innovation forward

ALX Systems has developed a prototype drone charging station

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ALX Systems develops software for autonomous drones (UAVs) in the fields of defence, aviation and civil engineering. The drones are deployed to monitor risk zones or to verify infrastructure.

These autonomous (unmanned) devices must be able to take off and land in a secure zone and charge optimally without external assistance. ALX decided to develop a station where the drones can take off, land and charge, to guarantee their operation on any type of terrain, with no human intervention required.

As part of a CWality project, ALX Systems approached Sirris for advice on their project to develop a prototype station, taking into account operating conditions, production costs and the optimisation of mechanical principles to enable the drone to take off and land safely.

From concept to prototype

Experts at the Sirris Product Development Hub conducted an detailed analysis of the technical requirements listed by ALX. Before embarking on their research, the Hub conducted an in-depth study on potential solutions that are available on the market. They then selected a mechanical concept to open and close the station.

The Product Development Hub engineers and developers proposed innovative concepts for the deployment of the take-off and landing zone for the drone, as well as for the connection with the charging station. ALX Systems decided to patent various concepts, following a patent study by the IP cell at Sirris.

The station remains in constant communication with a central system developed by ALX Systems to manage all the connected components: the drone, charging station, weather station, proximity sensor, etc.

The project objective was quickly achieved: Sirris succeeded in delivering an operational prototype to ALX Systems, which in turn tested it under real-world conditions. The prototype will form the basis for the industrialization of the charging station in the future.

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