

Introduction

Loop Technologies began supplying technology solutions to business customers in 1989. Since then we have gained a wealth of technical knowledge and applied it across an ever increasing range of services.

When we looked at the rapidly growing Internet of Things market, it was clear that providing IoT solutions for industry was the next natural extension of our service offering.

The Internet of Things

Looking beyond the novelty and initial hype that has come with it, the IoT does offer serious opportunities to:

- Transform business operations, bringing about cost savings
- Create closer customer engagement
- Connect owners and managers to their business
- Provide totally new revenue streams
- Be more responsive to change

To realise these gains, a co-ordinated approach involving a wide range of hardware and software skills is required.

Our Key Skills

Over a period of many years we have established a wide ranging technical capability:

- IT system interfacing and development
- Data reporting and analysis
- Knowledge of sensors, back haul, and hosting

- Component level electronics design and maintenance
- Mobile and web development

We bring together this unique skill set to provide a professional and seamless approach to IoT implementation.

Our IoT Service

Our purpose is to provide you with actionable data. To simplify this, we supply a complete IoT integration and operation service:

- Consult
- Design
- Implement
- Operate
- Host
- Analyse

IoT in Action

Loop Technologies' IoT expertise can be seen in action at the Vickers Aircraft factory, where we provided Paul Vickers with monitoring, control and peace of mind. Please see the case study overleaf.

Lets Talk

To discover the ways an IoT solution can improve your business, give us a call for a free initial evaluation:

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Lifecycle care for technology hardware

Case Study: Light Manufacturing

Background

When local entrepreneur and aeroplane designer Paul Vickers of Vickers Aircraft told us about his innovative Wave aircraft, we were excited to have the opportunity to help him set up a leading edge factory right from the start.



The Wave is a two-seater amphibious light sport aircraft, with over 90% of the structure fabricated in ultra-light weight carbon fibre. The manufacture of the carbon fibre components requires stringent process control, and to achieve this Paul designed and built his own curing oven.

Curing Oven Control

Paul asked Loop Technologies to design a bespoke system to provide the tight control he required for the curing process. He also wanted a record of the curing profile for each component manufactured, for certification and quality control purposes.

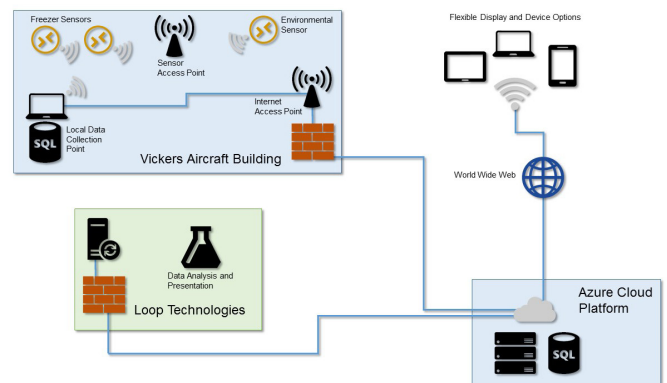
The first step was to provide Vickers Aircraft with an oven controller that would not only hold temperature within a close tolerance, but would also allow Vickers staff to change the thermal profile as required. We implemented this in a custom-developed Labview application, which uses data from an array of sensors in the oven to control heat output and airflow rates.

Monitoring and History

To provide monitoring and historical reporting, we designed and installed an IoT data collection network in the Vickers factory environment. It sends data such as factory temperature, raw product storage temperature, and humidity via an encrypted internet transport layer to a database hosted on the Azure cloud computing platform. The temperature data collected by the Labview oven controller is presented to the in-factory network, and also transported to the cloud computing database for secure storage.

Real time data is displayed on a Loop Technologies-designed wireless terminal in the factory and on mobile applications we wrote for Android and iPhone devices. Historic data searchable by date or job-number is available to Vickers Aircraft via Loop Technologies' online portal system allowing the display of the oven temperature profile for any selected aircraft component.

Paul now has secure access to his factory data from anywhere in the world.



A Twenty First Century Product

Loop Technologies is now working with Vickers Aircraft to build sensors into the Wave itself for performance and in-service monitoring, adding huge value as well as the ability to perform R&D with data from actual customer usage of the product.

"When I needed assistance to control the curing process for my carbon fibre aircraft components, which is critical to my business, I turned to Loop Technologies. I knew I could count on their team of experts to provide me with practical leading edge advice and service.

The solution they gave me exceeded my expectations, as it goes far beyond just controlling the process; I can also monitor it in real time, and see all the historical data from anywhere in the world on any device. We have now expanded the system to collect other critical information from my factory. The app they wrote for my phone lets me know 24/7 if there are any issues I need to know about, which gives me real peace of mind."

Paul Vickers, CEO Vickers Aircraft