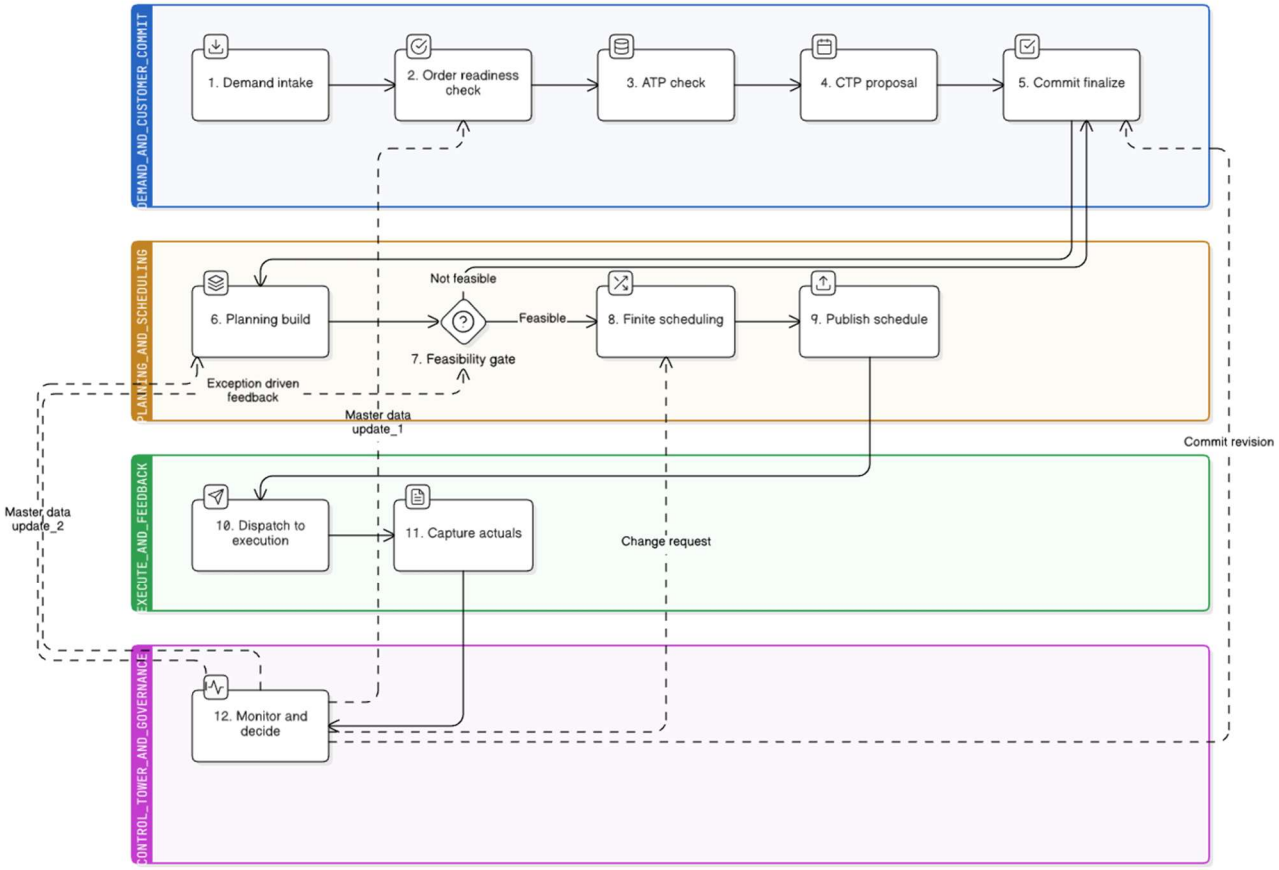
Rayterton Production Planning & Scheduling System (PPS)

Rayterton PPS manages the planning and scheduling flow from demand intake to execution feedback. It calculates promise dates using ATP and CTP logic, based on material availability and finite capacity. It creates detailed schedules with constraints such as work center capacity, labor, tooling, calendars, maintenance windows, and changeovers. It publishes schedules using version control, approvals, audit trail, and controlled overrides. It captures dispatch and actual execution data, then uses exceptions to trigger replanning with traceable evidence.

End-to-end operating story

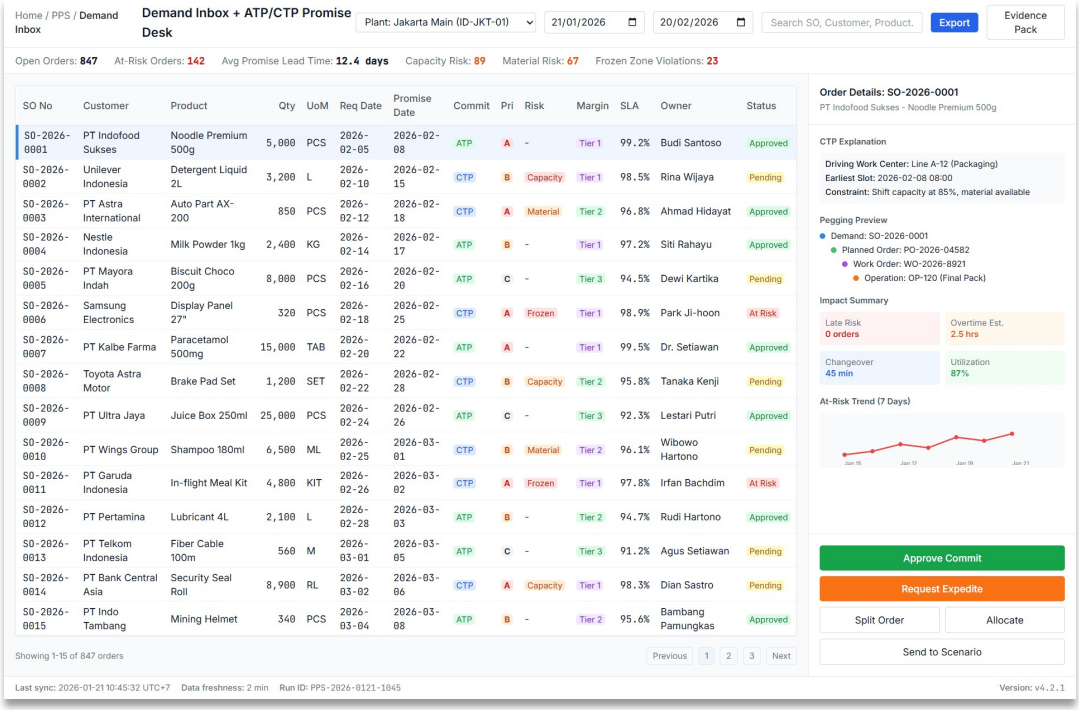


Demand to Promise

Rayterton PPS consolidates forecast and sales orders into a single demand view. For each order line, the system calculates a committed date using material availability and finite capacity constraints. The calculation can reference key capacity drivers, such as which work centers and operations determine the earliest feasible completion. When shortages occur, the system applies priority rules for allocation and expediting, and it records the decision reason. It maintains pegging links from demand to planned orders so users can trace which supply and operations support each commitment. It also supports controlled commit overrides by role, so changes to commitments are captured, reviewed, and auditable.

Key controls

- Commit override requires a reason code and is logged.
- Expedite requests follow an approval workflow.
- Role permissions control who can change commits and priority class.



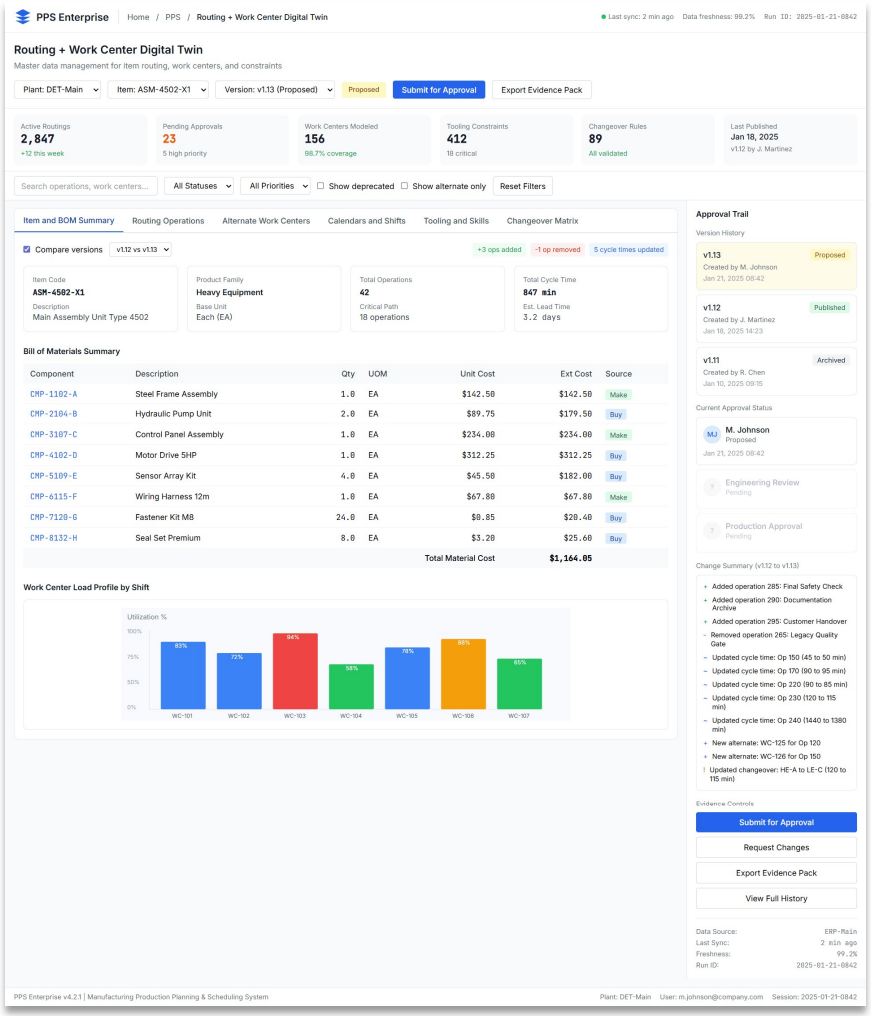
Planning Model and Master Data

Rayterton PPS maintains scheduling master data that is required for finite planning. This includes item master and BOM, yields, substitutions, and rules for alternate materials when allowed. It also covers routing operation standards, alternate routings, work centers, shift calendars, and maintenance windows. Secondary constraints can be modeled, such as

tooling availability, labor skill requirements, and QA holds that block scheduling or release. The system supports governed versioning, so changes to routings, calendars, and changeover matrices can be prepared, reviewed, and published as a controlled version. It also provides approval gates and segregation of duties, so master data changes that affect feasibility and promised dates do not occur silently.

Key controls

- Version control for routings, calendars, and changeover matrices.
- Approval gates for master data changes that impact promised dates and capacity.
- Separation of duties between master data owners and schedule publishers.



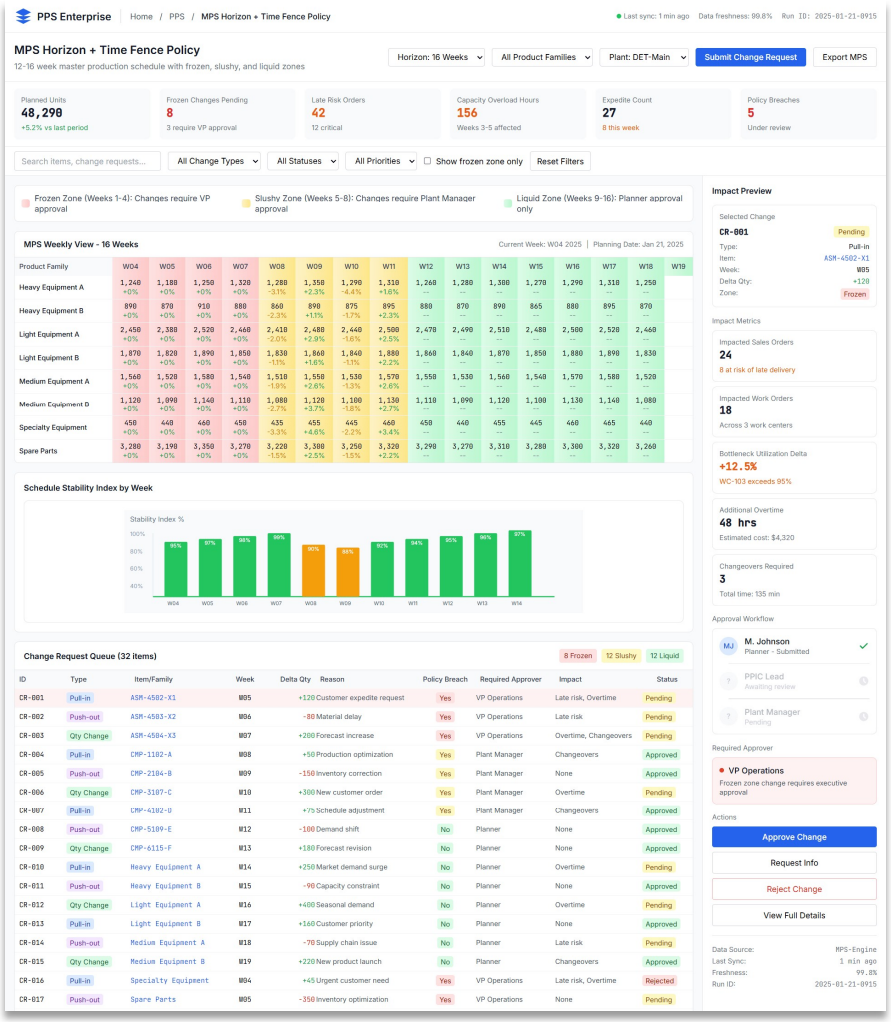
MPS Stability and Time Fences

Rayterton PPS creates a time-phased master schedule across a defined horizon and applies time fence policies. The horizon can be split into zones, such as frozen, slushy, and free zones, based on your governance rules. Inside the frozen window, changes are not applied directly. They must be submitted as controlled change requests. Each request

enters an exception queue and includes an impact preview, such as the affected orders, shifted operations, and capacity load changes. The system records the reason, the requester, the approver, and the final decision so the change history remains consistent across teams. This supports stable near-term execution while still allowing controlled changes when required.

Key controls

- Time fence enforcement with workflow approval for frozen-zone changes.
- Exception queue for requests that violate fence policies.
- Evidence pack that records what changed, who approved, and which orders were impacted.



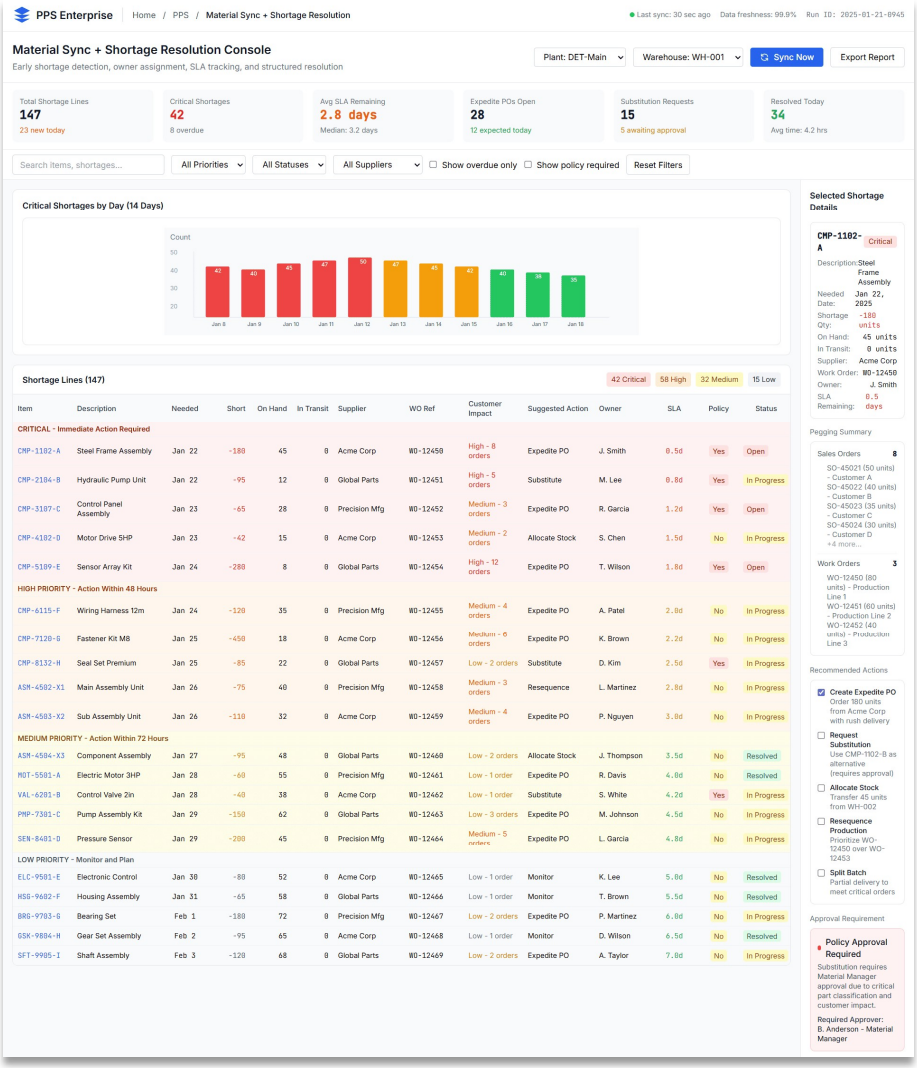
Feasibility Gate: Materials and Constraints Synchronization

Before publishing a schedule, Rayterton PPS runs a feasibility check that synchronizes material availability and constraint policies. The system highlights shortages early, including which items, quantities, and dates are blocking feasibility. It provides structured

resolution actions such as substitute, split, expedite, or resequence, based on allowed rules and governance. For substitutions or priority changes that require control, the system enforces approvals and records the decision rationale. It also supports a shortage list with clear ownership, SLA, and a decision log, so follow-up actions are tracked. In addition, it provides WIP caps and constraint buffers that help maintain consistent constraint behavior in the model and in the resulting schedule.

Key controls

- Shortage list with owner, SLA, and decision log.
- Rule-based shortage resolution with decision logging.
- Audit trail for constraint and capacity changes that affect commit dates.



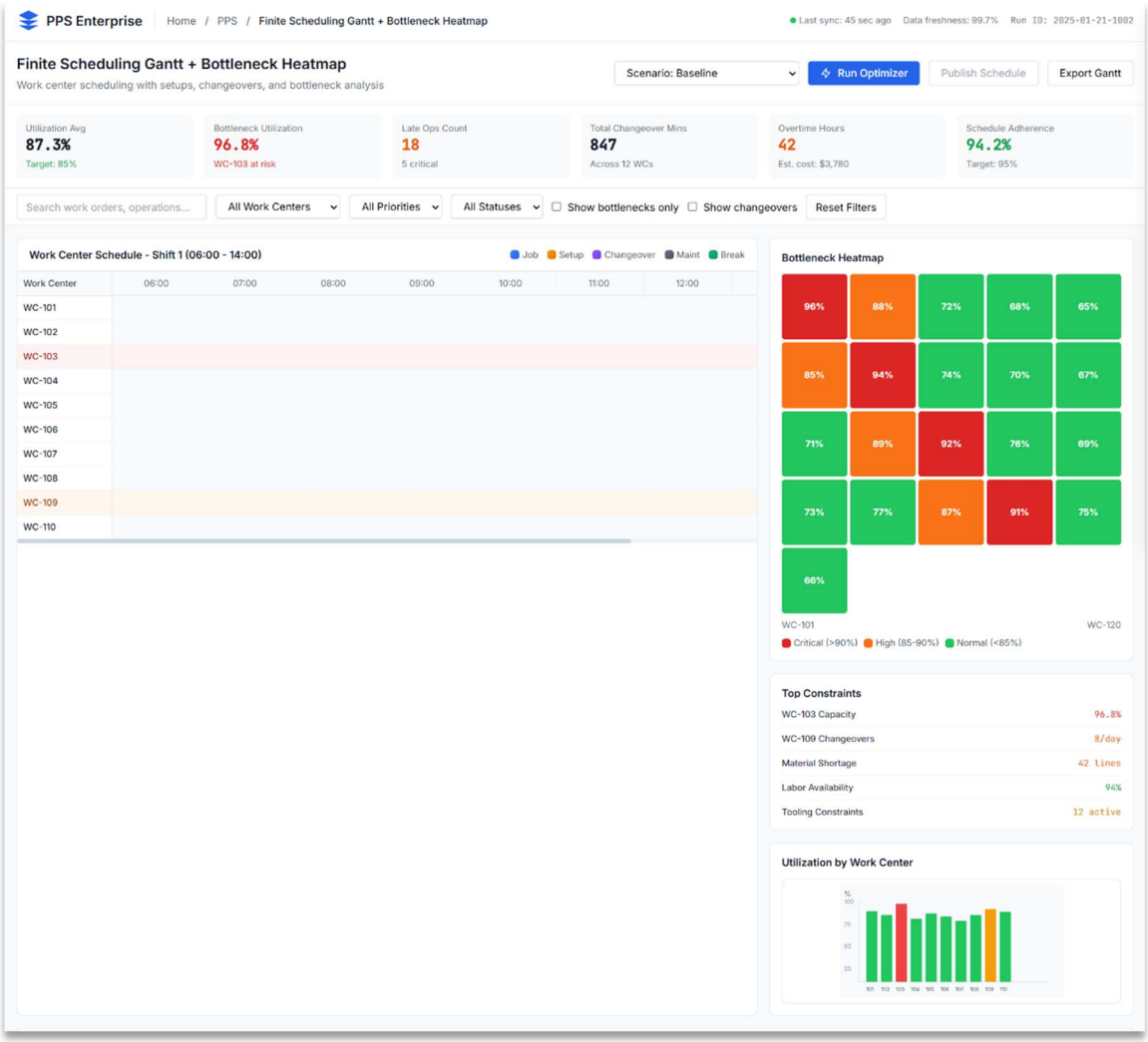
Finite Capacity Scheduling and Optimization

Rayterton PPS runs finite capacity scheduling and sequencing at operation level. It uses real constraints such as work center capacity, calendars, maintenance windows, labor,

tooling, and changeover rules. The scheduling view supports Gantt visualization and drag and drop adjustments for rapid refinement. It can model setup and changeover blocks so planners can see the true impact of sequencing. Planners can simulate rules and compare scenarios before selecting a schedule version to publish. Scenario results can include measurable deltas, such as late orders count, overtime hours, utilization at bottlenecks, and total changeover minutes. The system stores the selected scenario and the reason for selection as part of the schedule version history.

Key controls

- Gantt edits can be locked by time fence rules.
- Manual adjustments require a reason code and are logged.
- Scenario compare stores results and the selected version.

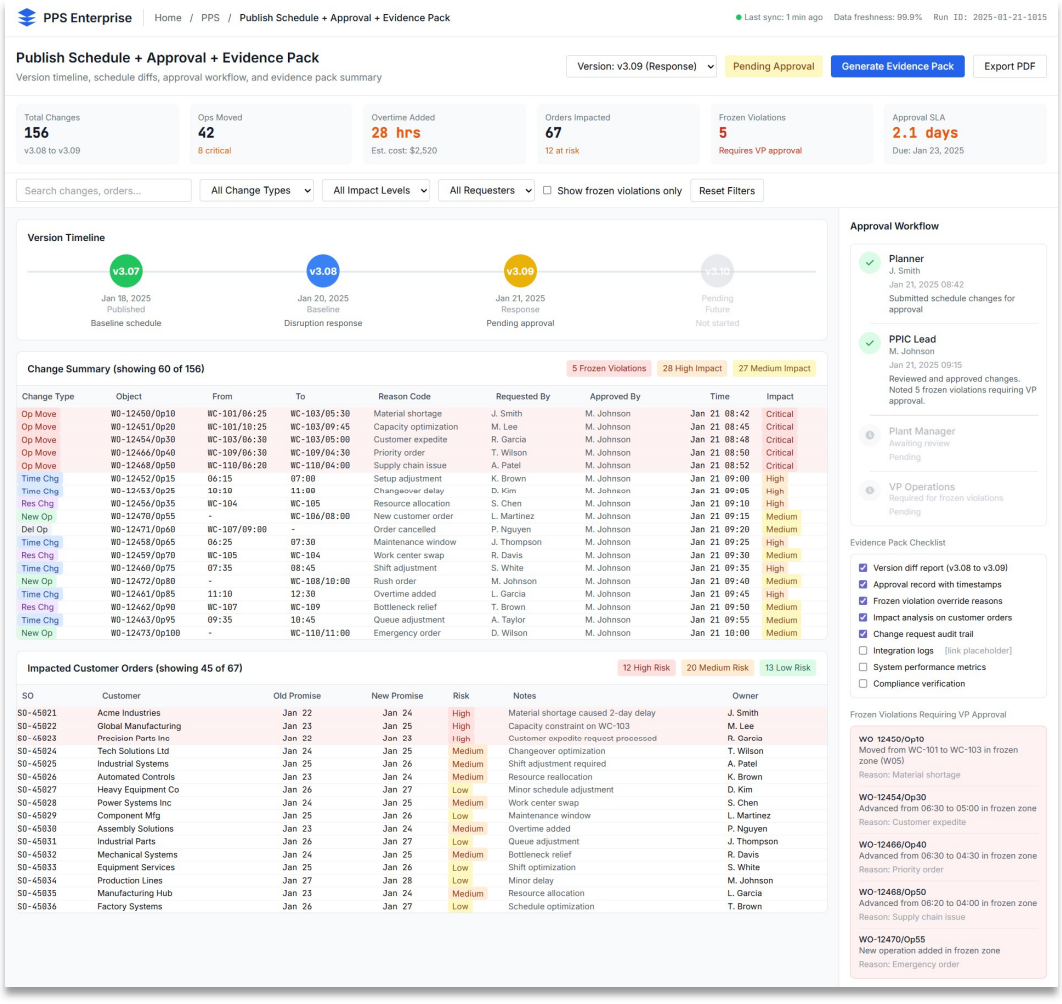


Controlled Publishing and Closed-loop Execution

Rayterton PPS publishes schedules as controlled versions. Each version has a defined scope, such as plant, line, work center group, or horizon. Publishing requires approvals based on your governance rules and roles. The system produces a publish receipt that records the version, scope, approver, and release timestamp. During execution, dispatch sends the approved schedule to the shop floor or via an MES bridge. The system captures actual start and finish times, downtime reasons, and adherence signals. When actuals deviate from plan, exceptions are generated and can trigger replanning with a new version, while keeping full traceability between the published plan and the executed result.

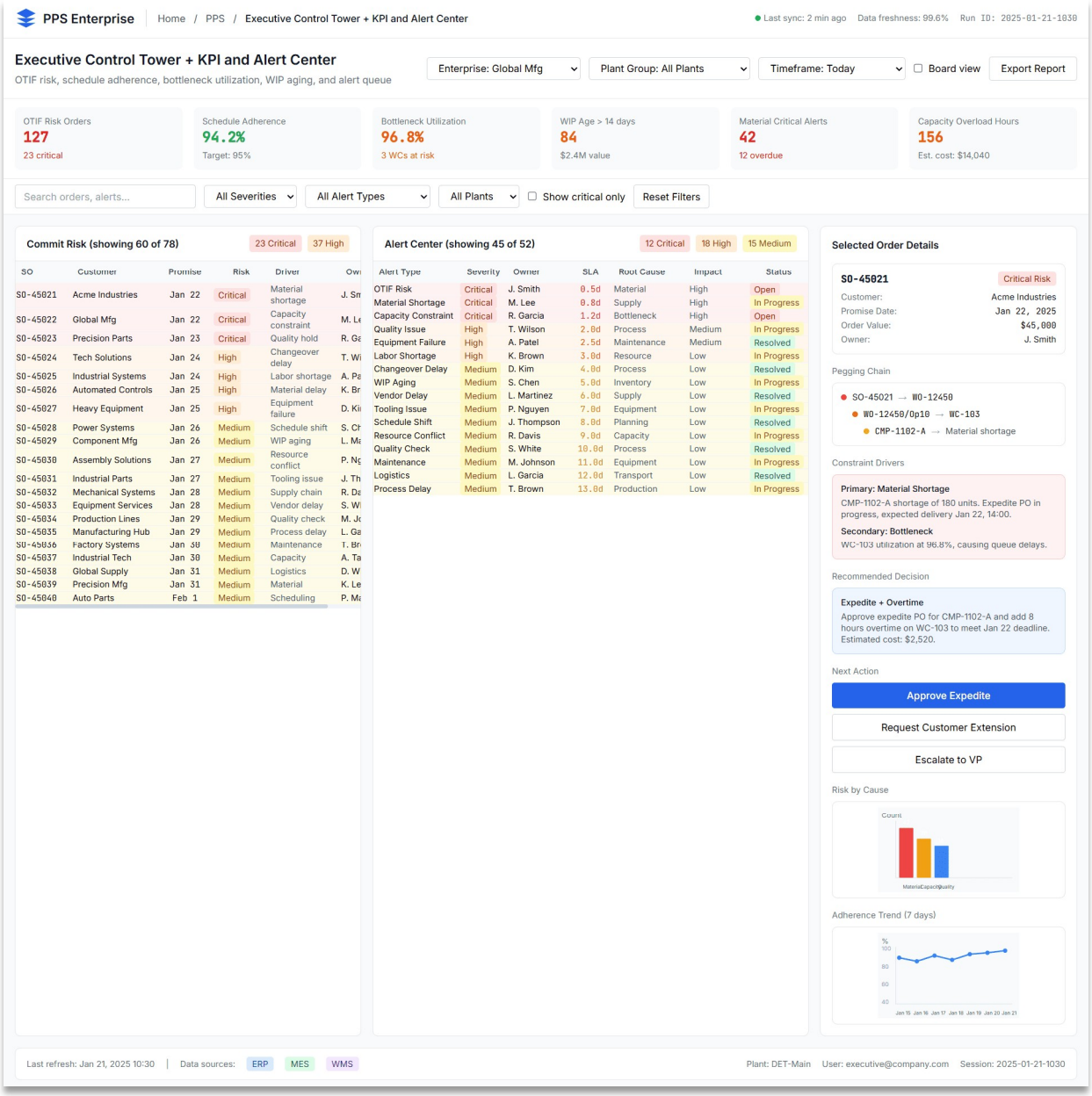
Key controls

- Publish receipts include version, scope, approver, and release timestamp.
- Override requires a reason code and remains traceable to impacted orders.
- Closed-loop KPIs are recorded, including adherence, changeover variance, downtime causes, and late-risk trend.



Executive Control Tower and Enterprise Platform

Rayterton PPS provides an executive view that consolidates promise risk, capacity risk, bottleneck utilization, WIP exposure, and exception queues. The dashboard includes an alert center with ownership and escalation trail, so each exception has a responsible user and an SLA. Users can drill down from an at-risk order to its pegged supply and to the operations that drive the promise date. The platform includes integration monitoring for ERP, MRP, MES, WMS, and BI, including logs, retries, and data sync timestamps. It also includes SSO, RBAC, approval matrix, and least-privilege access controls so schedule changes and governance actions remain protected and auditable.



Glossary of terms & abbreviations

- **ATP** = Available to Promise. Logic used to calculate promise dates based on material availability.
- **BI** = Business Intelligence. An external system integrated with the platform for data analysis and reporting.
- **BOM** = Bill of Materials. Scheduling master data that details the components, yields, and substitutions required for production.
- **BPI** = Business Process Improvement. A core area of expertise for Rayterton to enhance business operations.
- **CR** = Change Request. A formal request required to make changes to the schedule within the "frozen zone" or during maintenance.
- **CTP** = Capable to Promise. Logic used to calculate promise dates based on finite capacity constraints.
- **ERP** = Enterprise Resource Planning. A core business system that integrates with the PPS for data synchronization.
- **Feasibility Gate** = A process that synchronizes material availability and constraint policies to highlight shortages before publishing a schedule.
- **Finite Capacity Scheduling** = Scheduling that accounts for real constraints such as work center capacity, labor, tooling, and calendars.
- **Frozen Zone** = A specific period in the schedule horizon where changes are not applied directly but require a controlled change request.
- **Gantt** = A visualization tool used in the scheduling view to see and adjust the timeline of operations via drag and drop.
- **KPI** = Key Performance Indicator. Metrics used to measure performance, such as adherence, changeover variance, and downtime causes.
- **MES** = Manufacturing Execution System. A shop floor system that receives the approved schedule and provides execution feedback.
- **MPS** = Master Production Schedule. A time-phased schedule created across a defined horizon, governed by time fence policies.
- **MRP** = Material Requirements Planning. A system integrated with the platform to manage material needs.
- Pegging = Links maintained from demand to planned orders that allow users to trace which supply and operations support each commitment.
- **PPS** = Production Planning & Scheduling. The system managing the flow from demand intake to execution feedback.
- **RBAC** = Role-Based Access Control. Security controls that restrict system access and permissions based on authorized user roles.
- **SLA** = Service Level Agreement. A timeline standard used in shortage lists and alert centers to ensure accountability for decisions.

- **SSO** = Single Sign-On. An authentication method enabling users to access the platform with a single set of credentials.
- **Time Fences** = Policies that divide the planning horizon into zones (frozen, slushy, free) to control schedule stability.
- **WIP** = Work In Progress. Production inventory that has started but is not yet finished, monitored via caps and exposure risks.
- **WMS** = Warehouse Management System. An external system for managing inventory and warehouse operations that integrates with the platform.

Stop negotiating with spreadsheets. Start running a schedule you can execute.

Share your planning realities (plants, shifts, constraints, customer priorities) and we will configure a Rayterton PPS demo that mirrors your operational complexity and decision cadence. You will see feasible commitments, governed rescheduling, and closed-loop performance evidence in one flow.

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About Rayterton

Established in 2003, Rayterton delivers comprehensive Best Fit Software Solutions, server and hardware products, and technology services to a wide range of industries and organizations. Our core expertise lies in Business Process Improvement (BPI), IT Infrastructure, and IT Management.

At Rayterton, we are committed to empowering our clients by enhancing their business operations through tailored IT and management solutions. We combine innovation, experience, and client collaboration to ensure long-term success and digital transformation.

Our Competitive Strengths

100% Risk Free	**Best fit to client requirements**	**Easy to customize**	**Software ownership**	**No Change Request (CR) fees during maintenance**

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