

Search for:

- [Subscribe](#)
- [Search](#)

- [Subscribe](#)
- [Search](#)

- [News](#)
- [Insights](#)
 - [Editor's Notes](#)
 - [Expert View](#)
 - [Trends](#)
 - [White Papers](#)
 - [Ask The Experts](#)
- [Industries/Topics](#)
- [Events & Resources](#)
 - [Events](#)
 - [Event Recordings & Videos](#)
 - [Get Started](#)
 - [RFID Journal Glossary](#)
 - [RFID Journal Awards](#)
 - [Magazine Archive](#)
 - [FAQs](#)

Select Page

Brother International Deploys BLE Solution to Track Garment Ink Agitation

Business and industrial products company Brother International Corp. is managing the quality of its white ink, based on agitation during production, via Internet of Things (IoT)

technology provided by Bastian Solutions and Quuppa. Bastian's BlueHound system enables Brother to track work-in-progress as it makes white ink used for direct-to-garment (DTG) printing operations. Brother has declined to comment for this story.

With Bluetooth Low Energy (BLE) beacon-based technology, the print technology company can track the status of its ink products based on how often they are agitated, for the purpose of quality assurance. The system consists of Quuppa's tags attached to ink agitator machines, in order to detect when the equipment is running and transmit that data to a cloud-based server. The software captures and analyzes the information to determine when agitation took place for each batch of white ink, and for how long, thereby ensuring the proper ink viscosity.



The BlueHound system

Brother's deployment is the first application of the solution created under Bastian's and Quuppa's partnership, which the two companies developed to provide location- and sensor-based data to businesses in multiple sectors. Bastian Solutions is a material-handling systems integrator that provides automated solutions to manufacturers, as well as to distribution and

order-fulfillment firms. It sells IoT-based asset-tracking and supply chain visibility solutions. Recently, the company released its BlueHound asset-tracking system, which employs Quuppa's Intelligent Locating System software. Locators and tags, according to Natalie Hogan, Bastian's general manager of IoT.

The Quuppa Intelligent Locating System is a technology platform leveraging a combination of Bluetooth, angle-of-arrival (AoA) and angle-of-departure (AoD) methodologies, as well as advanced location algorithms and management software tools that the company says it has developed throughout the course of more than 15 years.

Bastian began working with Quuppa in August 2018 and deployed the system for Brother in February of this year at Brother's production facility in Bartlett, Tenn. Brother was not seeking a solution to track the movements of its assets or inventory, but rather to identify when its assets were in use and for how long. Brother makes DTG printers, as well as ink to be applied to printed garments at production-level speeds.

The process of creating the ink that garment manufacturers apply to fabrics by is precise and needs to be monitored, the two companies explain. The ink requires frequent and regular agitation. White ink is especially challenging, as it contains metallic flakes that could sink to the bottom of any container and thereby compromise the consistency of the contents.

The company relies on a third party to provide that processing service. As such, identifying when the process fell outside of expected parameters was traditionally difficult. If ink were found to not meet Brother's quality standards, tracing what might have gone wrong was then an arduous task. But with technology that automatically detects each time the equipment starts and stops shaking the product for each new batch, Brother can ensure the quality of the ink it sells to its customers.

The system consists of Quuppa's BLE tags with built-in Bluetooth transmitters and accelerometers, attached to three ink agitators. The Locators were used as IoT gateways to collect sensor data. On a regular basis, says Fabio Belloni, Quuppa's cofounder and chief customer officer, the battery-powered tags detect whether the equipment is shaking and forwards that information to the server via a Quuppa LD-6L BLE receiver.



Bastian'
s
Natalie
Hogan

Data is captured by Quuppa Positioning Engine (QPE) software, which filters and translates the information and forwards it to the BlueHound software for custom, daily and weekly reports regarding the agitation machines and how they are being used. Bastian's software enables analytics and reporting based on the data it receives from the QPE software, Hogan explains. "We use that data to create a custom report for Brother," he states, "so they can ensure the ink is agitated for the right amount of time."

The combination of the BlueHound and Quuppa technologies allows Brother to have an edge on quality control, the partners report. Brother can take action immediately, they note, since Bastian informs the firm if any ink has not been agitated, as well as when the ink met its last agitation goal. "Brother will benefit by ensuring they have a consistent product every time their ink leaves the facility," Hogan says. The company serves as an example of how Quuppa can be used "not just for a dot on a map," Belloni notes, but as a way to monitor processes and, ultimately, product quality.

Beyond Brother

In 2018, Bastian first approached Quuppa seeking real-time location system (RTLS) technology that it could build into its then-new BlueHound solution. “We’ve worked with Bastian now over a year,” Belloni says. Bastian had already worked with ultra-wideband (UWB) and Wi-Fi technologies, and had carried out some internal development for its own BLE beacon and received signal strength indication (RSSI)-based technology. However, it found the Quuppa solution effective and easy to scale.

The system can be used by customers who wish to have access to Bastian’s BlueHound Web portal and cloud-based software. A user would first log in to the server, after which he or she could view information based on the beacon-based data.

Bastian is currently in the process of building its own tags, Hogan says, and will offer additional sensors and accelerometers for impact and temperature detection, for instance. Future BlueHound trackers will feature Bluetooth, GPS and cellular connectivity. The firm’s own tag could also incorporate Quuppa’s QT1 PCB module to provide BLE functionality linked to Bastian’s sensors.



Quuppa’s
Fabio
Belloni

For those using the BlueHound system portal for asset or inventory management, Hogan reports, one-third of the portal is dedicated to analytics, which are presented in “over the road,” “indoor,” “cumulative” and “per shipment” categories. It also offers real-time alerting. For instance, a user could

set up geofences around his or her property. Management could then receive an alert if a tag were moved within or outside an authorized geofenced area, or for a specific amount of time. If the sensor identifies a problem regarding temperature or battery levels, or some other sensory information, an alert could be programmed to be sent to authorized parties as well.

Bastian Solutions has installed Quuppa's technology at two testing sites since it began working with the company last August. Brother is the first customer to utilize the combined BlueHound and Quuppa RTLS solution, Hogan says. The system is designed to help companies locate assets ranging from inventory moving through a distribution center to forklifts, personnel and tools. "Often times, our customers have warehouses with several hundred thousand square feet," Hogan explains. "If one product is taken out of inventory and moved, employees could spend hours walking the floor trying to locate that particular SKU [stock-keeping unit]."

Quuppa has more than 140 partners around the world who use the company's open positioning platform to deliver location solutions for manufacturing and logistics, retail, healthcare, sports, law enforcement and security, government, asset tracking and other verticals.

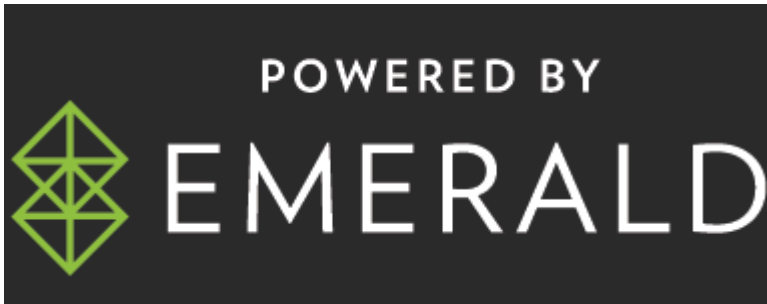


- ABOUT
- ADVERTISE
- CONTACT

FOLLOW US ON

- Follow
- Follow
- Follow

▪ Follow



© 2024 Emerald X, LLC. All Rights Reserved

[ABOUT](#) [CAREERS](#) [AUTHORIZED SERVICE PROVIDERS](#) [Your Privacy Choices](#) [TERMS OF USE](#) [PRIVACY POLICY](#)