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PRESS RELEASE

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Selex ES: ARGUS 3D partners present project results

On 14th February 2013 at the World ATM Congress in Madrid, Selex ES, a Finmeccanica company, as project coordinator and together with the project partners will present results from the ARGUS 3D (AiR GUidance and Surveillance 3D) project.

ARGUS 3D is part of the European Commission's Seventh Framework Programme (7th FP). Its aim is to study innovative technologies to improve the security of European citizens against terrorist attacks by enhancing the current Air Traffic Control (ATC) systems. The study was performed by a consortium of 12 partners including industries, research organizations and end-users from five EU Member States (Italy, UK, Germany, Poland and Spain).

The main result of the three-year project relates to the possibility of developing a low-cost radar-based system, integrated within a conventional ATC system, able to support the Air Traffic Control Operator (ATCO) by providing additional information on the nature of targets and their threat levels.

The multi-sensor surveillance system is able to return a detailed 3D map of the area under surveillance with additional information on the nature of the target and the threat level it presents. The system can also provide a decision support mechanism which automatically identifies and suggests the most effective defense countermeasure against the incoming threat for a given area under surveillance.

In order to achieve this goal, the project partners exploited innovative passive radar technologies, a conventional primary radar with altitude extraction capability and new data processing capable of integrating conventional and innovative surveillance sensors.

The newly designed system is able to identify many kinds of non-cooperative targets by analysing multiple sources of data from an innovative three-dimensional Primary Surveillance Radar (PSR), conventional sensors (Primary radar, Secondary radar, ADBS) and a network comprising a number of multi-operational passive bistatic and high resolution radars.

The 3D Primary surveillance radar has mono-pulse estimation capabilities in the vertical plane, allowing the determination of the altitude of an incoming aircraft, thus adding capability not found in today's ATC systems.

The networks of passive bistatic radar sensors allow the detection and tracking of non-cooperative targets illuminated by transmitters of opportunity such as communications systems (e.g. FM and DVB/DAB) or radar systems (ATC radars). Bistatic radars are able to view targets from multiple perspectives to enhance detection and identification capability.