SMARTIA

A new dimension in industrial intelligence

Empowering engineers to easily connect and transform industrial data into actionable insights and machine intelligence

SMARTIA

Helping Global Companies in
Manufacturing and Asset Management & Operations

AIRBUS

BAE SYSTEMS

NATIONAL COMPOSITES CENTRE

Airedale by MODINE

James Walker®

Rolls-Royce

METTIS AEROSPACE

HEINEKEN

SMARTIA

Addressing Business Critical Challenges

Energy Analytics

Understanding *ENERGY USAGE* across assets, products and services

Asset Utilisation

Measuring *ASSET UTILISATION* and *EFFICIENCY*

Monitoring

Monitor *REMOTE ASSETS* and improving service operations

Predictive

Predicting *ASSET FAILURE* and *QUALITY DRIFTS*

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Energy Analytics - Ultimate Performance Case Study
Reducing energy bills

Providing asset level real time electricity usage

- Manufacture high performance engine components
- Supplying the automotive market
- Using **Smartia Energy Analytics** to monitor electricity usage of their CNC machines
- **Identified savings of 30% on machines in regular use and almost 80% savings on machines that have sporadic usage**

Smartia Energy Analytics
powered by MAIO

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Predictive - Airedale Case Study
Smart Monitoring of Industrial Chillers

Reducing Failures on 1,000's of Industrial Chillers

- Part of Modine Group with $2B/year revenues
- Manufacture 4,000 of industrial chillers per year (£50,000 - £250,000 per unit)
- Supplying to data centre, healthcare, pharmaceuticals and retail markets
- Using **Smartia Predictive** to remotely monitor chillers and predict optimum maintenance cycles
- **Early refrigerant leak detection saving ~£5,000 per unit per year**

Airedale Cloud Diagnostics
powered by MAIO

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Predictive Failure Detection
Machine Learning Use Case

[Before]
Product failures leading to significant energy and material waste and in turn higher costs and environmental impact

[After]
Predict 90% failures before they occur saving over £100k per composite part and reducing energy and material waste

[The How]
1. Understand the autoclave composite curing process
2. Collect data from the machine and other relevant sources (Scheduling, Control Profiles etc…)
3. Develop a ML Classifier to predict failures before the process begins
4. Using a Neural Network, failures are predicted during the curing process and before the point of no return

"This specific project could save industry millions of pounds."

CEO Richard Oldfield

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Scrap Reduction
Machine Learning Use Case

[Before]
Yield underperformance of core production driving increased costs of £13m in 2019 and anticipated additional costs of £10m for 2020

[After]
Detecting scrap in the single grain crystallisation casting process using regression modelling and advanced analytics

[The How]
1. Understand the impact of the core dimensions and tolerances on the casting process
2. Collate data from all the core production and casting processes
3. Trend visualisation, correlation and regression analysis
4. Develop prediction models to indicate likelihood of scrappage occuring

Predicted scrap at early stages increased throughput to help meet delivery targets

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