

A materials engineering firm embraces **Azure IoT Remote Monitoring Solution** to achieve operational excellence by making better decisions

Customer Profile:

A global leader in materials engineering solutions for the semiconductor, flat panel display and solar photovoltaic (PV) industries. Their expertise in modifying materials at atomic levels and on an industrial scale enables customers to transform possibilities into reality.

Business Situation:

The company was looking for a solution to get quick access to untapped data and automate the business process. They wanted to understand and analyze the data from a different perspective and take the required actions.

Key requirements included:

- Build an IoT based web application
- Design UI/UX to enable intuitive navigation and data presentation, which should be eye catching at the first glance itself.
- Form based authentication for AMAT users and vendors.
- Design highly scalable information architecture.

Solution:

WinWire developed a IoT Remote Monitoring Application which captures telemetric information from devices (pumps and compressors) using Azure IoT Hub. The data is pulled into Azure SQL Database using Stream Analytics jobs. The solution consisted of a web application developed using ASP.Net MVC through which Employees and Vendors get access to device specific information, set/receive alters and warnings on defined conditions.

The application consists of two dashboards, the main dashboard provides summarized information about the health of all the devices, and pump dashboard shows device specific parameters.

- Designed flexible architecture, which can accommodate ever expanding/changing organization need for the better data representation.
- Azure IoT hub to capture data from all the registered devices.
- Azure Stream Analytics jobs to pull data that is coming into the IoT Hub and transfer this data to specified storage.
- Blob storage to store all alarms set by end users in JSON format in a single file.
- The IoT web application allows the users to access data related to pumps and compressors

Technologies Used: Azure IoT, .ASP .NET MVC, JQuery, Google Charts



Benefits:

- Secure access to the data
- Better representation of data, which helped in better analysis/ decision making.
- Real Time metrics for all devices in the system
- Email and text based notifications for Alerts/Warnings on devices
- Scalable design

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