Extensive testing and analyses are required throughout the life cycle of every aircraft to actively investigate development, modifications, usage monitoring and sustained airworthiness. You can rely on RUAG to provide the resources and support.

**Focus on Customer Performance**
Structural, functional, operational and performance investigations anchor RUAG Aviation’s comprehensive portfolio of capabilities, based on extensive experience with end-to-end Flight Test Instrumentation (FTI) and flight testing of modern fixed-wing and rotary-wing aircraft. Together, we analyse your needs and match your requirements with our complete spectrum of testing and measurement solutions. Our customers can expect precise and thorough examinations focused on their success.

**Test Programmes, Types of Measurements and Analyses**
- Aircraft data during flight
- Aircraft loads on ground and during flight
- Flight operations & performance analyses
- Avionics and aircraft systems interaction
- Verification of calculations and simulations
- Functional evaluation
- Synchronised measurements
- Degradation of aircraft structure and systems
- Avionics and mechanical error search
- Qualification and certification
**Flight Test Capabilities**

<table>
<thead>
<tr>
<th>Phase</th>
<th>Concept Phase</th>
<th>Design Phase</th>
<th>Integration Phase</th>
<th>Ground &amp; Flight Test Phase</th>
<th>Analysis Phase</th>
<th>Consulting Service</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Flight test specification and planning</td>
<td>Design of sensors and wirings (ARINC, MIL-BUS, analogue, digital)</td>
<td>Integration into aircraft</td>
<td>Start-up and ground testing</td>
<td>Data conversion and storage</td>
<td>FTI consulting</td>
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<tr>
<td></td>
<td>Flight Test Instrumentation (FTI) planning</td>
<td>Implementation of FTI solutions</td>
<td>Noseboom integration</td>
<td>Conducting flight test campaigns and investigations</td>
<td>Real-time and post-flight data analysis and flight test reports</td>
<td>Flight test programme consulting</td>
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<td>Signal conditioning</td>
<td>Flexibility</td>
<td>Calibration and validation of the entire FTI system and Permit to Fly</td>
<td>Data transfer by telemetry and real-time data monitoring</td>
<td>Post-analysis recommendations</td>
<td>Test programme management</td>
</tr>
</tbody>
</table>

**References and Programmes**

RUAG successfully conducts extensive flight test programmes for civil and military aviation.

- Pilatus PC-12 Aerial Survey Camera Installation Certification (2013)
- Verification of the Dornier 228 Performance Extension Programme (2011)
- Certification tests of the Electronic Warfare Self-Protection Pod (2011)
- Complete test and certification of the Dornier 228 upgrade programme prototype (2010)
- Performance tests of the Boeing F/A-18 Hornet Main Landing Gear Shock Absorber (2009)
- Performance test of the Dornier 228 five-blade propeller (2009–2010)
- Design of a lay angle measurement system for the Bell UH-1D rotor blades and management of a test campaign (2006)
- Flight Test Instrumentation package development for the Eurocopter Super Puma/Cougar (2001)

**Certificates**

- EASA Design Organisation Approval EASA.21J.038
- EASA Part 21 Production Organisation
- EASA Part 145 Maintenance & Repair Organisation
- FAR-145 Maintenance & Repair Organisation
- BWB certified Design, Manufacturing & Maintenance Organisation
- High quality standards according to EASA, ISO 9100, NATO AQAP-2110

**Principal FTI System**

RUAG Schweiz AG | RUAG Aviation
Seetalstrasse 175 | P.O. Box 301 | 6032 Emmen | Switzerland
Phone +41 41 268 42 22 | engineering.aviation@ruag.com | www.ruag.com/engineering