

Avionics Profile

ISD has extensive expertise on the design, development and certification of components for avionic systems. Regarding telecommunications, data link architectures have been designed for Alenia Aeronautica SKY-X and Lince, unmanned aerial vehicle demonstrators. The data link implements NATO STANAG 7085 standard for wideband communications in line of sight and beyond.

Regarding SW development, a significant effort has been devoted to simulators for maintenance staff training. Actually, load balancing algorithms have been designed and implemented for a discrete maintenance training infrastructure simulator. Furthermore, a new tool that offers a development environment for creating a new aircraft model and emulating its components is under development.

In the field of SW certification and qualification for avionics systems, ISD utilizes the EFA and RTCA DO-178B/ED-12B standards (SW considerations in airborne systems and equipment certification). These standards have been successfully applied on the SW for the armament control system test set of the Eurofighter (functional test, and failure detection/isolation).

In the field of flight test engineering, HW subsystems have been developed and SW tools have been designed for data collection, manipulation and processing from the on board sensors.

In addition, experience has been acquired in testing navigation and control systems. Data analysis and certification has been performed for the MLS (Microwave Landing System), EGI (Embedded GPS), Auto-throttle and Autopilot for the C27J and Tornado aircrafts.

Finally, in ground test of avionic systems, HW has been developed, focused in devices used in avionic test rigs. Among others a data acquisition device used as interface between the electronic unit of the head up display and a flight simulator has been developed. Moreover, functionality tests have been implemented for a flight termination transceiver.