AVISTA® Engineering Services

The strongest software engineering team for unmanned aerial vehicle and system (UAV/UAS) development, with a CMMI® rating and AS9100 certification

The AVISTA engineering team delivers certifiable software and electronic solutions for UAV/UAS development

Building on decades-long experience in engineering safety-critical software and systems for manned aircraft, Esterline’s AVISTA team is also a leading provider of solutions for UAV/UAS development. With AVISTA support you can expect to lower certification risks, reduce project development errors, improve safety, minimize maintenance costs, and provide management with enhanced status visibility and control.

Our technical and program-management expertise and staffing flexibility support our customers in achieving technical and marketing requirements as well as total development-cost savings.

Our management team has years of successful experience managing complex development teams, delivering a unique combination of experienced staff for a complete, cost-competitive solution.

We understand the details of UAS development and can manage projects with a versatile aviation focus as well as create solutions targeted at specific missions or applications. To customize a UAS, we can assist in developing tools for decision-making logic and real-time integration with other embedded control-and-communications systems.

Airworthiness

We are experienced in capturing and reviewing airworthiness-certification requirements and developing documentation, as well as creating architectural strategies for a certifiable product. We provide support in specific areas, including:

- STANAG 4671 and MIL-HDBK-516B compliance
- TACC/MACC (tailored/modified airworthiness certification criteria)
- Compliance-verification engineering (CVE and FAA DER)
- Audit-events management
- Configuration management
AVISTA certifiable engineering solutions for UAV/UAS

Systems Engineering
The AVISTA methodology delivers high efficiency and quality through integration of process definition and control with engineering execution. We address the total program from higher-level elements – such as the unmanned aerial vehicle (UAV) itself, ground-control station (GCS), and maintenance systems – down to subsystems and line-replaceable units (LRUs). Depending on the program, we can provide support for:

- Top-level function decomposition
- Systems requirements and architecture
- Requirements structuring, validation, and maintenance
- Change management
- Gap analysis (ARP-4754A, MIL standards, etc.)
- Verification methods
- Safety planning

In particular, we can provide our customers with the latest requirements-management tools and scripting to enforce and streamline workflows.

Software Engineering
With the strongest DO-178C software engineering team in the aerospace industry, we are also one of only a handful of US companies with a CMMI rating, AS9100 certification, and PMI-based® process management.

In addition to overall planning for software aspects of UAS certification, we can help with challenging areas of implementation, including:

- Low-level requirements
- Data and control coupling
- Models as requirements (including DO-331)
- Software artifact reuse (including AC 20-148)
- Appropriate level of detail
- Modeling standards
- Baselines and releases
- Traceability
- Tool qualification (DO-330)
- Automated testing environments

Electronic Hardware Engineering
We also provide support for DO-254 electronics, in particular complex electronic hardware (CEH) and complex programmable logic devices (CPLDs). In addition, we address other categories of electronics, in view of the broader application of DO-254 favored by certain certification authorities.

We deliver the expertise you need to implement the DO-254 approach across your entire organization, as well as developing the specific documentation and tools needed to develop compliant LRUs, including:

- Planning for hardware aspects of certification
- Hardware design planning
- Definition of hardware standards (requirements, design, and verification)
- Product-line management (part numbers and version control)

For more information about AVISTA software and systems engineering services, call us at 608-348-8815 or email avista@esterline.com.

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