



A Smart, Secure and Connected Industrial World!

Industrial
Internet of Things
Solutions and
Services



happiest
minds

www.happiestminds.com/m2m

Happiest Minds believes that the Industrial Internet of things can be defined as “Connecting intelligent physical entities such as sensors, devices, machines and products to each other, to the Internet services and to applications. The Industrial IoT architecture builds on current and emerging technologies such as mobile, wired and wireless networks, the cloud, Big Data, Analytics and visualization tools. The industrial IoT emphasizes remote access to connected machines and other devices to enable transformative business improvements and efficiency. Intelligent connected products, in turn help improve performance and reduce downtime through remote diagnostics, trouble shooting and condition monitoring capabilities.

All these approaches are aimed at improving unplanned downtimes, improve productivity and enable all connected assets to function in a more effective manner. For today’s high

performing manufacturing firms, the ability to leverage this technology to improve profitability and revenue represents a challenge. Happiest Minds is here to help!

Happiest Minds works with all leading industry sectors such as Manufacturing, Automotive, Logistics and Transport, Consumer Goods and Energy & Utilities to help enhance their products and offerings alignment with the Internet of Things. We take pride in introducing the IoT ecosystem to a lot of companies and also have the capability to consult to help create the right solution to bring the benefits of IoT to your Organization. Our Services range from Designing Hardware devices, cloud enablement, mobility enablement, Engineering and Real Time Analytics and consulting to create end-to-end solutions. Our services also include managed Services via our SOC/NOC to ensure that the IoT infrastructure is up and running for the business.

Happiest Minds brings the ideal blend of technology expertise (to develop/enhance products in IoT chain), domain expertise (for vertical solutions) and consulting expertise (for creating the right solutions with the right partner ecosystem). Our ability to integrate these solutions with business processes makes us the idea partner for creating end to end solutions. Our Expertise can be broadly classified into 7 areas:



Consulting & Solution Development

- Business Solution with the right device and platforms to build a solution
- Solution development enabling right analytics, mobile access, security, deployment
- Integration of solution with business applications like SAP, SFDC etc.
- UX services based on the end user analysis

ISV / Platform

- Data Connectors to various mediums of communication
- Development and verification of scalability, reliability and performance of the platform
- Development of device deployment and management modules
- Enhancement of the platform to vertically focused markets
- Device monitoring and management

CSV / MNO / MVNO

- Build and maintain the IoT service enablement platform
- Build domain specific solutions (SaaS)
- Develop analytics on the usage patterns to come up with better IoT connectivity plans.
- Build and integrate platform components

OEMs / Device

- Device / Gateway hardware development / Re-engineering for low cost and low power consumption
- Device firmware development for local processing and analytics
- Server side / cloud platform development / integration via custom development or platform partnerships

Happiest Minds is committed to delivering a customer experience which is smart, connected and secure. This would allow delivering services for making our environment, living and organizations smarter than what they are. Below are areas of our scope of Industrial IoT engagement.



- Predictive Maintenance
- PaaS

- PLC connectivity
- Wireless LAN

- Tools
- People

- Inventory
- Finished product

- SoP/Guidelines
- Training

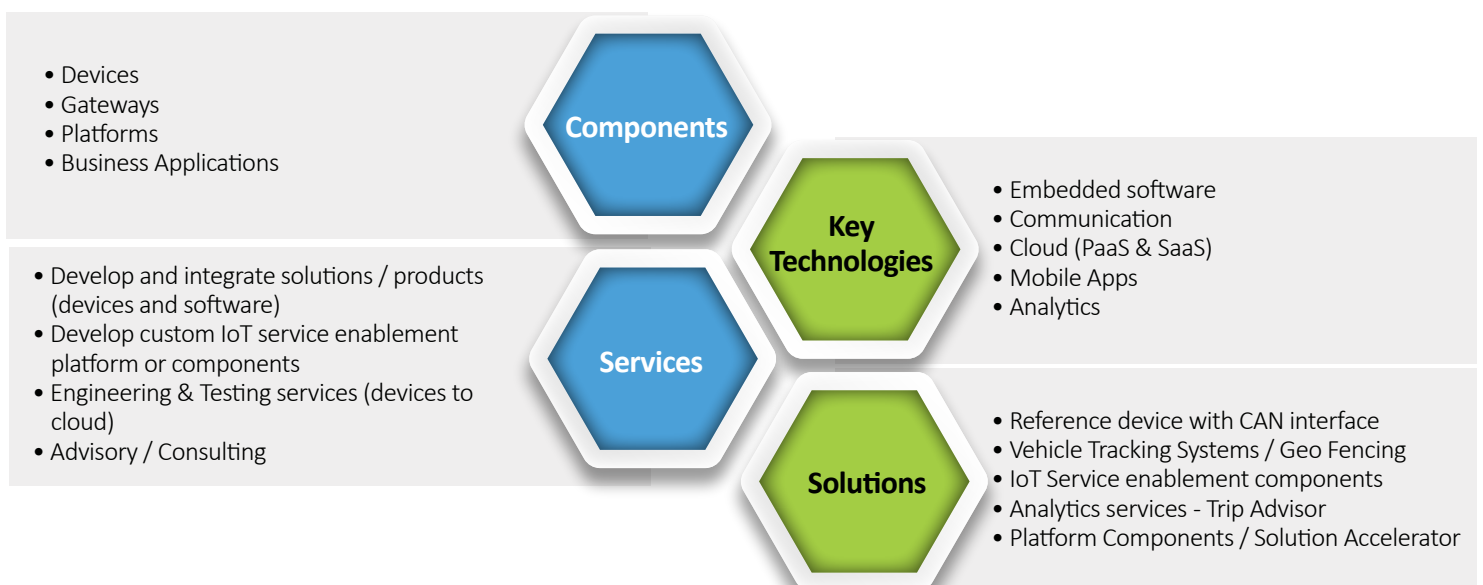
Microsoft Azure's IoT Suite

Happiest Minds leverages Microsoft's Azure IoT suite and Analytics capabilities to help organizations drive higher ROI. A fully managed Analytics suite that enables you to transform your data into intelligent action armed with Azure IoT suite, a cloud-based offering with preconfigured solutions. We offer our best services for your IoT scenarios to capture and analyze untapped data that will transform your business:

IoT Hub	Stream Analytics	Machine Learning	Notification Hubs	Power BI
Connect, monitor and control millions of assets	Real time data stream processing from millions of IoT devices	Powerful cloud based predictive analytics tool	A scalable Push notification engine for quickly sending messages	Transform data into rich visuals

Being a member of Microsoft's Azure IoT Red Carpet Program, Happiest Minds offers Azure IoT Suite and ensures that you take advantage of all the relevant Azure capabilities. Connect devices and other assets, capture the diverse and voluminous data and harness it for better decisions as well as intelligently automating operations.

Our area of Expertise in IoT!



Case Study: IoT Platform for a Manufacturing Conglomerate

Client

Leader in Chemical manufacture space, that provides software solution and service on chemical processing for various market segments.

Happiest Minds Scope

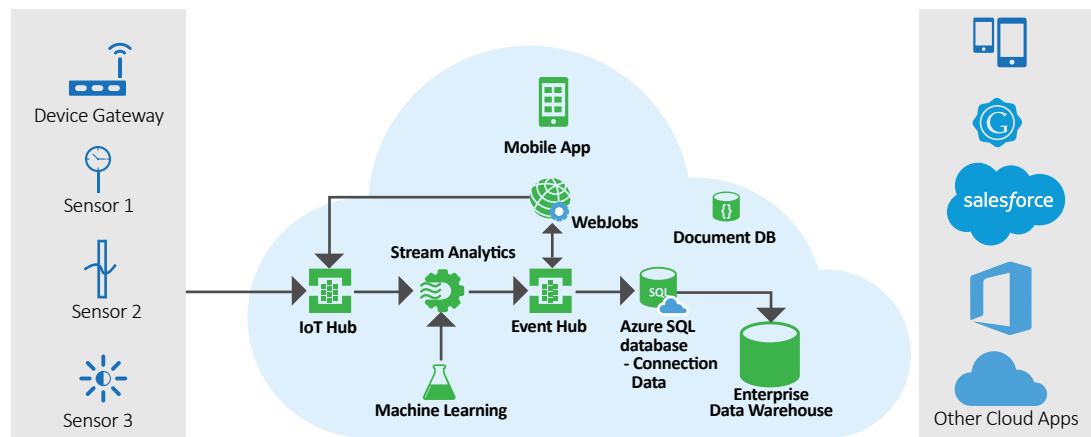
- Building platform to connect to various devices within industry.
- Design storage to collect streams of data coming from thousands of devices simultaneously
- Design and build services to share the data to external application and systems.
- Design and development of IoT Platform using IoT Suite of Azure
- Integration of devices over HTTPS protocol to collect the data
- Leverage Stream analytics and Data Factory to collect and transform data for storage.

Technology

- Azure IoT Suite, Stream Analytics, Data Factory, Data Catalog
- Blob Storage and Document DB
- Web API, C#

Client Situation

- Data to be collected from various proprietary devices within the industry.
- Data storage and analysis.
- Reporting of the analysis data and also sharing with various external applications and systems



End customer benefits

- The status of the solar panels can be monitored easily from any point of presence. The solution provides remote view of all parameters available in the system.
- Graphs and logs can give information about the state of the system.
- Proactive alarm notification by use of email and SMS.
- Remote monitoring reduces the equipment's downtime, outages and losses, and shortens the mean time to repair (MTTR).
- Reduces dependency on maintenance staff and third-party services, facilitating cost-effective operations at remote offices and branch locations.
- Enable enterprise to perform remote configuration without attending to the systems physically by maintenance personnel.

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