

What's New With Prometheus Planning & Scheduling

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PROMETHEUS GROUP | 17TH ANNUAL **USER**
CONFERENCE
NORTH AMERICA

Speaker Introduction



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Review of Last Year

- Crew Building
- GIS Enhancements
- Order Planner Configuration
- Personnel Skills/Proficiencies
- Norms Planning



Crew Building/Resource Management

- Create Crews and Individual Resources Entirely Independent of SAP!
- Structure your own working hierarchy for complete resource management capabilities
- Works right alongside the existing HR structure from SAP to bolster new functionality with existing capabilities



GIS Enhancements

- Plan work order routes on a GIS overlay
- Optimize Route planning at the work center or resource level
- Navigate to jobs via mobile application

The screenshot displays the GIS Planner application interface. The top navigation bar is red and contains the application name 'GIS Planner' and various icons. Below the navigation bar, there is a 'Route Date' field set to '04/17/2023'. The main interface is split into two panels. The left panel contains a table with columns for 'Resource ID', 'Work Center', 'Name', 'Cap. (hr)', 'Start', and 'Finish'. The right panel contains a table with columns for 'Task', 'Description', 'Criticality', 'Loc. Crit.', 'Task Time (hr)', and 'Route Priority'. The right side of the interface features a map of a geographic area with a network of roads and a route highlighted in red. A legend on the right side of the map lists various resources and their assigned work, including 'Sean McWhirter', 'Aaron LaRocco', 'Mr. Daniel Davis', 'Mark Santos', 'Mr. Scott Walker', 'Dink Ruedel', 'Lou Garcia', and 'Miss Debbie Davis'. The map also shows a 'Tasks' button and a 'Map Layers' dropdown menu.

| Resource ID | Work Center | Name | Cap. (hr) | Start | Finish |
|-------------|-------------|----------------|-----------|---------|---------|
| 00000000 | 16_MECH | | 8.0 | 8:00 AM | 4:00 PM |
| 09102891 | 16_MECH | Sean McWhirter | 8.0 | 8:00 AM | 4:00 PM |
| 00108916 | 16_MECH | Aaron LaRocco | 8.0 | 8:00 AM | 4:00 PM |
| 00108916 | 16_MECH | Aaron LaRocco | 8.0 | 8:00 AM | 4:00 PM |
| 00000000 | 16_MECH | | 8.0 | 8:00 AM | 4:00 PM |
| 00000000 | 16_MECH | | 8.0 | 8:00 AM | 4:00 PM |
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| 00000000 | 16_MECH | | 8.0 | 8:00 AM | 4:00 PM |
| 09102891 | 16_MECH | Sean McWhirter | 8.0 | 8:00 AM | 4:00 PM |
| 00108916 | 16_MECH | Aaron LaRocco | 8.0 | 8:00 AM | 4:00 PM |

| Task | Description | Criticality | Loc. Crit. | Task Time (hr) | Route Priority |
|----------------|----------------------------|-------------|------------|----------------|----------------|
| 7031530 - 0030 | Uncouple/Remove Old Motor | | | 9.0 | Low |
| 7031530 - 0030 | Install New Pump | | | 3.0 | Low |
| 7031530 - 0040 | Unlock | | | 4.0 | Low |
| 7031530 - 0050 | Verify | | | 2.0 | Low |
| 7031518 - 0010 | Lockout Pump/Water Systems | 2 | | 6.0 | Low |
| 7031534 - 0010 | Lockout Condenser | 1 | | 4.0 | Low |
| 7031534 - 0020 | Troubleshoot Inst. | 1 | | 8.0 | Low |
| 7031518 - 0030 | Clear Pump Impeller | 2 | | 4.0 | Low |
| 7031518 - 0040 | Assemble/Verify Pump | 2 | | 4.0 | Low |
| 7031518 - 0020 | Remove Top Pump Casing | 2 | | 8.0 | Low |
| 7031534 - 0050 | New Step | 1 | | 4.0 | Low |
| 7031534 - 0030 | Verify Inst. | 1 | | 4.0 | Low |
| 7031534 - 0015 | Uncouple motor | 1 | | 4.0 | Low |



Order Planner Configuration

- Complete configurability of the Order Planner
- Remove fields
- Drive requirements
- Streamline user experience

The screenshot displays the 'Order Planner' configuration interface. The top navigation bar includes 'Overview', 'Operations', 'Components', 'Object List', 'Documents', 'Additional Data', 'Location', and 'Control'. The main content area is divided into several sections:

- Select an Operation:** A list of operations including '0010 Obtain permit', '0020 Remove Tank Lid', '0030 Use telescoping camera/mirror to inspect', '0040 Replace Tank Lid', and '0050 Close Out Permit'.
- General:** Fields for 'Short Text' (Obtain permit), 'Long Text', 'Notes 1' (GLOBAL-PTW-22-3383), 'Notes 2', 'Calculation Type' (Calculate Work), 'Work' (6 H), 'Number' (1), 'Normal Duration' (6 H), 'Work Center' (03_ELEC), 'Plant' (1000), and 'System Condition'.
- Functional Location:** A dropdown menu set to 'FM01 - Plant maintenance - Internal'.
- Equipment:** A dropdown menu set to '1410 - Repair Hours'.
- Activity Type:** A dropdown menu set to '1410 - Repair Hours'.
- Scheduling:** Fields for 'Earliest Start', 'Earliest Finish', 'Latest Start', and 'Latest Finish', all set to 04/18/2023.
- User Status:** A dropdown menu set to 'BRSC'.
- Components:** A table listing components with columns for Remove, Item, Component, Description, Request Qty, Qty Unit, Item Cat, Plant, Storage Location, Receipt, Unloading Point, Request Date, Price, Currency, Price Unit, and Material Group.

| Remove | Item | Component | Description | Request Qty | Qty Unit | Item Cat | Plant | Storage Location | Receipt | Unloading Point | Request Date | Price | Currency | Price Unit | Material Group |
|--------------------------|------|-----------|------------------------------|-------------|----------|----------|-------|------------------|---------|-----------------|--------------|----------|----------|------------|----------------|
| <input type="checkbox"/> | 0010 | W-1000 | Shaft, electrical pump | 1 | PC | L | 1000 | | | | 2023-04-18 | 294.54 | EUR | 1 | 001 |
| <input type="checkbox"/> | 0020 | M-1000 | Motor, electrical pump 250kW | 1 | PC | L | 1000 | 0001 | | | 2023-04-18 | 3500.00 | EUR | 1 | 001 |
| <input type="checkbox"/> | 0030 | I-1000 | Impeller, electrical pump | 1 | PC | L | 1000 | | | | 2023-04-18 | 125.00 | EUR | 1 | 001 |
| <input type="checkbox"/> | 0040 | G-1001 | GEARS, ELECTRICAL PUMP | 1 | PC | L | 1000 | 0001 | | | 2023-04-18 | 135.98 | EUR | 1 | 001 |
| <input type="checkbox"/> | 0050 | M-3000 | Motor, electrical pump 250kW | 1 | PC | L | 1000 | | | | 2023-04-18 | 10000.00 | EUR | 1 | 011 |
| <input type="checkbox"/> | 0060 | G-1000 | GEARS, ELECTRICAL PUMP | 4 | PC | L | 1000 | 0001 | | | 2023-04-18 | 904.81 | EUR | 0 | 001 |
| <input type="checkbox"/> | 0070 | DP-1000 | Heat Exchanger Gasket | 2 | PC | N | 1000 | | | | 2023-04-18 | 200.00 | EUR | 1 | 001 |



Norms Planning

- Norms-based planning applied directly to work order AND Task Lists
- Standardize planning practices globally

The screenshot displays a software interface for Norms Planning. On the left, a list of activities is shown with columns for Sequence Number, Activity, Activity ID, Op / Act. Number, Activity Memo, and Location. The activity 'Place scaffolding' (Sequence 002) is selected. Below this list, a table shows details for the selected activity, including Sequence Number (000), Code (Scaffo...), Resource (Scaffolder), SAP Sub-Activity, Resource Memo, Circumstances, and Location.

The right side of the interface shows a calculation form. At the top, there are two calculation rows: $14.60 + 0.00 + 1.00 = \$0$ and $8.00 + 0.00 + 1.00 = \$0$. Below these are fields for Number of Workers, Contractor, Contract, Resource, and Duration. The 'Estimate' section includes an 'Estimate Memo' field and a 'Hours per Worker' field set to 4.00. A dropdown menu is open, listing various resources such as Air Coolers, Aircoolers, Boiling, Brushing, Clamps, Exchangers, Filters, Flanges, Hot Insulation Materials, Labels, Levels, Piping, Plugs, Scaffolding (highlighted), Spading, Special Scaffolding, Steel, Testing, and Tools. Below the dropdown, there are fields for Calculation Main Group and Calculation Sub Group. The interface also includes steps for selecting a Norm, a Correction Factor and Quantity, and adding a Memo. A green notification bar at the bottom left indicates 'Calculation Created.' and 'Rows: 10'.



Product Development Approach

- Customer-Driven Development – real world advancements from industry leading organizations
- End User Focused – easy and intuitive, drive adoption
- Process Integration – aligning maintenance and operations and Prometheus Platform solutions
- Intelligent Automation – data driven insights and works to enable process improvements



Roadmap Drivers in the Last Year

- Renewed focus with ERP Upgrade projects as more organizations progress and go-live
- Leverage available APIs and integrations
- Performance
- Additional customer configuration
- Think outside the ERP's core capabilities



What's New

- Open API Scheduler
- Custom Columns
- Shift Sequence Refactor
- Web +STO and Outage Enhancements
- Ad-Hoc (Free Text) resources
- Baselines and Reason Codes
- Equipment Downtime Management



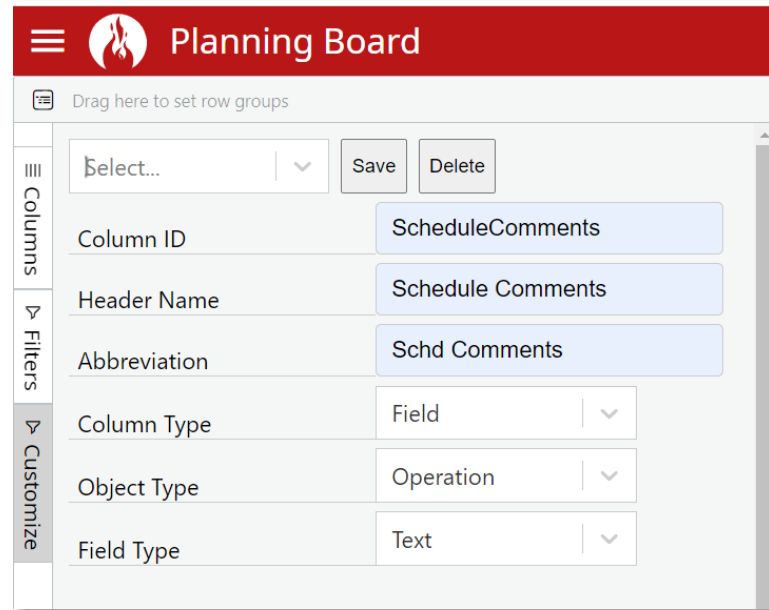
Open API Compatibility

- More cross-ERP/EAM unification
- Make use of available APIs from SAP
- Improve performance
- Reduce in-ERP table requirements and extensions
- Even broader feature sets
- Big if you're on SAP S/4HANA 2022 and newer



Custom Columns

- Technical helper to create new custom and user defined columns within the scheduler without requiring PG customization
- PG to provide some helper snippets to simplify process



The screenshot shows the 'Planning Board' interface. At the top, there is a red header with a hamburger menu icon, a flame icon, and the text 'Planning Board'. Below the header, there is a light gray area with a 'Drag here to set row groups' instruction. The main content area is a table with a left sidebar containing 'Columns', 'Filters', and 'Customize' sections. The table has the following rows:

| | Select... | Save | Delete |
|--------------|-------------------|------|--------|
| Column ID | ScheduleComments | | |
| Header Name | Schedule Comments | | |
| Abbreviation | Schd Comments | | |
| Column Type | Field | | |
| Object Type | Operation | | |
| Field Type | Text | | |



Shift Sequencer Updates

- Graphical interface to define multiple shift patterns of any cycle length
- Create recurring copies within the cycle once a shift is drawn

Cycle Length:
Reference Date:

| Shift Code | Description |
|--------------------------------|-------------|
| <input type="checkbox"/> DAY | AM Shift |
| <input type="checkbox"/> NIGHT | PM Shift |

Sun Mar 3 Mon Mar 4 Tue Mar 5 Wed Mar 6 Thu Mar 7 Fri Mar 8 Sat Mar 9

| Shift Code | Start Time | End Time | Start Day | End Day | sum(Work Hours) | sum(Break Hr) |
|------------|------------|----------|-----------|---------|-----------------|---------------|
|------------|------------|----------|-----------|---------|-----------------|---------------|



+STO Inclusions

- Expansion for shutdown and outage scenarios
- PS overlays
- Relationship Loop Analysis
- Broader Relationship control

The screenshot displays the 'Simple Crit Path Logic Check' application interface. A 'Loop Analysis Report' dialog box is open, showing a table of loop data. The table has columns for 'Loop', 'Predecessor Order', 'Predecessor Operation', 'Successor Order', and 'Successor Operation'. Below the table, a red error message states 'Infinite Loop Detected' and provides instructions to 'Resolve Loop Analysis to execute Critical Path' and 'remove All Relationships'.

| Loop | Predecessor Order | Predecessor Operation | Successor Order | Successor Operation |
|---------|-------------------|-----------------------|-----------------|---------------------|
| 0 | | | | |
| 4001187 | 0020 | 0020 | 4001187 | 0030 |
| 4001187 | 0030 | 0030 | 4001185 | 0030 |
| 4001185 | 0030 | 0030 | 4001185 | 0040 |
| 4001185 | 0040 | 0040 | 4001185 | 0050 |
| 4001185 | 0050 | 0050 | 4001185 | 0060 |
| 4001185 | 0060 | 0060 | 4001185 | 0070 |
| 4001185 | 0070 | 0070 | 4001185 | 0080 |
| 4001185 | 0080 | 0080 | 4001185 | 0090 |
| 4001185 | 0090 | 0090 | 4001187 | 0020 |

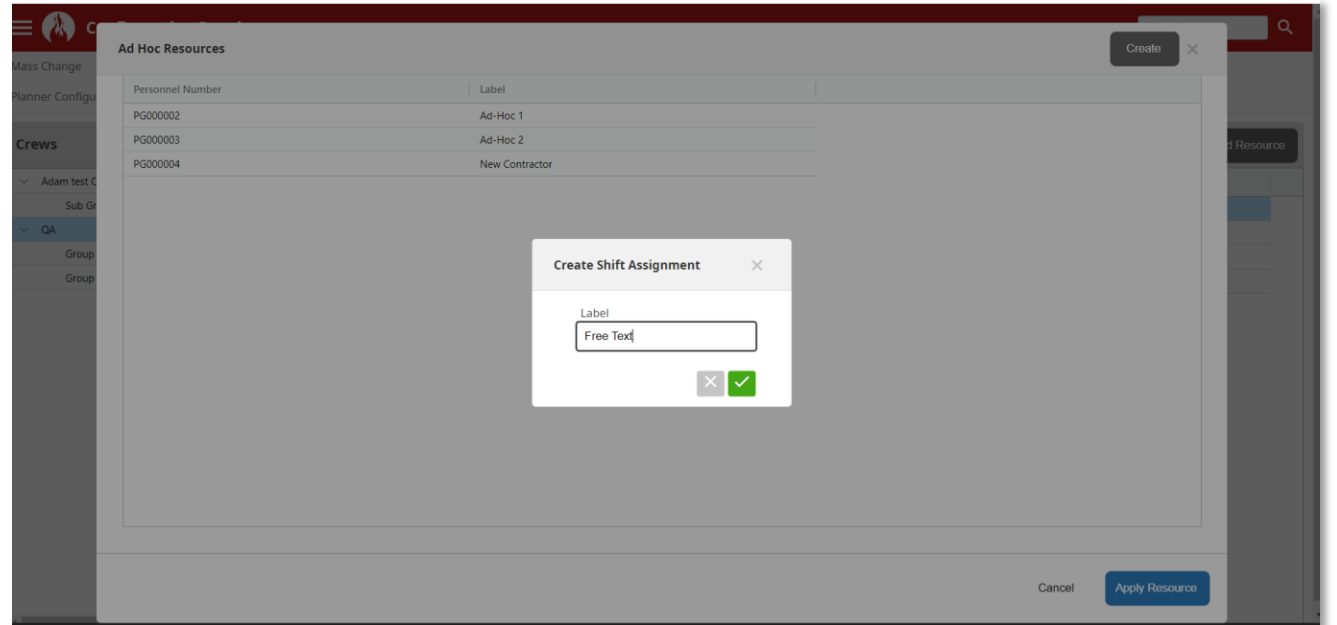
Results may be Incomplete: Loop analysis only checks loaded relationships

Infinite Loop Detected
Resolve Loop Analysis to execute Critical Path remove All Relationships



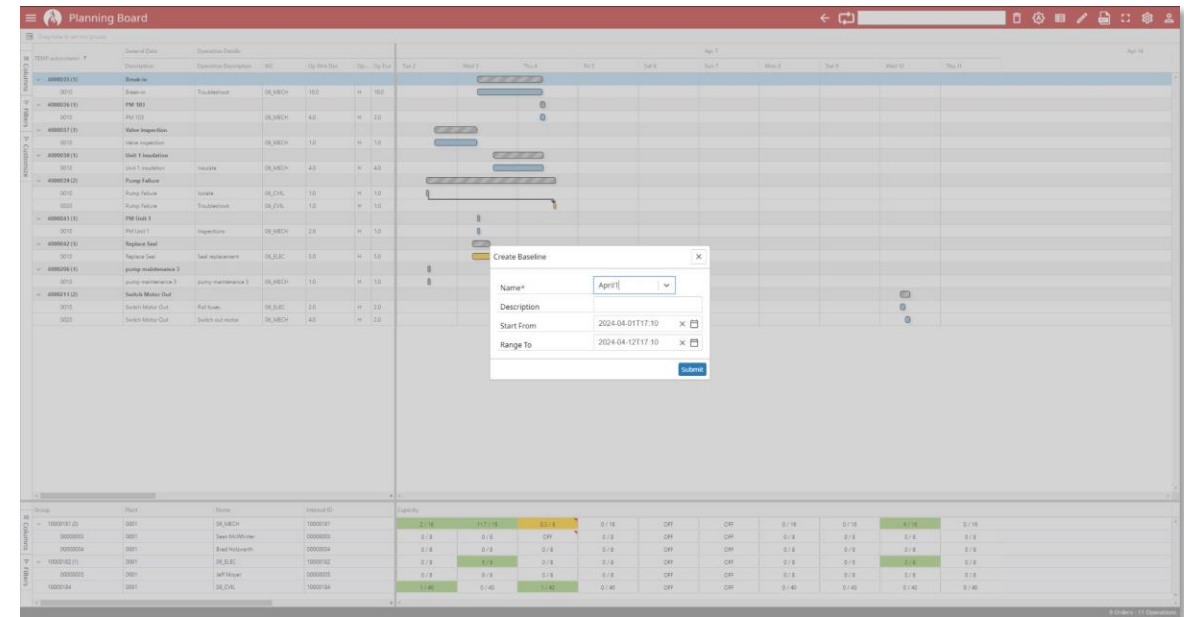
Free Text Resourcing

- Manage Contractors within a schedule without forcing HRMS records
- Add to crews and visualize capacities
- Assign work within Prometheus



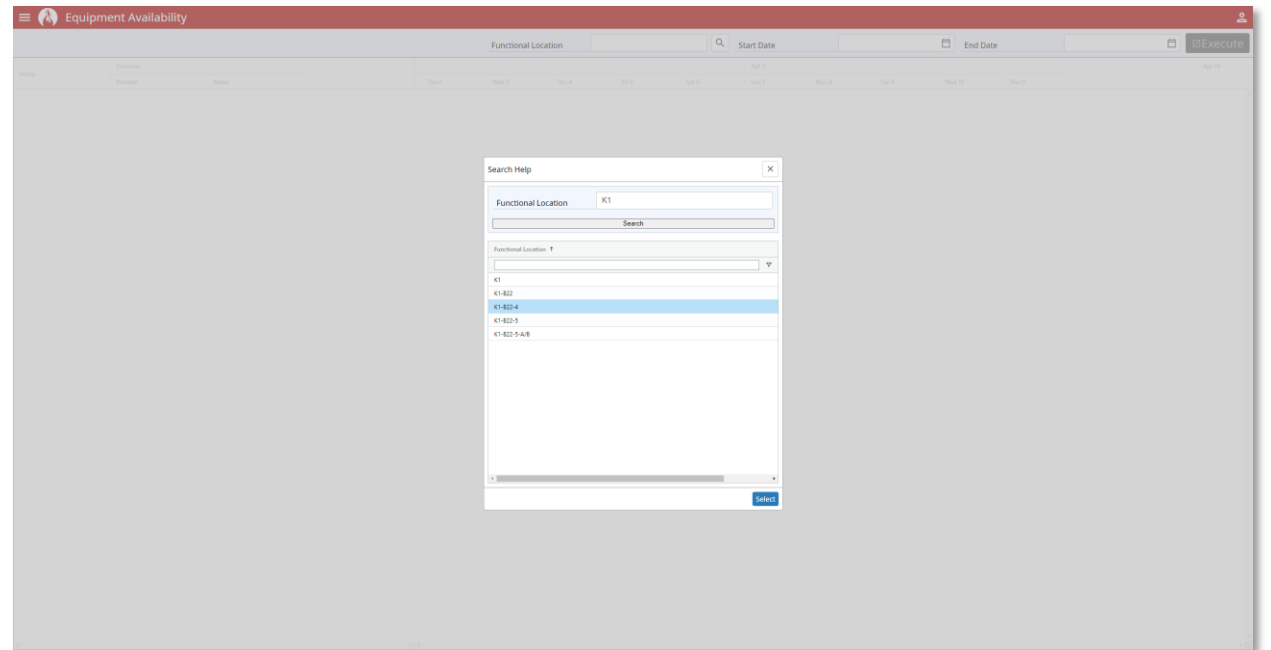
Baselines and Reason Codes

- Designed for measuring compliance for a weekly schedule
- Snapshots on schedules
- Interactive windows to define break-in and break-out reasons when moving work out of snapshot ranges
- Summary pages to visualize performance



Equipment Downtime Management

- Determine downtime for assets without requiring integration
- Ability to display availability in line with scheduled work orders





Scheduler Roadmap

2024

Scheduler

- Material logic enhancements for spares and kitting
- Baseline and reason management
- Major performance improvements for large volume schedules
- Custom column/ field generation
- Open API scheduler
- Schedule conflicts enhancement
- Hourly histogram

Additional Modules

- Free text resource management
- GIS Routing
- Maintenance plan tuning (APM, Master Data integrations)
- Shift sequencing enhancements

2025

Scheduler

- Maintenance plan leveling
- Auto-assignment
- Schedule comments
- Recommended schedule changes
- Advanced conflict management
- Calendar view

Additional Modules

- Barrier management and cumulative risk views
- Repetitive task management
- SimOps

BEYOND

Additional Development

- Continued platform integration
- Advanced schedule optimization (machine learning)
- Recommended schedules
- Additional EAM/ERP support

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Planner Roadmap

2024

Planner

- Norms library enhancements
- Extended configurability for work planning
- Notification list views
- Contractor assignments (“free-text” resources)
- Advanced FLOC/Equipment details

Platform Integration

- APM feedback
- Permit and LOTO planning
- MDaaS integration

2025

Planner

- Suggested tasks
- Notification history
- Planner feedback
- Task list optimization

Additional Modules

- Cumulative risk and barrier management impacts
- Embedded analytics
- APM integration expansion

BEYOND

Additional Development

- 3D BOM integration
- Material spend optimization
- Extended partnerships
- Wearables for field planning

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The Prometheus Platform for SAP

- End to End Digital Transformation for Maintenance and Operations

