



Erasmus+ Ka2 D.E.L.T.A. Project

Drones: Experiential Learning and New Training Assets

Newsletter no. 4 – February 2019





At a glance

Did you know that many current job positions will not exist anymore in 10 years time? And did you also know that in 10 years time there will be many job positions that don't even exist today?

Most future jobs require STEM knowledge skills but more than 20% EU students perform low in STEM literacy.

Millions of STEM skilled workers are needed from the job market but education strives to fill the gap!

DELTA Project's ambition is such alike: improving STEM literacy and skills in VET students thanks to Drone's technology, also preparing them for the tough job market of the future!

Why drones?

Students enrolled in VET courses often put endless efforts in studying Mathematics and Physics. Subjects are perceived as difficult and far away from real life.

Drones' technology applied to education combines learning experiences based on experiential practice, in an interdisciplinary approach:

engineering for solving design issues, production and maintenance of light aircraft, built with advanced materials that allow the flight in accordance with EU regulations;

mathematics (from trigonometry to set the flight plan, to 3D modeling through the cloud of points for volumetric calculations and remote sensing);

the physical and natural sciences to fully understand the application fields of technology.

Problem Based Learning

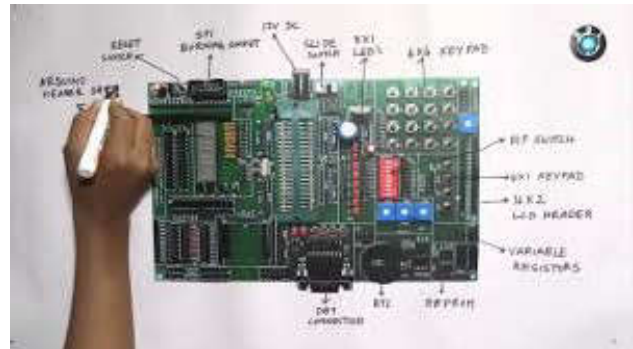
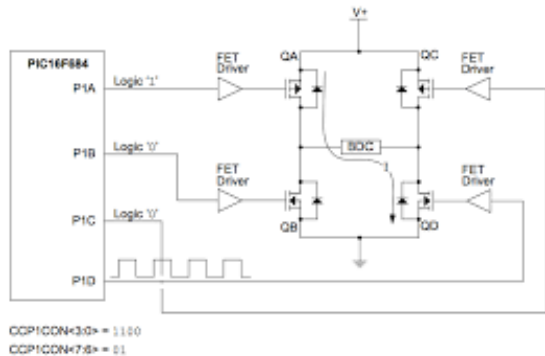
The motivation to learn starts with a problem: this is the methodological approach that all partners share in DELTA project. When students face a problem to solve themselves, they are motivated to look for a practical solution, exploiting all the knowledge and skills that they have. This approach is more effective than the classical "chalk and talk" theoretical model of education.

Work Based Learning

Students learn in a work-based setting according a project-work approach. Teachers are encouraged to build a learning environment that simulates the real work situation but that it is also safe and protected at the same time. This methodology enhances work related skills, entrepreneurship and employability of the pupils, preparing them for their future jobs. Students are also asked to share their knowledge and skills with their peers, according to a "collaborative learning model".

Technical & Transversal Skills

Drones are technological objects that are easy to manage and fly for a beginner, but which, despite becoming increasingly adopted for civil and industrial purposes, contain a technological complexity that requires the development of a set of skills of different kinds in order to be effectively dealt with.

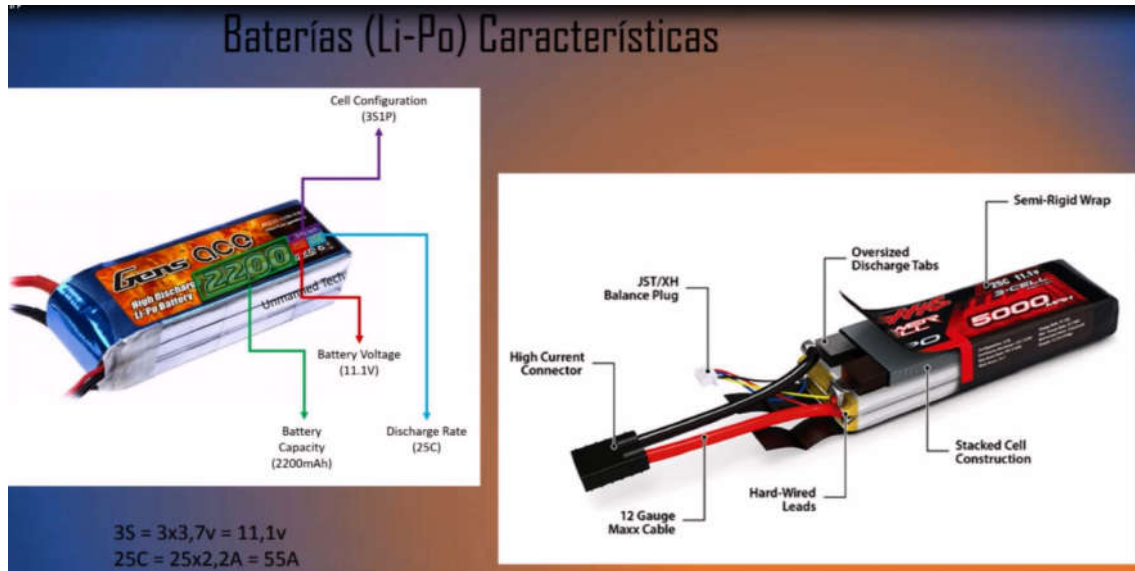


The students studied the electronic schemes of the Arduino drone hardware boards, but the most important aspect, for the development of personal and occupational skills, was the ability to work in a group, recreating a training set that simulates the environment work, giving life to situated and work-based learning. Thanks to the methodology of learning in situation, students have the opportunity to put into practice the skills acquired during the teachers' lectures, applying them in a practical situation characterized by collaborative learning.

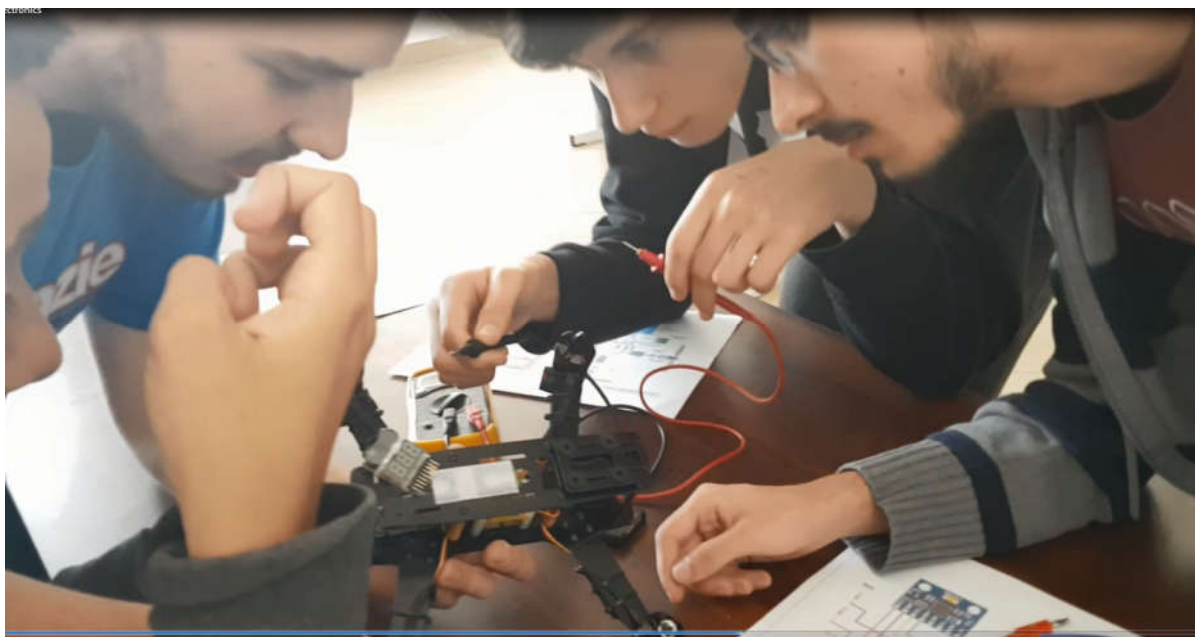




In Spain, at Corona de Aragon, studying Drone's electronics has also allowed students to understand the structure and composition of lithium batteries ...



..... and in Romania, at Liceul de Informatica in IASI, to check the connections through special digital units assembled and tested by the students.



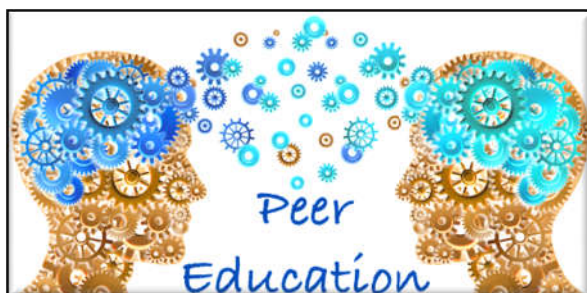


Collaboration first of all!

Engineering, programming, electronics ... many concepts and skills to put together to fly a drone! Trying to get to the goal, the students realized how important it is to know how to work together, creating a positive atmosphere, respecting the contribution and role of other students and teachers.

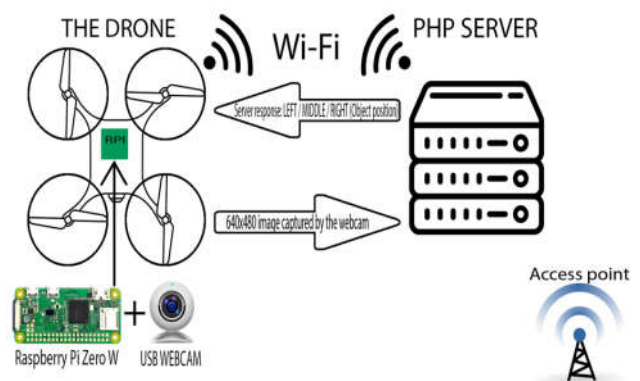
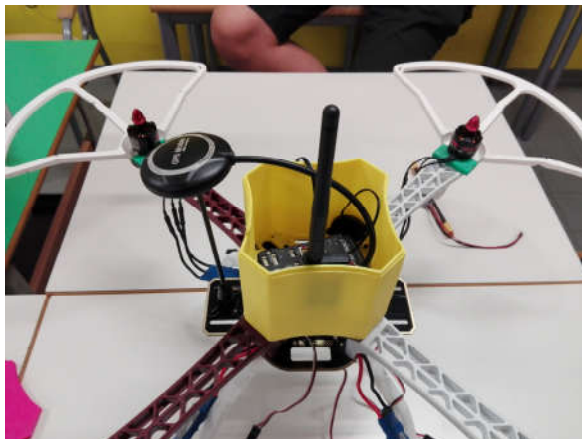


The project activities allowed students to deepen their technical and sector specific terminology related to drones in the English micro-language sector. The collaborative study of technical English had a strong inclusive impact on the composition of the working groups. In fact, in the Technical-Professional Institutes participating in the DELTA project, the presence of migrant students with an African (Ghana, Nigeria) or Asian (India, Pakistan) and mother-tongue English background is significant. The native English-speakers students joined their peers in learning the technical jargon of the sector, giving life to a successful peer-to-peer learning experiment.



EVENTS: 26th -27th September 2018, 5^o Transnational Meeting - IASI (Romania)

During the meeting, which was hosted by the partner LIIS - Liceul Teoretic de Informativ of IASI, Romania, the partners have put into place the didactic program dedicated to the electronic part of the drones (IO3), including the design and assembly of connections and circuits. The educational activities involved the youngsters in trying to connect the electronic circuit with a PHP server for the exchange of data and information.



The next project activities and meetings will be dedicated to the study of mathematics applied to Drones, to understand how to calculate and plan flight trajectories and process data on the ground. Stay tuned!



Co-funded by the
Erasmus+ Programme
of the European Union



COORDINATOR

Cisita Parma scarl

Parma, Italia

www.cisita.parma.it



PARTNERSHIP

