ESI
Enterprise Sensor Integration

PROVIDING THE GATEWAY TO THE INTERNET OF THINGS

Combining multiple sensors, Tapestry ESI provides the infrastructure for the IoT across supply chain operations.

Proven to Handle Over 6 Billion Tag Reads Per Week

Tapestry ESI
Smart Sensor Integration Across the Enterprise

TAG, TRACK AND TRACE IT

Tapestry's Enterprise Sensor Integration (ESI) solution revolutionizes manufacturing and supply chain operations by intelligently connecting people, processes and data to improve visibility in the factory – and across the enterprise. ESI helps organizations control the chaos when faced with a growing number of disassociated sensor technologies that don't speak the same language.

ESI integrates a myriad of sensor technologies that track, monitor and control assets and workflow processes, providing the platform for the Internet of Things (IoT). It supports manufacturing, delivery and sustainment operations.

Unlike other IoT sensor solutions, ESI is a sensor-agnostic, cloud-based platform that can be implemented across a global enterprise. With ESI, supply chain visibility is not completely dependent on one manufacturer or sensor type. This ensures total asset visibility of equipment, tools, cargo and processes.

ESI connects sensors ranging from RFID position-information tags, passive and active GPS-enabled WiFi tags to embedded hardware and complex servers, both legacy and next generation systems.

With ESI, decision makers can see a complete picture of asset movements and inventory, anytime at anywhere, with a click of a button. By transforming real-time data into actionable information, Tapestry ESI provides unprecedented levels of efficiency and cost savings.

KEY BENEFITS

■ Standardization across the enterprise, enabling an IoT platform

■ Substantial cost savings with improved inventory control, and reduced asset misplacement & loss

■ Increased productivity with the reduction of manual inputs and decreased assembly time

■ Improved operational visibility with mapping applications

■ Enhanced situational awareness with real-time alerts

■ Improved safety with early detection of approaching vehicles

TAPESTRY SOLUTIONS™
A BOEING COMPANY

IMPROVE OPERATIONAL VISIBILITY

HARDWARE- AND SENSOR-AGNOSTIC

REAL-TIME ALERTS TO MANAGEMENT

ESI
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LEVERAGING TECHNOLOGIES DEVELOPED FOR BOEING

Tapestry ESI is based on technologies developed for The Boeing Company, the world's largest aerospace company. At Boeing, the core technology is known as AIT-IMS, an acronym for Automated Identification Technology - Information Management System.

Tapestry rolled out the technology at 50 Boeing assembly plants, including the Everett Factory in Washington state – the largest building in the world by volume, covering 98.7 acres. At the Boeing plants, seven different supply systems and five types of RF tags were integrated on a common platform. Now, thousands of users can view various maps, zones and corresponding assets, kits and assemblies on a single integrated site.

The technology tracks more than 2 billion tag reads per week at the assembly plants, significantly improving efficiency during the production process.

ESI has resulted in a projected savings of over $100 million annually at Boeing through decreased assembly time, automated asset receipt/payment, enhanced inventory management, and improved quality and safety.

As a result of the successful implementation at Boeing, Tapestry developed the commercially available ESI product line with expanded capabilities. Enhancements include a cloud-based platform and integration with temperature sensors, thermostats, pressure sensors and humidity sensors.

MAJOR COMPONENTS

- **The Users Application** is the core of the solution, assigning user roles, permissions and group assignments based on organizational or functional hierarchy relating to business processes.

- **The Asset Application** is a powerful tool for management. It tracks assets in motion using zones, events and mapping. This provides decision makers with total visibility of assets in relation to workflow requirements.

- **The Zone Management Application** improves situational awareness on the factory/warehouse floor. Users have the ability to create georeferenced shapes as a layer on a map, creating a zone or group of zones. The zone monitors workflows of the manufacturing and assembly area to generate actions and events as both passive and active RFID tags enter or exit the zone.

- **The Event Application** delivers information on whether or not workflows are on track based on zones and events. Triggers are activated; the selected actions are executed delivering critical information via email, XML, or SMS to alert changes in plan, state, status or workflow.

- **The Mapping Application** allows users to easily zoom, pan, and quickly move between views and floors to see asset locations. It provides a graphical view for users to depict assets, tags, zones and readers on the map. Users with correct privileges are able to create new building and floor plans as needed.

Manufacturing and Production Supply Chain Clarity

RFID INTEGRATION	MODEL
Motorola	XR400 Passive Reader, XR450 Passive Reader, FX9500 Passive Reader
Impinj	R640 X Portal with GPIO, R420 Passive Reader
Alien	9800 Passive Reader, 9900 Passive Reader
Zebra	Dart Vision Reader (DVR) Presence Detection Reader – Ultra Wide Band (UWB), Zebra Ultra Wide Band Hub
CISCO	Mobility Services Engine (MSE) integration for Wi-Fi Tag PLI and Presence data acquisition for AeroScout Wi-Fi and GPS-enabled Wi-Fi Tags

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