APS and ERP Rebuild Project Alignment approach

Purpose

The Sales and Operational Planning (S&OP) processes and activities are an essential and strategic element of the ERP Rebuild project scope and design therefore, playing a pivotal role in the overall success of the project.

In parallel to the ERP Rebuild program, the Advanced Planning and Scheduling (APS) project is currently in progress and being executed concurrently, utilizing the Kinaxis Maestro tool (a leading S&OP software solution), to implement a product planning process and solution including the Demand Planning and Sales and Operational Planning functionalities within the Syensqo business.

This document serves as a guide, designed to offer an understanding of the current "As-Is" planning processes, the "As-Is" integration mechanisms, and the "As-Is" overall system landscape associated with the Maestro system, all within the scope of the APS project.

Additionally, this document aims to identify and highlight the changes required to ensure that the APS solution aligns seamlessly with the ERP Rebuild project's goals, objectives and timelines. It outlines the potential adjustments and modifications needed to the existing APS system design and build to accommodate the ERP Rebuild related processes and solution changes. Furthermore, this document provides a detailed vision for the future state of the integration and system landscapes, showcasing how the APS and ERP systems will function cohesively after the rebuild program is complete. A proposed approach for data cleansing and cutover, aligned with the ERP rebuild design, is also included.

Table of Contents

- Purpose
- Assumptions
- As-Is
  - ERP Rebuild Scope
  - Maestro Scope
  - Interfaces
  - System Architecture
- To-Be
  - Impacts
    - Process
    - Design
    - Data
    - Interfaces
  - System Architecture
  - Implementation Roadmap
  - Time Phased Landscape Diagram
  - Key Open Design Topics
    - Granularity of Planning Data in S/4 Hana
    - Product Allocation (PAL)
    - Available To Promise (ATP)
    - Enterprise Scheduling
  - Cutover Consideration
  - Interim Process between 2 ERP Rebuild Go-Lives
- Governance
- Resources and Kinaxis Playpen system
- Attachments

Assumptions

The information in the document is based on the APS design known at the time of writing the document. This document will be reviewed and updated during the ERP Rebuild detailed design (After APS design is completed and in case of significant changes).

As-Is

ERP Rebuild Scope

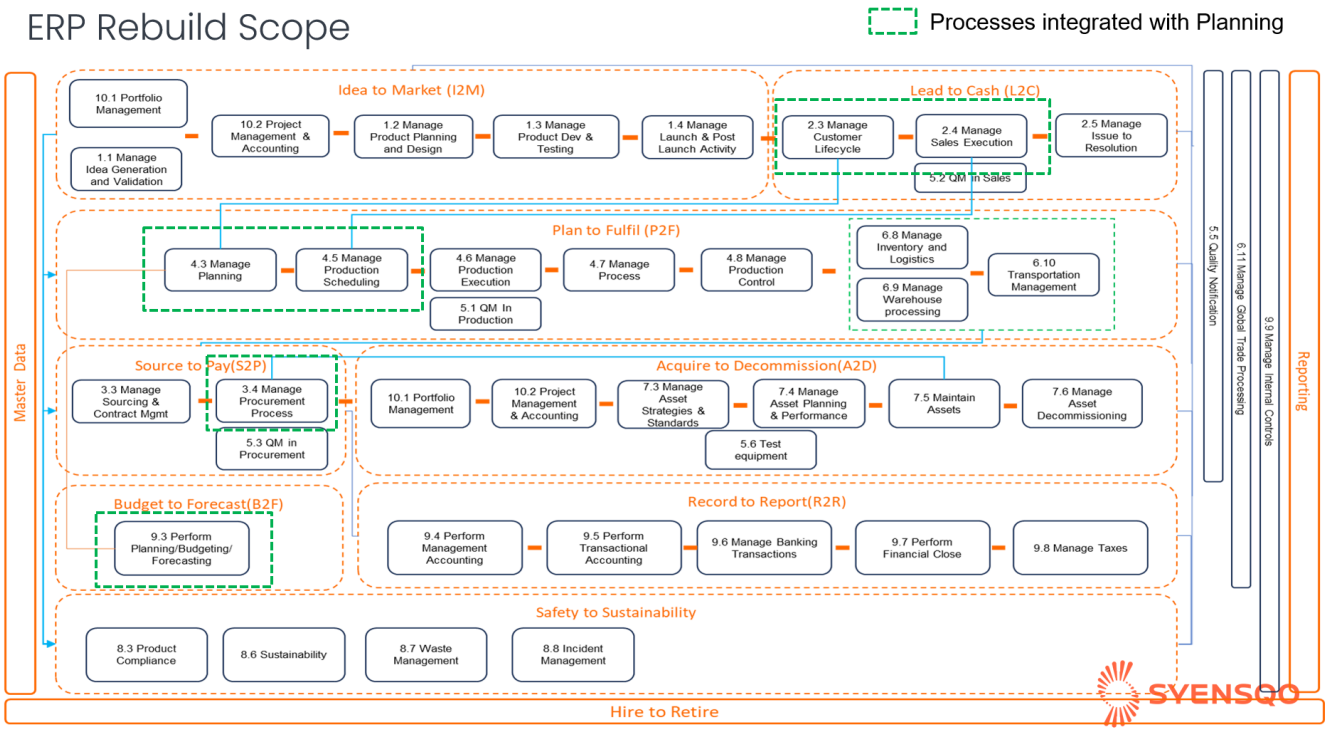
The ERP Rebuild Project encompasses a total of nine processes within its end-to-end scope. Below is a brief summary of each process to provide an overview of the project's comprehensive scope and objectives.

End to Process	Description
Idea to Market (I2M)	Manages the entire lifecycle of products and services from concept to end-of-life. It includes portfolio management, design, prototyping, testing, market introduction, change management, and collaboration throughout development.

Source to Pay (S2P)	Manages all activities related to sourcing and procuring goods and services. It includes procurement planning, supplier selection, contract negotiation, operational procurement, goods receipt, returns and claims, invoice processing, payments, and supplier data management.
Plan to Fulfil (P2F)	Manages all activities related to the planning in conjunction with Maestro, inspection, production, delivery, and fulfillment of products or services as well as aspects such as tracking and tracing, data management, and sustainable manufacturing operations
Lead to Cash (L2C)	Manages all activities related to marketing and selling products and services, managing and fulfilling sales orders, providing after-sales services, and, finally, invoicing customers, managing accounts receivable, and collecting payment. It also covers the management of customers and channels as foundational elements of the process
Acquire to Decommission (A2D)	Manages all activities associated with the lifecycle management of assets from inception to disposal.
Record to Report (R2R)	Manages all activities associated with managing the capital structure of a company, from managing accounts payable and receivable to recording and reporting financial data.
Budget to Forecast (B2F)	Manages financials by providing functionality to plan and optimize financial operations. It includes key activities that support an organization's financial health: planning and budgeting, integrated financial planning, management and performance reporting, and forecasting and modeling.
Safety to Sustainability (S2S)	Manages all activities associated with Environmental Safety, Product Compliance and Sustainability including reporting. It integrates with various end to end processes for a number of purposes across the different components.
Hire to Retire (H2R)	Manages all activities associated with hiring the internal and external workforce and managing their lifecycle in the organization.

The following end to end processes will integrate with planning process in scope for the APS project:

- Plan to Fulfil
- Lead to Cash
- Budget to Forecast
- Source to Pay



Maestro Scope

APS project includes the following processes:

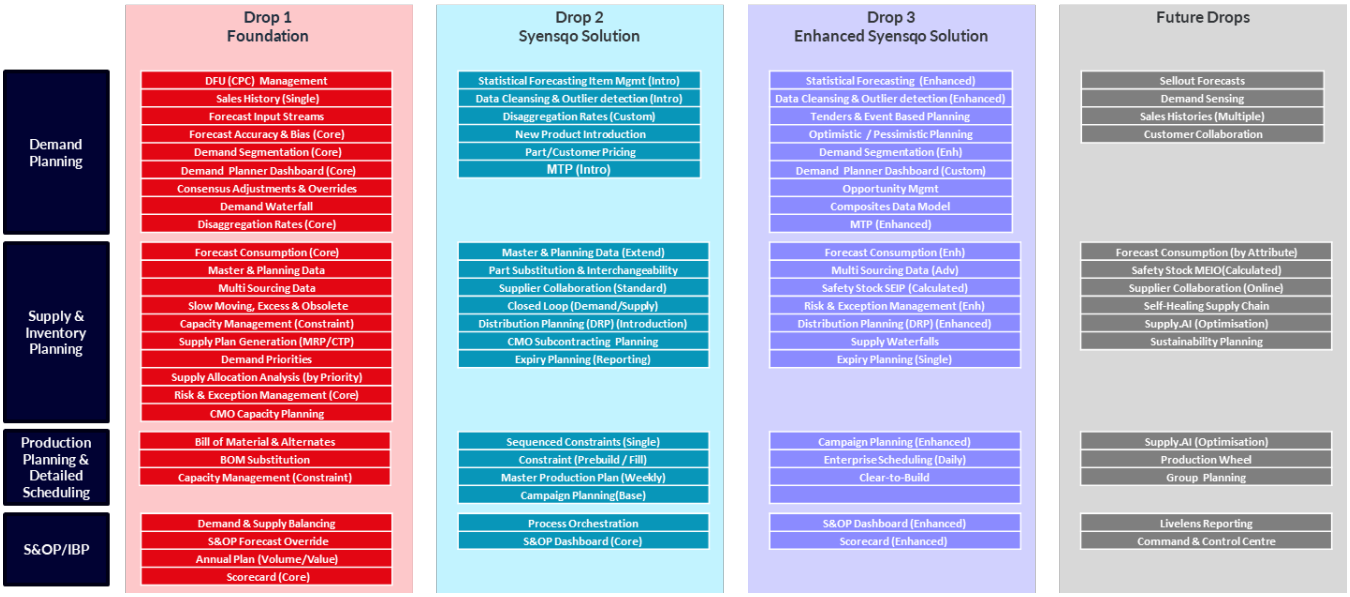
- Demand Planning
- Supply and Inventory Planning

- Production Planning and Scheduling
- S&OP / IBP

APS project is planned to be deployed in Drops with each drop delivering enhanced functionality of the processes listed above. A high level view of the scope of the APS project is described below:

Category	Key Elements	Details
Demand Planning	Demand Planner Process, Ownership, Cadence, Calendar	Define standard procedures, responsibilities, and schedules for demand planning activities.
	Statistical Forecasts	Use statistical models to generate baseline forecasts from historical data.
	Consensus Forecasts	Incorporate input from statistical forecast and demand planners.
	Reporting and Visualization	Use dashboards and reports to track forecast accuracy, trends, and overall performance.
Supply & Inventory Planning	Planner Process, Parameters, and Ownership	Establish roles, responsibilities, and parameters for supply and inventory planning.
	Cadence and Calendar	Define schedules for inventory reviews, planning updates, and collaboration.
	Ability to Define Key Constraints	Identify production, supply chain, or resource limitations.
	Constraining the Plan	Adjust plans to align with identified constraints.
	Pegging and Firming the Supply Plan	Match supply to specific demand and finalize orders for stability.
	View and Act on Supply Exceptions	Identify and address supply-related issues, such as shortages or surpluses.
	Ending Inventories	Optimize closing inventory levels to minimize costs and risks.
	Inventory Exceptions	Identify anomalies in inventory data and take corrective action.
	Periods of Coverage	Ensure adequate inventory levels to cover demand for a specific period.
	Publishing the Supply Data to ERP	Share finalized supply plans with ERP systems for seamless execution.
	Reporting and Visualization	Track and analyze inventory and supply performance using dashboards and reports.
Production Planning & Scheduling	BOM Substitutions and Alternatives	Manage flexibility in the bill of materials (BOM) to accommodate material shortages or alternatives.
	Master Production Plan	Create a high-level production plan based on demand forecasts and constraints.
	Enterprise Scheduling	Detailed planning and scheduling of production activities across facilities.
S&OP/IBP	Demand and Supply Balancing	Align demand forecasts with supply capabilities while addressing constraints and trade-offs.
	S&OP Dashboard	Centralized platform for tracking KPIs, aligning stakeholders, and facilitating decision-making.

Below is the split of the functionalities across multiple drops.



Interfaces

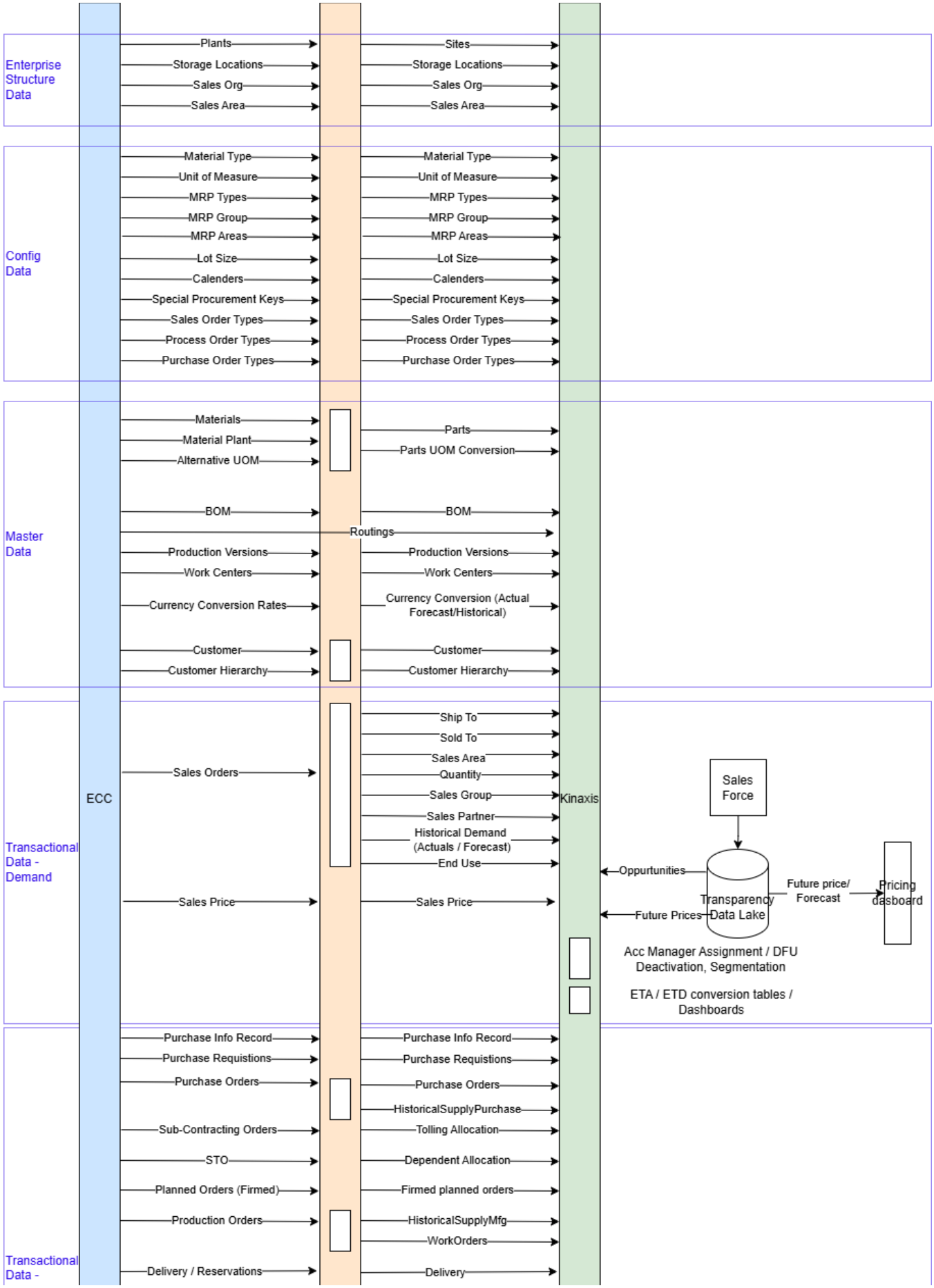
Multiple interfaces are required to connect the Maestro system with existing SAP ECC (ERP Central Component).

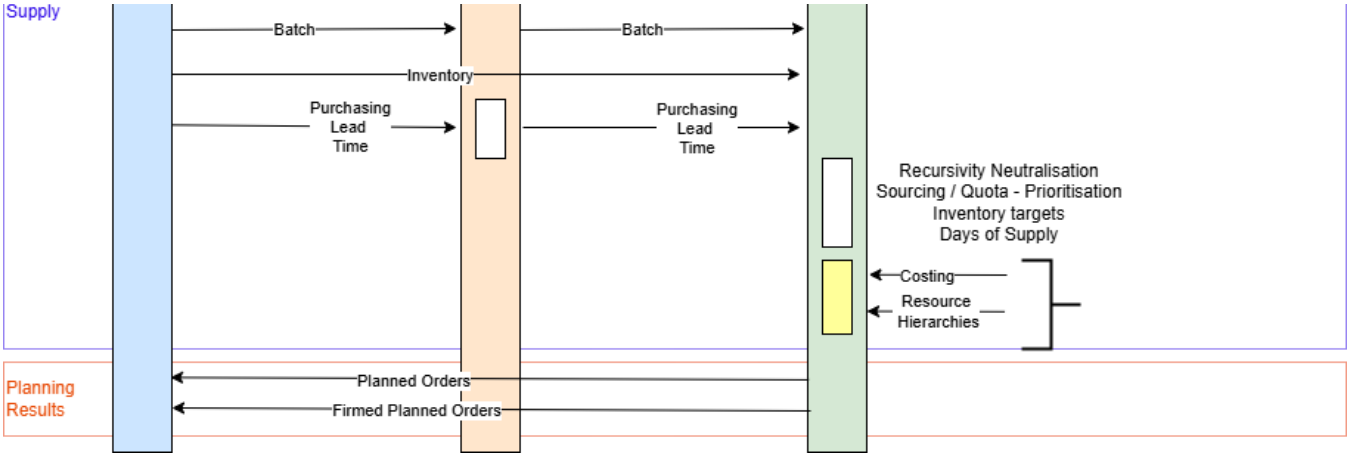
These interfaces will facilitate data exchange and integration between ECC and Maestro, supporting critical business processes such as planning, inventory management, order fulfillment, and reporting. They can be categorized into the following:

Category	Description
Enterprise Structure Data	This includes organizational data such as company codes, plants, storage locations, sales organizations, and distribution channels. Ensuring alignment between SAP ECC and Maestro allows for accurate representation of the organizational hierarchy and dependencies.
Config Data	This includes system settings, rule definitions, and organizational configurations like MRP settings, delivery priorities, and planning parameters. This ensures that ECC and Maestro operate with aligned business rules and logic.
Master Data	This encompasses key foundational data such as material master, customer master, BOM's, Routings etc... It ensures consistent and accurate information flows between SAP ECC and the Maestro system for efficient operations.
Transactional Data (Demand / Supply)	This category includes real-time transaction data such as sales orders, purchase orders, demand signals, supply plans, and stock movements. It supports demand & Supply planning, inventory management processes.
Planning Results	These are outputs from planning activities, including demand forecasts, production schedules, procurement plans, and ATP (Available-to-Promise) data. Planning results support Maestro's decision-making and strategic planning functions while aligning with ECC data.

Below is an overview of the interfaces.

Note: ECC is represented as one bar and it is comprised of both the ECC's systems


Enterprise Structure Data
Plants
Storage Locations
Sales Org
Sales Area
Sites
Storage Locations
Sales Org
Sales Area
Config Data
Material Type
Unit of Measure
MRP Types
MRP Group
MRP Areas
Lot Size
Calenders
Special Procurement Keys
Sales Order Types
Process Order Types
Purchase Order Types
Master Data
Materials
Material Plant
Alternative UOM
Parts
Parts UOM Conversion
BOM
Routings
Production Versions
Work Centers
Currency Conversion Rates
Currency Conversion (Actual Forecast/Historical)
Customer
Customer Hierarchy
Transactional Data - Demand
ECC
Sales Orders
Sales Price
Ship To
Sold To
Sales Area
Quantity
Sales Group
Sales Partner
Historical Demand (Actuals / Forecast)
End Use
Kinaxis
Sales Force
Oppurtunities
Future Prices
Transparency Data Lake
Future price/ Forecast
Pricing dasboard
Acc Manager Assignment / DFU Deactivation, Segmentation
ETA / ETD conversion tables / Dashboards
Transactional Data -
Purchase Info Record
Purchase Requistions
Purchase Orders
Sub-Contracting Orders
STO
Planned Orders (Firmed)
Production Orders
Delivery / Reservations
HistoricalSupplyPurchase
Tolling Allocation
Dependent Allocation
Firmed planned orders
HistoricalSupplyMfg
WorkOrders
Delivery



Below is the detailed list of the interfaces

Kinaxis Interface	SAP Object Reference	Classification	Group	Description/Reason
Sites	Plants	Enterprise Structure	Core	List of Site/Plant Codes and descriptions (Manual Load Only)
Material Types	Material Types	Config	Core	List of Material Types and descriptions
MRPType	MRPType	Config	Core	List of MRP Types and descriptions
MRPGroup	MRPGroup	Config	Core	List of MRP Groups and descriptions
ProcessOrderTypes	ProcessOrderTypes	Config	Core	List of Process/Work Order Types and descriptions
StorageLocations	StorageLocations	Enterprise Structure	Core	List of Storage Locations and descriptions
MRPAreas	MRPAreas	Config	Core	List of MRP Areas and descriptions
LotSize	LotSize	Config	Core	List of LotSizes and descriptions
SpecialProcKey	SpecialProcKey	Config	Core	List of SpecialProcurementKeys and descriptions
Calendars	Calendars	Config	Core	List of Calendars and dates
SalesOrdertypes	SalesOrdertypes	Config	Core	List of Sales Order Types and descriptions
Purchaseordertype	Purchaseordertype	Config	Core	List of Purchase Order Types and descriptions
UnitOfMeasure	UnitOfMeasure	Config	Core	All the Units of Measure are used in the data
Calendars	Calendars	Config	Core	Includes all Plant, Shipping and Receiving Calender Dates
Parts	Material Plant	Master Data	Master Data	All parts/materials that represent that master index of planning materials
PartConversion	Material Plant / Material / Plant	N/A	Master Data	All parts and any associated part number differences.
PartUOMconversion	Material Plant Alternative UOM	Master Data	Master Data	All Alternate Units of Measure used for the parts/materials for reporting or functionality.
BOM	BOM	Master Data	Master Data	A list of all components, alternatives and substitutions used in the production of an assembly
Forecast			Demand	The current Sales Forecast from published Forecast (Gross Only)
Consensus			Demand	The current Sales Forecast currently active from ERP (Gross and Net)
SalesOrders	SalesOrders	Transactional Data	Demand	All Internal or External Sales Orders that have a remaining open quantity
Delivery	Delivery	Transactional Data	Demand	All Internal or External Sales Orders that on delivery and do not have a post goods issue transaction
Batch	Batch	Transactional Data	Supply	All Batch records with a remaining inventory balance
Onhand	Onhand	Transactional Data	Supply	All Onhand records; blocked, restricted, unrestricted, quality, consigned or material provided to vendor
WorkOrder	WorkOrder	Transactional Data	Supply	All work orders; production or process with a remaining quantity

PurchaseOrder	PurchaseOrder	Transactional Data	Supply	All purchases orders; stock transport, external, consignment or subcontract with a remaining quantity
PurchaseRequitions	PurchaseRequitions	Transactional Data	Supply	All purchases requisitions that have a remaining quantity
FirmPlannedOrders	FirmPlannedOrders	Transactional Data	Supply	All FIRM Planned orders that must respected by Maestro (inside PTF or FIRM Planned)
Tollingallocation		Transactional Data	Supply	All work order; production or process order allocations that have a remaining requirement qty.
WorkOrderAllocation		Transactional Data	Supply	All tolling/subcontract allocations that need to be provided vendor
HistoricalSupplyPurchase	Purchase Order	Transactional Data	Supply	All historical purchase orders receipts. Used for leadtime variability.
CurrencyConversionActual	CurrencyConversionActual.tab	Transactional Data	Core	All currencies used in the data and their respective exchange rates to the USD currency
Customer	Customer	Master Data	Demand	A list of all External and Internal Customers that have open have open Sales Demand or Sales History
DependentAllocation	STO	Transactional Data	Demand	All Internal demand (stock transport) requirements that have a remaining quantity, and originate from a site not in Maestro.
CustomerPrice	Price	Transactional Data	Demand	A list or Sales price for a part/material and Customer specific price.
ConstriantAvailable			Supply	All Constraints used by partsourcing to generate load and their respective available load.
ConstriantPart			Supply	All constraints applied to partsourcing which their constraint, fixed and variable load rates
CurrencyConversionForecast	CurrencyConversion (Forward looking rate)	Transactional Data	Core	All Future currencies used in the data and their respective exchange rates to the system BASE currency
HistoricalCurrencyConversion	CurrencyConversion	Transactional Data	Core	All Historical currencies used in the data and their respective exchange rates to the system BASE currency
SalesOrganization	SalesOrganization	Enterprise Structure	Demand	A list of the Sales Organisations used (if applicable)
HistotricalDemandActuals	Sales Orders	Transactional Data	Demand	A minimum of 2 years of External Sales shipments
HistoricalForecast	Sales Orders	Transactional Data	Demand	A period [typically 12 months] of forecast history, forecast accuracy measurements
HistoricalSupply Mfg	production orders	Transactional Data	Supply	All historical work orders. Used for lead time variability.
MD04		Transactional Data	Validation	This information is intended to be used for validating input data from SAP, and is not intended to be used for planning or decision making in Maestro
	Oppurtunities	Transactional Data	Demand	
	End Use (Market)	Transactional Data	Demand	
	Routings	Master Data	Supply	
	WorkCenters	Master Data	Supply	
	Production versions	Master Data	Supply	
	PIR (Purchase info record)	Transactional Data	Supply	
	Product hierarchy	Master Data	Demand	
	Customer Hierarchy	Master Data	Demand	
	Planned orders to S/4	Transactional Data	Supply	

System Architecture

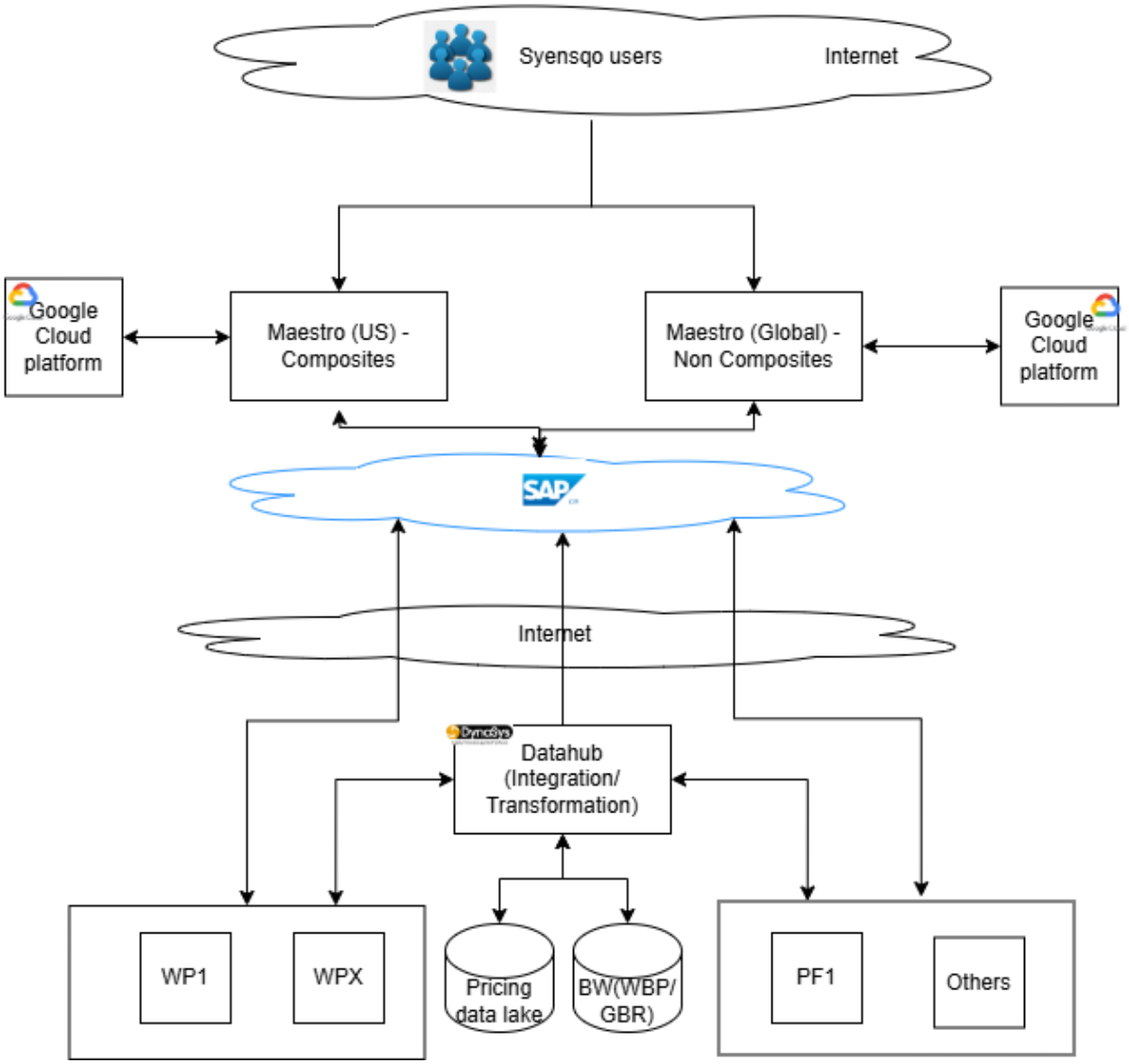
High-Level Architecture: Kinaxis integration with Existing SAP ECC Systems

The architecture for the Kinaxis Maestro system uses two productive instances, one for the composite business (Maestro US) and another for the rest of the business (Maestro ROW).

The integration of the **Kinaxis system** with the existing SAP ECC systems need to take into account the two distinct Kinaxis instances to support different business needs and geographical requirements:

1. **Kinaxis US**:
    - This instance will primarily serve the **composites GBU** (Global Business Unit).
    - It will facilitate compliance with **export control regulations**, specifically **ITAR (International Traffic in Arms Regulations)**, ensuring all ITAR-related processes are managed effectively.
    - **Hosting Location**: This instance will be hosted in the **United States** to meet ITAR compliance requirements and regional data governance standards.
2. **Kinaxis ROW (Rest of the World)**:
    - This instance will support the other GBUs, including **Aroma, Novecare, TS, O&G (Oil & Gas), and Specialty Polymers**.
    - The ROW instance will manage planning, supply chain, and operational data for these GBUs while aligning with the broader strategic goals.
    - **Hosting Location**: This instance will be hosted in **Europe**, ensuring efficient regional operations and compliance with European data protection standards.

Both instances will integrate with the existing ECC systems to enable real-time planning, supply chain visibility, and data sharing across multiple GBUs while adhering to regional compliance and operational requirements.



To-Be

Impacts

A detailed analysis/comparison has been conducted on the functionalities and data structures to be deployed as part of the **scope of the APS** and the **conceptual design from the ERP Rebuild Projects**. The analysis has identified a range of changes that will be required to the current APS design and build in order to align with the ERP rebuild Functional, Data and Interfaces requirements.

Process

The business processes defined as part of APS project will be adopted for ERP Rebuild. However a detailed assessment will be done during the detailed design phase to identify any gaps and address them accordingly.

Design

The following topics have been identified as potentially requiring changes in APS solution to seamlessly integrate with ERP Rebuild project. The below table represents only the functionalities that require a change. The complete list of functionality that is in scope can be found in the attachments.

Area	Key Topics	Current Design	Change Required	Change complexity
Demand Planning	Hierarchy definition	Several hierarchies required to facilitate the data entry (forecast entry at aggregated level with automatic disaggregation at lowest level) and analysis.	Changes are described in the data section below. Depending on the hierarchy the corresponding functionality also has to change (Aggregation and disaggregation logic definitions might also change)	High
Demand Planning	Estimated Time of Arrival (ETA) vs Departure (ETD)	Forecast are entered at ETA level and needs to be converted to ETD for the supply part but also for the revenue projection. AI team support requested to get the most accurate supply offset and financial offset	The logic to calculate ETD from ETA or vice versa will change and the data will be have to be consumed from S/4 instead	Medium
Demand Planning	Disaggregation		Based on the changes in the data modes / hierarchies	High
Demand Planning	Achievable demand	Once the demand consensus is published, achievable demand can be determined. (= when Consensus demand can not be reached) This information is shown in the DP, the demand team needs to review with the sales team and make adjustments if possible	Extra constrains from S/4 will have to be taken into account ex: Maintenance plans	Medium
Demand Planning	Allocation	In progress: When there is no option to meet the demand, the allocation process is triggered = Volume allocated to customer - Control of the allocated volume at sales order entry in SAP for SPP.	(Product Allocation) PAL Integration	High
Supply Planning	Netting / Forecast consumption	Reconciliation between order book and forecasts. Including Demand time fence (when to consider that a non ordered forecast should be ignored ?) and spreading (from a monthly forecast to weekly/daily net demand).	Order types / Item categories / other critieria to exclude Sales Orders	Medium
Supply Planning	Distribution network	Escalation of the demand to the distribution sites and upstream to the production plants Including cross-systems transfers (WP1 <-> PF1) flows.	Intercompany / China flow will have to be adopted	High
Supply Planning	Buffer sizing and positioning	Proactive dimensioning of inventories. Setting up differentiated targets. Simulation of Safety stock adjustments (impact on inventory projection and service level). Inventory projection. (in qty and in value) Inventory analysis (IQR)	Demand driven buffer sizing will be required	Medium
Supply Planning	Firming the plan	Monitoring the execution of / derives from the plan : Live view on gap between Operational plan and S&OP. Operational planning decisions (what sourcing decision to launch ?).	Purchase requisitions instead of planned orders	High
Inventory Planning	Consignment		Vendor consignment planning to be included	Medium

Data

The following topics have been identified as requiring changes in the APS data structures/data sources to enable seamless integration with ERP Rebuild project. The below table represents only the functionalities that require a change. The complete list of all the data elements can be found in the attachments.

Data Object Type	Data Object	Current Design	Source	Direction	Changes Required (ERP Rebuild)	Impact	Change Description	Change complexity
Master data	Customers	Sold to , Ship To	SAP	To Maestro	Yes	Additional Combinations	All Business Partners	Medium
Transactional Data	Sales Orders		SAP	To Maestro	Yes	Additional attributes	Extra attributes (Incoterm / Transportation mode etc..)	Medium
Transactional Data	Pricing Conditions		SAP	To Maestro	Yes	Additional Combinations	Access sequences might change / Future prices source might change	Medium
Master data	End Use (Market)		SAP	To Maestro	Yes	Different source / definition	To be consolidated with the customer / CMIR	Medium
	GBU		SAP	To Maestro	TBD			
Master data	Parts <> Material x plant	Units, Calendars, Leadtimes (MRP views), Archetype (SHS), Purch group / MRP controllers (resp.)	SAP	To Maestro	Yes	Different source / definition	Material fields are going to change - MDS will determine the impact	High
Master data	Workcenters	selected by type for time being focussing on Machines/process lines	SAP	To Maestro	Yes	Additional attributes	Shifts / Times / usage % will have to consumed from work centers	High
Master data	Routings		SAP	To Maestro	New			High
Master data	PIR (Purchase info record)		SAP	To Maestro	Yes	Additional Combinations	Vendor consignment PIR to be included	Low
Master data	Special procurement Key		Derived	To Maestro	Yes	Different source / definition	Should come from S/4	Medium
Transactional Data	PR		SAP	To Maestro	Yes	Additional Combinations	Document types / additional fields / Status	Low
Transactional Data	PO		SAP	To Maestro	Yes	Additional Combinations	Document types / additional fields / Status	Low
Transactional Data	Deliveries (Sales Order)		SAP	To Maestro	Yes	Additional Combinations	Document types / additional fields / Status	Low
Transactional Data	Planned / process / production orders		SAP	To Maestro	Yes	Additional Combinations	Document types / additional fields / Status	Low
N/A	Source lists		Maestro	To Maestro	To be deleted		To be replaced with the functionality from Quota	
Master data	Quotas		Maestro	To Maestro	Yes	Additional Combinations	Should come from S/4	Medium
N/A	Transfers between SAP systems		Maestro	To Maestro	Yes	Different source / definition	Information will come from S/4 - To use combination of SPK and Quota	Medium
Transactional Data	Costing (excluding internal margins)		External File	To Maestro	Yes	Different source / definition	Should come from S/4	High
Master data	Resource hierarchies		External data / derivation based on rules	To Maestro	TBD			

Transactional Data	Purchasing lead time		External data / derivation based on rules	To Maestro	Yes	Different source / definition	Should come from S/4	Low
Master data	Calendars (Factory)		External data / derivation based on rules	To Maestro	Yes	Additional Combinations	Should come from S/4	Low
Master data	Geographic regions		External data / derivation based on rules	To Maestro	Yes	Different source / definition	Should come from S/4	Low
Transactional Data	Inspection Lot			To Maestro	New			Medium
Master data	Product hierarchies			To Maestro	New		Should come from S/4	Medium
Master data	Customer hierarchies			To Maestro	Yes	Different source / definition	Should come from S/4	Medium
Master data	Profit Center hierarchies			To Maestro	New		Should come from S/4	Medium
Transactional Data	Customer material info record			To Maestro	New		Should come from S/4	Medium
Master data	Customer lead time fence			To Maestro	Yes		Lead time can be managed in Maestro and sent nack to SAP or vice versa.Master slave relationship TBD based on the design	Medium
Master data	Safety Stock			To SAP	New			Low
Master data	Safety period			To SAP	New			Low
Master data	Lead Times			To SAP	New			Low
Transactional Data	Planned orders		Kinaxis	To SAP	Yes	Additional Combinations	Document types / additional fields / Status	Low
Transactional Data	Purchase Requisitions		Kinaxis	To SAP	New			High
Transactional Data	Planned Independent Requirements			To SAP	New			High

Interfaces

Based on the current APS design and the ERP Rebuild conceptual design, the following interfaces are identified as requiring changes. These changes are necessary to ensure process and data alignment.

A detailed list of all the interfaces along with their specific changes is available in the attachments.

Kinaxsis Interface	**SAP Object Reference**	**Classification**	**Group**		**Changes Required (ERP Rebuild)**	**Change Description**	**Change complexity**
Parts	Material Plant	Master Data	Master Data	All parts/materials that represent the master index of planning materials	Yes	Mapping / Additional fields	Medium
PartSource	Material Plant Sourcing	Master Data	Master Data	All sourcing records associated with supplying materials that have BOM's	New	To include SPK and Quota	
SalesOrders	SalesOrders	Transactional Data	Demand	All Internal or External Sales Orders that have a remaining open quantity	Yes	Mapping / Additional fields	Medium
Delivery	Delivery	Transactional Data	Demand	All Internal or External Sales Orders that on delivery and do not have a post goods issue transaction	Yes	Mapping / Additional fields	Medium

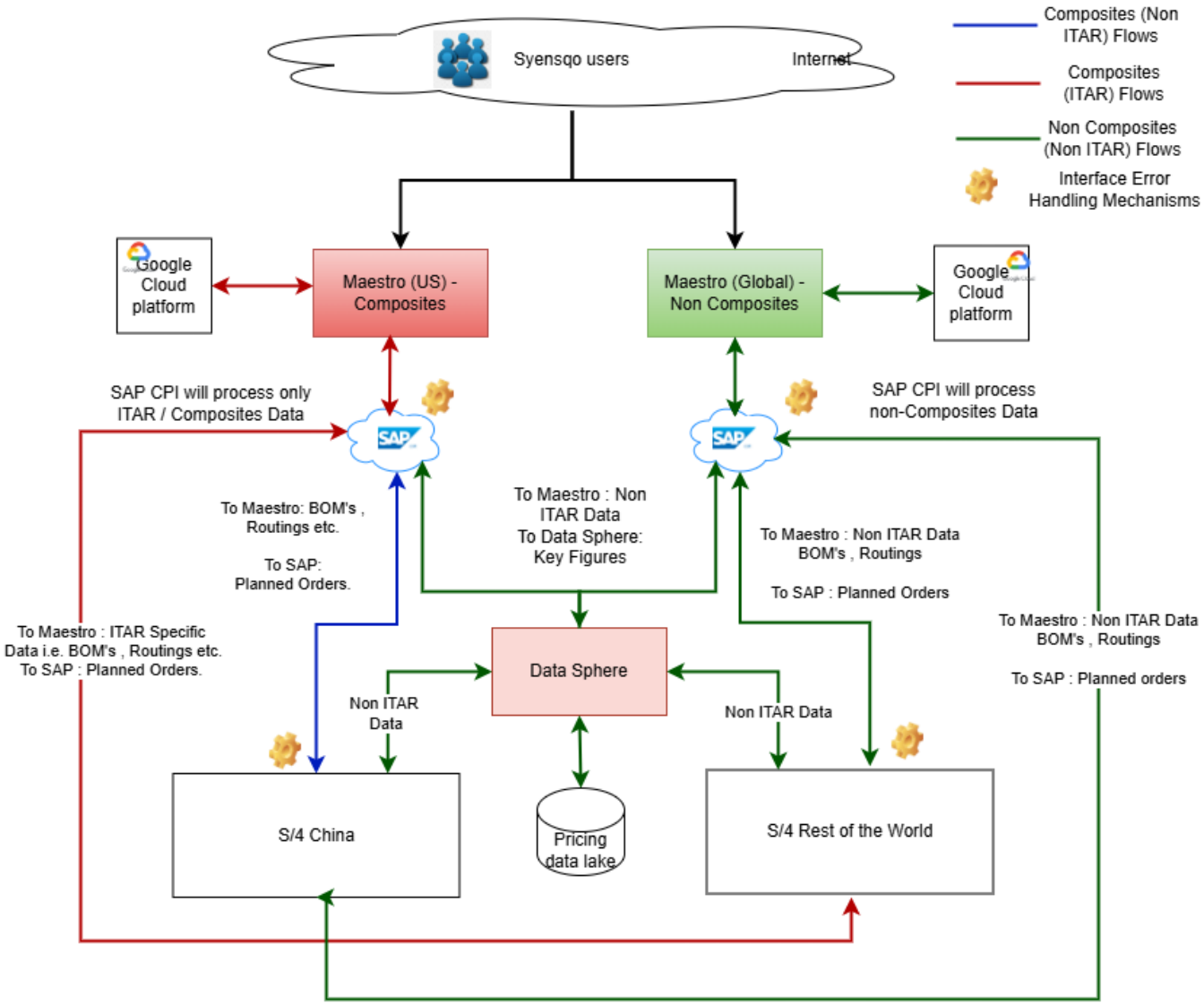
QMlot	QMlot	Transactional Data	Supply	Receipts that are in quality that have a future release date.	New		Medium
WorkOrder	WorkOrder	Transactional Data	Supply	All work orders; production or process with a remaining quantity	Yes	Mapping / Additional fields	Low
PurchaseOrder	PurchaseOrder	Transactional Data	Supply	All purchases orders; stock transport, external, consignment or subcontract with a remaining quantity	Yes	Mapping / Additional fields	Low
PurchaseRequitions	PurchaseRequitions	Transactional Data	Supply	All purchases requisitions that have a remaining quantity	Yes	Mapping / Additional fields	Low
FirmPlannedOrders	FirmPlannedOrders	Transactional Data	Supply	All FIRM Planned orders that must respected by Maestro (inside PTF or FIRM Planned)	Yes	Mapping / Additional fields	Low
Tollingallocation		Transactional Data	Supply	All work order; production or process order allocations that have a remaining requirement qty.	Yes	Mapping / Additional fields	Low
WorkOrderAllocation		Transactional Data	Supply	All tolling/subcontract allocations that need to be provided vendor	Yes	Mapping / Additional fields	Low
HistoricalSupplyPurchase	Purchase Order	Transactional Data	Supply	All historical purchase orders receipts. Used for leadtime variability.	Yes	Purchase order history will not be available at go-live. Extra design required to aggregate and store the required data in data sphere for this functionality	High
DependentAllocation	STO	Transactional Data	Demand	All Internal demand (stock transport) requirements that have a remaining quantity, and originate from a site not in Maestro.	Yes	Impact due to different landscapes	Medium
CustomerPrice	Price	Transactional Data	Demand	A list or Sales price for a part/material and Customer specific price.	Yes	Mapping / Additional fields	Low
HistotricalDemandActuals	Sales Orders	Transactional Data	Demand	A minimum of 2 years of External Sales shipments	Yes	Sales order history will not be available at go-live. Extra design required to aggregate and store the required data in data sphere for this functionality	High
Historical Forecast	Sales Orders	Transactional Data	Demand	A period [typically 12 months] of forecast history, forecast accuracy measurements	Yes	Sales order history will not be available at go-live. Extra design required to aggregate and store the required data in data sphere for this functionality	High
Historical SupplyMfg	production orders	Transactional Data	Supply	All historical work orders. Used for lead time variability.	Yes	Production order history will not be available at go-live. Extra design required to aggregate and store the required data in data sphere for this functionality	High
CompanyCodes	Company Codes	Enterprise Structure			New		Medium
	Oppurtunities	Transactional Data	Demand		Yes	Changes in the document types / additional fields / status etc..	Medium
	End Use (Market)	Transactional Data	Demand		Yes	Changes in the document types / additional fields / status etc..	Medium
	GBU	Enterprise Structure			New	Changes in the definition of GBU.. Profit center based derivation will not work	Medium
	Routings	Master Data	Supply		Yes	Changes in the activity types etc..	High
	WorkCenters	Master Data	Supply		Yes		Medium
	PIR (Purchase info record)	Transactional Data	Supply		Yes	Include vendor consignment	Medium
	Costing (excluding internal margins)	Transactional Data	Supply		New		High
	Resource hierarchies	Master Data	Supply		New		Medium
	Purchasing lead time	Transactional Data	Supply		Yes		Medium
	Product hierarchy	Master Data	Demand		Yes	Changes in the definition and source fields for determining the product hierarchy	Medium
	Customer Hierarchy	Master Data	Demand		Yes	Changes in the definition and source fields for determining the customer hierarchy	Medium
	Profit Center hierarchy	Master Data	Supply		Yes		Medium
	Customer material info record	Transactional Data	Demand		New		Medium

	Customer lead time fence	Transactional Data	Demand		Yes		Medium
	Safety Stock to S/4	Transactional Data	Supply		New		Medium
	Safety period to S/4	Transactional Data	Supply		New		Medium
	Lead Times to S/4	Transactional Data	Supply		New		Medium
	Planned orders to S/4	Transactional Data	Supply		Yes	Changes in the document types / additional fields / status / horizons etc..	High
	Purchase Requisitions to S/4	Transactional Data	Supply		New		High
	Planned Independent Requirements to S/4	Transactional Data	Demand		New		High
	PAL to S/4	Transactional Data	Demand		New		High
	Demand Key Figures to S/4	Transactional Data	Demand	Required for Budget	New		High
	Supply Key Figures to S/4	Transactional Data	Supply	Required for Budget	New		High
	Inventory Key Figures to S/4	Transactional Data	Supply	Required for Budget	New		High
	Demand Key Figures	Transactional Data	Demand	For Forecast Accuracy Reporting	New		High
	Supply Key Figures	Transactional Data	Demand	For Forecast Accuracy Reporting	New		High
	Inventory Key Figures	Transactional Data	Demand	For Forecast Accuracy Reporting	New		High
	Sites	Enterprise Structure Data	Common		Yes		Medium
	Currency Exchange Rates	Transactional Data	Common		Yes		Medium

System Architecture

Below is the proposed To-Be system architecture including some key elements when compared with the existing As-Is architecture

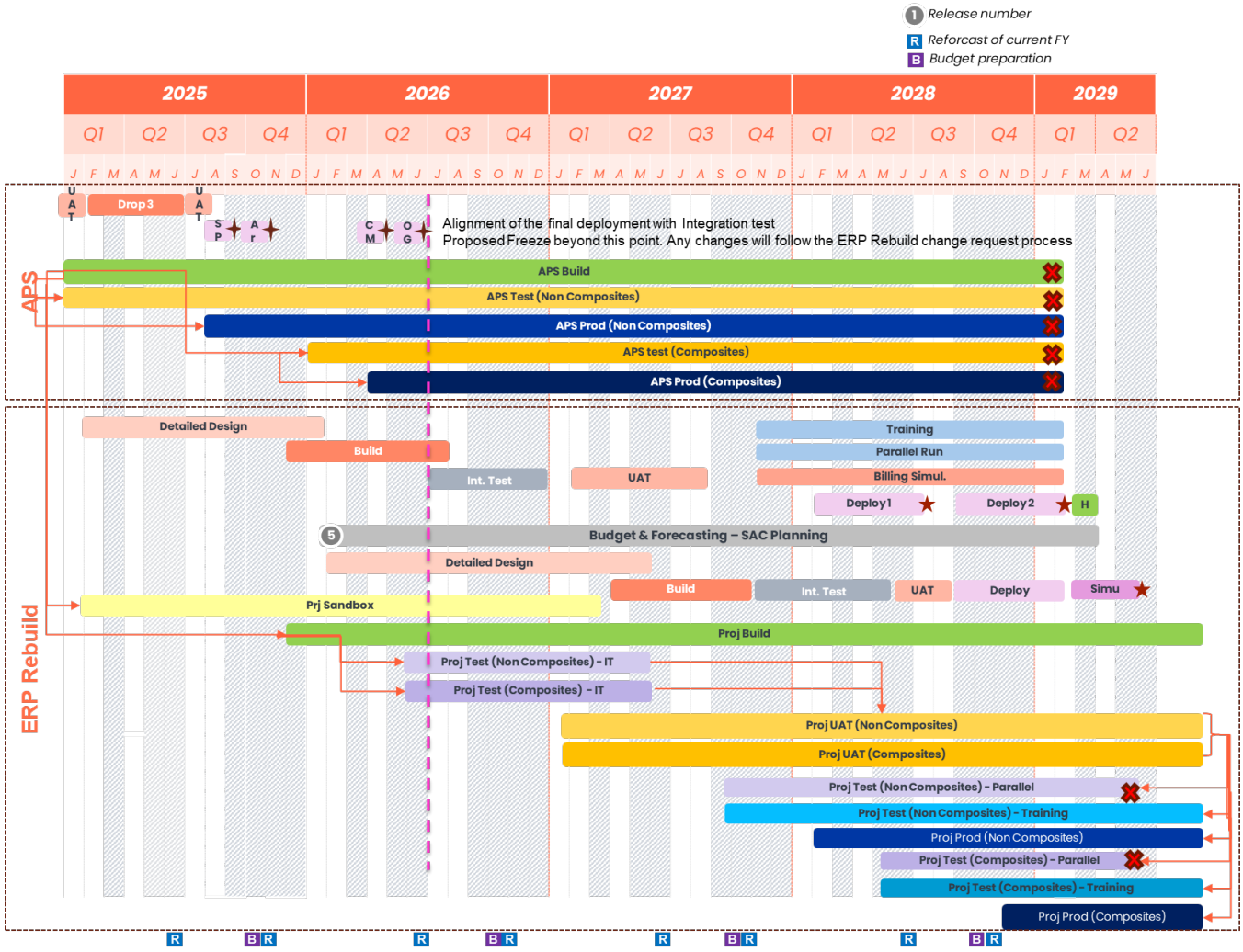
- Two S/4HANA instances will be implemented: one dedicated to China and another for the rest of the world. The Composites business will be divided across these systems.
- Data required for Composites planning from both S/4HANA systems will be integrated into the Maestro (US) instance, while data for the rest of the world will be routed to the Maestro (Global) instance.
- Two dedicated Cloud Platform Integration (CPI) systems will be deployed and configured to support this architecture.
- SAP Data Sphere will be used to consolidate and transfer data to the respective systems, limited to non-ITAR data only.
- ITAR-sensitive data will bypass Data Sphere and be directly exchanged between S/4HANA and Maestro.



Implementation Roadmap

The diagram below depicts the implementation roadmap for the APS Project and ERP Rebuild Project, including their respective system instances. The diagram is split into two sections: APS (at the top) and ERP Rebuild (at the bottom), representing their respective project timelines.

Currently, there is ideal alignment between the end of the APS project and the start of the ERP Rebuild Integration test. Any delays in the APS project or in ERP project timelines will be discussed in the planned Portfolio management meetings and/or other agreed governance forums to ensure continuous alignment. Once APS project is completed, ideally any further solution enhancements should cease in order to focus entirely on the ERP Rebuild project delivery. The freeze will maintain a clear and controlled environment during ERP Rebuild project deployments.

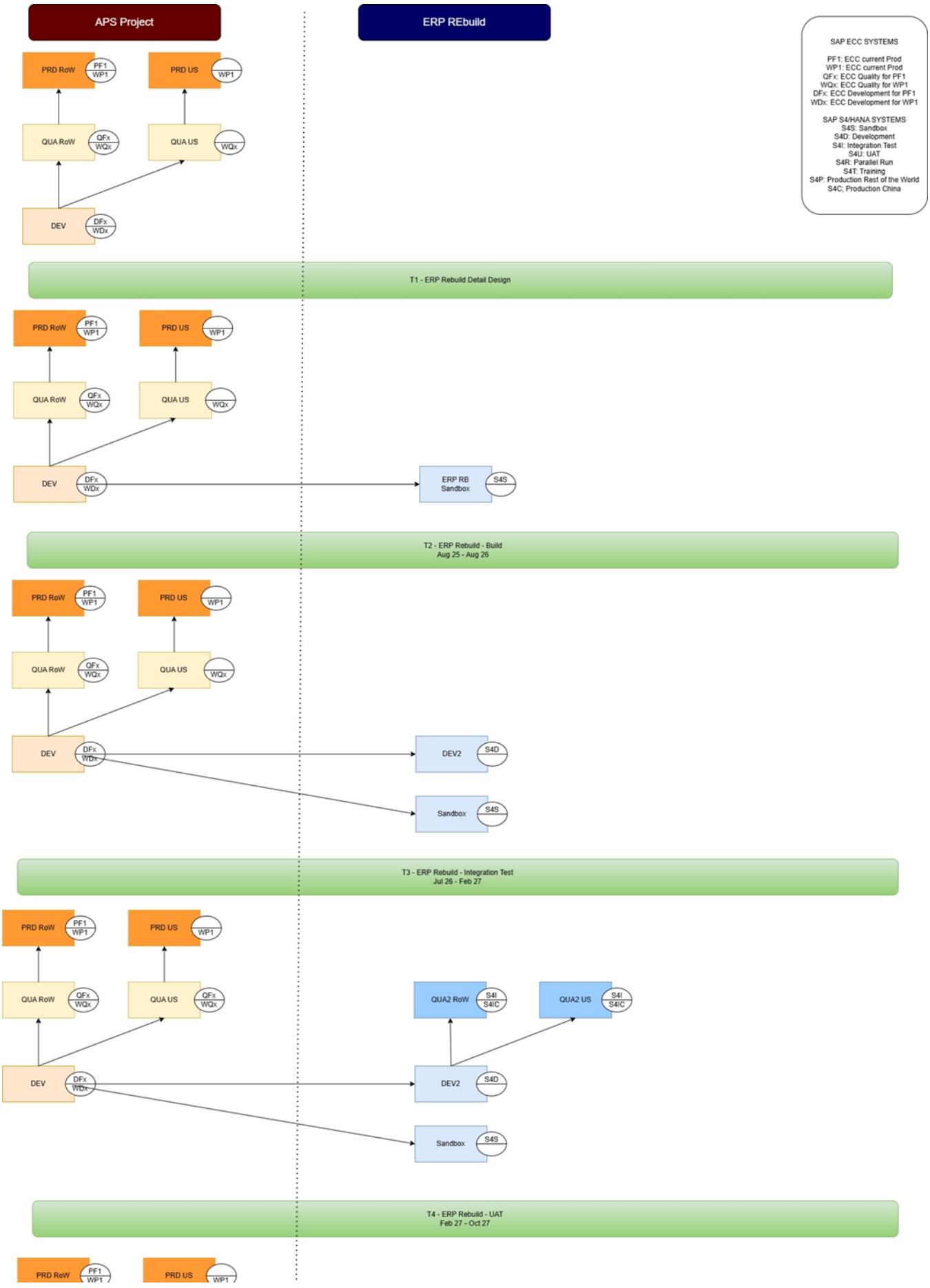


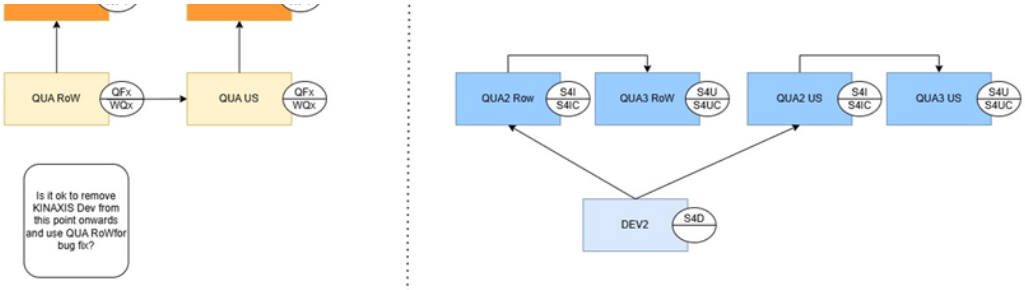
Time Phased Landscape Diagram

The following series of diagrams illustrate the time-phased system landscape view, segmented by project phases, as indicated by the green bars.

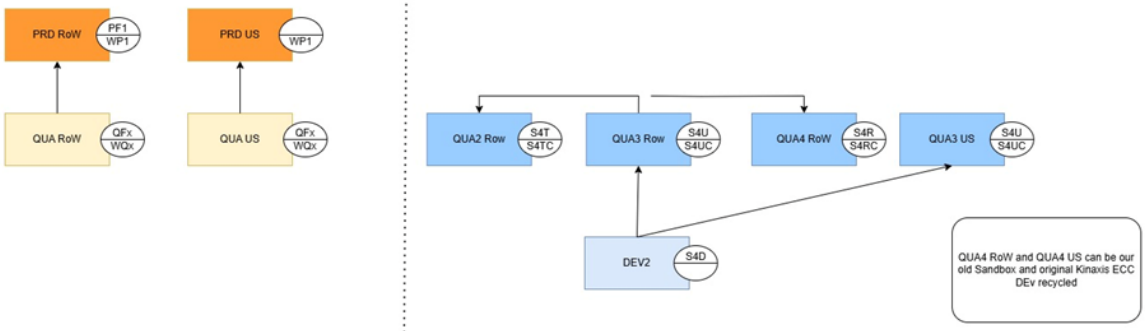
These diagrams provide a detailed representation of the system instances and their corresponding transport paths. The left side of each diagram represents the APS project landscape requirements, while the right side represents the ERP Rebuild landscape requirements.

(note: the coloured squares represent the Maestro instances while the white ovals represent the ERP instances - a legend of the ERP instance names can be found on the right hand side)

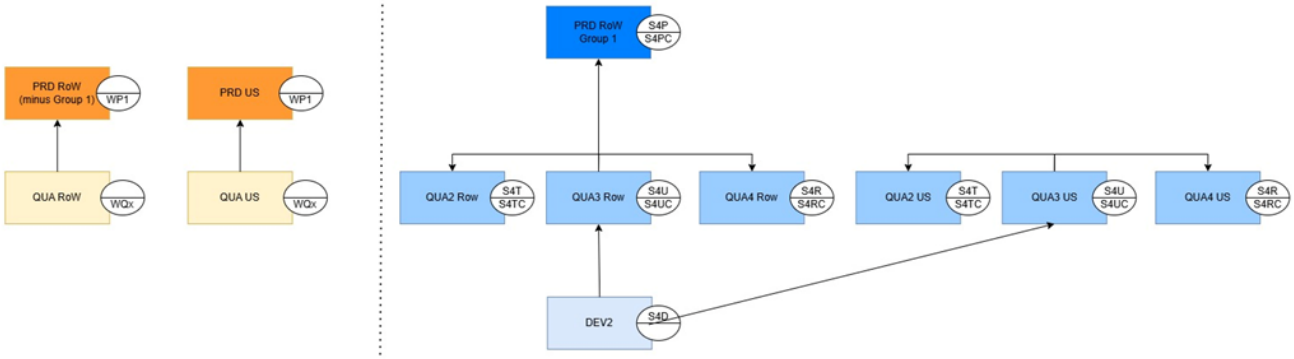

APS Project
ERP REbuild
SAP ECC SYSTEMS
PF1: ECC current Prod
WP1: ECC current Prod
QFx: ECC Quality for PF1
WQx: ECC Quality for WP1
DFx: ECC Development for PF1
WDx: ECC Development for WP1
SAP S4/HANA SYSTEMS
S4S: Sandbox
S4D: Development
S4I: Integration Test
S4U: UAT
S4R: Parallel Run
S4T: Training
S4P: Production Rest of the World
S4C; Production China
PRD RoW
PF1
WP1
PRD US
WP1
QUA RoW
QFx
WQx
QUA US
WQx
DEV
DFx
WDx
T1 - ERP Rebuild Detail Design
ERP RB
Sandbox
S4S
T2 - ERP Rebuild - Build
Aug 25 - Aug 26
DEV2
S4D
Sandbox
S4S
T3 - ERP Rebuild - Integration Test
Jul 26 - Feb 27
QUA2 RoW
S4I
S4/C
QUA2 US
T4 - ERP Rebuild - UAT
Feb 27 - Oct 27



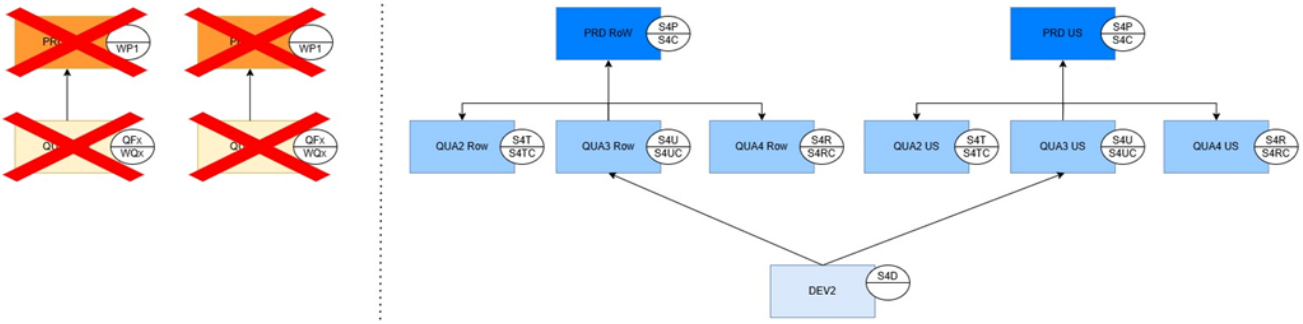
T5 - ERP Rebuild - Parallel Run and Training G1
Nov 27 - Aug 28



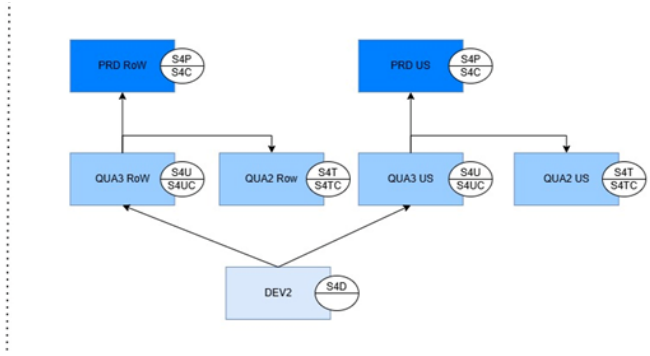
T6 - ERP Rebuild - Parallel Run, Training G2 +
GO-LIVE G1
Sep 28 - Feb 29



T7 - ERP Rebuild -
GO-LIVE G2
Feb 29 - July 29 (B2F)



End State



Key Open Design Topics

There are a number of key functional design topics that need to be discussed and agreed in detail design as they are foundational part of S/4 HANA.

Granularity of Planning Data in S/4 Hana

The Planning data from Maestro is required in S/4 Hana using the day as the smallest time bucket during the short-term horizon, i.e., before the planning time fence.

- During the short-term horizon, precise planning data at a daily granularity will be integrated from Maestro into SAP S/4HANA. This enables accurate and effective planning for production, purchasing and sales (ATP), ensuring that the system operates efficiently within the constraints of the planning time fence.

However, for longer horizons, the aggregation of data at a weekly or monthly bucket can be used beyond the short-term horizon.

- For planning beyond the short-term horizon, data can likely be aggregated into larger time intervals such as weekly or monthly buckets. This simplifies data management (data volume across the interface) and focuses on more granular information in the short term and less granular in the long-term. The final aggregation strategy will need to be determined during the detailed design phase, considering factors such as ATP requirements and other operational dependencies.

Product Allocation (PAL)

Integration is required between the allocation in Maestro to the PAL tables in SAP. There is already a new interface included to cater to this requirement, however more details of how PAL table is structured will be determined during the detailed design phase.

Available To Promise (ATP)

ATP functionality in SAP requires up-to-date inventory information, production/procurement plans, and delivery priorities to determine accurate delivery dates.

This information will be readily available and detailed during the short-term horizon, ensuring precise commitments. However, for long-term horizons, the data will be aggregated to simplify the planning processes and manage larger time frames efficiently. (see "Granularity of Planning data" above).

During the detailed design phase, the following topics are discussed further:

- Using Replenishment Lead Time (RLT) instead of ATP for long-term horizon orders:
  For orders falling within the long-term planning horizon, RLT could be utilized to approximate availability dates. This approach reduces the complexity of ATP checks while providing reasonable delivery estimates based on predefined lead times for procurement or production.
- Using ATP for long-term horizon orders with aggregated data:
  An alternative approach involves continuing to use ATP functionality for long-term orders but leveraging aggregated data in less granular time buckets. This may require specific configurations or assumptions about inventory levels, production schedules, and other factors to enable effective ATP calculations despite the lower data granularity.

Enterprise Scheduling

There are a small number of plants that are large and complex enough to warrant the need for a more finite scheduling capability.

There are two options to fulfil this requirement:

- PPDS - SAP's native detailed scheduling engine
- Factory Scheduling - Detailed scheduling using the Maestro platform

In detail design, a decision tree will be defined with criteria that will determine if a manufacturing plant can benefit for detailed scheduling or not. Once this decision tree is agreed and the manufacturing plants assessed, either SAP or Kinaxis will be confirmed as the tool for detailed scheduling.

Cutover Consideration

A number of topics have been discussed in relation to the ERP Rebuild cutover approach:

- Use of Existing APS Production System for ERP Rebuild Go-Live:
  As part of the ERP Rebuild project's go-live strategy, the current APS production system will **not** be utilized. Instead, a new instance will be implemented to support the transition and operational readiness.

- Migration of Planning History to the New Production Instance:
  To ensure continuity and historical reference during the cutover to the new instance, planning history will be migrated to the relevant location as part of the cutover strategy. Two migration options have been identified, and the final choice will be determined during the detailed design phase:

  - Option 1: Extract only the historical key figures (e.g., demand trends, supply chain planning insights) and store them in Datasphere. This approach focuses on essential planning insights while minimizing data volume.
  - Option 2: Extract all source data, including Planned Orders, Purchase Orders, and other relevant transactional data, and store them in Datasphere. This option provides a more comprehensive historical data migration for extended historical analysis and operational continuity.

Interim Process between 2 ERP Rebuild Go-Lives

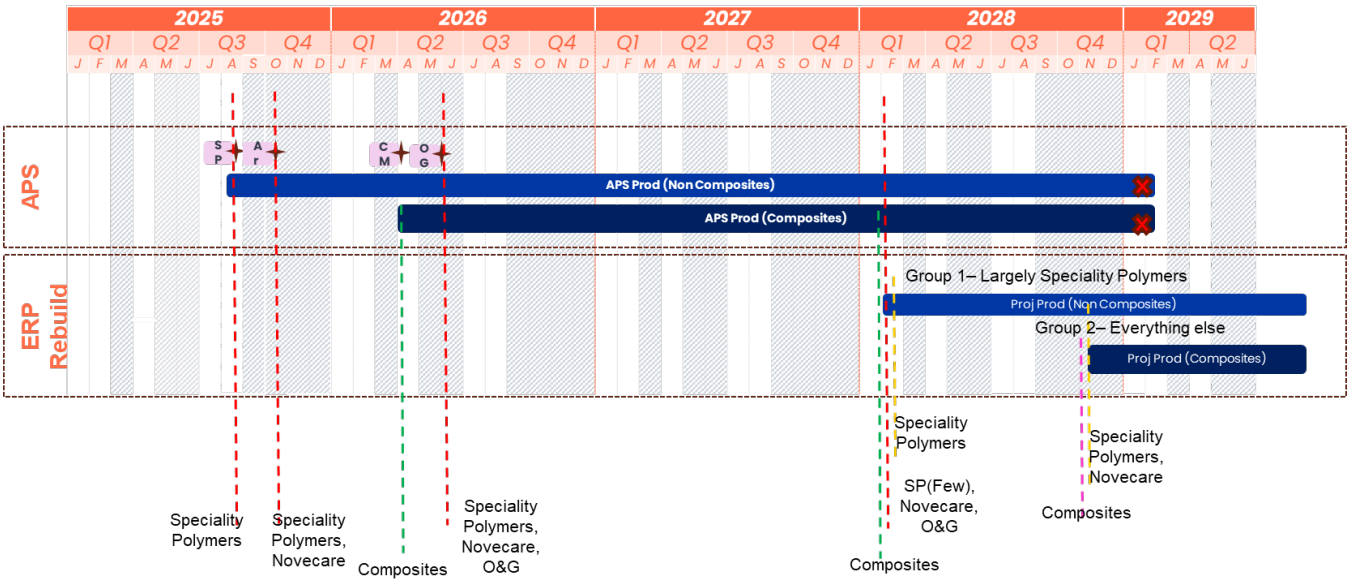
1. **Specialty Polymers (SpP) and Global Supply Chain:**
   The supply chain transaction overlap between the Specialty Polymers legal entities in scope for Group 1 and the Rest of Syensqo is minimal, based on the analysis conducted by the ERP Rebuild team. As a result:

   - The new **ERP Rebuild Maestro Non Composites system** can operate primarily with the **Specialty Polymers (SpP)** entities with only minimal manual adjustments required.
   - These adjustments will primarily involve **Buy-Sell transactions** with the global supply chain to ensure alignment and continuity.
2. **Composites and Rest of Syensqo:**
   The supply chain transaction overlap between **Composites** and the **Rest of Syensqo** is also minimal, as confirmed by the analysis conducted by the APS team. Therefore:

   - The **Business As Usual (BAU) APS Composites Production** system can continue to operate **as-is** without the need for interim processes or significant changes during the go live 1 of the ERP rebuild program.
3. **Other Company Codes in the BAU Non-Composites Environment:**
   For the remaining company codes within the **BAU Non-Composites environment**, the transaction overlap with the **global supply chain** is minimal. As a result:

   - These entities can continue operations with only minimal manual adjustments, specifically related to **Buy-Sell transactions**, to maintain alignment with the global supply chain network.

Below is an high level diagram to illustrate the interim period:



Governance

Until the APS and ERP Rebuild projects will merge, planned for June 2026, they will continue to be governed independently by their respective Steering Committees.

However, in order to ensure continuous alignment, the APS project leadership will attend the ERP Rebuild relevant meetings. The monthly Project portfolio meeting will be another forum where the alignment between the two parallel projects will be ensured.

Once the 2 projects merge, the APS project director will become part of the ERP Rebuild leadership team, continuing to lead the Kinaxis team, under the ERP Rebuild project Steering Committee governance.

After the project merger, any changes in the APS project will follow the ERP Rebuild Change Request process.

Resources and Kinaxis Playpen system

ERP Project will require business and Kinaxis professional services resources to support, in the first instance , the Detail design phase. Kinaxis will also provide a free Kinaxis system to be used as playpen throughout 2025.

Attachments

File	Modified
Microsoft Excel Spreadsheet Copy of Kinaxis Assessment draft.xlsx	Dec 12, 2024 by NARAHARI-ext, Bhargavi