

Job Summary

Job Title: STAR Accelerator Electronics Engineer

Grade: 8

Salary: £44,045 to £49,553 per annum

Department: College of Science and Engineering

Hours/Contract: Full time, open ended subject to fixed term funding. Funding is available to 31 October 2022

Reference: 1610

Role Purpose

To lead and deliver the electronic engineering aspects of the STAR (Space Technology Applications from Research) Accelerator project, part-funded by the European Regional Development Fund (ERDF), using a variety of tools and software to aid industry on a wide range of artefacts and sectors including Life Sciences/Biotech, transport, space instrumentation, energy, Food and Drink and creative industry sectors. The STAR Accelerator technical team will consist of three posts: this post; a prototype manufacturing engineering post; and a systems designer post; supported by a business manager and admin support.

To provide technical electronics support in the project including electronics design, manufacture, operating the facilities, in support of the successful delivery of the ERDF and University outputs.

Alongside the technical role, an important aspect of the role will be to proactively build and maintain research, business and industry links and activity which are aligned with the University's space and earth observation and engineering expertise and its Space Park Leicester project, in order to ensure sustainability of the STAR Accelerator Project beyond the current funding stream.

Main Duties and Responsibilities	% Time
<p>Operational Expertise</p> <ul style="list-style-type: none"> Apply state-of-the-art theoretical and practical expertise in the design of both digital and analogue electronics to aid product design and manufacture (and its application for assessment of a wide range of artefacts, structures, and engineering products) to develop the briefs scoped by the SMEs, Academic Lead and Business Manager into well-designed solutions/experiments, with verifiable budgets, timelines, and deliverables. The aim is to produce bespoke results/applications for the STAR Accelerator clients and centre users, this will involve: The supervision and/or delivery of technical electronic expertise based services in situ and/or at clients' business premises as appropriate. The development of electronic solutions to inform designs of artefacts and products from electronics CAD. The production of electronic performance analysis predictions to compare against the produced designs and electronics. 	60



- The operation and maintenance of the relevant production equipment and electronic software in the STAR including acquiring, storing, post-processing, interpreting and summarising data, to produce technical reports/analyses.
- The identification, research and development of new opportunities, methods and work practices to extend the range of services by STAR Accelerator generally and specifically the range of applications of product development.
- Leading the technical electronics solutions to enable STAR Accelerator to design, prototype and one off manufacture of new parts or products.
- Mentoring technical staff working in the STAR Accelerator project with guidance from the Academic Director and Science Park CEO.
- Analysis of data, and production of a range of documents and designs, for different audiences (e.g. technical designs and reports for commercial clients and scientific summaries for inclusion in academic papers).

Business Development

- Help recruit and support SMEs as appropriate to build a strong business cluster and collaborative opportunities.
- Help deliver the STAR Accelerator project successfully by developing and delivering innovation support activities for the benefit of SMEs and University graduates in collaboration with the University.
- Contribute to the sustainability of the STAR Accelerator project by helping build industry networks and partnerships, to develop new sales and ensure a flow of research income to the University.
- Design and deliver, individually and as part of a team, workshops and skills development sessions in electronic design and manufacture to industry in order to disseminate knowledge, enable new applications of research and utilisation of latest machinery and techniques.
- Contribute technical expertise to the production of presentations, publicity material, and website content, from suitably commercially non-sensitive projects and case studies you have worked on.
- Shape the strategic direction of STAR Accelerator applications in conjunction with Business Manager and STAR team, establishing effective operations and systems to comply with the requirements from the University and the grant awarding bodies.
- Generally support, as required, the management team and support health and safety in the STAR Accelerator project.
- Working closely with Academic Director, and Business Manager to help support SMEs innovation needs by identifying and matching academic research strengths with SME needs from across the University by liaising with and working closely with other

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<p>innovation/knowledge exchange projects across the University e.g. SPRINT, Leicester Innovation Hub/Accelerator, EMCoE, LLSA (Leicester Life Sciences Accelerator), Leicester Start-Up Accelerator and the Research Institutes.</p> <p>Resource Management</p> <ul style="list-style-type: none"> • Manage allocated resources effectively (orders, goods receipt, invoice verification and asset management modules are processed and accurate records are maintained) so that objectives are delivered within budget. • Maintain the precision and additive manufacturing hardware and software in optimal working conditions, within the budget and timescales of STAR Accelerator. 	10
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Internal and External Relationships

Work closely with and as part of the STAR Accelerator team to deliver the STAR project business plan.

Meet regularly with the Business Manager and other STAR staff to:

- Discuss the STAR range of services offered to clients, on-going contracts, and new prospects.
- Feed in technical details of suitable project plans at the pre-contract stage.
- Update the Business Manager on the progress of the operations on the laboratory floor and in the electronics design office across the range of parallel projects being undertaken at STAR.

Meet regularly with the Business Manager, Head of Regional Business Engagement and other University of Leicester academics and technical staff associated to/seconded to STAR Accelerator to:

- Discuss enhancements required to the hardware, software, and working practices at STAR Accelerator
- Discuss STAR Accelerator demand
- Support the longevity and the widening scope of the STAR Accelerator activities to new markets

Attend on-site and off-site meetings organised by the Business Manager and the Director with potential clients, to offer electronic design support in scoping new activities or in reporting on existing activities. Meetings will be with technical staff and may include Business Owners, Managing Directors and Senior Staff in SMEs.

Liaise regularly, as required, with the University of Leicester purchasing team for procuring consumables and minor equipment in support of the daily operations at STAR Accelerator.

Liaise quarterly with the University of Leicester safety team, on the upkeep of safety at work.

Liaise as appropriate with the University of Leicester IT services, to ensure the software STAR Accelerator relies upon is maintained effectively by IT services. Liaise with IT services on data access and data security of clients.

Liaise regularly, as required, with University of Leicester technical and engineering staff within the Physics and Astronomy and Engineering schools for advice and where appropriate joint work on projects.

Meet technical staff operating in the commercial and electronics field under the appointee's leadership.





Provide demonstrations of the equipment as required, seminars on electronic solutions, and workshops to Industry.

Support the activities of junior research staff and university students seconded to STAR Accelerator.

Participate in scientific paper writing and scientific dissemination as appropriate with academic staff from the University of Leicester and from other educational institutions that may become affiliated to the Centre.

Liaise daily or as appropriate with the Space Park Leicester and the Innovation Hub to coordinate the physical access to STAR Accelerator by clients, staff, and stakeholders. Coordinate the use of any shared equipment or transport system within the complex with the users of the centre.

Liaise with Colleagues in SPRINT, the Research and Enterprise Division and those based in the Leicester Innovation Hub.

Liaise with LLEP Business Gateway, Business intermediaries and support organisations, e.g. FSB, IOD, Chamber of Commerce, Food Park.

Planning and Organising

Planning and organising own workload and time along with technical staff working in the Centre, working around the schedule of STAR stakeholders, the Business Manager, the Director and affiliated academic staff. Prioritise and organise the work schedule of the STAR Accelerator facilities and technologies. Plan the provision of services and external resources for specific projects. Plan and organise the maintenance of the key assets of STAR Accelerator.

Plan and organise delivery of multi-faceted innovation support including specialist workshops and the successful operation of the STAR Accelerator facilities.

Qualifications, Knowledge and Experience

Essential

- 1st class or 2-1 undergraduate degree in engineering electronic design or physical sciences*
- Competence in theoretical and practical electronic design methods for prototyping and manufacturing*
- Competence in both digital and analogue electronics design*
- A broad knowledge of electrical design tools and software used to deliver commercial and technical electrical designs and solutions, as evidenced by reports, scientific publications, and/or a portfolio of past projects in the work place*
- Track record of delivering commercial electronics engineering services in at least one of the following sectors: aerospace, automotive, space, instrumentation, life sciences, energy or transport*

Desirable

- Masters degree and/or equivalent work experience in the specific discipline of electronics systems design and manufacturing in the engineering sector*
- Evidence of supervision/co-supervision of technical staff in a research-led environment



- Experience of electronic challenges in at least one of the following sectors: aerospace, automotive, space, instrumentation, life sciences, energy or transport*
- Track record of work in a research led environment and industry networks
- Membership or/and evidence of activity with professional engineering institutions (preferably chartered engineer registration)
- Experience of delivering innovation support programmes to SMEs
- Understanding of and experience working with HE sector and UK innovation funding structures and bodies.

Skills, Abilities and Competencies

Essential

- A complete range of electronic design and manufacturing skills including competency in CAD based circuit design, PCB layout, state of the art electronic components and electronics build and test.*
- Practical experience with the use of electronics assembly tools and equipment, for the population of circuit boards*
- Competence in the use of electronics CAD design software*
- Ability to analyse and interpret complex technical data and give an expert opinion to STAR clients and other team members*
- Ability to execute complex workflows involving multiple clients, stakeholders, staff, external suppliers, and research staff including ability to prioritise tasks and manage time for self and the line managed staff
- Competence in communication, interpersonal, numerical and IT skills
- Excellent interpersonal skills including communication, good team working and leadership skills
- Ability to drive to customers' business premises*

Desirable

- Proficient use of Matlab and of its Signal Processing Toolbox.
- Competent in electronics associated control software (e.g FPGA, ASIC, SoC)
- Direct experience of CADSTAR design tools
- Proficient user of LabView for real-time system control
- Workshop delivery and business support to SMEs
- Ability to write research grant proposals and project proposals with industry
- Ability to build strong relationships with core stakeholders, business intermediaries and senior business owner managers

****Criteria to be used in shortlisting candidates for interview***

Criminal Declaration

If you become an employee, you must inform your manager immediately, in writing, if you are the subject of any current or future police investigations/legal proceedings, which could result in a criminal offence, conviction, caution, bind-over or charges, or warnings.

VITAL

The University encourages all staff to live our [VITAL values](#) which are:
Valuing People, Innovators, Together, Accountable, Leaders.





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Equality and Diversity

We believe that equality, diversity and inclusion is integral to a successful modern workplace. By developing and implementing policies and systems that challenge stereotypes across all aspects of our work, we have a culture that recognises and values the diverse contributions of our staff which benefits everyone. Our strong values of inclusivity and equality support our efforts to attract a diverse range of high quality staff and students, and identify our University as a progressive and innovative workplace that mainstreams equality, diversity and inclusion.

