

Mindtree ASSET+

*For comprehensive monitoring
and management of remote assets*



Mindtree

Welcome to possible



The Internet of Things (IoT) is one technology that is impacting and possibly transforming almost every industry segment. Smart connected "products" are becoming the field of play for competitive forces that can disrupt any established industry. For manufacturing organizations, IoT offers game-changing opportunities to enable greater control over operations, innovative approaches to market, and transform products to meet changing customer demands.

For organizations that have discrete or continuous manufacturing processes, or those that have equipment deployed in remote locations, data remains confined to only the shop floor or the remote location. This leads to silos between IT and operational technology (OT), hampering the agility of shop floor to react to changes in demand; and planning cycles to react to realities on the shop floor. It also deprives organizations the ability to:

- Use data in real-time
- Drive optimization
- Use aggregate data for analytics
- Drive predictive maintenance to reduce downtime

Today's Challenges

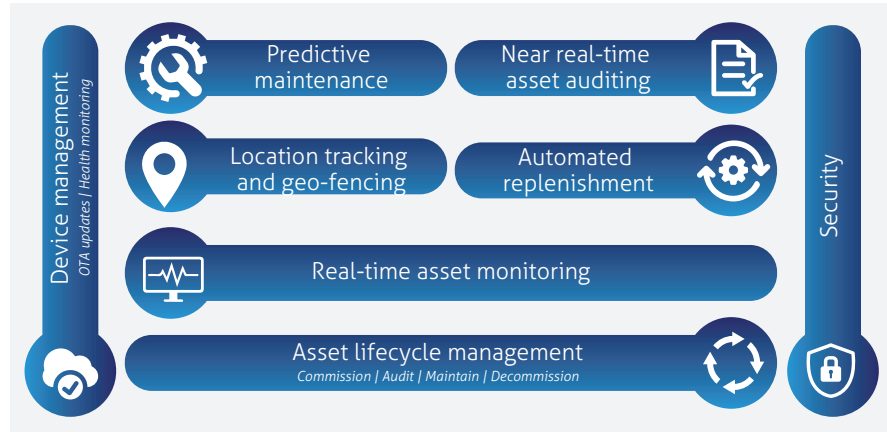
- Enterprise asset management (EAM) products only target lifecycle management
- Scheduled or reactive maintenance cycles lead to lower availability
- Data is not available for analysis to predict failures
- Alarms are based on simple threshold rules and restricted to a single line
- Lack of visibility across locations

Mindtree's Asset+ Solution

Mindtree's Asset+ solution enables comprehensive monitoring of remote assets, be it in factory lines or in remote locations. Asset+ is uniquely positioned to span both asset lifecycle management and asset monitoring. For asset management, Asset+ provides workflows for registration and approval of new assets, scheduling events, and decommissioning. For asset monitoring, Asset+ integrates with a multitude of industrial systems and presents data as intuitive dashboards. Asset+ boasts of a sophisticated stream processing engine which enables authoring of rich rules to take actions on breaches for one or more assets.

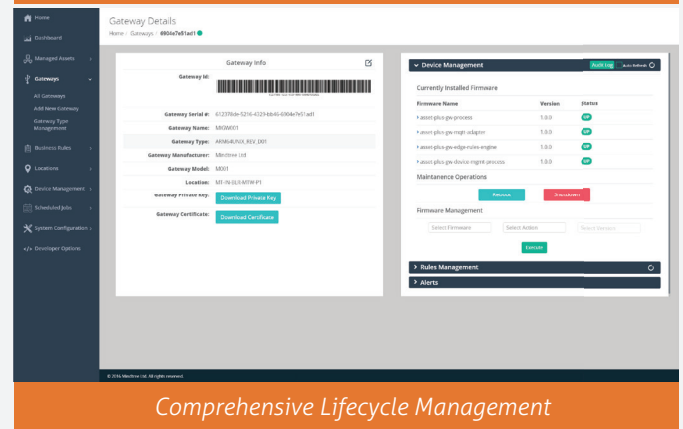
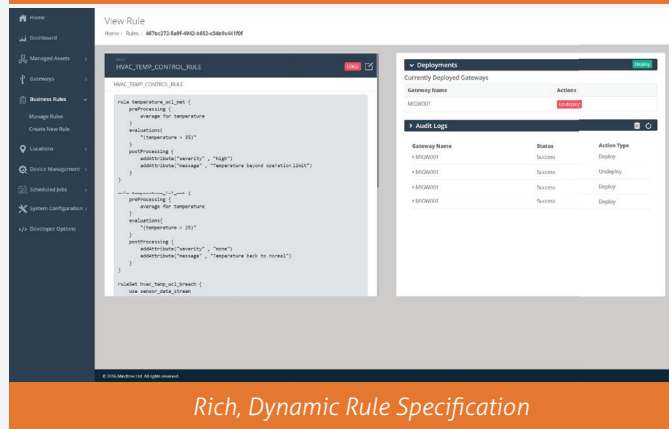
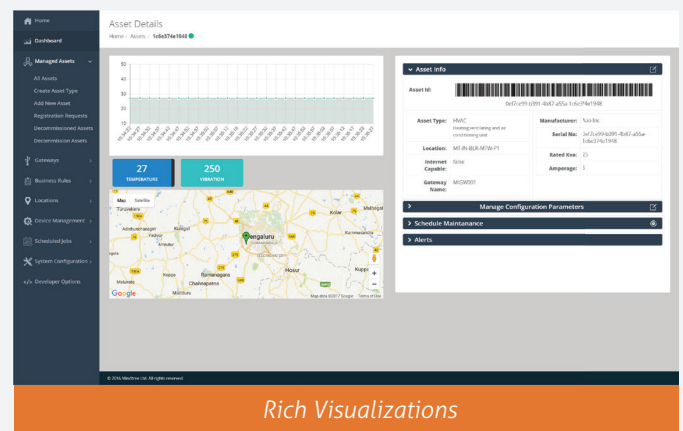
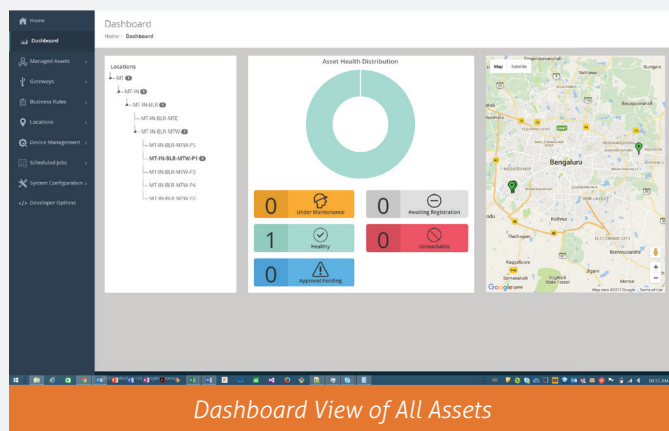
Asset+: Functional Map

- Rapid asset onboarding**
 Configure new assets, their attributes and rules, all through an intuitive UI
- Lifecycle management**
 Manage entire asset lifecycle - from commissioning to maintenance to decommissioning
- Rich dashboards**
 Get a bird's eye view of all assets and their current state, all in real-time
- Flexible location hierarchy**
 Align to the organization's hierarchy of locations
- Rich rules and actions**
 Define rules for one or more assets based on real-time sensor or location information, and actions to take in case of a breach
- Robust device management**
 Manage all devices remotely, including over-the-air firmware updates and device health monitoring



With these comprehensive features, Asset+ enables predictive maintenance of equipment, automated replenishment of parts, and thereby takes asset efficiency to a whole new level.

Asset+ Highlights



Asset+ Technology

■ Configurability of assets

Assets are directly configured in the solution, and support specification of any arbitrary set of sensors and attributes.

■ Intelligence on the edge

Mindtree Intelligent Gateway Platform (MIGP) is Mindtree's edge intelligence software stack that runs on Linux-based gateway devices. Coupled with MIGP, Asset+ brings stream processing and intelligence right to the edge, thereby enabling local actions and decreasing network latency.

■ Highly scalable on-cloud stream processing

Asset+ includes a highly scalable stream processing engine that enables processing and rule evaluation across a large number of assets in near-real-time.

■ Expressive domain specific language (DSL) for rules

Asset+ uses a very expressive DSL to author flexible rules that span multiple data sources – assets, data stores, and external data

■ Rich application programming interface (API)

Asset+ exposes all its capability through standard Representational State Transfer (ReST) API, to easily integrate with upstream and downstream systems

■ Heterogeneous communication support

Mindtree's Fusion Node, our telemetry aggregator device, enables aggregation and harmonizing of data from various sensors and protocols. Combined with the Fusion Node, Asset+ supports a wide variety of south-bound transports such as Wi-Fi, ZigBee, and BLE, and various protocols including industrial protocols such as Modbus. Asset+ also supports multiple north-bound transports such as Wi-Fi, cellular and Ethernet.

Technology Highlights

- Built on IBM Watson IoT platform
- Intelligence on Edge through on-edge stream processing, highly scalable on-cloud processing
- Rich API layer for integration
- Expressive rule DSL
- High security from edge to cloud
- Support for heterogeneous north-bound and south-bound integration
- Configurable to arbitrary asset types

Advantage Asset+

- Simplified commercial model (\$/asset/month)
- Rapid installation and configuration
- Improved efficiency through predictive maintenance
- Security at all levels: device to cloud
- Improved uptime of equipment with proactive maintenance of parts
- Simplified operations through unified dashboard and real-time alerts
- Highly configurable to handle multiple asset types world-over

Contact us

Asset+ enables rapid onboarding of existing assets to make them connected and smarter, thereby improving efficiency, uptime, and simplifying operations. Contact us today at Srinivas.Bhagavatula@mindtree.com to know more about Asset+ and to request a demo.



About Mindtree

Mindtree (NSE: MINDTREE) delivers technology services and accelerates growth for Global 1000 companies by solving complex business challenges with breakthrough technical innovations. Mindtree specializes in e-commerce, mobility, cloud enablement, digital transformation, business intelligence, data analytics, testing, infrastructure, EAI and ERP solutions. We are among the fastest growing technology firms globally with more than 200 clients and offices in 14 countries.