PROJECT

EFFICIENT

Environmentally Friendly Fire Suppression System for Cargo using Innovative Green Technology

Funding: European (Horizon 2020)

Duration: Feb 2016 - Jul 2020

Status: Complete

Total project cost: €699,645

EU contribution: €699,643

Call for proposal: H2020-CS2-CFP01-2014-01

CORDIS RCN : 199348

Background & policy context:

Fire suppression and explosion protection have used halons in many applications because they are electrically nonconductive, dissipate rapidly without residue, are safe for limited human exposure, and are extremely efficient in extinguishing most types of fires. However, they have a very strong Ozone Depletion Potential (ODP). The Montreal Protocol on Substances that Deplete the Ozone Layer was designed to reduce the production and consumption of ozone depleting substances in order to reduce their abundance in the atmosphere, and thereby protect the earth's fragile ozone Layer. Many international organisations like the United Nations Environment Programme (UNEP) have mandated earliest production and import phase-out of halons. Substitutes are reviewed on the basis of ozone depletion potential, global warming potential, toxicity, flammability, and exposure potential.

Objectives:

The EFFICIENT project will investigate the use of environmentally friendly agents like water mist spray, inert gas flooding etc. and undertake extensive investigation of their fire suppression effectiveness and extinguishing concentration. It will also establish the agent distribution profile over time at standard atmospheric conditions. Based on the inputs from these investigations, the project will design a suitable fire suppression system for cargo holds of aircraft which are reliable, consistent and safe. A demonstrator will be developed to test the fire suppression system in accordance with the full scale fire tests prescribed by the minimum performance standards promulgated by the Federal Aviation Administration (FAA). The project will deliver technology at a maturity of TRL 6.

Parent Programmes:

H2020-EU.3.4. - Horizon 2020: Smart, Green and Integrated Transport

Institute type: Public institution

Institute name: European Commission

Funding type: Public (EU)

Lead Organisation:

Cranfield Aerospace Limited

Address:
Cranfield University Campus Hangar 2
Cranfield
MK43 0AL
United Kingdom

Organisation Website:
http://www.cranfield.ac.uk

EU Contribution: €419,644

Partner Organisations:

Rise Research Institutes Of Sweden Ab

Address:
Scheelevägen 27
22370 Lund
Sweden

EU Contribution: €130,000

London South Bank University Lbg

Address:
BOROUGH ROAD 103
LONDON
SE10AA
United Kingdom

Organisation Website:
http://www.lsbu.ac.uk

EU Contribution: €149,999

Maelardalens Hoegskola

Address:
HOGSKOLEPLAN 1
721 23 VASTERAS
Sweden

Organisation Website:
http://www.mdh.se

EU Contribution: €0

Technologies:

Safety systems
Safety and certification
testing

Development phase: Demonstration/prototyping/Pilot Production

STRIA Roadmaps: Vehicle design and manufacturing

Transport mode: Air transport

Transport sectors: Passenger transport, Freight transport

Transport policies: Environmental/Emissions aspects, Decarbonisation

Geo-spatial type: Other