



# Manufacturing IP

Creating Resilient Supply Chains, Innovation,  
Agile Factories, Smart Products, Operational  
Efficiency & Customer Engagement

# About Concurrency

- Concurrency is an organization of Change Agents. Inspired technologists who create value, challenge the status quo and deliver business outcomes. Concurrency specializes in Cloud, Data & AI, Modern Apps and Secure Modern Workplace.
- Concurrency helps manufacturers leverage technology to increase revenue and profits. It was named the 2020 Microsoft US Partner - Manufacturing Industry and a 2020 Microsoft Partner of the Year Global Finalist - AI & Machine Learning and Diversity & Inclusion Changemaker for helping manufacturers improve efficiency, drive innovation and create scalable, resilient supply chains.
- Concurrency is a Microsoft Gold Partner, multiple-time Microsoft Partner of the Year winner, and ServiceNow Elite Partner.
- Founded in 1989, Concurrency is headquartered in Brookfield, WI with additional offices in Chicago, IL and Minneapolis, MN. It was recently named to Inc. 5000's Fastest Growing Private Companies in America list for the fifth time.



# Concurrency Manufacturing IP

- Concurrency has developed the following Manufacturing IP Solutions to maximize the impact of your technology investments:

Demand & Inventory Forecasting • Inventory Location & Shipping Optimization • Small Customer Demand Prediction • Flash Quoting with Intelligent Agent • Flash Quote Bot Framework • Predictive Maintenance Manufacturing Framework • Product Picking AI • Product IoT Framework • Product Catalog and Customer Usage

- Each offering includes a simple path to execution:

Project Kickoff Workshop → Pilot Project → Project Implementation



# Business Outcomes & ROI



## Create a More Resilient Supply Chain

Azure Machine Learning and Kubernetes Services, Databricks and Power BI can help you better predict demand, improve forecast accuracy and optimize inventory levels and location.  
ROI: Lower inventory costs, reduced shipping costs.



## Build More Agile Factories

Azure Machine Learning, Kubernetes Services, IoT, Synapse and Bot Framework can help you transform product picking operations and optimize predictive maintenance.  
ROI: Reduced manufacturing costs/hour, maintenance costs and production downtime.



## Engage Customers in New Ways

Azure Machine Learning, Kubernetes Services, Synapse and Bot Framework can help you improve how and the speed at which you engage customers from the point of inquiry to delivery.  
ROI: Increased revenue due to improved responsiveness and customer service.



## Unlock Innovation and Develop New Services

Azure IoT, Sphere, Synapse and Machine Learning provide better information to identify innovations and surface "smart" product opportunities to increase market share or help you enter new markets.  
ROI: Price increases as smart products command price premium and sales lift from product innovations.



# Manufacturing IP

Project Showcases



# Global Manufacturer Increases Forecast Accuracy with AI & ML

# Global Manufacturer Increases Forecast Accuracy and Gains Competitive Advantage with AI & Machine Learning

## Challenge

- Global manufacturer generates a monthly sales forecast to manage operations at its seven distribution centers using a manual, time-intensive process.
- It uses a combination of ERP tools and Excel to set data up for computation analysis followed by **18 hours to generate the forecast.**

## Concurrency Manufacturing IP Solution

- Concurrency leveraged the manufacturer's historical data, machine learning and predictive analytics to develop a forecasting model.
- During the evaluation phase, Concurrency's forecast model was proven to be more accurate when compared to the manufacturer's prior monthly forecasts and actuals.
- Solution leverages Microsoft's flexible machine learning platform, giving the company the flexibility to run it either in SQL Server or as an Azure cloud service.

## Microsoft Technologies

- Azure Machine Learning
- Azure Kubernetes Services
- Azure Synapse
- Databricks
- Power BI

## Return on Investment

- The manufacturer leveraged AI and machine learning to create a more resilient supply chain.
- It reduced forecast development time **from 18 hours to 10 minutes.**
- It **increased forecast accuracy by 44%.**





# Global Manufacturer Gains Competitive Advantage with NLP



# Global Manufacturer Gains Competitive Advantage in Highly Competitive Industry with Natural Language Processing

## Challenge

- Manufacturer seeks competitive advantage in highly competitive industry by reducing the amount of time it takes to provide a sales quote.
- The company stocks over 100,000 skus and receives a request for quote every 4.5 minutes. Reducing the amount of time required to provide a quote will positively impact its sales conversions.

## Concurrency Manufacturing IP Solution

- Concurrency leveraged its AI and text analytics expertise to create a natural language processing (NLP) model, adding functionality to process incoming emails in real-time.
- Outlook integration supports real-time integration with AI/NLP models and provides salespeople with product SKU links to existing ERP quoting tools.
- NLP model leverages Azure infrastructure including Azure Functions, Logic Apps, Service Bus, SQL and AKS to support live, real-time parsing of incoming quote emails.

## Microsoft Technologies

- Azure Machine Learning and Text Analytics
- Azure Text Analytics
- Microsoft DevOps
- Azure Databricks
- Spark NLP
- Azure Kubernetes

## Return on Investment

- 1-2% sales uplift
- \$40-\$80m in revenue
- Manufacturer increased the speed of its time to quote within its sales process, positioning its 600+ person sales team to provide more timely, accurate customer responses.





# Global Manufacturer Disrupts Marketplace with Product Modernization & Cloud Transformation

# Global Manufacturer Disrupts Marketplace and Gains Competitive Advantage with Product Modernization and Cloud Transformation

## Challenge

- Global manufacturer sought to build a stronger connection with the end consumer given it sells its products through a distribution network.
- This organization recognized an opportunity to create ongoing relationships with its end consumer to increase engagement and create additional revenue streams.

## Concurrency Manufacturing IP Solution

- Concurrency leveraged Azure Kubernetes, IoT hub and App Insights to enable a connected consumer experience.
- These efforts expanded the non product-based customer experience to enhance the in-use product customer experience.

## Microsoft Technologies

- Azure Kubernetes Services
- Azure IoT hub
- App Insights

## Return on Investment

- Created a direct-to-consumer channel.
- Business preparedness to insulate against unfavorable market conditions.
- Established consumer parts channel and ownership relationship.
- Additional benefit to channel partners through value add.

