

# SAP's Autonomous Enterprise
# "Need to Know" When Moving to SAP Cloud

October 26, 2026

# Agenda

**ASUG Wisconsin Chapter Meeting – October 26, 2026**

- **Introductions**
  - Speakers
    - Kevin Reilly
    - Clay Thomas
  - ETS Leader
    - Matt Chudy
- **Critical Areas in a Move to SAP S/4HANA Cloud**
  - Strategic & Project Planning
  - Data & Technical Considerations
  - People & Process
  - Security & Testing
  - Path to the Autonomous Enterprise
  - Staying On-Premise? Your AI Path
- **Q&A Session**



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# Strategic & Project Planning

# Strategic and Project Planning

## Define strategic goals

Align with overall business objectives:

- Increased efficiency
- Real-time insights
- Long-term growth

## Choose your migration strategy

Select the path that fits your needs:

- **Greenfield** — New implementation
- **Brownfield** — System conversion
- **Hybrid** — Selective data transition

## Engage stakeholders

Secure buy-in from key stakeholders early

- Facilitate alignment
- Manage resistance to change

## Plan for operations, not just migration:

- This is a business transformation opportunity, not just a technical upgrade.
- Plan the target operating model — ERP evolves from a System of Record to a System of Action.
- Define the business outcomes AI agents and SAP Joule will deliver — make Autonomous Enterprise a planning input, not an afterthought.



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# Data and Technical Considerations

# Data Migration & Data Quality

- **Address data migration complexity:**
  - Clean, governed master data is a strategic asset for trustworthy Business AI — not just a clean migration.
  - Before you migrate:
  - Eliminate bad data – inaccurate, outdated, or duplicate.
  - Use SAP tools like the S/4HANA Migration Cockpit, Data Services and SLT.






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# Integration & Architecture

## Assess and manage customizations:

- Ensure remaining customizations are cloud-compatible.

## Evaluate system and infrastructure:

- Decide what to do with the existing on-premises environment.
- Identify the fall-back scenario – Perhaps keep the on-prem ready for some time post go-live?

## Plan for integration:

- Build an AI-ready data layer: assess SAP Knowledge Graph / Business Data Cloud connectivity so agents act on accurate, connected data.
- Determine how to handle existing integrations, such as EDI
- Leverage standard open APIs in the cloud.



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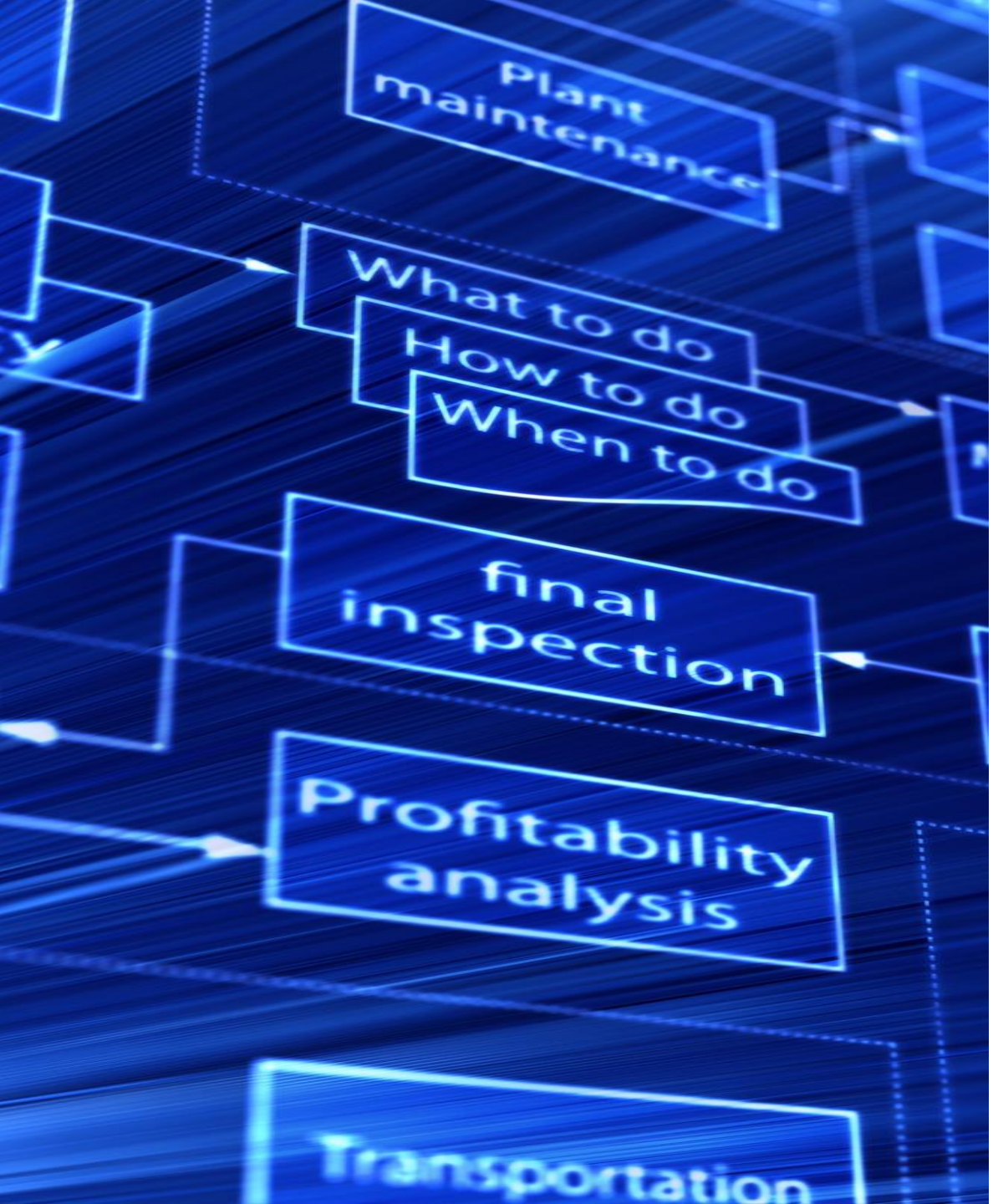


# People & Process

# People & Process

## Focus on change management:

- Implement a structured approach for change management include:




- Prepare people for digital teammates — roles shift from manual transaction processing to exception management and decision-making.

## Train key users:

- Identify and train super users to act as ambassadors and provide central support for other staff.

## Streamline and standardize processes:

- Use the migration to optimize and standardize business processes.
- Document process maps, including local adaptations, and anchor them in SAP Signavio for Joule.
- Standardized processes become the launchpad for AI agent automation — extend your CoE to AI governance.



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# Security & Testing

# Security & Testing

- **Prioritize security and compliance:**
  - Ensure strong security protocols, verified access permissions, and full data-protection compliance.
  - Govern AI as a critical control — define Human-in-the-Loop approvals, accountability, and auditability for AI-driven decisions.
- **Test thoroughly:**
  - Treat this like a new implementation: run full System Integration and User Acceptance Testing under SAP ACTIVATE before go-live.
  - Test autonomous workflows, not just transactions — validate AI agent behavior and exception handling before go-live, and monitor agents in production for behaviors testing can't anticipate.
- **Insufficient testing is costly after go-live – don't scrimp on testing or security; it's money and time well spent.**



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# Path to the Autonomous Enterprise

# A New Operating Model

**Business AI Becomes Part of Daily Operations**

- **ERP evolves from System of Record to System of Action**
  - AI agents can monitor, analyze, and execute business processes across Finance, Supply Chain, Procurement, and HR
  - Human teams shift from transaction processing to exception management and decision-making
- **Human + AI Collaboration**
  - Employees define business outcomes
  - SAP Joule coordinates AI agents and workflows
  - Human approvals remain in place for critical decisions
- **Continuous Operations**
  - Processes become increasingly autonomous
  - Faster response to disruptions, demand changes and business exceptions
  - Greater focus on business outcomes rather than system transactions

- ***Organizations are not replacing people with AI; they are augmenting employees with digital teammates.***



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# Organizational Changes Required

**New Skills and Responsibilities**

- **Business Process Owners**
  - Define AI governance and decision boundaries
  - Approve autonomous workflow rules
  - Monitor business outcomes and compliance
- **Center of Excellence (CoE) Expansion**
  - AI Governance
  - Data Quality & Master Data Management
  - Process Excellence & Continuous Improvement
  - Business AI Enablement
- **Workforce Evolution**
  - Less manual data entry and transaction processing
  - More analytical, supervisory, and strategic activities
  - Increased demand for business process and data expertise

- ***Successful organizations invest as much in people and governance as they do in technology.***



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# Preparing for the Autonomous Enterprise

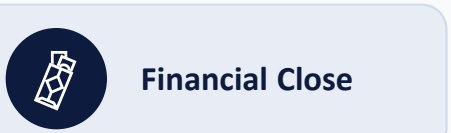
**Critical Success Factors**

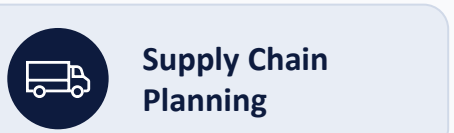
## Data First

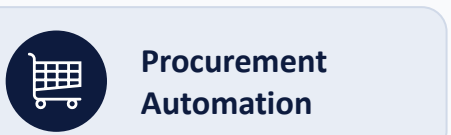
- Quality master data is a strategic asset
- AI is only as good as trusted data

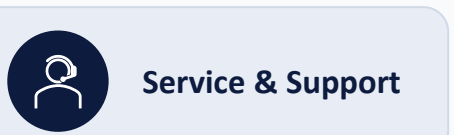
## Start Small, Scale Fast

- Begin with targeted use cases
- Measure value and expand incrementally



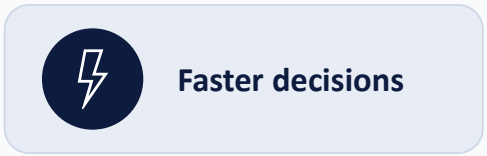



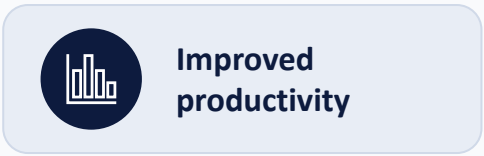



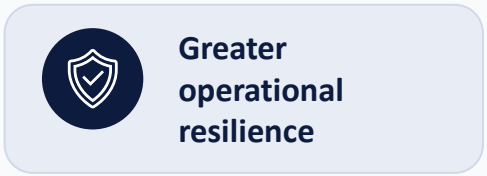

## Governance & Controls

- Establish Human-in-the-Loop approval processes
- Define accountability for AI-driven decisions
- Maintain auditability and compliance

## Focus on Outcomes







***Organizations combining clean data, strong governance and business process excellence realize the greatest value from SAP Business AI and Autonomous Enterprise capabilities.***



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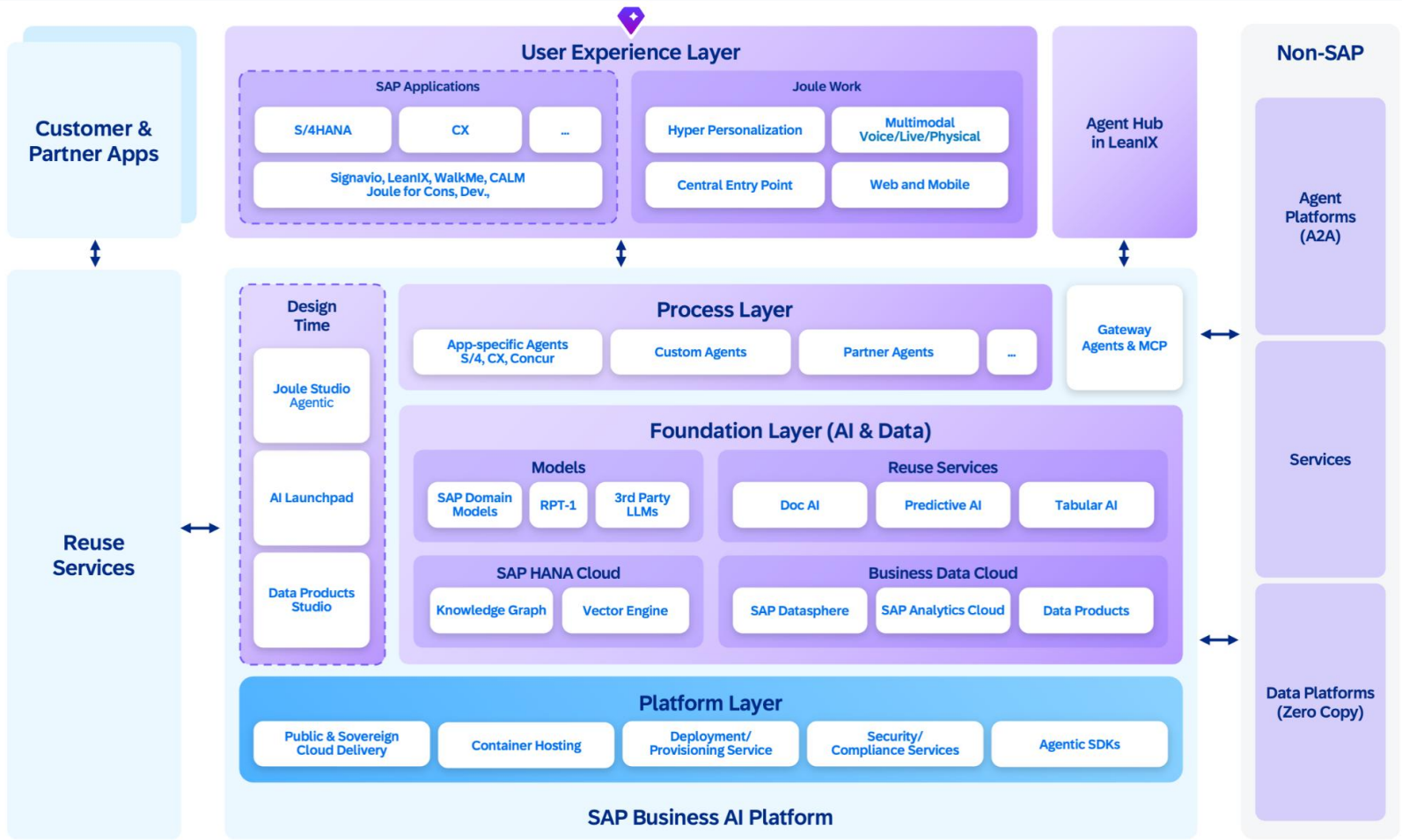
# Joule: AI Enablement & SAP Vision

# Inside SAP's AI-Native Architecture

**Four Layers Underpin Every Joule Interaction and Autonomous Workflow**




## Where Joule & AI Are Applied

*This is SAP's technical blueprint for their vision — understand how much Joule and AI are woven through every layer in this vision:*

- **User Experience —** Joule Work is the "always-on" entry point across every app (S/4, IBP, etc)
- **Process —** purpose-built and custom Agents act inside every application
- **Foundation —** Knowledge Graph + BDC ground every agent in real business data with context
- **Platform —** BTP/BAIP governs and runs every agent safely, at scale (including security)

*Source: SAP Architecture Center, "AI-native North Star architecture" (2026); compiled by ETS.*



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# The North Star Layers, Simplified

*A Condensed View of the Architecture on the Previous Slide — Where Joule and AI Actually Live*

1. **User Experience** — *Joule as the intent interface*
2. **Process** — *Apps become capability providers*
3. **Foundation** — *System of context for every agent*
4. **Platform** — *Runtime, governance & the builder tools*

CROSS-CUTTING: Integration · Identity · Security · Observability · Compliance

*See the full technical diagram on the previous slide.*

### 1 Joule Work — Your New Front Door

Users stop logging into individual apps. Joule Work becomes the single entry point — like having Microsoft 365 Copilot as one of your screens, not a separate destination. Every task starts here.

### 2 Joule in Every App — Base, Premium, or Agent

Every application ships with Joule Base (included) or Joule Premium (deeper, line-of-business capability) today. The most mature processes graduate into full Joule Agents (and assistants) that act autonomously — not just assist.

### 3 Foundation Powers Every Agent's Reasoning

Business Data Cloud unifies the data and SAP Knowledge Graph adds the relationship layer on top. Together they let Joule Agents reason reliably across systems — Base Joule works today without this grounding. (note the implication: Autonomous Enterprise requires BDC!)

### 4 Platform Runs and Governs Every Agent

BTP's managed runtime, agent harness, and observability keep every Joule interaction safe and auditable. This is also where the builders live — Joule Studio (build agents) and Joule for Developers (build apps) both run here to power everything above.

# SAP Joule Portfolio at a Glance – Enablement and Application

*Ownership, licensing model, and scope across the four Joule offerings — the practical map for scoping conversations.*

## 1 Joule Work

- Customer-owned · enterprise-wide (coming)
- Conversational layer replacing app navigation — routes intent to Assistants & Agents
- Licensing not yet published — expected to draw AI Units at the agentic rate
- Status: Announced Sapphire '26 — targeted GA end of 2026 (Klein just announced “in October” while at SAP Connect)

## 2 Joule for Developers

- Customer-owned · SKU-based, currently free
- Embedded AI copilot in SAP Build / ABAP Cloud for application development
- Scoped to that one customer's dev environment — re-order required to keep active
- Status: GA — active today

## 3 Joule Studio

- Customer-owned · bundled in RISE / GROW
- Low/pro-code environment to build custom Joule Skills & Agents
- Agents deployed into that customer's own Joule Formation
- Status: GA — Studio 2.0 expected Q4 2026 (SAP target)

## 4 Joule for Consultants

- Partner-owned · PUPM licensing — 35 AI Units / user / month; customers may also buy directly
- AI copilot for delivery teams — discovery, configuration guidance, best practices
- Portable (for consultants) across every customer engagement — not tied to one landscape
- Status: GA — active today

# One Joule, Four Pillars: The Agent-Led Toolchain

*What SAP showed at the BTM Summit (Sep ’26) — one conversational layer orchestrating four transformation tools.*

### 1 SAP Signavio
**Process & Agent Excellence**

- Process Consulting Agent (via Joule): business question → root cause + quantified value case
- Company Memory: process + policy “atoms” ground and constrain agents
- Agent Mining (available now): conformance, cost & ROI for any agent

### 2 SAP LeanIX
**Architecture Intelligence**

- EA Assistant + peer benchmarks drive app retirement and target-landscape decisions
- AI Agent Hub: one inventory of every agent & LLM — cost, autonomy level, risk, dependencies
- AI Governance Assistant embeds frameworks such as the EU AI Act

### 3 WalkMe
**Digital Adoption at Scale**

- Surfaces the right Joule skill in the flow of work; redirects “shadow AI”
- UI-native agent reaches the ~71% of workflows with no API (legacy, 3rd-party, custom)
- Adoption gap: only ~8% of employees use enterprise AI beyond simple tasks

### 4 SAP Cloud ALM
**Agentic-Assisted Migration**

- 7 Migration & Modernization Assistants / 35 agents: analysis, data, code, config, test, rollout, PM
- Target: ~30% less implementation effort (20–35% by complexity driver)
- ABAP Custom Code assistant available now; most others Q4 ’26 – Q1 ’27

**SAP Joule — one conversational layer across all four.** State the goal; Joule orchestrates the agents in Signavio, LeanIX, WalkMe and Cloud ALM — grounded in a knowledge graph of *your* landscape and governed on BTP.

*Source: SAP BTM Summit sessions, Sep 22–23, 2026 (keynote panel, Agent-Led Toolchain, Signavio Suite Vision, WalkMe); compiled by ETS. Availability dates are SAP’s stated targets.*

# Implications for S/4HANA Cloud Implementations

*What the agent-led toolchain changes for Public and Private Edition projects — and what to plan for now.*

## Public Edition

- Fit-to-standard means little custom code — value shifts to the Data, Configuration & Test assistants
- Cloud ALM is the project backbone from Discover; the assistants run on its data
- WalkMe + Joule Base accelerate adoption of standard processes from day one

## Private Edition

- Most transformation debt lives here — System Analysis & Custom Code assistants pay off first (brownfield / selective)
- RISE Private packages now carry BTM entitlements + SAP onboarding advisors — confirm what is already owned
- LeanIX rationalizes the surrounding landscape before cutover

## Both — plan now

- Centralize project data in Cloud ALM; assistant quality depends on it
- Model & mine processes in Signavio early — the same model later grounds agents
- Register agents in AI Agent Hub; measure with Agent Mining after go-live

***The BTM toolchain is no longer optional tooling — it becomes the context and governance layer your Joule agents run on.***

*Source: SAP BTM Summit sessions, Sep 22–23, 2026 (keynote panel, Agent-Led Toolchain, Signavio Suite Vision, WalkMe); compiled by ETS. Availability dates are SAP's stated targets.*

# Joule Across Your S/4HANA Timeline

**Joule Readiness and Enablement Is a Key Dimension in Transformation Workstream — Not a Post Go-Live Afterthought**

### The 4 Layers + the Tools Behind Them

**User Experience**
Joule Work · WalkMe

**Process**
Signavio — mining, Company Memory, Agent Mining

**Foundation**
Cloud ALM system graph · LeanIX landscape · BDC

**Platform**
BTP · Joule Studio · AI Agent Hub governance

***The closed loop — when all four pillars connect:***

- **Signavio** finds the problem and quantifies the value case
- **Joule Studio** builds the agent from that process context
- **AI Agent Hub** registers & governs it; **WalkMe** drives adoption
- **Agent Mining + Cloud ALM** measure every run and surface the next fix

### Discover & Onboard (Today — Discovery & Design)

- Activate Joule Base now — free, no BDC required — to build comfort with the conversational interface (where S/4 or other cloud apps are live)
- Stand up Cloud ALM as the project backbone on day one — the migration assistants run on its data; the System Analysis Assistant builds one fact base
- Confirm the BTM entitlements already in your RISE contract; mine current processes in Signavio and map the landscape in LeanIX
- Use the Process Consulting Agent to pick 2–3 agent candidates with a quantified value case

### Modernize & Run (During Transformation — Build & Migrate)

- Put the assistants to work: Custom Code (ABAP) now; Data, Configuration & Test as they ship Q4 ’26 – Q1 ’27 — SAP targets ~30% less effort
- Design the data model for AI from day one — clean core and data quality directly determine how well agents perform later
- Build Joule Skills & Agents in Joule Studio alongside configuration, specified from Signavio process context
- Register every agent in AI Agent Hub and capture policies in Company Memory; use WalkMe to guide users into the new processes

### Continuously Innovate (Post Go-Live — Operate & Scale)

- Plan for Joule Work (GA end of 2026) — the engagement layer will change how users interact with the system just built
- Measure agents with Agent Mining — conformance, cost per case and realized value vs. the original value case
- Expand Base → Premium → Agents deliberately, line of business by line of business; treat AI Unit consumption as ongoing capacity planning

***ETS view — what to scope into your S/4 project:*** **Core:** Cloud ALM · Signavio **Recommended:** LeanIX (critical for complex / Private Edition landscapes) **Scale-up:** WalkMe



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# Staying on S/4HANA On-Premise? Your AI Path

*Practical moves that don't wait on a cloud migration — and keep every future option open.*

## 1 Get Your Data AI-Ready

- Cleanse and govern material, customer, and vendor masters now
- No new SAP licenses required to start
- Clean data pays off on any future AI platform
- The biggest predictor of AI success — cloud or not

## 2 Open Up the Integration Layer

- Expose standard OData / BAPI interfaces from S/4HANA
- SAP Cloud Connector securely links on-prem to BTP
- Keep the core clean — fewer modifications, more APIs
- Keeps both SAP-native and third-party agents viable

## 3 Mine Your Real Processes

- Process mining reads on-prem ECC and S/4HANA event logs
- Find the bottlenecks worth automating first
- Build a quantified value case per use case
- The same process model later grounds any agent

## 4 Use the Cloud You Already Have

- Hyperscaler-hosted S/4HANA can tap native AI services
- Build agents against your S/4HANA APIs and data
- Apply the same Human-in-the-Loop and audit controls
- Tradeoff: SAP Joule Agents and BDC are cloud-first

## 5 Optimize Licenses & Timing

- Measure utilization and shelfware before renewal
- Know what your maintenance fees are funding
- Evaluate SAP's current cloud-transition incentives
- Frame on-prem vs. RISE with your CFO: capex vs. opex

## 6 Where ETS Helps

- AI Readiness Assessment across all 5 dimensions (next slide)
- License landscape and utilization review
- On-prem vs. RISE business case
- Target 1–2 AI pilots on your current landscape

# What ETS Evaluates: The 5 AI Readiness Dimensions

*Every ETS assessment — regardless of package — evaluates these five dimensions. Depth and breadth scale with the chosen package.*

## 1 License Landscape & Utilization

- SAP application inventory & license scope (SAM4U)
- Utilization rates from SAP for Me / CCF metrics
- New capability available since go-live (unrealized value)
- License optimization & renewal positioning

## 2 Data & Master Data Readiness

- Material master, vendor, plant, business partner quality
- SAP Knowledge Graph connectivity assessment
- BDC readiness — data products & integration health
- Master Data Governance (MDG) gap identification

## 3 Process & Configuration Health

- Signavio Process Insights — PPI benchmarking vs. peers
- SAP best practice adherence by module/LoB
- Process bottlenecks blocking AI agent automation
- Configuration gaps, workarounds & custom code exposure

## 4 Organizational & Change Readiness

- Business/IT alignment maturity (VLM Readiness Model)
- Executive sponsorship & Value Management Office (VMO)
- Change management program effectiveness
- User adoption rates & training gaps

## 5 AI / Joule Activation Readiness

- Joule assistant eligibility by business domain
- BTP/Integration Suite connectivity for agent orchestration
- Joule for Consultants & Studio 2.0 readiness
- Target agent use cases & KPI-linked activation roadmap



# Questions?



Enterprise Transformation Systems

# Thank You

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