

Intellegion : Smart Manufacturing Platform



Provides broad range of capabilities for collecting, managing, and deriving intelligence from data provided by geo-distributed IoT devices



Challenges

- Collection of huge amount of data that are processed and provided by sensors, and other IoT devices in manufacturing enterprises
- Lack of skills to utilize vital information provided by IoT devices due to nuances in collection, aggregation and processing of huge data

Ideal Solution

- A cloud-based solution that can provide ease in collecting, managing and deriving business insights from the data provided by numerous IoT devices in the manufacturing industry.
- Domain – aware solution that can provide a range of descriptive diagnostic, predictive and prescriptive capabilities

Desired Outcomes

- Automation and operationalization of data collected by disparate and geo-distributed devices
- A reliable platform ensuring higher productivity and faster development cycles adding entirely new value to customers – experiences, opportunities and value



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Improve Operational efficiency by process automation

- Condition-based monitoring and automated energy efficiency decisions
- Enable a range of conveniences for customers of the future, who will anticipate networked devices and appliances

Decrease turnaround time dramatically

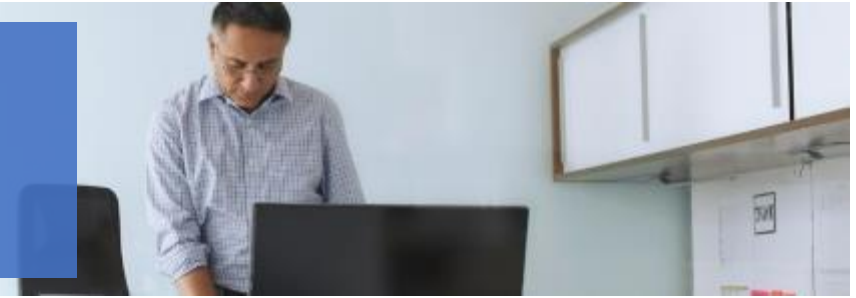
- Provision for automating shop floor operational optimizations –adjusting production and process
- Low latency performance to enable high capacity, high yield, low TAKT time shop floor operations

Eliminate human errors in manufacturing processes

- Functions as an application that could read, interpret, translate and convey instructions from customer to various appliances.
- Capabilities spanning computer vision, anomaly detection, time series novelty detection, etc.

Automation and operationalization of data collected by disparate and geo-distributed devices, providing provide a range of descriptive diagnostic, predictive and prescriptive capabilities

Intellegion with Microsoft Azure



Intellegion is a cloud based platform designed for manufacturing enterprises of the future. MS Azure provides various capabilities such as computer vision, anomaly detection, CNTK and so on which make the platform more efficient and smarter.

Solution Alignment

Intellegion+ Microsoft Azure

Scalable and fault tolerant cloud-based solution to collect and process data from geo-distributed IoT devices



Intellegion + Microsoft Azure

A smart platform to ingest data from diverse sensors and other data sources on and off the shop floor



Intellegion + Microsoft Azure

Bundled model serving architecture enables continuous delivery of ML and DL models ML for the identification of defective parts, defective or sub-optimal operation in processes, etc.



Customer Success Story : Tata Power Solar



Client is a leading Indian manufacturer that specializes in solar energy services and is known as first Indian company to ship over 1 GW solar modules worldwide.

Vertical : Manufacturing

Region : India

The client currently operates a human-intensive process for quality checks on its manufacturing line. Like many quality control processes, this process is time consuming quality checking process is also prone to error as it is human-intensive

An AI based solution comprising Microsoft-developed Resnet-50 network, combined with YOLO v3,,CNTK backend on Keras is implemented providing advanced image-centric deep learning algorithms to automate quality checks process.

Win Results

Improvement in the production throughput - The solution is approximated to reduce processing time least 30-50%

Better accuracy in defect classification of the panel compared to manual process.

Reduction of manpower at assembly lines for quality checks, resulting in deployment of manpower in core processes.