

Microchip Embraces **Digital Transformation** for Enhanced **Competitiveness & Operational Efficiencies**

D365 Business Central | D365 Sales | D365 Customer Insights | Power BI | Cosmo DB

Business Overview

Microchip USA Inc. (Microchip) is a premier independent distributor of board-level electronics, specializing in sourcing of hard-to-find, obsolete, and back-ordered electronic components, including chips and integrated circuits. Serving industries across gaming, AI, automotive, and cryptocurrency sectors, the company sources products from leading manufacturers like AMD, Intel, Texas Instruments, NXP, and Xilinx.

Microchip has built a strong supplier network across geographies, ensuring a reliable and responsive supply chain. However, to unlock growth opportunities in a rapidly evolving digital-first environment, the company needed to overcome operational bottlenecks and scalability issues posed by legacy systems.

Business Challenges

The leadership at Microchip recognized that a robust, technology-driven platform was essential to achieve its vision for accelerated business growth. Key challenges included:

Scalability for Growth: The company aimed to scale its operations to support tens of millions of SKUs, a leap from the current portfolio of hundreds of thousands.

Responsiveness to Macro Changes: Post-pandemic supply chain dynamics and opportunities emerging from AI, gaming, and Bitcoin-driven growth required faster adaptability.

Customer Responsiveness: Rapid response times were critical, as customers typically approached Microchip only after exhausting traditional channels.

Unlocking New Growth Channels: Diversification from an RFQ-based business model to an eCommerce-driven approach was crucial to tap into new revenue streams.

Legacy Systems Limitations: Existing siloed systems for Sales, Marketing, Vendor Management, Finance, and Supply Chain lacked integration, relied heavily on manual processes, and hindered scaling due to performance degradation from excessive customizations.

Alletec's Approach and Solution

Alletec, leveraging its extensive consulting experience, collaborated with Microchip to design and deliver a comprehensive digital transformation roadmap. The roadmap focused on **modern architecture**, **seamless integrations**, **scalability**, and **automation** to drive efficiency and growth. The cornerstone of this solution was the **Full-Stack Microsoft Platform** combined with custom-built applications.

Solution Architecture

The architecture was designed to ensure scalability, high performance, and seamless data flow between components. The key solution components included:



Dynamics 365 Business Central (Core ERP):

- **Finance Management:** Automates financial reporting, general ledger, accounts payable/receivable, and cash flow management.
- **Inventory and Purchasing:** Enables precise inventory tracking, vendor collaboration, and procurement automation.
- **Sales Management:** Simplifies quote-to-order processes and ensures accurate order fulfillment.



Dynamics 365 Sales (CRM):

- Streamlined the RFQ process by enabling automated vendor bids and efficient quote generation.
- Integrated with a **Vendor Portal** to allow suppliers to submit bids and receive order information seamlessly.



Dynamics 365 Customer Insights (Marketing):

- Provided advanced tools for **customer segmentation**, campaign management, lead tracking, and customer journey mapping.
- Enabled personalized outreach strategies to drive engagement and optimize marketing ROI.

eCommerce Platform:

- Developed a modern, high-performance eCommerce platform to support millions of SKUs.
- Built using **NextJS**, **.NET**, **SQL Azure**, **Payload CMS**, and **Cosmos DB**, ensuring seamless integration with backend systems for real-time inventory updates and order processing.

Vendor Portal:

- A self-service portal for vendors, fully integrated with D365 Business Central and D365 Sales.
- Built using the **.NET Framework**, **Code on Time**, **SQL Azure/Server**, and **REST APIs** for real-time communication and data exchange.

Data Analytics and AI Integration:

- Integrated **Microsoft Power BI** for real-time dashboards and actionable insights.
- Leveraged **AI-driven analytics** to enable data-backed decision-making, demand forecasting, and vendor performance evaluation.

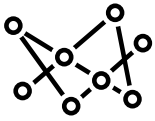
Impact and Results

The implementation of the Microsoft Full-Stack platform and custom-built solutions resulted in significant transformation across Microchip's business processes:



Scalability and Business Growth:

- The new digital platform enabled Microchip to scale operations and offer **tens of millions of SKUs** without performance degradation.
- The robust eCommerce platform created a new revenue channel, driving **significant business expansion**.



Seamless Connectivity Across Systems:

- Integrated systems ensured a **single source of truth**, enabling seamless data flow and process automation across departments—Finance, Sales, Inventory, and Vendor Management.
- Reduced manual interventions increased operational efficiency and allowed teams to focus on strategic tasks.



Improved Customer and Vendor Responsiveness:

- The self-service **Vendor Portal** streamlined RFQs, automated bid management, and enabled vendors to track orders and payments in real-time.
- Faster turnaround on customer RFQs improved customer satisfaction and strengthened Microchip's competitive edge.



Data-Driven Decision Making:

- Actionable insights powered by **Power BI** and AI analytics enabled Microchip to quickly respond to market changes, such as onboarding new product lines and expanding supplier networks.
- Predictive analytics enhanced demand forecasting and inventory optimization, reducing stock-outs and excess inventory.



Enhanced Customer Experience:

- The eCommerce platform provided customers with **real-time inventory visibility, automated order confirmations**, and a **seamless procurement experience**.
- Personalized marketing campaigns, powered by **Dynamics 365 Customer Insights**, improved customer engagement and loyalty.



Alletec's Role in Driving Digital Transformation

Alletec played a pivotal role throughout Microchip's digital transformation journey, showcasing its ability to:

- **Consult and Strategize:** Collaborated with Microchip's leadership to define a holistic **digital transformation roadmap** aligned with business goals.
- **Architect and Design:** Developed a robust and scalable architecture leveraging Microsoft's modern technology stack.
- **Identify Right Solutions:** Integrated Microsoft Dynamics 365, AI, and custom-built components to address unique business challenges.
- **Build and Deliver:** Implemented, customized, and deployed the solution, ensuring seamless integration and minimal disruption.
- **Ensure ROI Realization:** Delivered measurable outcomes, including revenue growth, improved efficiency, and enhanced customer and vendor satisfaction.

The successful deployment of a Full-Stack Microsoft Platform is enabling Microchip USA to be ready to **achieve envisioned scalability, agility, and customer responsiveness**. By replacing legacy systems with modern, integrated solutions, Microchip can now seamlessly adapt to market dynamics, unlock new growth channels, and solidify its competitive position in the electronics distribution industry.

Alletec's expertise in consulting, architecture design, and technology implementation has positioned Microchip for sustainable digital transformation, empowering the company to thrive in a **fast-paced, technology-driven market**.

Alletec played an important role in our digital transformation. They designed a solution, built on the One Microsoft Platform, that effectively addressed our needs across Customer and Vendor Portals, Finance, Supply Chain, Sales, Marketing, and Analytics. This partnership has enabled us to scale inventory, foster innovation, and quickly respond to business requirements.

Neil Marr - Director of Technology, Microchip USA

USA

5605 North MacArthur Blvd.,
Ste 1000, Irving, Texas 75038

Canada

181 Bay Street, #1800,
Toronto, Ontario, M5J 2T9

Kenya

The Westwood, Vale Close off
Ring Road Westlands, Nairobi

India

A-1, Sector - 58
Noida - 201 301



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