



Erasmus+ "Robotics For Future" Valencia November 12th -15th 2018

The first meeting in Valencia was planned so that the coordinators and teachers to discuss the details of the new Erasmus+ project 2018 - 2020.

The first days program started with a tour of the school where we were also met the principal and staff of the school.

Students from the Robotics club at "Colegio Pureza De Maria" gave a presentation of their "Robotic-programming" work. They explained about their current two projects including their development of a Bee Hive project and a Sewer System project Their ideas and academic skills were an inspiration to all of us.

Coordinators and teachers then met and shared what our expectations are and skills that we each could contribute to the project's workshops.

Ideas were written down on Puzzle Pieces and taped on the meeting room's wall and additional details such as number of students and hours needed for each workshop were decided. From these Pieces we found very quick a solution which Workshops we can offer in our meetings in Germany and Denmark.

Teachers in each country also discussed the criteria we use when selecting the students that will participate in the project. Antonio from Spain (Jaen) explained that they use a point system and that language, designing a school logo and robotic knowledge is important in their selection process. Students are chosen from 6th-10th grades. Other important qualifications mentioned by the other teachers included: maturity levels, teamwork, and leadership skills.

Also discussed was information about the robotic skill levels of our students per country. We concluded that in all 3 countries in all of our schools, we have alot of beginner levels, a few advanced, one student with Arduino skills and a few students with no robotic skills. We found these statistics important in order to prepare the levels of instruction given in the workshop.

Types, costs and number of the robotics we will purchase was also discussed including purchasing Laptop, Ipad, EV3, Arduino, and Crumble. Tutorials and their importance were also discussed

Each country needs to include the following: Icebreaker games, School tour, Introduction of the Robotic teams or showing the robotic work at your school, Visiting a company or more, Sightseeing, Introduction to WRO competition,

Workshops: More details were provided as far as who was responsible for the workshops. The workshops included:

1. Beginner EV3 (1) Bernhard, Antonio
2. Beginner EV3 (2) Peter, Ricardo
3. Arduino and Other hands on robotics (robotic arm): Roberto and Gonzalez
4. Evolution of Robotics: Susanne and Nancy

WRO Antonio from Jaen, Spain did a presentation of the types of WRO competitions:

- Regular WRO tasks for both beginner (10-15 year olds) and senior level 16-20 year olds
- WRO Football (advanced skills for 10-19 year olds) Use infra red sensors

We concluded that all schools will train towards the Regular WRO tasks. Competitions will take place on a Friday towards the end of the project on May 11-17th.

Trips dates were planned for the project:

- Bobingen, Germany: March 25-29, 2019
- Copenhagen, Denmark: November 18-22, 2019
- Jæn, Spain, May 11-May 17, 2020

Divided into two groups, coordinators and teachers to discuss various tasks.

- Budget, travel times, host families , Swat - Evaluation
- Flyers content, and logos.

On Wednesday, November 14th, we visited the company "INTRA AUTOMATION" We were met by Juan Ramon Bea and after a brief intro, he showed us several of the robots in his factory and answered basic questions about the robot arms before inviting us to his company's conference room.



We left after our planning days in Valencia, motivated, and well-prepared for the new Robotics For the Future Erasmus+ project!





Summary meeting in Germany

March 24th-30th 2019

The project started by the host students and teachers receiving a warm welcome to **Staatliche Realschule in Bobingen** by the school official and student and parent representative.

Every morning, we started by having a teacher or student briefing which gave structure and direction to the plan of the day. Student activities included having Icebreaker games and then participating in the various workshops. The workshops were organized by mixing the countries and having various tasks that were based on student skills and prepared by the national teams prior to the meeting.

The various tasks in the workshops included developing their digital, language and transversal skills in the use of Arduino, EV3 Robots and iPads.

Other student activities during the week included:

- Learning about the Evolution of robotics and the use of robotics in everyday life
- Learning Spanish from a Native Spanish teacher
- Receiving a presentation about the school and country on the Erasmus+ Wall
- Learning about future employment possibilities by the visit of DLR research institute and KUKA Company
- Social events: visiting the BMW World and the Olympic Park in Munich
- Sightseeing – learn about the surroundings of the school: visiting Augsburg and Bobingen
- Engaging in a schoolhouse race to learn about the school as fun activity
- Students from the local school preparing food and drinks

Other benefits students gained by participating in the project included:

- Meeting new people
- Speaking in a foreign language
- Preparing a presentation for target groups at home
- Use and development of transversal skills

Teachers benefits:

Teachers also were given new experiences and the chance to develop various skills including

- Meeting new teachers
- Learning about foreign school system and schools
- Exchanging amongst each other methodical and didactic of teaching robotics
- Teaching and leading different workshops to students with various language and robotic skills
- Meeting and exchanging ideas with officials
- Developing transversal competencies and helping students recognize and use them
- Teaching Spanish
- Fostering an understanding amongst students and teachers of how we can integrate and use the newly developed skills in normal activities in our schools.
- Dialog, discussion and exchange of new ideas and learnings

Evaluation: We learned during this Erasmus week together in Bobingen that more time is needed to socialize with families doing various events. That students really enjoyed being together but our busy workdays often limited enough free-time to be social. Most of our days, involved doing workshops until 5 o'clock. In addition, students have to be better prepared for what it means to be a host family and stay in other families and travel to another country and to learn more about the cultural differences that might exist in the place they are travel to. Lastly, we learned that our teacher and student briefings held each day were enormously beneficial, providing us with information that made it possible to alter some of our plans to provide more success and satisfaction in the program.



