

INDRA WORKS ON THE DEVELOPMENT OF NEW SIMULATORS FOR THE A400M, ONE OF THE MOST POWERFUL AIRCRAFTS IN THE WORLD, FOR THE FRENCH AND GERMAN AIR FORCE

- **The systems provide an enhanced training tool for strategic aircraft pilots, which facilitates the quick deployment of units worldwide**
- **It develops tactical scenarios and environments that recreate the huge variety of missions in which an A400M participates. It reproduces landings and takeoffs on improvised strips, the evacuation of wounded persons, launch of materials from low speed and altitude flights, evasion from enemy etc.**
- **Indra is working on the development, production, and deployment of the simulators of the aircraft for the four member Nations of the A400M Consortium: France, the UK, Germany and Spain. It will complete the implementation of a system at the Zaragoza airbase this year**

Madrid, April 18, 2018.- Indra has been awarded contracts to develop two new A400M military transport aircraft simulators, which will be used to train pilots of the German Air Force at Wunstorf airbase and of the French Air Force at the Orleans-Bricy airbase.

The simulators will double the training capacity at both centers, which already have a system in operation each. Both were also developed by Indra, Thales and Airbus as part of the Flight Simulation Program that was launched in 2010.

The A400M Simulator is a cutting-edge training tool, which is capable of recreating the most realistic missions for this enormous 80-ton aircraft. The aircraft is 45.1 meters long, with a 42.1 span and 17.4 height, and is capable of transporting tanks, helicopters, tons of material and up to 120 soldiers in its hold.

With a range of 8,700 kilometers and a cruising speed of 900 km/h, the A400M gives the most sophisticated armies of the world a quick reaction capacity and unprecedented projection of force. The strategic role played requires pilots to receive top-level training, something that only cutting-edge simulators like these can offer.

The Simulator is mounted on an exact replica of the cab of the A400M, which is lifted on the arms of an electrical system that provides motion. On board, the pilot finds the same flight instrumentation as that used in real aircraft and trains pilots on the most complex and high-risk operations.

Indra's engineers model tactical environments, reproducing the exercises that must be completed, such as the launch of materials at low altitude, landing on improvised strips, critical takeoffs in a distance of a few meters, aerial refueling under poor weather conditions, evasion maneuvers in the presence of enemy aircraft or the launch of flares and use of countermeasures to circumvent attacks, among other many situations.

All virtual aircraft, ships and vehicles appearing in the simulation, either as allies or enemies, are also modeled by Indra having an autonomous behavior, reproducing their real behavior.

Indra also generates the scenarios in which these operations are carried out: it reproduces with the higher detail possible airports, military bases, tracks of all types and the terrain of different regions. The pilot can train to land on a runway with snow in Latvia, as preparation to participate in the NATO's Enhanced Forward Presence Mission, or in an unpaved strip in Sahel in which the engines of the aircraft create a cloud of sand that reduces visibility.

Indra is also responsible for the development of the Mission Planner and Scenario Generator, in which the missions for pilots are prepared. This tool defines the weather conditions during flight, determining whether the

mission is carried out during day or night time and establishing the tactical elements of the exercise. In addition, it generates adapted scenarios so the pilot can train using night vision goggles.

Moreover, Indra is responsible for developing the Instructor Station, which defines and controls the exercise, and for the system debriefing, which allows the revision of the performance of the pilots after the mission has been conducted. Indra is also responsible for the visual projection system of the simulator, based on LED technology, for the systems delivered to Germany, Spain and France.

Beyond this new contract, Indra works in the development, production, and deployment of the A400M simulators used by the four member Nations of the A400M Consortium: France, the UK, Germany and Spain. This year, a simulator will be installed at the Zaragoza airbase as part of the project, which will be used to train pilots of the Spanish Air Force.

About Indra

Indra is one of the world's top technology and consulting companies and a technology partner for the key operations of its customers' businesses worldwide. It is a leading worldwide provider of proprietary solutions in niche areas in Transport and Defense Markets and the absolute leader in IT in Spain and Latin America. It offers a comprehensive range of proprietary solutions and cutting edge services with a high added value in technology based on a unique culture of reliability, flexibility and adaptability to the needs of its customers. Indra is a world leader in the development of end-to-end technology solutions in fields such as Defense and Security, Transport and Traffic, Energy and Industry, Telecommunications and Media, Financial Services, Electoral Processes, and Public Administrations and Healthcare. Minsait is Indra's digital transformation business unit. In 2017 Indra posted a revenue of €3,011m, employed 40,000 professionals, and had a local presence in 46 countries plus sales operations in more than 140 countries.