Prometheus Planning and Scheduling

The Most Advanced and Flexible Solution for ECC and S/4 HANA

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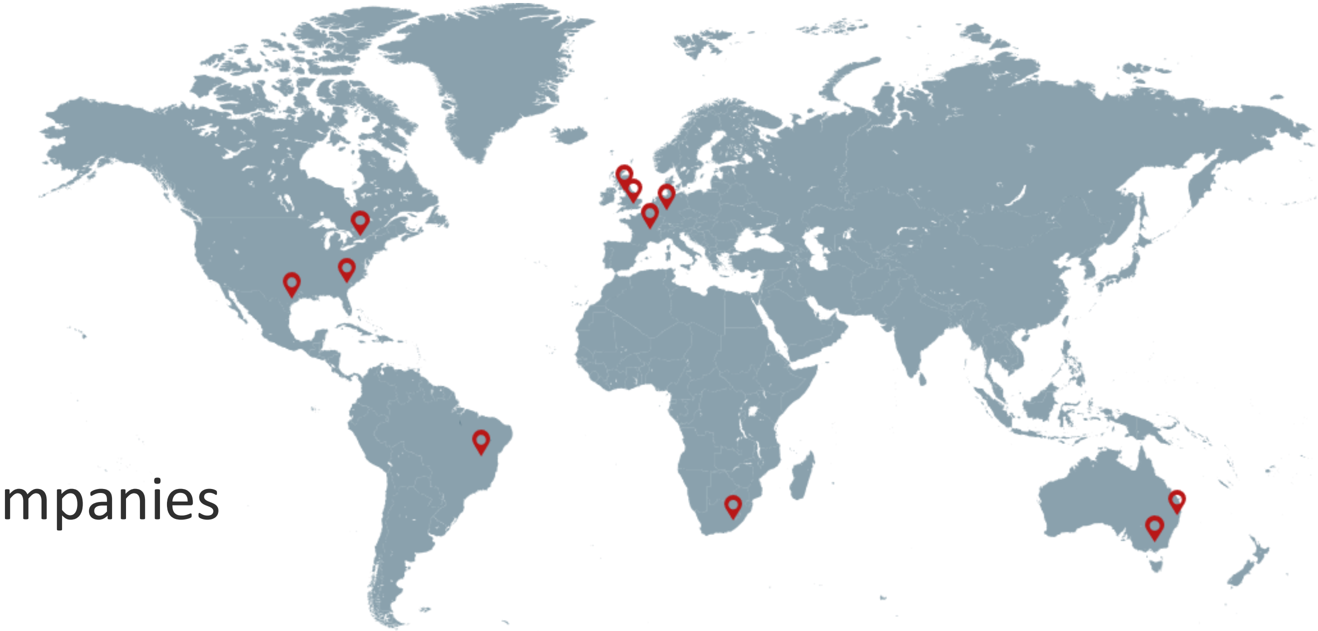
Agenda

- Prometheus Intro
- Maintenance Challenges with Digital Transformation
- Prometheus Planning & Scheduling Impact
- Key Features
- Questions

Prometheus Group

- Founded in 1998
- Headquartered in Raleigh, NC, USA
- 21 global offices
- Integrated and intuitive software
- Partnerships with industry leading companies



TOP 10
Oil & Gas

TOP 8
Mining & Metals

TOP 8
Pulp & Paper

TOP 8
Utilities

TOP 6
Chemical

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SAP® Certified
Integration with SAP S/4HANA®

ORACLE Gold Partner

IBM Business Partner

Key Customers

Chevron
HESS
TransAlta
devon
ConocoPhillips
أرامكو السعودية saudi aramco
cenovus ENERGY
INTERNATIONAL PAPER
ND PAPER
WestRock
Cascades
Coca-Cola

MARATHON
ExxonMobil
PHILLIPS 66
bp
TotalEnergies
covestro
Domtar
Graphic Packaging INTERNATIONAL
Catalyst
DSM
Roche

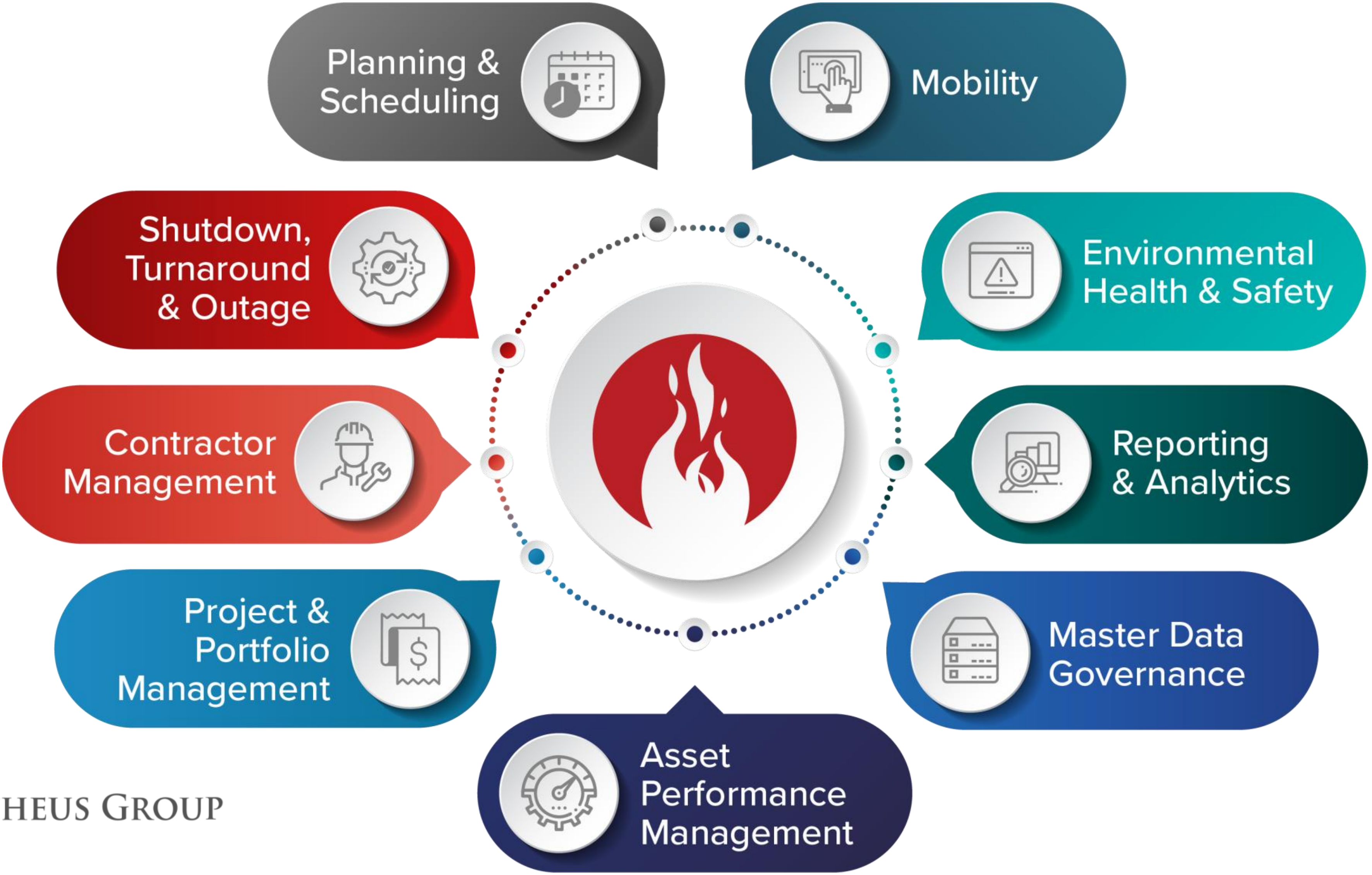
DUPONT
LANXESS Energizing Chemistry
SOLVAY
Linde
Chemours
INEOS
Microsoft
CORDENPHARMA
MERCK
janssen PHARMACEUTICAL COMPANIES OF Johnson&Johnson
ASCEND PERFORMANCE MATERIALS

Google
سابك sabic
YARA
sasol
INVISTA
SI Group
CLARIANT
novozymes
lyondellbasell
APOTEX ADVANCING GENERICS
GLENCORE plc

Disney
RioTinto
VALE
ArcelorMittal
newgold
NEWMONT GOLDCORP
ANGLOGOLD ASHANTI
NEWCREST MINING LIMITED
ANGLO AMERICAN
HOLCIM
agl

TATE & LYLE
Ingredion
BAYER
Nestlé
CHURCH & DWIGHT CO., INC.
EASTMAN
MOLSON COORS beverage company
DE BEERS
BASF We create chemistry
Smithfield Good food. Responsibly.
Campbell's
ADM
GERDAU

Manitoba Hydro
DOW
OWENS CORNING
Nouryon
CARLISLE
BRIDGESTONE
BART Bay Area Rapid Transit
PACIFICORP
hydro one
AES
Énergie NB Power
Armstrong WORLD INDUSTRIES


Planning & Scheduling

Mobility

Shutdown, Turnaround & Outage

Environmental Health & Safety

Contractor Management

Reporting & Analytics

Project & Portfolio Management

Master Data Governance

Asset Performance Management

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Challenges

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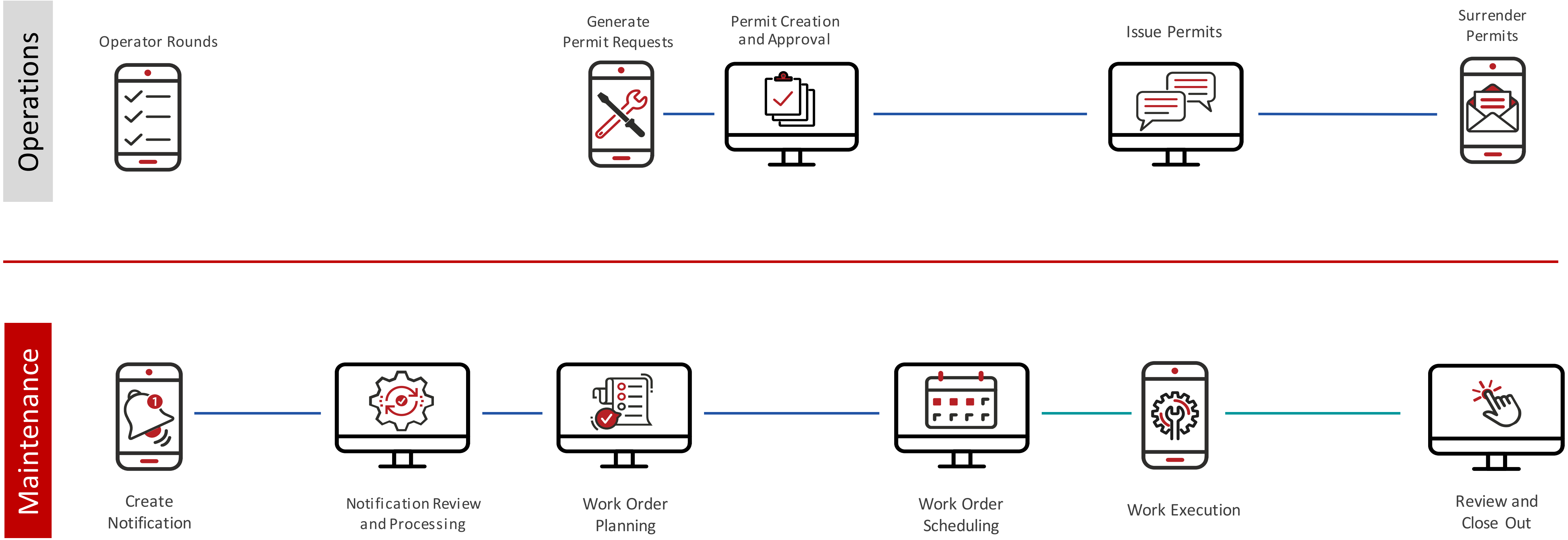
Lost in Transformation

- Everyone's chasing digital transformation but for many it's hard to reach or be fully realized

- To simplify, digital transformation is just process improvements with just better tools and technology.
  - The key is making sure the technology supports process improvements, not the other way around

- S/4 is a great foundation and set of tools but how do we take full advantage of our investments and ensure project success?

Routine Work Execution Process



Operations

Operator Rounds

Generate Permit Requests

Permit Creation and Approval

Issue Permits

Surrender Permits

Maintenance

Create Notification

Notification Review and Processing

Work Order Planning

Work Order Scheduling

Work Execution

Review and Close Out

Challenges of Planning & Scheduling

- Access to Data
  - Data is available, but not necessarily easy to find or map to process
- Visualize capacity
  - Separate screens
  - Not easily editable for real-world shift rotations
- Adjusting Schedule
  - Production and Operations alignment challenges
  - Often requires specific process steps that do not align with maintenance process
  - Difficult to manage for break-ins/mass updates

Common Results WITHOUT Prometheus

- Exporting to Excel
- Lack of SAP usage
    - Multiple data sources
- Limited analysis and improvement
- Avoidable delays

The Need for Planning and Scheduling…

25% - 35%

Average Wrench Time Without Proper Planning & Scheduling

3-4x

Cost of Reactive Work Compared to Planned Work

65%

Possible Wrench Time With Proper Planning & Scheduling

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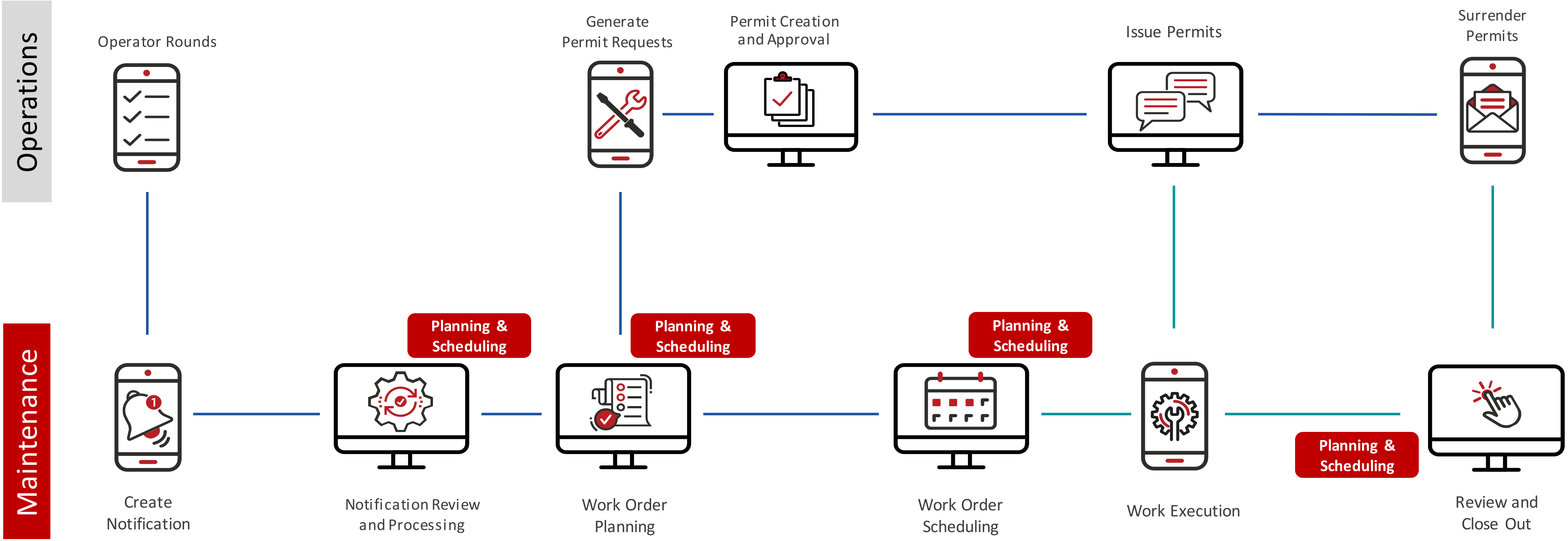
Prometheus Planning and Scheduling



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Planning & Scheduling

Notification Review and Processing

Planning & Scheduling

Work Order Planning

Planning & Scheduling

Work Order Scheduling

Work Execution

Planning & Scheduling

Review and Close Out

Prometheus Scheduling Presence

- Leading P&S solution for 25+ years
  - Simplified live scheduling with SAP
  - Filled gaps from the base PM module based on user direction and customer partnership
- Have expanded Scheduling use in the Web to increase value add for customers and IT organizations alike
- Customers aren't waiting for SAP solutions to catch up and can't afford to maintain integration projects

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Brief Web Scheduler History

- Development since 2015 – web visualizer first
- Going beyond GUI features
  - Fewer restrictions
- All new customers are on web and have been since 2020

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Don't Wait for S4

- Web Scheduler is live in ECC
- Take advantage of new, value-add features
  - No sacrifice to performance or GUI features
  - Increase ROI
- Prepare for the eventual S4 transition
  - Minimize change impact on the maintenance team

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Lessons Learned in S4 P&S

- Business at the table
- Map process to software, not the other way around
- Not simply IT for maintenance
- Gaps still exist with ERP and maintenance
- SAP as source data but partners to ensure process excellence

Expanding Partnership

Prometheus has been engrained within SAP for 25 years, but we've recently gotten even more involved:

- SOLEX MDG
- App Store
- Actively promoted by SAP to ensure customer success

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Prometheus Web Scheduler

Industry has been trending towards web interfaces (S4 HANA, Fiori):

- ECC and S4 compatible
- More flexibility and new features
- Cloud deployment options/lower IT burden
- UI/UX Uplift
- Platform Integration

Planning & Scheduling

Dashboard
Easily standardize your process with a custom layout for all roles

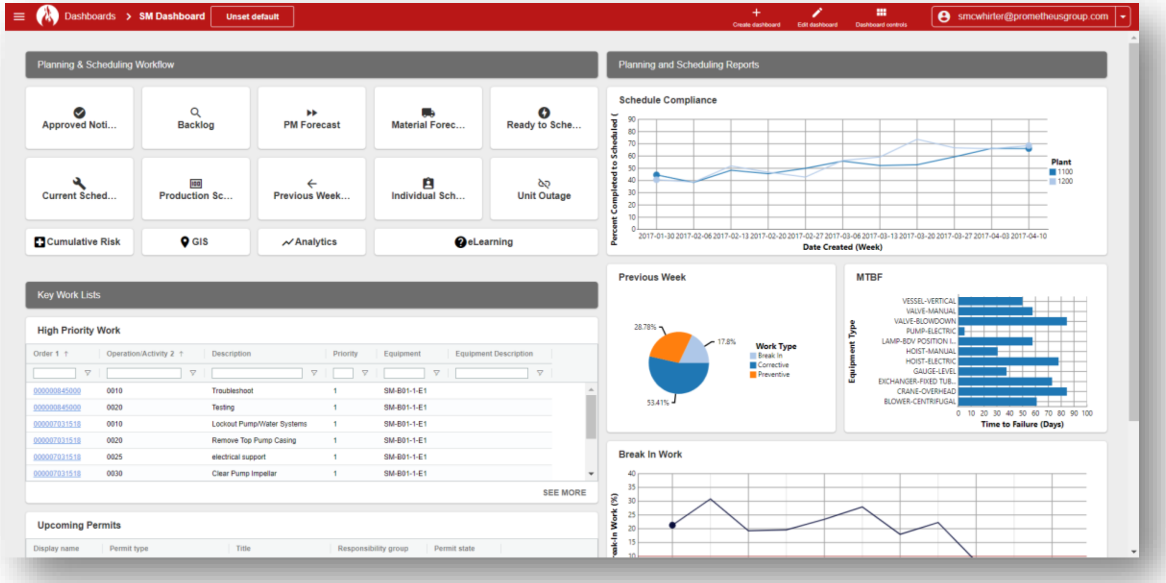
Order Planner
View and plan work orders in a simplified view and access planning enhancements

O2TL & O2BOM
Streamline work orders by copying information to task lists and BOMs to use in the future

Graphical Scheduler
Schedule all work directly inside of SAP with real-time capacity data and carry out mass changes

Work Package Manager
Collate all required documents in order to complete a work order

Material Shopping Cart
Search for materials with a multi-word search to ensure the right materials are added



Dashboards
SM Dashboard
Unset default
Create dashboard
Edit dashboard
Dashboard controls
smcwhirter@prometheusgroup.com
Planning & Scheduling Workflow
Approved Noti...
Backlog
PM Forecast
Material Forec...
Ready to Sche...
Current Sched...
Production Sc...
Previous Week...
Individual Sch...
Unit Outage
Cumulative Risk
GIS
Analytics
eLearning
Key Work Lists
Planning and Scheduling Reports
Schedule Compliance
Percent Completed to Scheduled (
0
10
20
30
40
50
60
70
80
90
2017-01-30
2017-02-06
2017-02-13
2017-02-20
2017-02-27
2017-03-06
2017-03-13
2017-03-20
2017-03-27
2017-04-03
2017-04-10
Date Created (Week)
Plant
1100
1200
Previous Week
28.78%
17.8%
53.41%
Work Type
Break In
Corrective
Preventive
MTBF
Equipment Type
VESSEL-VERTICAL
VALVE-MANUAL
VALVE-BLOWDOWN
PUMP-ELECTRIC
LAMP-BDV POSITION I...
HOIST-MANUAL
HOIST-ELECTRIC
GAUGE-LEVEL
EXCHANGER-FIXED TUB...
CRANE-OVERHEAD
BLOWER-CENTRIFUGAL
0
10
20
30
40
50
60
70
80
90
100
Time to Failure (Days)
Break In Work
eak-In Work (%)
10
15
20
25
30
35
40
SEE MORE

High Priority Work

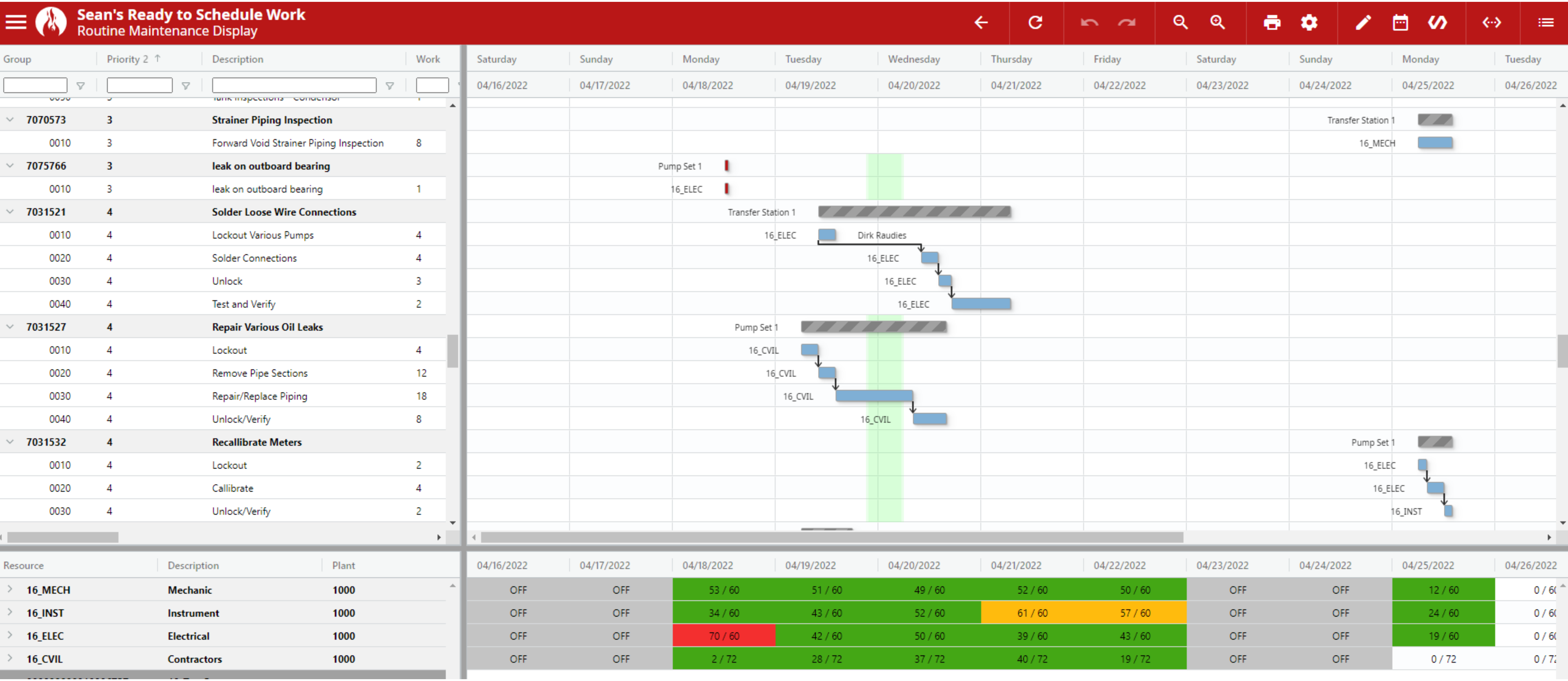
Order 1 ↑	Operation/Activity 2 ↑	Description	Priority	Equipment	Equipment Description
000000845000	0010	Troubleshoot	1	SM-B01-1-E1	
000000845000	0020	Testing	1	SM-B01-1-E1	
000007031518	0010	Lockout Pump/Water Systems	1	SM-B01-1-E1	
000007031518	0020	Remove Top Pump Casing	1	SM-B01-1-E1	
000007031518	0025	electrical support	1	SM-B01-1-E1	
000007031518	0030	Clear Pump Impellar	1	SM-B01-1-E1	

Upcoming Permits

Display name	Permit type	Title	Responsibility group	Permit state

Key Features of Web

- Live SAP Integration
- Configurable to industry and process needs (no forced path in SAP)
- Vendor with proven maintenance experience and SAP best practices
- Scalability to PMs, Materials, PS, Production, and more!
- Scheduling Highlights:
  - Production Overlay
  - Tiered Auto-Level
  - Weighted priority
  - GIS Routing
  - Skills Management



Sean's Ready to Schedule Work
Routine Maintenance Display

Group	Priority 2 ↑	Description	Work
7070573	3	**Strainer Piping Inspection**	
0010	3	Forward Void Strainer Piping Inspection	8
7075766	3	**leak on outboard bearing**	
0010	3	leak on outboard bearing	1
7031521	4	**Solder Loose Wire Connections**	
0010	4	Lockout Various Pumps	4
0020	4	Solder Connections	4
0030	4	Unlock	3
0040	4	Test and Verify	2
7031527	4	**Repair Various Oil Leaks**	
0010	4	Lockout	4
0020	4	Remove Pipe Sections	12
0030	4	Repair/Replace Piping	18
0040	4	Unlock/Verify	8
7031532	4	**Recallibrate Meters**	
0010	4	Lockout	2
0020	4	Callibrate	4
0030	4	Unlock/Verify	2

Saturday 04/16/2022
Sunday 04/17/2022
Monday 04/18/2022
Tuesday 04/19/2022
Wednesday 04/20/2022
Thursday 04/21/2022
Friday 04/22/2022
Saturday 04/23/2022
Sunday 04/24/2022
Monday 04/25/2022
Tuesday 04/26/2022
Transfer Station 1
16_MECH
Pump Set 1
16_ELEC
Transfer Station 1
16_ELEC
Dirk Raudies
16_ELEC
16_ELEC
16_ELEC
Pump Set 1
16_CVIL
16_CVIL
16_CVIL
16_CVIL
Pump Set 1
16_ELEC
16_ELEC
16_INST

Resource	Description	Plant	04/16/2022	04/17/2022	04/18/2022	04/19/2022	04/20/2022	04/21/2022	04/22/2022	04/23/2022	04/24/2022	04/25/2022	04/26/2022
16_MECH	**Mechanic**	**1000**	OFF	OFF	53 / 60	51 / 60	49 / 60	52 / 60	50 / 60	OFF	OFF	12 / 60	0 / 6
16_INST	**Instrument**	**1000**	OFF	OFF	34 / 60	43 / 60	52 / 60	61 / 60	57 / 60	OFF	OFF	24 / 60	0 / 6
16_ELEC	**Electrical**	**1000**	OFF	OFF	70 / 60	42 / 60	50 / 60	39 / 60	43 / 60	OFF	OFF	19 / 60	0 / 6
16_CVIL	**Contractors**	**1000**	OFF	OFF	2 / 72	28 / 72	37 / 72	40 / 72	19 / 72	OFF	OFF	0 / 72	0 / 7

Production Overlay with Maintenance

Tiered Auto-Level

- Create and save a scheduling algorithm
- Define % utilizations based on specific work criteria in a single pass
- Save to align expectations for best practice

Weighted Priority

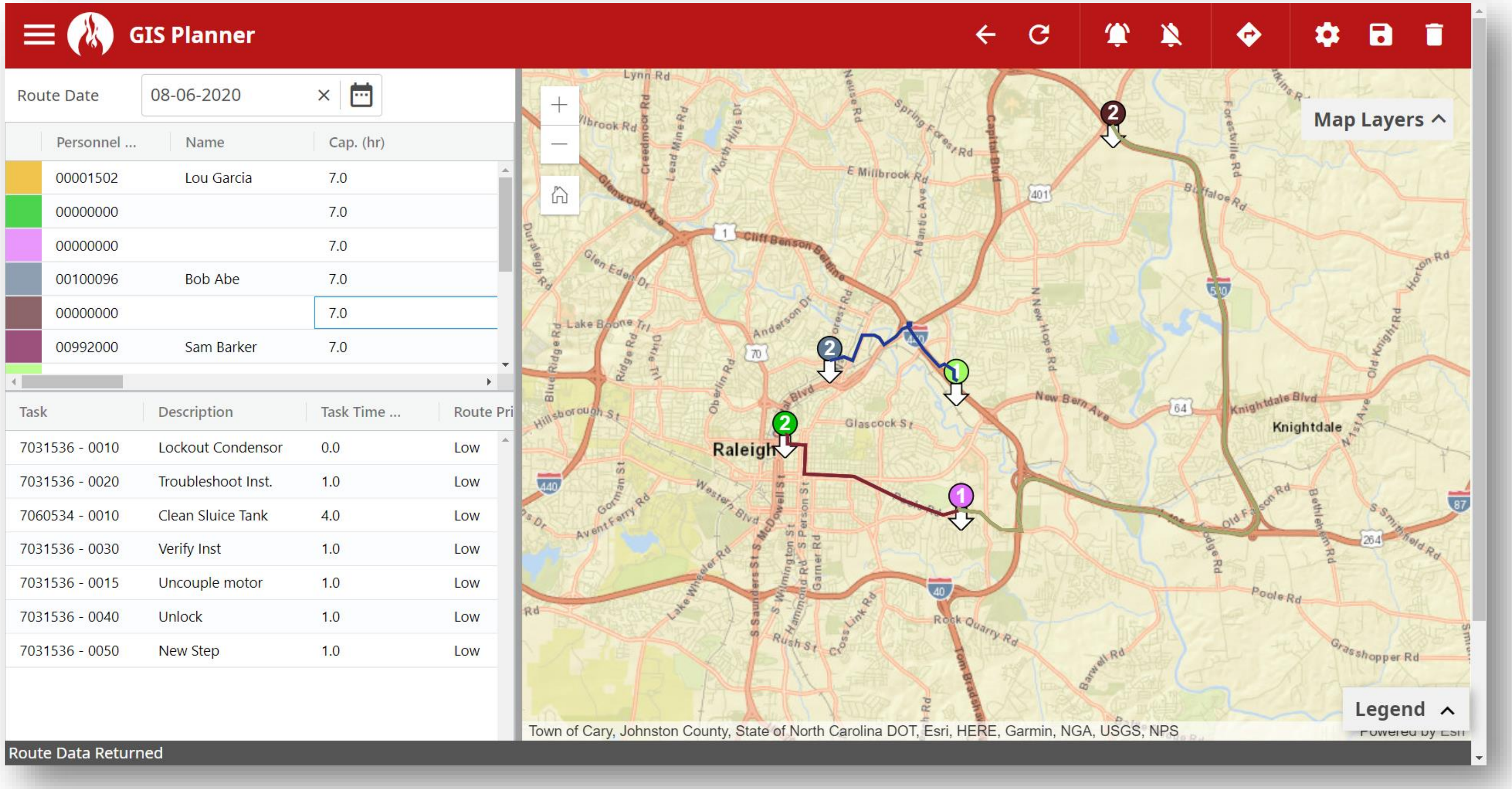
- True, calculated work order prioritization
- Which is more critical?
  - Priority
  - ABC indicator
  - Due date
  - Age
  - Order Type

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



Route Date 08-06-2020

	Personnel ...	Name	Cap. (hr)
🟨	00001502	Lou Garcia	7.0
🟩	00000000		7.0
🟪	00000000		7.0
🟦	00100096	Bob Abe	7.0
🟫	00000000		7.0
🟪	00992000	Sam Barker	7.0

Task	Description	Task Time ...	Route Pri
7031536 - 0010	Lockout Condensor	0.0	Low
7031536 - 0020	Troubleshoot Inst.	1.0	Low
7060534 - 0010	Clean Sluice Tank	4.0	Low
7031536 - 0030	Verify Inst	1.0	Low
7031536 - 0015	Uncouple motor	1.0	Low
7031536 - 0040	Unlock	1.0	Low
7031536 - 0050	New Step	1.0	Low

Town of Cary, Johnston County, State of North Carolina DOT, Esri, HERE, Garmin, NGA, USGS, NPS

Route Data Returned

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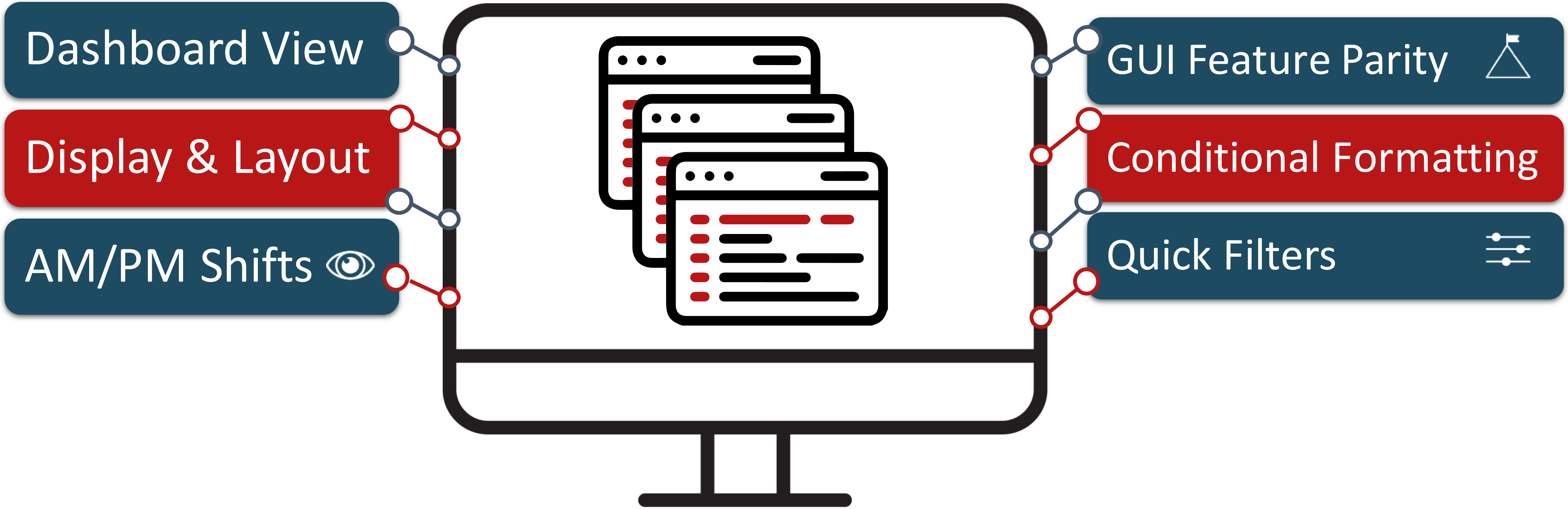
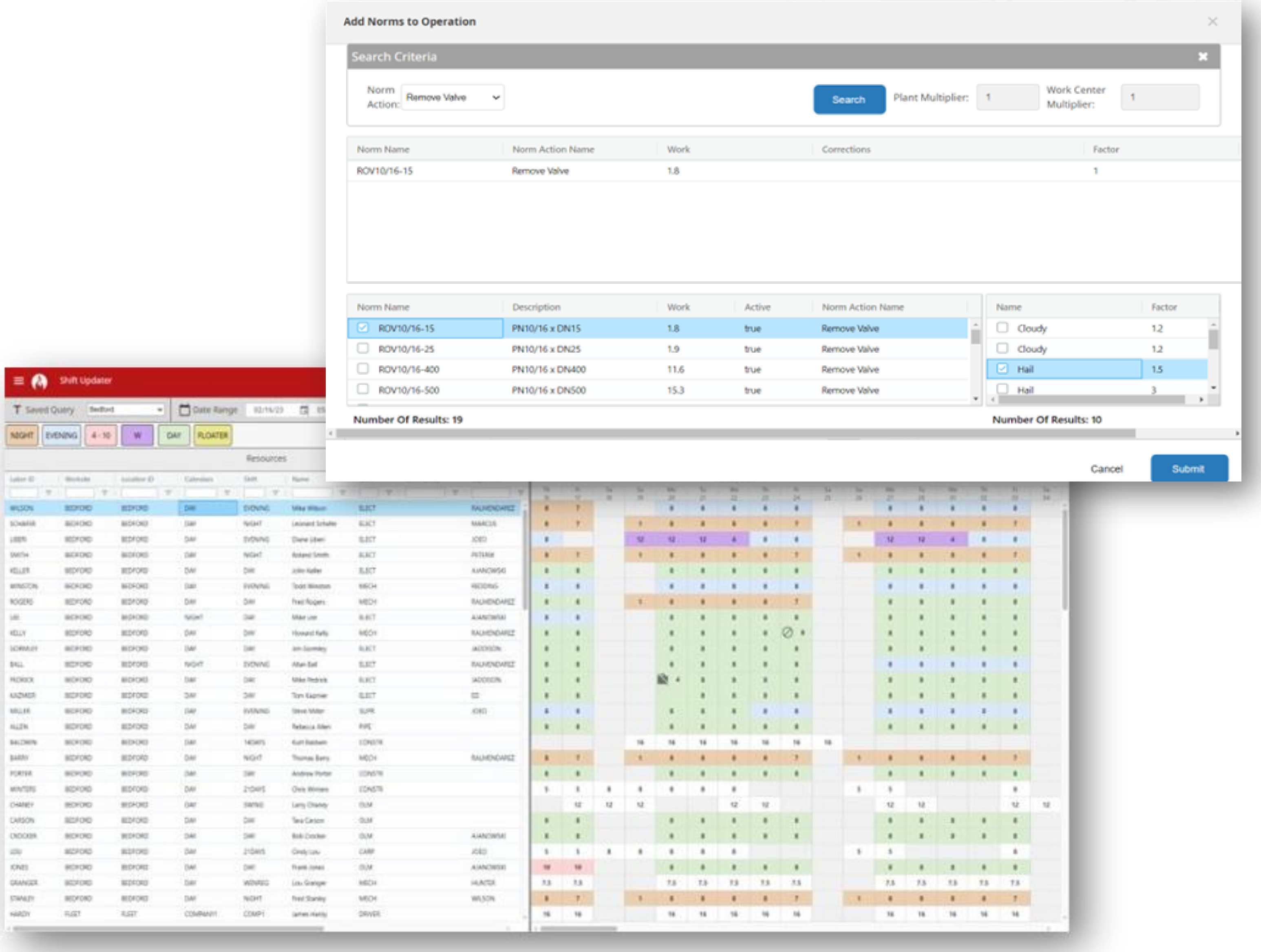
UI/UX Update



- Dashboard View
- Display & Layout
- AM/PM Shifts 👁
- GUI Feature Parity
- Conditional Formatting
- Quick Filters

What’s Next?

- Planning Advancements
    - Norms Based Planning
    - Robust Planner Config
- Resource Management
    - Rotating shift management
    - Free Text Contractors
    - Crew Building
- Platform Integration
    - RiskPoynt
    - APM


Shift Updater
Saved Query
Date Range
NIGHT
EVENING
4 - 10
W
DAY
FLOATER
Resources
Search
Cancel
Submit

Add Norms to Operation

Search Criteria

Norm Action: Remove Valve

Plant Multiplier: 1

Work Center Multiplier: 1

Norm Name	Norm Action Name	Work	Corrections	Factor
ROV10/16-15	Remove Valve	1.8		1

Norm Name	Description	Work	Active	Norm Action Name
☑ ROV10/16-15	PN10/16 x DN15	1.8	true	Remove Valve
☐ ROV10/16-25	PN10/16 x DN25	1.9	true	Remove Valve
☐ ROV10/16-400	PN10/16 x DN400	11.6	true	Remove Valve
☐ ROV10/16-500	PN10/16 x DN500	15.3	true	Remove Valve

Number Of Results: 19

Name	Factor
☐ Cloudy	1.2
☐ Cloudy	1.2
☑ Hail	1.5
☐ Hail	3

Number Of Results: 10

Benefits Summary

- Improve planning & scheduling efficiency
- Reduce equipment downtime
- Increase wrench time
- Reduce contractor needs
- Minimize delays with production, spares, and other avoidable delays
- Improve maintenance strategies

Thank you

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