

# IoT and Analytics in Manufacturing

Abrasives specialist seeking understanding of product efficiencies and effectiveness

## Using BI to improve customer experience and investment

### OVERVIEW

A nearly century old manufacturing company builds, sells, and supports a broad number of mechanically precise grinding machines to the defense and transportation industries. Their individual machines each has the ability to capture a host of metrics regarding their operations, but were not able to analyze or report data.

### CHALLENGE

Because the equipment is oftentimes offsite, outside of the Client's direct control, the issue of remote access became apparent. Because of the amount of data, and frequency desired, the client required a shared access (Wi-Fi) type of connection into to a hosted environment, from which analytics could be performed. The ability to provision an environment quickly, that could also scale as needed, was also important. The client also was interested in leveraging Artificial Intelligence and Machine Learning capabilities in the near future.

### SOLUTION

Oakwood partnered with the Client to perform a rapid analysis of their existing environment and data requirements. We then designed an Azure-based, Internet of Things (IoT) platform, in which to capture and present the raw data feeds from their machinery. To create meaningful dashboards and reports, the Client leveraged the BI toolset – ultimately giving them insight and clarity as to the effectiveness of their engineering enhancements. The Client then built a secured client-facing portal to allow reports that gave personalized feedback on the effectiveness and efficiency of their customer's operations.

### PROFILE

Client is a large, specialty manufacturing company of industrial grinding equipment with the goal to provide excellence in service and provide products that exceed customer expectations.

### SUMMARY

#### Business Challenge:

Inability to understand, track, or predict effectiveness of their equipment and products.

#### Solution:

- Needs Analysis
- Architecture
- Azure Data Lake Solution
- Azure IoT solution
- BI Deployment for Dashboards and Reporting

#### Benefits:

- Immediate insight into equipment productivity and failure rates
- Improved customer service through analytics and customer-facing dashboards
- Client empowerment to manage their equipment through data