People are the most critical asset for enterprises, especially for organizations that require their staff to engage deeply with their customers. Enterprises need to ensure that their people are safe, comply with norms, and are at the right place to engage customers best. The Internet of Things (IoT) is a game changer that will drive both employee productivity, as well as enable high-touch customer interaction.

Organizations such as airports, hospitals, and hotels that require a large part of their workforce to be present in the premises lack visibility about:

- Where an employee is located. Access control systems at best state what floor or zone a person is in
- How the location of the employee is related to their work schedule, or tool register
- The nearest person/people who can be redeployed in the event of large customer influx that may result in long queues, disgruntled customers, and frayed tempers
- Where employees are in the event of a calamity, in relation to a hazardous condition

Lack of information of staff location, whether they have access to the right tools, and whether they are at the best place to serve customers leads to ad hoc/sub-optimal situational responses. In addition, these silos of data result in non-holistic or fragmented view, thereby precluding opportunities for optimization.

Today’s Challenges

- Access control systems only capture floor or zone location information
- Employee location is isolated, and not correlated to rosters, tool registers, or customer volumes
- There is no real-time visibility of where people are, in case of hazards
- People and assets are managed separately, so optimization in tune with external conditions is not possible.
Mindtree’s People+ Solution

Mindtree’s People+ solution enables accurate, real-time tracking of employees and assets within premises. It also includes roster and schedule management to correlate location with tasks. People+ correlates a range of information including:

- Employee and asset location
- Asset telemetry
- Schedules
- Ambient conditions such as temperature or presence of noxious gases

People+ comes built-in with an authoring tool that enables creation of regions of interest on a floor plan, and use them in rules. Rich visualizations such as heat maps and traversed paths enable rapid decision making. People+ incorporates a sophisticated stream processing engine which enables authoring of rich rules to take actions on many different types of situations such as unexpected crowding, dwell time breaches, zone violations, unexpected direction and speed of movement, among others. People+ can be also be used for tracking asset location and telemetry in shop floors and premises.

People+: Functional Map

- Rapid employee and asset onboarding
  Configure new employee roles and attributes, all through an intuitive UI
- Roster and schedule mapping
  Map employees to rosters, identify assets they need, and where they are to perform their work
- Interactive map and dashboard views
  Get a bird’s eye view of all employees, both on maps, and on actionable dashboards
- Rich rules and actions
  Define rules for employees, assets, ambient conditions, and their combinations, and specify actions
- Robust device management
  Manage all devices remotely, including over-the-air firmware updates

With these features, People+ enables optimal positioning of employees, ensuring that the right people are at the right place, at the right time, and are immediately aware of any hazards that may occur.
People+ Technology

People+ is built on Microsoft’s Azure IoT platform, and leverages its highly scalable PaaS services. People+ complies with Mindtree’s IoT reference architecture, and is architected to scale and to provide:

- **Configurability**
  Employee and asset types are directly configured in the solution, and support specification of any arbitrary set of roles and types.

- **Multi-mode location sensing**
  People+ supports multiple ways of location sensing: triangulation and magnetic field-sensing are presently supported; ultra-wide band, or inertial navigation will be added subsequently.

- **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, People+ brings stream processing and intelligence right to the edge, thereby enabling local actions and decreasing network latency.

- **Highly scalable on-cloud stream processing**
  People+ 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**
  People+ uses a very expressive DSL to author flexible rules that span multiple data sources including assets, data stores, and external data.

- **Rich application programming interface (API)**
  People+ exposes all its capability through standard Representational State Transfer (ReST) APIs, to easily integrate with upstream and downstream systems.

- **Heterogeneous communication support**
  People+ supports a wide variety of south-bound transports such as Wi-Fi, ZigBee, and BLE between nodes and gateway, and multiple north-bound transports such as Wi-Fi, cellular and Ethernet for gateway to cloud communication.

Advantage People+

- Employee efficiency improvement of 10%+
- Improved compliance to audits by 20%+
- Better responsiveness to hazards and other situations
- Simplified commercial model (less than $100/month/person, based on number of people and area of premises)
- Enables deep analytics for scenarios such as frequent paths and crowd prediction
- Simplified operations through unified dashboard and real-time alerts
- Highly configurable to handle multiple asset types world-over
- Accurate location sensing

Contact us

People+ enables real-time visibility into employee and asset location in-premises; with integration with rosters, schedules, and tool registers, it enables a highly connected, highly informed and responsive workforce, resulting in better situational responses.

Contact us today at IoT.Possibilities@mindtree.com to know more about People+ 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.