

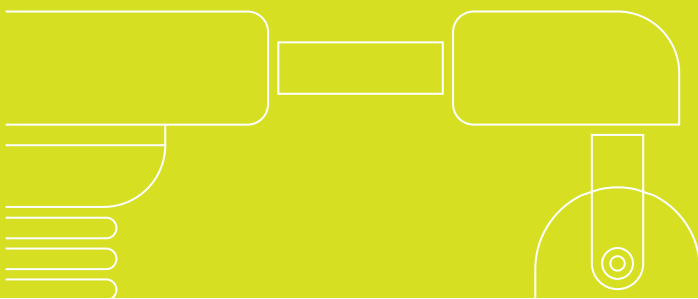


/ SCHEDULING

/ PLANNING

/ ANALYTICS

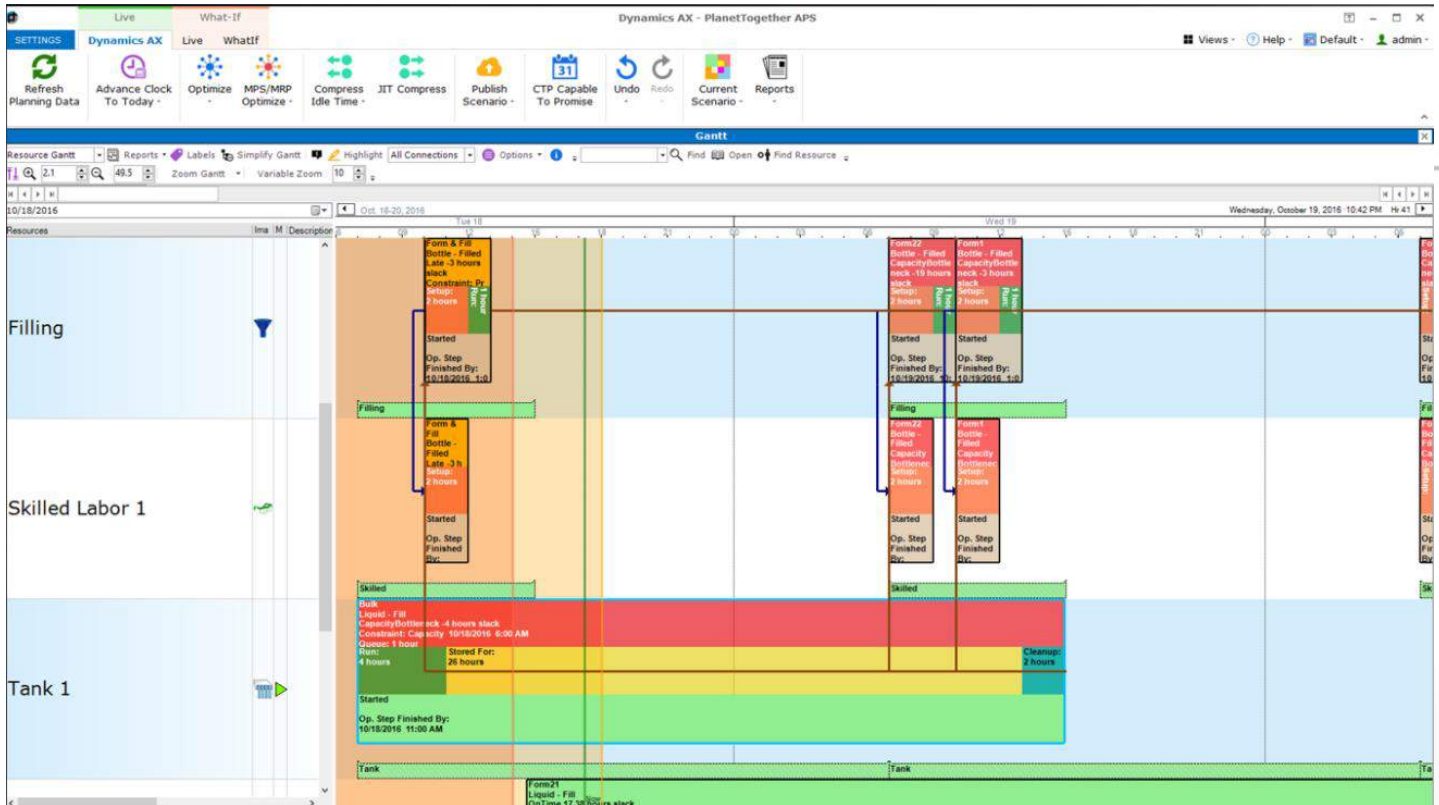
SOFTWARE



CSa (YAZILIM | DANIŞMANLIK)



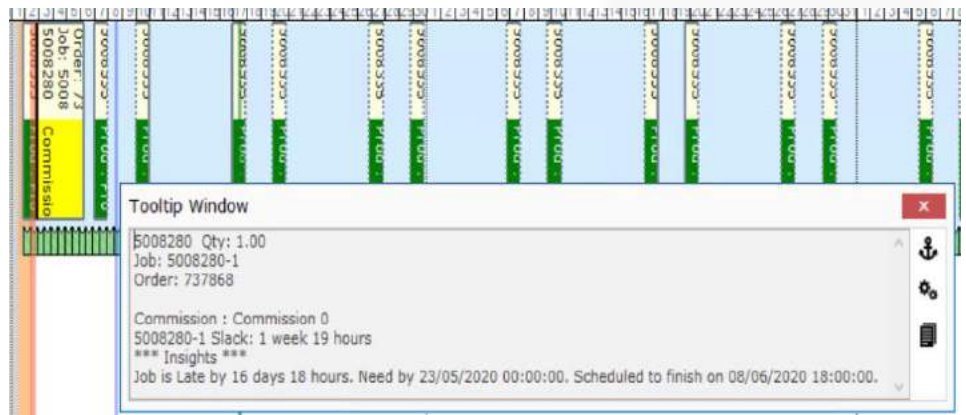
Visual Planning and Scheduling



Ultra Flexible Gantt Display

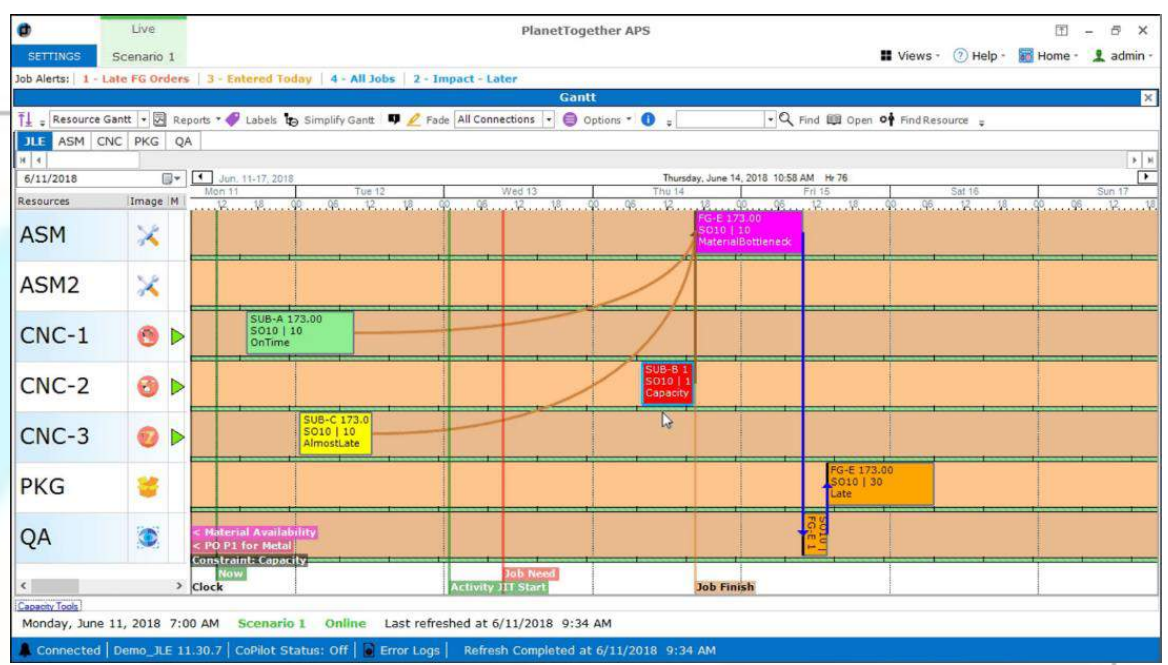
You can see everything you need on the customizable screen.

You can customize the information on the operations that appear on the gantt, and if you wish, you can view the different customized information in the pop-up windows.

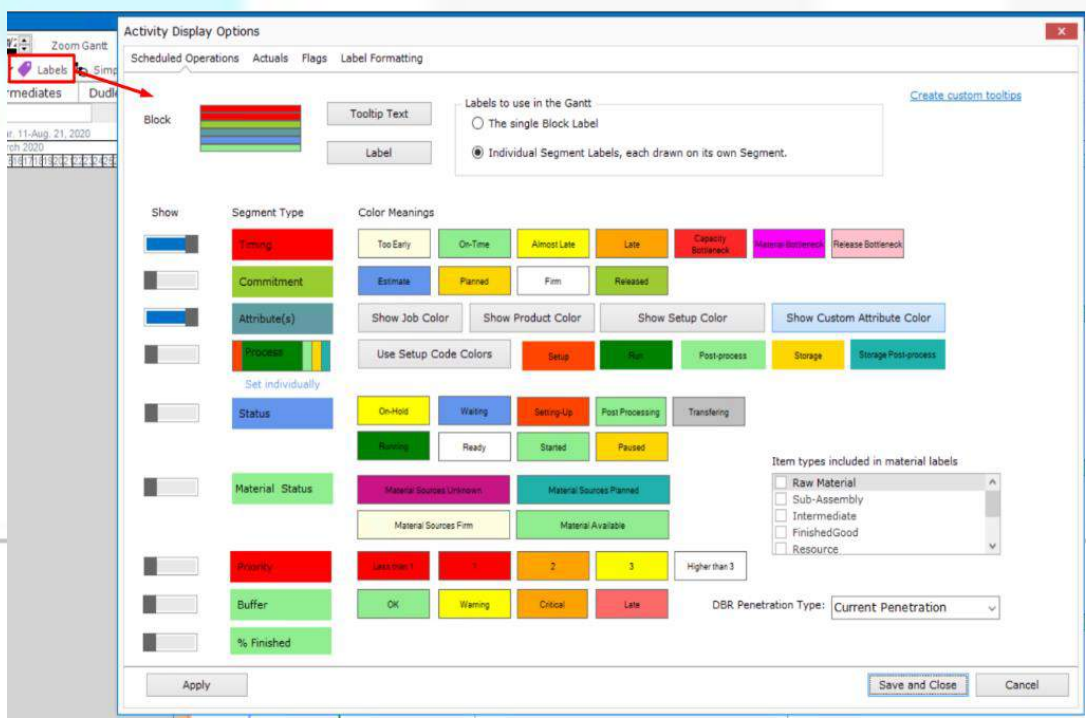


Gantt View

Each box on the Gantt shows an operation and each color has a meaning.

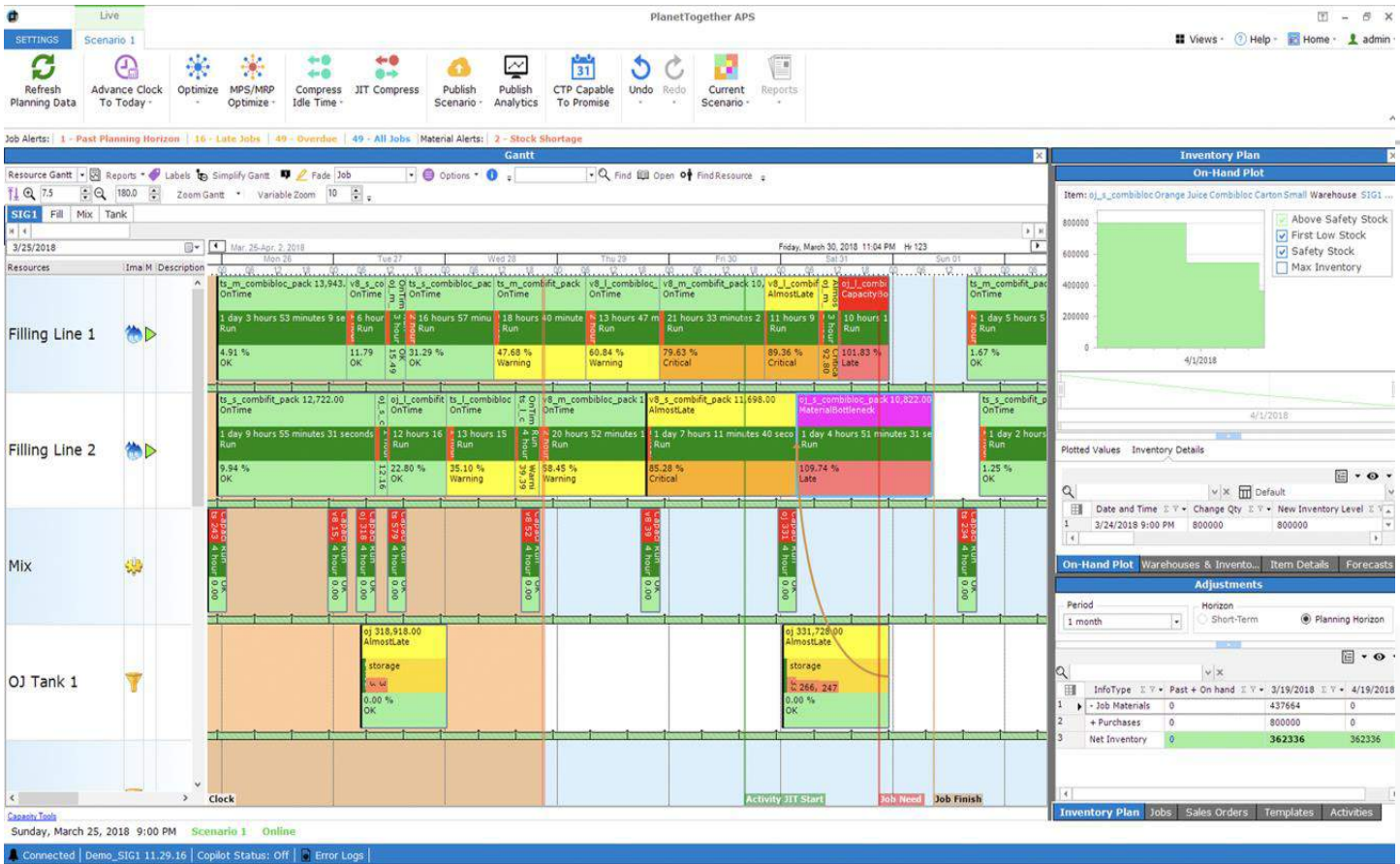


- ◆ On-Time
- ◆ Almost Late
- ◆ Capacity Bottleneck
- ◆ Material Bottleneck
- ◆ Late Due to Previous Operations



In addition, different labels such as Status, Features, Process Stages, Percent Completion can be shown.

Bottleneck Management



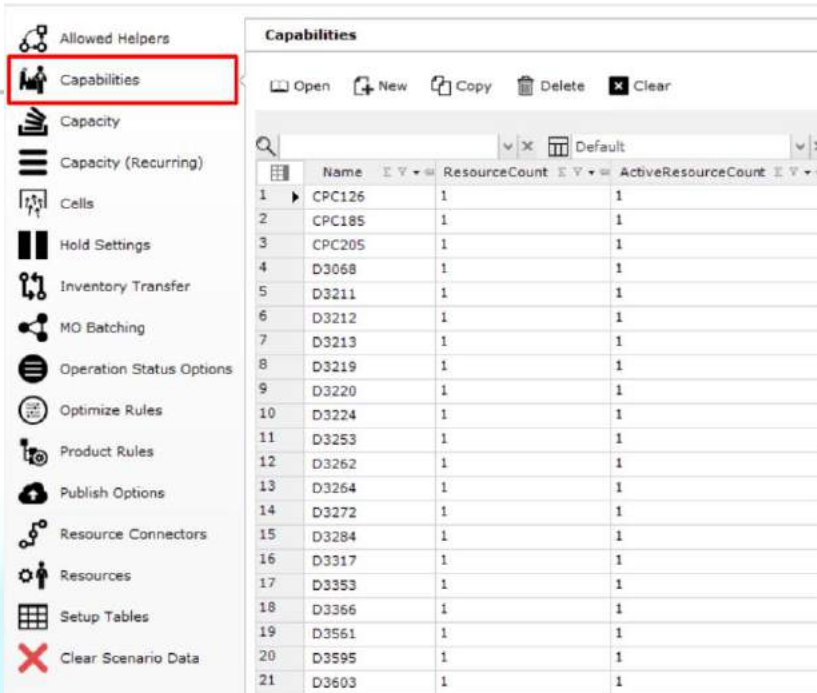
Automatic Bottleneck Avoidance, Bottleneck Identification, Bottleneck Resolution Tools

PlanetTogether will automatically shift work to the most readily capable and available resource. That translates to faster flow and lower inventories.

You have the chance to easily identify and take necessary measures. Eliminating the bottleneck you can easily choose on Gantt helps you avoid subsequent delays.



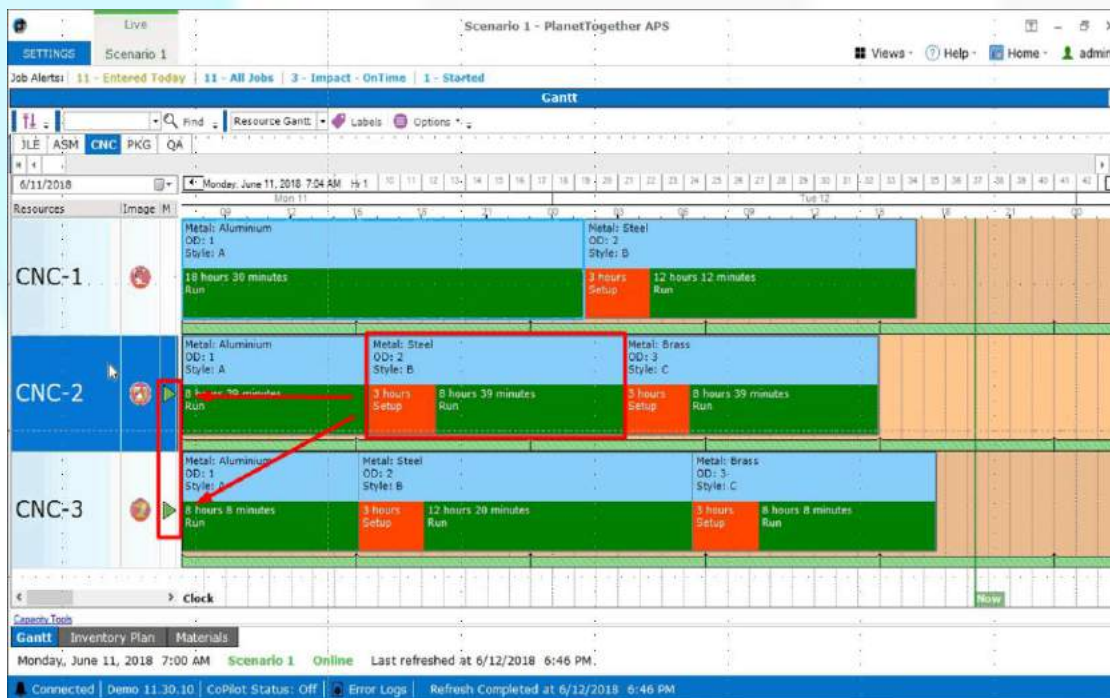
Alternative Management



Capabilities			
Open New Copy Delete Clear			
Name	ResourceCount	ActiveResourceCount	
1 CPC126	1	1	
2 CPC185	1	1	
3 CPC205	1	1	
4 D3068	1	1	
5 D3211	1	1	
6 D3212	1	1	
7 D3213	1	1	
8 D3219	1	1	
9 D3220	1	1	
10 D3224	1	1	
11 D3253	1	1	
12 D3262	1	1	
13 D3264	1	1	
14 D3272	1	1	
15 D3284	1	1	
16 D3317	1	1	
17 D3353	1	1	
18 D3366	1	1	
19 D3561	1	1	
20 D3595	1	1	
21 D3603	1	1	

Operations will know what they need and resources will know what they can do through the 'Capability' set you define.

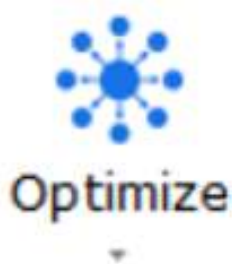
Each operation may have more than one capability requirement (machine, mold, operator, etc.), and each machine may have more than one capability.



You can dynamically see alternative machines for all operations and make changes in the plan by drag and drop to an alternative machine of the operation.

The green arrows appear on the right of the machines when the operations are clicked on the Gantt, indicates alternative machines where the operation can be performed.

Optimization – Automatic Planning



You can schedule all of your current work orders with a single click and within a few minutes.

For the most optimal plan, you can prioritize topics such as Lowest Setup Time, Lowest Cost, Highest Efficiency, Closest Delivery Date etc. and define different weights in optimization for each of them.

Tab	Slider	Weight	RelativePercent
Productivity	Lowest Priority Nbr.	1000	40
Productivity	Least Setup Hours	700	28
Delivery	Earliest Job Need Date	300	12
Delivery	Activity Late	300	12

You can plan the entire production with a single Rule Set or you can create separate rule sets for each resource.

Optimize Rule(s) to use

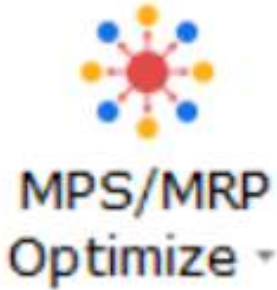
Use Normal Resource Rules

Use one Rule for all Resources

Use Normal Resource Rules

Use Experimental Resource Rules

MRP and Optimization – Automatic Planning



If your ERP system does not have an MRP Run module or if you have to create your work orders manually, the MRP calculation and optimization module in PlanetTogether can calculate your production order and purchasing needs.

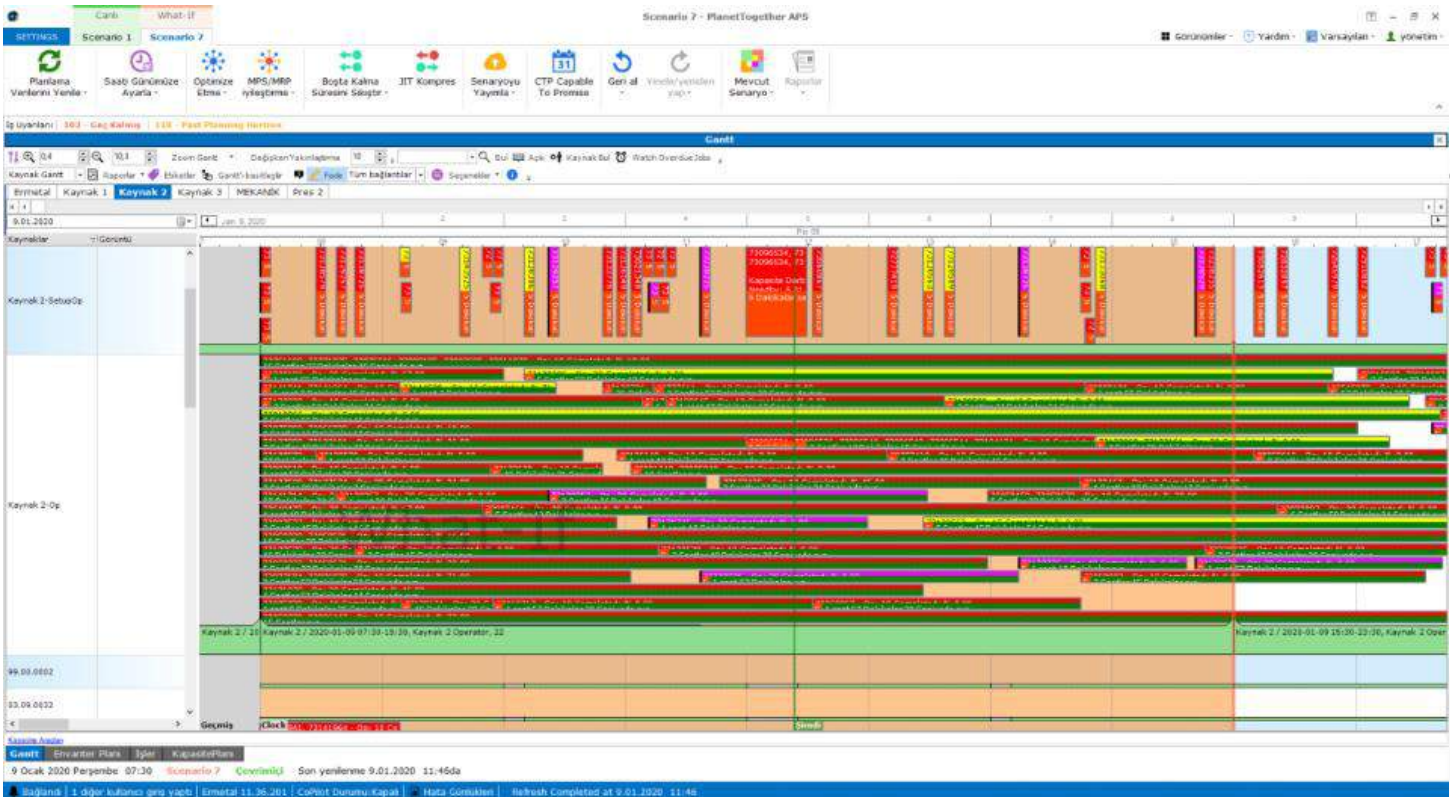
You can request from software to create and plan finished and semi-finished work orders to meet existing sales orders, as well as create purchase orders to meet only your raw material needs. Of course, it is also possible to do all these together.

A screenshot of the PlanetTogether MPS/MRP Optimize software interface. The interface has a top toolbar with icons for "MPS/MRP Optimize", "Compress Idle Time", "JIT Compress", "Publish Scenario", "CTP Capable To Promise", and "Undo". Below the toolbar, the "MPS/MRP" section contains several settings. "MPS/MRP Cutoff Duration" is set to "No Cutoff". "Update sub-Job need dates" is set to "To earlier of JIT and scheduled start date". There are checkboxes for "Use JIT Dates", "JIT Compress", "Net Change", and "Consume Forecasts". A red box highlights the checked option "Generate Jobs to satisfy demand and material requirements". Below this, a section titled "Preserve these Jobs during Generation" contains checkboxes for "Released", "Planned", "Firm", "Estimate", "Starting in the Plant Stable", "Previously Generated Jobs", "Anchored", "Locked", "Printed", and "CTP Jobs". A red box highlights the unchecked option "Generate Purchase Orders to satisfy demand and material requirements".

With the MRP function, an optimized production plan is made, which determines exactly when and which stock is needed. Therefore, the created Work Orders and Purchases include not only the day of need, but also the time of need in date / time detail. In other words, with the PlanetTogether MPS / MRP Optimize function, it enables you to obtain more detailed and accurate data from the results of MRP in the ERP program.



Different Resource Types



Resources in PlanetTogether are not just limited to machines. Everything that is constraint in production can be defined as a resource. Even molds, auxiliary equipment, operators and subcontractors can be defined as a resource and resource requirement of operations.

Capacity Type

SingleTasking
Infinite
SingleTasking
MultiTasking

For example, if you have an operator group that can perform similar tasks (such as an assembly team), you can create an Operator Pool of the “MultiTasking” type and define how many people work in each shift, that means how many jobs can be done at the same time, this makes your plan more accurate.

Setup Times and Costs

It is possible to define Setup time, which is one of the most important parameters of production and one of the biggest sources of inefficiency, in various ways. If the setup time of an operation is fixed, it can be told directly to the operation and even to the resource if desired.

However, you can define setup matrices that include transitions from product to product, from color to color, from diameter to diameter, from material to material, so you can dynamically calculate setup times and costs during optimization or manually during Drag & Drop operations.

PlanetTogether can automatically calculate the production sequence, where you can achieve the shortest setup time and the lowest setup cost.

Time Standards

Setup	1 hour
Cycle	614 milliseconds
Post-Processing	0 hours
Tank Post-Processing	0 hours
Material Post-Processing	0 hours

Allowed Helpers

Capabilities

Capacity

Capacity (Recurring)

Cells

Hold Settings

Inventory Transfer

MO Batching

Operation Status Options

Optimize Rules

Product Rules

Publish Options

Resource Connectors

Resources

Setup Tables

Clear Scenario Data

Setup Tables

Setup Table Dialog

Table Name: 020101-003 Table Description: 020101-003

Table Values Resources using this table

Attribute Name	Description	Eligibility	Constraint
CAP	CAP	☒	
KesitAlani	KesitAlani	☒	
MONOKESIT	MONOKESIT	☒	
*		☐	

Resources

Resources	20	21	22
020101-001	İş Emri : 645255 (5,00) Gecikme : 20 hours 27 minute 1 hour 33 minutes 30 minutes 16 seconds - 30 minutes	İş Emri : 644971 (5,00) Gecikme : Zero YCizgi, YSilIso Durum : Ready 18 minutes 57 minutes 46 seconds - 57 minutes	İş Emri : 645190 (5,00) Gecikme : 20 hours 27 minute 30 minutes 16 seconds - 30 minutes
020101-002	İş Emri : 644151 (7,00) Gecikme : 8 days 21 hours 34 minutes 32 seconds YSilIso, YK271 Dur 36 min 10 minutes 6 seconds - 1 hour 29 minutes 6 seconds	İş Emri : 644149 (7,00) Gecikme : 8 days 22 hours 52 minutes 33 minutes 33 minutes 45 minutes - 33 minutes	İş Emri : 644273 (3,00) Gecikme : Zero YMONO, YSilIso Durum : Running

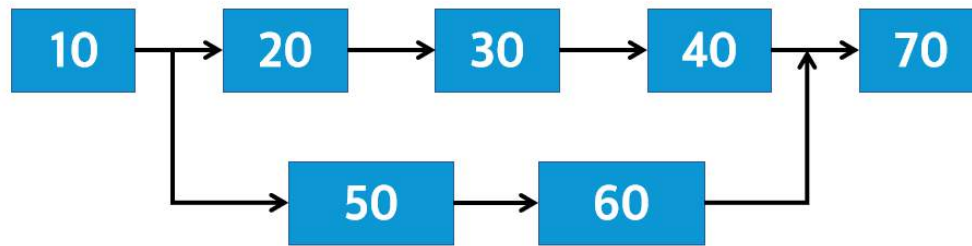


Routing / Relations Between Operations

SERIAL ROUTING



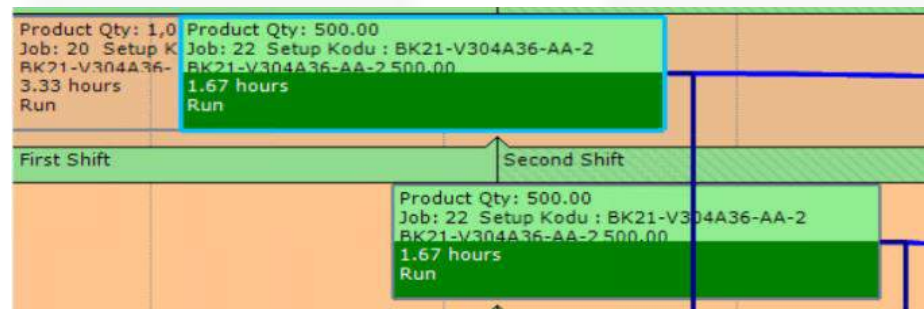
PARALLEL ROUTING



Production routes can be flexibly defined as desired. Operations do not have to be in a row. Operations may be separated at any stage of production and re-combined at a later stage after proceeding in parallel.

Unless you specify a specific rule, the sequential operations of the Work Order or the operations of different Work Orders that have material relations, cannot be planned before the end of the previous operation.

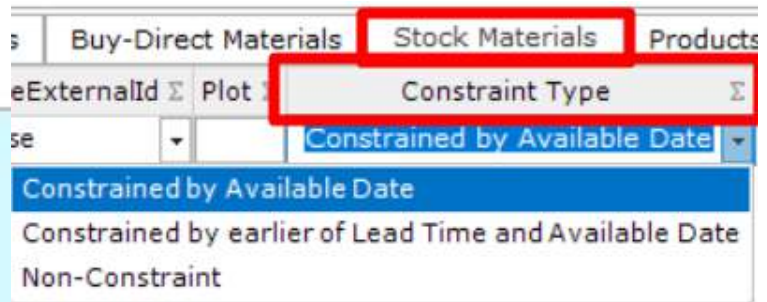
UsageQtyPerCycle	OverlapType
1	NoOverlap
1	No Overlap
1	Transfer Qty
	Transfer Span
	At First Transfer
	TransferSpan After Setup
	Percent Complete



You can define a set of rules as in the real production scenario. For example, the supplied operation may start some time after the start of the supplying operation or after a certain quantity of product has been produced. In this way, there is no need to wait for the first operation to finish.

Material Constraints / Multi Level Product Trees

One of the most important constraints when planning Work Orders is whether the raw material or semi-finished products will be in stock at the planned date. The quantities of semi-finished stocks must be checked, but you can request planning without checking some raw materials. At this point, you can choose different types of constraint for the materials of your operation.

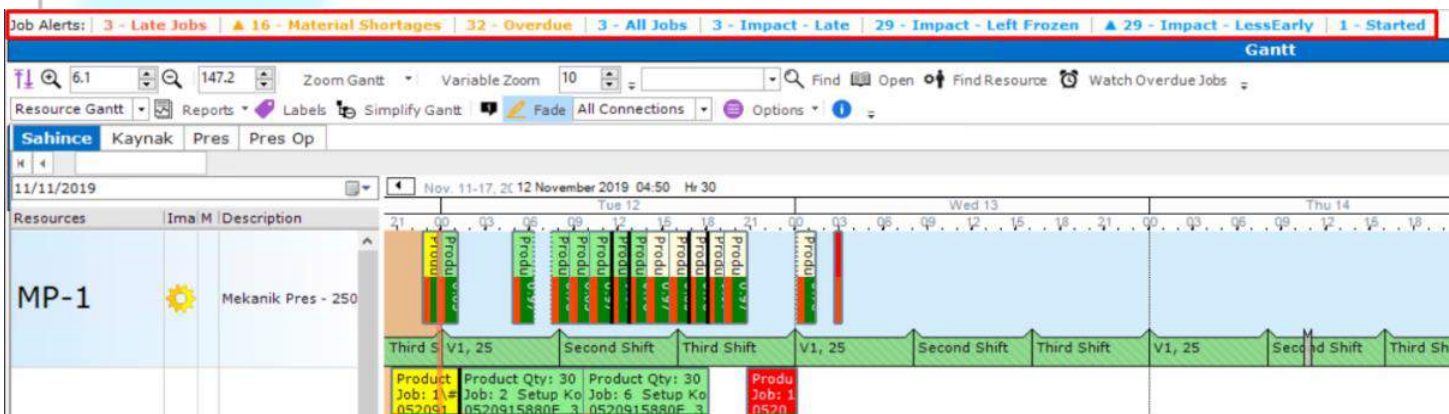
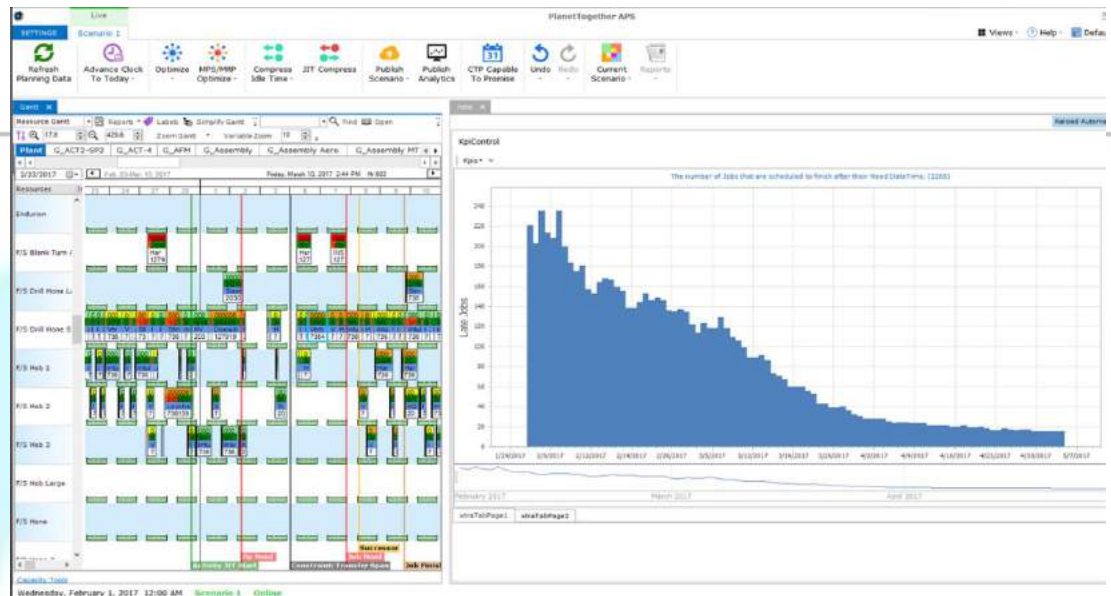


By choosing the material constraints correctly, you can plan the Work Orders of the products with multi-level BOM correctly. And you can be sure that the finished Work Order will be planned once the semi-finished work orders have been adequately produced. Options are briefly:

- **Non-Constraint:** While scheduling a Work Order, planning is done within other constraints without checking the status of the inventory (In general, it can be preferred for raw materials that are easy to obtain).
- **Constrained by Available Date:** While scheduling a Work Order, the quantity of the required material is checked (the quantity on hand, work orders and purchase orders are checked) and the work order can be placed on the plan from the date when there is enough material in stock.
- **Constrained by earlier of Lead Time and Available Date:** In addition to the control as in the above option, if the average supply period for the stock is specified, this period is also taken into consideration in the planning. In other words, if the stock level is not sufficient on the date when the Work Order is scheduled, planning is made by taking into consideration the lead time and this situation can be followed with an alarm if desired. It means, you can understand that a purchase order must be created .

Performance Tracking

With real-time impact analysis and KPIs, you can have clear ideas about the planned schedule.

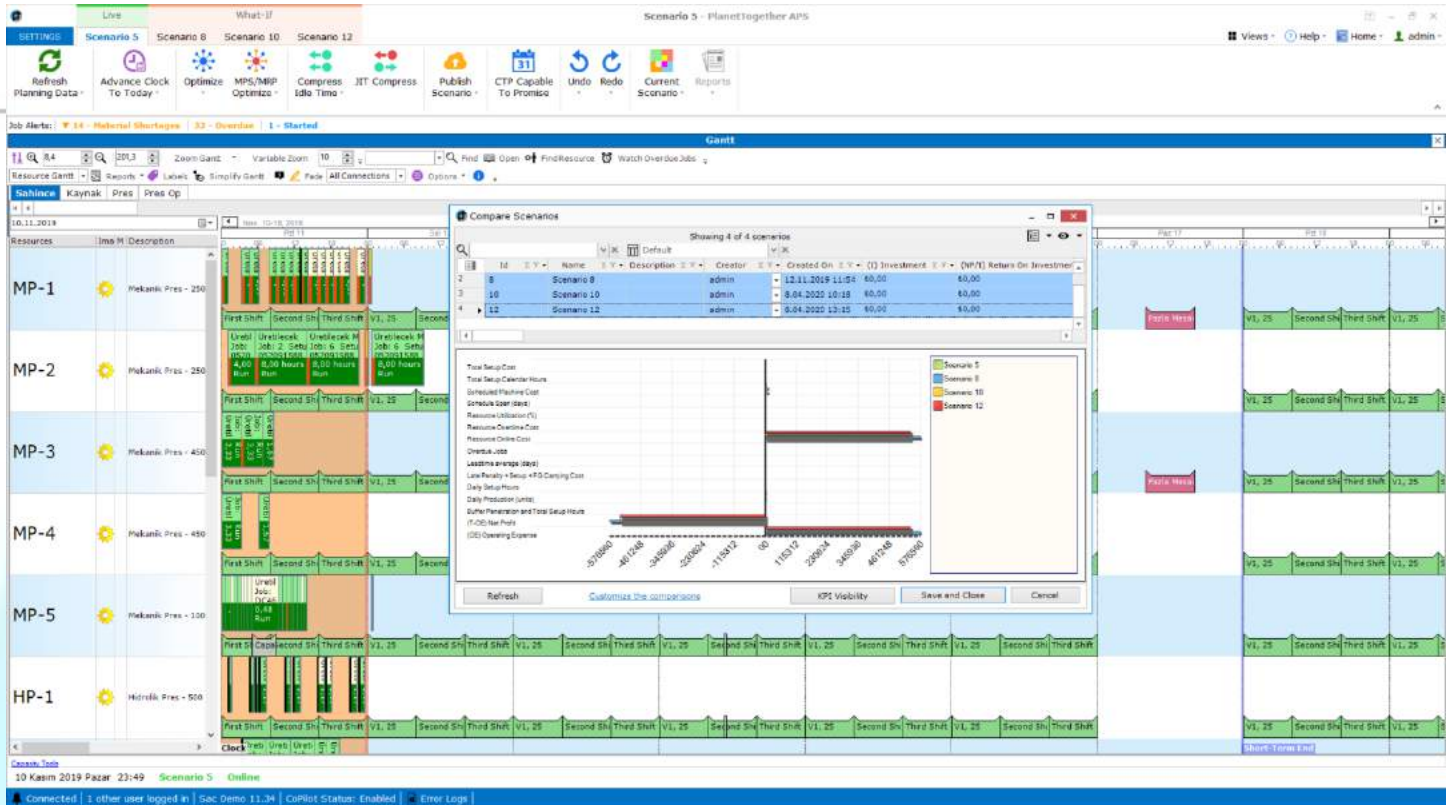


With the alarms you will define, you can monitor the current status of your work orders live.

Alarms are not just labels. Clicking on it brings up the relevant content as a list. For example, you can see the number of your delayed jobs at any time, or you can see the list of delayed jobs by clicking the relevant alarm.

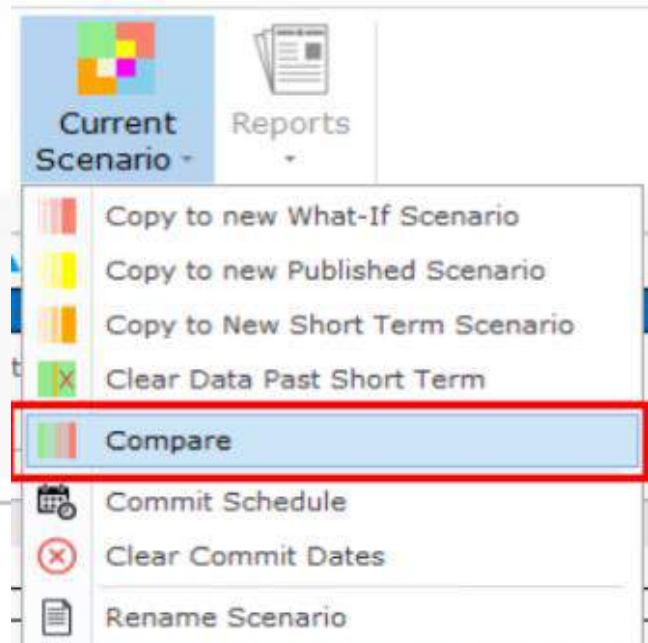
Impact analysis allows you to easily understand the effects of the last change made. For example, it is possible to see how many operations are delayed and which ones due to changing an operation in the plan by pressing a single button.

What-If Scenarios



You can create as many What-If scenarios as you want without disrupting your main scenario, and you can make some changes in these ones, such as shift changes, planned maintenance, and new optimization rule sets attempts.

To find the best scenario, you can easily make KPI-based comparisons between scenarios and convert any of them to Live scenario.



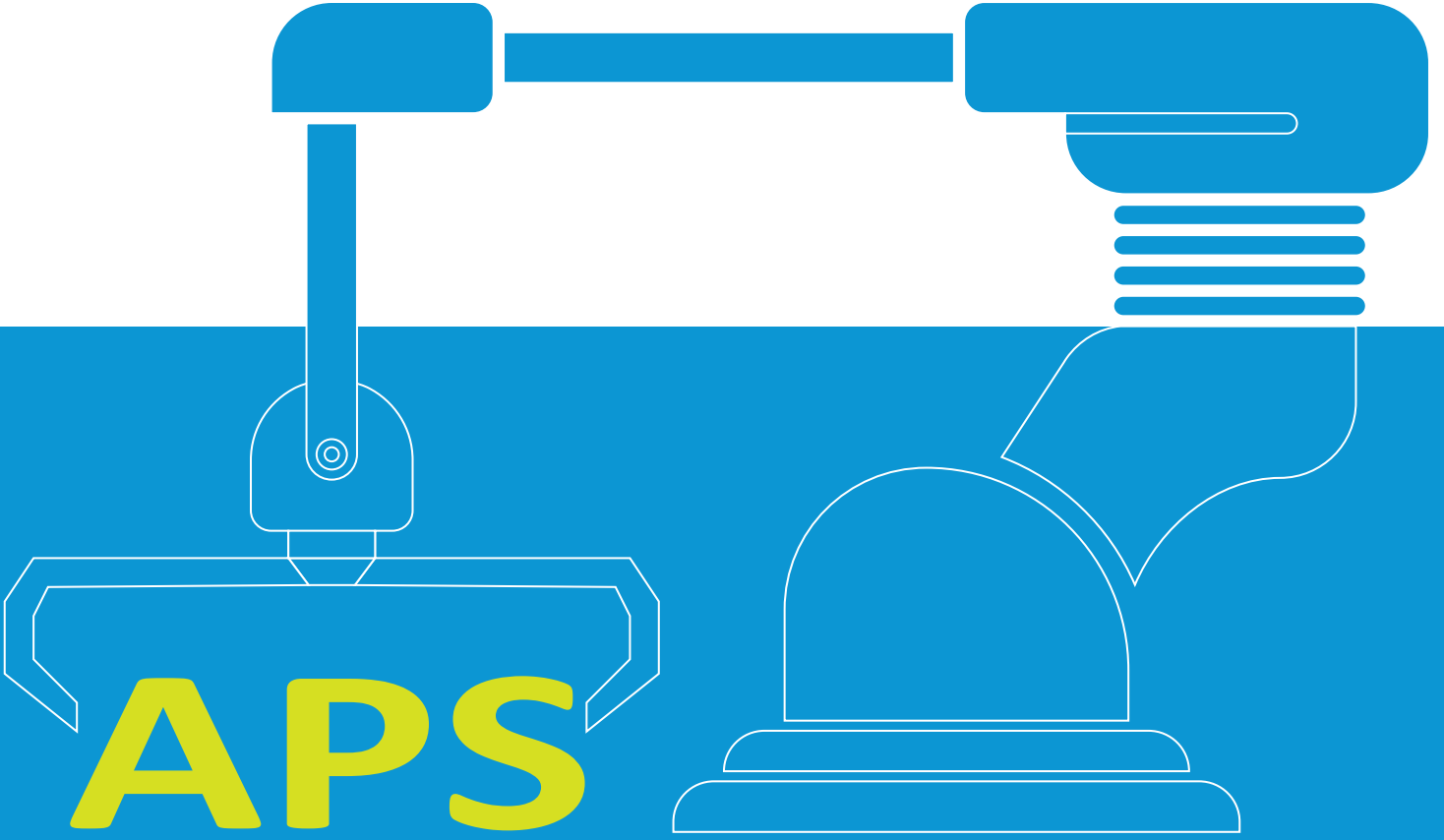
CTP – Capable to Promise

The screenshot displays the PlanetTogether APS software interface. The main window is titled 'Inventory Plan' and shows a list of items with their descriptions, warehouse IDs, and quantities. A 'CTP: Capable To Promise' dialog box is open, showing a table with columns: Warehouse, Item, RequiredQty, NeedDate, RequiredPathId, ScheduledStart, ScheduledFinish, and Result. The table shows a single row for Warehouse 901-00, Item 3230-W112692, with a RequiredQty of 330, NeedDate of 24.04.2020 00:00, and a Result of 'On Time'.

According to your current plan, all the machines, auxiliary equipment, materials, shifts etc. that have been defined. Considering all constraints and current workloads, you can easily see whether new orders, customer offers or work orders that are planned to be created will be up to date and can be produced by the CTP function.

Just enter the product to be produced, the quantity to be produced and the target delivery date.





planet  together

How does APS software integrate with ERP system?

The Data You'll Need

APS systems are data-hungry by definition—you have to feed them quality data to get the most value. Typically, you'll need access to the following data, often already stored in your ERP:

COMMON

Plants ve Warehouses / Production Resources / Sales Orders / Production Orders /
Purchase Orders / Inventory / BOMs / Recipes / Routings / Item Attributes

OPTIONAL

Setup Metrics / Forecasts / Safety Stock & Batching Rules / Alternate Routings /
Transfer Orders / Labor Resources



HOW APS INTEGRATES

Integration to your ERP should be bi-directional. Plans optimized in the APS system will flow back to the ERP in order to be visible to ERP users such as customer service and purchasing. Transactional ERP data can be pulled into your APS on-demand by planners or on an automated basis for faster re-planning.

How do APS and ERP systems connect?

ERP → APS – Most of the data flows in this direction. The use of SQL queries to extract data is common, but web services can also be used for programmatic real-time integration.

APS → ERP – The flow of data back to the ERP usually includes schedule dates and resources. Order status changes may also flow in this direction. Common approaches to perform the updates include: stored procedures to ERP tables or use of ERP APIs and Web Services.

Note As with all software, you can make any data set work with custom development, but you can save time and money if your APS already has an integration ready to go for your ERP. PlanetTogether has pre-built integrations for the following ERPs:



Typical Data Flow

RESOURCE OBJECTS

- Work Centers
- Machine Resources
- Labor Resources
- Tooling Resources
- Capabilities

INVENTORY OBJECTS

- Item Master
- Batching Info
- Item Attributes
- Lead Times
- Warehouses
- Inventory

JOB OBJECTS

- Production Orders
- Operations
- Machine Requirements
- Shop Floor Updates
- BOMs
- Routings



Contact

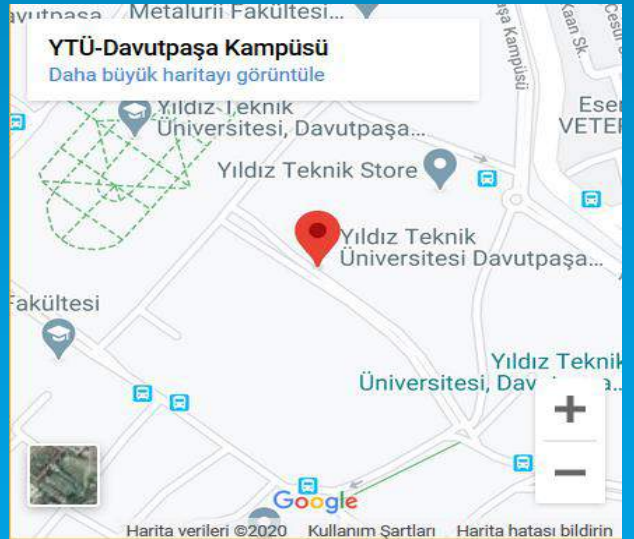


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