



The possible aircraft of the future PrandtlPlane takes off with Parsifal

The project has received 3 million euros in funds from the EU and has been awarded the first university grant from the BIHO competition



Parsifal, coordinated by the University of Pisa, is a research project which has received three million euros in funds from the European Union to develop the PrandtlPlane (PrP), an innovative aircraft capable of facilitating the air transport of the future. The name pays homage to the German physicist and father of aerodynamics, Ludwig Prandtl. "The challenge facing the commercial aviation of the future lies in finding aircraft with a limited wingspan which are more spacious and efficient than those actually in use," explains Professor Aldo Frediani, coordinator of Parsifal. "The main objective of our project is to design an aircraft with the same wingspan as an Airbus A320 or Boeing B737 and which has the same cargo capacity as an aircraft of a superior category, such as an Airbus 330 or a Boeing 767, and the fuel consumption of the smaller aircraft. All of this thanks to the PrP wing configuration."



Università di Pisa
Lungarno Pacinotti 43
56126 Pisa
P.I. 00286820501
C.F. 80003670504

Centralino
Tel +39 050 221 2111
Fax +39 050 40834
Numero Verde Studenti
800-018600
Posta Elettronica
Certificata Ateneo

Contatti
Unimap
Crediti

Codice etico
Amministrazione
trasparente
Note legali
Elenco siti tematici
Urp

maximum efficiency: the PrP configuration presents the least induced resistance of all the load-bearing structures with the same weight and wingspan.



“Over the next twenty years the number of air passengers is expected to double while only a limited expansion of airport territory will be possible especially in Europe,” adds Frediani (in the picture below).

“Among the challenges we aim to face in our study, is the designing of an aircraft which can satisfy the increasing amount of passenger traffic and at the same time drastically reduce noise and harmful emissions while increasing safety and comfort in flight. We will demonstrate that the PrP configuration is flexible and may be used for both the transport of passengers and cargo in a wide range of missions.”

A further aim of the Parsifal project is to develop methods to look into the possibility of applying the Prp configuration to aircraft of all dimensions and load capacity. This also includes the Ultralarge which is much larger than the Airbus A380 and is the aircraft with the largest dimensions (80x80 metres) capable of landing in civilian airports.



The other PARSIFAL partners are **SkyBox Engineering**, a spin off of the University of Pisa, Onera from Paris (France), DLR from Hamburg (Germany), University of Delft (Holland) and ENSAM from Bordeaux (France). As well as Aldo Frediani, the other researchers from Pisa involved in the project come from the University of Pisa and SkyBox Engineering, a spin-off of the University. For the University the professors involved are Aldo Frediani, Mario Chiarelli, Maria Vittoria Salvetti, Simone Camarri, Alessandro Quarta, Daniele Fanteria and Gianpietro Di Rito from the Department of Civil and Industrial Engineering, Aerospace Division, and the professors Giovanna Mariani and Riccardo Giannetti from the Department of Economics and Management. For SkyBox Engineering the participants are Vittorio Cipolla, Vincenzo Binante and Emanuele Rizzo.

The Parsifal project is the first grant winner of the BIHO competition

Parsifal has also won a grant from the **BIHO**, the competition set up by the University of Pisa to increase the number of projects funded in the European sphere and the competitiveness of the University at both national and international level. The project coordinated by Professor Frediani is in fact the first project to hold all the necessary requisites for the grant of 75,000 euros, for the coordinators of funded Horizon projects, to be used to create a post for a young researcher of the winning research team. The University of Pisa has decided to invest 1.5 million euros in the BIHO competition for 2017.

