Redstone Test Center

Aviation Flight Test Instrumentation

RTC provides support in the design, development, installation, integration and operation of aviation flight test instrumentation. Our engineers design, fabricate, install, integrate and calibrate various types of instrumentation systems. We provide collection and processing of real-time and post-mission airframe and systems flight test data at any location across CONUS. RTC electrical and mechanical engineers support the integration and installation of non-standard systems and subsystems into existing Army aircraft platforms. We provide airworthiness release data that supports airworthiness approval from RTC and AED flight releases. A key capability is the state-of-the-art flight test control center which provides real-time display of flight test data and flight test data storage. We also utilize wireless rotating instrumentation package to collect structures data on rotating components. The wireless rotating instrumentation package eliminates the need for legacy slip ring technology. Our capabilities encompass flight test instrumenting, data acquisition and recording, attitude measurement collection, global positioning system collection and processing, video recording and playback, flight test control, instrument systems calibration, instrumentation cockpit display, telemetry decommutation and display, open air environment data collection and ground station digital communication testing.

Core Competencies

- Airborne data acquisition
- Real time flight test data monitoring for data quality and safety of flight
- Software development for unique data processing and analysis
- Wireless Rotating Instrumentation Package for rotating parameter measurement
- Structural design and analysis for test item and instrumentation installation
- Experienced workforce that can support all instrumentation and data reduction activities for all developmental flight testing activities

Capability Highlight

RTC utilizes a wireless rotating instrumentation package to collect data on rotating components located on the aircraft. The design allows the collection of structural data on the aircraft rotating components without the use of slip rings, which improves measurement accuracy and reduces data latency. The package supports significantly accelerated test schedules because the wireless system is essentially maintenance free.

Flight Test Data Collected (2013)

454 Total Hours

270 Telemetry Hours

Total Instrumented Parameters Across the Fleet

5700 Total

3000 Measured | **2700** Bussed

TM Ground Stations

6 Total

2 Fixed | **4** Mobile

Instrumentation

7000+ Items

$27M+ Value