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**Job title: Design and Development Engineer (KTP Associate)**

**The company:** [OSET Bikes](https://osetbikes.com/gb/) is the World Leader in the design and manufacture of electric trials and motocross motorcycles. The range of OSET bikes is ever expanding, with ten bikes currently available - catering to riders from 2-18, and beyond! OSETs are proven in competitions, taking multiple National level victories against petrol powered machines. Sales are via a distributer network, and representation that spans 25 countries.

**Reports to:** Jason Ross, Design Engineer at OSET Bikes

**Location:** Place of work is OSET Bikes premises in St Leonards, East Sussex, with regular travel to the University of Brighton.

**Academic Support:** Academic input will be led by [Dr Derek Covill](http://about.brighton.ac.uk/staff/details.php?uid=dc20) and supported by [Dr Dave Kennaird](https://www.brighton.ac.uk/staff/dave-kennaird.aspx) and [Dr Tim Katz](http://about.brighton.ac.uk/staff/details.php?uid=tk) all from the School of Computing, Engineering and Mathematics at the University of Brighton.

**Department:** Research, Enterprise and Social Partnerships (RESP) at the University of Brighton.

**Salary:** £28,000 - £32,000 pa, dependent on qualifications and experience plus a £6k personal development budget

**Purpose of the role**

This 3 year project aims to embed a scientifically informed design process to streamline and optimise electric trials bike design and implement the formalised design process to bring to market an adult trials bike, featuring electronic control of bike power management and the human-machine interface.

**Main areas of responsibility:**

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| **Project Phase** | **Work to be undertaken** | **Output(s)** |
| Phase 1 | Researches the trials bike market, collating technical product documentation, and exploring academic and industry innovations in electric power and control to inform design developments. A mini-project is designed and undertaken to instrument a bike component and a process is developed for data capture and analysis, correlating component performance with trials course features. | Quantitative measure of bike performance. |
| Phase 2 | Achieves full instrumentation of an existing OSET bike facilitating the complete quantification of the electromechanical and electronic behaviour of trials bikes and informing the requirements of a laboratory test bed. Development of characterisation protocols to analyse the behaviour of bike components and assemblies in the lab environment. Repeatability of analysis is confirmed and training delivered to embed testing procedures, and provide a process for certification of products developed by OSET. | Experimental testbed |
| Phase 3 | Develops, test and embeds tools and techniques to optimise trials bike design, delivering a design process incorporating electronic systems; dynamics and inertia; structural behaviour/frame design; power management; drive train design; design for manufacture; and supply chain integration. | Design process is implemented to deliver an adult trial bike.  Scientifically informed design approach embedded. |
| Phase 4 | Develops novel simulation software and the human-machine interface. Upgrading youth trials bikes to incorporate design enhancements developed in-programme and exploring the potential of other motorsport disciplines. | Software implemented in an upgrade to an existing trials bike.  Product roadmap is generated. |
| Phase 5 | Registers bike designs, produces marketing materials and arranges manufacturing. Reports are prepared, paper published, a patenting strategy finalised and the project handed over. | Published papers, Reports and strategy. |

**General responsibilities**

* To adhere to the University’s Equality and Diversity Policy in all activities, and to actively promote equality of opportunity wherever possible
* To be responsible for your own health and safety and that of your colleagues, in accordance with the Health and Safety at Work Act.
* To work in accordance with the Data Protection Act.
* To lead the KTP project, arranging monthly project meetings and reporting on a quarterly basis to the project steering group known as the Local Management Committee (LMC).

This job description sets out the duties of the post at the time it was drawn up, based on the project plan for the Knowledge Transfer Partnership (KTP) project. These duties may vary from time to time as the project progresses, according to the needs of the project.

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The person specification focuses on the knowledge, qualifications, experience and skills (both general and technical) required to undertake the role effectively. Please ensure that your application demonstrates how you meet the essential criteria. You will be assessed by your completed application form (A), at interview (I) and in some instances through an exercise (E).

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| **Essential criteria** |  | **A, I, E** |
| **Qualifications** | * BEng or BSc Hons in Mechanical or Mechatronic Engineering, Design Engineering, Sports Engineering or a related Engineering degree, together with a higher degree reflecting the need for theoretical knowledge, research enquiry and laboratory skills. * Degree(s) should ideally include some electrical/electronic component. * Candidates who can demonstrate that experience substitutes for a Masters may be considered. | **A,I,** |
| **Knowledge and Experience** | * A strong grounding in theoretical and practical engineering spanning the following: * electronic systems design; * dynamics; * structural behaviour; * power management and control; * drive train design; * Knowledge of simulation software for computer aided design and ideally finite element analysis. * Knowledge of instrumentation and data analysis. | **A,I,E** |
| **Knowledge and Experience (Desirable)** | * Knowledge of design for manufacture techniques and supply chain integration is also desirable. * Project work, placement and/or work experience which evidences application of some of the required knowledge and experience outlined above is desirable. * An interest in motorsport is desirable. | **A,I** |
| **Skills** | * Commercial aptitude and the ability to research and understand the needs of the specific sector and to communicate effectively with customers is essential. * Aptitude to apply technologies developed through research to a commercial scenario. * An ambition to take ownership for a significant and challenging technical project. * A methodical and considered approach to project management, and ideally also experience of a project management methodology. * An excellent communicator, with an engaging personality to support the development of strong, effective relationships with colleagues and aptitude to deliver training. * Industrious and resourceful with the ability to meet objectives with an appropriate level of supervision. * Able to demonstrate a proven ability to work to demanding specifications. * Good written and oral communication skills at all levels. | **A,I** |

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**Duration of job:** The appointment is for a fixed term of 36 months in accordance with the period of funding.

**On completion of the Partnership, there is a possibility that the company may be in a position to offer the KTP Associate a permanent full-time position.**

**Annual leave:** Annual leave entitlement is that of OSET Bikes, which is 20 days plus 8 public and bank holidays. New members of staff are entitled to annual leave proportionate to their completed calendar months of service.

**What is KTP?**

Knowledge Transfer Partnerships (KTP) has been recruiting graduates to work in innovative companies for over 40 years. KTP projects are a three way relationship between the graduate, university and the company. This unique opportunity allows a graduate to be based in a company delivering a high profile strategic project, drawing on university expertise and support and transferring knowledge into the company.

**What can you expect from this job?**

* You will be responsible for leading and delivering a challenging commercial project that directly impacts the business, with the opportunity to be a champion of real change.
* You will receive input and support from an academic team with specialist knowledge and experience relevant to the project.
* We will provide a £6k training budget that is tailored to your personal development needs, along with two free management training courses at the beginning of the project.
* You will have the opportunity to deliver high impact outcomes within a business, whilst learning at the same time - a significant contribution to your long term career progression.

As a KTP Associate, you will be employed by the University of Brighton; work predominantly at OSET Bikes premises in St Leonards, East Sussex and be supervised by both a company staff member and an academic at the University.

For full information about the scheme please see: <http://brighton.ac.uk/ktpjob>

The University also has an attractive range of benefits and you can find more information about them on our [website.](https://www.brighton.ac.uk/about-us/working-with-us/jobs/benefits-and-facilities.aspx)

Please contact the KTP Centre with any enquiries, tel: (01273) 642424 email: [ktpjobs@brighton.ac.uk](mailto:ktpjobs@brighton.ac.uk)