🖬 quantiphi Solving What Matters

Manufacturing

Upgrade to Industry 4.0 and Increase the Speed of Innovation across your Organization

Make faster decisions, reduce manual effort, avoid human error, improve operational efficiencies, and increase profits across the Manufacturing value chain through data-driven AI solutions.

Quantiphi's Data + AI expertise helps manufacturers tackle their business and technical challenges across the value chain, leading them into a sustainable and profitable future.



Production

- Automated Quality Assurance
- Predictive Maintenance using IOT Data
- Manpower Planning
- Virtual Testing Software
- Speech based machine controllers
- Smart Assembly Lines
- Machinery Life
 - Cycle Optimization

Distribution

- Fleet Inventory Optimization
- Fleet Shuttle Routing
- Demand Forecasting
- Virtual Agent Assist
- Route Optimization



Sourcing & Procurement

- Supplier Query Chatbot • • Inventory Management Automation
- Demand & Supply
- Analytics • Vendor Analytics
- SLA Analysis
- Automated Invoice Processing
- Contract Management



MANUFACTURING VALUE CHAIN

Marketing & Sales

- Marketing Effectiveness Model
- Customer Sentiment Analysis
- Targeted Marketing
- Sales Forecasting
- Virtual Agent Assist
- Pricing Analytics
- Personalized Targeting





Post Sales Service

- Predictive Maintenance
- Warranty Claims & Analytics
- Customer Query Redressal Chatbot
- Virtual Agent Assist
- Optimize spare parts inventory mix
- Sentiment Analytics

Aftermarket Sales

- • Product Recommendation
- Cross-selling
- Upselling
- Personalized Targeting
- Pricing Elasticity

- Predictive Analytics
 Document Understanding
- Conversational Solutions
 Computer Vision



REAL WORLD RESULTS: CASE STUDIES

Engine Defect Detection

A global automotive manufacturer wanted to augment their plant's capabilities with a reliable and scalable quality inspection solution powered by machine learning models

Solution

Developed a custom computer vision model to provide real-time pass/fail decision for defect detection of the engine casing on the assembly line, with an active learning pipeline for quality inspectors to label sample datasets for incremental improvement of the model performance over time

Business Impact

- O Faster Inspection Process
- O Reduced Manual Effort
- Improved model accuracy score from 50% to 95%

Predictive Maintenance

An American multinational energy corporation wanted to reduce the high costs and facility downtime in their oil rigs attributed to malfunctioning equipment

Solution

Built a data pipeline from client's on-prem to cloud that routes telemetry data to APIs, datastores, and visualization platforms in order to accurately predict when compressor failures will occur

Business Impact

- Near real-time ingestion of telemetry data to GCP
- O Minimized facility downtime
- O Save real dollars and time
- O Ensure the safety of operators

Virtual Screening for Material Design

A material science and specialized engineering company wanted to reduce the R&D cost of testing brake and shock absorption technology, which typically ran for an average of 12 hours

Solution

Developed a virtual testing solution that enables chemical formulators to design materials on the desktop and run confirmatory tests only for the most promising material compositions; allowing preemptive screening of suboptimal brake pads and identification of optimal designs

Business Impact

- O Potential Annual Savings: \$2M USD
- O Time saved per test: 12 Hours
- 80% accuracy of the solution

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Warehouse Inventory Count Automation

The movement of Stock Keeping Units (SKUs) from the warehouse and into trucks is often prone to errors due to manual dependency on scanning the labels; impacting shipment fulfillment that may result in loss of material, poor productivity, and compromised customer satisfaction

Solution

Quantiphi developed a custom computer vision framework for validating order and shipment accuracy via automated tracking and flagging of incorrect shipments; reporting results on a web user interface in the form of alerts for quick corrective action

Business Impact

- O Avoid shortfall in warehouse inventory
- O Maintain customer satisfaction
- O Create proof of shipments
- O Save time & money spent on wrong shipments

Quantiphi is an award-winning applied AI and data science software and services company driven by the desire to solve transformational problems at the heart of business. Quantiphi solves the toughest and complex business problems by combining deep industry experience, disciplined cloud and data engineering practices, and cutting-edge artificial intelligence research to achieve quantifiable business impact at unprecedented speed

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