

Baggage-Handling System Upgrade Inspires Future Projects

New SCADA System is Open, Flexible, and Easy to Expand

Dublin Airport is the 11th-busiest airport in the European Union. More than 31 million passengers used this international airport in 2018 — a record for Dublin. In late 2019, the airport is on pace to break that record. With that many passengers and more than seven million bags in a year, efficient baggage-handling is a must.

When the airport wanted to improve its baggage-handling system in Terminal 2, it worked with Brock Solutions, a global provider of real-time, turnkey, baggage-handling software and controls solutions. Brock has completed hundreds of baggage-handling system projects, with more than 100 installations of its SmartSort baggage-sortation software.

For Dublin Airport, Brock implemented its SmartSuite platform, including SmartSort and SmartVision real-time monitoring. SmartVision is built on Ignition by Inductive Automation®. Ignition is an industrial application platform with numerous tools for building solutions in human-machine interface (HMI), supervisory control and data acquisition (SCADA), and the Industrial Internet of Things (IIoT).

“We believe this is the largest baggage-handling installation of Ignition in the world,” said Mark Holbrook, co-leader of the SmartSuite business unit at Brock Solutions. “The Ignition SCADA system at the airport has about 100,000 tags, 2,300 visualizations, and is connected to 14 PLCs.”

Ignition and SmartSuite have been a big improvement over the airport’s previous system, which was put in place in 2008 when Terminal 2 opened. “The project was very successful,” said Kristof Dorgai, Brock Solutions account manager for the airport. “We were able to deliver the project on schedule, on budget, with a happy customer.”



At Dublin Airport, Ignition helps move baggage to planes with greater efficiency.

Time for a Change

The old system was difficult to manage, and support for it was insufficient. “The previous system was proprietary to the OEM,” said Li Lu, IT project manager for Dublin Airport. “It was expensive, and very hard to maintain and modify. The system was reaching its end of life without a clear product roadmap.”

“We wanted a real-time status interaction with the baggage conveyors in Terminal 2,” said Thomas Quinn, baggage systems technical support for Dublin Airport. “Ignition easily met the special requirements for this project. And along with the unlimited licensing for clients and tags, Ignition gives us a system that can grow with us in the future.”

Ignition’s unlimited licensing means there are no extra costs for adding tags, devices, users, or projects. It allows organizations to build the projects they want. “With Ignition’s open and flexible approach, and the low-cost licensing

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— Thomas Quinn
Baggage Systems Technical Support, Dublin Airport

model, we’ve been able to deliver a number of projects that previously would have required a large capital investment,” said Quinn.

The baggage-handling system includes seven kilometers of conveyor belts and nearly 2,000 motors that operate belts and baggage sorters. The smart technologies from Brock know when to move bags from one carousel to another, to minimize wear and tear on the belts, extending the life of the equipment. The system also shuts down equipment not in use, conserving electricity.

From the control center, operators constantly monitor and manage the system. The SCADA home page gives a color-coded overview of the entire system. The load-sharing screen shows activity within the system and allows optimal usage of all lines. The alarm-summary page shows current alarms, alarm history, event log, and alarm configuration. Other screens provide additional detail, including status of connections.

Operators have seen an improvement with the new system. “Our business and operation teams use Ignition on a daily basis, and they’re very happy with the application,” said William Ennis, baggage-handling systems manager for Terminal 2. “Ignition is more intuitive, and easy to navigate. The system has proven to be very reliable, and we’re very happy with the support.”

Easy to Work With

The airport has seen benefits on numerous fronts. “Ignition provides an open platform and flexible software we can make changes to easily, without the need to go back and carry out a full rebuild of the SCADA system,” said Quinn. “The thing about Ignition that impresses me most is the ease of install, and how quickly you can set up a complete SCADA system and connect to a number of different types of devices. We’ve connected to a number of legacy devices with ease. And in a matter of minutes we were able to pull data in from those devices.”

In addition to flexibility, availability has improved. “Our baggage systems are mission-critical,” said Quinn. “Ignition’s built-in redundancy allowed us to build a platform to maintain the service-level agreement of 99.9 percent availability.”

“It’s improved our efficiency and reliability,” said Ennis. “With Ignition and Brock’s SmartSuite, we’ve reduced our manual encoding by 30 percent.”

In addition to the baggage-handling system, Dublin Airport is using Ignition for human intrusion detection, condition monitoring, and the baggage sorter HMI in Terminal 1. Future plans for Ignition include monitoring of critical equipment in the airport.

“Building off the Ignition templates created for the Terminal 2 project will allow for a common look and feel for baggage-handling systems and future projects at this airport and at other sites,” said Brock’s Holbrook, who also praised the company making the software. “I love working with Inductive Automation,” he said. “The people, the support we get, it really helps us make our projects successful.”

Brock Solutions is an engineering solutions and professional services company specializing in design, build, and implementation of solutions for industrial and transportation organizations around the world. It’s an employee-owned company with more than 600 employees across North America, Europe, and Australia. For more information, visit brocksolutions.com.

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