



Innovation Story

The EDA journey - Don't stop believin' real-time

Siemens

Digital Manufacturing Industry / High tech

Technology Pathfinder

SIEMENS



PUBLIC



The EDA Journey - Don't Stop Believin' Real-Time



Siemens SHERPA X: Event-First for Real-Time Integration

Siemens set out to revolutionize enterprise SAP with the SHERPA X program. A platform designed to meet and anticipate all modern IT trends and to be on a clean-core SAP Standard Platform. For a modernized S/4HANA Cloud ERP Private platform, Siemens recognizing that traditional, static integrations could no longer keep pace, Siemens adopted an event-first approach, making real-time responsiveness one core principle of SHERPA X. This architecture enables information to flow instantly and securely across the organization, connecting systems from ECC to S/4HANA and empowering distributed teams worldwide. Furthermore, packaged business capabilities (PBC) are explored to connect potential AI agent orchestration platforms.

SHERPA X is built for scalability, evolving alongside Siemens' business needs and technological advancements. Its harmonized, integrated design ensures end-to-end observability and operational excellence, giving IT teams the visibility and control required for mission-critical processes. The platform's "share & care" philosophy fosters reuse and collaboration – standardized event schemas and broker topologies allow teams to define events once and leverage them across multiple scenarios, accelerating innovation and reducing IT effort. With SHERPA X, Siemens has created a sustainable, future-ready integration backbone that empowers people, optimizes operations, and sets new standards for what's possible in real-time business.

EXECUTIVE SUMMARY

The EDA Journey - Don't Stop Believin' Real-Time

SIEMENS

CHALLENGE

An **Event-first approach** leads with asynchronous communication, real-time responsiveness, and superior scalability and fault tolerance. Events decouple systems, allowing for dynamic, resilient architectures that handle spikes and failures gracefully. In contrast, an **API-first**, design-driven approach enables simplified integration, flexibility, and scalability by standardizing interfaces and promoting modularity. It excels in synchronous, request-response scenarios, making system connections predictable and manageable. Besides API-first, Event-first is ideal for complex, distributed environments demanding instant updates and robust reliability, making it the leading scenario for modern, real-time business operations.

SOLUTION

SAP BTP Advanced Event Mesh, enhanced by the AEM ERP Add-On, enables seamless, real-time event-driven integration across complex ECC and S/4HANA landscapes. Distributed teams worldwide implement the Event-first approach. This approach follows the Clean Core guidelines and optimizes IT efforts by defining an event once and using it multiple times in Siemens environment. Standardized event schemas and broker topology ensure interoperability, while end-to-end observability and resilient event flows empower global collaboration, rapid innovation, and sustainable real-time business operations.

This solution supports the architectural pattern of packaged business capabilities to modernize towards a modular, composable business centric clean ERP core.

OUTCOME

Using a central Event Studio Approach to distribute multiple Events in heterogenous business scenarios like:

- Extended Warehouse Management,
- Production Orders for Resilient Manufacturing,
- Sales Order Changes for Track and Trace capabilities or
- Custom data integrations in several contexts (e.g. Available to Promise, Order Management System)
- Enabling further Services like SAP Build, Business AI, etc.

are measurable outcomes for Siemens.

3 Mio Avoid potential
loss per year

Tracking of SAP Objects (e.g. Production
Orders, Maintenance Orders)

Manufacturing downtime

16h Resilience
Manufacturing

Resilient Manufacturing in Factory for 2
working shifts

Targeting 0,001 % downtime

100% Information at
Real-Time

Avoidance of possible production loss due
to system downtime of 3 Mio EUR per year

Ensuring delivery for Siemens

Project details

PROJECT OBJECTIVES

For the Event Driven Architecture Approach Siemens:

- Compare and evaluate the available technologies on the EDA market
- Recommend a state-of-the-art and future-proof integration architecture for SIEMENS SHERPA X
- Share best practices for event-enabling SAP systems
- All SAP deployment options should be supported (on-prem, IaaS, RISE with SAP)
- All SAP versions should be supported (SAP S/4HANA and ECC)
- Validate based on productive use-cases

USE CASE

Resilient Manufacturing: Real-Time Production Order Event Integration

This use case enables Siemens Manufacturing to send production order events from SAP systems to SAP Advanced Event Mesh (AEM), which then forwards them to other consumers. The process ensures real-time transmission of production order changes, supporting operational agility. Key tasks include generating custom payloads tailored to specific customer requirements, with support for multiple payload versions to address evolving needs. Customer-specific information is embedded within each event, ensuring relevant data is transferred to AEM. The main challenges involved creating the correct custom event structure, calculating values for customer-specific fields after the event is triggered, and managing broker header attributes that fall outside AEM's standard. This use case makes the Siemens Manufacturing more resilient based on the real-time integration.

This is only one example of several use cases out of the Siemens SAP Ecosystem. A specialized SHERPA X Team elaborates business requirements and defines on given decision criteria the right integration pattern during the Siemens S/4HANA transformation journey.

DEPLOYMENT COUNTRY

Global Deployment

DEPLOYMENT DATE

Started October 2025

NUMBER OF END USERS

Focus on all shop floor colleagues running production in SIEMENS factories

TRANSACTION VOLUME

Every creation or change of production order in every connected factory

Innovations

◆ INNOVATIVE USE OF SAP TECHNOLOGY

Siemens has leveraged SAP Advanced Event Mesh (AEM) as a cutting-edge foundation for its Event-First integration strategy. By enabling asynchronous, real-time event-driven communication, AEM decouples systems and empowers Siemens to achieve instant responsiveness, scalability, AI enabling and robust reliability across complex, distributed environments.

The SAP AEM Event Add-On for ERP was a game changer, directly supporting Siemens' developer requirements and simplifying integration across SAP landscapes. With the introduction of SAP Event Studio, Siemens gained a centralized platform for event governance, clean-core principles, and code-less development. This allows teams to rapidly model, deploy, and monitor event flows, ensuring reliability and scalability while minimizing IT effort.

Customer requirements are seamlessly addressed through Siemens' strong partner setup with ASAPIO and integrated collaboration, ensuring that solutions are tailored, reliable, and ready for future growth.

■ WHY SAP

Siemens selected SAP for its advanced event-driven capabilities, reliability, and scalability integrated to the SAP capabilities. SAP AEM and the Event Add-On for ERP directly support Siemens' developer requirements, while SAP Event Studio provides centralized governance, clean-core principles, and code-less development. This combination enables rapid, robust integration and real-time responsiveness, ensuring Siemens can meet evolving customer needs through strong partner collaboration and integrated solutions since nearly 50 years.

"The integration platform empowers Siemens with real-time, event-driven connectivity, enabling instant responsiveness, seamless scalability, and robust reliability. By decoupling systems and centralizing governance, it accelerates innovation, simplifies development, and ensures our business can adapt rapidly to evolving customer and industry demands."

Daniel Dorst, SHERPA X Development Lead

"Our global teams are empowered to collaborate seamlessly, innovate faster, and focus on higher-value work. The platform's real-time connectivity and code-less development free our experts from routine tasks, enabling them to drive meaningful change and deliver greater value to customers and colleagues worldwide."

Stefan Kaup, SHERPA X Integration Lead

"Our integration platform gives leaders instant visibility and actionable insights, enabling real-time decision-making. Its robust, event-driven foundation is the springboard for advanced AI scenarios, empowering Siemens to anticipate change, drive innovation, and set new standards for strategic leadership in a fast-moving global environment."

Alexander Peschke, Senior Vice President - Enterprise Core Platforms

Benefits and outcomes

Gaining Real-time integration by using codeless event creation considering customer specific information and versions

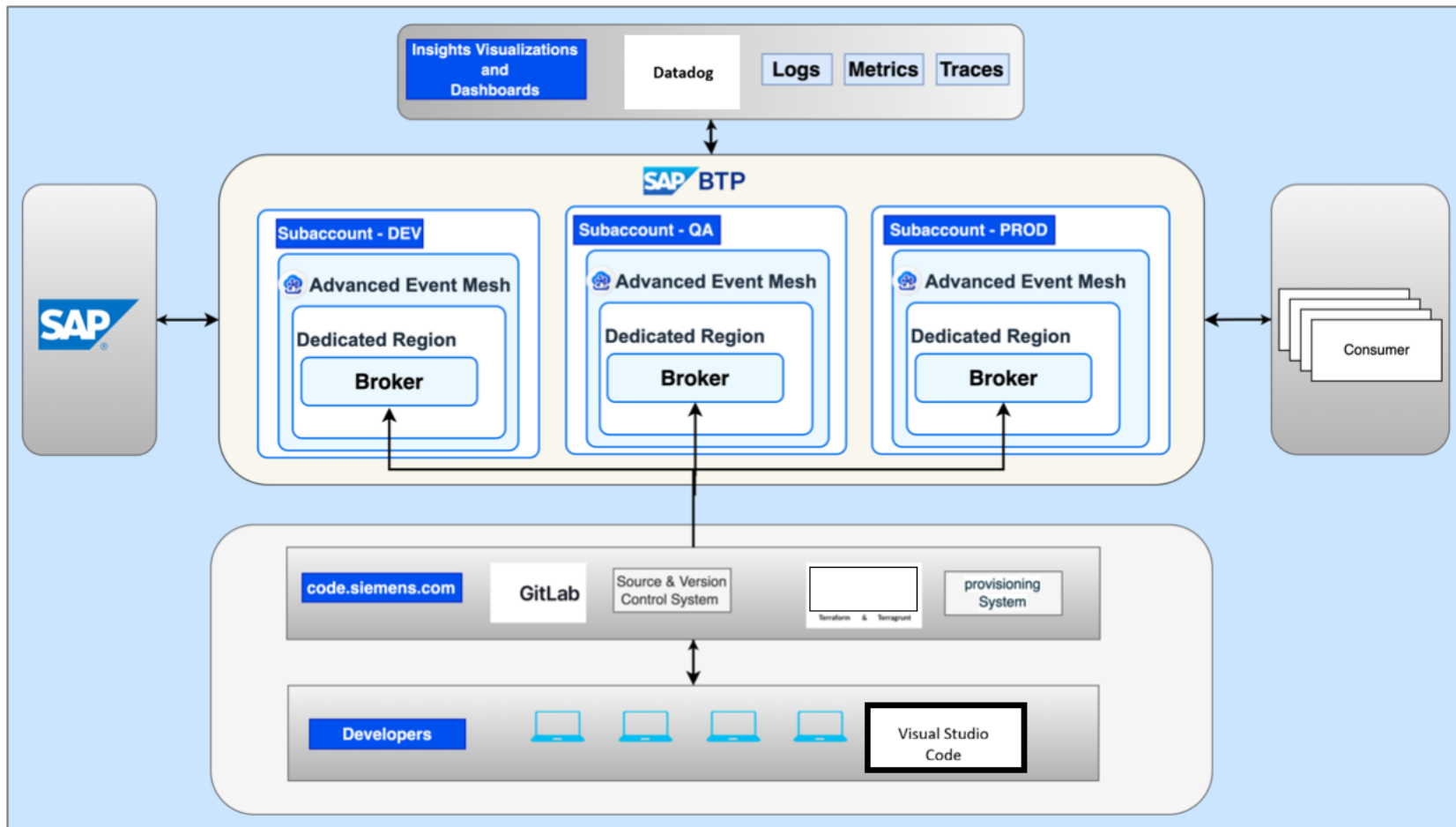
BUSINESS AND/OR SOCIETY

- Packaged Business Capabilities to provide a company-wide Event Mesh towards a modular IT Clean Core architecture
- Resilient Manufacturing real time updates of Maintenance Orders for multiple consumers
- Track and Trace for Sales Order Changes to provide real-time customer experience
- Warehouse Management Events real-time information in Warehouse Dashboards
- Available To Promise based on latest availabilities
- Order Management Solutions with real-time integration across multiple systems
- Enabling real time communication of SAP Data to change the SIEMENS fabric into a Data Driven One Tech Company

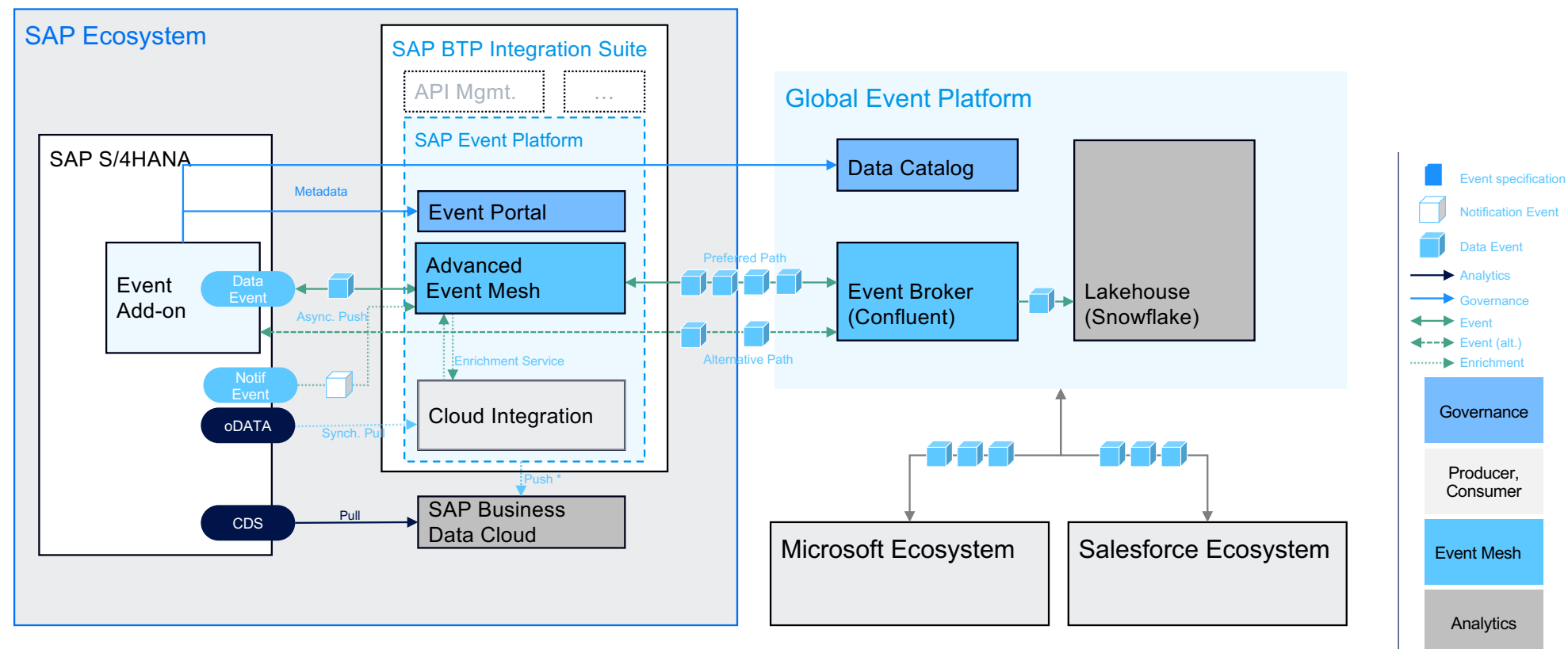
IT

- Prepare Packaged Business Capabilities enabling the Digital AI agent orchestration platform
- Develop Once use Multiple
- CodeLess creation of Events / Payloads
- Enabling CleanCore compliant integration layer
- Addressing Integration in large & complex SAP and Non-SAP landscapes
- Embedded in the SAP Siemens Developer Experience (SAP Event Studio as central component together with SIEMENS Developer Portal, SAP Build, SAP Business AI,...)
- Operations: Robust and stable integration scenarios build for global scalability

Architecture



Architecture



Deployment details

SAP TECHNOLOGIES AND SAP PARTNER PRODUCTS

SAP SOLUTIONS	DEPLOYMENT STATUS (Live or Proof of Concept)	SAP BUSINESS AI FEATURES (if applicable)	CONTRIBUTION TO THE PROJECT
SAP BTP Advanced Event Mesh	LIVE		Central Component of the Siemens SAP Integration Platform
SAP BTP AEM Event Add-On for ERP	LIVE		Central Component of the Siemens SAP Integration Platform
SAP S/4HANA Cloud ERP Private	LIVE	SAP Joule evaluation ongoing SAP Business AI Services in evaluation	Siemens SHERPA X central future S/4HANA private cloud system landscape
SAP ECC	LIVE		Siemens Multi ERP existing legacy to be modernized towards SHERPA X
SAP Integration Suite	LIVE	MCP Server Capabilities via SAP Cloud Integration Cell in evaluation	SAP Integration Suite as central component for the SHERPA X landscape

SAP SERVICES AND SUPPORT

SAP SERVICES	CONTRIBUTION TO THE PROJECT
SAP Premium Engagement (MaxAttention)	Architectural Guidance, Setup, Expertise on Demand
SAP Accelerated Incident Management	Resolve impediments and support operations

HYPERSCALER

(please mark one or more if applicable)

☒ AWS

☐ Google Cloud

☒ Microsoft Azure

☐ Other

Other:

Siemens

HEADQUARTERS

Munich

INDUSTRY

High tech

WEBSITE

www.siemens.com

NUMBER OF EMPLOYEES

312,000

Siemens is a global leader in digital industries, smart infrastructure, and mobility, with a strong presence in over 200 countries and regions. Renowned for its pioneering role in industrial automation, electrification, and digital transformation, Siemens empowers enterprises to integrate the physical and digital worlds. The company's unique strength lies in its ability to deliver end-to-end solutions—combining operational technology (OT) and information technology (IT)—that drive efficiency, resilience, and sustainability. Siemens' deep partnership with SAP enables seamless business process integration, supporting customers' journeys toward Industry 4.0 and intelligent enterprise transformation at scale.

At Siemens, as **One Tech Company**, we are united by our purpose to **transform the everyday for a better tomorrow**.

Partner information

ASAPIO's support for Siemens' Advanced Event Mesh Journey

ASAPIO, as SAP OEM Partner, kicked off with a pre-study to assess Siemens AEM landscape, align stakeholders, and define an architectural north star for real-time integration on SHERPA X. This framed the target event-driven patterns, governance, and broker topology for AEM and the OEM Event Add-On for ERP. ASAPIO delivered a guided enablement program – covering installation in Siemens' AEM environment, configuration and modeling, developer training, and safeguarding – so teams could implement resilient event flows and ERP integration at scale. The approach emphasized interoperability with existing ECC, S/4HANA systems, standardized event schemas, and end-to-end observability, AI enabling, while establishing a support model (Expert-on-Demand) and call-off procedures for iterative rollout.

Combined, these steps accelerated Siemens' transition from On-Premise to an event-driven backbone, reduced integration effort, and created a sustainable path to real-time operations. Further Siemens product requirements are part of the strategic partnership and roadmap conversations between Siemens and ASAPIO.

PARTNER COMPANY

ASAPIO

"The trust between Siemens and ASAPIO is the foundation of our success. Experts from both sides work hand in hand, combining deep knowledge and commitment to deliver outstanding results – every challenge becomes an opportunity to innovate together and set new standards for real-time integration."

Christian Heitmann, CEO, ASAPIO



