COMPANY DESCRIPTION:
Airdyne is a small, privately owned, highly focused aircraft special mission systems engineering, manufacturing and aerospace research firm.

POSITION TITLE: Systems/Electrical Lead Engineer

LOCATION: Calgary, Alberta, CA

SUMMARY OF POSITION/ POSITION DUTIES:

As Senior/Lead Electrical Engineer you are the key individual to ensure project success bringing software, hardware, mechanical and electrical technical aspects of a project together. Act as Subject Matter Expert (SME) during the design phase of projects and down selects items for designs, wiring diagrams, installs and integrates the new avionics/electronics with the current aircraft systems.

Support the development and certification of new electromechanical systems for aerospace applications. Document designs in support of FAA certification using Military and Civil (test) standards and DO-160, DO-178 and DO-254 principles.

Conduct research, design, development, and testing of digital hardware and embedded systems such as electrical components, CPLD/FPGA, circuit boards, and computer systems and other more specialized systems. Perform power system analysis including short circuit, load flow, coordination, and arc flash studies. Utilize devices in design such as; SoC, sensor signal conditioning, DC/DC Converters, FPGA based digital controllers, brushless DC motor controllers, actuator control/drives, hardware based closed loop system control.

Develop and conduct test of systems from detail development through aircraft system integration. Perform component and system tests on and off aircraft in coordination with other disciplines and suppliers. Utilize electronic test equipment to verify avionics and electrical systems meet design requirements, and/or for system troubleshooting in the lab and on aircraft. Develop or select engineering hardware and software tools, as needed.

Perform system safety analysis, create fault trees, trouble shooting guides and write and contribute to Failure and Hazard Analysis (FHA/FMECA) reports. Complete hazard assessments and system safety assessments.

Direct the work of a group of with a variety of skills and disciplines. Provide mentoring to less experienced engineers. Work productively with other engineers, designers, technicians, production, installers, and managers so the project is delivered on schedule and on budget.
Contribute to resource and time estimations to assist in project level planning. Oversee development project schedules, budgets and resource allocation. Accomplish Team objectives within cost and schedule.

Other duties as assigned

QUALIFICATIONS:
Knowledge/Experience:

Strong understanding of electrical engineering fundamentals required. Good judgment and understanding of system-level impact of design choices ability to move seamlessly between levels of abstraction - from system to the "nuts and bolts" implementation.

Experience as systems integration lead at an aircraft or spacecraft manufacturer bringing projects from prototype to production. Experience in a small R&D organization is desired. Demonstrated work with current and emerging motion control technologies – geared systems, motors, various sensor topologies, motor controllers and embedded systems Thorough understanding of technical principles and concepts in electrical engineering Ability to the identify, manage, and mitigate technical risk.

Copyright © Airdyne 2018

Skills in digital and analog electronics design with schematic capture and PCB board layout. PCB drawing creation (layer stackups, dimensioning, BOM scrubbing). Prepared engineering drawings for avionics and electrical system interface wiring using computer based drafting tools (CATIA/CCD, Mentor Graphics and/or Solidworks Electrical) Experience with 'bare metal' firmware development Experience with custom board bring-up bench testing and troubleshooting. Design experience should include electrical cable and/or network design and general electro-mechanical design.

Implement of software development lifecycle models (waterfall and Agile) and program lifecycle modes. Full lifecycle design (concept, feasibility, design, test, transfer to manufacture: DFM). Functional test procedures, certification plans, ground and flight test plans, certification reports, and other engineering documents. Experience with design of experiments (DOE), testing and system integration.

Troubleshooting and failure investigation experience (RCCA) Failure Mode Analysis (FMA/FMECA). Experience with ARP4761 or ARP4754 Safety Assessments for hardware or software (preferred) Use and apply of DO-160, DO-178 and DO-254 principles along with requirement tracking and analysis. Develop test processes for aircraft certification (e.g. DO-178B/C, DO-254, DO-160 and DO-356); successful FAA STC or TSO certification (preferred). Liaison experience with regulatory agencies (FAA DER and FAA DARs)

Certification Planning Project Specific Certification Plan (PSCP), Plan for Software Aspect of Certification (PSAC), Plan for Hardware Aspect of Certification (PHAC), System Process Assurance Plan (SPAP), software Development Plan (SWDP), Software Development Plan (SDP), Software Verification and Validation Plan (SVP), Configuration Management Plan (CMP), Software Quality Assurance Plan (SQAP), Hardware Design Plan, Hardware Verification Plan (HVP), Hardware Process Assurance Plan (HPAP).

Possess working knowledge of both military and general aviation electrical and electronic systems and components to include navigational systems; radar identification systems; intercommunications; ADF, LF, HF, VHF and UHF communication. Experience with digital communication protocols such as RS232, RS422, RS485, Ethernet, MIL-STD-1553, CAN, USB, I2C, SPI, BLE. Signal integrity analysis and simulation (SPICE), analog and digital differential

Demonstrates best-practice design methodologies to achieve high performance design

Desire to work in a fast-paced environment

Excellent organizational and interpersonal skills

Ability to quickly pick up and own new concepts and to contribute with innovative solutions

Excellent written and oral communication skills

3+ years of recent experience in safety-critical design in a field such as space, nuclear, Class 3 medical device design or commercial aviation (Highly Desired)

Ability to work well both independently and as a member of a team, with demonstrated ability to establish and maintain effective working relationships.

Able to quickly learn new technologies and applications.

Requirements

** Requires 5 or more years of electro-mechanical design, analysis, modeling, and testing experience of airborne avionics and/or ground-based equipment. directly related experience supporting design, system integration, and installation, testing and troubleshooting of Avionics/Electrical Systems.

Copyright © Airdyne 2018 All inquiries can be sent to **rd-jobs@airdyne-aero.com**

Must have a B.Sc. Engineering degree from an accredited university in electrical, systems, or related field, or equivalent experience in an engineering discipline Strong math and/or physics background Embedded micro controller based design experience and hands-on development of low level device drivers.

Knowledge of the function, characteristics, and operation of semiconductor components (e.g. SoC, ASIC, MOSFETs, diodes and transistors) and magnetic components (e.g. hall-effect sensors, transformers and inductors) is required.

Minimum Qualification Requirement: **

TYPE OF WORK: Lockheed Martin C-130/L-100, Alenia C-27J, or similar.

SALARY AND BENEFITS: Based upon qualifications.

JOB TYPE: Full-time

ELIGIBILITY OF APPLICANTS: Must be legally authorized to work in Canada.

TRAVEL: Yes

RELOCATION: Yes

INTERVIEW TYPE: Telephone or Company Site

All applicants must include a cover letter and salary requirements to be considered.

All qualified applicants will receive consideration for employment without regard to race, national or ethnic origin, colour, religion, age, sex, sexual orientation, gender identity or expression, marital status, genetic characteristics, disability or conviction for an offence for which a pardon has been granted or in respect of which a record suspension has been ordered. No person shall be denied employment opportunities or benefits for reasons unrelated to ability and, in the fulfilment of that goal, to correct the conditions of disadvantage in employment experienced by women, Aboriginal peoples, persons with disabilities and members of visible minorities by giving effect to the principle that employment equity means more than treating persons in the same way but also requires special measures and the accommodation of differences.

Copyright © Airdyne 2018

All inquiries can be sent to **rd-jobs@airdyne-aero.com**