

PROJECT

## DigiTech

### **Development of a novel generic digital controller for hydraulic load profiling control systems to significantly reduce costs and time in aircraft test rig development and commissioning**

**Funding:** European (Horizon 2020)

**Duration:** Oct 2015 - Mar 2016

**Status:** Complete

**Total project cost:** €71,429

**EU contribution:** €50,000



**Call for proposal:** H2020-SMEINST-1-2015

[CORDIS RCN : 198818](#)

#### **Objectives:**

Aircraft Testing is a highly technological field within the aerospace industry requiring faster testing times and strict adherence to regulatory requirements set by the European Aviation Safety Agency.

There are Commercial-off-the-shelf (COTS) solutions that are used to perform hydraulic load tests on an aircraft actuator that is subjected to different flight conditions. These simulation methods that include Delta Motion Systems and xPC Target Systems require final adaptation to be compatible to bespoke Test systems, which incurs additional significant engineering costs per project. Due to their lack of adaptability, the COTS solutions require engineering staff to spend more time onsite thus driving commissioning costs up and reducing engineering productivity.

DigiTech is a novel solution that builds a new generation digital controller incorporating control algorithms and control laws to cope with the different load profiling requirements of bespoke systems. This solution provides a remote fault monitoring and diagnostic capability that enables control parameters to be modified and updated offsite. The coupled benefits of this solution will be elimination of adaptability problems and a reduction of commissioning costs by 50%. We anticipate that after introducing this technology, we will increase our yearly revenues by over 80% and expand our market in the aerospace industry Test market by 30%.

#### **Methodology:**

In Phase 1 we intend to carry out a market analysis spanning the entire aerospace industry to identify and understand user needs. At this stage we seek to further refine our technology to have complete remote monitoring capability, to investigate cost-effective ways for commercial production of our product and to develop an operational business plan in 6 months.

In Phase 2 we intend to build the DigiTech controller with the associated software and hardware and incorporate it to our Test Rigs to commercialise our technology.

#### **Parent Programmes:**

[H2020-EU.3.4. - Horizon 2020: Smart, Green and Integrated Transport](#)

**Institute type:** Public institution

**Institute name:** European Commission

**Funding type:** Public (EU)

**Lead Organisation:**

**Rtc Electronics Ltd**

**Address:**

SYSTEMS HOUSE WILLENHALL LANE BINLEY  
COVENTRY  
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United Kingdom

**EU Contribution:** €50,000

**Technologies:**

Sensor technologies  
Integrated sensors for structural components

**Development phase:** Implementation

**STRIA Roadmaps:** Vehicle design and manufacturing

**Transport mode:** Air transport

**Transport sectors:** Passenger transport, Freight transport

**Geo-spatial type:** Other