To make production leaner, more streamlined, and more effective, manufacturers are using real-time information to increase capacity, reduce downtime, and optimize cycle-time performance.

Wireless technologies, such as Bluetooth Low Energy (BLE) and Wi-Fi, help generate this real-time information, making it possible track equipment, inventory, people, or Work-in-Progress (WIP). Having detailed, accurate information about location helps manufacturing teams know what's happening, at any point in the process, and results in better decisions.

Building on this concept, Awarepoint, a proven leader in Real-Time Locating Systems (RTLS), offers Location as a Service (LaaS) as an integrated bundle of breakthrough technology, software, and managed services, so manufacturing sites can optimize their performance, maximize efficiency, and reduce cost.

Tailor-made for use in production environments, the Awarepoint system uses item tags that are hermetically sealed, protect against water and dust, and can be used with standard ultrasonic baths and autoclaves. Assets can be tracked across multiple locations, using a single interface, for company-wide visibility and resource management. The RTLS solution works with the site's in-place Wi-Fi network, and also integrates with existing Business Intelligence (BI) software applications, providing actionable intelligence for the entire manufacturing flow.

### Highlights of the BLE RTLS Platform

- Automated receiving, staging, assembly, and storage workflows
- Less time spent searching for material/equipment/people/tools
- Improved safety with real-time awareness of worker locations
- Increased equipment utilization, lower maintenance costs
- Fewer production cycles
- Better allocation of resources
- Reduced operating costs
Manufacturing Use Cases

Using the Awarepoint approach, physical objects become part of the corporate network, and can connect to people, places, and other items within the Internet of Things (IoT).

- **Optimized Processes and Workflow**
  On the manufacturing floor, production teams can eliminate bottlenecks as they arise, and operations personnel can evaluate efficiency on the fly. The gathered data, integrated with BI software applications, enables measurement against Lean and Just-In-Time (JIT) metrics, for deeper analysis. Production analysts can know, in an instant, what needs to change to meet the latest manufacturing goals.

- **Asset Management & Maintenance**
  Thousands of assets can be tracked, even in the most challenging environments. Precise boundaries or zones can be defined, with alerts sent whenever an asset or person enters or exits. Site personnel don't need to wear tags (their smartphones or tablets can provide tracking data), and assets can be allocated rapidly and exactly, for fewer misplaced items and less time spent searching. Current and historical views of maintenance records reduce equipment downtime and increase utilization. Managing rentals is simpler, too, with notifications for expiration dates.

- **Multiple Site Visibility**
  Manufacturing sites can use a federation of databases, for real-time asset tracking across multiple locations from a single user interface. Broad visibility makes it easier to manage resources, enhances company-wide communication, and reduces operating costs.

- **Environmental Monitoring**
  When the manufacturing process involves perishable items that need a stable environment, specially equipped environment tags can monitor the temperature of refrigerators and freezers, or can measure ambient humidity in warehouses or transport vehicles.

The Benefits of BLE

BLE is an exceptionally low-power version of the familiar Bluetooth protocol. BLE devices are small, inexpensive, and very efficient – running for months or even years on a single battery charge – and are optimized to interact with Wi-Fi networks, so there are no concerns about signal interference or compatibility. BLE has widespread industry support, in terms of business and consumer applications, and is a technology of choice for long-term use with smartphones, tablets, and wearables.

Requiring minimal IT overhead, the Awarepoint solution provides immediate insights into operational efficiency.

The Awarepoint Advantage

Awarepoint’s unique approach combines technology, software analytics, and managed services.

- **BLE/Wi-Fi Infrastructure**
  Awarepoint’s BLE Intelligent Beacons are configured and managed via Wi-Fi and, because they use a battery instead of an A/C power line or Ethernet cable, can be installed anywhere they’re needed, inside or out. Bluetooth-enabled mobile devices (equipment tags, tablets, smartphones) detect BLE beacon signals and transmit them, via Wi-Fi, to an onsite location engine that calculates position. Location processing and database updates can also happen in the cloud, or directly on a smartphone or tablet, for low-latency mobile applications.

- **Software & Analytics**
  Cloud-based software gathers location data and presents actionable intelligence in an intuitive analytics dashboard. Easy-to-configure reports provide the details necessary to visualize asset utilization in real time, identify trends, and formulate improvements.

- **Managed Services**
  Managed services offload onsite staff by providing all the necessary hardware and software support to keep the system running, from battery replacement to system monitoring, while professional services ensure high-quality delivery and maintenance of the Awarepoint solution. Manufacturers have a single point of accountability, and everything, from start to finish, including layout, configuration, installation, and ongoing support, is done by Awarepoint experts, to ensure success from day one.

Learn More

To learn more about BLE for RTLS and Awarepoint’s vision for the future of manufacturing, visit www.awarepoint.com.