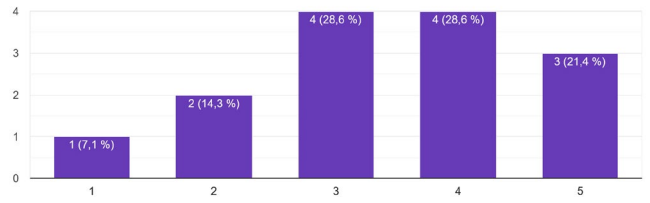
Although just a few of them though they may want to start a start-up in the future, many understood that most of the skills and knowledge of this training program is transversal and can apply in different contexts. They all acknowledge the Erasmus+ program (although not all of them knew at the beginning they benefited from Erasmus+). The students think they have learnt much but they had preferred a shorter training. Giving the schedule of master and PhD students, this is perfectly understandable. The students would recommend other students to attend such a program.

Overall, this Erasmus+ week was a great experience  	I would recommand students to attend such joint conferences next year 
I learnt new knowledge  	I think I will use some of the skills/knowledge that I have learnt in future (not necessarely the near one) 
Some of the tools learnt could also apply to innovation in research  	I know more about how to define the value of an idea 
I think I will change the way I present my ideas when I want to convince someone on the interest of an idea	I may want to try to develop a startup in the future

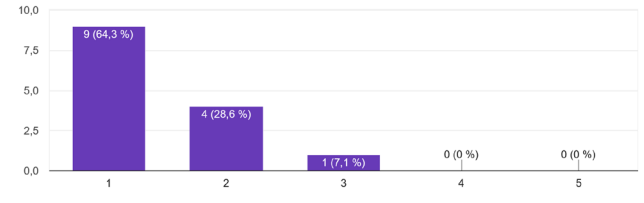




Does the training change your willingness in becoming an entrepreneur?



I think one-week training is too long



8 Conclusions

The Toulouse Universeh Startech program gathered 19 students (20 students attended and there was a last-minute cancellation due to non-renewal of a visa). It was the first of a series for Universeh. The startech program was adapted from InnEO Space program for PhD, it self adapted from the FabSpace Startech program ran by Josiane Mothe, two H2020 projects.

In this new version, the fact the students were from different universities, different backgrounds and different levels was a real plus.

The satisfaction questionnaires the students filled in show that the program was a great success.

The entrepreneurship program for next year is planned to be organized by LTU partner who also has a great experience in entrepreneurship. The lessons learnt from the first startech will be considered to enhance the students experience but also to enrich the partners collaboration.