



The Ins and Outs of the Smart Manufacturing Transformation

For quite a few decades, [just-in-time manufacturing](#) was synonymous with successful manufacturing. The company that could produce just the right amount of product at the right time in the leanest, most efficient way was destined to stand on top. Using clear data surrounding demand from customers, smart manufacturers enjoyed less wasted inventory, hired just the right amount of workers, and connected with just the right supply-chain partners.

The only problem: demand isn't the only force at play in today's global marketplace. And two years into a global pandemic, manufacturers are realizing just how many factors — from weather to skilled labor shortages to continued viral transmission — are at play.

Ask any consumer in the market today, and it's clear that the current production and supply chain model isn't working. From paint to bread to lumber to computer chips, every industry is being hit by shortages. The ripple effect of unmet production is clear. A lack of computer chips leads to a shortage of new, used, and rental cars. A shortage of cotton leads to a shortage of upholstery and the furniture it was supposed to cover.

Just-in-time production works until — well — it fails to deliver on time. At this point in history, there are simply too many disruptions for any single manufacturing model to pull us through. We need a better, more reliable way to meet the ever-changing demands of a pandemic-fatigued global economy.

The advent of the smart factory, the Fourth Industrial Revolution and the Industrial IoT are key tools in answering growing pressures on the global marketplace. Still, those tools need to be used fully to create an optimum impact. While many factories have focused on connectivity in digital transformation, it's becoming more and more clear that flexibility must also remain a top priority. The flexibility to ramp up, pivot, or re-source suppliers is necessary to keep the world moving. Clean, useful data will be key for those manufacturers committed to getting the world — and marketplace — back on track.

That's why now is the perfect time to identify the challenges your manufacturing organization faces when it comes to digital transformation and flexibility and develop a strategy to mitigate these challenges. This includes identifying the technology and strategic partnerships that can enable digital transformation at a time when it can make or break your future.

The following is a look at common industry challenges, an exploration of some technology solutions that can help address these challenges, and the positive outcomes organizations are likely to see as a result.

Common Challenges Facing Manufacturers

There are many factors at play in world manufacturing today, from the pandemic and supply-chain issues to global warming and labor shortages. Still, many of the issues that continue to hold the industry back revolve around technology. To better understand what Manufacturers are experiencing when it comes to their digital transformations, we must first explore the challenges they face. These include the following:

Disparate, disconnected and costly machines.

Organizations often have machines of various ages and vendors that produce different data languages. Managing all of the different machines in disparate platforms can be complicated and inefficient. When machines speak different languages, their data must be manually joined for teams to gather insights. This

means increased employee hours, the chance of user error and the inability to make on-the-spot, real-time decisions regarding production. At the same time, investing in new machinery is often cost-prohibitive and overwhelming, and many companies can't afford to put their machines offline for a major overhaul.

Lack of data visibility across partners.

Organizations lack visibility into data from heterogeneous and distributed machines across the factory floor, but they also lack those insights from partners. Without a connected ecosystem, it can be difficult to get clear and consistent updated from partners, which can have a negative impact on production.

Sustainability and adherence to global standards.

Whether you're talking about CIP requirements, clean-room specs, or environmental mandates, manufacturers need real-time data insights to ensure that their products are created to spec, by global recipient country, and don't go to waste.

Struggle with rapid deployment and mass roll out.

Most importantly, companies need a solution to make the global rollout of connectivity faster and easier. Without a full-scale body of insights from suppliers and manufacturing partners around the globe, manufacturers will never be able to get a complete view of where production is short and how to meet customers' needs.

FORCAM FORCE EDGE and SAP Industry Cloud Help Organizations Stand Out

When it comes to effective digital transformation and data management across the factory floor, creating a uniform data language and connecting machinery is paramount to success. That's what lead us to evaluate the FORCAM FORCE EDGE extension for SAP Industry Cloud.

FORCAM FORCE EDGE creates uniform connectivity for maximum flexibility and efficiency throughout the manufacturing process. It allows organizations to digitize nearly any machine, regardless of whether it is native to cloud, digitization, or network operation. With a standard connection and a template-based

machine repository approach, organizations can optimize the efficiency of any machine, regardless of who manufactured the machine or how long it's been on the shop floor.

With FORCAM FORCE EDGE, companies can digitally connect heterogeneous machine fleets. Even machines that were never intended to be digitized (brownfield) can be retrofitted with the FORCAM solution. In essence, FORCAM's connectivity serves as the "molding" that enables the transformation of any machine data into SAP's digital supply chain.

Better yet? As a partner solution built on SAP Industry Cloud for Manufacturing, FORCAM FORCE EDGE is interoperable with the SAP Intelligent Suite and other partner applications allowing businesses across the manufacturing industry to drive transformation, achieve new goals, and mitigate changes and disruptions.

A few of the benefits we really like about FORCAM FORCE EDGE include:

Uniform digitization. FORCAM FORCE EDGE provides the fast, easy connection of machines regardless of age or interface – even machines that were never meant to be digitized. Signals are standardized, recorded, and stored on the edge for quick and easy processing across all systems.

Uniform data. No more manual translation of disparate languages. FORCAM FORCE EDGE translates all machine signals and data into a universal language that enables organizations to run standardized queries. This also allows organizations to leverage the power of AI and other applications that can mine the data for insights in real-time.

Real-time decisions. This is where maximum flexibility comes in. With all of the data in one place, using the same language, organizations can make smart, real-time decisions about production and how it impacts global customers.

Cost reduction throughout all workflows. Organizations that use FORCAM FORCE EDGE experience significant cost reductions at every stage. FORCE EDGE templates allow organizations to easily connect machines in just hours. This limits the time it takes to configure machines and enables rapid digitization across the factory floor. Once machines are connected, organizations can capitalize on data that will help limit costs in categories like energy consumption and maintenance.

Exciting growth. By embracing digital transformation, companies will be able to attract more skilled workers, leverage emerging and innovative technologies like the cloud, AI and machine learning, and improve productivity levels overall.



Smart Manufacturing Needs for FORCAM and SAP

The global pandemic has forced manufacturers to focus on flexibility, responsiveness, and awareness through technologies like cloud-based analytics, IoT initiatives, supply chain optimization, and worker empowerment. Tools like FORCAM FORCE EDGE and SAP Industry Cloud give manufacturers a way to stay in the game amidst so many global challenges, from supply chain disruption to employee shortages.

While in the past, just-in-time manufacturing provided an efficient, lean way of staying profitable, today's manufacturers need data, digitization, and flexibility. To meet constantly growing and changing consumer demands, manufacturers need to be able to ramp up or slow down production quickly, globally. To keep production consistent, they need to find new suppliers who meet their production standards, instantly. The FORCAM FORCE EDGE extension for SAP Industry Cloud provides a simple way for manufacturers to tap into the full potential of their organization. [FORCAM FORCE EDGE, available now on SAP Store](#), is truly a win-win for manufacturers and the organization.

