Mechanical Engineer: to work on Spacecraft Electronic Units

STAR-Dundee Ltd., (www.star-dundee.com), a leading supplier of spacecraft electronic test equipment and technology, is seeking a Mechanical Engineer to work on new products and technology for spacecraft applications. STAR-Dundee has an excellent track record in innovative, high-quality hardware, software and ASICs for spacecraft applications. To meet growing demand, we now seek to expand our research and development team to work on new products related to spacecraft on-board data-handling and avionics networks.

STAR-Dundee

STAR-Dundee is a successful SME in the aerospace engineering sector, which designs network technology for use on-board spacecraft. STAR-Dundee provides electronic test and development equipment and chip designs for spaceflight applications. All manufacturing is carried out by suitably qualified subcontractors based in the UK. STAR-Dundee concentrates on the design and support activities, with a highly skilled workforce; around 80% graduates and 50% PhDs. STAR-Dundee has a wholly owned subsidiary STAR-Barcelona, based in Sant Cugat just outside Barcelona.

The company has now been operational for sixteen years building up a global customer base that includes just about all the famous names in the aerospace industry and the world's leading space agencies (including NASA, ESA, JAXA, CAST, SAST). STAR-Dundee has key distributors in the USA, Japan, China and South Korea, serving Europe and the rest of the world directly from Dundee.

STAR-Dundee is a world leader in SpaceWire technology. SpaceWire is a computer network for use on board spacecraft, which connects together instruments, mass-memory, processors, the downlink telemetry, and other on-board sub-systems. SpaceWire has been a highly successful collaboration between European Space Agency (ESA), academia and industry. Prof. Steve Parkes of University of Dundee, and Chief Technology Officer of STAR-Dundee, wrote the SpaceWire standard for ESA with inputs from international spacecraft engineers. The SpaceWire standard was published in 2003 and is now being used or designed into more than 100 spacecraft costing well over $30 billion. Space missions relying on SpaceWire technology include Earth observation, scientific, exploration and commercial spacecraft. STAR-Dundee chip designs are being used on many of these spacecraft and our test and development equipment is being used during their design, integration and test.

Over the past several years STAR-Dundee in collaboration with the University of Dundee has been developing a new high-availability, high-reliability, multi-Gbit/s network technology for space applications, called SpaceFibre. SpaceFibre runs over electrical and fibre optic cable and is set to become the next generation of spacecraft on-board network technology, due to its innovative quality of service and fault detection, isolation and recovery capabilities. The SpaceFibre technology developed by STAR-Dundee is used in the RC64 64 core DSP processor developed by Ramon Chips in

Israel. STAR-Dundee is a Microsemi partner providing SpaceWire and SpaceFibre interfaces for the Microsemi RTAX, RTG4 and forthcoming radiation tolerant FPGAs.

STAR-Dundee is a major partner in a series of ESA and UK Space Agency projects led by Rutherford Appleton Laboratories which is developing THz radiometer technology for space applications.

The highly qualified and experienced team of engineers in STAR-Dundee has over 125 person-years' experience in spacecraft data-handling and microelectronic technology. STAR-Dundee is the winner of two SMART awards from the Scottish Executive in recognition of its leading-edge technology.

In 2013 STAR-Dundee won The Courier Digital Business of the Year and overall Business of the Year awards and in 2014 it won the Scottish Chamber of Commerce Business of the Year award for companies with fewer than 25 staff. In 2017 STAR-Dundee won The Courier Design and Innovation award.

Job Specification

The successful candidate will join STAR-Dundee's design team and will work on mechanical design related to our electronic systems.

The Mechanical Engineer role covers the design of housings for electronics units, heatsinks and other mechanical/electrical components. It includes:
- Housing mechanical design;
- Thermal analysis;
- Shock and vibration analysis;
- Heatsink design;
- Connector design;
- Design of electro-mechanical subsystems.

Candidates must have the following qualifications/skills/experience:
- A 1st class or 2:1 degree in mechanical engineering with at least five years' experience of relevant mechanical design;
- Alternatively, an HNC/HND in mechanical engineering with at least ten years' experience of relevant mechanical design;
- Good knowledge and substantial practical experience of mechanical component design, CAD tools, mechanical housing design;
- Good understanding of thermal analysis and design;
- Experience of analysis, design and testing for shock and vibration;
- Good attention to detail;
- Ability to test and document your work;
- Ability to work from your own initiative with limited supervision, as well as alongside other team members;
- Good verbal and written communication skills.

The following skills and experience are highly desirable, but not essential for the posts:
- Experience in the design of electronics housings for spaceflight or aerospace applications;
- Experience with PCB and housing thermal analysis;
- Experience of mechanical housing design;
- Experience with mechanical design tools;

- Experience of PCB layout.

Other information

STAR-Dundee is an employee owned company, with around 55% of the company shares being owned by an Employee Ownership Trust on behalf of the employees. Staff are represented on this Trust and on the Board of Directors, and also benefit, when there is a dividend payment to the other shareholders, with a tax-free bonus.

Salary will be commensurate to experience. Please state your current salary when applying.

Applicants must have the right to work in the UK. Please state in your application either that you are a UK citizen, are a European citizen, or are from another country with a valid Tier 1 or Tier 2 visa.

Engineers working for STAR-Dundee are likely to travel internationally from time-to-time, to support our worldwide customer base.

Location

STAR-Dundee is located in a fully renovated 19th century town house in the heart of Dundee overlooking the Tay estuary which is adjacent to the University of Dundee and a few minutes' walk from the city centre. Dundee is a thriving University town in the heart of Scotland (50 miles north of Edinburgh), close (20 miles) to the Highlands and an ideal base for those who enjoy outdoor activities.

Dundee, Scotland's fourth largest city, was listed by Lonely Planet in 2018 as one of the top ten best European destinations to visit last summer and praised for its 'head-turning' urban redevelopment.

Dundee was lauded for its growing cultural scene and the exciting transformation of the city's historic waterfront; a development spearheaded by the opening of the newest branch of the V&A in September 2018. Describing the city, Lonely Planet's writers praised a creative scene that "increasingly attracts some of the UK's most visionary talent", building on its selection by UNESCO as the UK's first City of Design in 2014.

Lonely Planet's spokesperson and Editorial Director, Tom Hall, said: *"While visitors have always been assured of a friendly welcome, Dundee has often been overlooked by travellers to Scotland, but that should be set to change. The opening of V&A Dundee is a really exciting moment that marks the city out as well worth a visit, but throw in nationally important museums and attractions, and its dynamic, creative spirit, and travellers will find a city boasting plenty to discover."*

How to apply:

To apply for this position please send your CV and contact details of three referees, along with a brief covering letter stating how you feel you meet the above criteria, and indicating your current salary to:

Carole Carrie
STAR-Dundee Ltd

Email: carole.carrie@star-dundee.com