Innovations for Data-Driven Business Transformation in the Era of AI for Building Materials Industry

Ursula Gruen and Folkert Haag, SAP
June 19, 2024

Public

Agenda

- 🔭 **Building Materials Vision**

- ❗ **Industry Challenges**

- 🎯 **SAP's Industry Strategy**

- 💡 **Innovations for the Industry**

- 💎 **Key take aways**

- 👥 **Relevant sessions at the conference**

The fully digitized, self-optimizing, intelligent Building Materials manufacturer

Building Materials producers are facing various challenges

Shortage of skilled labor

Rising costs

Supply chain disruptions

Increasing customization

Building Materials strategic priorities

Drive customer centricity

Optimally price and quote based on customer insight and market environment. Automate sales order processing and technical feasibility checks, and gain profitability insights.

Build Supply Chain Resilience

Execute the wish of customers from order to delivery, while considering costs and margin. Business networks allow for early visibility on supply issues and provide profitable alternatives..

Optimize and collaborate on assets and operations

Transforming manufacturing and asset management into a minimum-latency, resilient network with real-time insights into asset status, machine failures, and product quality. Connect ERP-level processes seamlessly to production operations.

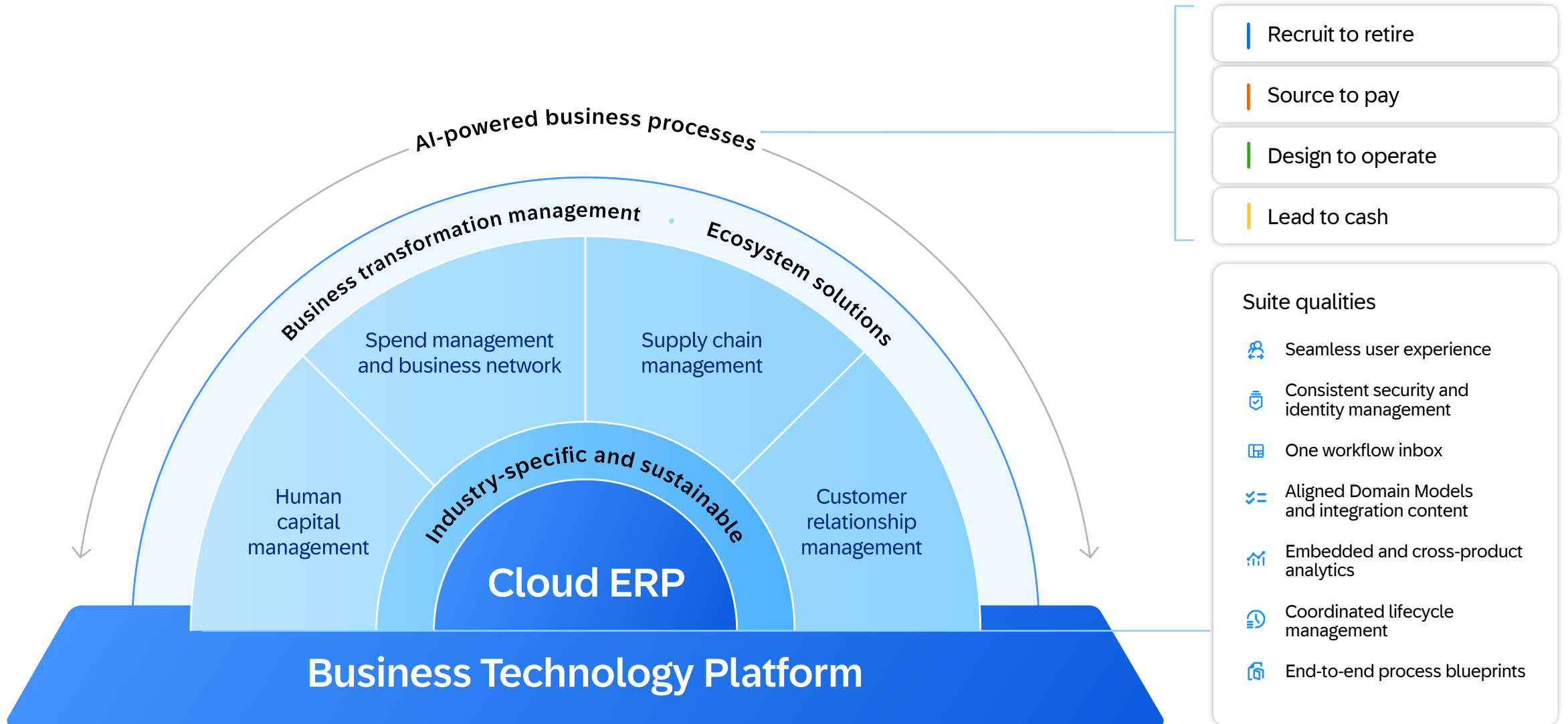## Run data driven and smart business processes

Capture productivity potential from Business AI across process automation, content generation, and better decision making. Both predictive capabilities and classical ML boost product quality, throughput, speed, and profitability.

Race Towards Sustainability

Comply with ever increasing mandatory reporting regulations from CBAM, SEC, CSRD, plastic tax, and Supply Chain Acts. Report financial and sustainability data with same level of scrutiny, moving towards a real green ledger.
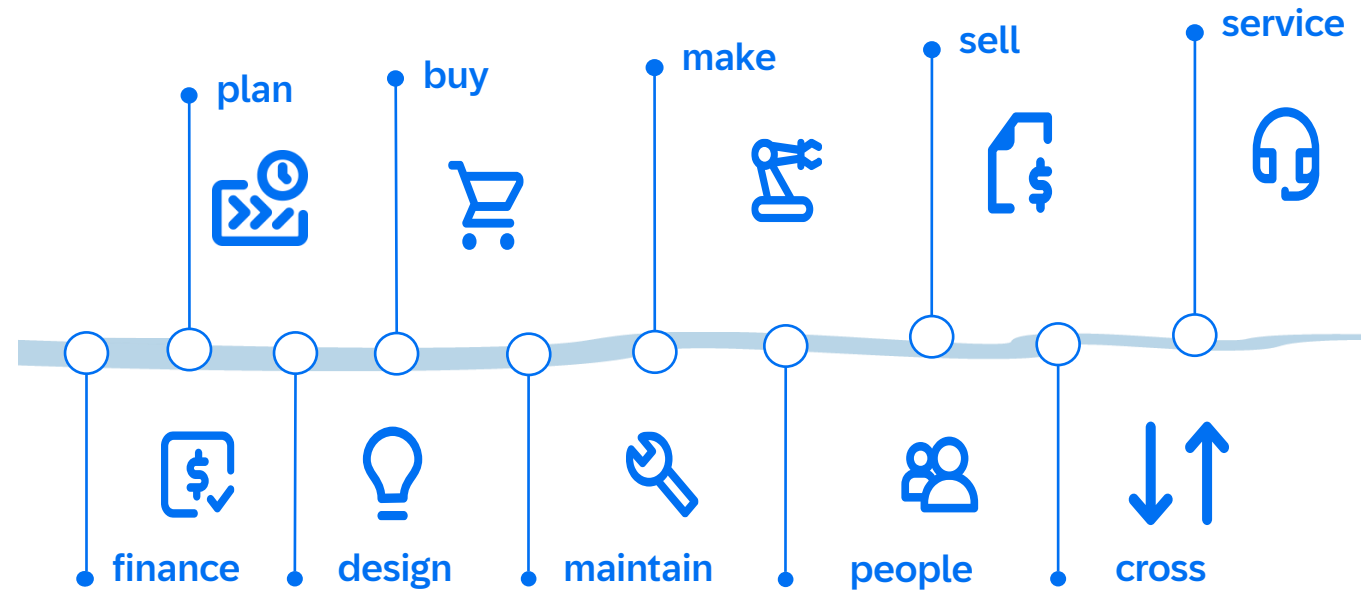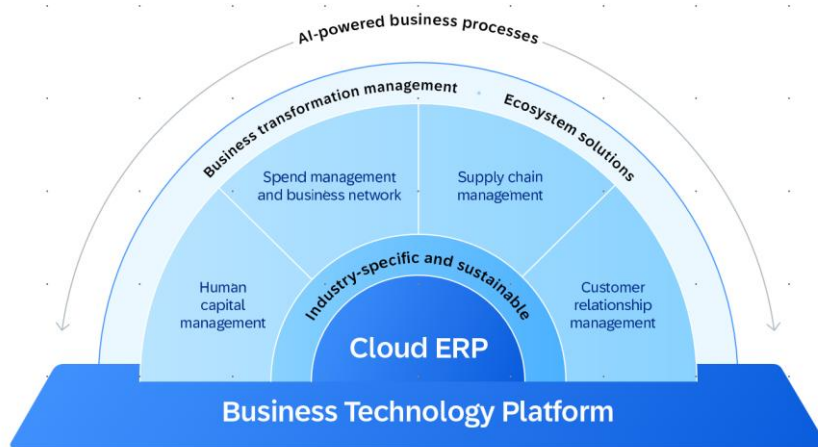
SAP Portfolio | End-to-End Processes and Suite Qualities

AI-powered business processes

Business transformation management

Ecosystem solutions

Spend management and business network

Supply chain management

Human capital management

Industry-specific and sustainable

Customer relationship management

Cloud ERP

Business Technology Platform

Recruit to retire

Source to pay

Design to operate

Lead to cash

Suite qualities

- Seamless user experience
- Consistent security and identity management
- One workflow inbox
- Aligned Domain Models and integration content
- Embedded and cross-product analytics
- Coordinated lifecycle management
- End-to-end process blueprints
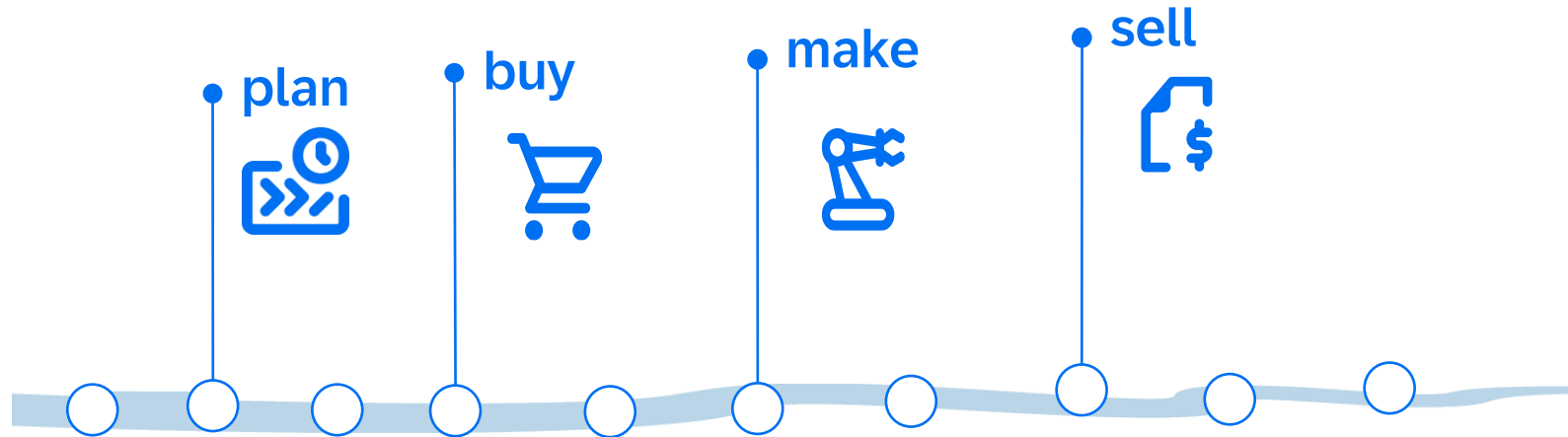
Intelligent enterprises deliver business outcome

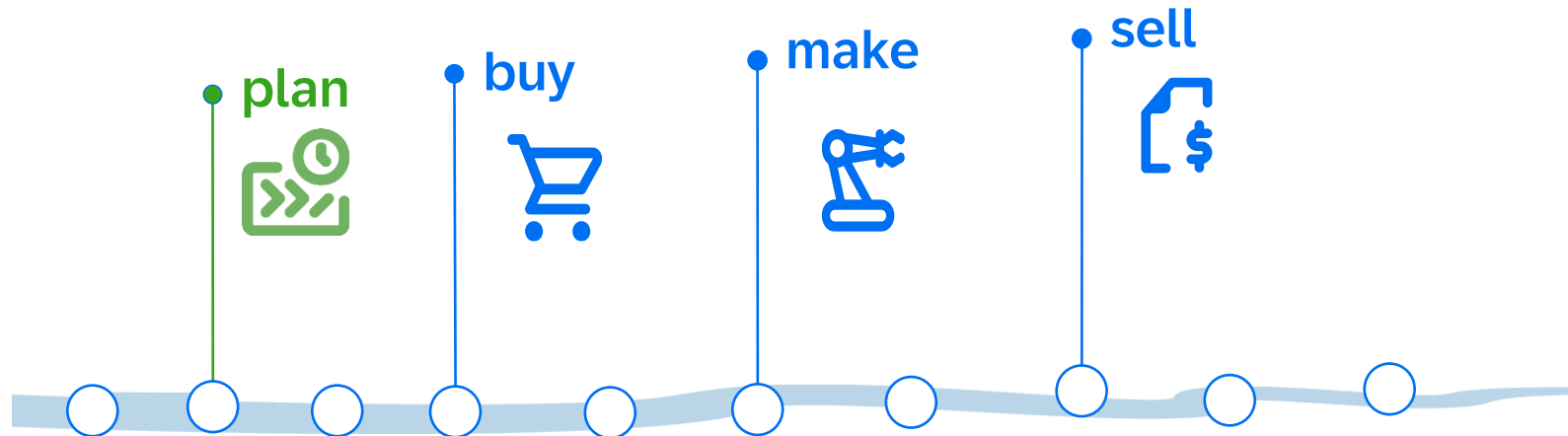Intelligent, sustainable enterprises ...   ... deliver value by Line of Business

Focus on plan, buy, make and sell (make-to-stock)

Supply Chain Planning

plan   buy   make   sell

SAP Supply Chain Planning Platform

Connect strategic and operational planning with real-time visibility and execution

plan

Digital Business Planning

Plan

SAP Integrated Business Planning (IBP) for Supply Chain

S&OP, Demand, Response & Supply, Inventory, Control Tower, DDMRP

- Synchronized Planning for Production
- Digital Twin of the entire supply chain
- Predictive and Prescriptive Decision Support
- Real-time scenarios and Intelligent Visibility
- Impact Analysis & Optimization
- MRO inventory planning

Execute

SAP S/4HANA

Productionn planning and scheduling, order promising (aATP) and MRP

Create a feasible master production schedule and rough cut capacity plan to feed manufacturing and production planning and scheduling
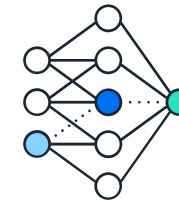
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Innovate

SAP Business AI

Leverage AI technology to improve forecast accuracy, user experience, master data quality & manage supply chain risk

Collaborate

SAP Business Network

High scalability with access to trading partners (including suppliers, logistics providers, and customers) for collaborative planning and execution

SAP Analytics Cloud (SAC)

Financial planning, steering and financial impact analysis on enterprise level
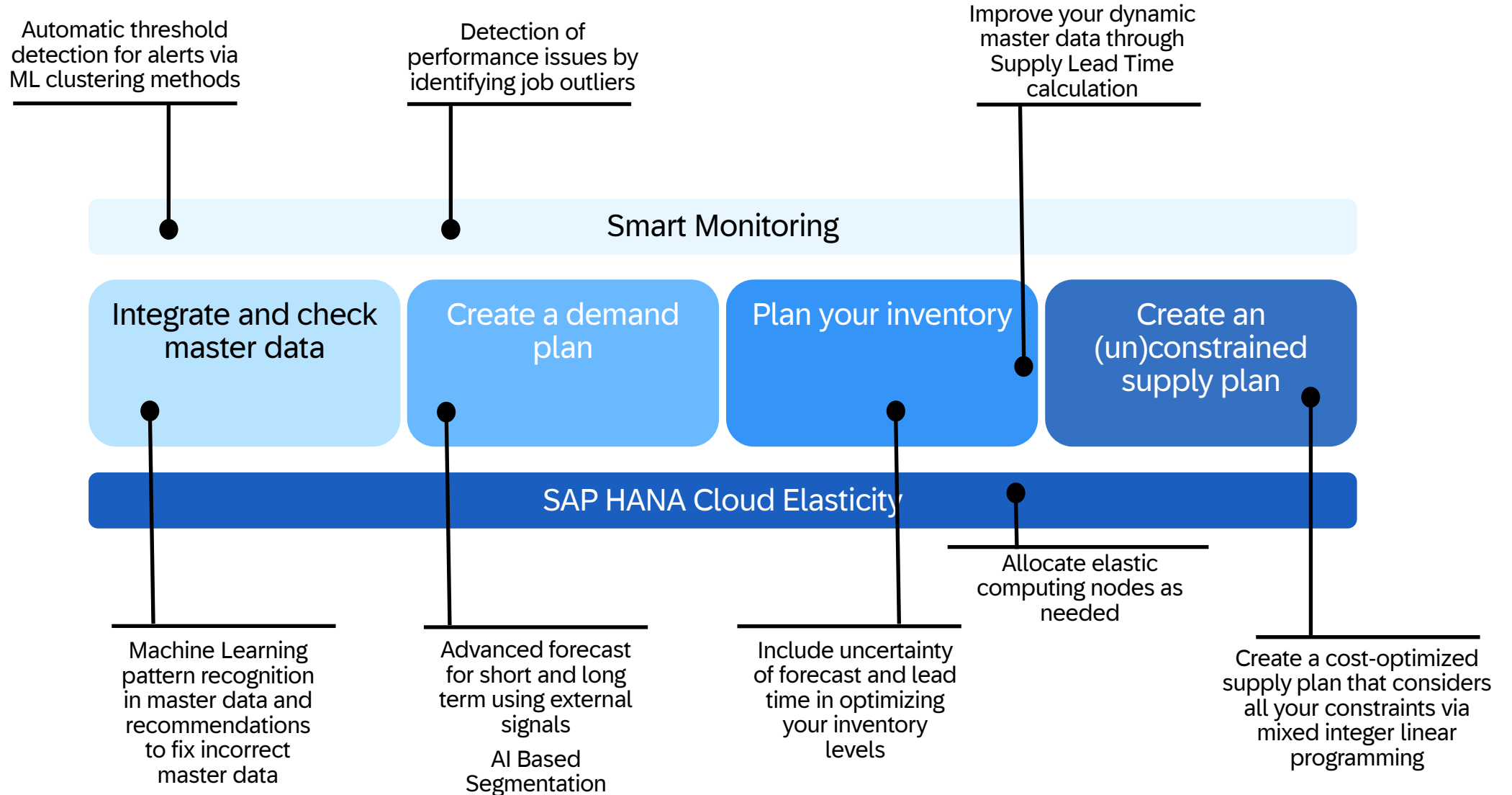
Business AI embedded in SAP IBP

plan

Automatic threshold detection for alerts via ML clustering methods

Detection of performance issues by identifying job outliers

Improve your dynamic master data through Supply Lead Time calculation

Smart Monitoring

| Integrate and check master data | Create a demand plan | Plan your inventory | Create an (un)constrained supply plan |

SAP HANA Cloud Elasticity

Machine Learning pattern recognition in master data and recommendations to fix incorrect master data

Advanced forecast for short and long term using external signals

AI Based Segmentation

Include uncertainty of forecast and lead time in optimizing your inventory levels

Allocate elastic computing nodes as needed

Create a cost-optimized supply plan that considers all your constraints via mixed integer linear programming

Optimizing World-Class Cement Production around Demand Planning

VOTORANTIM cimentos

Business challenge

- Increasingly complex supply chain model
- Reduce costs with less product shortages and more product availability
- Utilize Clinker Curve analysis to optimize production, balancing supply and demand, ensuring efficient resource utilization, and minimizing costs related to inventory fluctuations
- Non-linear production lines with a requirement to view and address product details

SAP Solutions and Technology

- SAP IBP
- AI - SAP HANA Predictive Analysis Library – Gradient Boosting Decision Tree
- SAP ECC

www.votorantimcimentos.com
View Presentation PDF
SAP Innovation Award Entries 2024

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Benefits

Transparency to see forecasts improved by **4%, representing 50K tons** of cement production

6x faster speed-to-delivery of demand plan (went from 6 hours to 10–40 min for 30+ planners)

Considering **5000 location sources** of raw materials in planning

Procurement

plan

buy

make

sell

Power of AI in procurement

buy

Business challenge

- Reactive instead of proactive
- Clean data isn't always available
- Tiresome day to day operations leaving little time for strategic planning

SAP Solutions and Technology

SAP S/4HANA

SAP Ariba Sourcing/Procurement

SAP Business Technology Platform

Demo: Material group recommendations with AI - Increase data consistency and efficiency in central purchasing (sap.com)

Benefits

Joule in SAP Ariba reduces average search time across applications by up to **80%**

SAP Ariba Category Management speeds up annual category strategy and planning by up to **75%**

SAP Ariba Sourcing automates sourcing events by pulling information from previous events, recommending suppliers and generating the content for the event

SAP Ariba Buying guides users to goods and services within the company catalog and recommends based on previous buying activities

SAP Ariba Central Invoice Management extracts supplier invoices from mail and uploads

SAP Ariba Central Procurement creates material group recommendations

Efficiency in MRO procurement

Business challenge

- Only one process out of 18 sub processes in P2P process is fully automated leading to increased lead time

- Relatively higher attrition in MRO procurement and low productivity in terms of value

- Timely aggregation of demand of over 100,000 SKUs across 50 departments for material procurement

SAP Solutions and Technology

SAP S/4HANA

SAP Ariba Sourcing

SAP Business Technology (BTP) - SAP Intelligent Robotic Process Automation

View Presentation PDF
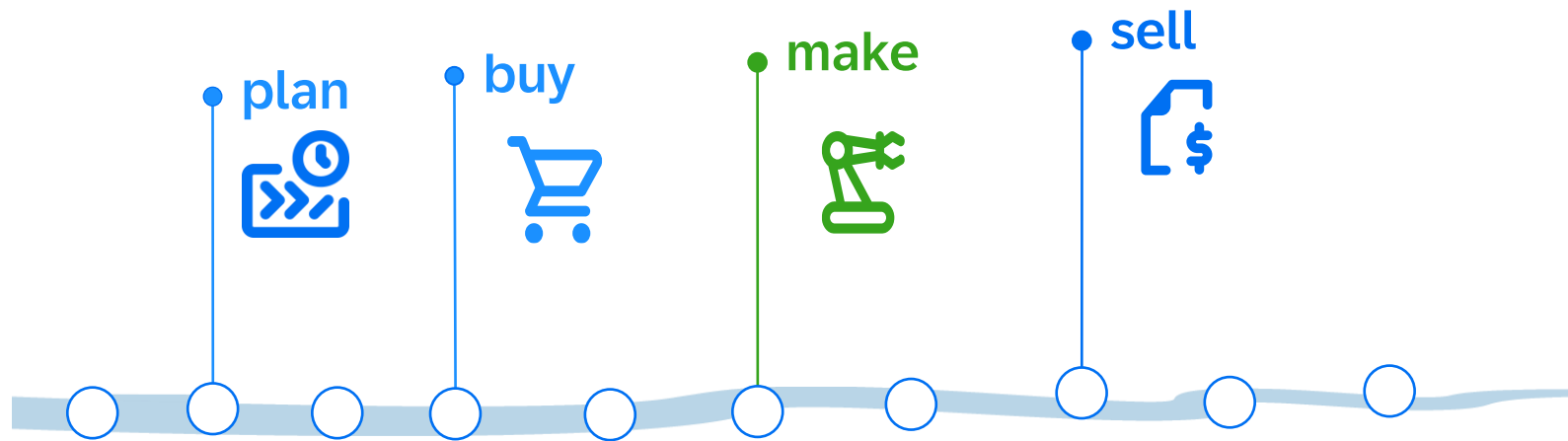2023 SAP Innovation Award Entries

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Benefits

90% reduction of lead time in PR release to RFP Publish

80% reduction on transactional activities by automation and reduction in No of RFPs
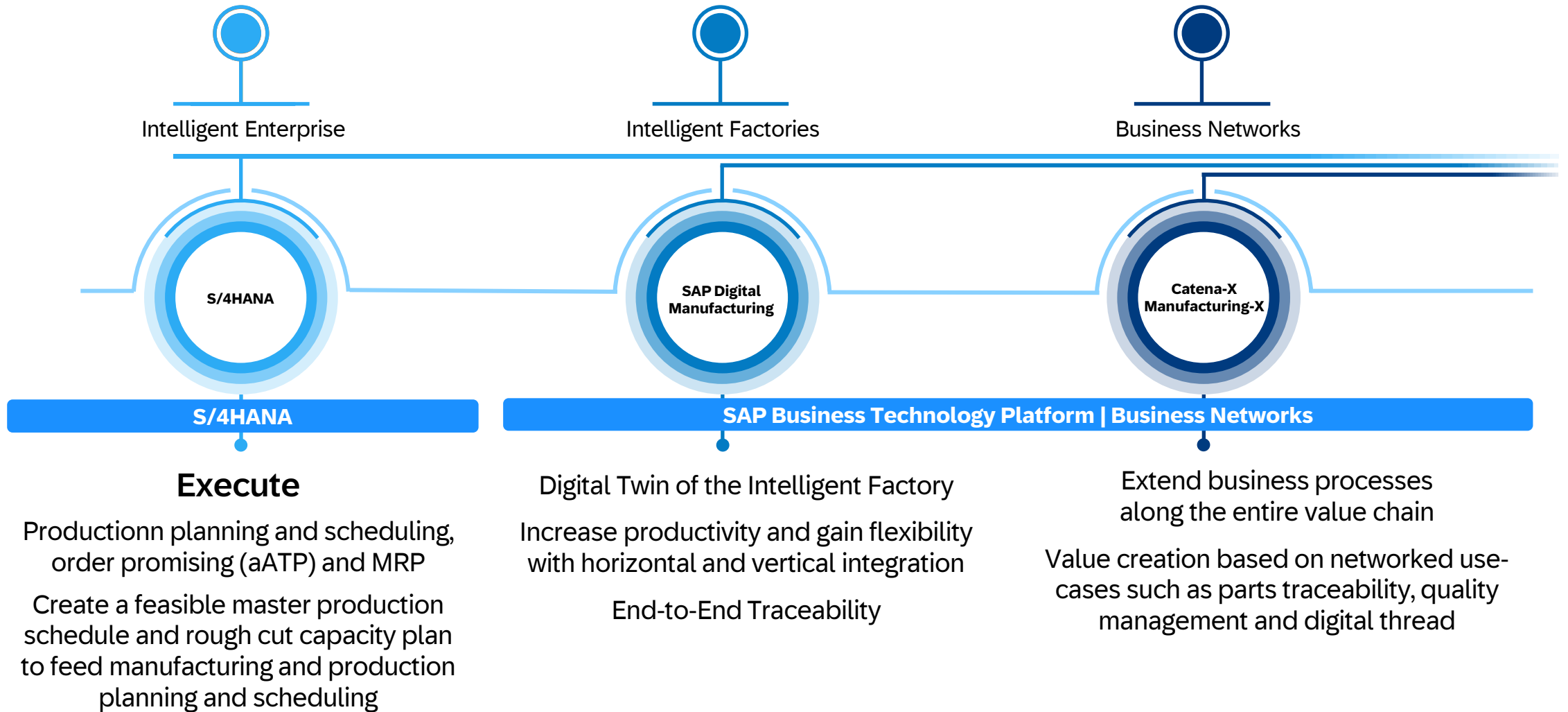
2% estimated savings on materials cost through auto aggregation and enhanced focus on negotiation

Manufacturing

plan

buy

make

sell

SAP Digital Manufacturing

make

Intelligent Enterprise

Intelligent Factories

Business Networks

S/4HANA

SAP Digital Manufacturing

Catena-X Manufacturing-X

S/4HANA

SAP Business Technology Platform | Business Networks

Execute

Productionn planning and scheduling, order promising (aATP) and MRP

Create a feasible master production schedule and rough cut capacity plan to feed manufacturing and production planning and scheduling

Digital Twin of the Intelligent Factory

Increase productivity and gain flexibility with horizontal and vertical integration

End-to-End Traceability

Extend business processes along the entire value chain

Value creation based on networked use-cases such as parts traceability, quality management and digital thread

Key Business Capabilities Overview with embedded Intelligence

make

Dispatch & Scheduling

Labor

Process Orchestration

Inventory

Quality Management

Insights and Performance Management

Industrial Automation

Sustainable Manufacturing

Intelligence for Digital Assembly

Prescriptive Recommendations

Digital enablement of Workforce

Modular – Agile Manufacturing

Real-Time AI Monitor

Quality Issue Resolution & Collaboration

Intelligent Work Plan and Change Management

Visual operations intelligence

make

cogniac

Business challenge

- Repetitive tasks
- Errors in visual inspection
- Requires highly experienced personnel that could add more value in other tasks
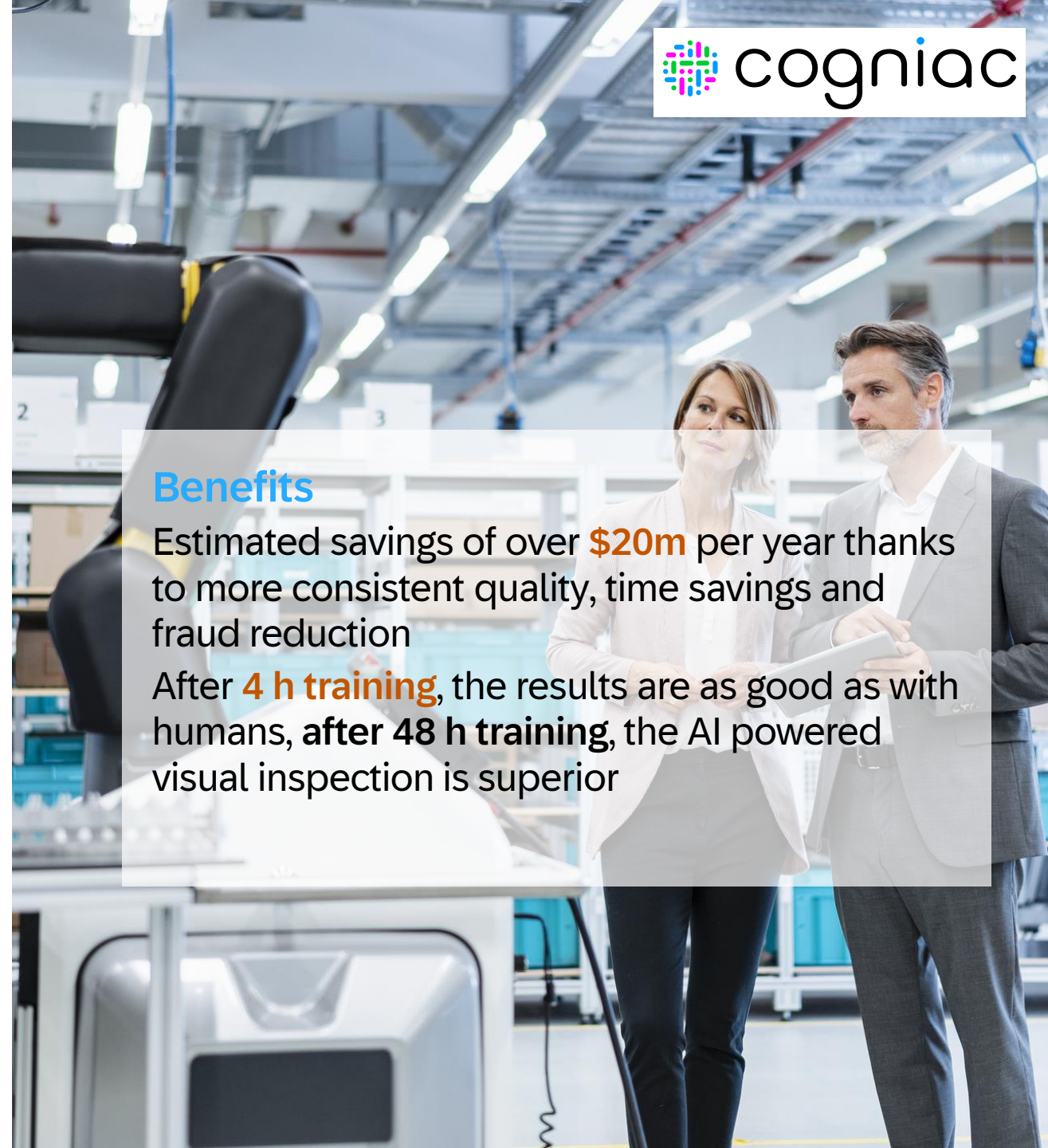
SAP Solutions and Technology

- SAP BTP
- Cogniac Visual Operations Intelligence

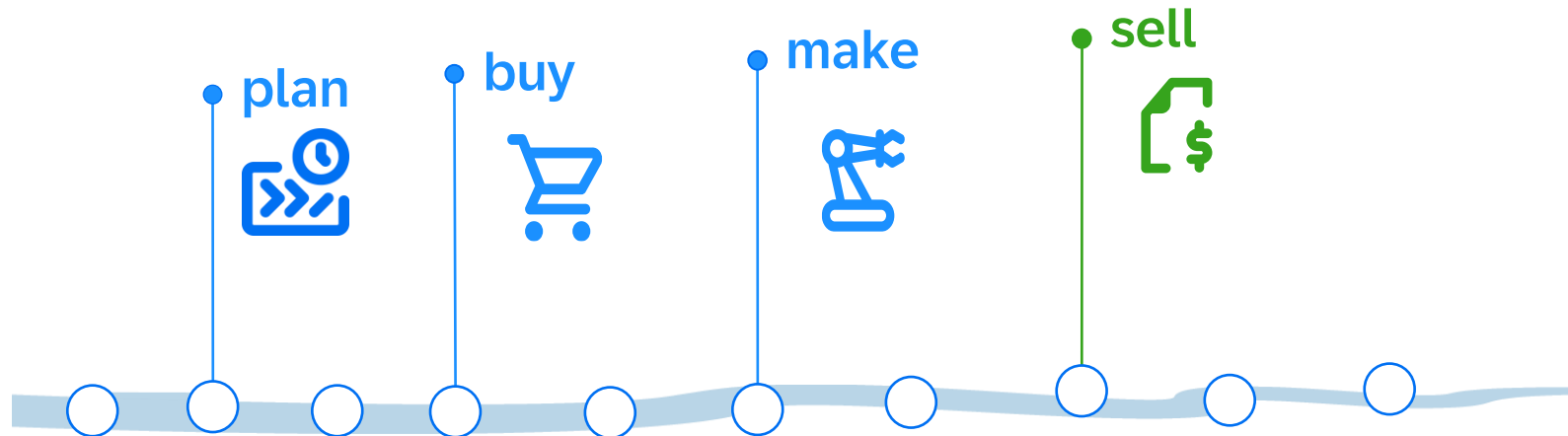### Benefits

Estimated savings of over **$20m** per year thanks to more consistent quality, time savings and fraud reduction

After **4 h training**, the results are as good as with humans, **after 48 h training**, the AI powered visual inspection is superior

Cogniac Visual Operations Intelligence | Cogniac Corporation (sap.com)
https://youtu.be/k6Bkjc12_mM
SAP and Smart Press Shop Success Story | Customer Reviews and Testimonials
AI Computer Vision System for Manufacturing & Industrial (cogniac.ai)

Public

Customer Experience

SAP Intelligent CX solutions to support building materials manufacturers

Deliver sales excellence

- ✓ B2B customer engagement
- ✓ Intelligent sales
- ✓ Streamline Lead-to-Cash process
- ✓ Dynamic pricing
- ✓ Engaging Experience for Customers
- ✓ Configurable products and solutions

Adopt digital customer experience

- ✓ Unified customer profile
- ✓ Direct digital sales to customers
- ✓ Customer self-service portal
- ✓ Digital indirect sales channels
- ✓ Omnichannel customer service
- ✓ Auctions for commodities

Pivot to new business models

- ✓ Products and services marketplace
- ✓ Outcome- & subscription based services
- ✓ Selling bundles and value-added services
- ✓ Supply chain transparency and traceability

Sales order automation

sell

SAP

Business challenge

- Cumbersome process to enter sales orders received through various channels in the system
- Error-prone process that may lead to delays in the sales order fulfillment

SAP Solutions and Technology

- SAP S/4HANA

Demo: Sales Order Automation with AI (sap.com)

Benefits

Simple and intuitive user interface **minimizes training costs** and enables higher throughput

Improve data quality and **avoid costly mistakes** with automatic AI-based order extraction

Accurate order capturing leads to **higher customer satisfaction**
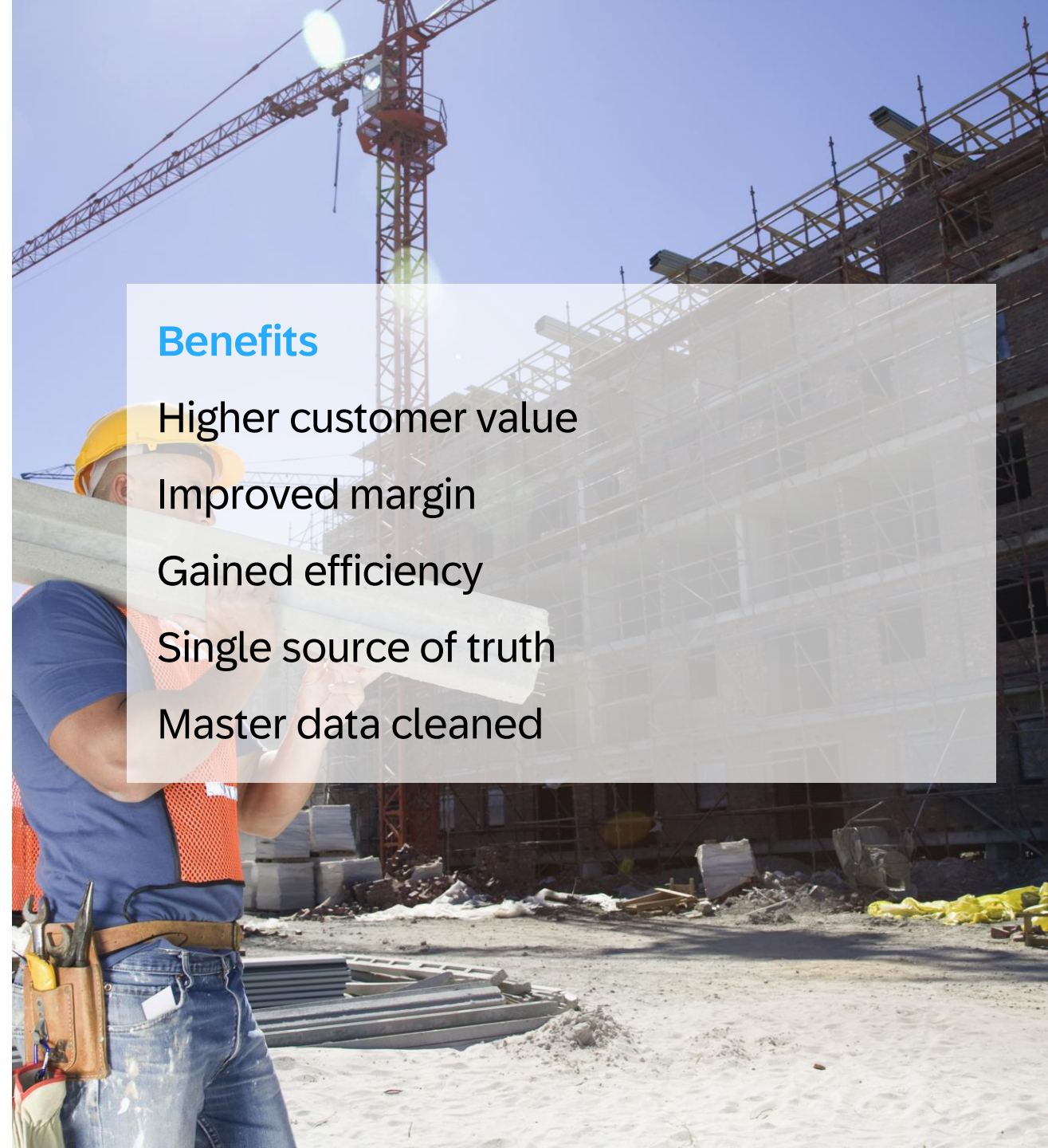
Improving customer experience

sell

Business challenge

- Customers: High customer efforts, technical tools, digitization
- Value chain: Need to improve service, leverage scale, logistics
- Process: Greater efficiency, increasing regulations requiring better discipline

SAP Solutions and Technology

- S/4HANA
- SAP Transportation Management, SAP LBN
- SAP BTP (for delivering specific capabilities)
- SAP Commerce Cloud

Benefits

Higher customer value

Improved margin

Gained efficiency

Single source of truth

Master data cleaned

Business process automation delivered in the cloud as the foundation for your growth ambitions

Insight to action on real-time data to manage your business across the organization

A business platform ready to meet future needs – expansion, new business models, and more – at your own pace

Accelerated time to value with industry cloud solutions by SAP and partners

SAP for Building Materials

Meeting today's and future business needs

Wednesday morning, June 19th

11:35 Roxor Avoids Technical Debt and Gains Efficiencies in Creating a Modern Buying Experience with SAP Store Solution OMS+

12:10 Building a Modern Technology Foundation at Etex with SAP S/4HANA

Wednesday afternoon, June 19th

02:05 Geberit's BTP Journey with a Deep Dive into Analytics Cloud

02:40 SAP Product Safety as a Tool for Creating and Distributing Compliance-Relevant Documents Along the Supply Chain

Thursday morning, June 20th

09:30 From Strategy Bottleneck to Business Differentiation (Keynote, main stage)

10:45 Cloud Solutions from SAP Enable Digital Transformation at KWC

11:20 Achieving AGT's Big Dreams with SAP

SAP for Building Materials

What's on the agenda?

Thank you.

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