

SYSPRO BRINGS SMART MANUFACTURING TO ALL THROUGH DIGITAL TRANSFORMATION

Who is SYSPRO?

For the past 40 years SYSPRO has focused on bringing software solutions to mid-market/larger manufacturers and distributors. It is one of a very few remaining ERP vendors that develops and supports a single ERP solution.

SYSPRO focuses on the following industries in manufacturing and distribution:

- ✓ Food and beverage
- ✓ Electronics
- ✓ Industrial machinery and equipment
- ✓ Fabricated metal
- ✓ Packaging
- ✓ Plastics and rubber
- ✓ Automotive parts and accessories

Over the years SYSPRO has made a name for itself and won numerous awards for its focus on its customers and for delivering pragmatic solutions designed to meet the real needs of real customers.

Today SYSPRO supports over 15,000 customers, in 42 countries, across six continents.

SYSPRO has long been a noted software solution provider for manufacturing and distribution. The global ERP company, headquartered in South Africa, prides itself in delivering the right solution to help manufacturers and distributors run their businesses, without adding unnecessary complexity. With more than 40 years in this market, SYSPRO has never strayed from its focus on “customer first.” Relying on its deep domain knowledge and expertise, SYSPRO places the emphasis on speaking the language of its customers rather than talking about software and technology. That means focusing on solving problems and avoiding the hard sell. SYSPRO’s recent acquisition of SYSPRO USA reinforces its desire to speak with one voice to all its customers worldwide.

But as much as it focuses on customers, in order to solve their problems, SYSPRO must also invest in product and technology. To that end, the company has a long history of delivering pragmatic solutions. While its Enterprise Resource Planning (ERP) system has been around for more than 40 years, the architecture on which it is built has truly kept up with modern technology and SYSPRO has been delivering on [the practical side of digital technologies](#) for years now. Last year its [“Digital Transformation Release”](#) was infused with artificial intelligence (AI) and the Internet of Things (IoT), in conjunction with a rich new user interface (Avanti), which included a chatbot (digital assistant).

This year SYSPRO continues that tradition with the introduction of SYSPRO Connected Services. According to Paulo de Matos, SYSPRO’s Chief Product Officer, “Connected Services represents any digital service that brings people or devices together in any meaningful way to engage, share and transact.” In today’s global digital economy, these digital services are key to enabling frictionless movement of information between systems, operations and people to support Smart Manufacturing. And that is SYSPRO’s latest mission: to make Smart Manufacturing a reality, not just for the mega-corporations with large staffs and deep pockets, but for every manufacturer. But to become “Smart,” manufacturers must first undergo a digital transformation.

WHAT IS SMART MANUFACTURING?

Smart Manufacturing (SM) is a term used by the Clean Energy Smart Manufacturing Innovation Institute ([CESMII](#)). CESMII brings together a consortium of nearly 200 partners from academia, industry and non-profits from more than thirty states across the USA. CESMII’s stated mission:

“To ensure the power of change and innovation is at the fingertips of every manufacturer.”

Already a long-time member of the California Manufacturing Technology Center ([CMTC](#)), SYSPRO is now working to become a member of CESMII, partly because it feels the definition of Smart Manufacturing is quite relevant to all manufacturers:

“Smart Manufacturing enables all information about the manufacturing process to be available when it is needed, where it is needed, and in the form it is needed across the entire manufacturing value-chain to power smart decisions. Islands of efficiency become interoperable, networked, and resilient solutions to drive transformational manufacturing enterprise performance for any size, level of technical sophistication, or resource availability at lower cost. Smart Manufacturing unlocks real-time data currently inaccessible or unused through new technology tools that realize benefits faster across the manufacturing enterprise.”

“The problem with digital transformation is you don’t know what you don’t know. And even once you realize what you currently do could be done better, you don’t know where to begin.”

Jaco Maas, General Manager, BKB Shift, a SYSPRO customer

Given this definition, what manufacturer today would **not** want to become a Smart Manufacturer? But without some guidance, there is a good chance they will not. In order to become one, you must digitally transform your business. While very large enterprises might make this a priority, without dedicated staff and deep pockets, many simply cannot. They are consumed by the day-to-day challenges of operating in today’s fast-paced, ever-changing, global, digital economy. In the words of one SYSPRO customer, “The problem with digital transformation is you don’t know what you don’t know. And even once you realize what you currently do could be done better, you don’t know where to begin.” This quote is from Jaco Maas, General Manager of BKB Shift, a 100 year old company in the South African agricultural sector.

Mint Jutras data collected in our 2019 Enterprise Solution Study, seems to support this sentiment. The majority (74%) of manufacturers think digital technologies have the potential of fundamentally changing the way they do business and 66% believe they are necessary for survival. Yet only 39% really know where to begin (Table 1).

Table 1: Digital Sentiments in Manufacturing

	Agree	Neutral	Disagree
New digital technologies have the potential of fundamentally changing the way we do business	74%	24%	3%
Embracing digital technologies is necessary for survival	66%	31%	4%
Embracing digital technologies will give us a competitive advantage	59%	37%	4%
Digital technologies are transforming the way we plan for the future	62%	31%	7%
We don't know where to begin to digitally transform our business	23%	37%	39%

Source: Mint Jutras 2019 Enterprise Solution Study

Data Source

In this report Mint Jutras references data collected from its 2019 Enterprise Solution Study. This annual study investigates perceptions, goals, challenges and status of software used to run a business, as well as the impact of these solutions on the enterprise.

This year the study collected responses from 464 participants. In this report we include data from 227 manufacturers of all sizes from very small to very large, representing a wide range of industries.



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Jaco Maas, General Manager, BKB Shift, a SYSPRO customer

Agriculture is probably the last industry you would expect to see pioneers in digital transformation or Smart Manufacturing. And yet BKB has reinvented the way it does business through digital technology. But when BKB started on this journey, the company literally didn’t know where to start and they turned to SYSPRO. According to Mr. Maas, “Our relationship with SYSPRO started in 2014 when we deployed their ERP system, which has become the architectural foundation of our digital transformation journey.” For [more information](#) on BKB’s journey, see [BKB: ERP + IoT and Blockchain Success Story](#) at www.syspro.com.

Enterprise applications built on modern architectures, like SYSPRO ERP, combined with digital technologies, make digital transformation possible. But if you are unsure of the value of these technologies, you may be hesitant to start that journey. You’re not alone. Our 2019 Mint Jutras Enterprise Solution Study asked participants about their perceived value of several of these technologies (Table 2). While a growing percentage of manufacturers perceive these technologies as providing strong value, on average about one in four (26%) are unsure of the value. Essentially, they are saying, “Show me.” Others see no value or simply don’t know.

And yet investment in these kinds of technologies is essential to digital transformation, which is, in turn, a prerequisite for Smart Manufacturing.

Table 2: Perceived Value of Digital Technologies in Manufacturing

	Strong Perceived Value	Unsure of Value (Show me)	Little or No Value	Don't Know
Blockchain (distributed ledgers)	36%	30%	19%	16%
Smart Robots	32%	36%	27%	5%
Virtual assistants (chatbots)	26%	37%	7%	7%
Robotic Process Automation (RPA)	38%	25%	9%	9%
Internet of Things	43%	19%	7%	7%
3D Printing	40%	23%	7%	7%
Predictive Analytics	49%	18%	6%	6%
Cognitive Analytics	44%	14%	9%	9%
Augmented Reality	25%	31%	11%	11%
Beacons	17%	26%	25%	25%
Drones	23%	46%	7%	7%
Digital Twins	16%	29%	24%	24%
Wearable Devices	27%	34%	29%	9%

Source: Mint Jutras 2019 Enterprise Solution Study

WHY CONNECTED SERVICES?

So how do SYSPRO’s new Connected Services play a role? In short, in order to digitally transform your business, you must be able to connect in the broadest possible sense. More and more of the communication, collaboration and

business processes of any company are likely to extend beyond the four walls of the enterprise. The shift to more distributed environments and global trade relationships started decades ago when low-cost country sources made “outsourcing” very appealing. As companies have tended to become less vertically integrated, reducing costs and focusing instead on their core competencies, this necessitates new ways of doing business with each other. The move away from vertical integration and towards the Internet and cloud-based computing has spurred the rise of the network economy.

And we live in a digital world. Digital communication and digital systems of record are becoming the norm. But “digital” brings far more value than simply the potential of a paperless environment. It also gives us more and better data. But the greatest value of “digital” is in its ability to connect people, devices, processes and data for faster and better decision-making. Whether you are making day to day tactical decisions on the shop floor or in the front office, or strategic decisions on the top floor, you need that connectivity to stay one step ahead of the competition.

The Internet has brought us into the digital age and fueled the digital network economy. It has leveled the playing field globally. Even small to midsize companies can establish a global presence, disrupt markets and seize unprecedented opportunity. But be careful what you wish for, because the systems that got you where you are today are unlikely to get you where you need to go, unless those systems have kept pace with technology. Fortunately for SYSPRO customers, SYSPRO has indeed kept pace – fortunately because disruption can destroy markets but can also create entirely new markets. Unless you are a truly connected manufacturer you are unlikely to be the disruptor and more likely to be disrupted.

Table 3: Embedded (or foundational) digital technologies

	Strong Perceived Value	Unsure of Value (Show me)	Little or No Value	Don't Know
Microservices architectures / platforms	35%	33%	21%	12%
Move to cloud/SaaS	48%	29%	16%	8%
IoT technologies that facilitate autonomous exchange of data	47%	26%	20%	7%
Support for big data (e.g. in-memory data bases)	44%	31%	16%	10%
Natural Language Processing (voice-based) user interface	26%	38%	26%	9%
Machine Learning	41%	33%	18%	8%
Artificial Intelligence	39%	30%	21%	10%

Source: 2019 Mint Jutras Enterprise Solution Study

For this required level of connectivity, you need different kinds of digital technologies. While the technologies listed back in Table 2 were the kind you

For this required level of connectivity, you need different kinds of digital technologies – those that are more foundational.

add on to the solution that runs your business, those we list in Table 3 are more foundational.

MICROSERVICES

At the top of our list are development platforms and [microservices architectures](#), on which applications are built. For the reader with a technical background, a microservices architecture is defined (by Wikipedia) as an architectural style that structures an application as a collection of [loosely coupled](#) services. For those nontechnical readers, think of it as constructing a solution from a set of Lego building blocks.

Think about how you build a structure from Legos. Each Lego block is made of the same kind of material and is attached (connected) to the other Lego blocks the same way. In many ways they are interchangeable. But by choosing different colors and sizes, and connecting them with a different design, you can make a structure that is very unique. And once constructed, if you want to change it, decoupling some of the blocks and replacing them doesn't destroy the parts that are not affected. There is far less disruption introduced than if you had constructed it with a hammer and nails.

These platforms and technologies provide a level of agility, configurability and extensibility to today's applications to help us respond to change. This type of architecture and these microservices are what SYSPRO will deliver as Connected Services.

MOVE TO THE CLOUD

Cloud enablement and Software as a Service (SaaS) is the only "technology" in Table 3 that is even close to being mainstream. Indeed, whether you run a solution on your own premises or in a private or public cloud, the ability to access anytime, from anywhere is a significant advantage and cloud-enablement opens the door for the kind of connectivity you need as a full and active participant in the digital economy.

SYSPRO offers its solution with a choice of deployment options, including traditional on-premise or through a private cloud.

IOT AND THE AUTONOMOUS EXCHANGE OF DATA

The Internet of Things (IoT) appears in both Tables (2 and 3). We include it in Table 3 for the underlying technologies that facilitate the autonomous exchange of data. Many companies, manufacturers in particular, have been collecting data from sensors (think machines on a shop floor) for decades. But without the connectivity of the Internet that data was largely under-utilized. These foundational technologies help us leverage that data by connecting it to other tools and technologies, like predictive and cognitive analytics and machine learning (ML).

At the heart of SYSPRO's last release was SYSPRO IoT, providing automation and data exchange capabilities in a secure environment, including cyber and physical security which it leverages from the Microsoft Azure IOT Hub. SYSPRO

Cloud versus SaaS

Cloud refers to access to computing, software, storage of data over a network (generally the Internet.) You may purchase a license for the software and install it on your own computers or those owned and managed by another company, but your access is through the Internet and therefore through the "cloud," whether private or public.

*SaaS is exactly what is implied by what the acronym stands for: Software as a Service. Software is delivered only as a **service**. It is not delivered on a CD or other media to be loaded on your own (or another's) computer. It is accessed over the Internet and is generally paid for on a subscription basis.*

IoT facilitates these connections right out of the box and will use this connected data to feed analytics with cognitive computing capabilities.

NLP, AI AND ML

Technologies like machine learning, natural language processing and other forms of artificial intelligence have become quite prevalent in consumer technology (think Siri and Alexa, or GPS that learns your favorite route). Now is the time to bring them into the enterprise, much like they were insinuated into our personal lives. That is what SYSPRO is doing with its BOTS.

SYSPRO BOTs were first introduced in 2016. Until recently, you simply initiated a conversation with the SYSPRO chat bot by saying, “Hey chatbot.” It was actually a self-service agent running in the background and had limited capabilities. “Ken the Bot” is now the next evolution of SYSPRO BOTs. Beyond the typical Siri-like questions that were its specialty, now Ken can “listen” for what interests you the most. It can then initiate an alert using your favorite messaging app (Skype, Messenger, Slack, etc.).

SYSPRO continues its evolution of its chatbot as “digital citizens.” These will operate in conjunction with artificial intelligence (AI) and can be deployed to handle repetitive tasks. Consider this application as robotic process automation (RPA) with self service agents integrated into the business process via connected services. These “bots” will be embedded directly within SYSPRO ERP through Avanti, the SYSPRO user interface (UI) or other platforms such as social media, websites or other chat programs used by both internal and external stakeholders.

While all of these are separate technologies, in order for them to be truly transformative, they must interoperate and/or integrate (i.e. “connect”) with the enterprise applications like ERP in the front and back office – the kind of business solutions that SYSPRO offers. Without this connection, manufacturers don’t get any smarter and neither do the leaders making business decisions. And that’s the real goal of digital transformation in manufacturing: Smart Manufacturing and smarter business decisions.

CONCLUSION AND RECOMMENDATIONS

SYSPRO Connected Services will enable customers to extend SYSPRO ERP in multiple ways, including integration throughout the supply chain through portals, starting with the supply side of the equation. Connected Services will initially extend to quotes, master data management and contract management. But that’s just the beginning.

Connected Services will also integrate intelligent devices, including smart devices (think phones and tablets), the Internet of Things (IoT), Bots, third party platforms (think supplier networks) and e-commerce sites. Some of the advantages you can expect include:

- ✓ A consolidated view of business and operations

- ✓ The orchestration of a unified workflow throughout and outside of your organization
- ✓ Easier collaboration and information sharing with business partners (customers and suppliers)
- ✓ Secure data exchange

Like the consumer technology market, we believe these digital technologies are destined to be absorbed into the enterprise, in much the same way as technologies like artificial intelligence (AI) and natural language processing (NLP) have insinuated themselves into our personal lives. But for manufacturers to become Smart Manufacturers, they must first transform themselves digitally. They must be connected. If you find yourself not knowing where to start, if you feel like you don't know what you don't know, you're not alone. But that won't stop the fast-changing, global, digital network economy from marching forward without you. Perhaps it's time to get some help. Look for a vendor that speaks your language and shows interest in solving your problems. SYSPRO might be a good place to start.

About the author: *Cindy Jutras is a widely recognized expert in analyzing the impact of enterprise applications on business performance. Utilizing over 40 years of corporate experience and specific expertise in manufacturing, supply chain, customer service and business performance management, Cindy has spent the past 13+ years benchmarking the performance of software solutions in the context of the business benefits of technology. In 2011 Cindy founded Mint Jutras (www.mintjutras.com), specializing in analyzing and communicating the business value enterprise applications bring to the enterprise.*