



CASE STUDY  
APPLICATION & CLOUD SERVICES

**INTERNET OF THINGS (IoT)**

## INTERNET OF THINGS (IoT)

Increase productivity through processing and analysis of manufacturing data

### PROJECT OBJECTIVES

Main goal of the IoT project is to deliver a cloud platform for storing, processing and analyzing manufacturing data. Portal should present live and cold data as well as Power BI reports, utilize previously created applications to deliver additional functionality to the portal without high effort implementation and support on premise solution with partial functionality as well. Portal enables the "inside' view into the cutting machine via 3D or augmented reality directly in the browser. Main goals for the project are:

- Highly scalable cloud solution based on Microsoft recommended services and technologies
- Modular and easily extensible solution with loosely coupled technical and business modules
- Cloud unification platform
- Visualization of the selected manufacturing process via 3D model or augmented reality in the browser
- Composite user interface with high customization capabilities
- Multilingual support of 19 languages

### CUSTOMER BENEFITS

IoT portal merges live manufacturing data directly displayed in the cloud portal with analytical preprocessed statistical data such as product utilization or remaining product life and the endless potential of Power-BI reports. Our client could realize tangible value and results in the following areas:

- Live streamed data processing in cloud and on premises solution with minimal delay and customizable data representation via widgets
- Manufacturing data analysis with artificial intelligence utilization used for remaining tool life calculation as well as potential breakages detection.
- Power-BI reports for advanced user experience and interactivity. This presentation brings easily extensible visual platform with a wide range of inbuilt controls and components.
- Azure Data Lakes for storing reporting data and Azure Machine Learning for advance analysis and data prediction with "..." defined models.

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## IPS EXPERTISE

IPS provided expert consulting, analytical and architectural work, solution design and development, graphic design, operation and maintenance.

## TECHNOLOGIES USED

- C#, XML, HTML
- JavaScript, TypeScript, Angular 4, Electron
- Azure IoT hub, Storage, Hubs
- Azure Service Fabric
- SOA, WebAPI,
- SSO, ADFS, Azure AD B2C
- Visual Studio, TFS, Git, PowerShell
- Microsoft Azure PaaS and SaaS

