Transform Your Operations with Eviden Closed Loop Manufacturing – **Sustainable & Resilient Design to Consumer Solutions**

EVIDEN TEAMCENTER SAP aws

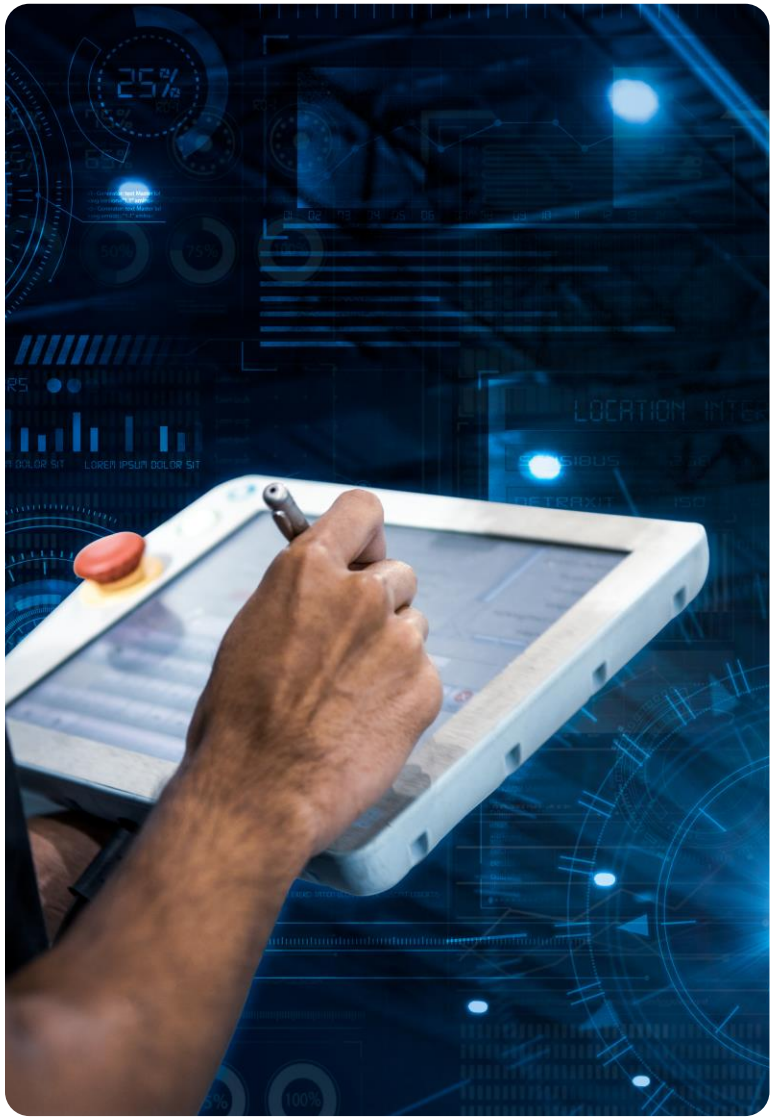
Co-Innovated with SAP®

Your Factory, But Smarter

Most manufacturers today have some form of IoT or Industry 4.0 initiative in the works. You're probably one of them. Chances are you have some sensors on your shopfloor or in your supply chain, have computers across your enterprise and are regularly generating masses of industrial equipment data – even if you don't yet know how to monetize it.

But no matter how many different IoT or connectivity initiatives you have in place, these tactical 'innovation projects' won't address the strategic demands facing industry today - the need for an intelligent, self-aware factory where production assets, manufacturing processes and equipment maintenance converge.

As the world changes, so too does the bar for manufacturers. Driving sustainable value and intelligently connecting your business strategy with your people, processes and technology is no longer a 'nice to have'. Smart manufacturing, sustainability and agility have moved up every manufacturer's priority list.

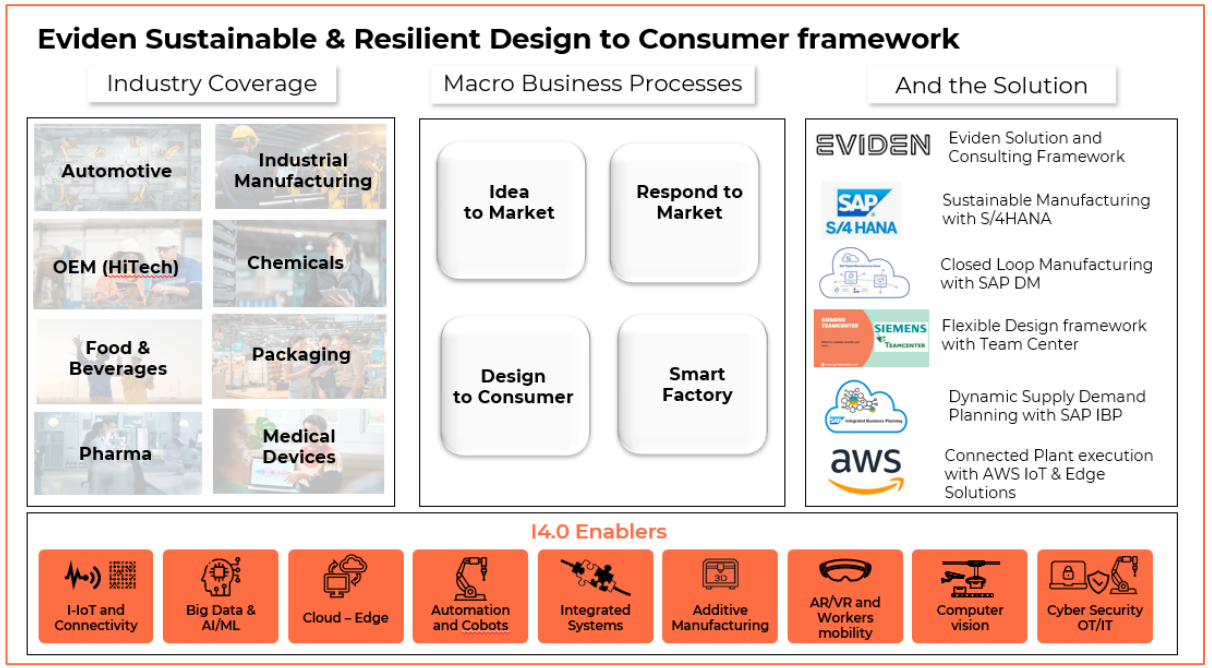


> Only when the tide goes out do you discover who's been swimming naked.
> **Warren Buffet**

Integrated & Connected:
Machines, People, Processes and Big Data

No matter how good your products are, you can't continue to thrive with an old model while the world continues to change around you. Nobody wants to knowingly run a business in the shadow of borrowed time. Simply putting smart components or more automation into the process in the hope of becoming an intelligent enterprise or achieving smart manufacturing is as futile as putting an engine and a Sat Nav on a horse, hoping it will run faster, know where to go and call itself a vet when injured.

Unlike a traditional factory, where people, assets, and systems all operate in isolation from each other (and must be continually coordinated), a Smart Factory integrates machines, people, and Big Data into a single, digitally connected ecosystem, and even monitors and triggers its own maintenance.



> Change before you have to
> **Jack Welch**

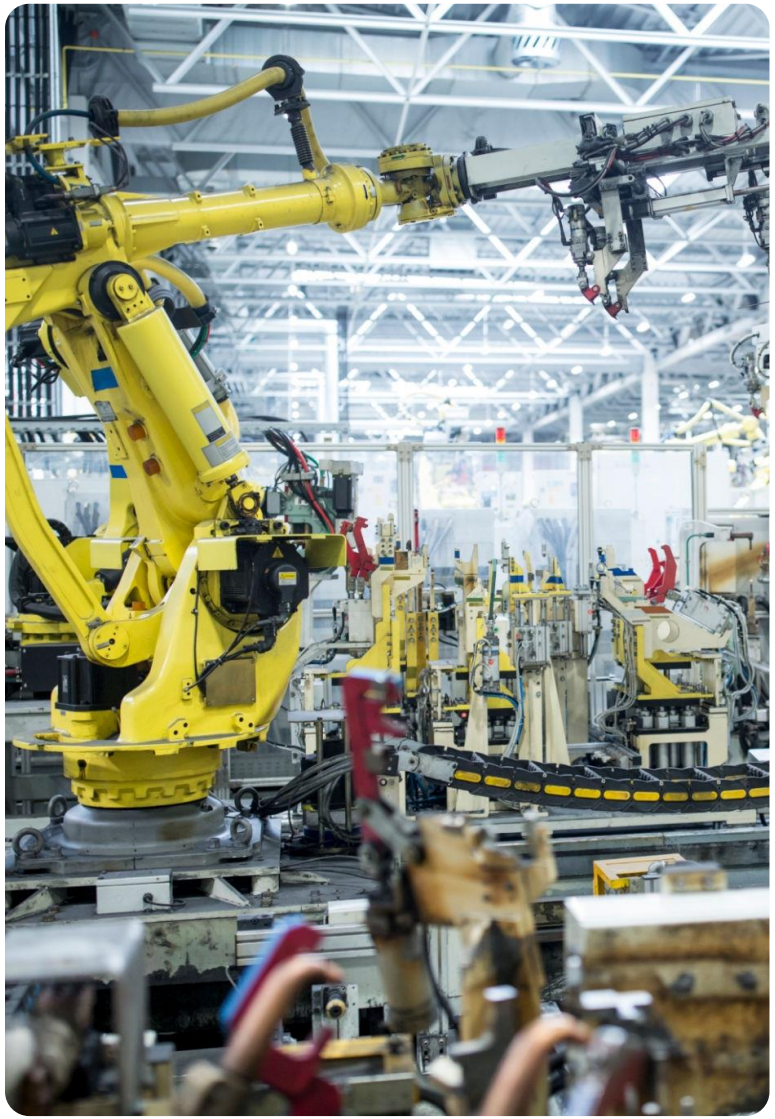
Yes, but why now?

And where would I start?

Manufacturing parameters and expectations have permanently shifted. Some of the drivers forcing change are - new business models, changing customer demands, better resource utilization, increasing operational efficiency, addressing supply chain disruptions, reducing cost and increasing uptime by proactively managing asset performance.

Time to Value, Time To Market, asset maintenance, cash flow, quality and shopfloor traceability all demand a modern focus to remain competitive. But change can be uncomfortable, especially if you don't know where to start, what to expect, how to de-risk your transformation, or effectively achieve it. Nobody wants to get it wrong. The stakes are high and its new territory for most manufacturers.

> Intelligence is the ability to adapt to change
>
> **Stephen Hawking**



Closing the loop

At Eviden, we understand that the convergence of the physical and digital worlds – from Customer demand in market to its design & viable supply plan to its intelligent manufacturing along with production simulation and the wider ecosystem – require the right experience and the right technology infrastructure.

Our deep sector expertise means we know how to guide our customers to successfully transform their manufacturing plants into an adaptable, agile Closed-Loop Smart Factories.

In conjunction with our technology partners, Siemens Teamcenter, SAP and AWS, we are using some of the world's most advanced technologies, such as AI and Machine Learning to create factories that not only orchestrate the manufacturing processes, but actually learn from their experiences.

The combination of SAP's technology and our step-based approach means you can easily adapt at your own pace to meet all your sustainability, environmental, productivity and commercial needs.

> When you know better, you do better.
>
> **Maya Angelou**

What can I expect?

The shift from single, siloed systems and organizations to networks of Integrated capabilities is a game-changer for manufacturing factories. Our experience in this area means we are a trusted pair of hands to some of the world's leading manufacturing companies across the Discrete and Process industries, including but not limited to Automotive, Chemicals, CPG, Pharmaceutical and Hi-Tech.

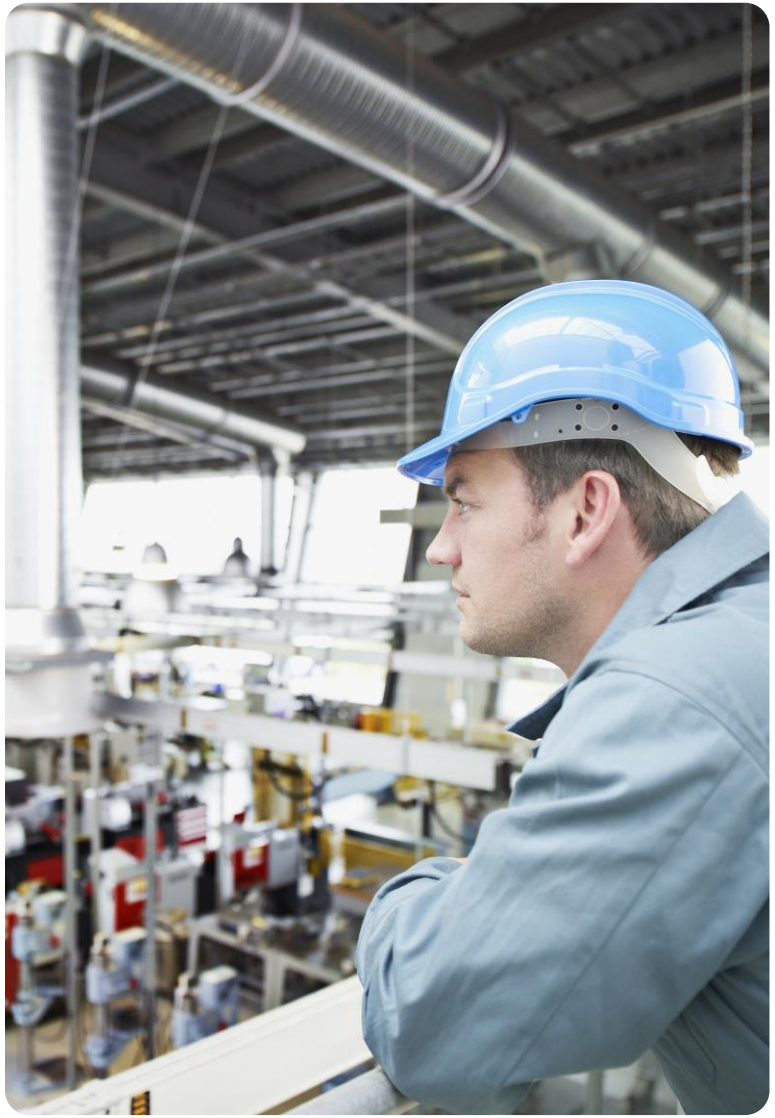
Eviden's consultative Smart Manufacturing service helps you with:

- Charting Smart Value Chains – Smart Factory, Sustainable Manufacturing
- Insights on how to create a Trusted Digital Platform – transparent, agile, resilient enterprise applications
- Advice on how to accelerate business gains, where to start, what to expect and how to scale
- Services across entire value chain – Consulting, Change Management, Implementation, Training & Support
- Creating immersive experiences and tailored workshops
- Solution design and implementation

Our step-based approach lets you:

- Build a solid shopfloor digital transformation strategy and a flexible roadmap
- Focus on managing Brownfield Innovation - Optimize legacy applications while rolling out new technologies
- Co-development environments demonstrating proof of concepts and prototypes to choose opportunities from SAP manufacturing Use Case catalogue
- Test, scale and deploy specific Smart Factory use cases that will best optimize your assets and plants.
- Reap the benefits at each phase of "Design to Consume" – from Design with Siemens Teamcenter, Plan with SAP IBP, Produce with SAP Manufacturing, Deliver with Supply Chain Logistics, Operate with SAP Asset Management solutions
- Trigger proactive alerts to respective engineers, supervisors and shopfloor operators

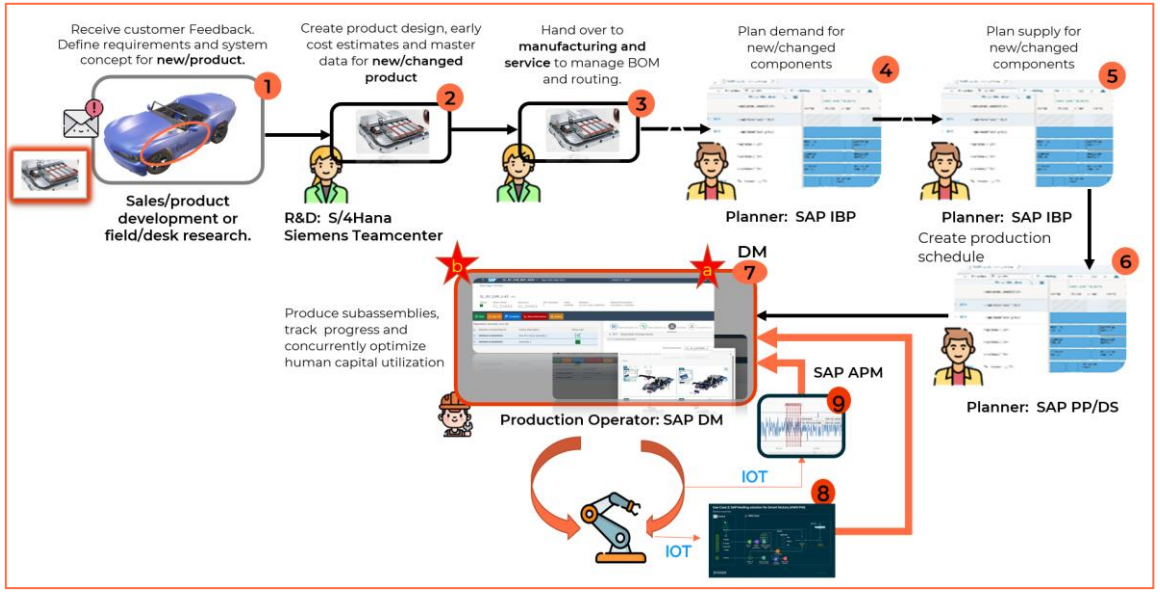
> The only source of knowledge is experience
> **Albert Einstein**



Follow our steps. Start your journey

Design to Consumer Solution for future proof Businesses

Integrated Solution across Value chain
(Siemens Teamcenter, SAP, AWS & Eviden)



With a modular approach to guide you to your transformation journey of a smart factory, we offer multiple options of initial engagement

1. 1 hour (Aware)	Customer made aware about initial approach of use case(s) of innovations and projects aligned with D2C as per specific Industry type (Discrete / Process)
2. 1 day (Explore)	CLM 2.0 catalogue Options 3-5 top use cases and architecture options presented to customer Use case priority
3. 1 week (Assess)	Quantified business outcome of top 3-5 use cases . Selected Use Cases & architecture option for Demo, MVP and/or PoC.
4. 1 month (Qualify)	Basic Offering to conduct PoC to prove feasibility & business value

> Step by step and the thing is done.
> **Charles Atlas**

Double-digit gains

On average, we anticipate double digit gains for our customers using our consultative, step-based approach, including:

Track production status and downtime events in real time, to priorities maintenance resources

-30% Unplanned downtime

Digital Twins can be used to streamline the design process by shortening or elimination many aspects of prototype testing

2-4x faster time to market

Apply data analytics to pinpoint sources of material loss and take corrective action to reduce waste

+15% Material yield

Use AI-enabled natural language processing to accelerate root cause analysis and reduce defect rate and investigation costs

-25% Non-conforming product

Inbound material shipments can be tracked in real time and predictive models used to reduce inventory levels

-30% Inventory

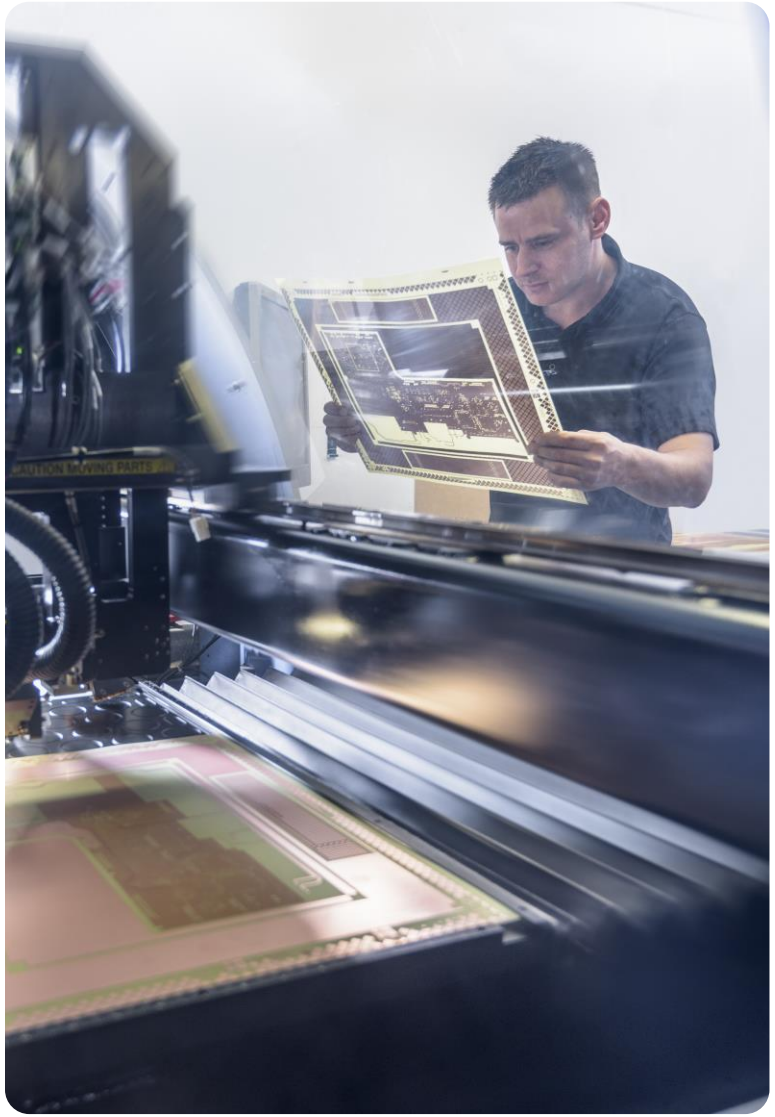
Forecast accuracy can be improved by using smart predictive models.

+10% On-time in full

Monitor energy usage at equipment level with IoT sensors to identify and fix areas of over-consumption

-15% Energy consumption

> Growth inside fuels growth outside
> **John Maxwell**



What does success look like?

In context of implementing smart factory solutions on the plant floor, defining success involves gradual & structured progression. Starting with our project approach, success can be measured as **outcome** for each Project Execution model:

Silver: A functional MVP demonstrating the feasibility of closed-loop manufacturing, with clear understanding of its potential and limitations

Gold: Validation of the closed-loop manufacturing concept in a larger context, addressing specific pain points identified in the MVP phase.

Diamond: Increased scale and impact of closed-loop manufacturing, demonstrating its ability to optimize multiple processes and enhance collaboration across departments.

Platinum: Full-scale implementation of closed-loop manufacturing, transforming the entire plant floor into an intelligent, interconnected environment that delivers sustained business value.

How do we help you Transform

	Silver	Gold	Diamond	Platinum
Applicability for	Small to medium-sized manufacturing operations with standard requirements	Medium to large manufacturing operations with more complex needs	For medium to large manufacturing operations with more complex needs	For enterprises with complex, dynamic manufacturing processes
Features	Core SAP DM features / functionalities	Expanded MES functionalities	Comprehensive MES functionalities across entire manufacturing process. Integration with various Mfg Systems (ERP, SCM etc)	Full suite of MES functionalities, with modular add-ons available. Integration with IoT devices for real-time data collection
Support	Standard support during business hours	Priority support	Premium support with extended coverage, possibly 24/7	Premium support with extended coverage, possibly 24/7 and dedicated account management
Customization	Basic customization options for adapting to standard manufacturing processes.	Enhanced customization options / Moderate customization options for specific manufacturing needs	Advanced customization options for tailoring MES to specific industry needs	Highly customizable, tailored solutions for unique manufacturing processes
Closed Loop Principles	Basic closed-loop feedback	Improved closed-loop feedback for proactive maintenance control and process optimization	Improved closed-loop feedback for proactive maintenance control and process optimization.	Advanced closed-loop system with complete automation, closed-loop supply chain integration and sustainability metrics Circular economy principles, including waste reduction and resource efficiency

Throughout this journey, success should also be measured by adaptability of smart factory solutions to changing business needs, continuous improvement in operational metrics, and positive feedback from the workforce regarding usability and effectiveness of the integrated solution(s). It is important to iterate, learn from each phase, and incorporate feedback for ongoing enhancements, ensuring a dynamic and sustainable smart manufacturing ecosystem.

Our innovation Framework

In conjunction with SAP, Siemens & AWS, we have created services to design and implement a comprehensive Innovation Framework that moves beyond standalone technology and data from the edge. With an Industry 4.0 architecture we deliver the 'Holy Grail' of production automation for intelligent, self-aware manufacturing, including:,

- Siemens Teamcenter
- SAP PLM (Product Lifecycle Management)
- SAP Digital Manufacturing (shopfloor execution, Insights and Resource Orchestration)
- SAP Integrated Business Planning
- SAP PCo (Plant Connectivity)
- SAP APM (Asset Performance Management)
- SAP AIN (Asset Intelligent Network)
- SAP EPD (Engineering Product Design)
- AWS IoT Edge / Core
- SAP PP/DS (Production Planning / Demand Scheduling)
- SAP EWM (Extended Warehouse Management)
- Eviden Industry 4.0 Accelerators

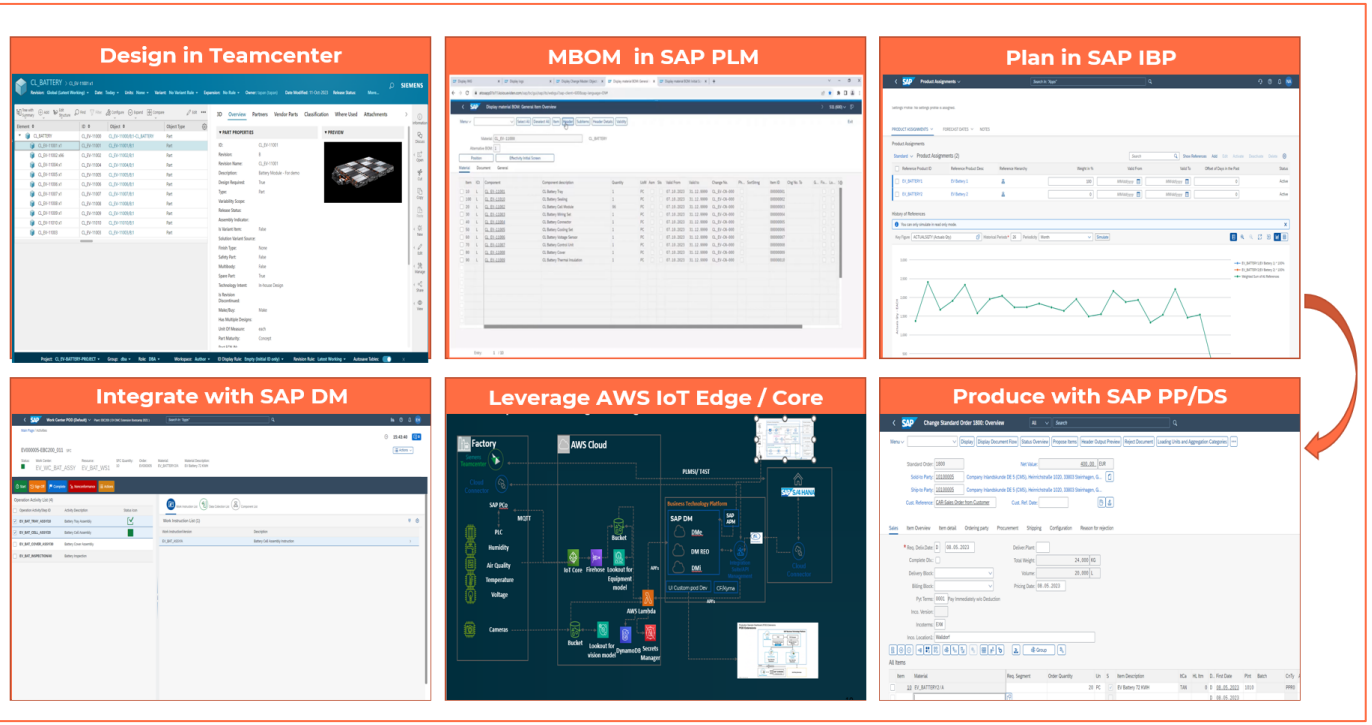
Top core technologies at the heart of a smart factory manufacturing approach includes :

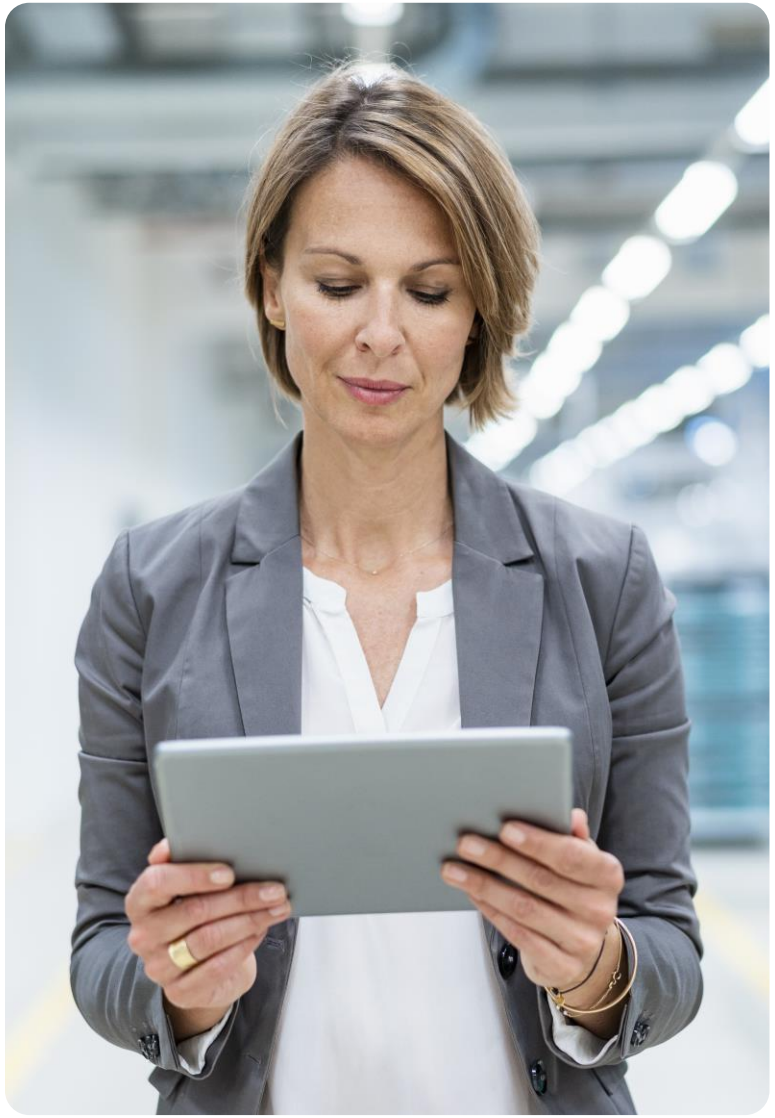
1. IoT (Internet of Things): Sensor-equipped devices and machines for real-time data collection and monitoring.
2. MES (Manufacturing Execution System): Centralized system for managing and controlling manufacturing operations.
3. Big Data Analytics: Processing and analysis of large volumes of data for actionable insights and optimization.
4. Machine Learning and AI (Artificial Intelligence): Enhancing predictive maintenance, quality control, and process optimization.
5. Edge Computing: Processing data at the edge of the network for reduced latency and real-time decision-making.
6. Digital Twin Technology: Creating virtual replicas for simulation, analysis, and optimization of physical processes.
7. RFID (Radio-Frequency Identification): Enabling asset tracking, inventory management, and improved traceability.
8. Human-Machine Interface (HMI): Intuitive interfaces and dashboards for operators to monitor and control manufacturing processes.
9. Energy Management Systems: These systems help optimize energy usage in the manufacturing process, contributing to sustainability goals.

The effective integration of these technologies forms the foundation of our closed-loop manufacturing system (existing version & road-map) in a smart factory, leading to improved efficiency, quality, and agility in production processes. The selection and combination of these technologies depend on the specific requirements and objectives of the smart factory implementation.

See it in action for yourself

Interested in learning more? Speak to one of our experts and experience a tailor-made demonstration addressing your specific challenges, either at our Business Technology Innovation Centre (BTIC) or an SAP Experience Centre.





About Eviden

Eviden is a SAP Platinum Partner and next-gen technology leader in data-driven, trusted and sustainable digital transformation with a strong portfolio of patented technologies. With worldwide leading positions in advanced computing, security, AI, cloud and digital platforms, it provides deep expertise for all industries in more than 47 countries. Bringing together 53,000 world-class talents, Eviden expands the possibilities of data and technology across the digital continuum, now and for generations to come. Eviden is an Atos Group company with an annual revenue of c. € 5 billion.

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