SAP® Cloud for Component Manufacturing

Intelligent Component Manufacturing

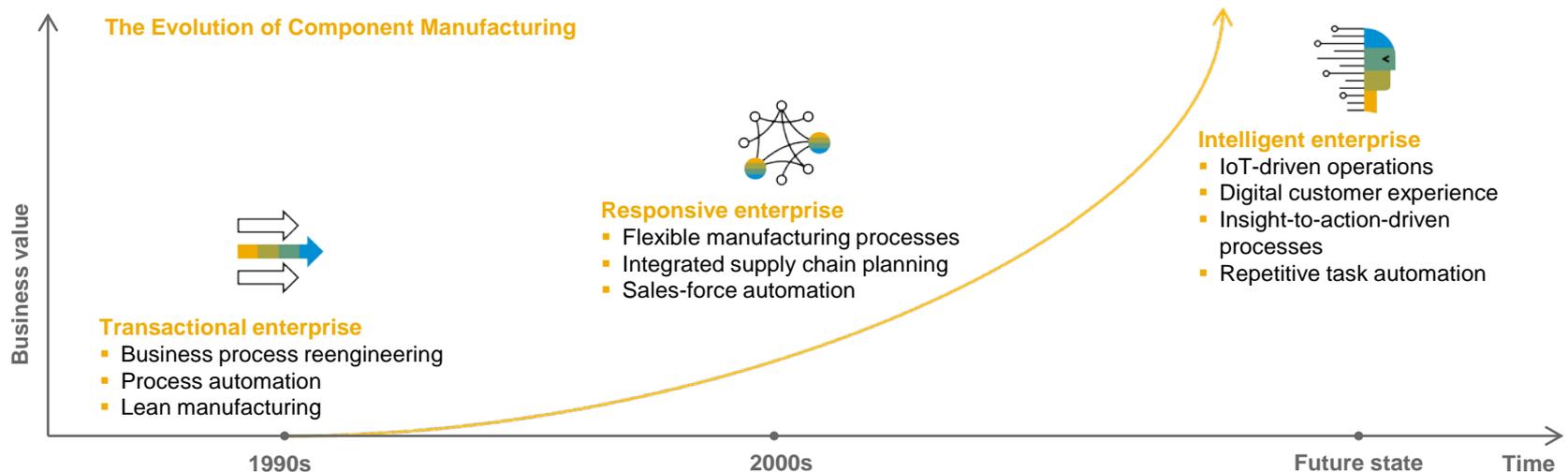Accelerating Profitable Growth in the Digital Economy

Impact of digitalization on component manufacturing

The manufacturing industry has been on a journey of rapid change. This evolutionary journey has led to improved product quality, better service, and greater efficiency. In the 1990s, we saw improvements in business process reengineering, an increase in automation, and the greater benefits of lean manufacturing. As this journey continued into the 2000s, we saw flexible manufacturing processes supported by integrated supply chain planning and sales-force automation. What we are experiencing now is the emergence of the intelligent enterprise. Leveraging the benefits of the cloud, real-time analytics, and interconnectivity driven by the Internet of Things (IoT), we are now deep into the next manufacturing revolution. This journey is outlined in the graphic below.

From a customer engagement perspective, the digitalization of sales processes is a key part of this evolution. Instead of in-person interactions and manual order taking, the next-generation customer experience provides digital product data in e-commerce shops, automated order taking, and a value-driven customer engagement.

Operations management in this evolutionary process is now driven by the IoT, which provides instant insight as reactive approaches to solving equipment issues are transforming to predictive asset health for operations planning, what-if simulations, and optimized maintenance strategies, with all operational information available instantly in a digital boardroom.

Process automation of repetitive tasks helps eliminate manual processes in the evolution, replacing them with embedded machine learning and digital assistants.

The Evolution of Component Manufacturing

Business value

Intelligent enterprise
- IoT-driven operations
- Digital customer experience
- Insight-to-action-driven processes
- Repetitive task automation

Responsive enterprise
- Flexible manufacturing processes
- Integrated supply chain planning
- Sales-force automation

Transactional enterprise
- Business process reengineering
- Process automation
- Lean manufacturing

1990s   2000s   Future state   Time

Enable the end-to-end digital value chain for component manufacturing

Digital business models influence all areas of an end-to-end value chain for component manufacturing.

Insight to action
Embedding analytics and using digital assistants help component manufacturers generate detailed information to resolve issues, prioritize activities, and drill into specific analytics to link business transactions and collaboratively make better decisions faster.

Customer centricity
Offering a consumer-grade digital experience is critical for intelligent component manufacturing. By producing parts that fit the exact needs of the customer and engaging customers early in the buying cycle, manufacturers can leverage comprehensive insights across all sales channels to provide highly desired, on-time, and top-quality parts to their customers.

Serving the need for variability
Delivering a wide variety of high-quality innovative products and services quickly is mandatory in today's digital economy. By capturing customer requirements effectively and driving mass customization, component manufacturers can maximize customer satisfaction, differentiate from the competition, and grow market share.
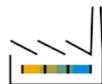
Smart factory and digital supply chain
Developing and managing intelligent business networks that integrate vertically into customer markets enables manufacturing processes to become more efficient by leveraging IoT technologies to drive efficient production operations and improve product quality.

Digital smart products
Providing innovative solutions and managing digital intellectual property (IP) effectively help component manufacturers actualize replenishment strategies and leverage new technology such as 3D printing capabilities for spare parts to keep costs down, minimize risk, and reduce downtime.

Aftermarket service
Meeting or exceeding customer expectations by providing predictive services, timely spare-parts delivery, and new business models, such as comprehensive tooling management, helps component manufacturers grow market share. Innovating with new digital value-added services that span multiple channels, distributors, and customers helps reduce costs, improve compliance, and maximize revenue.
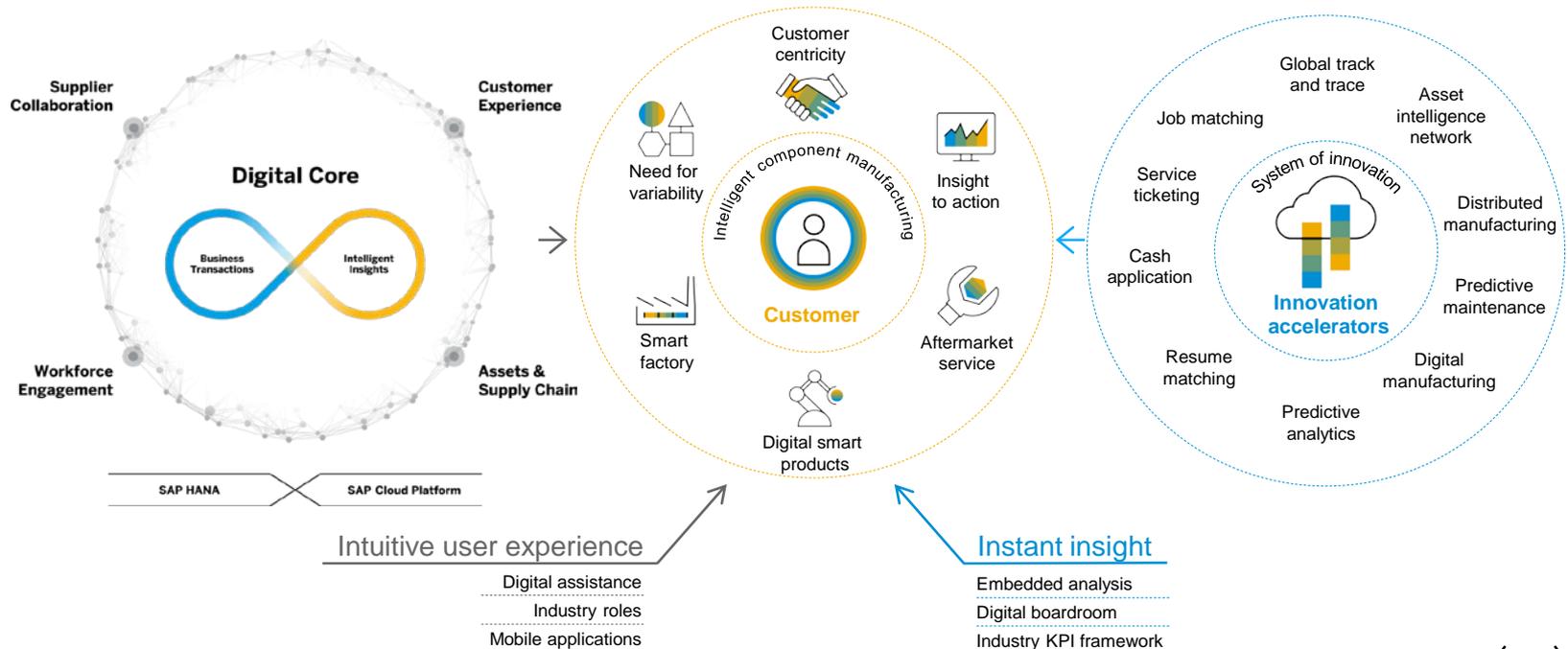
SAP® Cloud for Component Manufacturing

The SAP® Cloud for Component Manufacturing solution supports manufacturers for the next phase in the evolution of manufacturing – the "intelligent enterprise" – which introduces the digital core in the cloud, innovation accelerators, an intuitive user experience, and instant insight as key enablers.

SAP provides the end-to-end cloud solution needed for intelligent component manufacturers to compete and accelerate profitable growth in the digital economy.

49%

higher operating margin achieved by organizations that **leverage the cloud to rapidly innovate**

Source: SAP Performance Benchmarking, 2017

Digital Core

- Supplier Collaboration
- Customer Experience
- Workforce Engagement
- Assets & Supply Chain

Business Transactions — Intelligent Insights

SAP HANA — SAP Cloud Platform

Intelligent component manufacturing

- Customer centricity
- Need for variability
- Insight to action
- Smart factory
- **Customer**
- Aftermarket service
- Digital smart products

Innovation accelerators / System of innovation

- Global track and trace
- Job matching
- Asset intelligence network
- Service ticketing
- Distributed manufacturing
- Cash application
- Predictive maintenance
- Resume matching
- Digital manufacturing
- Predictive analytics

Intuitive user experience
- Digital assistance
- Industry roles
- Mobile applications

Instant insight
- Embedded analysis
- Digital boardroom
- Industry KPI framework

SAP Cloud for Component Manufacturing: Building blocks

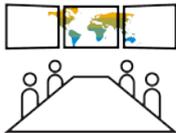**Watch video**

Digital foundation

- Multichannel front office to attract, cultivate, and retain customers
- Insight into asset performance and intelligence to ensure optimal operations
- Network to orchestrate procurement, logistics, and delivery
- Workforce management for internal and external staff
- Back office to ensure financial transparency of all business activities

Watch video

System of innovation

- Leverage predictive maintenance and service technology to reduce manufacturing downtime
- Participate in an asset intelligence network to collaborate with suppliers using digital twins
- Maximize the value of customer-facing IoT products, smart devices, and connected goods
- Optimize customer service levels and track inventory end to end with cloud-based, multitier logistics network capabilities
- Take advantage of digital manufacturing insights to achieve best-in-class operational performance

Watch video

Instant insight

- Answer ad hoc questions on the fly
- Monitor performance against critical success factors such as loss ratios
- Analyze root causes and simulate the impact of decisions
- Determine the effect on key performance metrics and profitability
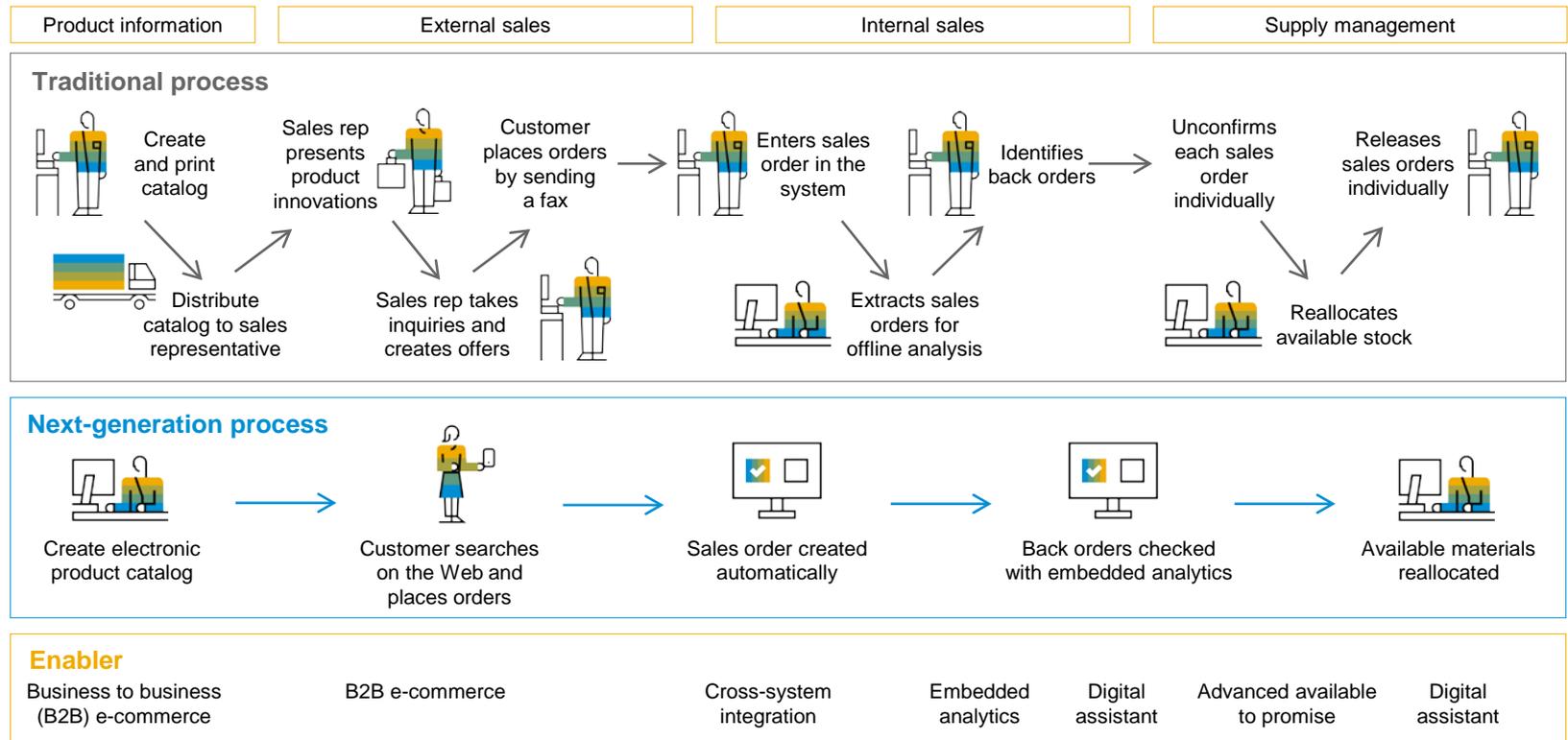
Watch video

Intuitive user experience

- Deliver the right information at the right time with multifaceted user interfaces
- Get instant, relevant insight – whether using mobile devices or a desktop computer
- Zero in on your most important tasks, functions, and activities
- Deliver a personalized, responsive, and simple experience consistently across the enterprise

Illustrative end-to-end process for component manufacturing in the cloud

Digitalization of the sales process

In the light of digitalization, the sales process for component manufacturers will transform by leveraging consumer-grade customer experiences. Product information is provided through an e-commerce store rather than in a printed format. The customer can search for related product information unassisted and place an order without involving a sales representative. A sales order is created automatically in the order fulfillment system. The sales manager continues the process with an insight-to-action-driven approach based on KPIs, managing back orders with the ability to drill down and triggering a conversation with an embedded digital assistant. The order fulfillment manager receives the notification and uses the embedded available-to-promise capabilities to reallocate available material to high-priority sales orders.

Product information	External sales	Internal sales	Supply management

Traditional process

Create and print catalog → Distribute catalog to sales representative → Sales rep presents product innovations → Sales rep takes inquiries and creates offers → Customer places orders by sending a fax → Enters sales order in the system → Extracts sales orders for offline analysis → Identifies back orders → Unconfirms each sales order individually → Reallocates available stock → Releases sales orders individually

Next-generation process

Create electronic product catalog → Customer searches on the Web and places orders → Sales order created automatically → Back orders checked with embedded analytics → Available materials reallocated

Enabler

Business to business (B2B) e-commerce | B2B e-commerce | Cross-system integration | Embedded analytics | Digital assistant | Advanced available to promise | Digital assistant

Value proposition for SAP Cloud for Component Manufacturing

SAP Cloud for Component Manufacturing provides a proven framework to adopt industry best practices while attaining operational excellence from the front office to the back office.

Strategy enablement

- Higher innovation ability
- Greater business agility to respond to market changes
- Superior competitive advantage through next-generation industry processes and intelligence
- Stronger customer engagement with a consumer-grade user experience
- Greater employee engagement and productivity
- Better governance and compliance
- Faster route to becoming a connected enterprise

Business benefits*

- Increase new-product revenue 10%–20%
- Improve on-time delivery performance 10%–20%
- Reduce inventory levels 25%–30%
- Boost customer satisfaction 10%–20%
- Decrease logistics costs 10%–12%
- Compress manufacturing cycle times 10%
- Shrink service-level noncompliance 4%–5%
- Cut procurement cost 15%–20%

Strategy enablement

Business benefits

Trusted partnership

IT benefits and TCO

Trusted partnership

- 97% of discrete industry manufacturers running SAP software
- More than 36,000 discrete industry customers worldwide
- Deep, industry-specific capabilities
- Embedded, preconfigured best practices
- Essentials required to compete in the digital economy

IT benefits and TCO*

- Cut total cost of ownership (TCO) 20%–25%*
- Reduce development time 50%–75%*
- Easy software-as-a-service (SAAS) consumption
- Lower testing costs
- Simpler solution landscapes
- Native extensibility to enable innovation with more than 650 SAP partners
- Quarterly innovation cycles
- Built-in business continuity

*Benefits are based on early adopters or conservative outside-in benefits due to moving from a traditional ERP to enhanced SAP S/4HANA and 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.

Customers achieve value with SAP software

BOA Group, one of the world's leading manufacturers of flexible mechanical elements for automotive, aerospace and defense, and other industries, is dedicated to reliable and innovative designs that give its customers a competitive edge. To support them more efficiently, the BOA sales team uses the SAP® Hybris® Cloud for Sales solution.

"SAP Hybris Cloud for Sales is something every salesman wants and every salesman asks for. It is very easy to handle – a real sales tool that is helping our sales team come up to the next level and do their job better."

Rob Vissers
Deputy Director Global Customer Coordination
BOA Group

MAPAL, a midsize family business, has been a leading provider of precision tools for decades. To build on its history of innovation, quality, and cost-efficiency, MAPAL turned to SAP Cloud Platform to enable fast, agile application development and intuitive native iOS apps that harness the power of the Internet of Things.

"We need to be cloud based in order to really be the best at what we do, and I think SAP S/4HANA will support that."

Dr. Jochen Kress
Member of the Management Board
MAPAL Dr. Kress KG

How do I get started?

SAP's design thinking approach supports the transformational journey of intelligent component manufacturers.

Process

Discover	Design	Deliver
What is the problem to solve?	What are the potential solutions?	How do we roll out and get feedback?
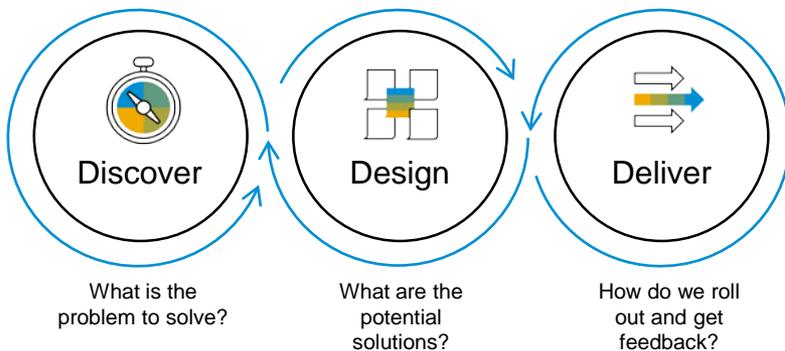
[Read all about design thinking and digital transformation](#).

Imagine, create, and innovate with design thinking. [Learn more here](#).

Principles

During the **discover phase**, we find the problem by empathizing with the person and observing their needs and challenges. The insights gained are then used in the **design phase**, which is the solution-finding space. In the **deliver phase**, the focus shifts to implementing the potential solution. The entire process is highly iterative, with many feedback loops throughout.

The aim is to yield a feasible and viable solution that produces a tangible and quantified outcome linked to the organization's objectives.

Watch how SKF, a global bearing manufacturer, is reaching peak manufacturing efficiency by taking a people-centric approach to digitalization with a system that empowers users with design thinking.

Explore the SAP Cloud for Component Manufacturing solution

Check it out for yourself by going for a test-drive to explore SAP S/4HANA Cloud with a [14-day free trial](#).