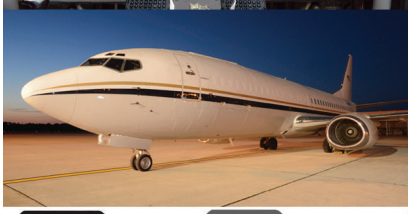
Innovative Solutions & Support

Innovation in Aerospace



Innovative Solutions & Support - Engineered for Excellence

Innovative Solutions & Support specializes in the design, development, manufacture, and support of avionics equipment for Commercial Transport, Military, Government and Business aviation applications that include:

- Precision Air Data Instruments
- Integrated Avionics Suites
- Flight Management Systems
- ThrustSense® Turboprop Autothrottles
- Flat Panel Primary Flight and Navigational Displays (Cockpit/IP®)
- Engine Instrument Displays
- Flat Panel Multifunction Displays
- Mission Displays
- Fuel Quantity Gauging Instruments

The foundation of our success is customer satisfaction. Many of the world's most respected aircraft builders, owners and operators have come to rely on our leading edge avionics technology, superior craftsmanship, and stringent quality standards to significantly enhance reliability and performance and provide superior value.

Our manufacturing processes enable us to offer a substantially reduced product cycle time and cost advantage over our competition.

Our Exton, PA facility houses all the disciplines and equipment needed to support the design, qualification, production and support requirements of our many programs.

Commitment to Quality

Product quality is of vital importance to IS&S and its customers. Our quality system has been audited and approved by The Boeing Company, Northrop Grumman, Gulfstream Aerospace, Textron Aviation, Sierra Nevada Corporation and others.

Utilizing the Six Sigma process evaluation program, we are continuously seeking to improve our operational efficiencies, including our design and manufacturing processes and thus the general quality of our products.

IS&S is certified and compliant to AS9100D, (based on and including ISO9001:2015) by the independent registrant DEKRA Certification, Inc. for design and manufacturing. As an AS9100D certified manufacturer, we maintain high quality industry standards in the education of our employees and the design and manufacture of our products. Our goal is to insure that we can consistently deliver our products and related services in a manner that meets or exceeds customer quality requirements.

Innovative Solutions & Support is well versed in the philosophy that variation causes defects. As part of our growth and knowledge in trying to control and reduce variability, IS&S made significant capital expenditures to bring surface mount technology (SMT) capabilities in-house. This investment resulted in a significant reduction of solder joint defects along with significant cycle time reduction. Our self-sufficiency in this area enhances our ability to bring new products to market faster.

Innovative Solutions & Support

State-of-the-Art Facility

Our design and manufacturing campus in Exton, Pennsylvania houses all the disciplines and equipment needed to support the design, qualification, production and support requirements of our many programs.

IS&S Surface Mount Facility

In addition to corporate and administrative functions, this facility contains the following:

Design Engineering - This department encompasses Mechanical, Electrical, and Manufacturing Engineering and is co-located with Documentation and Configuration Management to ensure traceability and change control throughout each project's life cycle. Each product is designed for ease of maintainability and troubleshooting. As part of the preliminary design process, a life cycle assessment is conducted for every component used in the production of IS&S products.

Software Engineering - IS&S has a mature DO-178B/C compliant software development process, with dozens of products certified to Level A, as well as many other products certified to lower levels. We employ the services of independent FAA DERs for all FAA-certified software development and have been audited by many customers as well as the FAA.

Final Acceptance and ESS Testing Facilities

Engineering Lab - The IS&S research and development lab is fully equipped to support product development and testing with full environmental and ESD controls. A full complement of test equipment required to support product development resides in this area.

Customer Service and Repair - Our ability to provide prompt and effective repair and upgrade service for our products after the sale is critical to our future growth. An AOG line is supported 24/7 and ensures timely resolution of our customers' service issues.

IS&S Class 100,000 Final Assembly Clean Room

SMT/PWA Assembly - Full service PWA assembly area that includes an optically aligned screen printer, MYDATA SMT placement, Reflow oven, automated CCA cleaner, screen cleaner, automated optical inspection (AOI) and X-ray capabilities wave soldering. Our three My Data Pick & Place Machines are able to place any component: fine-pitch, BGAs, QFPs, chip scale BGAs, CSPs, flip chips, and 0201s. They are capable of placing 23,000 components per hour and have built-in electrical and visual component verification. This area has the capacity to produce over 5,000 PWAs per month.

Clean Room Final Assembly - IS&S has Class 10,000 and 100,000 clean rooms. All mechanical and final assembly occur in these positive pressure rooms, with full ESD and humidity controls. Several hundred instruments are produced each month in this area.

Final Acceptance and ESS Test - All (100%) instruments are calibrated, subjected to Environmental Stress Screening (ESS) and Final Acceptance tested in this area. This room is equipped with a full complement of vibration equipment, ESS chambers, and custom and standard test equipment required to support production. WE also take advantage of combined environmental HALT/HASS Reliability Chambers.

Quality Audits and FAA Approvals

The growing concern for safety in aviation has increased external Customer Quality Audits/Site Surveys nearly six-fold in the past five years. IS&S continues to successfully support routine audits from its diverse customer base. The Boeing Company approved our Quality Management System to BQMS D6-82479, Appendix A.

The Federal Aviation Administration (FAA) has surveyed IS&S' production quality system and has issued approval to 14 CFR FAA Part 21, Subpart 0 for Technical Standard Order (TSO) Authorizations. IS&S is also a FAA Production Approval Holder (PAH) under facility/project number PQ0929NE. Our latest FAA Quality System Audit (QSA) was conducted with zero findings issued.

IS&S holds 193 Technical Standard Orders (TSO), 28 Supplemental Type Certificates (STC) and 30 Parts Manufacturing Approvals.

In addition, IS&S holds a 14 CFR FAA Part 145 Repair Station Air Agency Certificate with a Limited Accessory and Instrument Rating, Air Agency Certificate Number 172R916X.

Our Products

Air Data Display Unit

The RVSM compliant ADDU performs air data computation, input processing, data display, and alert functions enabling the system to display altitude, target altitude, and baro setting data; provide decision height and altitude alert indication; as well as compute and output altitude, airspeed, and alert flight control data. Signal processing is performed by an optional Analog Interface Unit (AIU) to interface with and support a wide range of autopilot/flight control, flight data recording, and alert equipment.

Air Data Display Unit

Altimeter

The RVSM compliant altimeter functions in the self-sensing (Standby) or repeater (Normal) mode. It computes and displays ASN and the Hbc from pressure altitude data received from the digital air data computer via ARINC 429

Digital Air Data Computer

Airspeed Indicator

The RVSM compliant ASI operates in Normal or Standby mode. It displays IAS, ground speed (GS), true airspeed (TAS), Vmo, and angle of attack (AoA) data from the digital air data computer via ARINC 429

Digital Air Data Computers

The DADC instrument computes air data for interfacing equipment in analog, digital and discrete formats. The DADC supports operation of Altimeters, Mach Airspeed Indicators, Autopilot Controllers, as well as other instruments.

Shaft Horsepower Gauge

Engine/Fuel Instruments

IS&S provides multiple engine and fuel gauges for military and commercial applications. The SHP indicator provides indication of shaft horsepower at a constant 13,820 RPM. The Turbine Inlet Temperature Indicator provides an updated form, fit and function replacement for the earlier P-3 TIT Indicator made by Lockheed. It is compatible with military thermocouple standards and aircraft connectors. Our Fuel Quantity Indicator/ Totalizer operates in any of the individual fuel quantity indicator (FQI) positions or the totalizer position. Pin jumpers in the mating connector direct operating mode, English (LB) or metric (KG) units of measure, and scaling.

Primary Flight / Navigation Displays

Primary Flight / Navigation Displays

The IS&S Cockpit/IP® is an easily installed upgrade designed to replace existing EFIS, as well as the current pilot and copilot altimeter, airspeed, VSI, and RDMI gauges. Flat Panel Display Systems can add value and increase the operation life of legacy aircraft. IS&S Flat Panel Display Systems have received TSO and STC Approval

Aerial Refueling Mission Display

Mission Displays

Specialty AMLCD mission displays as supplied for GTTA Aerial Refueling Operator Control Display and US Navy LCAC Programs

Multifunction Displays

A variety of functions are served by IS&S MFDs, such as the Pilot's Mission Display (PMD) for the 767 Tanker. Available in a large menu of sizes.

Engine Displays

Flat Panel Engine Instrument Display for low cost upgrade of the C-130 engine instrument cluster with a 75% reduction of LRUs.

Flat Panel Engine Instrument Displays

Innovative Solutions & Support

Next Generation Aerospace Solutions

IS&S is proud to serve a broad array of aerospace customers with increasingly sophisticated and technically advanced products. IS&S is at the forefront of developing a new generation of products which will meet the increasing demands of customers and regulators as requirements for fuel savings and environmentally friendly aircraft increase. Designed for OEM or retrofit these new products add value to your aircraft and extend operational life.

NextGen Flight Deck with ThrustSense® Autothrottle

The NextGen Flight Deck supports dual flight management systems (FMS), electronic charts, Engine Data Concentrator Units, autothrottle quadrant assembly kit (Patent Pending), Integrated Standby Unit (ISU), satellite weather, synthetic vision (SVS) with integrated TAWS, optional enhanced vision (EVS) for Forward Looking Infrared Radar (FLIR). The package features a larger display area and more display pixels than latest generation aircraft off the production line. The Flight Deck is fully compliant with NextGen requirements for Required Navigation Performance (RNP).

ThrustSense® Autothrottle

The IS&S Autothrottle (A/T), ThrustSense, is a full regime A/T, from takeoff to landing phases of flight including go around, in addition the system incorporates engine and speed exceedance protection. Think FADEC functionality with low and high speed protection for turboprops.

ThrustSense includes VMCa mitigation for twin engines with engine out thrust control in case of engine failure that automatically sets the remaining engine to the correct power level if airspeed drops below minimum controllable airspeed.

ThrustSense is an elegant solution that improves safety, performance, is high value, light weight, installs with minimum downtime and is a mature proven system.

ThrustSense Installed on PC-12 NG

ThrustSense is available for retrofit on King Air 200 and 300 with Pro Line Fusion, Pro Line 21, and G1000 Flight Decks and is also factory installed on the King Air 260 and 360.

Utilities Management System (UMS)

The IS&S Utilities Management System (UMS) is an open architecture modular system for use in part 23/25 aircraft and helicopter platforms. The UMS monitors aircraft sensors, controls aircraft systems and is scalable to meet the requirements of any aircraft. This allows the aircraft manufacturer configuration capabilities through table based configuration files supporting parameter modifications and simple control algorithms that eliminate the need for costly software updates and recertification efforts.

Global Positioning System Sensor Unit (GPSSU)

The IS&S GPS Sensor Unit is a satellite receiver that utilizes the signals coming from Global Positioning System (GPS) satellite constellation and satellite-based augmentation systems (SBAS) such as the USA Wide Area Augmentation System (WAAS). It is a DO-229D compliant GPS-SBAS receiver certified by the FAA for TSO-C145c Class Beta 3.

Integrated Standby Unit (ISU)

The IS&S Integrated Standby Unit (ISU) calculates, processes and displays altitude, attitude, airspeed, slip/skid, and navigation display information in a logical and concise single instrument display. The unit is designed to support additional enhancements for Radio Management and Alternate Navigation (ILS, VOR, DME, ADF, FMS, GPS) functionality.

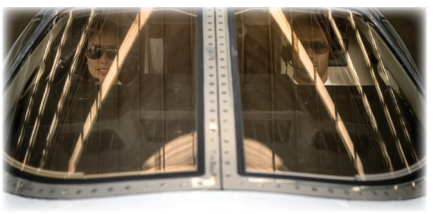
Support You Can Trust

Installation - IS&S's outreach extends to the installation center and our clients' understanding of their new cockpit avionics technology is further enriched by an extension of technical expertise.

Training - Knowledge is certainly power, but for a pilot and crew embarking upon a new relationship with cockpit technology, knowledge becomes life blood. IS&S training is your main artery to informed, safe operations.

Utilization - From pre-flight to post-flight and beyond, your IS&S relationship stays connected in the cockpit, hangar or wherever your journey takes you.

Enhancement - In time, even an IS&S product will need updating and modification. We take on the challenge with the same energy and spirit of invention as we did creating the original.



Innovative Solutions & Support's Clients

IS&S serves the leading aerospace companies in the world and has been given numerous awards for its products by customers such as Boeing, Lockheed Martin, Rockwell Collins, Gulfstream, and Raytheon.

Whether the customer is large or small, IS&S strives to provide the personal and responsive service on which its success is achieved.

ABX Air
Aeromech, Inc.
Aerospatiale/Airbus
Air Canada
Air France Industries
Alternative Avionics
Amazon
American Airlines
AMES
ARINC
ATI
BAE Systems
Boeing Company
Bombardier/Learjet
CAE Inc.
Department of National Defense Canada
DHL Airways Inc (Astar)
Duncan Aviation
Eclipse Aerospace
Epps Aviation
FedEx Express
Gulfstream
Icelandair
Kalitta Air
L-3 Communications Lockheed Martin
MTC Technologies, Inc.
Marshall Aerospace
Midcoast Aviation
NASA
National Airlines
Northrop Grumman
Piaggio
Pilatus Aircraft, Ltd.
Raytheon
Rockwell Collins
Royal Australian Air Force
Royal Netherlands Air Force
Ruag Aerospace
Sabreliner
Sierra Nevada Corp
Snow Aviation
Star Aviation
Textron
United Parcel Service
US Air Force
US Coast Guard
US DOD
US Navy
Western Aircraft




IS&S is the world's leading supplier of RVSM systems and integrator of Cockpit Information Systems (Cockpit/IP®) for the Commercial Air Transport, Military, and Business Aviation Markets. IS&S incorporates leading edge technologies into sophisticated, cost-effective solutions for the aerospace industry.

Innovative Solutions & Support

Corporate Headquarters:
720 Pennsylvania Drive
Exton, PA 19341 USA
+1 610 646 9800 phone
+1 610 646 0146 fax