Consolidating ERP Across Multiple Business Models

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Microsoft Dynamics Results Case Study

KUKA Systems North America faced the challenge of a growing company spanning multiple industries that sometimes experience economic downturns. The company seized on the situation as an opportunity to upgrade its ERP system and manufacturing processes. As a result of adapting processes and deploying Microsoft Dynamics AX, KUKA Systems today has grown into a much stronger company.

Results

* Consolidated three business models into single ERP system
* Localized ERP in five different countries
* Reduced ERP total cost of ownership by 40 percent
* Facilitated balancing of production workloads

Industry

Manufacturing

Country or Region

United States

Customer Size

3,500 employees

Number of Users

300

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*“Microsoft Dynamics AX helps us take on challenging economic conditions while giving us the agility to continue our innovative business practices and drive down the total cost of ERP.”*

*Michael Fera, Director of IT, KUKA System North America*

Servicing the automotive, aerospace, alternative energy, and manufacturing industries, KUKA Systems North America is a leading worldwide supplier of assembly and welding systems in addition to other related machinery. The company is part of the European-based KUKA Systems Group, which employs approximately 3,500 people in more than 15 countries.

# Unified ERP That Enables Localization

In 2005, as KUKA Systems North America began a growth surge, Director of IT Michael Fera realized the time had arrived to deploy a robust, enterprise resource planning (ERP) system. “The company had already grown very large in Europe, but we were just starting to grow here in the Americas,” Fera says. “Knowing we would also face economic downturns at certain times, we could not continue to rely on spreadsheets to fill the gaps of our three disparate ERP systems. And with a relatively small IT team, we also needed to stay lean. Low total-cost-of-ownership was our primary objective.”

At that time, KUKA Systems North America operated as a set of three companies, each with isolated ERP systems and different business models. The companies also served a range of markets, which presented a challenge in finding a single ERP solution that could meet the needs of each. For example, in Ohio, KUKA manufactures Jeep Wranglers and follows a process-manufacturing model not typically associated with automotive manufacturing; while KUKA’s other subsidiaries include an engineer-to-order business and a sales-and-service model within a spare parts and robot-service company.

Adding to Fera’s challenge was the geographic distribution of the KUKA plants. The new ERP system would need to support seven locations in the United States, along with facilities in Mexico and Brazil, and plants in India and China. “In addition to the nuances of each different business model, we needed to account for the localization requirements of each country and each region within each country,” Fera says. “We also needed to address language and cultural issues as well as the different government regulations and currencies of each country.”

# The Key Factor: Open Standards

Michael Fera

Michael Fera,

Director of IT

KUKA Systems North America

A Detroit-area native, Michael Fera has been a part of the automotive industry for more than 15 years since joining KUKA Systems North America in 1997. As Director of IT Fera oversees the company’s infrastructure and application development in the US, Brazil and Mexico while also managing IT for business units in China and India. He graduated from Central Michigan University with a B.A. in Business Administration, Finance and Economics.

“We now deliver information in real time to senior managers through custom pop-up dashboards and emails so they can identify trends. This capability is key—when it comes to finding the agility sweet spot, it’s all about identifying the trends behind the KPIs to gain a clear view into how well our overall strategy is working.”

As Fera searched for a new enterprise-class ERP solution, Microsoft Dynamics AX surfaced as the best possible solution. “We selected Microsoft Dynamics AX primarily because of the solution’s reliance on open standards and lower TCO model,” says Fera.

Fera also felt that the development model used by Microsoft Dynamics AX would make it easier to find programmers with the necessary skills. “Conversely, many other ERP platforms require specialized programming resources, which can be more expensive,” Fera adds. “Because of this, we knew Microsoft Dynamics AX would offer a much lower TCO.”

Fera adds that open standards also made it easier to integrate Microsoft Dynamics AX with KUKA’s existing systems. This was important, because KUKA had already deployed several other business systems (including project management software and a time-keeping application) that would have presented integration challenges with other, less open systems.

## Ad Hoc Report Generation Proves Easy for Non-Technical Employees

Other key features also played a role in the KUKA decision. For example, non-technical employees can easily create ad hoc reports. Fera’s staff simply provides initial training on how to leverage Microsoft Dynamics AX so programmers don’t have to keep assisting employees in generating reports.

“Not only can we now capture data effectively, but we can also easily mine the information,” Fera says. “Providing strong capabilities in both data capture and data presentation is not a common combination among most ERP solutions, but Microsoft Dynamics AX does the job well in both areas.”

# Project Planning Plays Vital Role

In addition to selecting Microsoft Dynamics AX as the technology foundation for the consolidated KUKA Systems ERP platform, Fera also created an extensive project plan to ensure the success of the deployment. The plan included mapping the processes of each company and identifying those that the three companies execute in the same way and those they execute differently. Along the way, the team developed strategies for lowering costs and increasing agility so each KUKA company could adapt to changing markets.

One of the key attributes of Microsoft Dynamics AX that KUKA leveraged during deployment is the layered-code model. Process-specific customizations and localizations are implemented in layers above the core ERP functionality, and can be updated or even rolled back to previous versions without impacting core business logic.

“Segmenting the base code developed by Microsoft from the custom code applied by our system integrator partners and our internal development team gives us the ability to localize ERP for each business unit and each region, but still maintain the same base system across the entire company,” Fera explains. “This approach significantly reduces the time and the cost to implement the ERP system in a new business unit or region.”

# Lean IT Team Supports Multi-Country ERP Deployment

KUKA most recently deployed Microsoft Dynamics AX with the assistance of Microsoft solution provider Columbus at the KUKA automotive assembly plant in Ohio, where KUKA designs and builds production and prototype assembly lines for major automotive OEMs. “We have collaborated with Columbus ERP experts for many years because of how well they understand our business models,” Fera says. “For our operations in Ohio, we now efficiently share information between engineering and manufacturing while also collaborating more effectively with customers. This ultimately allows us to focus more resources on bottom-line growth.”

With Microsoft Dynamics AX now deployed at all seven US locations in addition to the plants in Mexico, Brazil, China, and India, Fera requires a support team of just four full-time programmers and administrators. “Over time, with the help of Columbus, we have become very self-sufficient,” Fera explains. “The open standards of Microsoft Dynamics AX make the technology very easy to support, and when we deploy upgrades, the process flows smoothly.”

Since deploying the new ERP solution across all of the IT operations he oversees, Fera has given the company the ability to access a “single version of the truth” when it comes to analyzing business KPIs. Three-hundred KUKA project managers, engineers, and controllers can now more easily access project cost data, task reports, delivery schedules, and other vital information.

# TCO Down 40 Percent… and Counting

Fera particularly appreciates how lean he can keep his ERP support team because of the Microsoft Dynamics AX layered-code model. “It’s just like a pizza,” Fera says. “The solution has base components—the dough and sauce—we can’t touch. But if we need customization, we add different cheeses and toppings. With a layered system, we can basically roll one system out to the entire company with the flexibility to make local changes on a different layer. In addition to the flexibility this gives us, the approach is also much easier and cost-effective to support.”

Now that KUKA has deployed Microsoft Dynamics AX throughout North America and operations in other countries, Fera estimates that consolidating the three ERP systems results in an overall reduction in TCO of 40 percent—even better, in some locations. Fera explains, “The Toledo plant, for example, has reduced TCO by approximately 70 percent.”

Fera underscores two additional, key results: how easily his team can add each company and regional facility to the existing ERP system, and the solution’s ability to support multiple languages and currencies. “We value the familiar Microsoft Windows interface,” Fera adds. “This streamlines how fast employees adapt to the technology and contributes to how easily we can customize for each business and region.”

## Synchronized Global Processes Enable Production Load Balancing

KUKA has enhanced specific business functions, eliminating duplicate bills of material, simplifying definitions of finished goods, and making it easier to track project round-trip data—from proposals to production, billing, and payment receipt. “By synchronizing many global processes, we also created economies of scale,” Fera says. “In some cases, we identified opportunities to balance manufacturing workloads. Our automotive and aerospace companies can actually help each other by sharing production when one plant is underutilized and the other is over-utilized.”

Fera says KUKA has also eliminated a lot of “money left on the table” by generating more accurate information about why a proposal succeeded or failed and formalizing the process for the company’s global engineering change notices. KUKA also continues to customize Microsoft Dynamics AX when needed to help analyze any required KPIs.

“For example, we can now identify the percentage of receipts that have not been invoiced, the percentage of material orders that have arrived on time, and the resource utilization rates on our shop floors,” Fera points out. “We now deliver information in real time to senior managers through custom pop-up dashboards and emails so they can identify trends. This capability is key—when it comes to finding the agility sweet spot, it’s all about identifying the trends behind the KPIs to gain a clear view into how well our overall strategy is working.”

# Next Steps

* [Connect with Microsoft Dynamics](http://www.microsoft.com/en-us/dynamics/contact-us.aspx)
* [Become a Dynamic Business](http://www.microsoft.com/en-us/dynamics/about.aspx)
* [Read about ways technology helps other manufacturers deal with complexity and change](http://www.forbes.com/sites/microsoftdynamics/2013/02/06/a-master-of-complexity-the-manufacturing-coo/)

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