

AVX Aircraft Company

Job Description



Job title: Systems Engineer – Internet of Things (IoT)

Work Location: 6310 Southwest Blvd, Benbrook, TX 76109

Division/Department: Engineering

Reports to: ACMAR Program Manager

Attendance Requirements: Monday – Friday

Full-time

Part-time

Exempt

Nonexempt

Essential Duties and Responsibilities:

The Systems Engineer - Internet of Things (IoT) will take a lead role in the development of IoT solutions within AVX Aircraft which includes staying abreast of emerging and evolving technologies which may support new use cases for monitoring aircraft systems or supporting equipment. The incumbent will discover, evaluate, test, and source solutions under consideration. In addition, this person will develop test plans on mockup systems and live aircraft. The incumbent will have knowledge of both FAA and FCC rules for limitations of IoT wireless solutions on aircraft. As a minimum, the person should have knowledge of and experience in passive RFID, specifically EPC-Gen 2.

Responsible working with suppliers to design and fabricate new wireless sensors for use in aviation. In addition, the candidate will be working with suppliers to demonstrate the new sensors in a test environment. Responsibilities include:

- Evaluate concepts for reading and recording tag readings with RFID readers and routing those tag readings to equipment for processing. This includes deep knowledge of reader modes, settings, and interfaces.
- Work with suppliers to select and configure equipment.
- Work with suppliers to develop antenna array to provide an effective RF field for rotating system monitoring. Understands implications of the doppler effect on RF transmissions.
- Develop link budgets for test and final solutions that maximize reading efficiency while minimizing RF transmission power and understanding governmental limitations.
- Work with suppliers to minimize excess RF energy and to characterize RF energy in support of survivability analysis.
- Support software development as the subject matter expert on data transfer from readers through serial or network communications. Understands the pros and cons of reader information transfer options (e.g., LLRP, HTTPS, MQTT).
- Support software development to consume and convert raw sensor data (e.g. strain, temperature) to standard values.
- Supports the testing of software on mockup and live systems.
- Work with suppliers to develop tags and to support characterization. Has the ability to interpret RF propagation predictions, power requirements, link budget limitations, and operational environment.
- Knowledge of both passive and active tag technology
- Experience working with sensing RFID chipsets is desirable. Able to evaluate chipset capabilities and limitations
- Validate sensors in test environment which may include testing in an anechoic chamber with spectrum analyzers, oscilloscopes, field strength testers. Experience with Voyantic Tagformance Pro system is desirable
- Validate reading software in test environment.
- Validate antenna placement and understand antenna design implications (beamwidth, gain, and pattern)
- Troubleshoot IoT systems
- Evaluate projects and plan solution development cycle timing.
- Understand cost, scope, and schedule of projects.
- Write project report updates, prepare and give presentations, communicate effectively with team members and supervisors.
- Support the effort to market the sensors and to identify additional opportunities for wireless sensors
- Assist suppliers in identification of the off the shelf hardware for reading new sensors
- Assist suppliers in the development of software to read new sensors
- Evaluate sensor designs against requirements
- Perform related duties as assigned by supervisor
- Maintain compliance with all company policies and procedures

Education and/or Work Experience Requirements:

- Excellent verbal and written communication skills, including ability to effectively communicate with internal and external customers

- Ability to work independently and to carry out assignments to completion
- BS Engineering degree from an accredited university
- BS Electrical Engineering preferred
- Or 10 years experience in RFID development and implementation
- Experience with Link Budgets
- Familiarity with Voyantic Tagformance Pro system is desirable
- Experience with sensing RFID chipsets it desirable

Physical Requirements:

- Ability to safely and successfully perform the essential job functions consistent with the ADA, FMLA and other federal, state and local standards, including meeting qualitative and/or quantitative productivity standards.
- Ability to maintain regular, punctual attendance consistent with the ADA, FMLA and other federal, state and local standards
- Must be able to talk, listen and speak clearly on telephone and with coworkers