STFC’s Innovation Technology Access Centre (I-TAC) provides flexible, affordable access to state-of-the-art machining facilities, which have enabled Oxfordshire SME Oxsensis to reduce their R&D costs and further grow the business.

The challenge
When an SME needs only a few parts for a prototype, they are often forced to mass produce due to the reluctance of manufacturers to produce one-off parts or small batches, when the set up costs for machining the product will equal or even exceed their profit margin. Producing more parts than required, however, wastes energy and raw materials and, perhaps more importantly, the cost to the SME per prototype can soar, putting a strain on an already tight R&D budget.

Oxsensis is an STFC spin-out that produces bespoke sensors for use in extremely high temperatures and pressures in industries as varied as nuclear power, aerospace and oil and gas. The sensors are made by micro-machining super-resistant materials such as single crystal sapphire, and incorporate fibre optic interrogation techniques to provide extreme sensitivity and resistance to electro-magnetic interference. As Oxsensis continually develop new prototypes for different customers, mass production methods exceed their demand, resulting in large quantities of costly wasted products.

The solution
Taking advantage of I-TAC’s lab and office space alongside the high-tech equipment in the centre’s machine shop, has enabled the company to create their prototype products on a small-scale and with great precision; significantly reducing the manufacturing costs as well as the amount of wastage. Their location at the heart of STFC has also facilitated access to vibration tables and metallurgy equipment, which were used to intensively test and validate their products.

The benefits
By reducing the time and costs spent on R&D through I-TAC’s small scale manufacturing facilities, Oxsensis were able to put those resources back into the company and continue to grow, making £2m in revenue in 2013. The company has increased from a single employee in 2004, to a 20-strong workforce, which has contributed sustainable highly skilled jobs to the local economy. In addition to the high-tech facilities, Oxsensis has enjoyed the vibrant campus at Harwell Oxford which has helped them get funding from the EU and the Technology Strategy Board. By coming to I-TAC, Oxsensis has been able to focus their time and energy on growing the business as efficiently as possible.

“Access to STFC’s advanced clean room facilities has been invaluable for aspects of our opto-electronic sensor fabrication activities.”

– Conrad Langton, Engineering Director, Oxsensis.

www.stfc.ac.uk/i-tac