MADE SMARTER

Digital Technology Internship Placement

Employer Information:

> **'Made Smarter'** is a Government funded programme, matching your expertise, skills, and insight to help North West businesses implement digital tools. You will be working on a live project while gaining valuable experience for your C.V.
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> **Placements are open to 3rd and 4th Year Undergrads, MSc, and Postgraduate Students**

Placement Information

Job Title:	Electrical Engineering / IIOT Project
Business Overview	The company are an electrical and electronic engineering business. They develop, specify, test, assemble, manufacture, and maintain the hardware and software for their novel carbon saving product. Their technology makes power distribution networks smart and capable of accepting more low carbon technology in homes and businesses, ad is Patented. They passionately believe in sustainability.
Location:	Bolton, Greater Manchester
Number of posts:	ONE
Job Description: *Please include as much information as possible including main purpose and detailed duties/responsibilities*	The successful intern will be involved in an exciting technology trial which is scheduled for first deployment in the real world during the placement. This project will support the development of an improved design for scaled up smart manufacture. The company's technology is housed in street side cabinets and includes communications, control electronics, firmware, server software, and, high current: switchgear; and power electronics. Work conducted by the student will aim to streamline and automate manufacturing processes to enable scale up from trial to mass production. *Detailed scope of work with objectives, targets and deadlines that the student would be required to carry out:* • Assist with PCB designs and modify the present PCB design to a given specification (training will be provided) so that smart scaled up manufacture can be achieved. Eight new PCB designs will be developed by the end of the placement. • Apply coding skills (training will be provided) in the firmware and/or server software. To be completed before the end of the placement. • Help refine 25 bespoke cable and wiring designs for smart manufacture. To be completed before the end of the placement. • Help with Inventory Management processes. The company has a software system for inventory management which the student will use coding skills to refine by the end of the placement. • Assist with the development of an excel visual basic tool that predicts what the impact our technology will have on our customers electricity power distribution network (before it is deployed). To be completed by the end of the placement.

	It is desirable that the student will: - Test electronic circuits against a given specification and suggest improvements for smart mass manufacture. To be completed before the end of the placement. - Suggest improvements to the electronic circuit designs. To be completed before the end of the placement. - Have the opportunity to help integrate Customer Relationship Management software and Inventory Management software into the business. **Work Plan:**

	Jun	Jul	Aug	Sep
Technical reporting				■
Modify the present PCB design	■		■	
Refine bespoke cable and wiring designs		■		■
Test electronic circuits		■		■
Suggest improvements			■	■
Apply coding skills	■	■	■	■
CRM and Inventory Management software			■	■

Expected areas of knowledge:	The student must:
	
	- Be enrolled on or completed an Electrical/Electronic Engineering course which is fully accredited by the IET.
	- Have an outstanding Mathematics academic record.
	- Good understanding of electrical and electronic engineering.
	- A general interest in coding.
	- Have some experience of programming firmware and software.
	- Have a desire to (training will be provided):
	  - Code Python, C++, C and firmware (MPlab experience);
	  - develop software design skills;
	  - develop and apply PCB design skills for mass manufacture;
	  - develop electronic hardware design skills for mass manufacture; and;
	  - contribute to the product development process.
	- Be willing to (full training will be provided):
	  - contribute to technical reports;
	  - test and repair electronic circuits; and;
	  - make up cables to a specification.

Salary:	£12.00 p/h (£5,760 per placement)
Placement Start Date:	As soon as possible – May 2021
Duration of Placement:	480 Hours on a full-time, part-time, or flexible schedule