

## Symposium

### **The challenge of the suborbital transportation and the new space economy**

In recent years the emerging sector of the commercial space transportation and, specifically, that of the suborbital flights, is contributing to foster the space economy towards new frontiers, allowing new and low-cost mean to access space, carrying out different activities and services. As a consequence, new business models, enabling technologies, system architectures and regulatory frameworks need to be developed soon to support these emerging activities which range from space tourism, microgravity experimentations, astronauts' training, up to putting small satellites into orbit by using new platforms such as aircraft or balloons.

The very great vision on commercial space and suborbital transportation is, without any doubt, the possibility to fly "point-to-point" trajectories by transporting people and goods between any two points on the Globe in less than two hours. This is a challenge to be tackled step-by-step making the possibilities we have today to perform suborbital flights, a reality.

A number of Countries around the world are today active in the development of the commercial space transportation: the US, since years, the UK and Italy in Europe among others. US operators - like Virgin Galactic - are planning to start their operations from the designated Italian spaceport of Taranto-Grottaglie in the coming years.

In this context the Italian Civil Aviation Authority (ENAC), in collaboration with the institutional and industrial stakeholders, is working to define a regulatory framework to allow suborbital flights in the near term.

This symposium aims at discussing all those matters related to the flight at a very high altitude (namely above Flight Level 660) and the associated operations, of which the suborbital flight represents one of the most advanced and realistic carrying out. Specific topics will include:

- enabling technologies;
- future scenarios;
- public & occupant's safety, reliability and risk analysis;
- design, production & maintenance standards;
- Air & Space Traffic Management;
- spaceports infrastructures and operations;
- training and medical aspects;
- regulatory and legal issues (air law vs space law, informed consent, insurances, international agreement for interoperability, etc.);
- organization requirements and safety management;
- sustainable business cases;
- strategic and security issues;
- future role of international and European institutions (ICAO, UNOOSA, ITU, ESA ad EASA, EUROCONTROL, etc.).

## **SYMPOSIUM N. 1**

# **THE CHALLENGE OF THE SUBORBITAL TRANSPORTATION AND THE NEW SPACE ECONOMY**

**Chaired by Eng. Giovanni Di Antonio**  
ENAC - Italian Civil Aviation Authority  
Commercial Suborbital Transportation

**Paper N.1** Cristoforo Romanelli, Francesco Santoro  
**INFRASTRUCTURES AND OPERATIONS FOR A COMMERCIALY  
SUSTAINABLE SUBORBITAL SPACEFLIGHT INITIATIVE AND FUTURE  
DEVELOPMENTS IN THE ITALIAN TERRITORY.**

**Paper N. 2** G. Di Antonio, M. Sandrucci  
**A PERFORMANCE-BASED APPROACH FOR OCCUPANTS SAFETY IN  
SUBORBITAL TRANSPORTATION.**

**Paper N. 3** S.Berardi, .Pandolfi  
**SPACEPORT IN ITALY: SITE IDENTIFICATION AND DEFINITION OF  
REGULATORY REQUIREMENTS**

**Paper N. 4** Gabriele Enea, James Jones, Jaime McMillon, Tom Reynolds  
**ASSESSING THE AIR TRANSPORTATION SYSTEM BENEFITS OF DECISION  
SUPPORT TOOLS FOR COMMERCIAL SPACE OPERATIONS**

**Paper N. 5** Gabriella Catalano Sgrosso  
**SUBORBITAL FLIGHTS, THE POINT OF VIEW OF THE JURIST.**

**Paper N. 6** N. Viola, R. Fusaro, Bayindir Saracoglu, Christophe Schram, Volker Grewe,  
Marco Marini, Roberto Scigliano, Santiago Hernandez, Didier Hauglustaine, Christer Fureby  
**STRATOFLY ACADEMY: INSPIRE YOUNG GENERATIONS AND BE INSPIRED  
BY NEW IDEAS.**

**Paper N. 7** R. Fusaro, N. Viola  
**STRATOFLY MR3 VEHICLE CONFIGURATION.**

**Paper N. 8** N. Viola, R. Fusaro, Bayindir Saracoglu, Christophe Schram, Volker Grewe, Jan  
Martinez, Marco Marini, Santiago Hernandez, Karel Lammers, Axel Vincent, Didier  
Hauglustaine, Bernd Liebhardt, Florian Linke, Christer Fureby  
**MAIN CHALLENGES AND GOALS OF THE H2020 STRATOFLY PROJECT.**