

Case Study

UBIQUITOUSWARE

BACKGROUND

Fujitsu Peripherals Ltd., part of the Fujitsu Group, develops and manufactures peripheral devices for computers. The company's aim is to improve workflow efficiency by streamlining the picking processes of its warehouses.

CHALLENGE

In the manufacturing industry, demand for both shorter production times and high-mix/low-volume (HMLV) manufacturing are putting pressure on businesses to find ways to increase efficiency. One key area being examined is the timely and accurate acquisition of parts from inventory. The key challenges are variations in worker flows, walking distances and the associated time losses:

- + Picking efficiency varies depending on the level of proficiency of the worker
- + Manual measurement of workflow takes too much time
- + The work process and shelf layout are based on intuition and experience

SOLUTION

Fujitsu introduced an innovative IoT solution for manufacturing and logistics called UBIQUITOUSWARE. The high-precision real-time locating system (RTLS), based on Quuppa technology, automatically detects and analyses the real-time movements of workers.

UBIQUITOUSWARE was implemented in a large warehouse of approximately 7,000m² in Ono City that managing approximately 15,000 shipment orders per day. Around 12,000 types of mobile phone parts are stored and dozens of workers use carts to move back and forth in the warehouse. In addition, shelves have a four-tier structure which requires efficient aerial navigation. In order to cover the entire area, Locators connected by a LAN were installed in 8 sections around the warehouse and the workers in charge of mass-produced mobile phones wore trackable badges. The badge is small and light enough to be worn in a breast pocket and has a battery life of around 5 days. The solution provides:

- + Visualizations of inefficient workflows based on data analysis
- + Real-time and accurate automatic collection of each worker's movements
- + Analysis of flows using a production line simulator to optimize operations

RESULTS

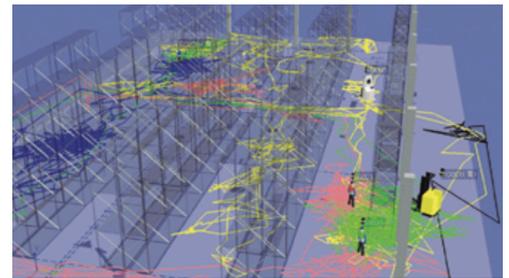
The project started in January 2016 and although it is still a work in progress, various results have already become visible. Above all, the fact that each worker's movements, which have been difficult to capture until now, can now be accurately monitored over time. This is a major achievement for the IoT RTLS solution. By displaying and visualizing the collected workflow data on the process planning tool "VPSGP4" and using 3D analysis, inefficient workflows and movement have become visible.

NEXT STEPS

With IoT, it is now possible to accurately capture the real-time movements of workers. Based on the results, production departments will be able to make more efficient manufacturing workflows in combination with automated analytics. Before, Fujitsu Peripherals found it difficult to understand and optimize the operations of each process, but through this solution they have finally brought a competitive solution to the market.

Fujitsu Peripherals is a manufacturer of computer peripherals. The company develops and manufactures display monitors, printers, laptops, mobile phones and other computer peripherals.

For more information, visit <https://www.fujitsu.com>



“Our company is aiming at international competitiveness in all aspects of manufacturing including cost and speed, while centering on automation of production technology.”

Susumu Fukasawa
General Manager
Fujitsu Peripherals Co.