

## **INDRA'S ANTI-DRONE SHIELD, TESTED IN THE MOST COMPLEX ENVIRONMENTS AND READY TO PROTECT AIRPORTS**

- **Indra has an advanced anti-drone system that has been tested in countries where this type of attack is common and poses a major threat**
- **It is one of the few companies in the world that has already sold its system to government clients with highly demanding operational requirements**
- **The system is perfectly suited to operating in airports: it modulates its response to avoid interfering with air operations and it can be integrated with tower and control center systems to enhance its efficiency and precision**

**Madrid, January 21, 2019.-** The presence of drones recently forced the closure of Gatwick airport for three days, suspending 1,000 flights and disrupting the plans of about 140,000 passengers during Christmas, and Heathrow for one hour. Indra is one of the few companies in the world that has a comprehensive solution specifically prepared and tested to protect an airport or any other space against drones flying without authorization.

It is an intelligent shield, called ARMS (Anti RPAS Multisensor System), which detects the presence of drones kilometers away, identifies the model and learns their weaknesses to neutralize them if they invade the space to be protected.

The company has tested its solution in countries where this type of threat is much more common and dangerous than in Europe. The extraordinary results obtained have made Indra one of the first companies in the world to have signed firm agreements with government clients, after meeting highly demanding criteria.

The solution is so effective that it can be used in a precise manner to disable a single drone, in a 'surgical' intervention, or a whole swarm of drones, applying more aggressive measures. If an invasion occurs from different points simultaneously, it activates a full protection dome.

Its ability to modulate the response is key to operating in an airport without interfering with aircraft electronic equipment and it makes this system unique in the market. It can also be integrated with the tower or control center systems to exchange information and be able to detect immediately any object that is flying without authorization.

The situation experienced by London airports is not new. In August 2017, Arlanda airport, in Stockholm, was also forced to close for the same reason for one hour. Pilots from all over the world regularly report cases of lesser severity but that generate excessive uncertainty to the aeronautical sector, which historically has been obsessed with safety.

However, the risk affects many other areas and types of facilities. Industrial plants, nuclear power plants, infrastructures, official buildings, prisons, sport stadiums or any place where a public event is held face the same problem.

A drone can be used to invade the privacy of people, spy, perpetrate an attack, or simply cause an accident unintentionally, when colliding with a vehicle or person.

Stopping them is very difficult however, as they can be only a few centimeters in size and they can appear suddenly, leaving little room to react.

Developing an effective solution requires having in-depth knowledge in different areas: radar technology, electronic defense, communications and command and control, among others. Mastering them is essential to

deliver to each client the 'shield' they need, since no two airports are identical, nor does it require the same tools to shield a private enclosure or a public space accessible to anyone.

Indra's ARMS system consists of a radar and infrared cameras that perform detection and identification tasks. Its electronic warfare sensors sweep the radio spectrum to determine the type of link, frequency or navigation system used by the drone.

The operator supervises the entire operation from his/her control position. The jamming equipment sees to cutting off communication with the pilot and blinding the navigation systems of the device. It can also use deception or *spoofing* techniques to take over and land it in the desired location. What's more, it is able to determine the most likely area from which the operator may be acting to facilitate their arrest. It incorporates advanced artificial intelligence techniques that allow it to gain precision the more you use it.

Indra's solution uses the most effective soft-killing methods to protect civil environments and neutralize any of the drone models available in the market. It can also be adapted to incorporate hard-killing techniques to shoot down the aircraft. These methods are, however, more typical of the military field, where there is a need to deal with drones that are much more technologically advanced and are able to fly autonomously without needing an operator to control them remotely. However, the high cost and knowledge needed to operate them prevent them from becoming a problem for the civil sphere.

### **About Indra**

Indra ([www.indracompany.com](http://www.indracompany.com)) is one of the leading global technology and consulting companies and the technological partner for core business operations of its customers world-wide. It is a world leader in providing proprietary solutions in specific segments in Transport and Defense markets, and the leading firm in Digital Transformation Consultancy and Information Technologies in Spain and Latin America through its affiliate Minsait. Its business model is based on a comprehensive range of proprietary products, with a high-value focus and with a high innovation component. In the 2017 financial year, Indra achieved revenue of €3.011 billion, with 40,000 employees, a local presence in 46 countries and business operations in over 140 countries.