

Federated Machine Learning with Datasphere

Crave InfoTech's SAP BTP Success Journey



2007

INCEPTION

- **Global Beginning:** Crave InfoTech starts its journey in India and the USA.



2008

SAP PARTNERSHIP

- **Strategic Alliance:** Forges a vital partnership with SAP and ventures into product development.



2014

GLOBAL EXPANSION

- **Global Player:** Ascends to SAP's global PE-build partner status, expanding across territories.



2015

ENTERPRISE MOBILITY LEADER

- **Industry Recognition:** Earns acclaim as an Enterprise Mobility Leader.



2023

BTP ADOPTION

- **Enterprise Trust:** Serves 50+ large enterprise clients, solidifying trust in the industry.
- **H2B Triumphs:** Sets a new standard in H2B (Head to Business) partnerships.



2022

BTP COMPETENCE

- **BTP Excellence:** Emerges as SAP's top global BTP implementation partner with 350+ experts.



2018

INDUSTRY EXCELLENCE

- **ACE Achievement:** Secures SAP ACE award.
- **VAR Status:** Attains SAP VAR (PE-Sell) status with 20+ apps on the SAP store.



2016

INNOVATIVE APPS

- **Global Beginning:** Crave InfoTech starts its journey in India and the USA.



2024

NEXT VISION

Continues pioneering innovations in the SAP Business Technology Platform (BTP) ecosystem.

We Are In It For Joint Success!



We are an award-winning SAP PE-build, PE-Sell & PE-Services partner who can successfully implement complete enterprise solutions, minimizing total cost of ownership, with rapid deployment and a lasting impact for efficiency and total audit-ready compliance.

- 15+ Years of providing niche SAP consulting across industries
- 50+ Pre-packaged products for End-to-End process automation
- 50+ Enterprise customers served successfully
- 30 SAP BTP certified Individuals
- 25 SAP BTP initiatives delivered

Partners



Certifications



Awards



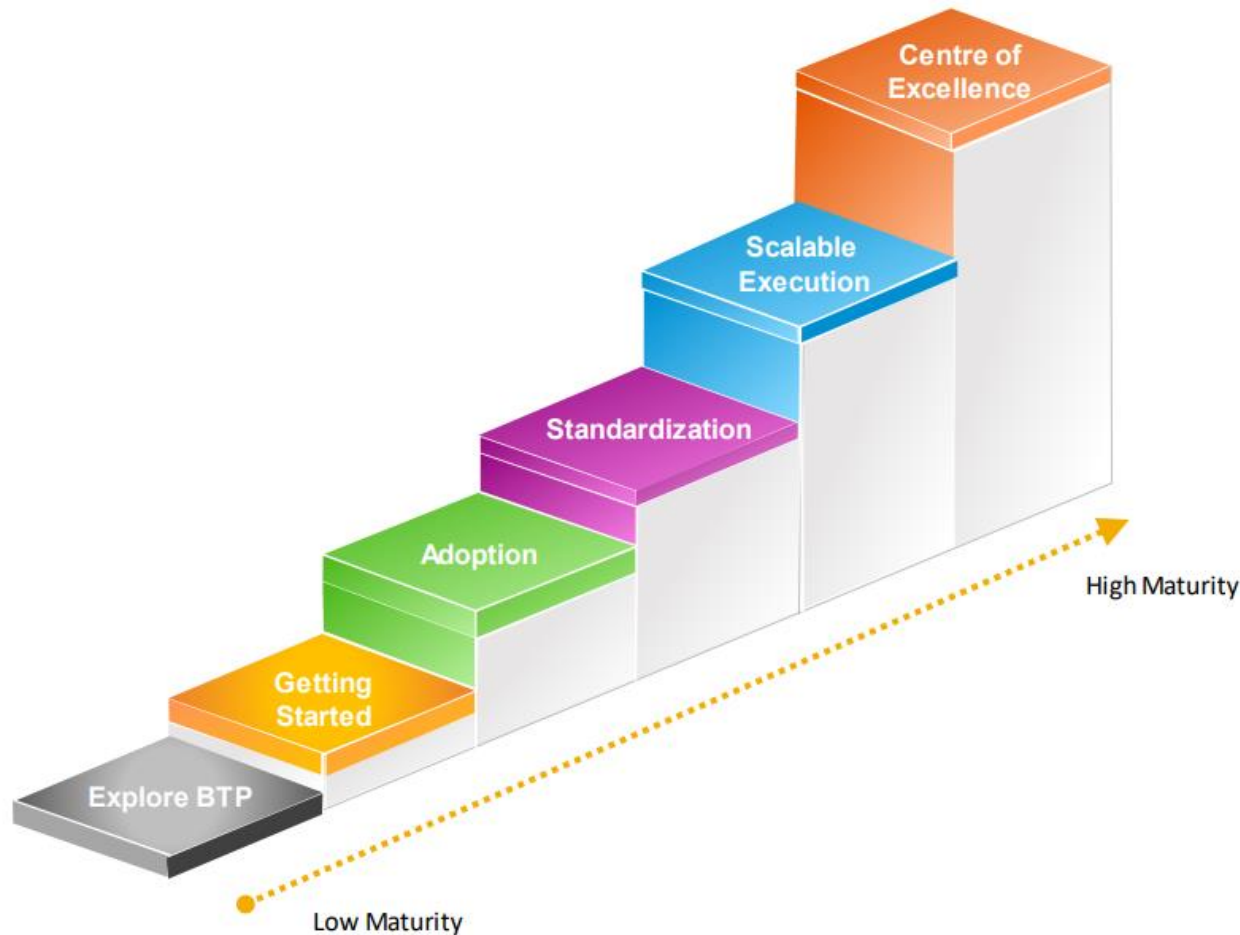
Crave is the Right Partner to Embark with You on Your Digital Journey



Our Core Competencies!

| ADVISORY SERVICES | E2E PROCESS AUTOMATION | BUSINESS TECHNOLOGY PLATFORM (BTP) | INTELLIGENT ASSET MANAGEMENT | INTELLIGENT WAREHOUSE & SUPPLY CHAIN |
|---|---|---|---|---|
| <p>BTP</p> <ul style="list-style-type: none"> Keep Core Clean Assessment Future Ready Enterprise (FRE) Assessment On-prem to Cloud BTP Migration Assessment BTP Security & Governance Assessment Dev-Ops set up for BTP Develop Center of Excellence <p>Digital Supply Chain</p> <ul style="list-style-type: none"> Reactive to Predictive Maintenance Assessment Warehouse Maturity Assessment | <p>AI and ML</p> <ul style="list-style-type: none"> Freight prediction and approval Demand Forecasting Inventory Prediction Asset predictive analytics <p>Procure to Pay</p> <ul style="list-style-type: none"> Supplier Connect, Invoice verification (3-way match), RFI and RFQ process <p>Order to Cash</p> <ul style="list-style-type: none"> Field Sales Order Process, Proof of Delivery, Credit management, <p>Approvals and Workflows</p> | <p>AI and ML: Bots, Large Language Networks,</p> <p>Integration Suite Migration:</p> <ul style="list-style-type: none"> PI and PO and Ariba ITK Boomi and Mulesoft <p>Data & Analytics:</p> <ul style="list-style-type: none"> BW to Datasphere Migration HANA Database to HANA Cloud DI & SAC <p>Automation: Process Automation, Workflow and Work Zone</p> <p>App Dev: Extensibility using CAPM and RAP</p> <p>Enterprise Mobility - SAP MDK, SDK, Fiori, UI_UX & Design Thinking</p> <p>Security & Governance: SSO, Identity Authentication, Identity Propagation, Identity Governance</p> <p>Monitoring: CALM – Cloud Application Life Cycle Management</p> | <ul style="list-style-type: none"> SAP EAM offerings – SAP PM/SM Implementation, Asset Manager, Work Manager, SAP IAM, & Predictive Maintenance SAP MRS SAP FSM Crave Field Workforce Management apps – Planner Workbench, Maintenance, Calibration & Approvals Barcode, QR Code and RFID enablement AI powered Predictive Analytics Incident Management | <ul style="list-style-type: none"> Barcode, QR Code, and RFID enablement RF devices in Warehouse ITS Mobile BTP Powered Mobile App Voice-enabled order-picking Smart order picking using Augmented reality Proof of Delivery Last Mile Tracking Truck Latency Management MRO Warehouse automation Transport management |

Future Ready Enterprise Journey Assessment



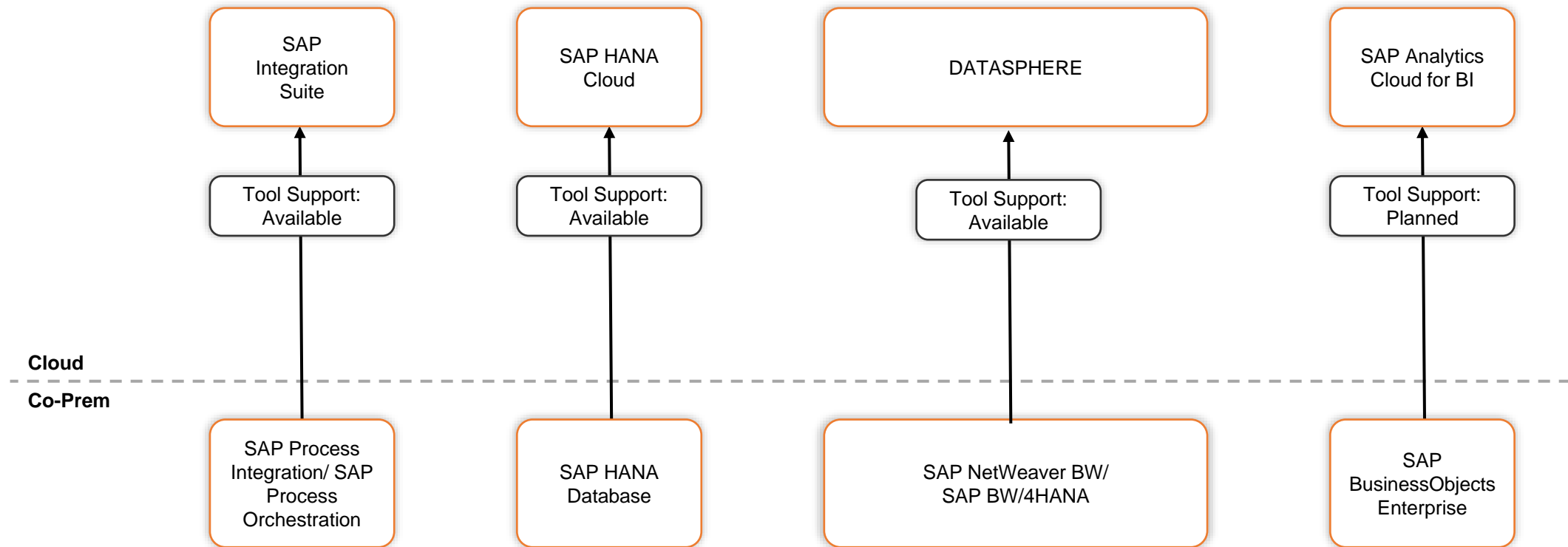
- Future Ready Enterprise readiness assessment
- Persona-based activity alignment
- Help develop BTP roadmap
- Help set up Center Of Excellence
 - BTP Governance
 - BTP COE
 - BTP Security

SAP On-Premise to Cloud Migration



SAP BTP Customer Evolution

What?



Cloud architectures are non-compatible with on-premise architecture & full automated migration can't achieved

Data Core Competencies



Assessments & Data Strategy

- Advisory : Vision, Strategy and Roadmap
 - Cloud / Hybrid / On Prem Data Platform Strategy
- Data Platform Assessment
 - Architecture Assessment
 - Roadmap Assessment
 - BI/Data Platform Assessment
 - Migration Assessment
- On-prem to Cloud Migration / Data Platform Modernization

Accelerators

- Reference Architecture Template
- Pre-packaged Industry Specific Solutions
- Pre-built Data Models for Auditing, Data Quality and Lineage

Business Content

- Industry Business Content
- LoB Business Content

Business Content

- Customized workshops for specific business requirement (Business/IT Users, Architect & Managers)

Data Governance

- Identify / Implement Data Governance Framework
- Optimize Data Management

POC

- Proof Of Concept
- Use Cases Toolkit

Partner-Offered Tools

- Migration Tool
- Assessment Tool

Managed Services

- Data Platform Technologies Service
- Implement Framework Service
- Define / Implement Operational Management Service
- Data Security Service
- Develop Center of Excellence Service
- DevOps Service
- Analytics Service
- Data Service
- Modernization Service
- Cloud Migration Service
- Desing and Modeling Service

Why Crave ?

**360 Experience – All SAP
Technical, Functional,
Non-SAP Data Tech, Data
Experts.**

Crave Infotech Valve Addition

Framework

Accelerators & Data Models
(Data Lineage, Audit & Error)

Standardization

Industry specific Business
Domain Data Models &
Reports Templates

Enablement

COE team for Data
and Analytics
Data Reference Architecture

Blueprint

Industry Standard Data
Frameworks

Alignment

Industry Standards /
Best Practices across
different layers of data
Platform

Optimization

Industry Standard Well
Architecture

Experience

Implemented more 20+
Data & Analytics
Projects

Data Management

Data Cleansing, Data
Governance, MDM,
Data Quality, Data
Bigdata, data lake

Crave AI/ML Competency and Solutions

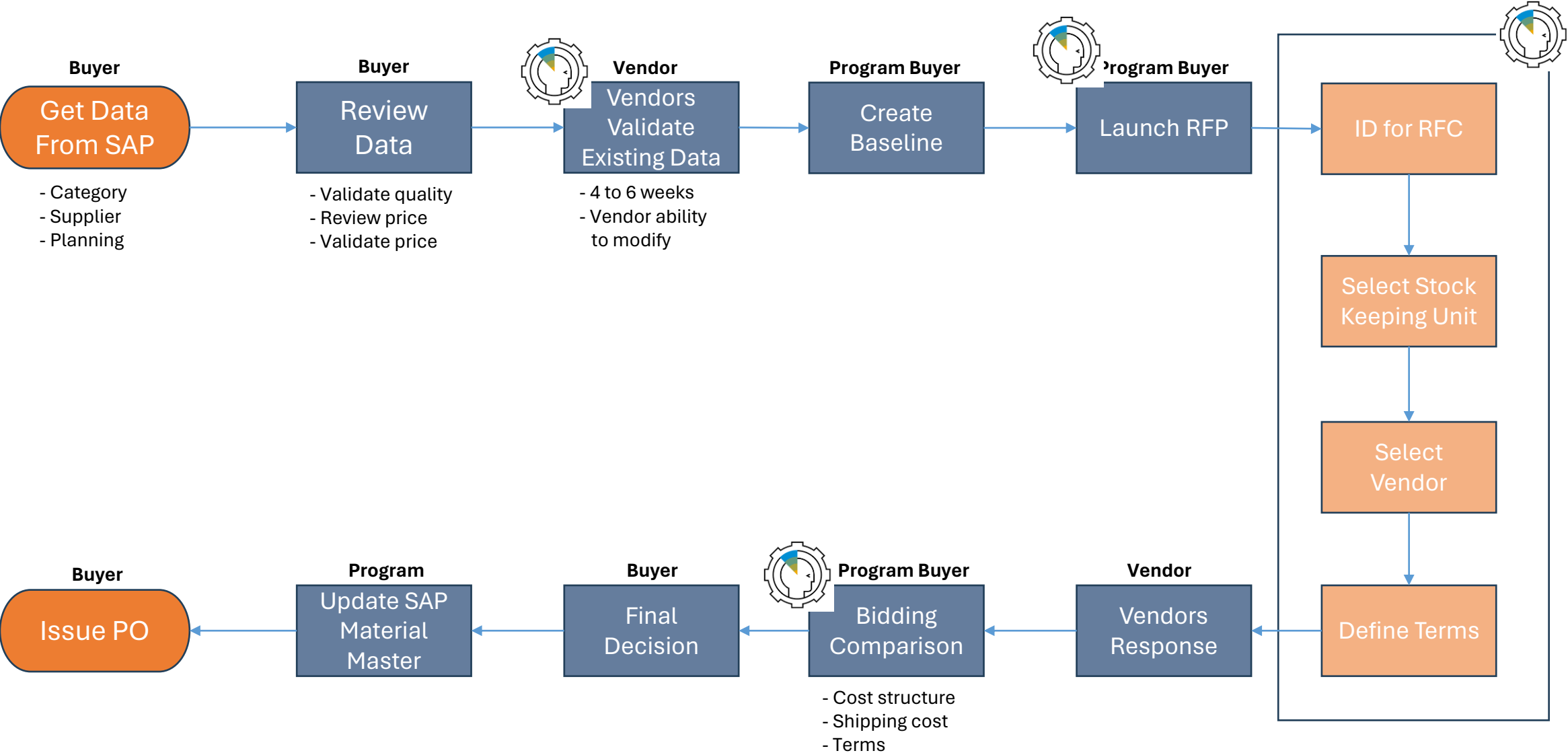


- **ECC to S/4 Migration accelerator**
 - Crave's Azure Open AI playground tool to recommend best practices for app development and code migration for ABAP/ Fiori code.
 - Microsoft AI SDK competency for ABAP on cloud and S/4.
- **Supply chain efficiency**
 - Freight prediction
 - Sales forecasting factoring external data like inflation , pandemic , weather etc.
 - Retail inventory predictions.
 - AP automation – first SAP's SBPA implementation with 95 % OCR accuracy and efficiency achieved with SBPA
 - EWM – Improve Labor productivity and recommendation in picking , Putaway and cycle counting operations.
 - Sales Order – Material Availability and fulfillment.

Maintenance Efficiency

- Anomaly detection
- Improve compliance of Quality (QMS) defects resolution and remediation from past history
- Improve maintenance technician productivity

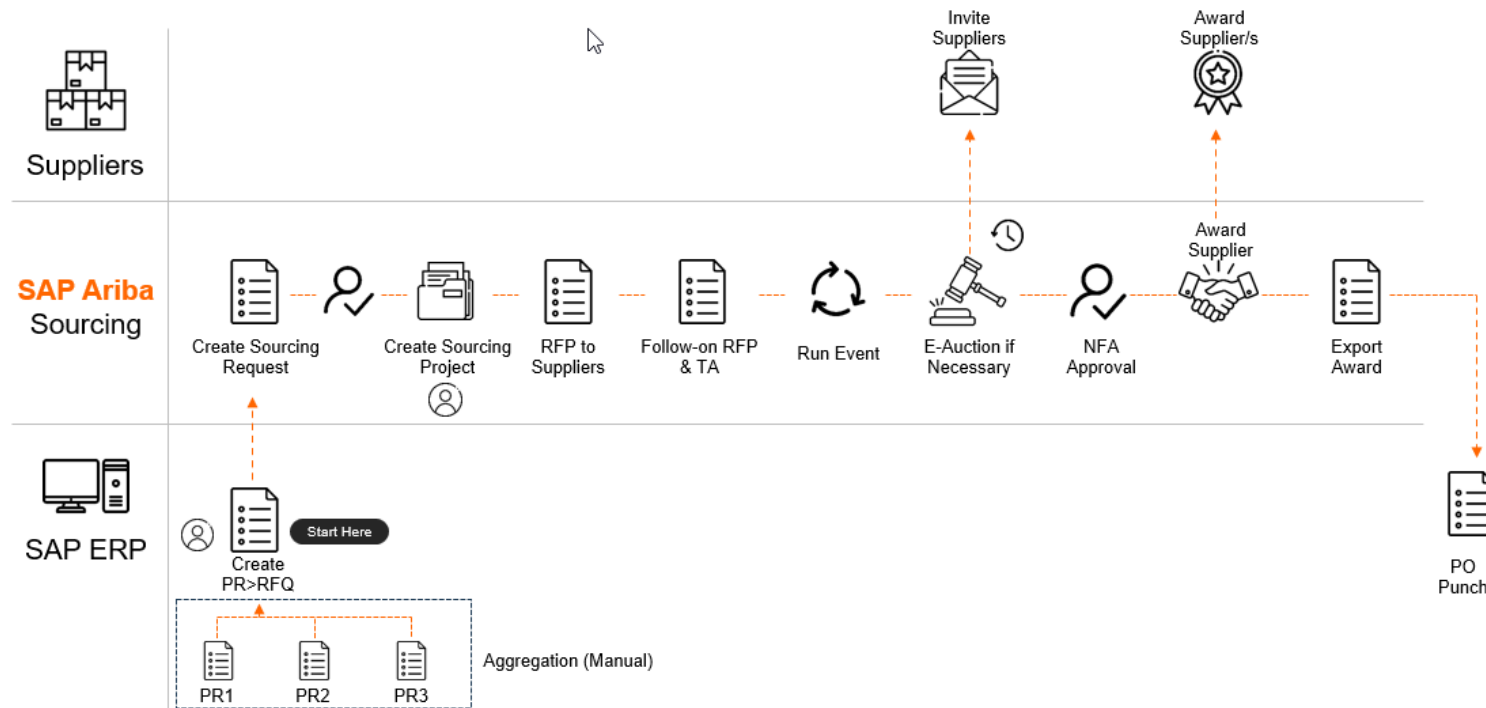
Sourcing Automation



End-to-end (Ariba & S/4) RFP Process Automation

Use Case

The Purchase department followed the process where Purchase Requisitions were created and RFQ's were created in S4. Then RFP was floated in the Ariba system and then after multiple iterations of bidding the L1 vendor was awarded.



Business Challenge

- Customer was looking to improve productivity procurement through automation of manual, repetitive tasks as part of digital transformation
- From creating the RFQ and floating the RFP to award & PO creation was a tedious repetitive daily activity
- The manual execution of this task takes a lot of time and is highly prone to errors.

Solution – At a Glance

- Demand Aggregation for consolidation of PRs based on business logic.
- Bot to create the RFQ's using the aggregated PRs in S4
- RFQs imported as Sourcing request in Ariba Sourcing
- RFP events and Awards done in Ariba to create follow-on PO/Contract

Business Benefits

- Reduction in required time from 2-3 days to less than 10-15 minutes.
- 40% productivity gain due to fully automated process.
- 60% savings on the spend for PR2PO.

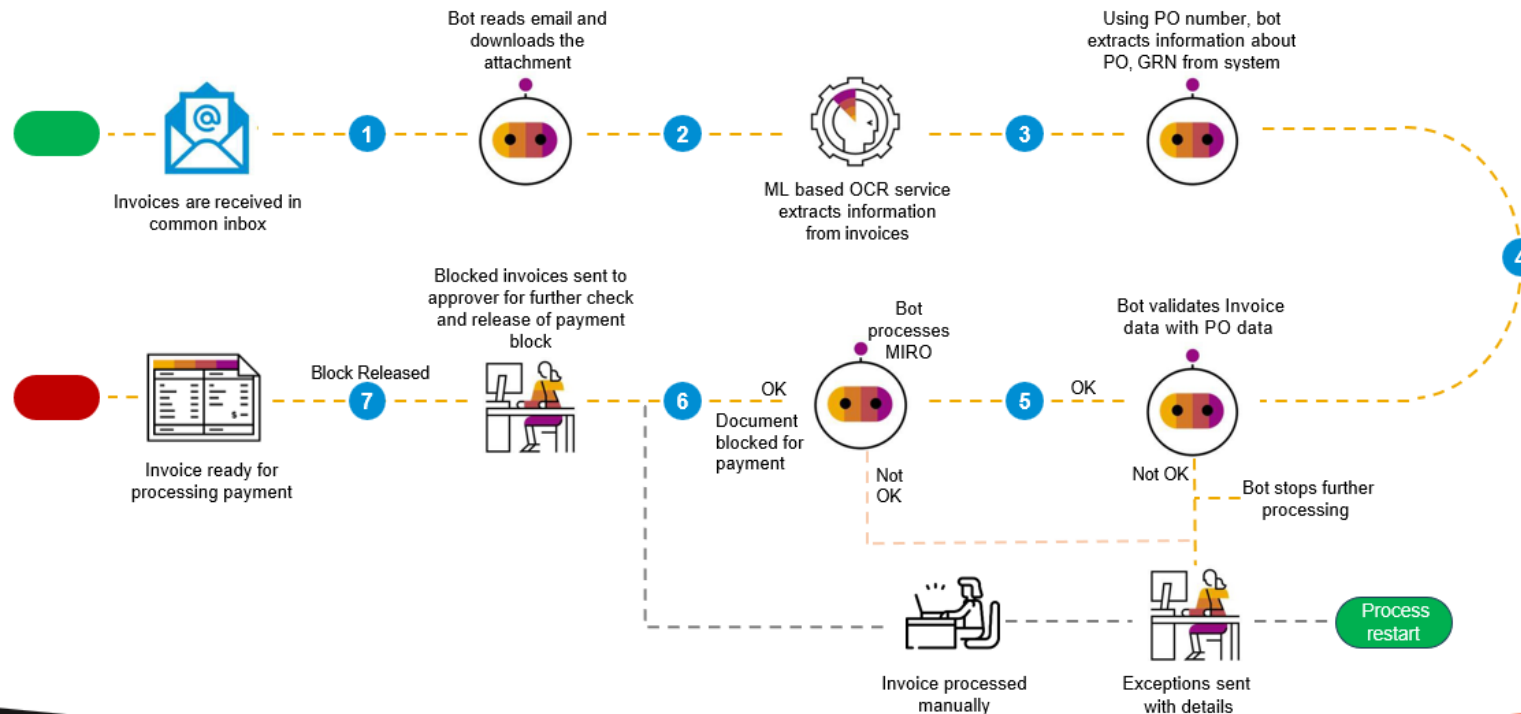
Bill of Material (BOM)

SAP Process Automation | SAP Connectivity Service | SAP Cloud Identity Services - Identity Authentication | SAP S/4HANA | ARIBA

Gate Entry to Invoicing Process Automation

Use Case

Supplier invoices arriving at gate were scanned and stored in DMS folder. Via OCR tool scanning and RPA BOT, gate entry is posted in SAP. After manual goods receipt, account payable is fully automated via RPA with posting or parking the invoice, in case of value and quantity differences, posting the credit memos followed by automatic triggering the mail to respective supplier, to receive credit notes from supplier by fetching the related information from mail and post the document in SAP via BOT



Bill of Material (BOM)

SAP Process Automation | SAP Connectivity Service | SAP Cloud Identity Services – Identity Authentication | SAP S/4HANA

Business Challenge

- Customer was looking to improve productivity through automation of manual, repetitive tasks as part of digital transformation
- From creating manually scanning and posting gate entry to accounts payable process was a tedious repetitive daily activity
- The manual execution of this task takes a lot of time and is highly prone to errors.

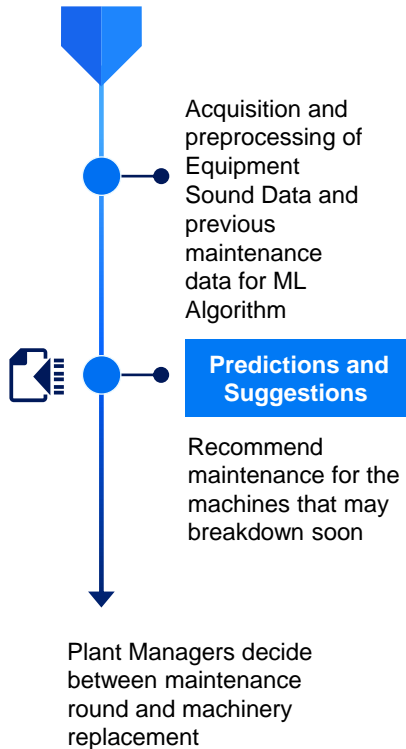
Solution – At a Glance

- Preparation of master vendor templates and it's scanning as per pre-define rules for extracting the data for automation.
- Bot to create gate entry goods receipt, account payable transactions like credit invoice posting and parking
- Bot to send and receive credit note for supplier

Business Benefits

- 100% accurate information at gate by scanning and posting goods receipt document.
- 50% productivity gain due to fully automated process.
- 80% savings in moving the invoice files from store to record room due to process automation
- >95% automation in custom transaction posting by creating LOT automatically and segregate invoice. Manual intervention is eliminated.
- The average time from goods receipt to payment was average 3 months which is now reduced to 15 days
- Better auditability since invoices are stored in DMS repository with reference to goods receipt no.
- Vehicle No. and Bar-Code based digital stamp is used further for automating store processes like Docking, Undocking and Material Receipt.

Anomaly Detection & Predictive Maintenance Using SAP AI Foundation.



Challenge

- The problem at hand involves unexpected breakdowns in machines, leading to delays and incurring high costs.
- The current approach follows reactive maintenance, addressing issues only after they have occurred.
- The challenge is to predict machine failures in advance, a goal achievable through the implementation of smart technology.

Solution

Predictive Maintenance using equipment sound data

- The proposed solution involves utilizing a dataset of machine sounds to effectively distinguish between normal and abnormal working conditions.
- The overarching objective is to improve machine efficiency, reduce downtime, and extend the lifespan of machines.
- The associated benefits include cost savings achieved through the efficient utilization of resources.

Benefits

- Plant Managers are intimated in advance about possible machinery breakdowns, reducing downtimes and potential losses
- Plant managers can assess the options for another round of maintenance or complete replacement of the machinery,

Average Business Value for Customers

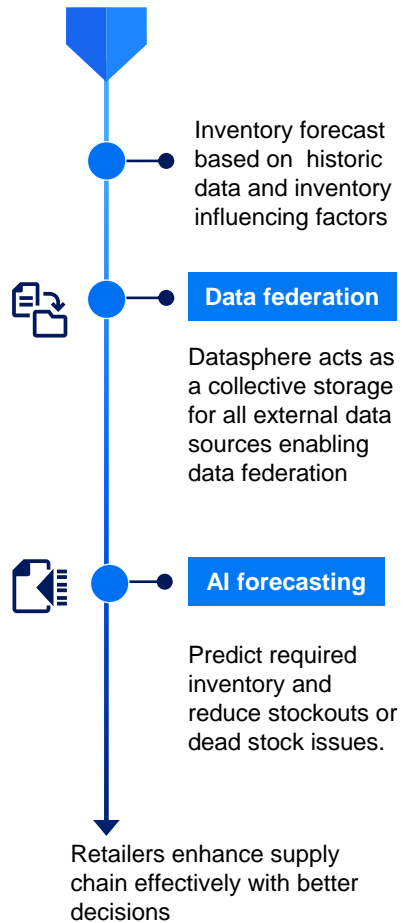
Calculation Method / Assumption In Notes

97% - 99% Accuracy at anomaly detection and predicting machine breakdown

Substantial reduction in maintenance and operational costs

A step towards creating a safe environment for workers and employees.

Inventory Prediction and replenishment using FedML, SAP Analytics and Datasphere.



Challenge

- Stockouts and dead stock are common challenges causing revenue loss and supply chain disruptions hence managing and reducing the cost of carrying is also equally important.

Solution

FedML provides us the edge to perform machine learning experiments without any data replication into the sandbox and providing data security

- Global level data federation from heterogeneous SAP/Non-SAP data sources
- Statistics-driven business decisions for orders while considering factors like seasonality, customer base and location
- User-friendly reporting enabling efficient monitoring

Benefits

- Prevention of inventory stock out / dead stock
- Reduced carrying costs
- Efficient supply chain management
- Data-driven decision making

Average Business Value for Customers

Calculation Method / Assumption In Notes

95%+

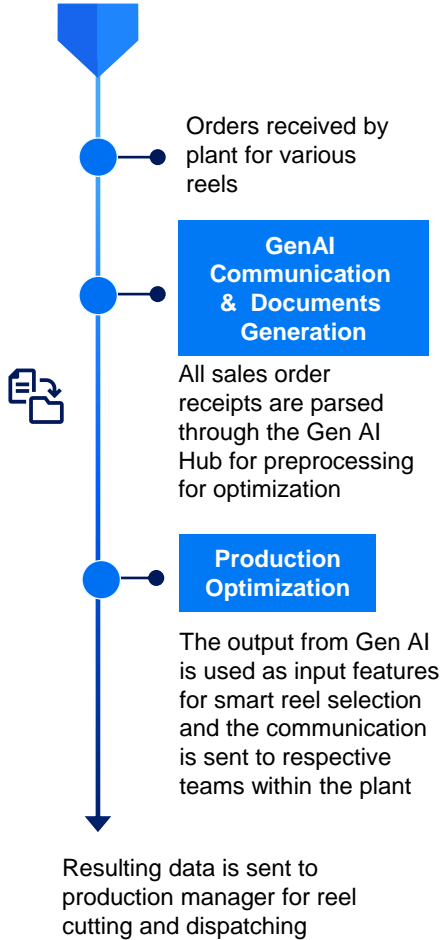
Inventory Prediction accuracy

12%–15%

Saving of Carrying and Operational cost

Effective Supply Chain management

Intelligent Reel Matching and Optimization powered by SAP AI Foundation and Gen AI



Challenge

- During the manufacturing and production process within the telecom industry, of reels and cables, improper selection of reel often leads to scraping and losses
- In the current business scenario, the process of matching reels from stock to fulfill sales orders is predominantly manual.
- This manual matching process is prone to errors and inefficiencies, leading to several issues and pain points: wastage due to imperfect matching, inaccurate production orders and reduced profit margins

Solution

Reel Matching using Optimizers and Gen AI

- Smart reel selection allows inventory managers to efficiently match reel length from inventory to sales order
- Intelligently recommend procurement orders for SKUs and AI Algorithm works to anticipate future needs and stores the inventory leftovers as needed
- Automatically generate emails and sales order reports using Gen AI for productions and analyze sales order receipts

Benefits

- Companies and Manufacturers can save on overall production costs as materials are used efficiently
- Communication across different teams is fast and accurate through the automated email generation
- Production managers can get instant insight throughout the manufacturing process by passing queries using the Chat-Bot based on Azure OpenAI Platform

Average Business Value for Customers

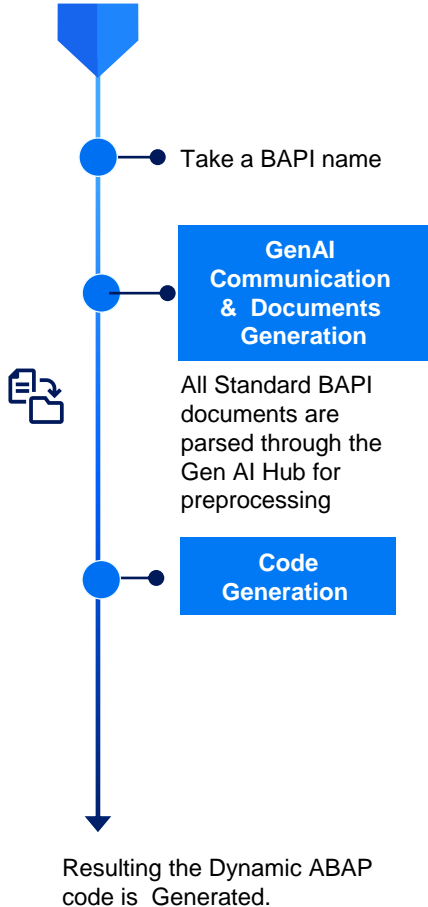
Calculation Method / Assumption In Notes

45% Scrap Reduction using our intelligent system

Help organizations **achieve sustainability goals**

30% Savings on operational costs

ECC to S/4HANA Transformation using Crave AI Code Generator



Challenge

- Traditional ABAP development methodologies rely heavily on predefined code templates and structures.
- Developers often find themselves constrained by these rigid templates when attempting to create dynamic code that can adapt to changing business requirements or scenarios.
- This manual coding process can be time-consuming and error-prone, particularly for complex scenarios with multiple variations.

Solution

ABAP Code Generation using Gen AI

- Introduce Azure OpenAI and its capabilities.
- Explain how Azure OpenAI addresses the challenges in ABAP code generation.
- Discuss the process of dynamic ABAP code generation with Azure OpenAI.
- Train Azure OpenAI models specifically for generating ABAP code, taking into account the unique syntax, semantics, and best practices of the ABAP programming language.

Benefits

- Azure OpenAI accelerates the ABAP development process by automating the generation of dynamic code.
- Azure OpenAI can suggest optimized code structures, identify potential errors, and offer insights to enhance the overall quality of the generated code.
- Developers can iterate quickly, experiment with different approaches, and deliver high-quality code at a faster pace, leading to greater overall productivity and project success.

Average Business Value for Customers

Calculation Method / Assumption In Notes

90% High-quality code at a faster pace, leading to greater overall productivity and project success.

Ensuring consistent **Performance and Reliability.**

80% By streamlining the development process and reducing manual effort, Azure OpenAI helps organizations save on development costs.



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