SAP AI Deep Dive



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AI is everywhere. Results aren't

Three gaps are keeping AI stuck in pilot.

Lack of business & process context

Generic models can read your data. They can't reason over how your business actually runs.

Lack of data connection & integration

AI is added on top of disconnected, outdated systems.

Lack of governance & reliability

AI that can't be audited or controlled becomes a risk for your business.

The providers promising to fix this don't have the foundation to do so

Most AI providers are building from the outside in
Layering intelligence on top of systems they don't own, data they didn't generate, processes they've never run.

42%

Report data access & quality issues as leading barrier

ANTHROP\C

74%

of orgs stuck in pilot mode with no path to scale

BCG

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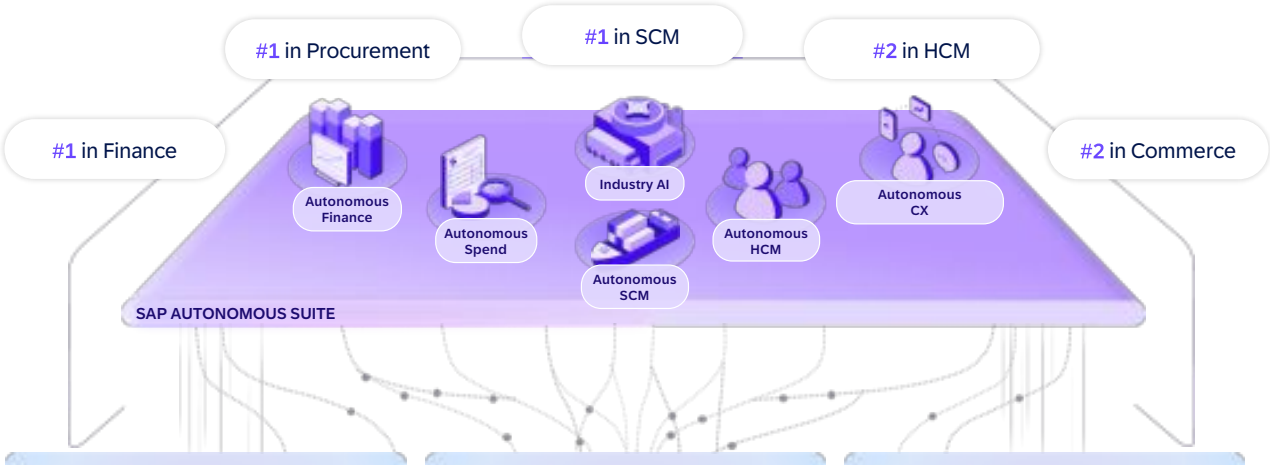
SAP has the foundation to deliver the value



Deep Process & Industry Knowledge

>120 Mission-critical processes covered

Semantically Rich Business Data

7.3M data fields covered by SAP Knowledge Graph

Enterprise-Grade Governance

100% of AI workloads covered by certified controls[1]

1 ISO 42001 AI management system; ISO 27001 Security Management System; ISO 9001 Quality Management System

Introducing the

Autonomous Enterprise.

Built on the SAP Business AI Platform



Your best people can do their best work.

Agents handle routine transactions end to end, so people can focus on the decisions that move the business.

Your business responds before teams convene.

When conditions change, the business acts as one. Agents coordinate across the business in real time. No lag between signal and action.

You move fast because you can trust the system.

Every AI action is governed, auditable, and traceable. Not added later. Built in from the start. Speed and control aren't a tradeoff.

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How the Autonomous Enterprise is built

Joule

the engagement layer where people set intent and Joule Assistants and Joule Agents bring together the right data, workflow, and actions across SAP systems and beyond.

SAP Autonomous Suite

the operational core of the business, where applications, data, and AI agents automate functions across Finance, Spend, Supply Chain, HCM, and CX. **Industry AI** brings purpose-built intelligence for your industry, your processes, and your regulatory requirements.

SAP Business AI platform

as the foundation that combines deep process context, unified business data, and purpose-built models with enterprise governance.



© SAP SE

One place for work where people express intent and agents handle execution

With Joule work, people express what they want to accomplish, and Joule surfaces the right insights, automates routine work, and coordinates AI agents across systems to achieve it – all in one dynamic workspace.

AI does the busy work, so people do their best work.

A new human advantage

Joule, beyond chat

Less navigation. Faster action. Better decisions.

Joule Work



Conversations

Find out which shipments are delayed with immediate insights to action.



Spaces

Display live inventory levels, production schedules, and delivery alerts in one personalized view.

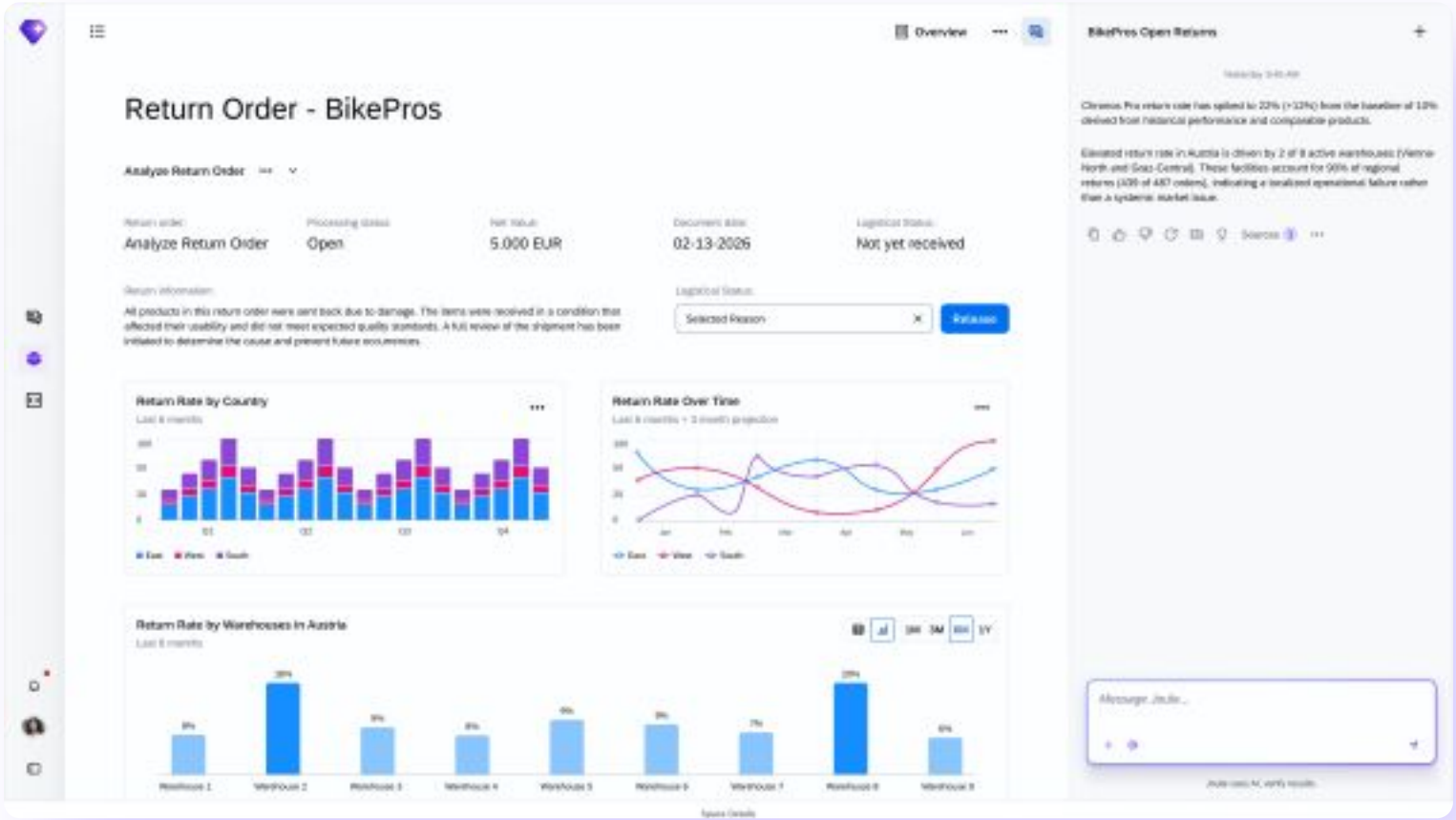


Develop

Create a custom tracking app for supplier performance.

Spaces

Dynamic, AI-generated workspaces for problem-solving.



Joule Assistants & Joule Agents

Collaborate with AI agents, automate routine tasks, and execute complex workflows — all with the business expertise and secure data grounding to act with confidence across every system.

What is a Joule Assistant?

Assistants use deep role and process context to coordinate Joule Agents and autonomously execute complex workflows across the business, like smart teammates.

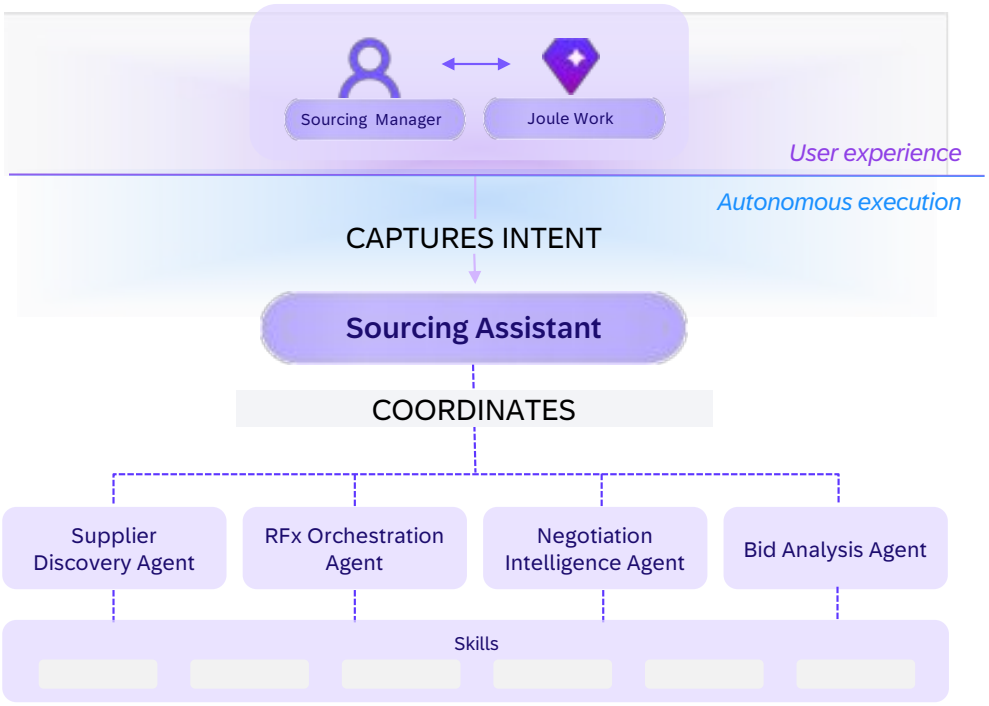
What is a Joule Agent?

Joule Agents are purpose-built AI agents with deep business process expertise, accessible through Joule Assistants, that automate well-defined, multi-step enterprise workflows so you can get more done.

What are skills?

Skills are specialized, atomic, and deterministic actions that enable Joule to execute specific, predefined tasks, such as retrieving data or triggering system transactions.

Example



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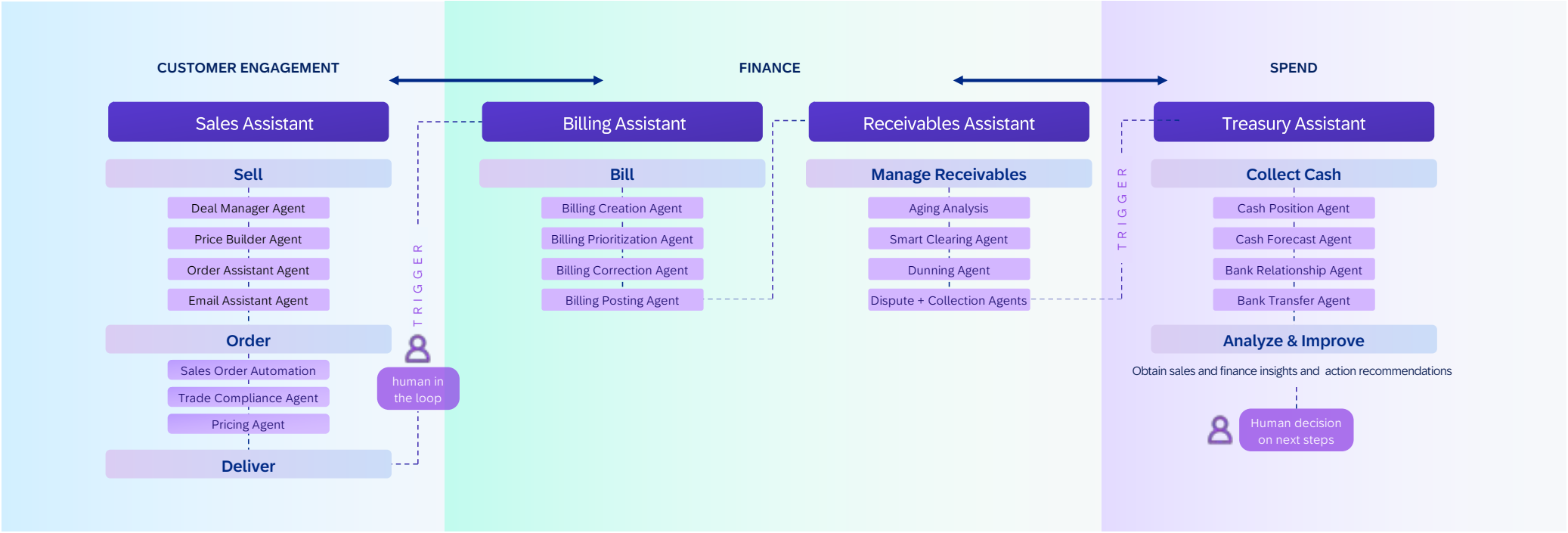
Cross-Domain Handoffs

Transforming workflows with Joule

From lead to cash: Assistants and agents working seamlessly across:
One process.
Three domains.
One coordinated outcome.



Sapphire 2026 Agent View

Autonomous Domains: Assistant Overview

Autonomous Finance

- Accounts Payable Assistant — 3 Agents
- Accounts Receivable Assistant — 11 Agents
- Billing Assistant — 4 Agents
- Cash and Treasury Assistant — 3 Agents
- Enterprise Architecture Assistant — 3 Agents
- Expense Management Assistant — 4 Agents
- Financial Closing Assistant — 6 Agents
- Financial Planning Assistant — 5 Agents
- Governance Assistant — 3 Agents
- Sales Operations Assistant — 4 Agents
- Tax and Compliance Assistant — 11 Agents

Autonomous Supply Chain

- Product Design Assistant — 7 Agents
- Planning Assistant — 5 Agents
- Manufacturing Assistant — 3 Agents
- Logistics Assistant — 11 Agents
- Asset & Service Assistant — 5 Agents
- Business Network Assistant — 12 Agents

Autonomous Spend

- Buying Assistant — 3 Agents
- Category Mgmt Assistant — 3 Agents
- Invoicing Assistant — 11 Agents
- Procurement Contract Assistant — 3 Agents
- Receiving Assistant — 4 Agents
- Requisition Assistant — 2 Agents
- Services Procurement Assistant — 3 Agents
- Sourcing Assistant — 4 Agents
- Supplier Management Assistant — 5 Agents
- Travel Assistant — 2 Agents

Autonomous HCM

- Career and Talent Development — 5 Agents
- Compensation Assistant — 3 Agents
- Core HR Assistant — 4 Agents
- HR Knowledge Assistant — 2 Agents
- HR Service Assistant — 5 Agents
- HR System Assistant — 5 Agents
- Learning Assistant — 4 Agents
- Onboarding Assistant — 4 Agents
- Payroll Assistant — 3 Agents
- People Intelligent Assistant — 3 Agents
- Performance Goals Assistant — 7 Agents
- Recruiting Assistant — 5 Agents
- Skills Assistant — 4 Agents
- Time Assistant — 4 Agents

Autonomous CX

- Campaign Assistant — 3 Agents
- Case Management Assistant — 6 Agents
- Content Assistant — 3 Agents
- Deal Closing Assistant — 3 Agents
- Deal Qualification Assistant — 4 Agents
- Merchandising Assistant — 7 Agents
- Order Management Assistant — 3 Agents
- Sales Assistant — 4 Agents
- Self-Service Assistant — 3 Agents
- Shopping Assistant — 3 Agents

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Autonomous Supply Chain Management

Product Design Assistant

- Recipe Formulation Agent
- Product Change Management Agent
- Product Data Maintenance Agent
- Product Knowledge Retrieval Agent
- Change Record Management Agent
- Product Structure Optimization Agent
- Packaging Compliance Agent
- GHS Classification and Labeling Agent

Planning Assistant

- Customer Orders Confirmation Agent
- Component Shortage Monitoring Agent
- Deployment Order Confirmation Agent
- Long-Term Resource Capacity Shortage Agent
- Customer Orders Confirmation Agent for Pharma Industry
- Footprint Optimization Agent
- Inventory Investment Allocation Agent

Procurement Assistant

- Category Strategy Agent
- RFx Orchestration Agent
- Invoice Validation Agent
- Duplicate Detection Agent
- Compliance Monitoring Agent

Manufacturing Assistant

- Production Planning and Operations Agent
- Production Monitoring Agent
- Production Execution Agent
- Production Master Data Readiness Agent
- Production Onboarding Agent
- Workplace Safety Agent
- Production Planning Order Progress Agent

Logistics Assistant

- Logistics Issue Resolution Agent
- Fixed Bin Maintenance Agent
- Warehouse Workload Optimization Agent
- Material Reservation Processing Agent
- Internal Stock Replenishment Agent
- Inventory Supervisor Agent
- Batch Optimization Agent
- Logistics Configuration Agent
- Outbound Task Orchestration Agent
- Consignment Order Processing Agent
- Transport Dispatching Agent

Asset & Service Assistant

- Technician Briefing Agent
- Maintenance Task List Agent
- Maintenance Event Planning Agent
- Maintenance Plan Cost Simulation Agent
- Asset Performance Alert Processing Agent
- Reliability Case Management Agent
- Maintenance Request Initiation Agent
- Operational Maintenance Planning Agent
- Maintenance Request Screening Agent
- Maintenance Job Debrief Agent
- Asset Risk. Assessment Agent
- Asset Health Agent
- Equipment Insights Agent

...

Business Network Assistant

- Supplier Onboarding Agent
- Order Confirmation Automation Agent
- Service Entry Sheet Automation Agent
- Invoice Automation Agent
- Advanced Ship Notice Automation Agent

SAP is developing purpose-built autonomous industry domains

Capable across high value industry domains

Autonomous Suite

The AI-driven execution backbone and system of engagement



The Autonomous Suite is the operational core built to run your business with AI at every layer. It uniquely enables business value by **combining deep industry and cross-industry agents with applications, semantically rich enterprise data, and built-in governance**.

Industry AI is where the **Autonomous Suite** comes together through a combination of **cross-industry and industry-specific capabilities**.

Industry AI Domains

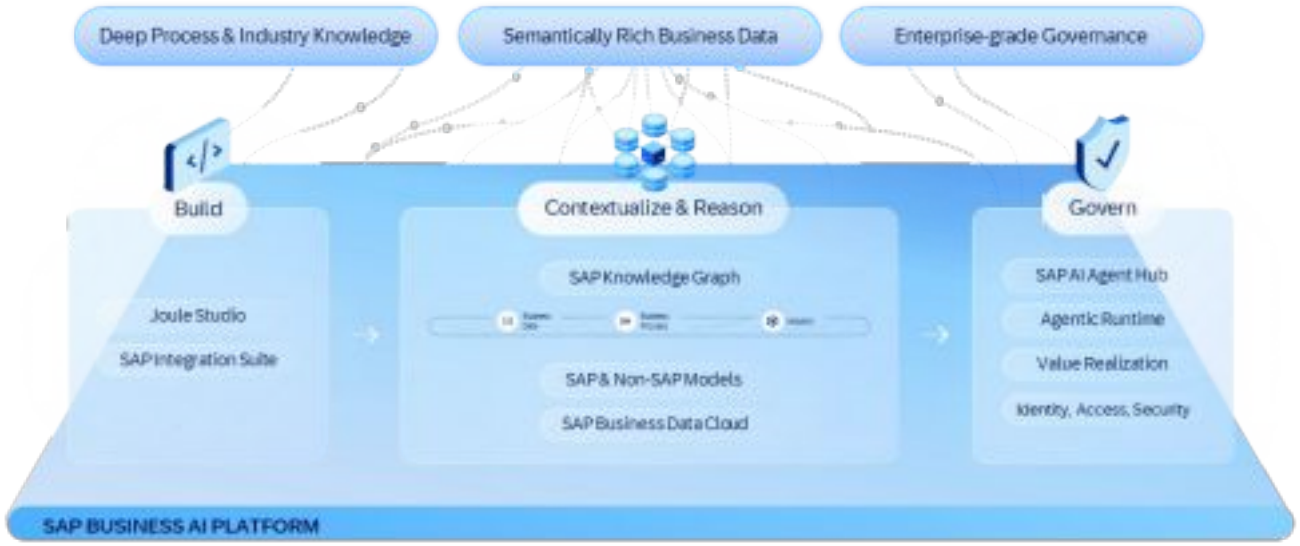
address high-impact pain points across SAP industries

Asset Intensive Industries	Product-Centric Industries	Consumer Industries	Service-centric Industries

- Autonomous **Asset Management**
- Autonomous **Commodity Management**
- Autonomous **Adaptive Production**
- Autonomous **Regulated Manufacturing**
- Autonomous **Revenue Growth Management**
- Autonomous **Unified Commerce**
- Autonomous **Project Delivery**
- Future Autonomous domains...

SAP Business AI Platform:

The platform for building, running, and governing AI your business can actually depend on



Build

Build AI agents & apps
with best-in-class tools & models

300+ Agents built by Partners in SAP Joule Studio

Contextualize & reason

50 years of encoded business process expertise

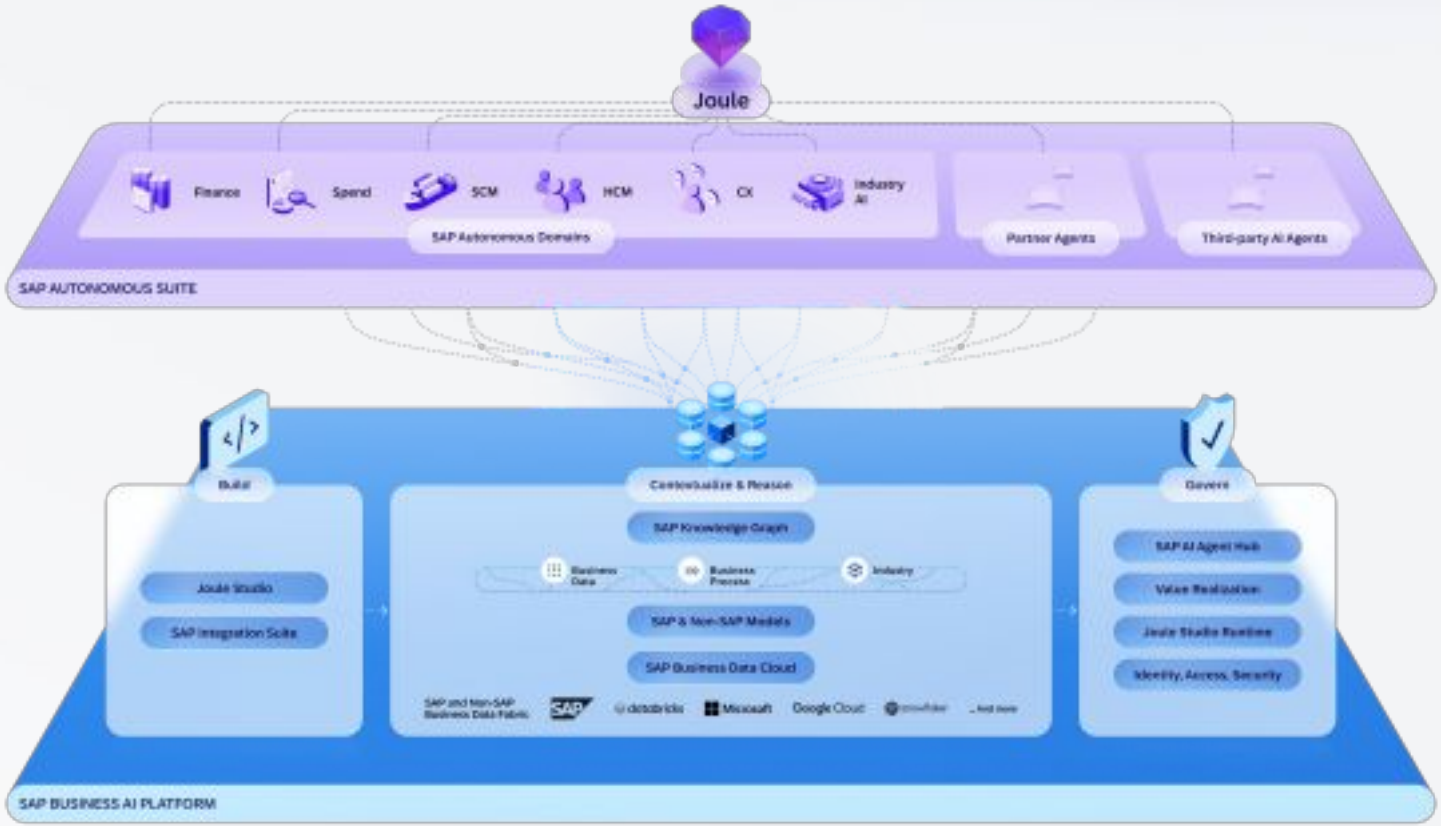
7.3M Data fields in Knowledge Graph

Govern

Command center for enterprise-wide AI agent governance

>55k AI agents managed in SAP AI Agent Hub across customers

SAP Business AI Platform



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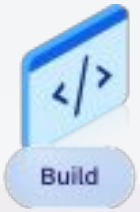
SAP Business AI Platform

The place to build agentic AI, bridge every system, every process, and every decision, and govern it all



From idea to enterprise impact. Unified solution to build AI agents, apps, and workflows grounded in business context, deploy them without operational overhead, and seamlessly integrate them to your systems.



AI anchored in a business data fabric. Provides universal business context and serves as the trusted knowledge core for every enterprise application and agent. Amplified by governed access to purpose-built and best-in-class third party models.



The command center for enterprise-wide data & AI governance. With an AI Agent Hub that enables organizations to securely manage agents across their full lifecycle – from planning through decommissioning.

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Build

Turn ideas into enterprise impact. One solution to build AI agents, apps, and workflows then deploy them without operational overhead and seamlessly connect them to your system.



Joule Studio

Integration Suite

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Create agents your way with Joule Studio

SAP's AI-first experience to create enterprise solutions from intent to deployment

Develop agents, apps and workflows faster in **one workspace** with your choice of tools

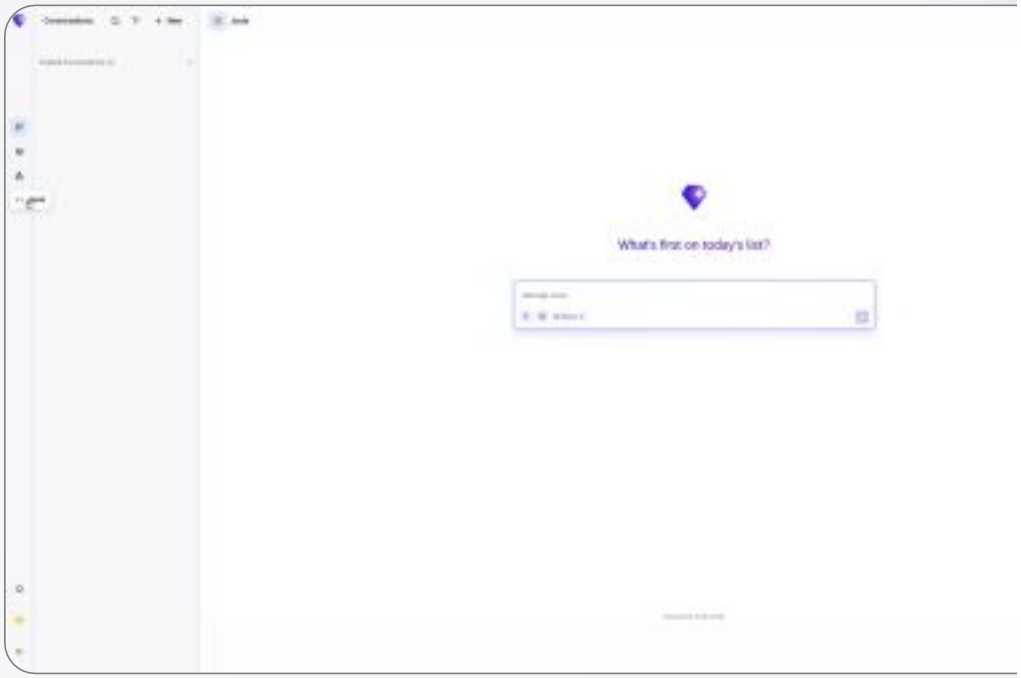
Enterprise scale with control with built-in governance, lifecycle management, and agent observability

Deliver value from AI by grounding every agent in deep SAP business context

"Joule Studio generated an end-to-end solution in 10–15 minutes, replacing three to four days of manual development and coordination."
Developer, Sony Corporation*

"The guided prompts made it easy to dial in personas and features fast. I went from zero to a working solution in only 30 minutes."
Architect, IBM*

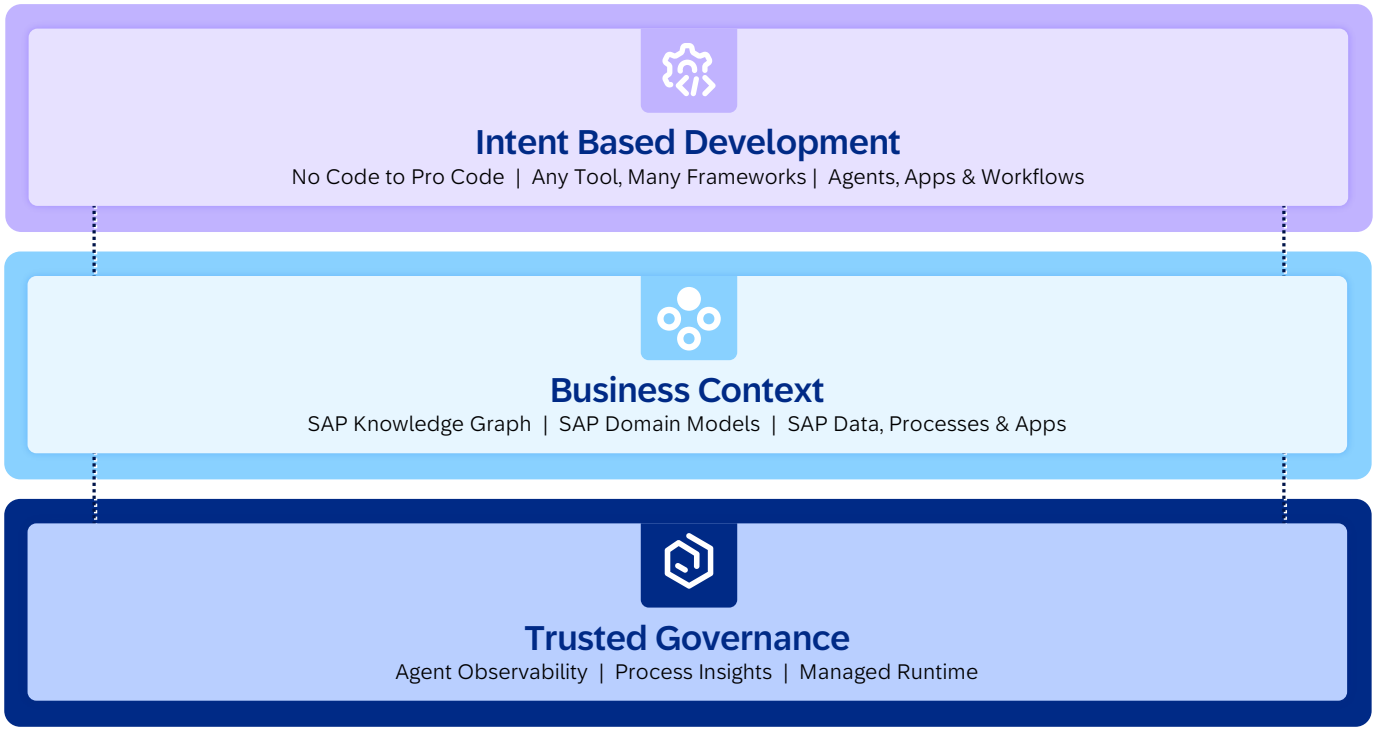
**Early access customer / partner quote*



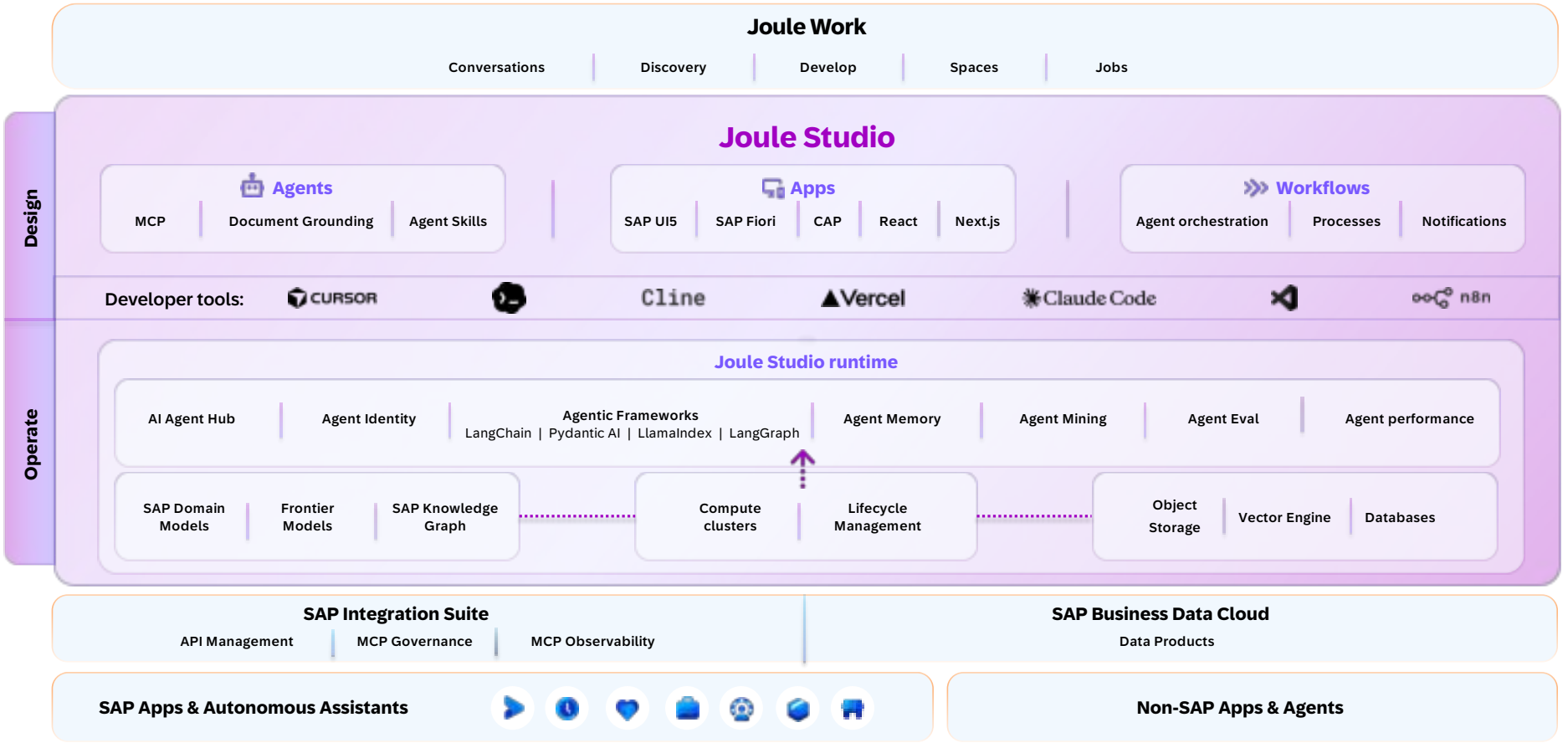
Learn more about Joule Studio

Joule Studio

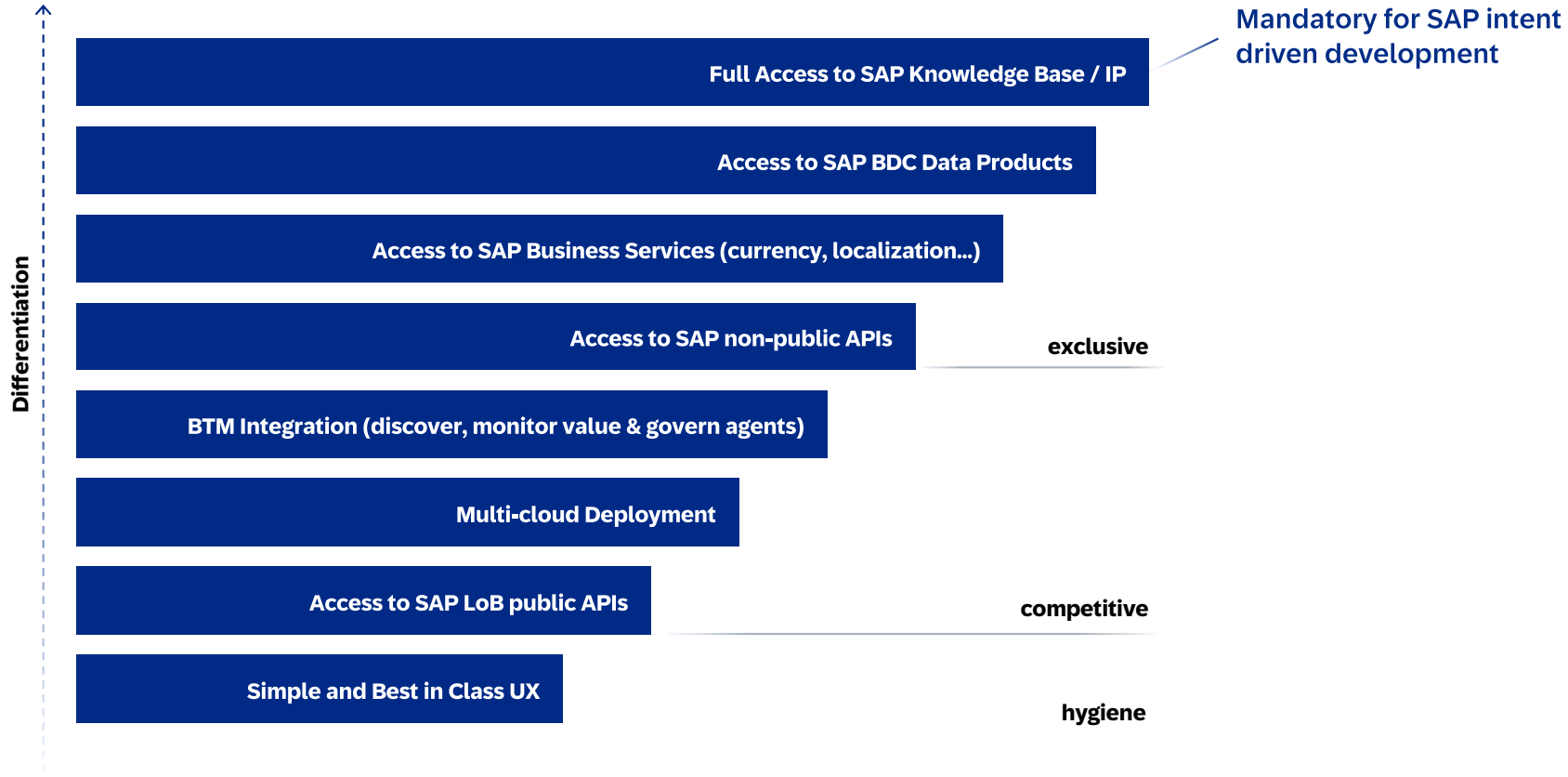
Build Trusted Custom Agentic Solutions



SAP's solution to build, run and monitor agentic solutions



SAP Joule Studio Differentiation



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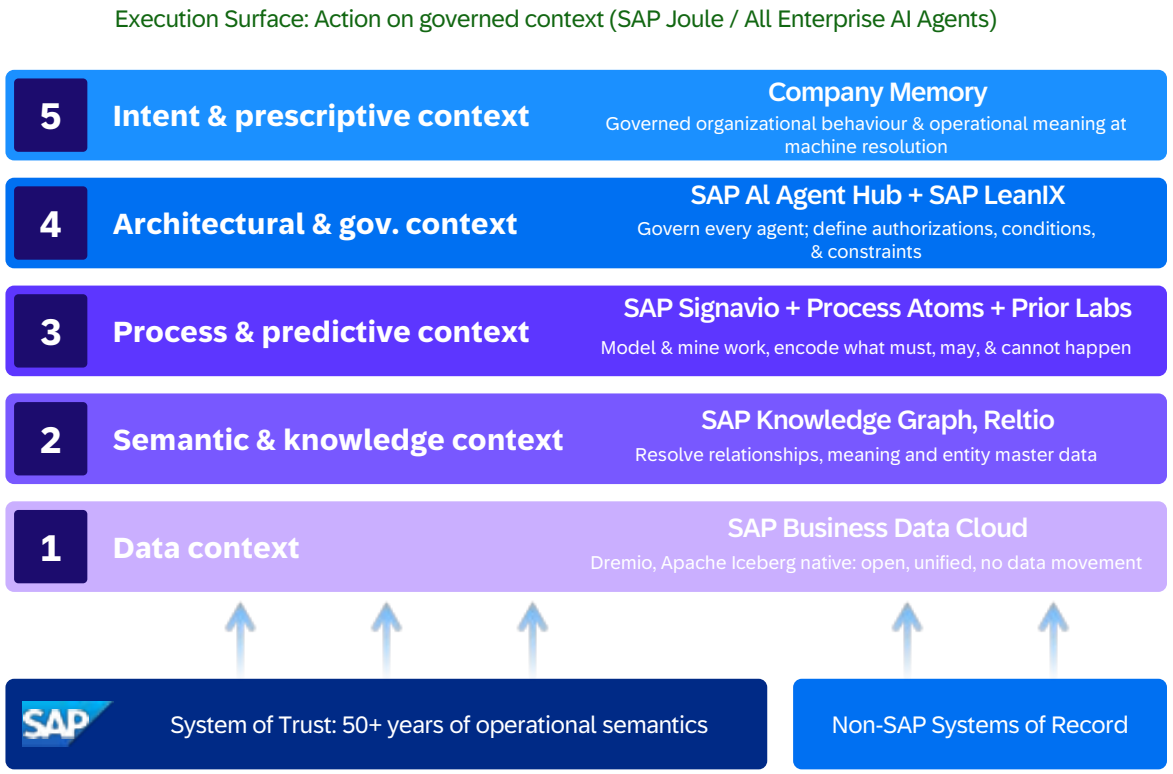
Context as a System

Every layer built into the context stack is a layer that you never need to send at runtime



The context burden moves from agent run time to the context stack and is supported by high fidelity artifacts

Enabling better **economics**, **governance**, enterprise **scale**, and **safety** for AI deployments

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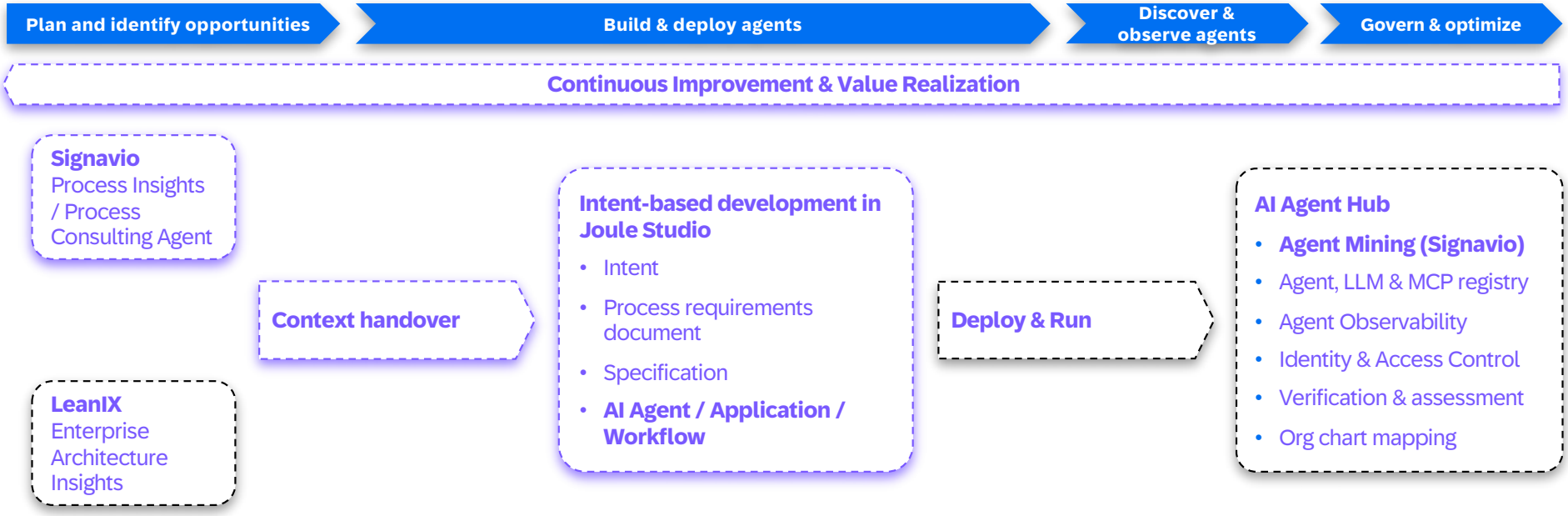
End-to-end flow



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Connect agents with SAP Integration Suite

Integrate all agents, applications, processes, and data across the enterprise

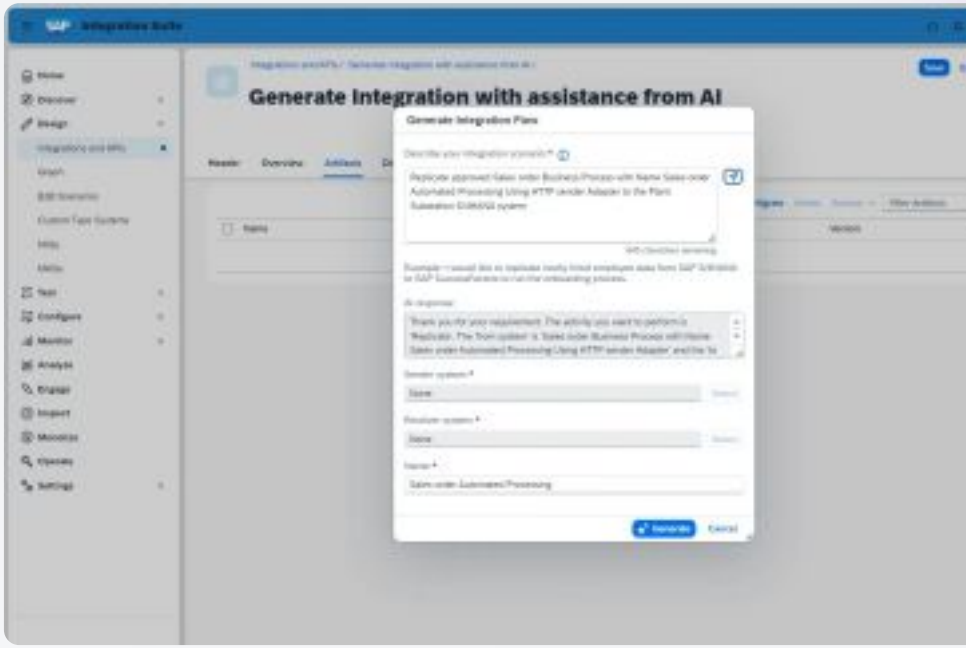
Unify apps, processes and **agents** leveraging MCP, API management across SAP and 3rd party landscapes to build a strong AI foundation

Accelerate productivity with AI embedded features and thousands of prebuilt integrations, LLM connectivity and 3rd party adapters

Safeguard your business processes while running scalable real-time interactions and ensure agents operate within organizational guardrails

Proven infrastructure handling **30 billion** monthly integration messages

SAP recognized as a **Leader** in the 2026 Gartner® Magic Quadrant™ for the **6th consecutive time** for Integration Platform as a Service



Learn more about SAP Integration Suite

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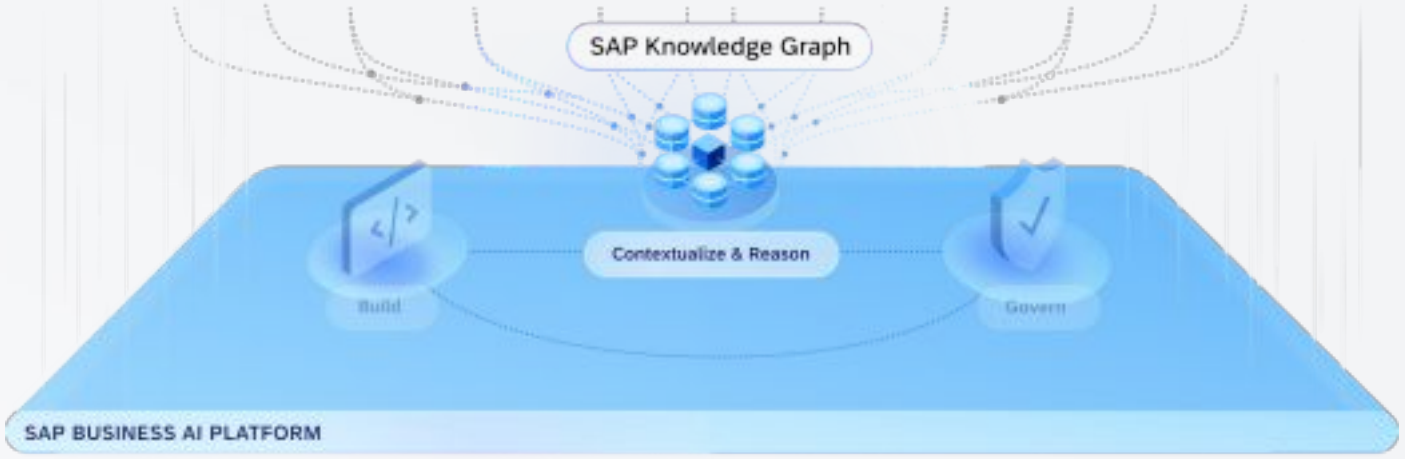
Contextualize & Reason

Gain a complete understanding of your business and operationalize decades of process knowledge by combining business process logic, rich operational data products, purpose-built models and global industry deployments.



SAP Knowledge Graph

SAP & non-SAP Models

SAP Business Data Cloud

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Reason with AI that understands your business

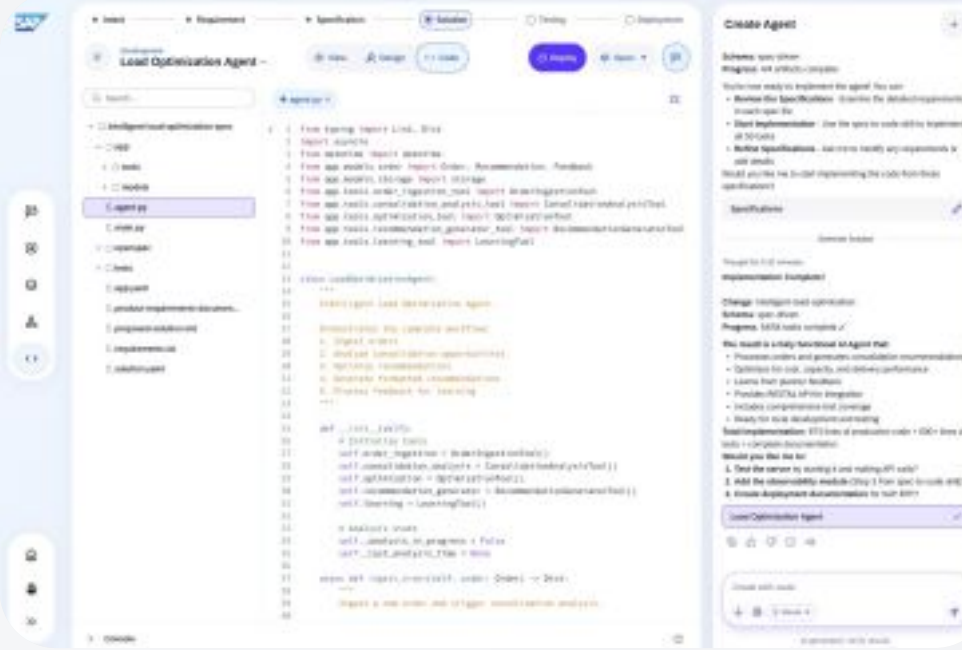
Purpose-built SAP models and the freedom to run any model you trust, on the foundation that knows your operations

Turn structured operational data into reliable business predictions with RPT-1 so you can **act on insight, not instinct**

Cut development time and reduce errors with ABAP-1 so your organization **delivers production-ready solutions faster**

Run SAP and non-SAP models side-by-side in a single governed environment so your organization captures the **best of every model without losing control**

Uniper achieved 95% search accuracy and up to 80% reduction in requisition processing time.



Learn more about AI Services & Models (Link TBD)

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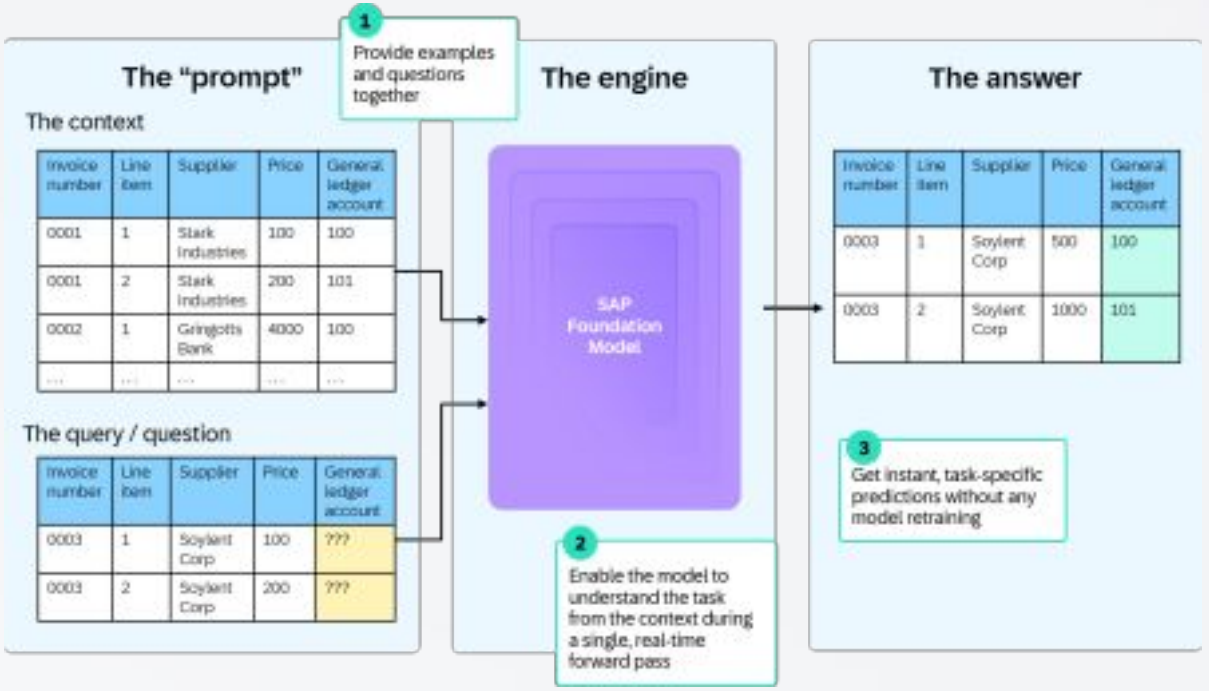
Tabular Models

Tabular Models

SAP-RPT- 1.6
Relational Pre-Trained Transformer
(AI model for structured SAP data)

TabPFN-3
State of the art for any tabular data

PRIOR
An SAP company



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Establish the data foundation for AI with SAP Business Data Cloud

A business data fabric delivers the trusted knowledge core for AI

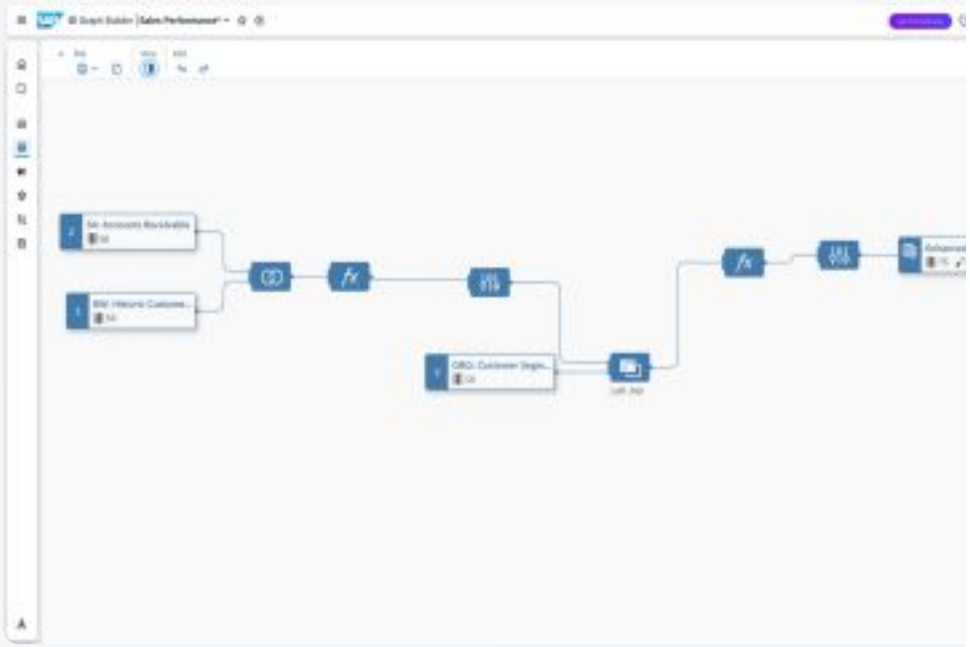
Unify SAP and third-party data with enterprise-wide governance, so that every AI initiative operates from the same trusted data foundation.

Run best of breed **intelligent compute** with flexible engines across Spark, SQL, and multi-model that adjust based on business needs.

Leverage **SAP-managed data products** to give Joule Agents universal business context of your data, business policies, relationships, and logic.

Lower your three-year TCO and save up to **67% with a business data fabric** *

Reduce one-time development timelines by approximately **76%***



Learn more about SAP Business Data Cloud

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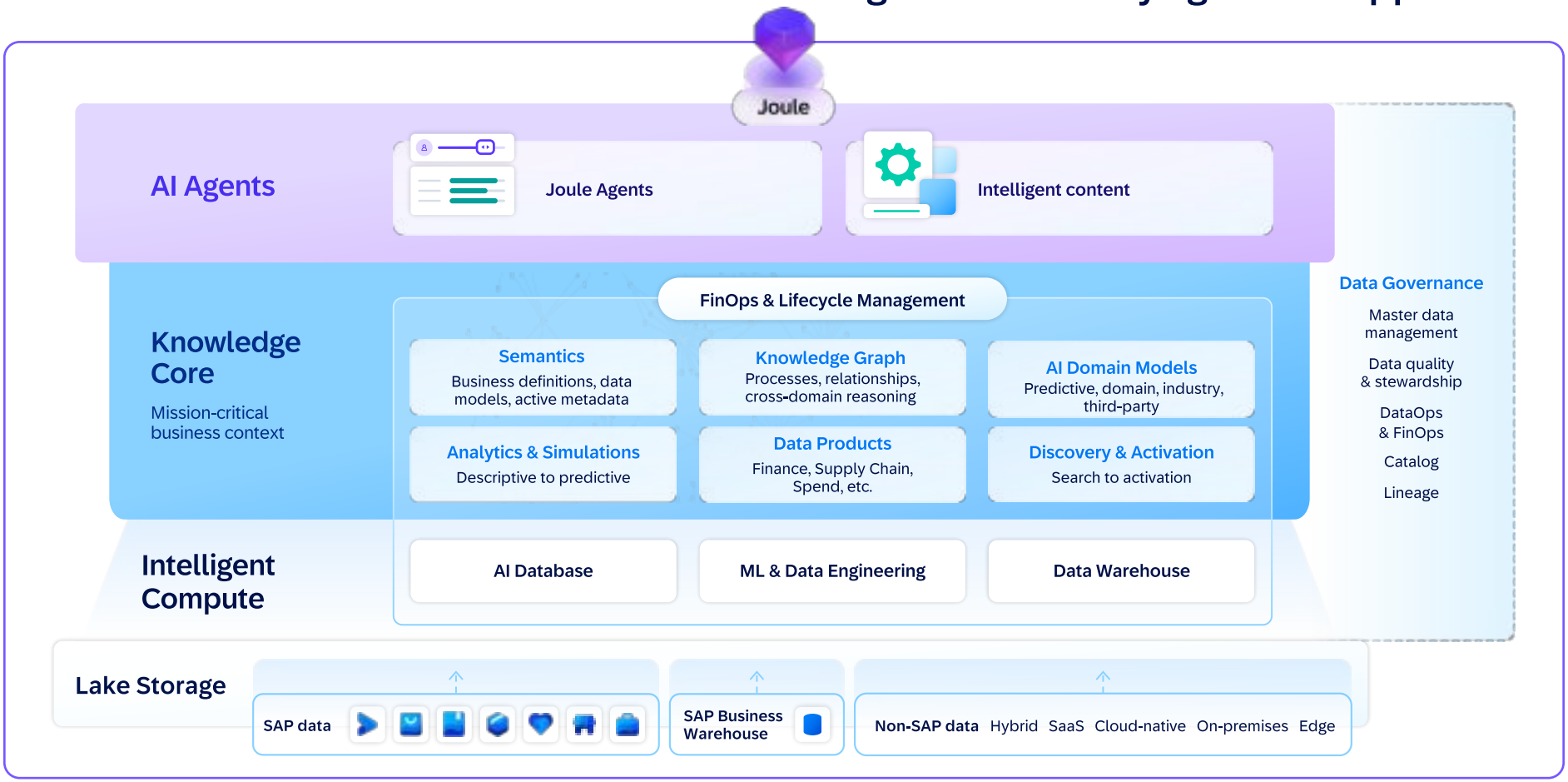
*(Measuring Data Fabric TCO, GigaOm 2026)

SAP Business Data Cloud as the trusted knowledge core for every agent and application



Govern

Ground your AI strategy in the organization's unique architecture and process intelligence to continuously tracks where AI is creating value and identify where it could create more.



SAP AI Agent Hub | Joule Studio runtime | Value Realization | Identity, Access, and Security

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Agent Gateway
to orchestrate & integrate Joule Agents

The **Agent Gateway is** the central entry point to the SAP agent ecosystem which enables communication and integration between SAP and 3rd party clients (e.g., agents).

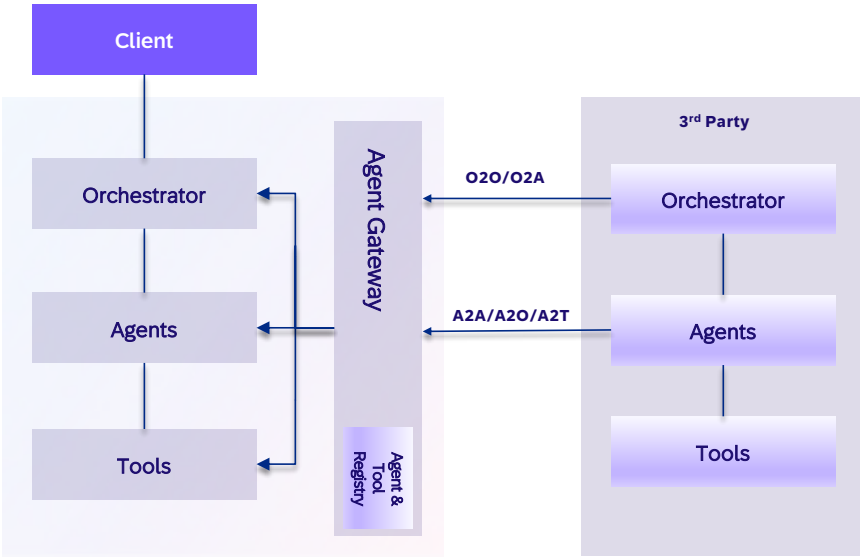
Acts as inbound proxy with **Execution Endpoints** for A2A & MCP (for third-party agents, orchestrators and clients).

Provides protocol-specific **Discovery Endpoints** based on data and metadata (e.g., visibility) from **Agent and Tool Registry**.

The **Gateway** is used to enforce agent identity, authentication, fine grained access control, policy checks, API rate limiting and metering. Future extensibility: Adapter for additional protocols translating into A2A or MCP.

Possible integration patterns

- Orchestrator-to-Orchestrator (O2O)
- Orchestrator-to-Agent (O2A)
- Agent-to-Orchestrator (A2O)
- Agent-to-Agent (A2A)
- Agent-to-Tool (A2T)



Deep Dive: AI Agent Integration Architecture at SAP

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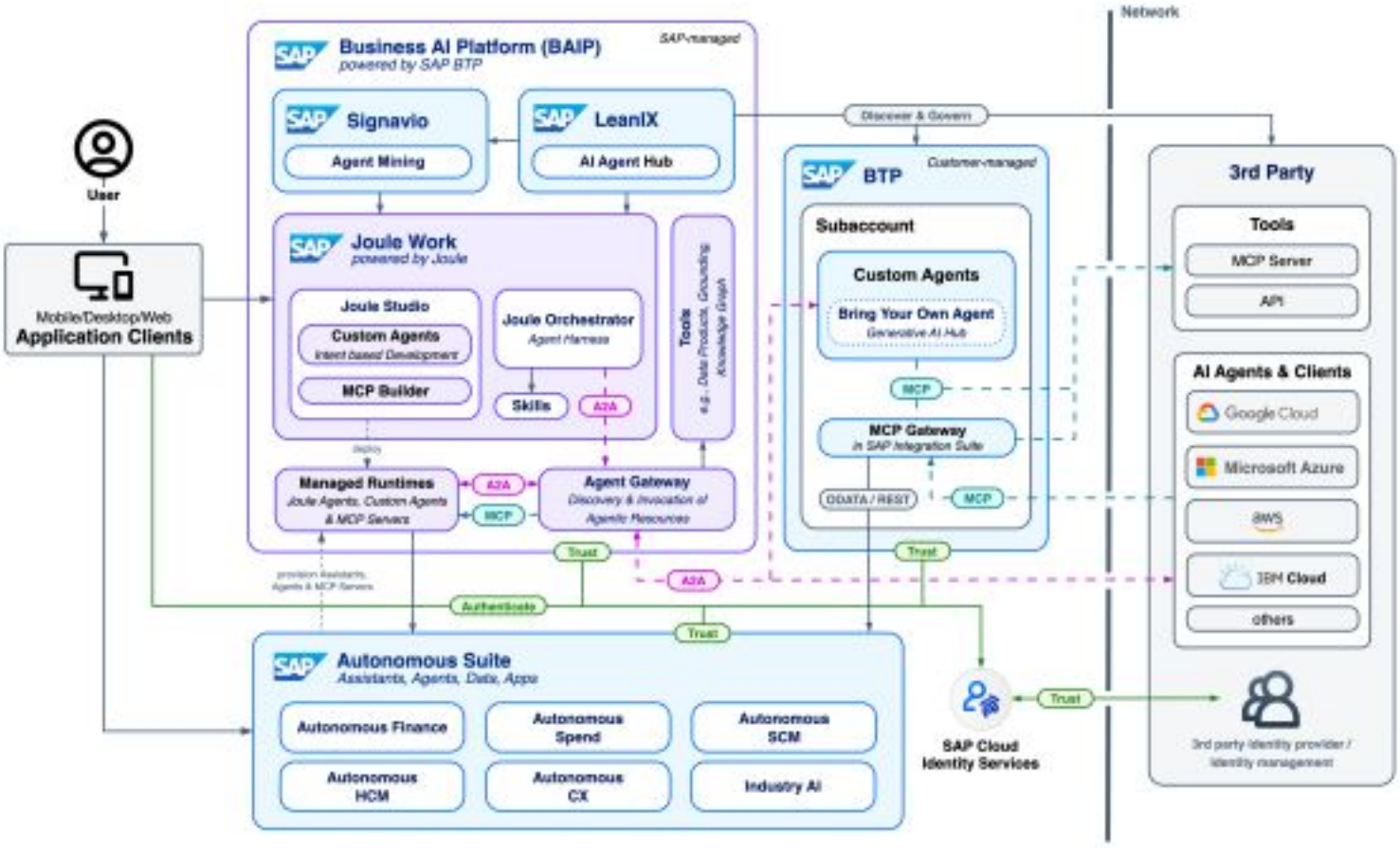
A2A and MCP for Interoperability



Discover, manage, and monitor your agents

within the context of your enterprise architecture and business processes

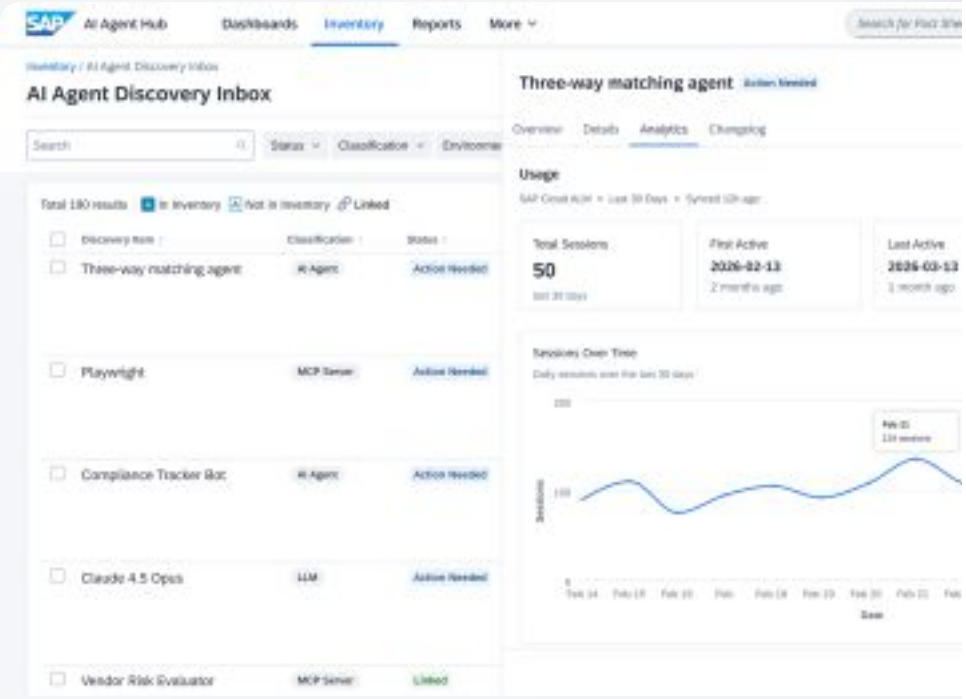
PLAN & BUILD
Create agents with **architecture and business context** and align them to the organization's strategy

RUN & SCALE
Run simple and complex agents easily and safely in a **fully flexible and managed** runtime environment

DISCOVER & PROVISION
Create a **rich agent inventory** and deploy them with the guardrails and access they need

OBSERVE & ANALYZE
Turn observable agent telemetry into **actionable intelligence**

SAP recognized as a **Leader** in the 2026 Gartner® Magic Quadrant™ for the **5th consecutive time** for Enterprise Architecture tools



Learn more about
- AI Agent Hub | LeanIX | Signavio
- Integration Suite
- Joule Studio

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Secure, govern and optimize your agents

to ensure maximum ROI from your AI deployment strategy

SECURE & GOVERN

Identify and secure agents to **act within organizational** policies and processes

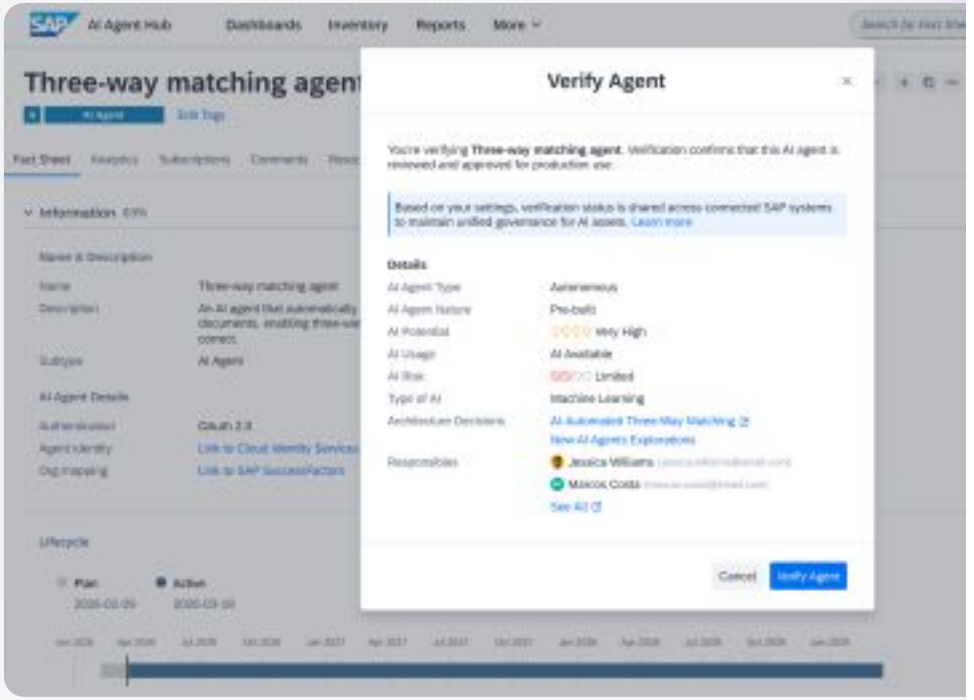
Verify agents and MCP servers and enforce governance at the point of execution

OPTIMIZE & DECOMMISSION

Understand how AI agents will **reshape your organization**, and plan for evolving skill and task needs

Maximize impact and manage complexity by **optimizing or decommissioning** your agents

SAP recognized as a **Leader** in the 2026 Gartner® Magic Quadrant™ for the **6th consecutive time** for Integration Platform as a Service



Learn more about

- AI Agent Hub | LeanIX | Signavio
- Integration Suite
- CIAM
- Core Platform Capabilities

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Continuously identify and realize value

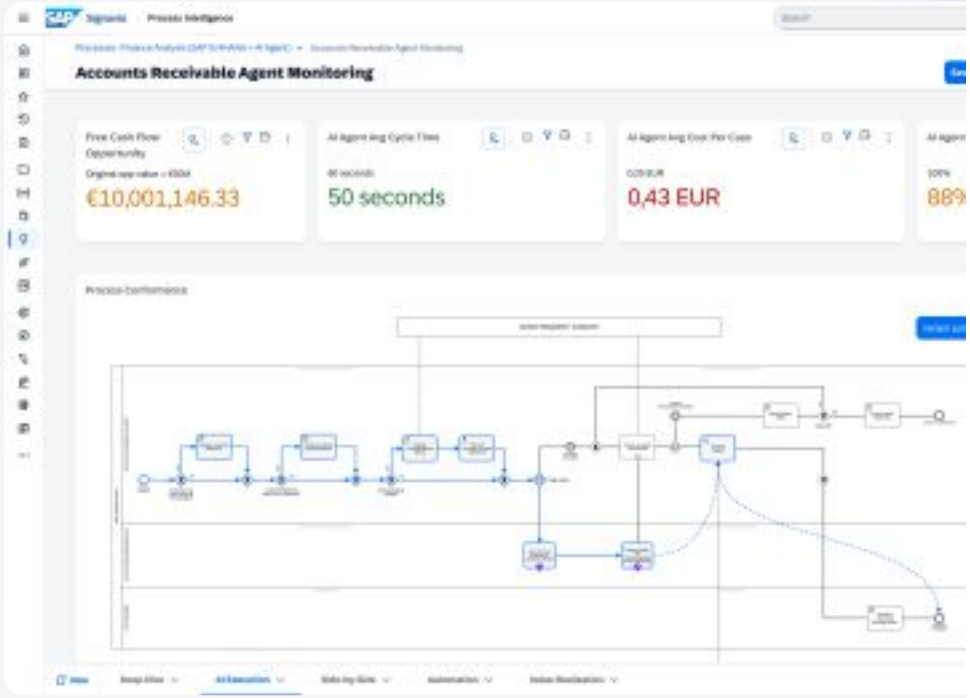
to quantify and qualify how AI is impacting the business

Identify and prioritize where new agents could make a measurable difference to the business

Surface where agents generate value and provide them with the context to behave compliantly

Ensure all AI initiatives are **aligned to the business strategy from day one**, and leadership gets the visibility to track outcomes, and not just uptime

SAP recognized as a **Leader** in the 2026 Gartner® Magic Quadrant™ for the **4th consecutive time** for Process Intelligence



Learn more about
- SAP LeanIX | SAP Signavio

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Agent Gateway = Security, Gates & Control Tower

Controls secure access, communication, and routing

AIRPORT FUNCTIONS

- Security checkpoint
- Boarding gate access
- Control tower coordination
- Secure radio communications
- Screening rules & incident logs



AGENT GATEWAY

- **Authentication**
  Verify agent identity
- **Authorization & tool access**
  Allow approved access to tools and data
- **Routing & coordination**
  Direct requests between agents and systems
- **Secure communication**
  Encrypt, route, and protect
- **Policy enforcement & logging**
  Allow, block, route, log activity

Bottom Line: The Agent Gateway controls what agents can access and how they communicate.

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Agent Hub = Airport Operations Center

Manages the agent ecosystem across its lifecycle

Airport Operations Center	Agent Hub
Flight scheduling & readiness	**Agent lifecycle management** — Deploy, update, version, retire
Operations monitoring	**Monitoring & observability** — Track performance, health, usage
Safety & regulatory oversight	**Governance & compliance** — Policies, standards, audits
Crew, asset & gate coordination	**Ownership & management** — Roles, permissions, accountability
Operational analytics	**Performance & insights** — Optimize and improve



Bottom Line: The Agent Hub is the airport operations center for your agent ecosystem.

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Thank you.

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