

SCHOOL OF FLYING



Project “Amigos de los aviones”

The project is developed by the School of Flying entity, with the collaboration of Aviación en las Aulas and the Llaüt Educational Center through the Miramar Private Foundation. All involved with headquarters in Mallorca (Illes Balears - Spain).

“Amigos de los aviones ”(Friends of the Aircraft) is an interdisciplinary project for ESO, Bachelor’s degree, workshop schools, entities or associations. A project, where there is also room for non-formal training, which seeks specialization within the future work environment that can be played by its participants. The project aims to provide knowledge and dissemination within the aeronautical world, which is maintained as a link, in all its variants, motivating the participation of young people in a common project.

It is about building an airplane that is operational, with the necessary technical and legal conditions so that it can fly with two people on board. A job achieved through the distribution of tasks in departments of a real company. An airplane built with the philosophy of collaboration, as well as the construction of the largest European aircraft in the world, A-380, in which several countries participate.

Other main objectives of this project are:

- Participation of young people in a broad project of educational content and non-formal content within the framework of Technology, Letters and Sciences that they study in their schools.
- Continuous training focused on a future work profile. Acquiring a title with the contents acquired at the end of it.
- Teach a method of productivity and management effectively (GTD "Getting Things Done") that is currently taught in faculties.
- Offer a real experience as entrepreneurs should:
 - Plan, obtain and manage the financial resources necessary to make the project viable.
 - Obtain the licenses and administrative authorizations necessary for the implementation of the general objective.
 - Plan, obtain and manage the material resources and coordinate the work in order to achieve the general objective in the most efficient way possible.
 - Develop personal responsibility in carrying out the tasks assigned to achieve the group's objective.
 - Turn the project into a real practice of knowledge in the world of work (aircraft maintenance technicians, commercial pilots, air operations technicians, controllers, airport maintenance coordinator, paragliding pilots, paramotor, ultralight, marketing, web developer, accountants, administrative manager, etc.)

- Motivate outdoor activities, enhance exchange and interpersonal relationships, so diminished by new technologies.
- Build the airplane with the appropriate specifications regarding materials and assembly techniques to achieve the general objective.
- The promotion, promotion and dissemination of the world of aviation within society, and as an attractive vehicle for young people to start them in the world of business, innovative and entrepreneurial relationships.

Aircraft and project specifications

Building for young people is important so that they do not lose the enthusiasm and drive to achieve their goals and verify that their work makes a true objective a reality.

Bi-Pouchel, is an aircraft that has revolutionized the sport flight for its great benefits and its small cost. A plane with an extremely low operating price that makes the practice of flight accessible to almost all pockets. It is an easy construction allows the most daring to start their project with little effort and economic expenses. Building fast is important so that a person does not lose the enthusiasm and drive to achieve the goal.

This airplane, made from the base of a staircase, began its design in 1997 with two fundamental principles: 1 simplicity in its construction (it can be assembled relatively quickly) and 2 ° low cost. The patent (No. 97026432 of Daniel DALBY) published in 1998 came to light and began to fly since then having 17 years of life. Our project focuses on the Bipouchel, the two-seater variant, tandem, experimentally driven, as an innovation, by an electric motor in ultralight structure in the form of a ladder, because the structure of the wings consists of a double cross section of aluminum 100 x 50 x 2 connected by spacers lined with cloth (Dacron). The fuselage is also made with 100 x 50 x 2 sections.

The tandem came to light at the end of 2006 and still continues to evolve and prove itself.

The first phase will be the organization of legal aspects against the Spanish aeronautical administration, looking for the possibility that the aircraft can be manufactured in different countries, and finally assembled in Spain. A mounting proposal such as the French A380 aircraft, the largest aircraft on the planet; where the front and rear sections of the fuselage are manufactured in Hamburg (Germany). The wings are manufactured in Bristol and Broughton (Great Britain). The tail and belly of the plane are assembled in the Spanish city of Getafe. Finally all the parts manufactured and assembled in the different countries are taken by road or sea to the assembly line of Toulouse (France). If the authorizations are obtained, the assembly programming will be organized with the different European collaborators. The place must be enabled to support

the sections of the aircraft and enable the necessary facilities for the young participants and trainers.

The second phase of the action will be the study of the construction through the production team. This, through the person responsible for the project, will be organized and its decisions made known to the mechanical director, who knows the aircraft and its construction, will authorize the continuity of the actions taken, and may issue a report; doing if it requires a diagnosis about the future actions to be carried out.

During the first and second phases, a series of courses, conferences and workshops will be held around the content of the project and in collaboration with partners from other countries. These interactions will be carried out through the available telematic means. Collaboration protocols will be established for the construction, business organization, training in Information and Communication Technologies (ICT) necessary in this adventure for teachers, monitors and participants, as well as administration and management processes.

The third phase will be the beginning of the construction by the production team either in one country or in several. The teams from the different countries coordinated must adjust to the established times and schedules.

The assembly protocols, doubts and incidents, should be followed by all the teams, resolved by the project coordinators, who will have aeronautical mechanics who will provide a solution if necessary, or with the engineers who created the model.

The communication group will carry out its mission by giving content and dissemination to the entire project, by all available means (social networks, web, press, ...); Carrying out the marketing and monitoring work.

The Legal-Financial team should strive to give financial support to the company, and to the different adversities that may arise during the development. It will be responsible for accounting support and economic control.

Regular meetings will be established with the teams to see the progress of the company, the achievement of primary and secondary objectives. Reorganizing, if necessary, the actions that allow reaching the set success.

The final phase will be the decisive one, where the kit must be moved, assembled and finished for the tests that allow the flight in a safe and legal way. This phase, supervised by AESA officials, will entail having insurance, transfers, flight permits on authorized surfaces and the evaluation of the test pilot responsible for the baptism of the aircraft.

Participants

ESO, Bachelor's degree, workshop or association schools forming a single working group with monitors or advisors (by departments), as well as teachers from the center who could participate at some time.

Each participant will be part of a team, based on the personal preferences of the students, the opinion of the preceptor and the needs of the organization. Task Management tools will be used, as well as different digital media that students will learn to manage in different workshops on organization effectively (GTD). Each group will have one, a student, who will be team leader and who must coordinate, and be responsible for the tasks of their group. The production team will follow the orders of the Chief Mechanic to get the correct assembly of the aircraft.

Work teams

Legal-Financial

Subjects covered: Economics, Mathematics and Social, among others.

Competences that are acquired: Budget, accounting, patronage (crowdfunding), documentation, licenses, permits, business administration ...

Communication

Subjects covered: Spanish, Catalan, French and English, ICT (among others)

Competences that are acquired: Corporate image, translation, media, social networks, public relations ...

Production

Subjects covered: technology, plastic, physics and chemistry, among others.

Competences that are acquired: Technical knowledge, logistics, material resources, project organization, construction of the plane.