



Mip Planner

Maximizing efficiency in production planning
without compromising your operational needs



Welcome to Mip Planner!

For mid to large-sized companies in the production industry that face underutilization of resources, Mip Planner is a **customizable** solution that helps planning and scheduling production to make **the best use** of materials, machines, tools, and workforce.

You know that **it's possible to increase production** only with your existing resources. With **Mip Planner** you also know **exactly how** to achieve that.



Planned decisions lead to max efficiency

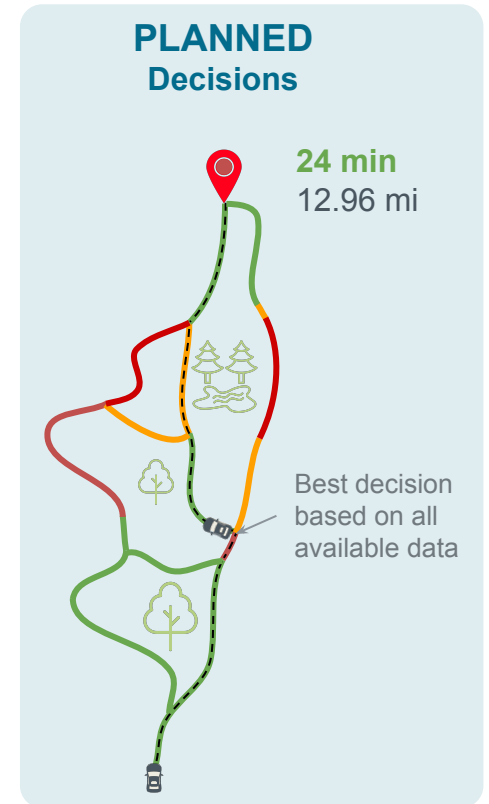
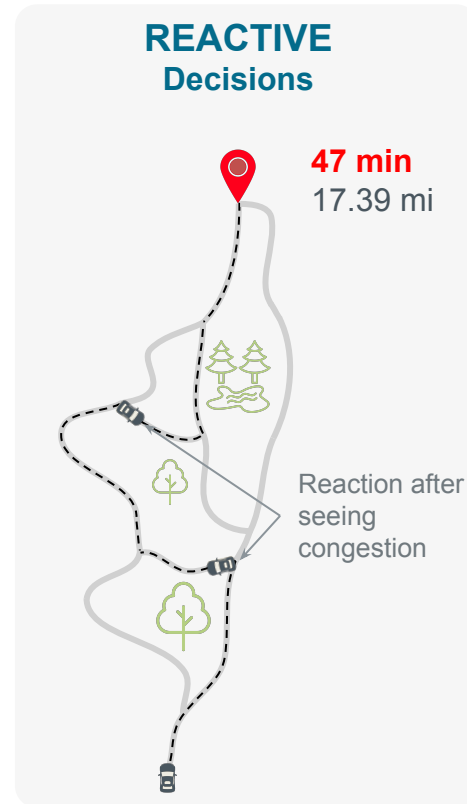
Imagine getting on the road without knowing about the traffic along your chosen route. Then, whenever you find yourself stuck in a congestion you look for an alternative way. **This is an example of reactive decisions.**

Alternatively, imagine that you use an app like Google Maps. It prescribes the best routes with detailed driving instructions. Now you have a plan, derived from all the available information, to help you make the **best decisions**—and get to your destination as quickly as possible.

Unfortunately, Google Maps can't prescribe the best production plan to run your operations.

But **Mip Planner** can.

Give a route to your decisions with Mip Wise!



Your operations are complex, we know it!



It's hard to craft a plan that meet all the requirements on the shopfloor. With workers that can only perform certain tasks, processes that must respect a given sequence, storage capacities, and tasks that share a limited set of tools, even the most experienced planners struggle.



Uncertainties make it even worse. When a reasonable plan has finally been crafted, a production line goes down, delivery of components get delayed, or workers don't show up.



And you can't lose sight of your objectives. As if it was not enough, you still have to think about metrics such as demand priority, assets utilization, and production costs. After all, you must operate as efficiently as possible to keep you business ahead of the competition.

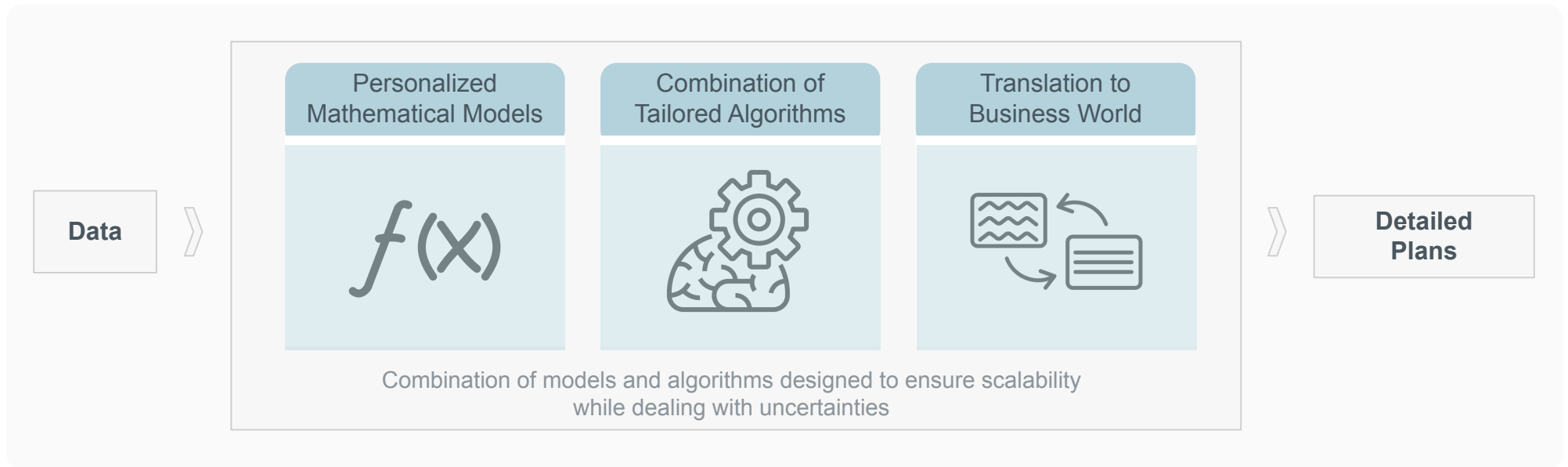


Mip Planner exists to help you make decisions that handle these challenges—and many others—**all together!**

Mip Planner figures out the hard decisions

Mip Planner orchestrates a systematic combination of **mathematical models** and **optimization algorithms**.

The result is detailed plan recommendations grounded in data to ensure the **highest production efficiency**.



Example of application: aircraft assembly

The final stage of aircraft production **requires diligent planning**.

- ☐— **A variety of tasks**, such as testing and installation of refrigeration and entertainment systems, requires specific workers' skills, components, and tools.
- ☐— **Matching workers to tasks** is then a challenge given the long list of constraints and requirements, including workers availabilities, tasks precedence, and shared tools.
- ☐→☐ **Delayed processes**, such as delivery of components, that add ☑←☐ a whole layer of uncertainty for planners to deal with.

It's incredibly hard to plan ahead in face of so much complexity. Therefore, **planners end up being reactive**, which leads to underutilization of resources and a stressful environment.

Mip Planner makes a difference by prescribing detailed and robust production plans, that is, assignments of workers and tools to tasks over a time horizon, optimizing the target objectives, and without violating any rule of the shopfloor.



How about having **Mip Planner** customized to your operational needs?

Instant visibility of future actionable steps

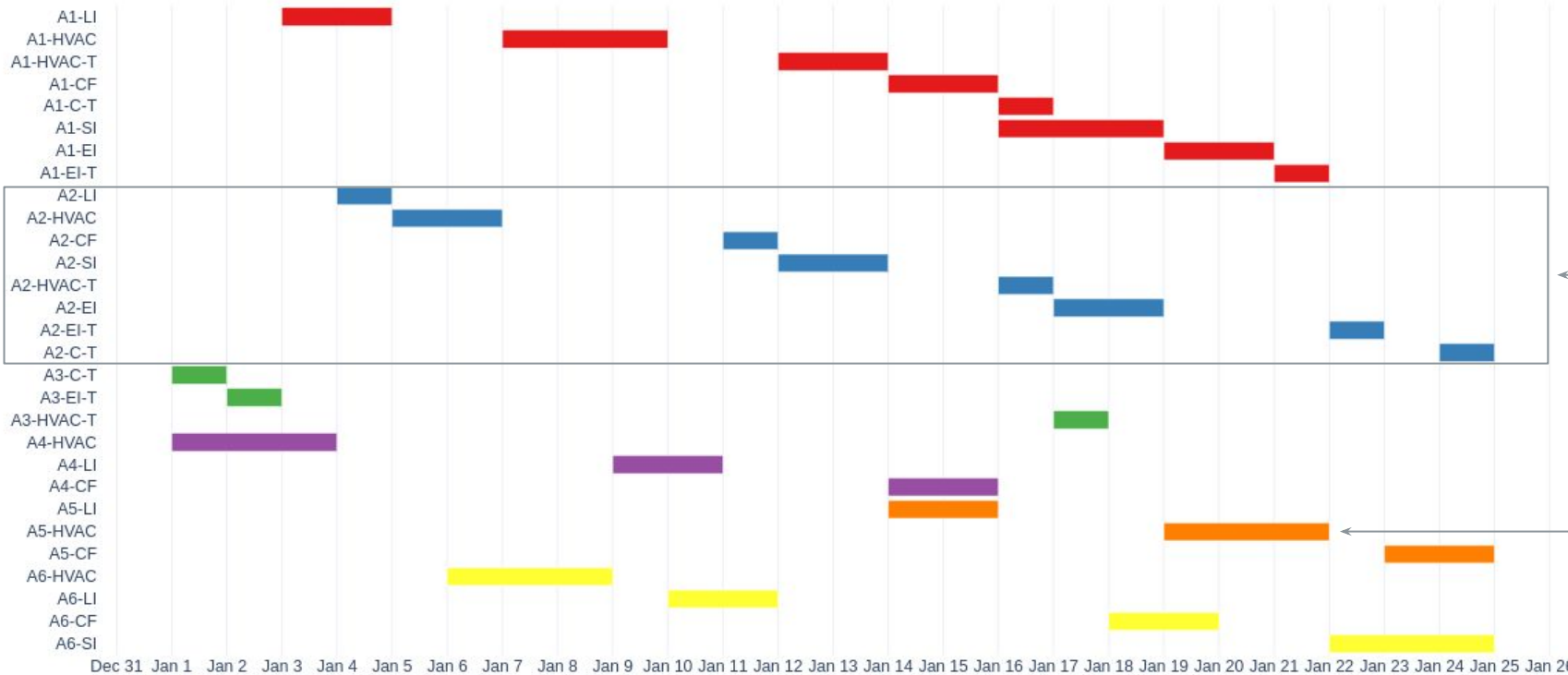
Jobs schedule for each aircraft

Task ID

- A1-LI
- A1-HVAC
- A1-HVAC-T
- A1-CF
- A1-C-T
- A1-SI
- A1-EI
- A1-EI-T
- A2-LI
- A2-HVAC
- A2-CF
- A2-SI
- A2-HVAC-T
- A2-EI
- A2-EI-T
- A2-C-T
- A3-C-T
- A3-EI-T
- A3-HVAC-T
- A4-HVAC
- A4-LI
- A4-CF
- A5-LI
- A5-HVAC
- A5-CF
- A6-HVAC
- A6-LI
- A6-CF
- A6-SI

Aircraft

- A1
- A2
- A3
- A4
- A5
- A6



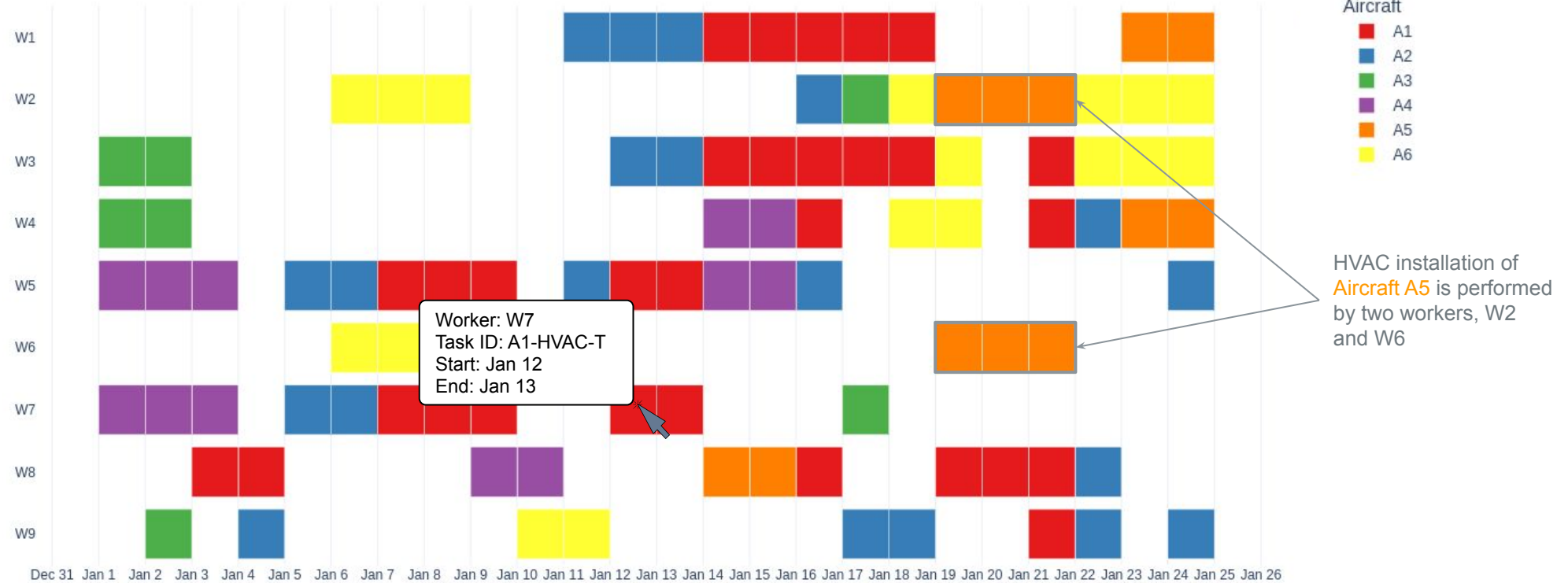
Sequence of jobs related to the assembly of Aircraft A2

HVAC installation of Aircraft A4 begins on Jan 19 and ends on Jan 21

Instant visibility of future actionable steps

Workers schedule for each aircraft

Worker ID



Worker: W7
Task ID: A1-HVAC-T
Start: Jan 12
End: Jan 13

HVAC installation of Aircraft A5 is performed by two workers, W2 and W6

All requirements taken care of

Shortlisted production planning requirements covered by default with **Mip Planner**:

Tasks

- ✓ **Precedence:**
Certain jobs must be completed before others can begin
- ✓ **Sequential execution:** Once started, jobs must be completed without interruption
- ✓ **Pre-existing assignments:**
Predefined assignments cannot be changed

Resources

- ✓ **Workers:**
Task-worker matching based on workers availability and skills
- ✓ **Components:**
Inventory management and tracking availability over time
- ✓ **Tools:**
Availability of shared tools that are limited in quantity

Objectives

- ✓ **Multiple objectives:**
Maximize number of finished tasks and minimize makespan
- ✓ **Job prioritization:**
Tight deadlines require certain jobs to be completed earlier
- ✓ **Flexible robust plans:**
Adjustable without compromising the grand strategy.

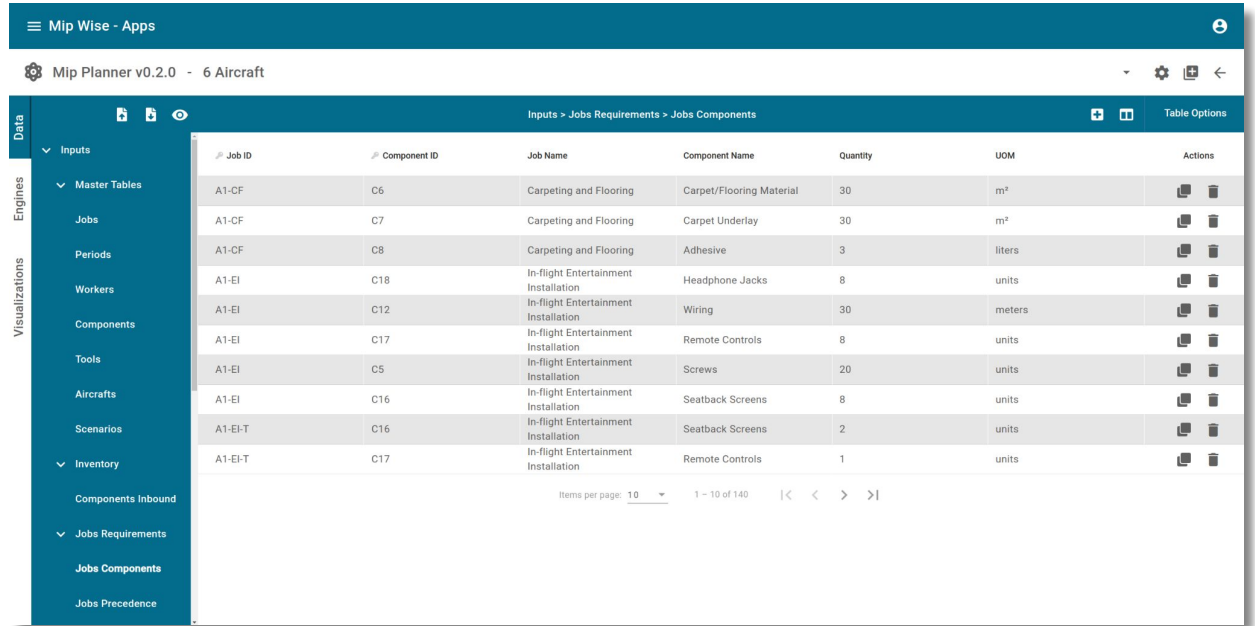
User experience is also important for us

You provide the data and we provide the technology.

Through **custom web applications**, importing, viewing, editing, and exporting data from our platform is simple and secure.

Through **integration with existing systems**, we offer an additional layer of automation, convenience, and efficiency.

With a few clicks, our algorithms can transform your data into robust and optimized production planning that you can review, adjust, and deploy.



The screenshot displays the Mip Planner v0.2.0 web application interface. The top navigation bar shows "Mip Wise - Apps" and "Mip Planner v0.2.0 - 6 Aircraft". The main content area is titled "Inputs > Jobs Requirements > Jobs Components" and features a table with the following data:

Job ID	Component ID	Job Name	Component Name	Quantity	UOM	Actions
A1-CF	C6	Carpeting and Flooring	Carpet/Flooring Material	30	m ²	[Icon] [Icon]
A1-CF	C7	Carpeting and Flooring	Carpet Underlay	30	m ²	[Icon] [Icon]
A1-CF	C8	Carpeting and Flooring	Adhesive	3	liters	[Icon] [Icon]
A1-EI	C18	In-flight Entertainment Installation	Headphone Jacks	8	units	[Icon] [Icon]
A1-EI	C12	In-flight Entertainment Installation	Wiring	30	meters	[Icon] [Icon]
A1-EI	C17	In-flight Entertainment Installation	Remote Controls	8	units	[Icon] [Icon]
A1-EI	C5	In-flight Entertainment Installation	Screws	20	units	[Icon] [Icon]
A1-EI	C16	In-flight Entertainment Installation	Seatback Screens	8	units	[Icon] [Icon]
A1-EI-T	C16	In-flight Entertainment Installation	Seatback Screens	2	units	[Icon] [Icon]
A1-EI-T	C17	In-flight Entertainment Installation	Remote Controls	1	units	[Icon] [Icon]

The interface includes a sidebar with navigation options: Data, Engines, Visualizations, Inventory, and Jobs Requirements. The Jobs Requirements section is expanded to show Jobs Components. The table has a pagination control at the bottom showing "Items per page: 10" and "1 - 10 of 140".

Unleash the power of decision intelligence

Look at some of the benefits that are just waiting for you:



Predictability, helping to anticipate and plan for production environment constraints



Resource optimization, ensuring all resources are used most effectively even under uncertain conditions



Flexibility, allowing adjustments and adapting to adverse conditions in the production environment



Improved production quality, assigning experienced workers to the most critical tasks



Maximized efficiency, ensuring the maximum number of tasks are completed on time



Increased worker satisfaction, assigning workers to tasks that match their skills

Step into a new realm of possibilities with us!



Let's schedule a demo?

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