PRESS RELEASE

THE EC-SAFEMOBIL PROJECT ACHIEVES THE FIRST TETHERED LANDING OF AN UNMANNED AIRCRAFT ON A MOBILE PLATFORM

- **This project is led by the Advanced Centre for Aerospace Technologies (FADA-CATEC) and the University of Seville, and seeks to develop new technologies that allow the safe and reliable use of this type of aircraft in applications such as disaster management, search and rescue, security and other missions that involve risk to people.**

- **Landing tests have been developed in ATLAS Experimental Flight Centre premises in Jaen and were carried out using an unmanned electric helicopter, a clamping support device to ensure complete landing and a platform with 3D movement, created specifically for the test. Satellite positioning systems (such as GPS) was not used.**

- **The EC-SAFEMOBIL project develops other innovative technology demonstrators with UAS, such as the launch of an unmanned aerial vehicle from a manned one or tracking several ground vehicles using multiple unmanned aerial systems with capacity to avoid collisions.**

- **The development of such new technologies placed FADA-CATEC at the forefront of research in the field of unmanned systems. This is an area in which FADA-CATEC led several international projects and initiatives, being acknowledged as one of the most relevant European centres in the development of new applications based on UAS / RPAS.**

- **The EC-SAFEMOBIL project is partnered by nine institutions from five countries and a budget of 6.2 million euros, of which 4.5 million are funded through the Seventh Framework Programme of the European Commission.**

31 July 2015.- The EC-SAFEMOBIL European project, an initiative under the VII Framework Programme for R&D of the European Commission, is lead and coordinated by the Advanced Centre for Aerospace Technologies (FADA-CATEC) in collaboration with the University of Seville in the field of unmanned aerial systems (UAS). This project has successfully managed to make the first tethered landing of an unmanned aircraft on a platform moving in three dimensions and without GPS. This experience paves the way for the implementation of this kind of landing of UAS on boats or land vehicles, and is part of the objectives of the EC-SAFEMOBIL project.

This initiative pursues to develop new technologies of multivehicle cooperation using unmanned aerial systems, particularly new methods of accurate position estimation and motion control that will make UAS and ground autonomous systems more secure and reliable for a wide range of applications such as disaster management, search and rescue (especially under extreme conditions), security and other missions that involve a risk to humans.

Landing tests have been performed on the premises of ATLAS Experimental Flights Centre for testing unmanned aircraft, ascribed to FADA-CATEC and located in the town of Villacarrillo (Jaén). These are the only facilities in Spain that have been designed specifically to test light unmanned aircraft.

The test was conducted using an unmanned electric helicopter and a clamping device based on a rope and a 3D moving platform, specifically created for the development of the test. The system does not make use of satellite positioning systems, such as GPS. The results of this trial are of great interest for the aerospace sector, as they could be applied for landing in situations where such operations cannot be carried out due to a moving landing platform and wind conditions, even during the absence of reliable satellite positioning signals. Furthermore, these developments are being implemented taking into account security conditions that may facilitate the integration of UAVs in non-segregated airspace, which already implies an advance for future use in scenarios in which people can also intervene.

During the test, which took place in June, several experiments have been carried out to: perform an automatic landing UAV on the mobile platform simulating bad weather conditions (high winds and major movements of the landing platform); successfully apply a fastening system to compensate for disturbances and relative movement between the aircraft and the platform; increase the security during operation and enhance its integration with the UAV flight control system.

The development of such new technologies has placed FADA-CATEC at the forefront of research in the field of unmanned systems. This is an area in which FADA-CATEC has led several international projects and initiatives, being acknowledged as one of the most relevant European centres in the development of new applications based on UAS/RPAS.

EC-SAFEMOBIL project

The EC-SAFEMOBIL project is paving the way for the implementation of these unmanned aircraft in new settings. Besides landing a UAV on moving surfaces, the project is developing other new technological demonstrators, such as the launch of an unmanned aerial vehicle from a manned one or tracking several ground vehicles using multiple unmanned aerial systems with capacity to avoid collisions. Also, the position estimation technology and motion control that is being developed in EC-SAFEMOBIL has demonstrated other applications such as warehouse automation through the cooperative work of multiple autonomous ground vehicles.

The EC-SAFEMOBIL project is partnered by nine institutions from five countries and involves both industrial companies that are international leaders in their sectors and research organizations that have proven research excellence in many projects. Besides FADA-CATEC and the University of Seville, the consortium is formed by Indra (Spain), SELEX Galileo (UK), DLR (Germany), Airbus DS (Germany), EUROIMPIANTI (Italy), the University of Duisburg-Essen (Germany) and the University of Zagreb (Croatia). EC-SAFEMOBIL has a budget of 6.2 million euros, which the European Commission contributes EUR 4.5 million.

Video about the EC-SAFEMOBIL project performed tests:

https://www.youtube.com/watch?v=LdTiHJ5E0uo

EC-SAFEMOBIL project website: http://www.ec-safemobil-project.eu/

About CATEC
The Centre for Advanced Aerospace Technologies (CATEC) is a benchmark institution which acts as interface among science, technologies and companies and works to improve the sector competitiveness through scientific research, technology transfer and advanced services. Fostered by the Andalusian Foundation for Aerospace Development (FADA) and chaired by the Innovation and Development Agency of Andalusia (IDEA), CATEC is a unique private centre in Spain by its extensive technological capabilities with a highly skilled workforce of over 65 specialists and technicians.

With six years of experience, CATEC has become one of the most active technology centres with greater projection in national and European R&D projects, and with outstanding achievements in fields such as materials, new manufacturing processes, robotics, avionics and the unmanned aerial systems (UAS/RPAS). CATEC currently works in more than 60 R&D projects, both with public research organizations as with companies.

Further information:
Pres Office: Jesús Herrera / Célia Ruiz
954 62 27 27 / 625 87 27 80