



The Future Operational Planning Landscape Is Here

Time to Transition from APO to SAP S/4 and SAP IBP

Thomas Brassøe, Partner, Implement Consulting Group

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SAPinsider



In This Session

- We will explore the transition from Advanced Planning and Optimization (SAP APO) to Production Planning and Scheduling (PPDS) in SAP S/4HANA and Integrated Business Planning (SAP IBP).
- You will get a touch of the content in PPDS for SAP S/4HANA and what is new compared to APO.
- You will learn about strategic considerations for roadmap, migration strategies and system landscape on this transformation journey.

What We'll Cover

- Why should we care about Operational Planning and Scheduling
- The transition from APO to PPDS for SAP S/4HANA (and IBP)
- How to get started with PP/DS for SAP S/4HANA – Migration and Implementation
- Wrap Up



Why Should We Care About Operational Planning and Scheduling

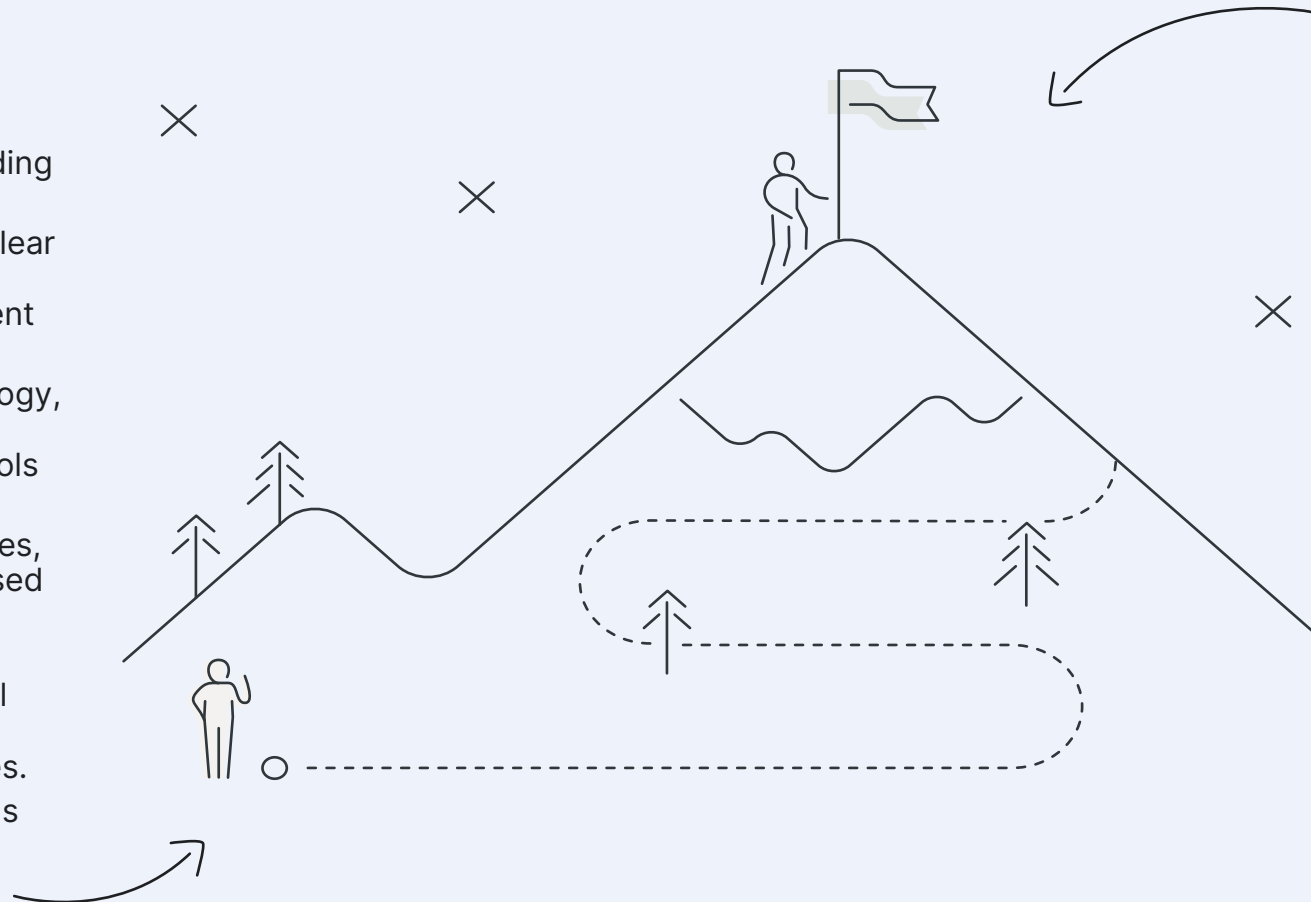


Optimizing Production Planning and Scheduling Holds the Potential to Yield Substantial Business Impact Through Enhanced Efficiency, Reduced Costs, and Improved Customer Satisfaction

Today

Many companies are still struggling with production planning and scheduling, leading to:

- Lack of transparency and clear communication and collaboration among different departments
- Inconsistent use of technology, relying heavily on manual processes and outdated tools
- Reactive approach to addressing production issues, resulting in delays and missed deadlines.
- Poor alignment between production plans and actual demand, leading to overproduction or shortages.
- Minimal focus on continuous improvement and process optimization, resulting in recurring problems.



Future

The ambition is to have a world-class planning engine and process in place with utilising improved methods and concepts to:

- Reducing the amount of manual work for planning activities
- Increase collaboration between departments, fostering a holistic and integrated approach.
- Improved standardisation in one template solution and process
- Proactive mitigate disruptions for the production flow.
- One integrated planning solution with the flexibility to support the needs of the business
- Agile response to changes, with the ability to quickly adjust plan
- Increased trust and transparency in generating the production plan for both planners and other stakeholders
- Real-time visibility into production metrics and KPIs

Why Would We Care About Production Planning & Scheduling?....

Unpredictable Lead Times:

Inaccurate planning leads to unpredictable lead times for production orders, resulting in delayed deliveries and frustrated customers.

1

Missed Order Fulfilment:

Inability to prioritize orders based on due dates and importance can lead to missed order deadlines and dissatisfied customers.

2

Customer Dissatisfaction:

Delays, product shortages, and inconsistencies caused by poor planning can lead to dissatisfied customers and damage the company's reputation.

3

Excessive Inventory & Scrap:

Overproduction and excessive inventory levels, tying up capital and warehouse space, potentially also resulting in scrapped products.

4

Underutilization of Resources:

Such as machinery, labor, and materials, driving up costs.

5

High Changeover Times:

Inadequate scheduling of changeovers between different product lines or setups leads to extended downtime and reduced production capacity.

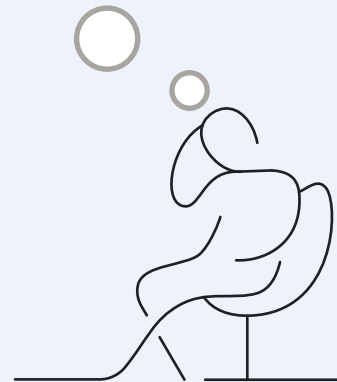
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Rising Operational Costs:

Poor planning contributes to inefficiencies in production processes, resulting in increased operational costs.

7

Underinvesting in good production planning can lead to a series of critical challenges for both customers, employees and cost of operations:



Reactive Problem Solving:

Companies with poor planning often resort to firefighting mode, addressing production issues as they arise instead of proactively preventing them.

8

Inconsistent Quality:

Poor planning can compromise quality control measures due to rushed processes or inadequate resource allocation.

9

Communication Breakdowns:

Lack of effective communication between departments can lead to conflicting priorities, misunderstandings, and production delays.

10

Missed Opportunities:

Inefficient planning prevents companies from seizing opportunities for cost savings, process improvements, and market responsiveness.

11

Limited Scalability:

Inadequate planning processes may hinder a company's ability to scale up or expand its operations smoothly.

12

Lack of Visibility:

Limited visibility into real-time production data makes it difficult to monitor progress and make informed decisions.

13

Employee Frustration:

Inefficient planning can result in inconsistent workloads, excessive overtime, and burnout among employees. Ultimately it can result in lower job satisfaction and key employees leaving the company leading to loss of knowledge and experience and costs for training new employees

14

Good Production Planning and Scheduling is a Major Driver for Operational Efficiency and Supply Chain Delivery Performance



Typical impact we see from lifting the operational planning & scheduling

5-25%

Increased throughput

2-20%

Increase in delivery performance/plan adherence

10-50%

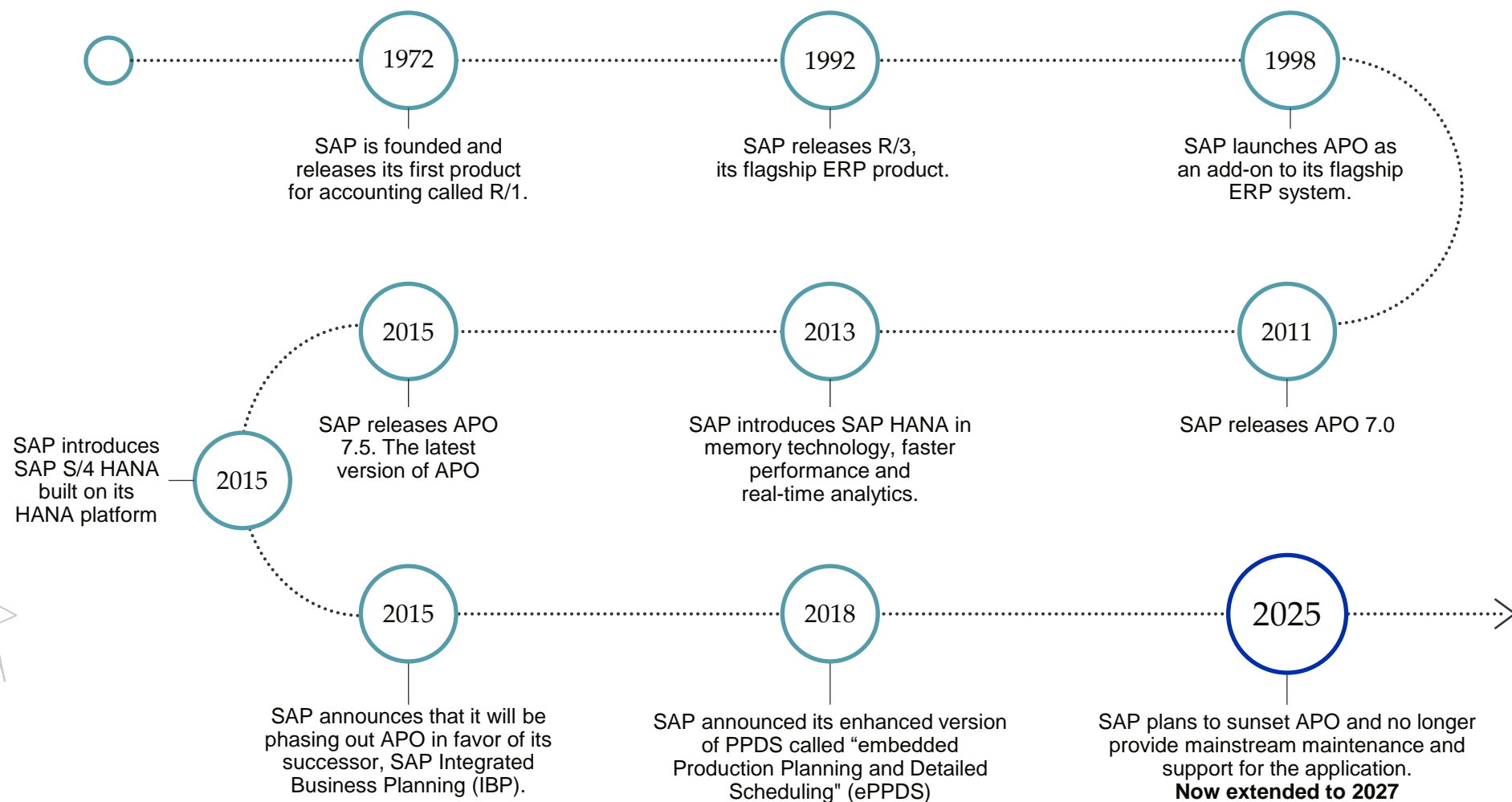
Waiting time reduction (labor and machinery)

A group of men in business attire are seated in a lounge area, engaged in a discussion. One man is using a tablet, and another is looking at a laptop. A sign in the background reads "VANDSALEN".

Timeline for SAP

Production planning & detailed scheduling

SAP has announced that they will stop APO support by December 31, 2025 (now extended to 2027). This means that after this date, SAP will no longer provide mainstream maintenance and support for APO. Additional support can be given until 2030 at additional license fee.

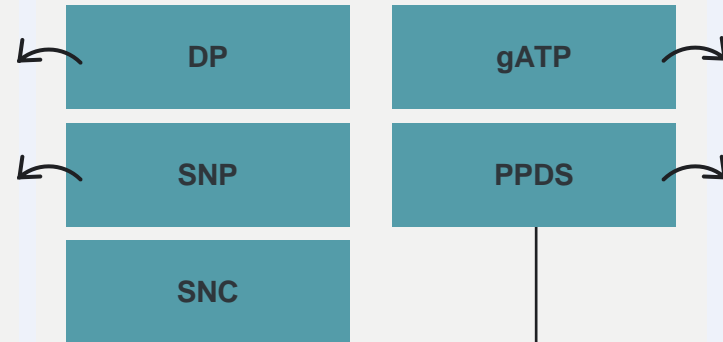


If We Zoom in on APO, Going Forward the Functionality is Split in SAP IBP, SAP ARIBA & SAP S/4

IBP



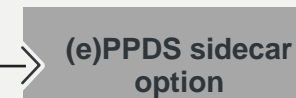
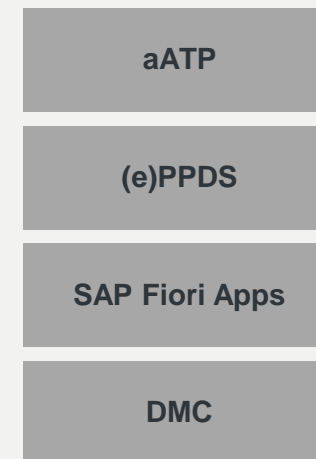
APO



ARIBA



S/4HANA



SAP IBP

- Strategic and tactical planning
- Network centric
- Allocation planning
- Deployment



SAP ARIBA

- Procurement planning & execution focused
- Supplier relationship management and collaboration with data sharing with IBP and S/4HANA
- Supplier management and strategic sourcing

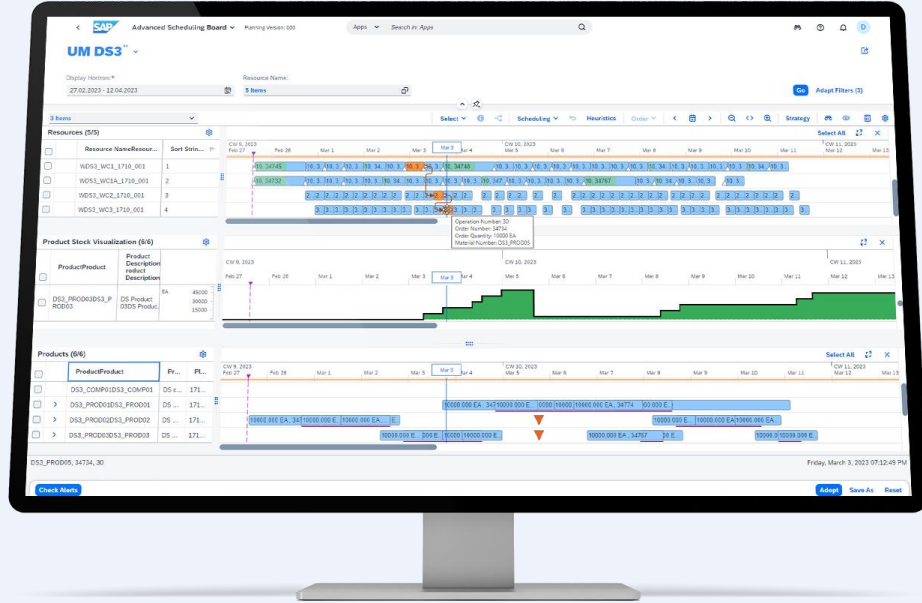


SAP S/4

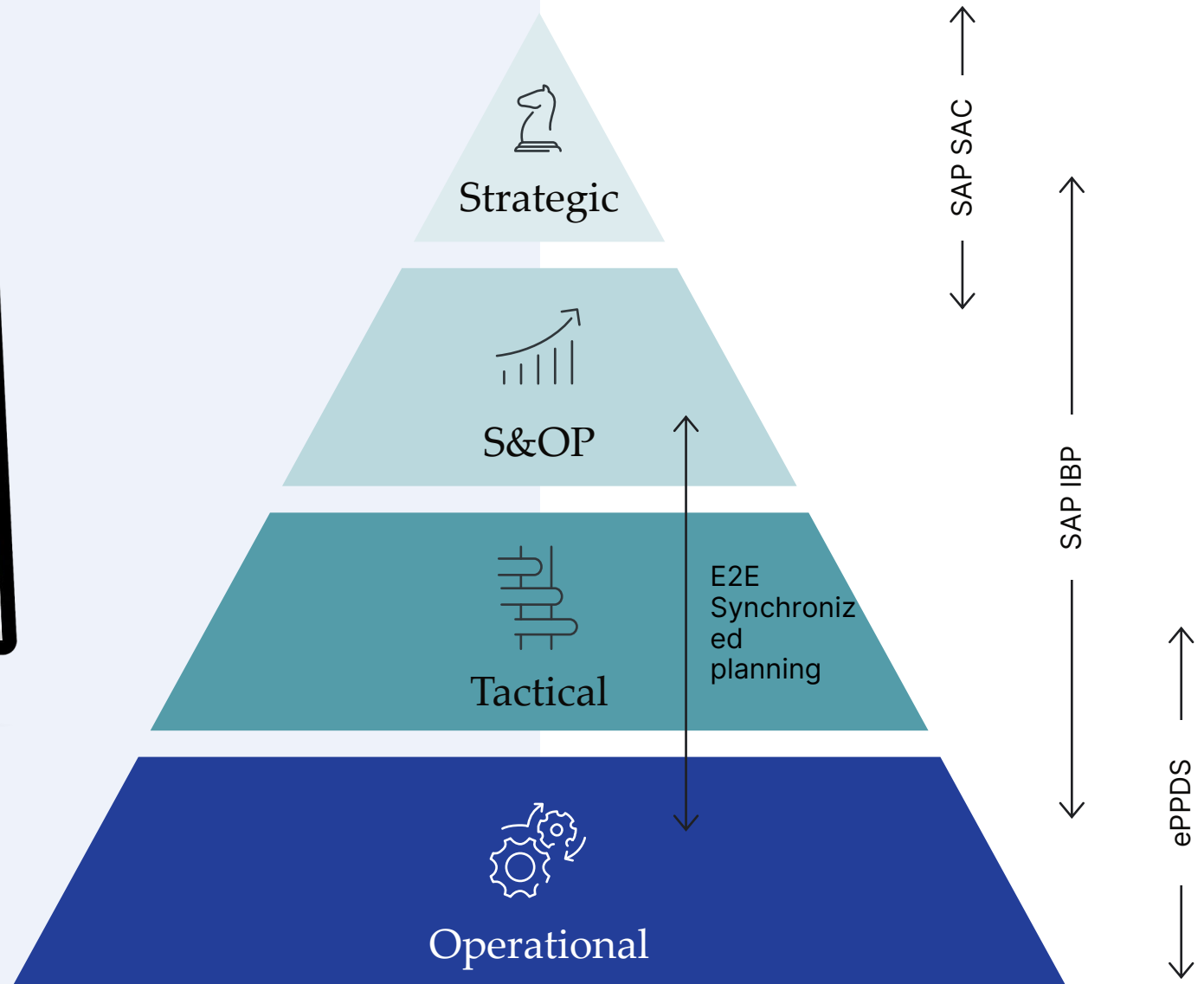
- Execution focused planning
- Plan to produce
- Detailed scheduling and execution
- Live order promising



PPDS for SAP S/4HANA is the Future of SAP Production Planning and Scheduling

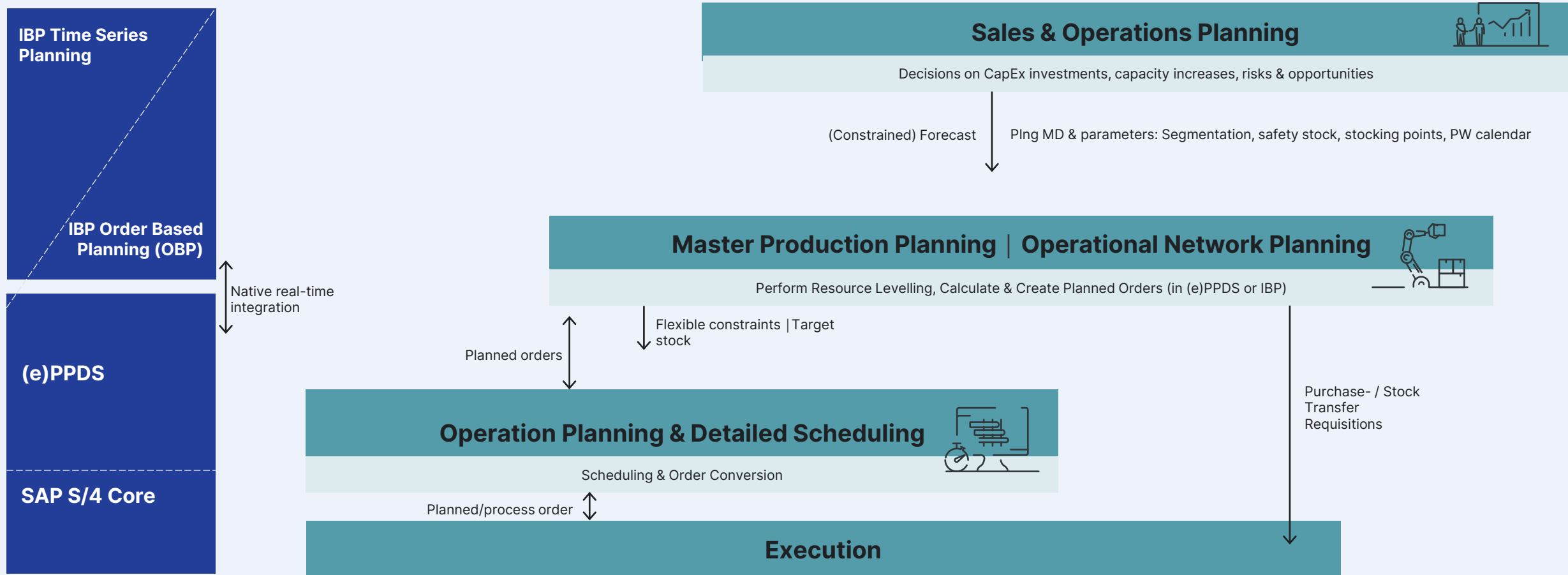


- In the core of SAP S/4
- Exception-based planning
- Constrained planning & optimization
- Detailed scheduling
- Tightly integrated w. IBP and MES

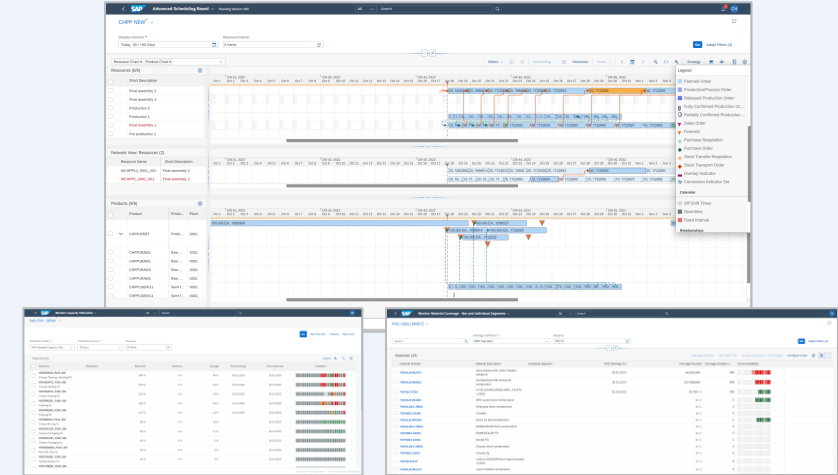
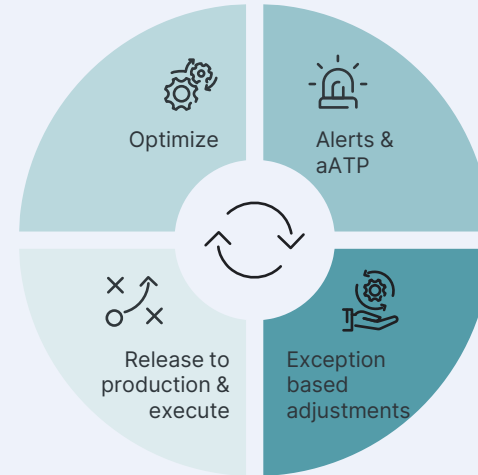
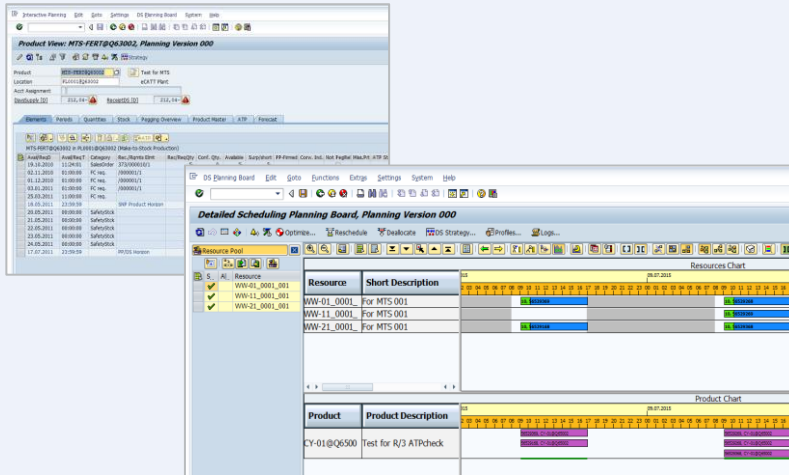


With the Combination of PPDS for SAP S/4HANA and IBP, True Synchronized End-to-End Planning Can Be Achieved

Example Architecture



So, What Is New in PPDS for SAP S/4HANA and What Has Changed Since APO?



APO PPDS

What we know APO PPDS for:

- State of the art planning functionality with real E2E capabilities (Although with less flexibility for S&OP and Financial planning)
- SAP GUI interface
- On-premise solution
- Separate module/solution w. core interface for R/3 for seamless real time integration
- Integrated w. DP, SNP and gATP
- High degree of customization & development flexibility



What remains the same?

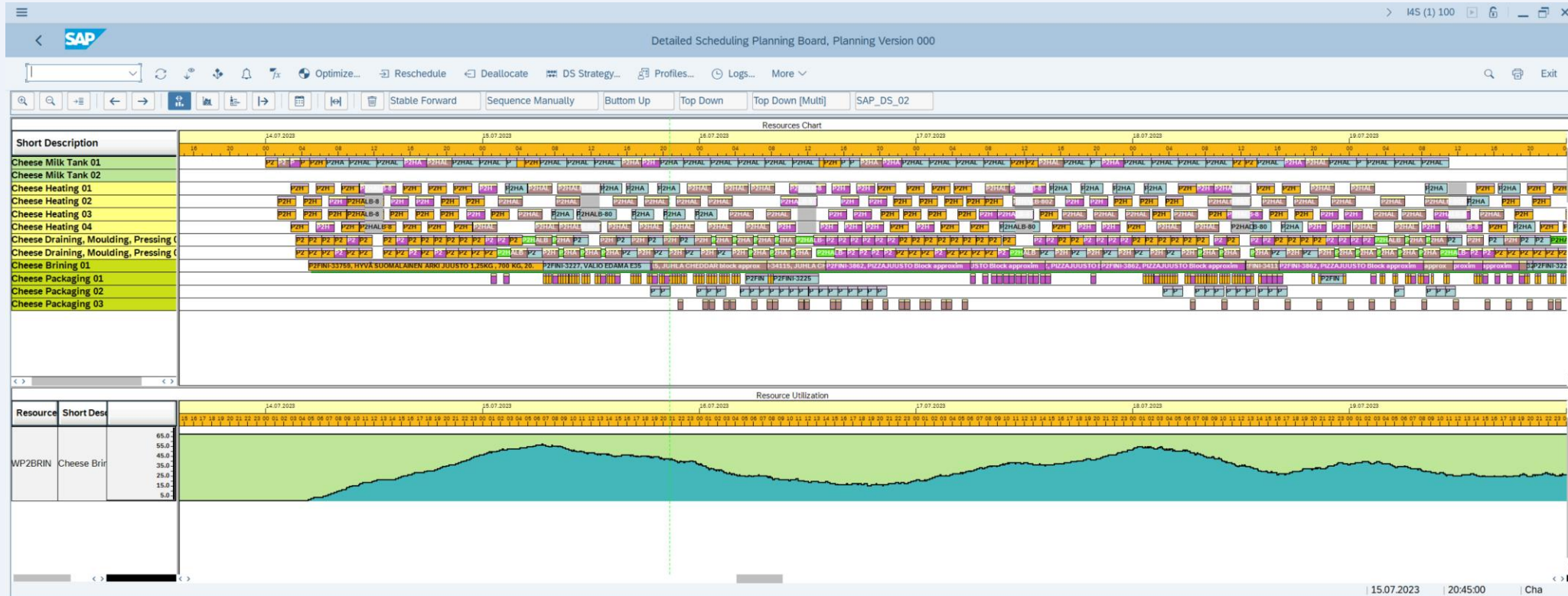
- State of the art Integrated E2E planning
- Detailed order level planning with advanced E2E pegging capabilities for root cause analysis
- Advanced production and capacity planning capabilities
- Potentially, you can run your as-is APO PPDS solution 1:1 in S/4 tomorrow
- Advanced production planning and scheduling optimization
- Advanced alerts for exception-based planning
- High degree of customization & development flexibility

SAP S/4 ePPDS

Next generation production planning & scheduling:

- Cloud or on-premise (depending on SAP S/4) or as sidecar
- Fiori web-based interface for planning & scheduling, new Fiori apps such as detailed scheduling board, capacity overview, stock overview, etc.
- Integrated into the core of SAP S/4
- Simplified Integration, IT setup, and simplified master data maintenance
- Synchronised E2E Planning & Execution
- Native real time integration w. IBP (RTI)
- Integrated w. aATP
- A lot of new functionality (e.g. MRP Live, tank planning, PP-optimizer, etc.)

The GUI DS Scheduling Board Offers a Lot of Flexibility, Configuration and Development Options



SAP Advanced Scheduling Board | Planning Version: 000

CHPP NEW

Display Horizon: Today -30 / +60 Days | Resource Name: 6 Items

Resource Chart X | Product Chart X

Resources (6/6)

Short Description
Final assembly 2
Final assembly 3
Production 2
Production 1
Final assembly 1
Pre production 1

Network View: Resources (2)

Resource Name	Short Description
WCHPP12_0001_001	Final assembly 2
WCHPP1_0001_001	Final assembly 1

Products (9/9)

Product	Plant
CHPP1FERT	0001
CHPP1RAW1	0001
CHPP1RAW1	0001
CHPP1RAW2	0001
CHPP1RAW2	0001
CHPP1SEMI11	0001
CHPP1SEMI11	0001

Legend

- Planned Order
- Production/Process Order
- Released Production Order
- Fully Confirmed Production Order
- Partially Confirmed Production Order
- Sales Order
- Forecast
- Purchase Requisition
- Purchase Order
- Stock Transfer Requisition
- Stock Transport Order
- Overlap Indicator
- Conversion Indicator Set

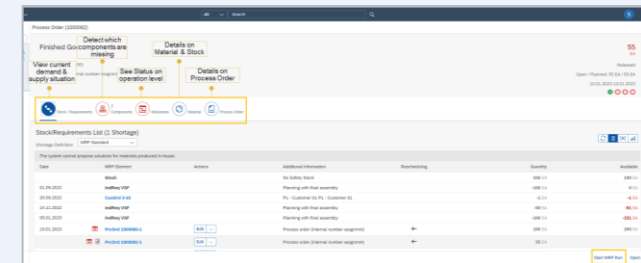
Calendar

- Off-Shift Times
- Downtime
- Fixed Interval

Relationships

Check Alerts

Adopt Save As Reset



PPDS for SAP S/4HANA Is a Key Element to Achieve True E2E Supply Chain Planning and Execution Efficiency for Tomorrow's Supply Chain



Truly Synchronised E2E Planning

Real-time integration between PPDS for S/4 and IBP

Streamline end-to-end operations, enhancing E2E efficiency.



Exception Based Planning

Automated identification and focus, minimize manual intervention and

Improve overall planning accuracy.



Constrained Planning and Optimization

Consider multiple constraints (materials, labor, machine, etc)

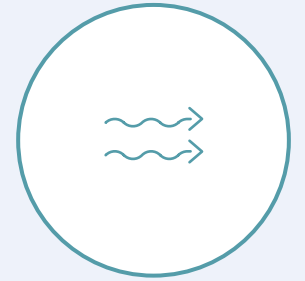
Leading to optimal utilization of resources and minimizing bottlenecks issues



Best in Class Detailed Scheduling

Advanced scheduling capabilities and algorithms for optimizing production timelines.

Improved visibility into production schedules for responsiveness.

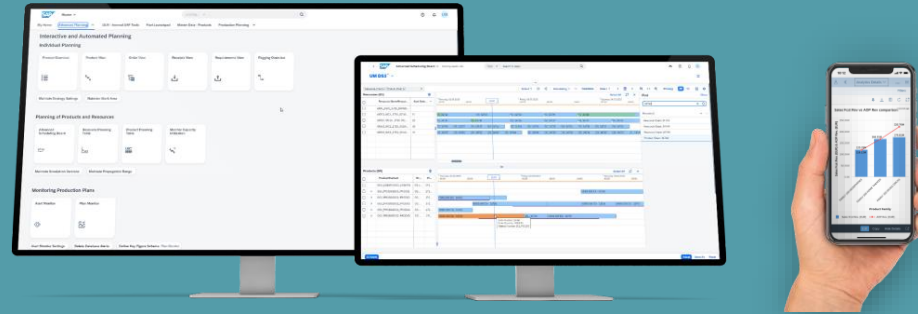


Seamless Integration with SAP aATP

Integration with aATP for reliable promise dates for customer orders.

Real-time updates from aATP, enhance order fulfilment by aligning production capabilities with customer demand.

I Believe PPDS for SAP S/4HANA Is the Next Generation of Production Planning and Scheduling – These Are Some of the New Functionality Highlights and Roadmap Items



Integration, Master Data & IT Setup

Segmentation with Characteristic Dependent Planning (CDP)

Flexible integration

Improved Setup Matrix generation

Simplified master data setup and maintenance

Real-time integration with SAP IBP

Simplified IT setup & integration setup and maintenance

Time dependent master data (e.g time series for safety stock)

Operational Planning & Scheduling

Production Planning Optimizer

New tank planning functionality

Synchronized Planning

Production order notes management

Improved shelf-life planning

Flexible constraints from IBP to ePPDS

Supply based confirmations (SBC) w. ePPDS and aATP

Improved alerts and alert monitor

Demand Driven scheduling

New Fiori scheduling board

MRP live

New Fiori apps for improved usability and user experience

Roadmap & Direction

Further integration and more use cases with aATP and PPDS

Improved product substitution

Further improvements to Fiori UX

Further improvements to tank planning and shelf-life planning

APIs for setup time/costs

Product wheel planning and improved block planning

New scheduling KPI monitor into the Advanced Scheduling Board app

Looking at the Future Innovation Road-map

2024

Fiori Enhancement

- Enabling configuration of the Advanced Scheduling Board [Fiori]
- Renewed SAP Fiori product overview
- Enabled Tank Planning in Advanced Scheduling Board [Fiori]
- Renewed Fiori Alert Monitor
- Renewed KPI Monitor [Plan Monitor] in Fiori

Solution Features

- Tank Planning considering sales processes
- Improved Shelf-Life Planning
- PPO supporting sub-contracting
- Improved Setup Matrix maintenance through API
- PPO considering flexible constraints

Integration

- AATP component check in ePP/DS
- Simplified & Harmonized Substitution
- Continuous improvement to synchronized planning
- IT Modernization
- CDS View on Live Cache (Reporting)
- APIs incl. BW Extractors

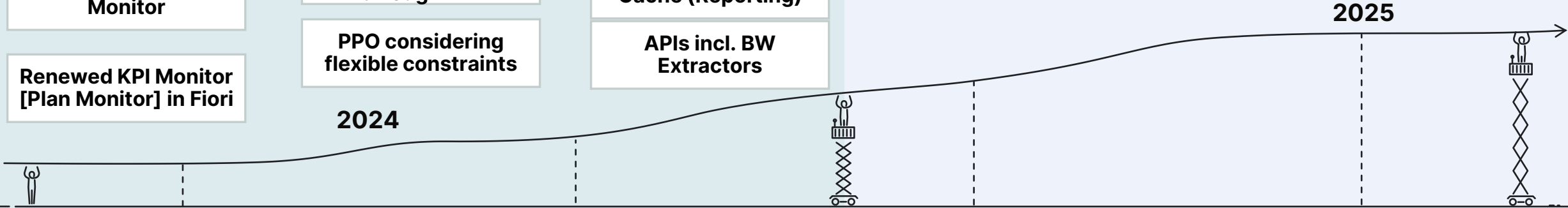
2025+

Fiori Enhancement

- KPI Monitor integrated into Advanced Scheduling Board [Fiori]
- Campaign Planning in Advanced Scheduling Board [Fiori]
- Block Planning in in Advanced Scheduling Board [Fiori]

Solution Features

- Improved Shelf life
- Generative AI powered by Joule: parameter definition and result interpretation
- Improved integrated reporting for key scheduling data



PPDS for SAP S/4HANA is a Strategic Development Topic for SAP Illustrated with the High-level Product Vision and Focus Here



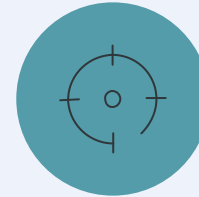
Improved UI and simplification of planning process and master data maintenance.



Improved reporting through increased visibility, KPI monitoring and transparency, proactivity through advanced alerts.



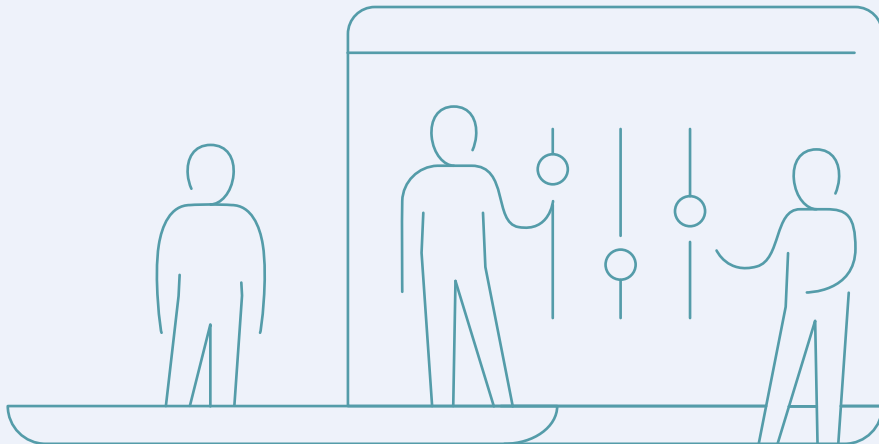
Continuous development and release of **new advanced planning functionality** especially for process industry.



Touch less planning, **synchronised E2E planning w. IBP**, native integration to aATP process.



Automated plan creation and automated plan scheduling.





How to Get Started with PP/DS for SAP S/4HANA – Migration and Implementation

Key Considerations for PP/DS Implementation Strategy

As we progress to the strategic planning of your PP/DS implementation or migration, it's crucial to recognize that there's no one-size-fits-all approach. Your current system landscape and future aspirations will significantly influence your path forward. Some key considerations impact this approach are:

01

Where are you on the SAP S/4 journey?

Understanding your existing landscape with ECC and the steps to S/4.

02

Current APO Usage

Assess your use of APO functionalities, which will impact how you'll leverage PP/DS. E.G. Are you using DP, SNP, gATP and/or PP/DS today. (Keep in mind there is no migration tool for configuration)

03

IBP solution:

Are you already using or planning to use IBP and plan to do so together with PP/DS.

04

Industry factors:

Acknowledging industry-specific requirements and challenges that could influence your PP/DS implementation.

05

Business Impact:

Evaluating the expected business benefits and changes that the PP/DS implementation will bring, ensuring that your strategy aligns with your organization's performance objectives.

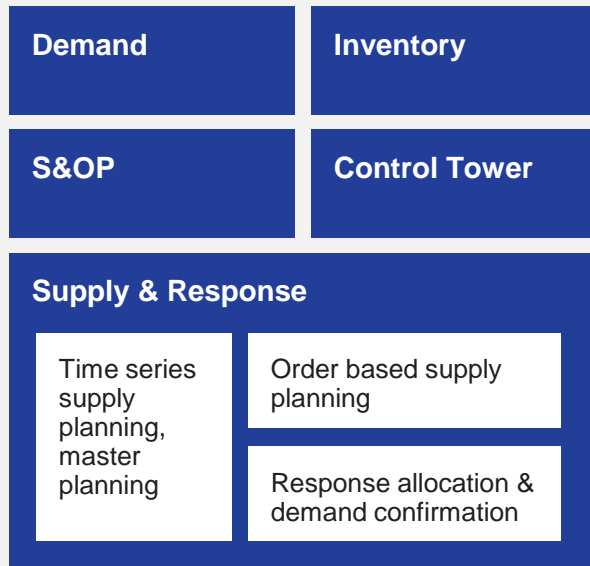
06

Desired process & solution harmonization:

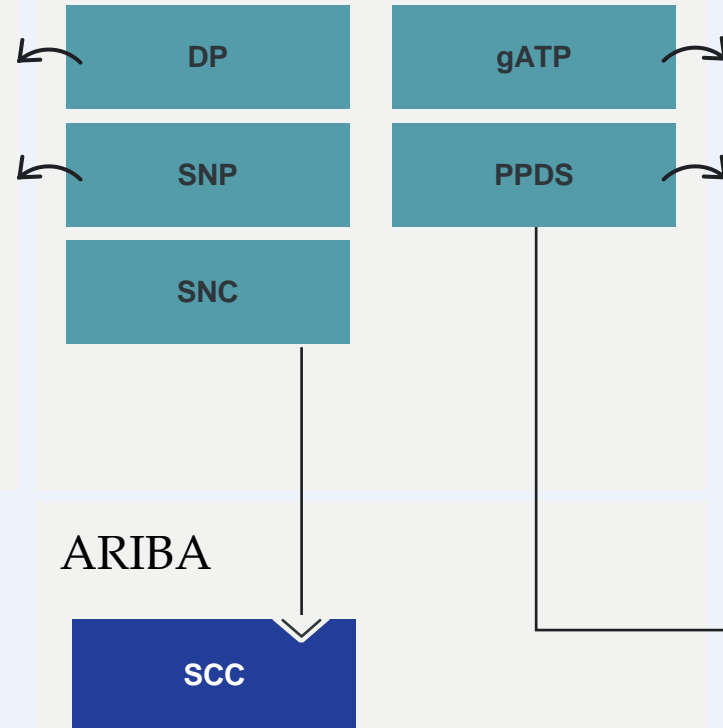
Potential areas of standardization, solution improvements, and harmonizations also impacts the way a potential road-map should be put together

Looking Back at How APO Functionality is “Split-up,” Going to PP/DS for SAP S/4HANA is Not Necessarily an Easy 1:1 Transition

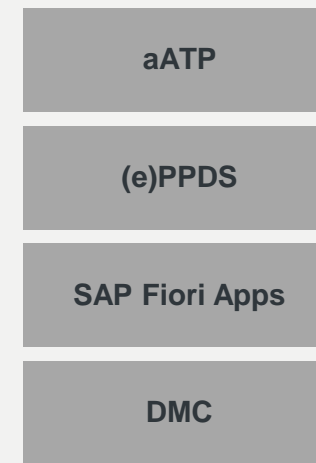
IBP



APO



SAP S/4HANA



SAP IBP

- Strategic and tactical planning
- Network centric
- Allocation planning
- Deployment



SAP ARIBA

- Procurement planning & execution focused
- Supplier relationship management and collaboration with data sharing with IBP and S/4HANA
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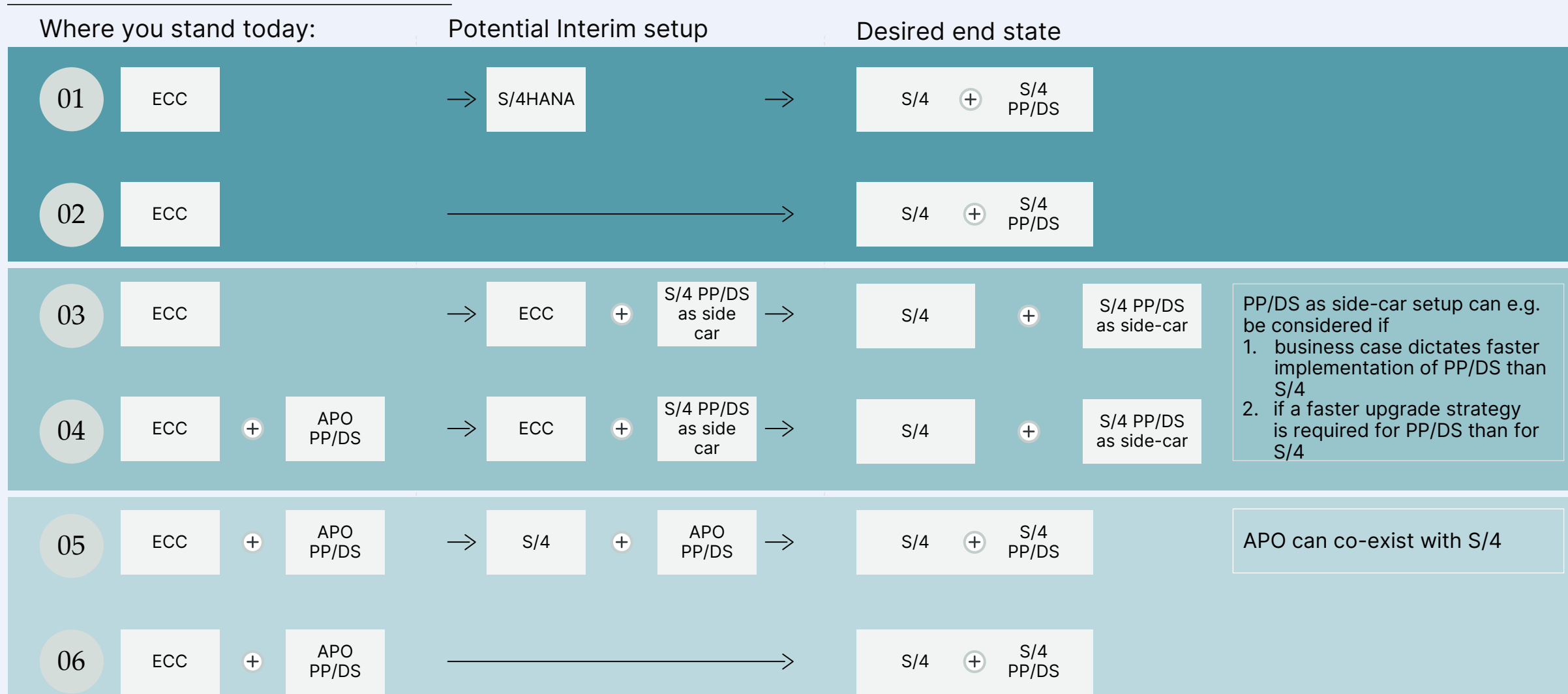
SAP S/4

- Execution focused planning
- Plan to produce
- Detailed scheduling and execution
- Live order promising



There Are Several Migration/Implementation Options You Can Consider Depending on Where You Are on Your Planning Transformation Journey (examples 1/2)

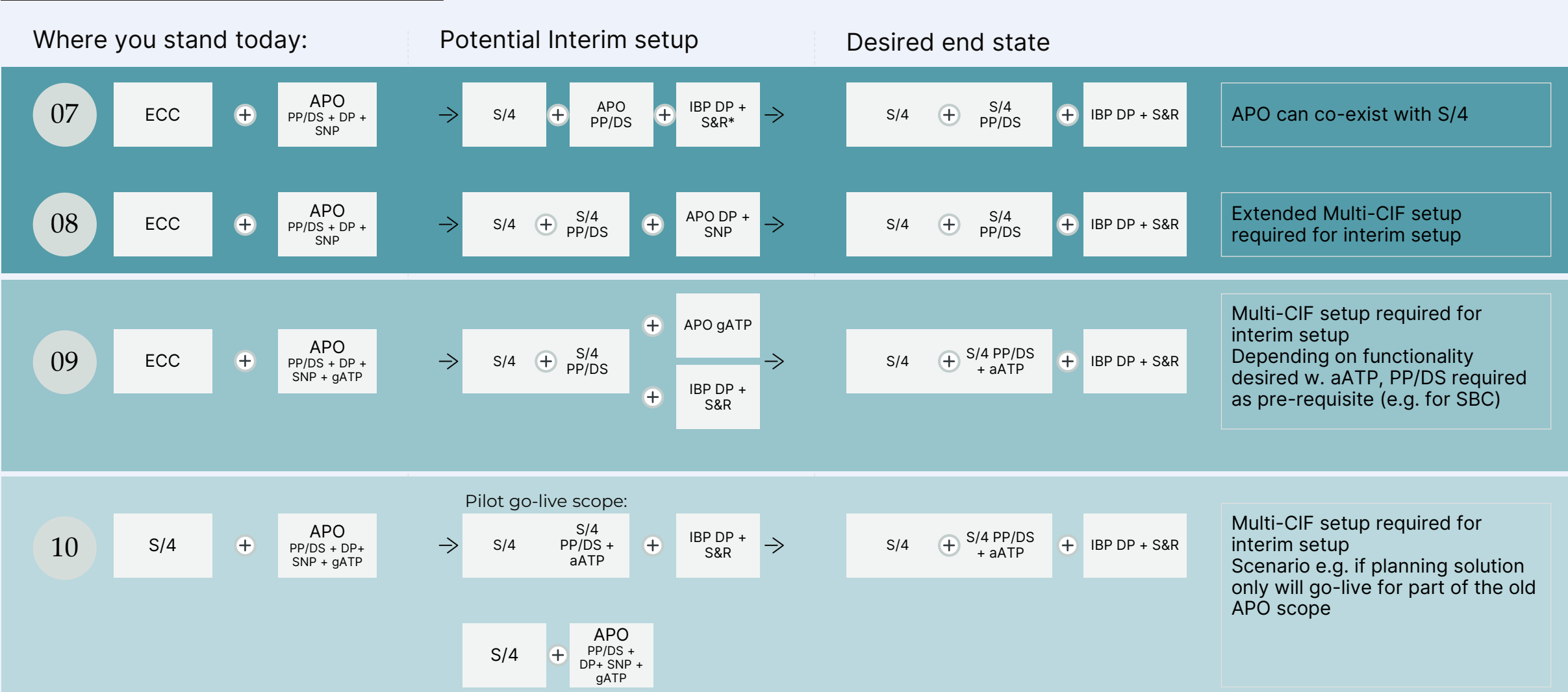
Example scenarios (not exhaustive list):



(Examples are not exhaustive list)

There Are Several Migration/Implementation Options You Can Consider Depending on Where You Are on Your Planning Transformation Journey (examples 2/2)

Example scenarios (not exhaustive list):



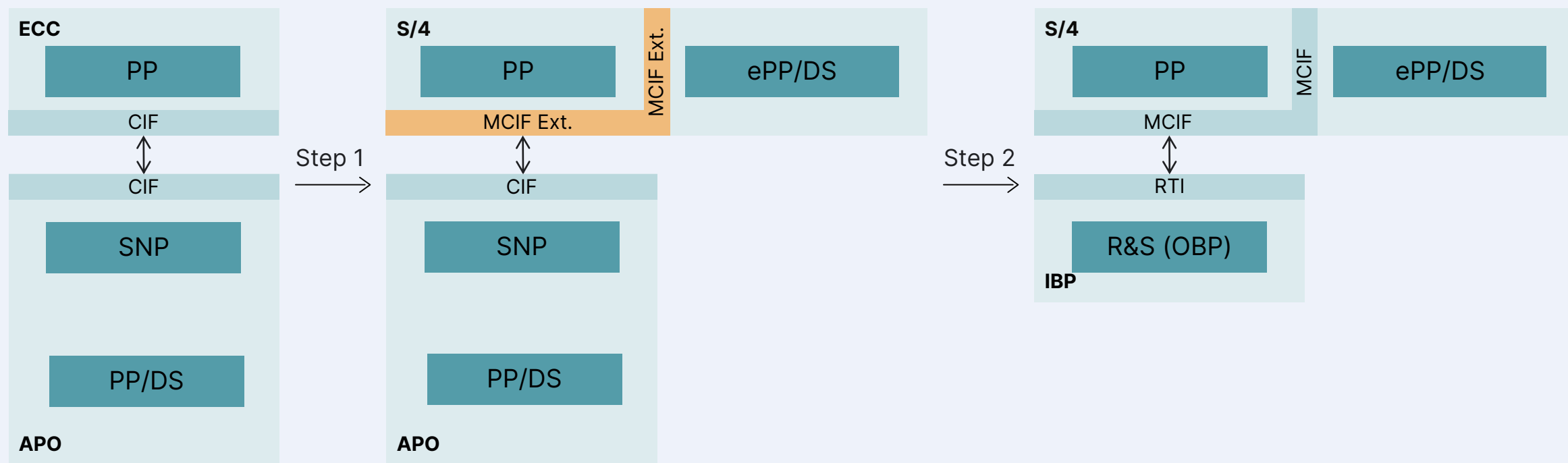
(Examples are not exhaustive list), S&R = Supply and Response with Order Based Planning (OBP)

Some of the Scenarios for Implementation/Migration Requires that We Keep APO Alive While Implementing PPDS in SAP S/4. For that, the “Multiple-CIF Extension” Solution Exists.

Since it's not always convenient to perform the entire APO replacement within one project it could be preferable to split this into multiple projects.

- Interim setup: first implement SAP S/4HANA and ePP/DS with still functioning APO integration (8,9,10)
- Desired end state: proceed with IBP implementation

Interim setup can be enabled **via MCIF Extensions Add-On** as it is not supported by standard solution.



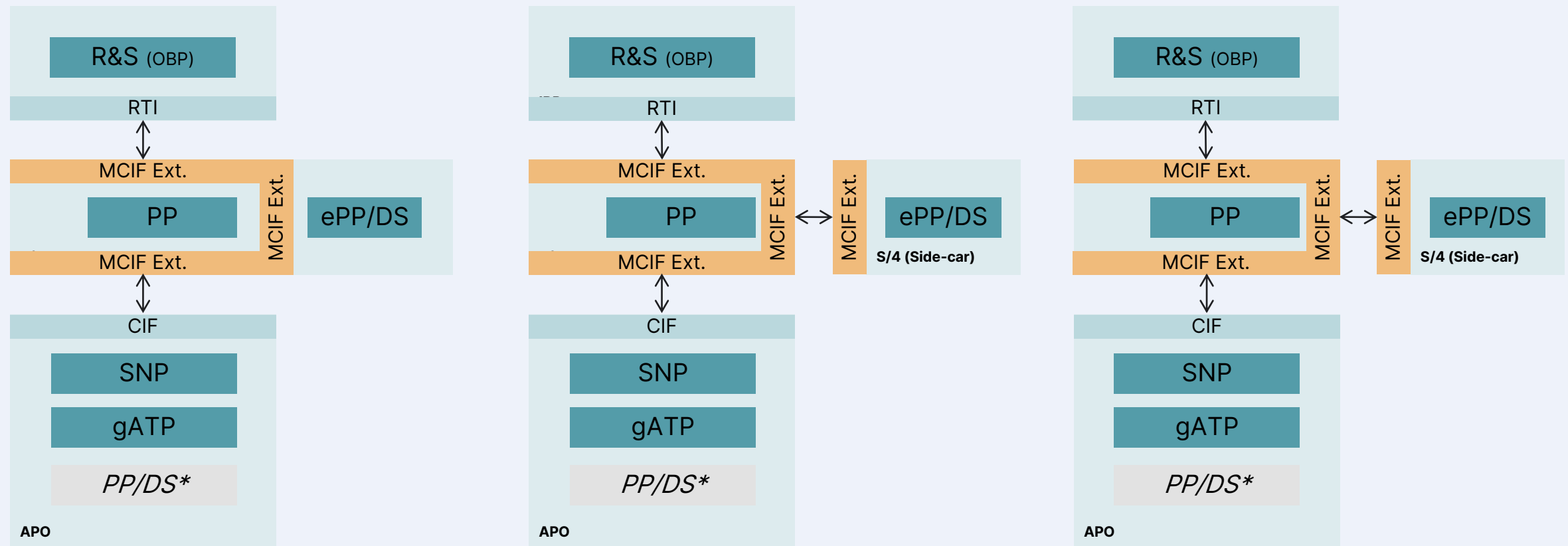
The Multi-CIF was Created to Handle Integration Between IBP-OBP and PP/DS for SAP S/4HANA in the Context of Real-time Integration (RTI)

Multiple-CIF was designed to support only the integration of ERP (ECC or S/4) PP data with IBP and SAP S/4 PP/DS. **MCIF Extensions Add-On** implements the enhancements that allow also the integration of the same data with APO. The matrix below depicts the main issues that MCIF Extension Add-On is solving

Source	Action	PP/MM Update in S/4	PPDS for S/4 Update	APO Update
PP/MM	Create		Standard CIF	Standard CIF
	Change		Standard CIF	Standard CIF
	Delete		Standard CIF	Standard CIF
PPDS for S/4	Create	Standard CIF		MCIF Ext.
	Change	Standard CIF		MCIF Ext.
	Delete	Standard CIF		MCIF Ext.
APO	Create	Standard CIF	MCIF Ext.	
	Change	Standard CIF	MCIF Ext.	
	Delete	Standard CIF	MCIF Ext.	
PP in S/4	Convert plan order		Standard CIF	Standard CIF
PPDS for S/4	Convert plan order	Standard CIF		MCIF Ext.

The Multiple-CIF Solution from SAP Enables Flexibility in the Way We Design Our Transition from APO to SAP S/4 PP/DS, aATP, etc.

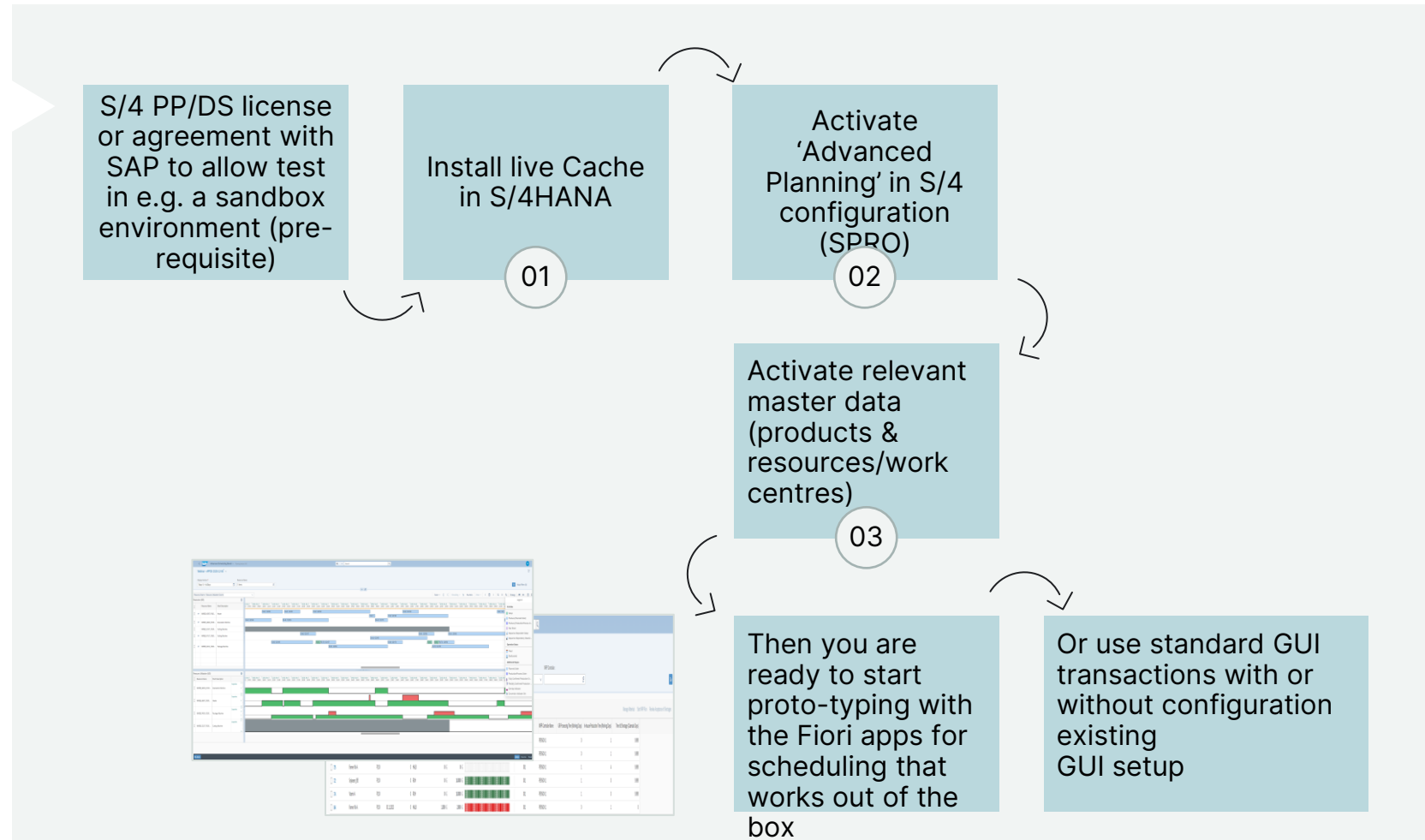
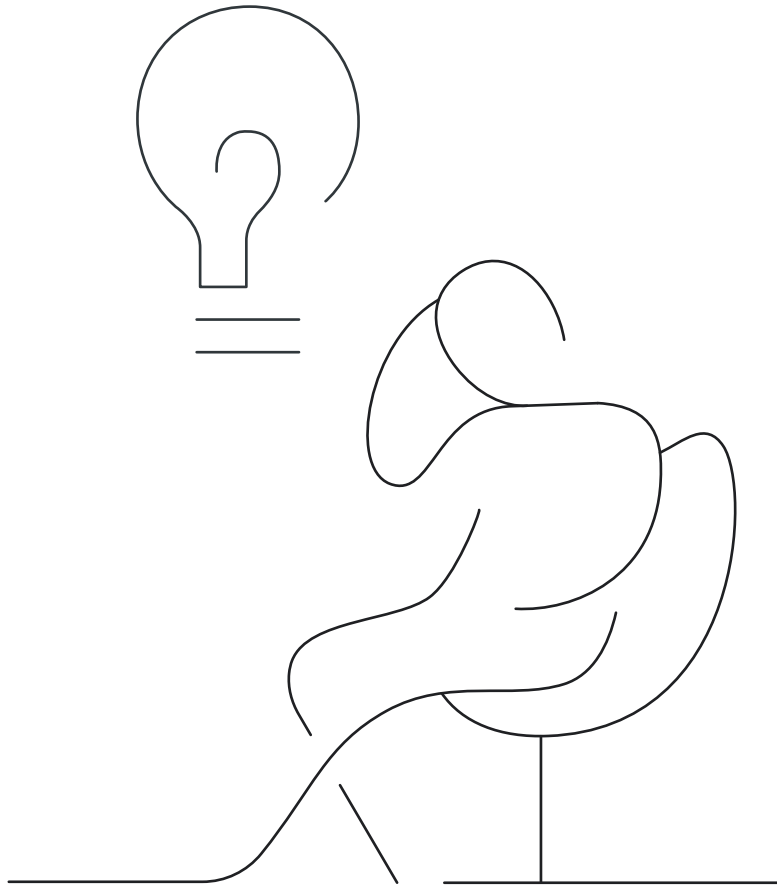
The following scenarios are supported:



So, What if We Are Already Live with SAP S/4 and We Don't Have APO Today - What Does it Take to Get Started with PP/DS?



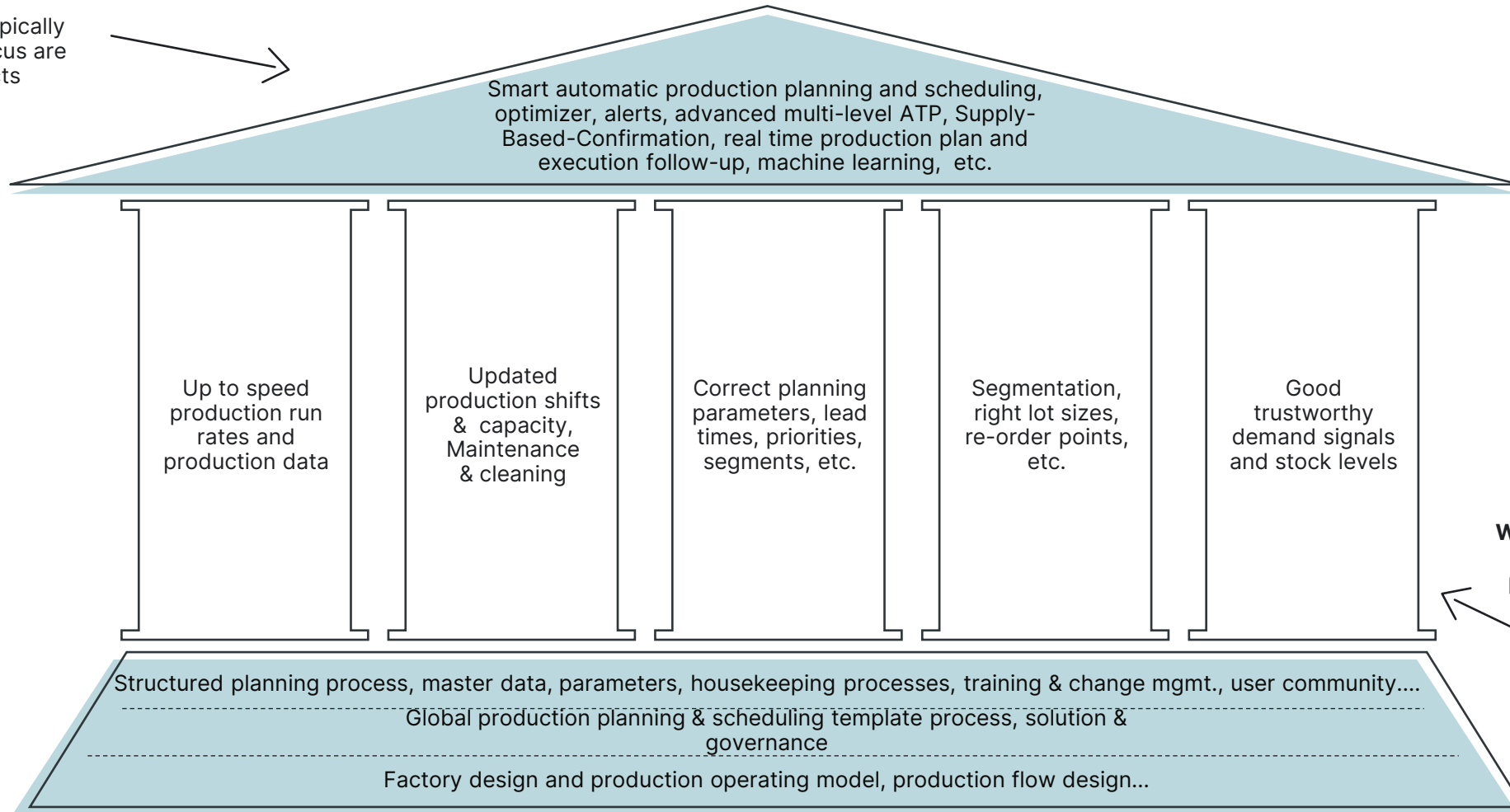
Only 3 Activities Need to be Carried Out Before You Can Start Prototyping PP/DS in SAP S/4HANA



So, PP/DS for SAP S/4HANA Requires Relatively Little Technical Setup, and You Can Get Started on Prototyping Pretty Fast as Most Apps and Functionalities Work Out of the Box.

However, the 'real' work comes related to the process fundamentals to secure a successful implementation

Where we typically see initial focus are in projects



Where the focus should be when improving production planning and implementing PP/DS for S/4HANA



Wrap Up

Where to Find More Information

Webinar: Unlocking the future of manufacturing part 1 – by Implement Consulting Group

- <https://vimeo.com/895781447/771ea11499?share=copy>

SAP Roadmap for Constraint-Based Production Planning (requires S-user)

- <https://roadmaps.sap.com/board?range=CURRENT-LAST&BC=6EAE8B27FCC11ED892E91CE972DC80CC#Q1%202023>

Production Planning and Detailed Scheduling (PP/DS) via SAP Documentation

- [Production Planning and Detailed Scheduling \(PP/DS\) | SAP Help Portal](#)

SAP Integrated Business Planning on the SAP Help Portal

- https://help.sap.com/viewer/p/SAP_INTEGRATED_BUSINESS_PLANNING

Key Points to Take Home

- Optimizing production planning and scheduling holds the potential to yield substantial business impact through enhanced efficiency, reduced costs, and improved customer satisfaction
- PPDS for SAP S/4HANA is the future of SAP production planning and scheduling
- With the combination of PPDS for SAP S/4HANA and IBP, true synchronized end-to-end planning can be achieved
- There are several migration/implementation options you can consider depending on where you are on your planning transformation journey
- Some of the scenarios for implementation/migration requires that we keep APO alive while implementing PPDS in SAP S/4. For that, the 'Multiple-CIF extension' solution exist
- PP/DS for SAP S/4HANA requires relatively little technical setup, and you can get started on prototyping fast as most apps and functionalities works out of the box, However, the 'real' work comes related to the process fundamentals to secure a successful implementation

Thank you! Any Questions?

Thomas Brassøe

thb@implement.dk

www.linkedin.com/in/thomas-brass%C3%B8e-54941a/

<https://twitter.com/implcg>

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complete your session
evaluation.

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