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SAP Value Paper | PUBLIC

Transform Your Industrial Manufacturing Organization into an Intelligent Enterprise

Achieve Value with Intelligent ERP

THE BEST RUN 



The Power of Intelligent ERP

ENABLE PROCESS SIMPLIFICATION AND AUTOMATION WITH INTELLIGENT ERP SOLUTIONS

Leading industrial manufacturers are transforming their business to scale operations and broaden offerings.

The digitalization of businesses across all industries is happening rapidly, and there is no turning back. Companies are looking for new ways to deliver value to their customers using digital channels and creating personalized, digitally enabled products across all sectors, from consumer products to heavy equipment and machinery.

Industrial manufacturing companies have started to turn from a mainly engineer-to-order business model to a repeatable and scalable configure-to-order model, using

individual customer engineering requirements to become nimbler in serving a more demanding customer base. Furthermore, industrial manufacturing companies are seeking revenue opportunities by offering equipment as a service.

Enhance and extend next-generation processes with Intelligent ERP

Embedding intelligent technologies into SAP S/4HANA® is a key value contributor to enable intelligent enterprises in industrial manufacturing. The principle of an intelligent enterprise is to automate, extend business processes, or even transform the entire business model. Intelligent technologies such as collaborative artificial intelligence, robotic process automation, and machine learning are the foundation to an insight-to-action-driven enterprise. Leading industrial manufacturers have already begun the journey toward becoming an intelligent enterprise.



Higher customer expectations

Customers expect tailor-made solutions comprising hardware, software, and services, exactly meeting their needs and offered on a consumption basis.



Developing new digital skills and processes

Digital processes, products, and services across the entire value chain are the foundation to react to higher customer expectations.



Competition from unexpected challengers

Changes in the competitive landscape through new technologies such as Internet of Things (IoT)-connected equipment erode the leading position of traditional industrial manufacturing companies.



Flexibility in global resource orchestration

Through digitalization of the entire value chain, industrial manufacturing companies can better leverage local advantages to enable synergies in the fulfillment chain and to improve service in local markets.



Manufacturing customers demand the consumerization of business-to-business (B2B) sales with an omnichannel customer experience. The ability to understand customers' buying journeys and to capture customer requirements effectively is key.



Industrial manufacturers use digital technologies to create new value for their customers, run efficient and resilient processes, and offer more value for their shareholders.



Industrial manufacturers must redefine their core strengths and capabilities and learn to create value in industry value networks.



Companies shift resources, production, and financial funds around the globe in a flexible way to make the best use of the regulations and location advantages.



Drive Business Value with Intelligent ERP: SAP S/4HANA Customer Stories

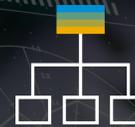
Viessmann



By enabling us to harness emerging technologies and run integrated processes across every part of our business, SAP S/4HANA is helping us compete in the digital age.



Harald Dömbach, Managing Director, Viessmann IT Services, [Viessmann Werke GmbH & Co. KG](#)



85% acceleration to run material resources planning



Faster availability of spare parts in case of shortages



Workforce mobilization with the SAP Fiori® user experience



Drive Business Value with Intelligent ERP: SAP S/4HANA Customer Stories

Carl Stahl



SAP S/4HANA has enabled us to optimize processes by business unit within one IT landscape, and we were still able to reduce costs. And we now have the foundation to launch innovations, such as IoT scenarios.



Stefan Aubele, CIO, [Carl Stahl GmbH](#)



Lifting corporate processes to the next level with **SAP S/4HANA**



100% of core processes ready and live in **6 months**



50% reduction in inspection time

Strategic Priorities in a Digital Economy

In this situation, where the opportunity is huge but at the same time new market entrants are threatening traditional industrial manufacturers, it is essential to focus on the right strategic priorities to increase digitalization across the business.



Customer centricity

Industrial manufacturers must focus on winning and keeping customers for life, sharing risk and delivering long-term value based on a deep 360-degree understanding of their customers. At the same time, they should strive to offer outstanding experiences across all channels and at every touch point.

E2E scenario: Focusing on the most valuable customers – Grow your business by winning the right customers for the solutions you serve best.



Serving the “segment of one”

The market demands the manufacture of complex solutions for individual customers at scale. So industrial manufacturers must move from an engineering-to-order to a configure-to-order operating model using individual customer engineering requirements to drive mass customization for their industrial equipment.

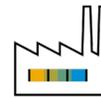
E2E scenario: Integrated solution sales and fulfillment of complex equipment orders – Honor your customers with the perfect-fit solution for what they need – at the right margin for you.



Digital smart products and solutions

Industrial equipment must be augmented with digital capabilities to allow a more flexible configuration during the lifecycle of a solution and to provide remote access for increased machine connectivity. This is the basis for offering value-added services such as machine monitoring and other data-driven services. Future product enhancements will be based on actual usage data for industrial equipment.

E2E scenario: Managing embedded software within the engineering process – Create superior digital equipment to lead in your market segment, by making the most of your engineering strength.



Digital supply chain networks and smart factory

Increased flexibility of the entire manufacturing and supply chain process allows industrial manufacturers to rapidly steer the interconnected value chain networks of internal and external operations. Top-floor to shop-floor connectivity enables efficient material flows

as well as the optimal use of existing manufacturing resources, enabling modular production to help drive Industry4.0 processes for complex assembly activities.

E2E scenario: Process simplification in material requirements planning (MRP) – Enable efficiency that your customers and the market will reward.



Servitization and outcome-based business models

Moving beyond selling individual products to selling complete solutions was the first step. Industrial manufacturers are moving toward solutions that share risk models through outcome- and performance- based services to deliver the value each customer requires. Furthermore, industrial manufacturers can increase the level of customer intimacy by moving into an operator model, selling outcomes in an equipment-as-a-service business model.

E2E scenario: Performance-based contracts – Outpace your competition with what makes your product unique: commercial performance.

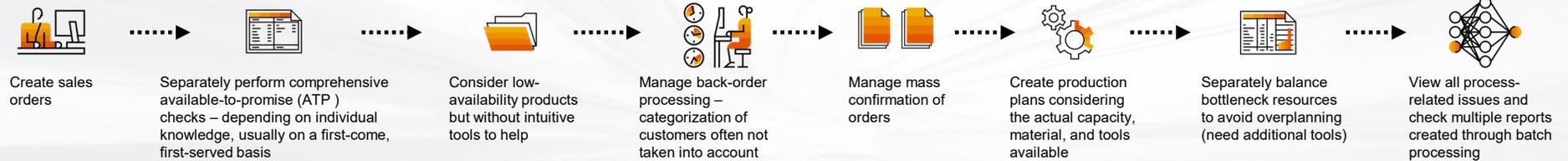
Customer Centricity

Focusing on the Most Valuable Customers

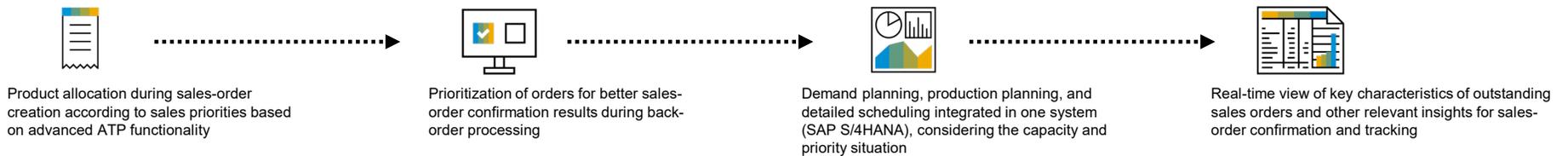
Putting the end customer's point of view at the center of every decision is a key prerequisite for success in the digital age. This does not stop in the sales department but also applies to which products are built and what services are offered. Industrial manufacturers want to become customer-centric enterprises, and the ability to focus on their most valuable customers is one of their key priorities. Since short and reliable delivery times are imperative for their customers, industrial manufacturers want to

prioritize the production of their products based on the individual importance of each customer. SAP S/4HANA enables industrial manufacturers to prioritize customer orders more reliably and efficiently while providing valuable insights into the order management process to avoid delayed deliveries and to help ensure on-time delivery performance.

Traditional scenario



A new world with SAP



Top value drivers*

5%–20%

Increase in on-time delivery performance

10%–50%

Reduction in order fulfillment lead time (CTO)

*Benefits are based on early adopters of SAP S/4HANA or conservative outside-in benefits due to moving from a traditional ERP to enhanced SAP S/4HANA with line-of-business or cloud capabilities. As each enterprise is at a different level of maturity, we recommend working with you to determine the value proposition for your enterprise.

Serving the "Segment of One"

Integrated Solution Sales and Fulfillment of Complex Equipment Orders

Providing solutions that precisely fit the needs of a single customer has been commonplace in traditional engineer-to-order environments. Now, the ability to capture customer requirements effectively and enable mass customization is the key to giving all customers exactly what they want. Critical for this transformation is the ability to manage the specifics of each order in every aspect of the value chain in a consistent

way, nearly at the cost of a standard order. SAP S/4HANA enables this by keeping all product and process information in a single place. All business processes – from initial engineering through aftersales service – can access the same information, and the end-to-end (E2E) process can be effectively executed and closely monitored.

Traditional scenario



- Manage ideas and requirements and created designs
- Create design results and BOMs in a product lifecycle management system



- Set up and maintain manufacturing master data, including variants in the separate ERP system and shop-floor systems
- Make sure engineering and manufacturing information are in sync



- Hand over customer specifications to manufacturing – decoupled processes
- Ensure reliability of delivery dates, which requires consulting multiple systems or waiting for MRP batch runs



Move orders through the manufacturing process using multiple systems and transactions – no integration of information or consistent user interfaces (UIs)



View all process-related issues and check multiple reports created through batch processing

A new world with SAP



Management of a supplier- and customer-integrated product design process from early-idea phase to released design and product-variant definitions



Handover of BOMs to manufacturing and creation of work instructions in one integrated process including closed-loop change management



- Live MRP, enabling insight to action in real time in one consistent UI
- Role-specific screens to speed up the management and execution of orders, from order management to manufacturing to delivery in an integrated process



Profitability reporting and analysis done on actual data at full detail in real time to understand all profitability aspects of the customer order

Top value drivers*

10%–12%

Reduction in total logistics cost

10%–20%

Increase in on-time delivery

Up to 10%

Reduction in total manufacturing costs

*Benefits are based on results from early adopters of SAP S/4HANA or are conservative outside-in estimates of the benefits of moving from a traditional ERP system to enhanced SAP S/4HANA with line-of-business and cloud capabilities. As each enterprise is at a different level of maturity, our recommendation is that you work with SAP to determine the value proposition for your enterprise.

Digital Smart Products and Solutions

Managing Embedded Software Within the Engineering Process

Differentiation and specificity in products stem from digital capabilities and dependent value-add services that are bundled with the physical products. Using digital capabilities such as self-awareness of technical health, operational status, or business-system connectivity helps industrial manufacturers differentiate themselves. Digital and smart products and solutions are designed in industrial manufacturing companies that need a stronger “system thinking” in the R&D or engineering context.

In the past, the mechanical design was the main engineering step, but today’s products and solutions contain a vast array of electronics and many different pieces of software that require a different focus. SAP S/4HANA enables industrial manufacturers to manage software versions in an integrated way along the complete value chain and product or solution lifecycle.

Traditional scenario



Isolated creation and maintenance of product structures and BOMs



Isolated change-record creation and maintenance view – leading to fragmented navigation



Project- or customer-based integration of software executables – lacking built-in capabilities to support the end-to-end product lifecycle

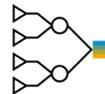


Constraints management of hardware and software versioning dependencies that is typically spreadsheet driven, leading to a lack of transparency of where each software version is installed

A new world with SAP



- Integrated single view of change timeline and BOMs
- Future support of configuration of BOMs, including software item as a category



Embedded software management capabilities enhanced by constraints management of hardware and software components as part of SAP S/4HANA



Handover of BOM spare parts positions and software items, including software installation instruction to SAP® Asset Intelligent Network

Top value drivers*

20%–30%
Reduction in R&D cost

Up to 10%
Reduction in total manufacturing cost

10%–20%
Reduction in manual rework through better product configurations

*Benefits are based on results from early adopters of SAP S/4HANA or are conservative outside-in estimates of the benefits of moving from a traditional ERP system to enhanced SAP S/4HANA with line-of-business and cloud capabilities. As each enterprise is at a different level of maturity, our recommendation is that you work with SAP to determine the value proposition for your enterprise.



Digital Supply Chain Networks and Smart Factory

Process Simplification in Material Requirements Planning

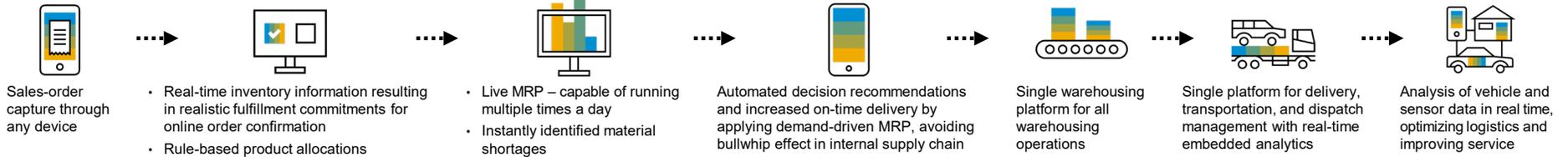
Digital technology on the shop floor and in the supply chain is not new. What is new is the way production and logistics are now intelligently connected to the rest of the business and are able to deal rapidly, even autonomously with external impulses, such as short-term demand and supply fluctuations, or changes in the configuration of a customer order that require different materials, parts, and machining operations.

SAP S/4HANA supports an order-to-delivery process that provides significant improvements in sales-order confirmation, material shortage identification, and managing inventory through exceptions, helping ensure on-time delivery and shipment tracking.

Traditional scenario



A new world with SAP



Top value drivers*

10%

Improvement in on-time delivery

8%–10%

Reduction in revenue loss due to stock-outs

*Benefits are based on results from early adopters of SAP S/4HANA or are conservative outside-in estimates of the benefits of moving from a traditional ERP system to enhanced SAP S/4HANA with line-of-business and cloud capabilities. As each enterprise is at a different level of maturity, our recommendation is that you work with SAP to determine the value proposition for your enterprise.

Servitization and Outcome-Based Business Models

Performance-Based Contracts

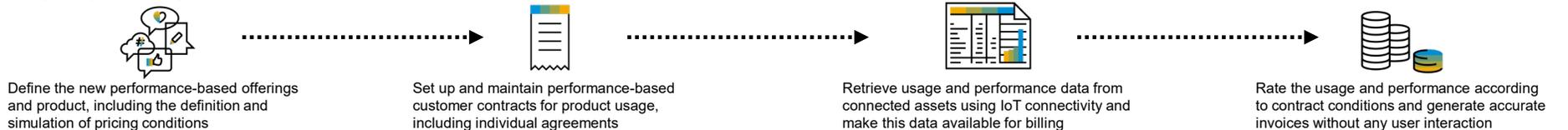
As traditional products are commoditized, industrial manufacturers are shifting from selling physical products to providing complete solutions. Generating more than 50% of revenue from services is a common goal for manufacturers that are looking for higher profit margins and increased customer intimacy. Industrial manufacturers are moving from product-centric offerings to service-centric offerings, thereby

implementing new business models. These models include products as a service or managed services. Performance-based contracts allow customers to use products without buying them, but rather by paying for the effective usage or output. SAP S/4HANA enables industrial manufacturers to run these new business models efficiently and in an integrated manner.

Traditional scenario



A new world with SAP



Top value drivers*

10%–20%

Annual increase in service revenue per contract

10%–30%

Increase in service margin

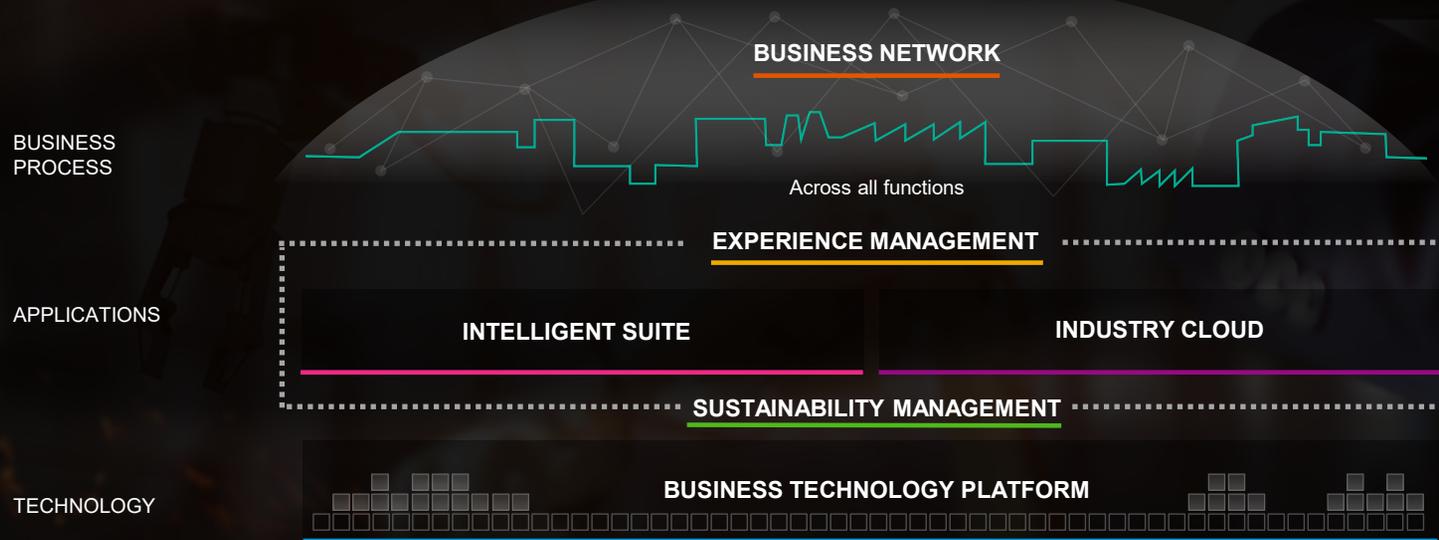
*Benefits are based on results from early adopters of SAP S/4HANA or are conservative outside-in estimates of the benefits of moving from a traditional ERP system to enhanced SAP S/4HANA with line-of-business and cloud capabilities. As each enterprise is at a different level of maturity, our recommendation is that you work with SAP to determine the value proposition for your enterprise.



SAP Strategy – Deliver the Intelligent Enterprise

Intelligent enterprises run agile, integrated business processes and use advanced technologies such as artificial intelligence, machine learning, and the Internet of Things.

They apply leading-edge industry best practices and work together to build flexible value chains. They evaluate and act on customer, partner, and employee sentiment, and they understand and manage their environmental impact. This makes them resilient, successful, and sustainable.



SAP S/4HANA Provides New Capabilities to Enable the Strategic Priorities of Industrial Manufacturers

SAP S/4HANA Innovations	Economic Value Added			
	Increased profitability (revenue and costs)		Optimized use of capital (working capital and equipment)	
Customer Centricity and the Segment of One	<ul style="list-style-type: none"> Advanced variant configuration Solution quotation and billing Commercial projects 	<ul style="list-style-type: none"> Quotation conversion probability 360-degree view of customers Business solution portfolio 	<ul style="list-style-type: none"> Advanced available to promise Production engineering and operations 	<ul style="list-style-type: none"> Real-time inventory Predictive stock in transit Real-time inventory
Smart Products	<ul style="list-style-type: none"> Project and portfolio management Product compliance Embedded software and compatibility management 		Production engineering	
Digital Supply Networks and Smart Factory	<ul style="list-style-type: none"> Alternative-based confirmations Supply assignment during back-order processing 	<ul style="list-style-type: none"> Production BOM management Routing management Analysis of delivery performance 	<ul style="list-style-type: none"> Predictive and live MRP Demand-driven replenishment Constraint-based planning 	<ul style="list-style-type: none"> Extended production operations Production scheduling Prediction of slow-moving materials
Servitization and Outcome-Based Business Models	<ul style="list-style-type: none"> Service request, order, and contract management Service quotation Service request management 	<ul style="list-style-type: none"> Subscription contracts, billing, and revenue management Service ticket intelligence Service billing 	<ul style="list-style-type: none"> Extended service-parts planning Subscription contracts Efficient field service management 	<ul style="list-style-type: none"> Extended warehouse management Extended transportation management

The Value of SAP S/4HANA for Industrial Manufacturers

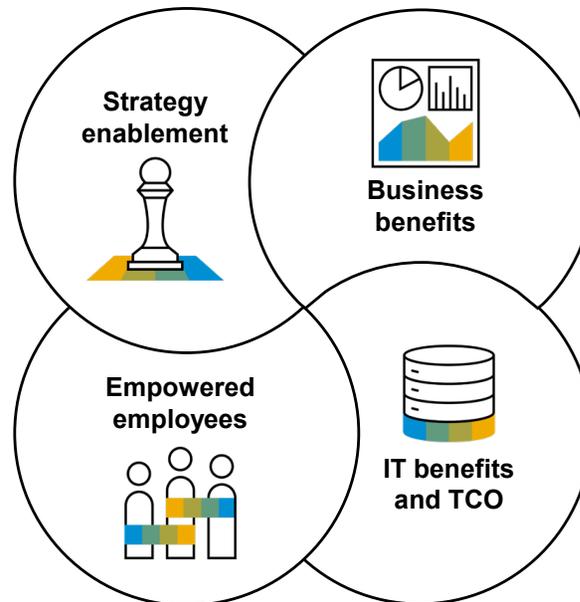
SAP S/4HANA provides industrial manufacturing companies with a proven framework to adopt industry next practices while attaining operational excellence across the entire value chain.

Strategy enablement

- Provide greater customer centricity
- Serve the segment of one
- Build smart digital products
- Digitalize core processes such as supply chain and manufacturing
- Drive servitization and new business models

Empowered employees

- Enable immediate decision-making based on current data
- Increase productivity and accelerate user adoption for frontline professionals through tailored UIs enabled by the SAP Fiori user experience



Business benefits*

- **10%–20%** improvement in new product and service revenue
- **5%–10%** reduction in R&D cost
- **15%–20%** increase in on-time delivery
- **10%–20%** higher customer satisfaction
- **15%–20%** lower revenue loss due to stock-outs
- **3%–5%** reduction in days in inventory
- **40%–50%** reduction in days to close annual books
- **20%–40%** reduction in finance cost

IT benefits and total cost of ownership (TCO)

- Faster deployment with the SAP Model Company service for Industrial Machinery & Components
- Reduced data footprint
- Merging of online analytical processing and online transactional processing
- Elimination of many desktop clients
- Lower testing costs
- Simplified landscapes
- Native integration
- Lower total cost of ownership by **20%**

*Benefits are based on results from early adopters of SAP S/4HANA or are conservative outside-in estimates of the benefits of moving from a traditional ERP system to enhanced SAP S/4HANA with line-of-business and cloud capabilities. As each enterprise is at a different level of maturity, our recommendation is that you work with SAP to determine the value proposition for your enterprise.

Customers Are **Achieving Value** with SAP Solutions

Jebsen & Jessen



Industry:
Industrial machinery and components



Customer Web site:
www.jjsea.com

Click [here](#) to read the business transformation study.



SAP solution:
SAP S/4HANA

Jebsen & Jessen (SEA) recognized that having a digital core is a key enabler to achieve success. The company deployed the latest version of SAP S/4HANA for its businesses across the ASEAN countries and beyond. With leading-edge technology from SAP, Jebsen & Jessen continues to strengthen its growth and increase its margin.

Value-driven results include:

- Sped up and simplified business processes, including order to cash, procure to pay, and others
- Established more controls within approval mechanisms
- Reduced opportunities for human errors in data creation



Jebsen & Jessen (SEA) established SAP S/4HANA as the digital core to streamline and optimize our business processes throughout the business while improving productivity. The migration is an essential step in our group’s digital road map and will put us in the position to harness current and future business growth opportunities.



Chris Tan, Group Director (ITC), Jebsen & Jessen (SEA)



Customers Are **Achieving Value** with SAP Solutions

Carl Stahl



Industry:
Industrial machinery and components



Customer Web site:
www.carlstahl.com

Click [here](#) to read the business transformation study.



SAP solution:
SAP S/4HANA

To continue its 15 years of growth, rope and lifting equipment manufacturer Carl Stahl GmbH reorganized and revamped its landscape of SAP software by migrating to SAP HANA® and deploying the SAP S/4HANA Finance solution. Each division can now define processes as it sees fit, while the company benefits from digitalized service processes, a simplified IT landscape, a lower cost of ownership, and an innovative platform for the Internet of Things.

Value-driven results include:

- Corporate processes elevated to the next level with SAP S/4HANA
- **100%** of core processes ready and live in six months
- **50%** reduction in inspection time



As a global and fast-growing company, we must be smart and bold about digitization. SAP S/4HANA has enabled us to optimize processes by business unit within one IT landscape, and we were still able to reduce costs. And we now have the foundation to launch innovations, such as IoT scenarios.



Stefan Aubele, CIO, Carl Stahl GmbH



Customers Are **Achieving Value** with SAP Solutions

HOERBIGER



Industry:
Industrial machinery and components



Customer Web site:
www.hoerbiger.com

Click [here](#) to view a blog on the customer's digitalization.



SAP solution:
SAP S/4HANA Enterprise Management

Click [here](#) for a video testimonial on innovating with SAP Cloud Platform.

With US\$1.2 billion in business revenue across 53 countries, HOERBIGER Holding AG decided not only to globally simplify and standardize its business processes. It actually became an intelligent enterprise that leverages SAP S/4HANA beyond the understanding of ERP. For example, it significantly improved its asset use for its customers by using intelligent technologies to enable connectivity into the business processes of its "lease fleet wellhead compressor" business. This resulted in reduced downtime by predicting failures and lowered labor cost by eliminating non-value-add service efforts. With this linked to SAP S/4HANA, the company had better data from its assets, which it could use to automate the usage-based invoicing process.



Ninety percent of the implementation was fulfilled by our own people.



Teja Ullrich, Head of Corporate IT, HOERBIGER Holding AG



We want intuitive. We want future oriented. We want fast. We want the modern system, the modern IT landscape. So we very quickly came to the SAP S/4HANA solution.



Teja Ullrich, Head of Corporate IT, HOERBIGER Holding AG



Customers Are **Achieving Value** with SAP Solutions

Fives



Industry:
Industrial machinery and components



Customer Web site:
www.fivesgroup.com

Click [here](#) to read the business transformation study.



SAP solution:
SAP S/4HANA

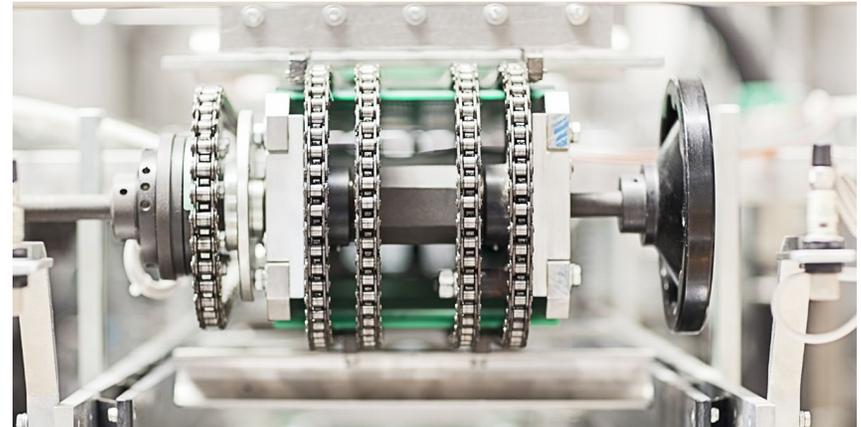
As an industrial engineering group, Fives designs and supplies machines, process equipment, full production lines, and individual process units for industrial producers across multiple sectors. With SAP S/4HANA and the SAP Fiori user experience, it has a single, centralized database and common business practices, making it possible to better understand and communicate the needs of customers across the enterprise and helping increase the performance and profitability of production facilities around the world. Fives has 50 group companies to migrate from local SAP ERP to SAP S/4HANA over the coming five years.



Because our customer base is spread across so many industries, in so many countries, effective communication between our companies is paramount. **A simplified, consolidated database** lets us increase performance and better serve our customers – anywhere in the world.



Christophe Sohier, Director of SAP Competence Center, Fives



Customers Are **Achieving Value** with SAP Solutions

Viessmann



Industry:
Industrial machinery and components



Customer Web site:
www.viessmann-us.com

Click [here](#) to view news story on the customer's ERP transformation to SAP S/4HANA.



SAP solution:
SAP S/4HANA

Viessmann, a globally operating manufacturer of energy systems, has completed a high-speed migration to a new, futuristic digital ERP platform based on SAP S/4HANA. Viessmann wanted to get its central IT platform in shape for the digital age in global markets. The goal was to establish core ERP in addition to harmonizing and standardizing business processes worldwide. In addition, Viessmann has implemented innovations such as integrated business planning and material requirements planning. In material requirements planning, calculation times have been cut drastically, from six hours to just 50 minutes, a reduction of 86%.



Looking back, it was the easiest conversion I've ever experienced during my career in enterprise IT. All processes in the ERP system worked smoothly from the start. Production, shipping, warehouse – all areas continued running at full load without any interruption.



Dr. Harald Dörmach, Managing Director, Viessmann IT Service,
Viessmann Werke GmbH & Co. KG



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