

# The 'How To Guide' to Closed Loop Manufacturing – **Sustainable & Resilient** **Design to Consumer Solutions**

EVIDEN



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an atos business



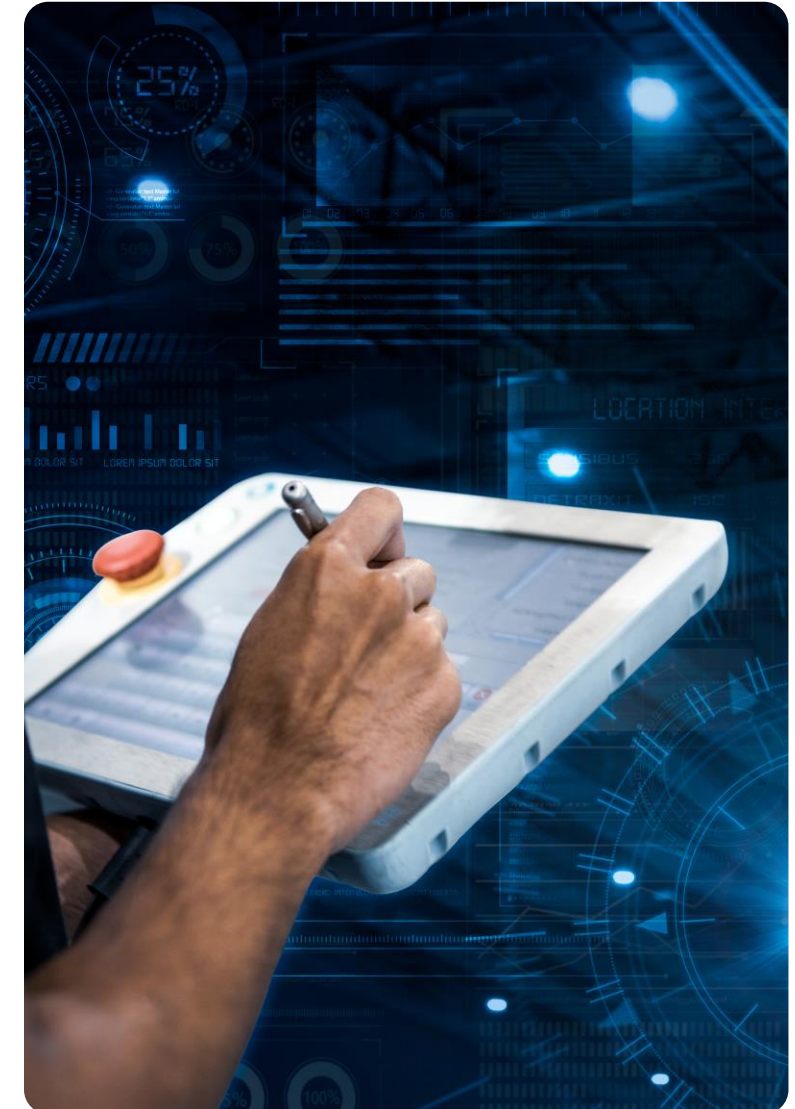
## Your Factory, **But Smarter**

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 shop floor 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.

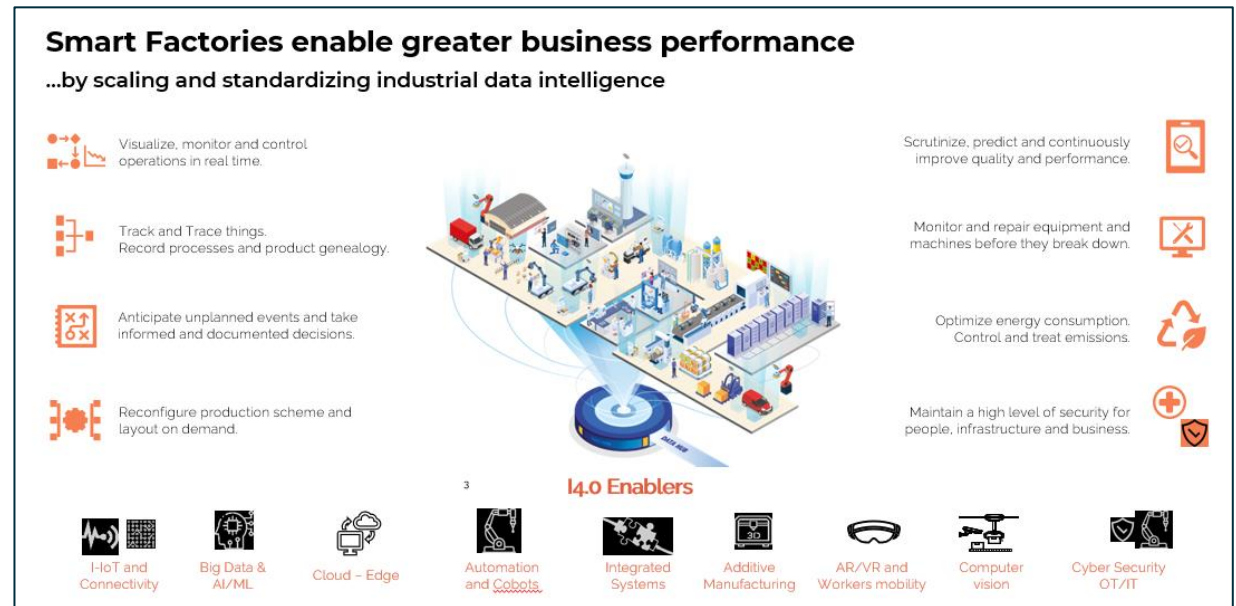
Only when the tide goes out do you discover who's been swimming naked.  
**Warren Buffet**



## 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**

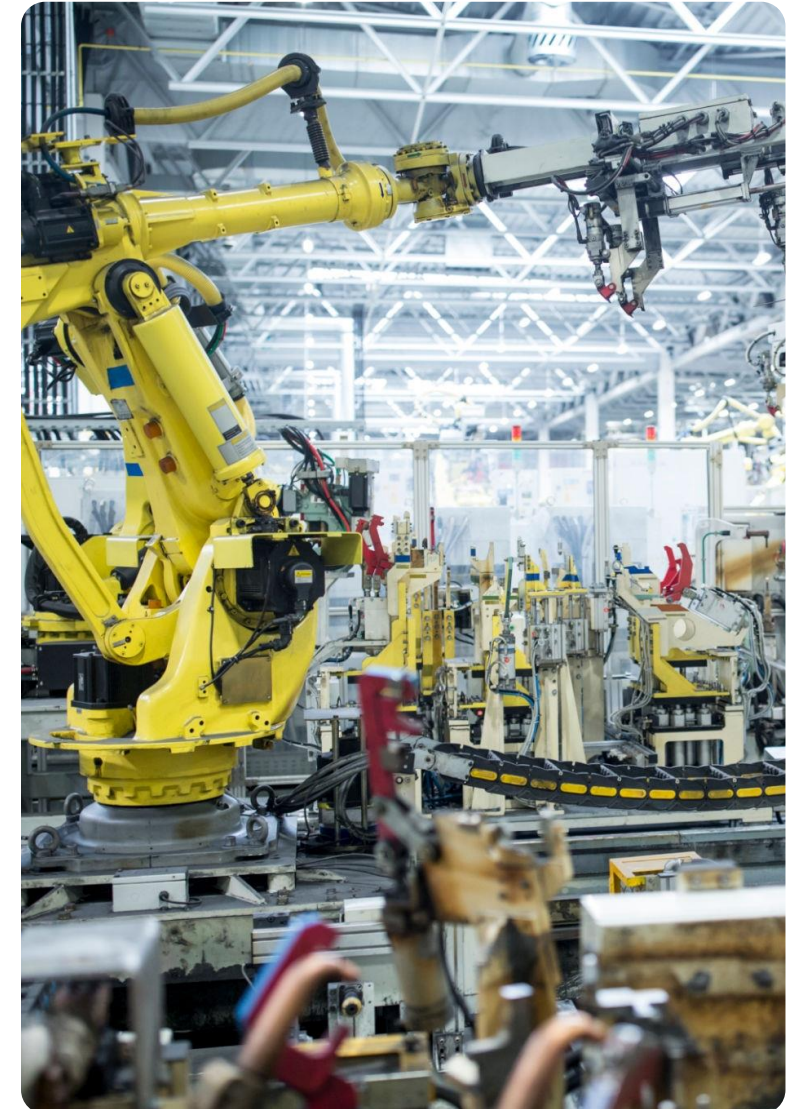


## Yes, but why now? And where would I start?

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 shop floor 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 it's 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:

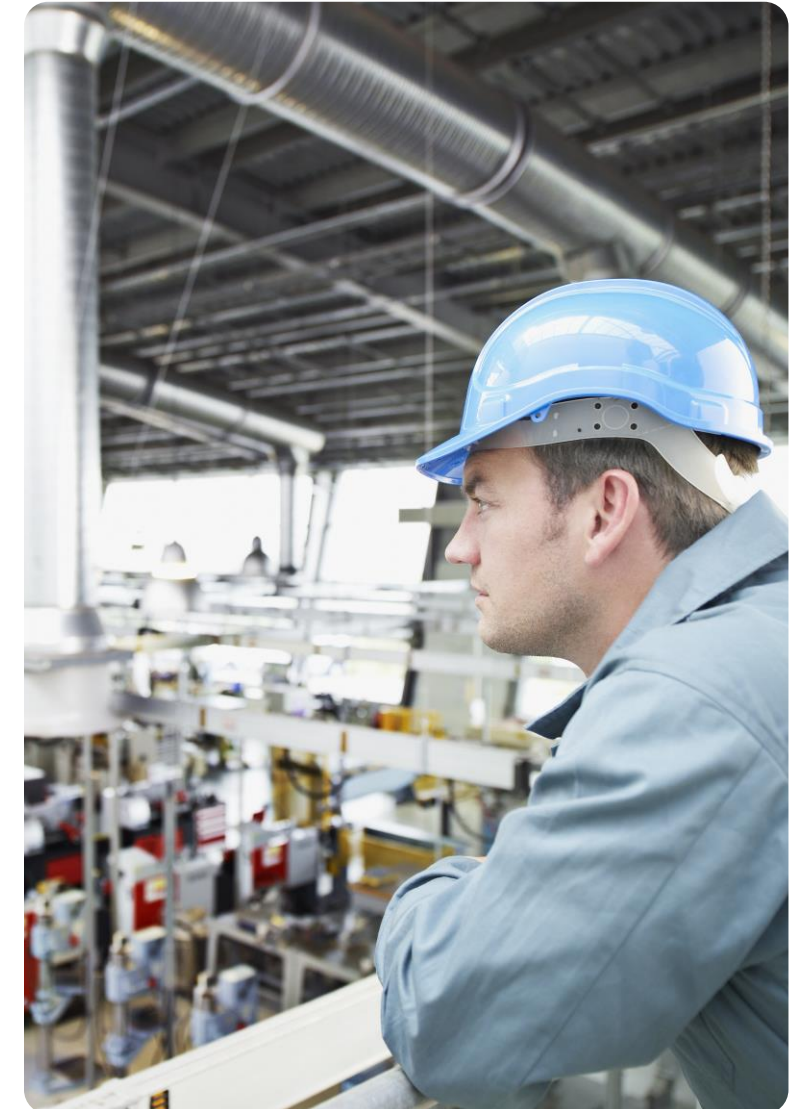
- Chartering Smart Value Chains – Smart Factory, Sustainable Manufacturing
- Insights on how to create Trusted Digital Platform – transparent, agile, resilient enterprise applications
- Advice on how to accelerate business gains, where to start, what to expect and how to scale
- Services across entire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

### Our step-based approach lets you:

- Build a solid shop floor 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**

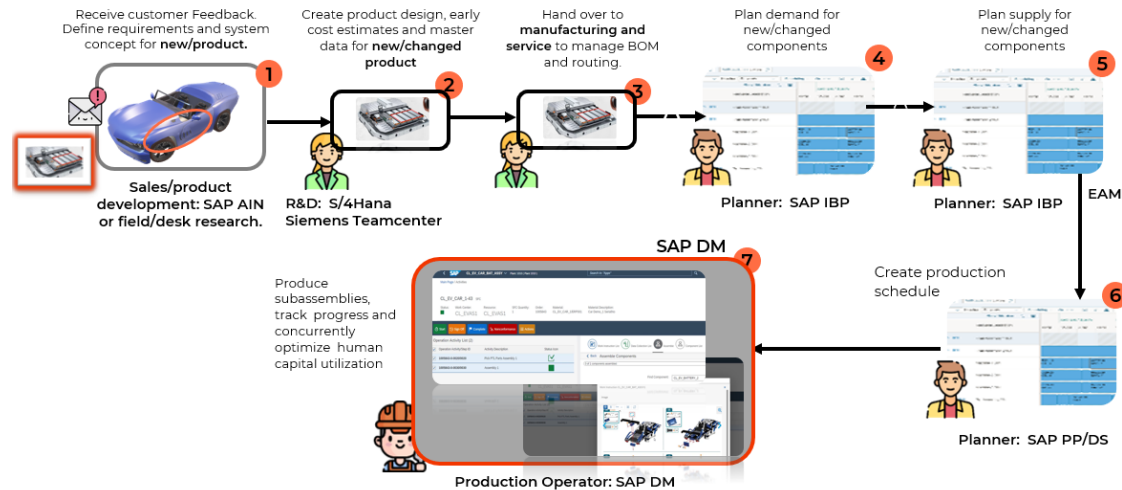


# Follow our steps. Start your journey

Integrated Solution across Value chain  
(Siemens Teamcentre, 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

## Sustainable & Resilient planning for future proof Businesses



<b>1. 1 hour (Aware)</b>	Customer made aware about initial approach of use case(s) of innovations and projects aligned with D2C as per specific Industry type (Discrete / Process)	<b>2. 1 day (Explore)</b>	CLM 2.0 catalogue Options 3-5 top use cases and architecture options presented to customer Use case priority
<b>3. 1 week (Assess)</b>	Quantified business outcome of top 3-5 use cases . Selected Use Cases & architecture option for Demo, MVP and/or PoC.	<b>4. 1 month (Qualify)</b>	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, our customers see double digit gains in numerous areas 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.

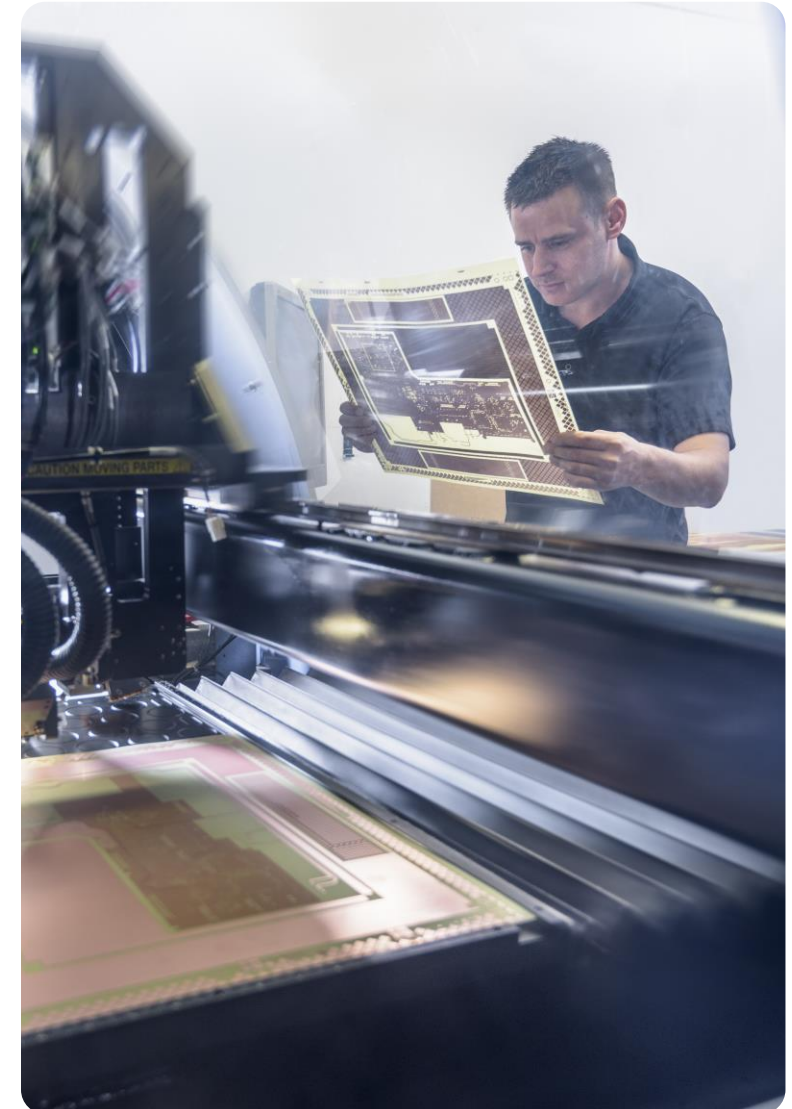
**+10%**  
On-time in full

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



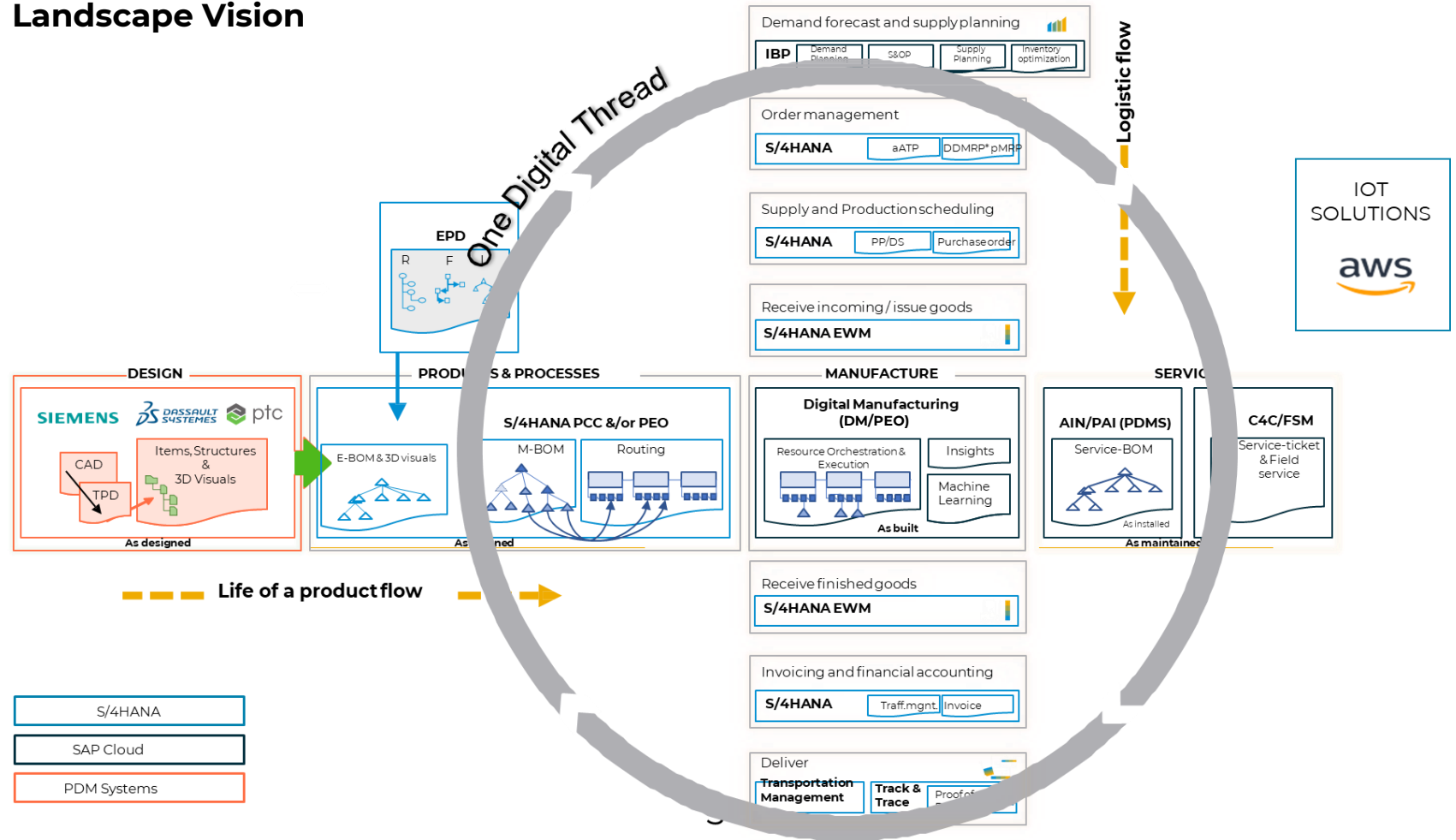


# What does success look like?

We spell out which specific use cases you should start with – whether it’s Immersive experience, Intuitive Design with Teamcenter Design, Remote Assistance and Instruction, Integrated Planning, Digital Quality, Production Planning, Asset Management, Predictive Maintenance and Condition-based Monitoring, OEE reporting, or Knowledge and Learning – along with all the respective KPIs you can expect for each.

You can see Close Loop manufacturing in action for yourself in this short video on [Intelligent Asset Management](#) as part of Predictive maintenance use cases

## Landscape Vision



## What technologies are at the core of our approach?

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 Digital Manufacturing (shopfloor execution, Insights and Resource Orchestration)
- SAP Integrated Business Planning
- SAP PCo (Plant Connectivity)
- SAP PAI (Predictive Analytics Insight)
- SAP AIN (Asset Intelligent Network)
- SAP Manufacturing Integration & Intelligence (SAP MII) / OEE
- SAP Manufacturing Execution (SAP ME)
- SAP Visual Enterprise
- AWS IOT /Edge
- SAP Analytics / ML

### Metaverse

The digital twin and the industrial metaverse are the next step in our Close Loop Manufacturing vision as these two technologies continue to shorten the gap between the human and the digital world.

Organizations can use Industrial Metaverse to simulate and test products, train employees, optimize industrial operations and visualize data in new and innovative ways to discover new sources of customer value. For example, a manufacturing company might use an Industrial Metaverse to design and test new products, while an energy company might use it to simulate and optimize their power grid.



# See it in action for yourself

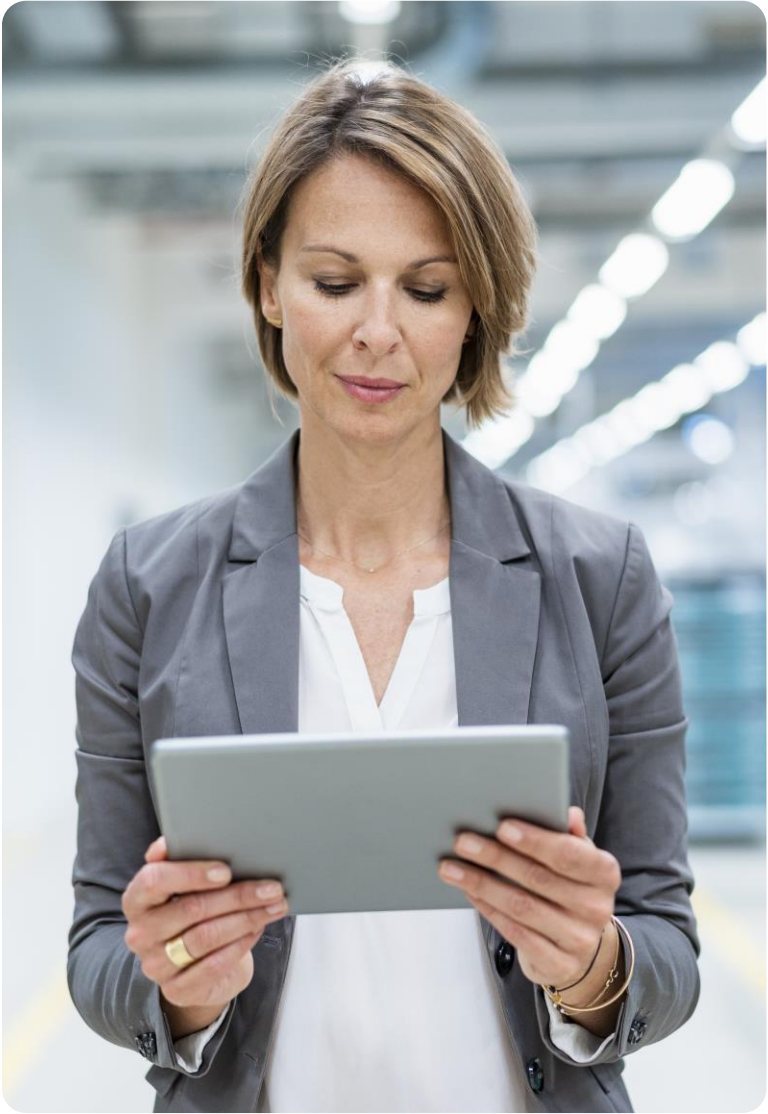
Interested in learning more? Speak to one of our experts and experience a tailor-made demonstration addressing your specific challenges, either at our Business Technology Innovation Centre (BTIC) or an SAP Experience Centre.

## BTIC Amstelveen



## SAP Experience Center in 's-Hertogenbosch

- Customized Experience**  
 Share your business challenges and give us the opportunity to jointly think ahead.
- Tailored workshop**  
 Allow our experts to take the lead in designing a workshop tailored to your needs.
- Inspiring environment**  
 Create relevant solutions through co-development, creation of proof of concepts and prototypes to grow your business.
- Diverse Ecosystem**  
 Meet with our partners as well as the disruptive start-ups we frequently work with and discover our unique joint solutions and applied use cases.




 For more information please contact: [sapppractice@eviden.com](mailto:sapppractice@eviden.com)

## About Eviden

Eviden designs the scope composed of Atos' digital, big data and security business lines. It will be a global leader in data-driven, trusted and sustainable digital transformation. As a next generation digital business with worldwide leading positions in digital, cloud, data, advanced computing and security, it brings deep expertise for all industries in more than 53 countries. By uniting unique high-end technologies across the full digital continuum with 57,000 world-class talents, Eviden expands the possibilities of technologies for enterprises and public authorities, helping them to build their digital future. Eviden is an Atos Group business with an annual revenue of c. € 5 billion.

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