

Experience Report Erasmus

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**Major: B.Sc. Industrial Engineering and Management
(Electrical Engineering)**

Host University: Free university of Bozen



Participating in the Blended Intensive Programme (BIP) in Bolzano was a valuable academic and personal experience that went beyond a typical university course. Organized by TU Ilmenau and hosted by the Free University of Bozen-Bolzano, the program focused on digitalization and sustainability in the automotive sector while fostering collaboration among students from different countries. This combination of technical learning and intercultural exchange made the experience both challenging and rewarding.

On the first day we got to know about the city, the university, professors and about the challenge that we will do on Day 5 which was called “impossible climb challenge”. At first, I was quite nervous because my speciality was more into electrical engineering industrial engineering part, but we had a quick recap on mostly all topics that I had through the last year of high school and first year of university. Adding fun activities, some competitions between us students. It was entertaining to attend a class in English language again after 3 years.

I had the chance to meet few students from uniBz and they have recommended me some nice restaurants and bars and shopping centres, I seized this opportunity to try delicious Italian pasta to reward myself after a long day.

On Tuesday and Wednesday, we had lectures from Engineering departments from universities like RPTU Kaiserslautern-Landau-Germany, Politecnico di Milano-Italy , Univerity of Antwero- Belgium and of course Free University of Bolzano which are high ranking universities in fields of Mechanical Engineering. The amazing research papers and life changing technologies come from those names. The more we got to know about the innovation in that field and how they were able reshape car industry through out the years. Inspiring people who really enjoy what they are doing, dedicating many years of their lives on ideas and experimenting things that could sound like just dreams to others. This has changed my perspective in many things and motivated me to perform more and to not fear expressing my delusional ideas because that’s how amazing inventions are built.

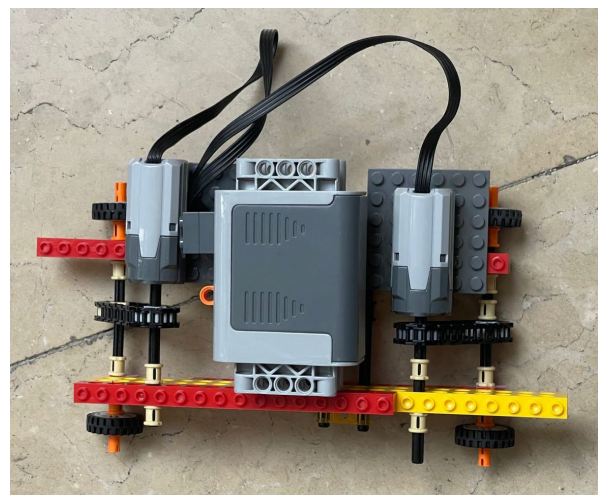


On days three and four, we focused on preparing for the “Impossible Climb Challenge,” which was the main competition of the program. The objective of this project was to design and build a battery-

powered LEGO vehicle capable of overcoming an obstacle course on a sloped surface. The key challenge was to find the right balance between torque, stability, and ground clearance while working with a limited number of components.

Each team was required to complete two rounds: one without additional weight and another with an extra load of 300 grams. The performance was evaluated based on the time needed to successfully traverse the slope, and the final ranking was determined by the combined results of both rounds. In addition, all teams were asked to document their design process and results in a project report, which encouraged a structured and analytical approach to problem-solving.

Personally, the final day of the competition was one of the most enjoyable parts of the program. Working closely with students from different universities created a highly collaborative and dynamic environment. We exchanged materials, supported each other, and shared ideas, which made the experience both productive and memorable. I was particularly inspired by the creativity and technical solutions presented by other teams, which motivated us to improve our own design. Although our team placed seventh, the experience itself was far more valuable than the final ranking, as it strengthened my teamwork, communication, and problem-solving skills.



On the final day of the program, we traveled to Brunico with the UniBz bus, where we attended an insightful session led by Prof. Erwin Rauch. The session covered important topics such as sustainable manufacturing and energy efficiency, with a particular focus on energy audits as a tool for improving industrial performance. We also discussed circular economy principles and digital process automation, which emphasized how sustainability and digitalization are increasingly interconnected in modern industry.



This theoretical input was further reinforced by our visit to Intercable. During the visit, we gained valuable insights into the company's projects, business operations, and innovation strategies. Observing the manufacturing, testing processes, and laboratory facilities allowed me to better understand how these concepts are implemented in practice. This experience helped bridge the gap between theory and real-world application, making the learning process more meaningful and tangible.



Overall, the Blended Intensive Programme in Bolzano was a highly enriching experience that combined academic knowledge with practical application in an international environment. Throughout the program, I not only deepened my understanding of topics such as sustainability, digitalization, and engineering problem-solving, but also developed essential soft skills, including teamwork, communication, and adaptability.

Working with students from diverse cultural and academic backgrounds allowed me to gain new perspectives and approach challenges in a more open and creative way. Experiences such as the "Impossible Climb Challenge" and the company visit demonstrated the importance of collaboration and the practical relevance of theoretical concepts.

This program has strengthened my motivation to pursue a career in fields related to sustainable engineering and innovation. It also showed me the value of international cooperation, which I believe will play a crucial role in my future academic and professional development.