



April 24, 2018

TRADING LOCATION

Customer

An agency tasked with the development of combat aircraft affiliated to defence research organisation.

Problem Statement/Requirements

As part of “fly by light” avionics technology initiative, the customer wanted to develop a “Mission and Display” subsystem targeted for indigenous fighter aircrafts. The scope included the development of Smart Multi Function Displays and Head Up Displays that supported ARINC 818 fibre optic interface.

Solution Methodology

The Aerospace Business Unit of SFO developed a Smart Multi-Function Display and Head up Display POCs that supported ARINC 818 fibre optic interface, Ethernet interface as well as serial port communication for communicating with the subsystems and Mission Computer. The display system used COTS processors and FPGA to implement the solution.

The implementation aimed at fast, reliable and latest technology communication interface between mission computer and display systems for aircraft avionics.

Brief description of product:

A. Hardware

- multifunction display
- head-up display unit
- communication protocol: ARINC 818 over optical fibre

B. Software

- C++

C. Compliance

- DO-160, MIL-810F, MIL-461

Impact

- The “fly by light” technology, which is proving to be the next generation technology in Aerospace domain, helps achieve major reduction in aircraft weight by replacing the copper wire-harness; it also increases the real-estate space available in the avionics bay to accommodate additional capabilities.
- The optical communication system, being immune to Electromagnetic interference improves the aircraft safety standards and the effort required in qualification requirements for airworthy systems.
- The redundancy achieved by replacing one set of copper cables with OFC and keeping the other set of Copper wire as standby improves system reliability.

About SFO

SFO Technologies Pvt Ltd, the flagship arm of the diversified conglomerate, the NeST Group provides end-to-end design-engineering-software-manufacturing solutions to clients across geographies such as the USA, Canada, Europe, Middle East, South East Asia, Japan, Australia, and India. SFO has invested in building competence, scale and standards compliant process framework, in PCBA, fibre optics, Cable & wire Harness, Magnetics, High Level Assembly, VLSI design, embedded software development, etc. SFO’s capabilities transcend the plain vanilla “Build-to-Spec or Build-to-Print” EMS and our ODM+ solutions are rapidly re-defining standards for the OEMs across Aerospace & Defence, Communications, Transportation, Healthcare and Energy & Industrial domains. .



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