



Research Project:

## **FLY-BAG2**

Advanced technologies for bomb-proof cargo containers and blast containment units for the retrofitting of passenger airplanes.

### Funding:

The project is co-funded by the European Commission under the 7<sup>th</sup> Framework Programme (FP7) - Work Programme 2013 Aeronautics and Air Transport AAT-2012-RTD-1.

Project Lifetime: 08/2012 - 09/2015

Project Budget: 5,7 m. €

### Goals:

The goal of the project is to develop innovative solutions based on novel lightweight materials and structural concepts for the mitigation of the effects of an on-board blast and improve aircraft survivability.

FLY-BAG2 is a follow-up to the successful FP7 research project FLY-BAG, which has developed and successfully tested a textile-based luggage container for the hold of narrow body aircrafts.

The project solutions aim at achieving the highest degree of protection to aircrafts and passengers by counteracting threats posed by both explosive devices smuggled inside the passenger cabin and by bombs concealed inside Unit Load Devices (ULDs), thanks to flexible and lightweight textile based materials, lightweight composites and high resistant zip closures.

### Research Objectives:

Building on the innovative technologies developed within the original project, FLY-BAG2 will develop two wholly new classes of bomb-proof devices, namely:

- a cabin device meeting the Least Risk Bomb Location requirements
- a Blast resistant Unit Load Device (ULD) for cargo holds

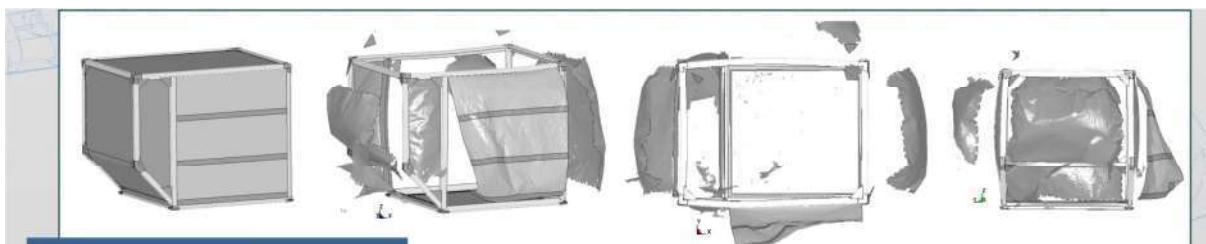
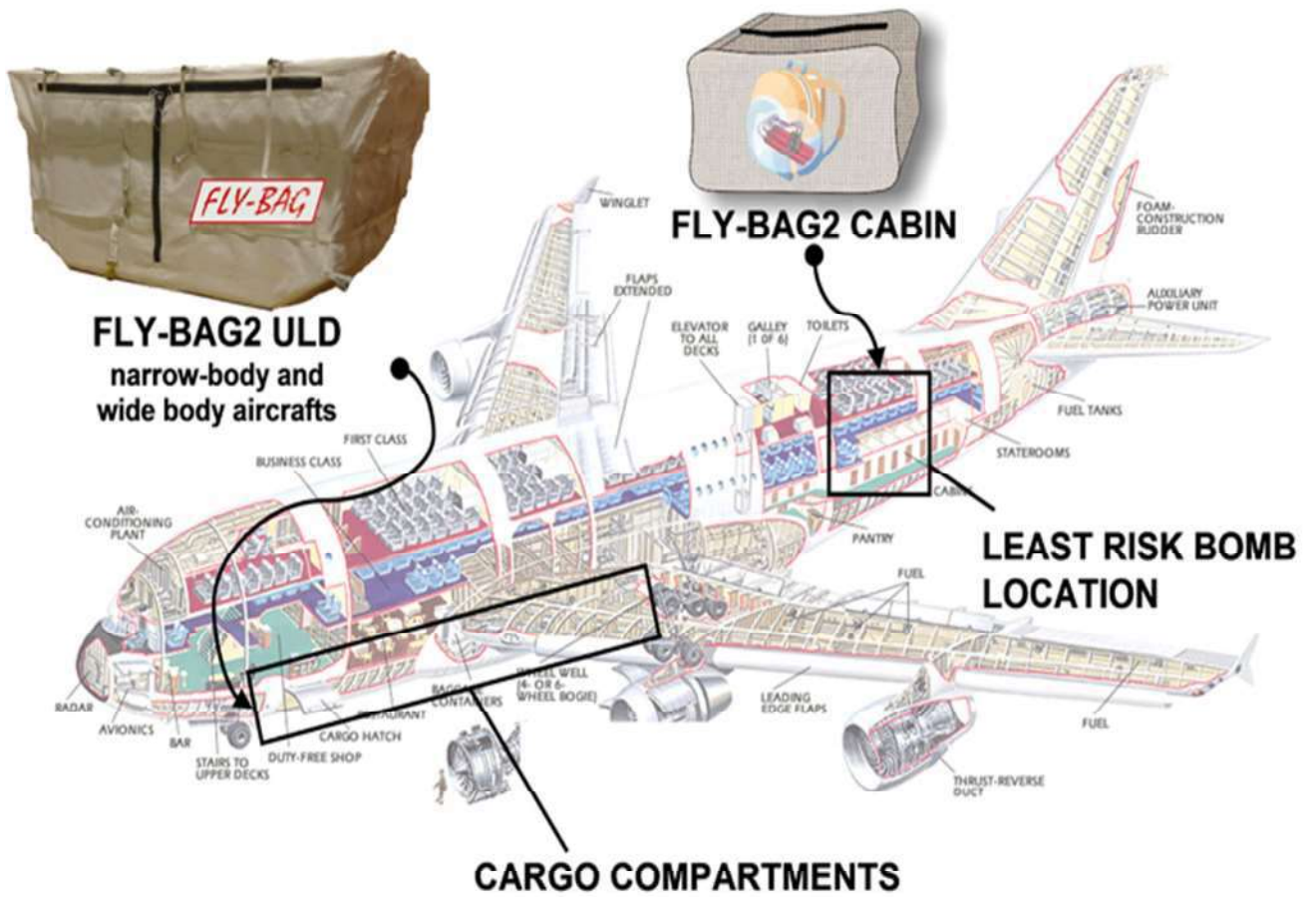
The concept for the cabin solution is focused on the development of a compact blast resistant flexible and foldable container based on a multilayered high-performance textile structure while for the cargo solution ULD-like devices is designed. A robust but lightweight composite floor is used for yielding blast protection. For both solutions, the closure of the bags is performed through a high resistance zip.

### Implementation:

The enlargement of the validation of the concept via an extensive experimental full scale blast testing on real aircrafts will enable market penetration and ensure a considerable impact on society.



FLY-BAG2 solutions:



ULD Standard



FLY-BAG 2 - ULD Unit



Partnership:

D'APPOLONIA RINA GROUP

stfi

Blastech

CETMA

Maintenance Meridiana

AERnova

DeKaSch AIR CARGO EQUIPMENT+REPAIR

CARGO NETWORK

APC Composite

INASCO INTEGRATED AEROSPACE SCIENCES CORPORATION

ZIPLAST The essence of quality

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