



S/4 HANA Implementation Journey

Project Unify





Introduction



**Project Scope &
Deliverables**



**Lessons
Learned**

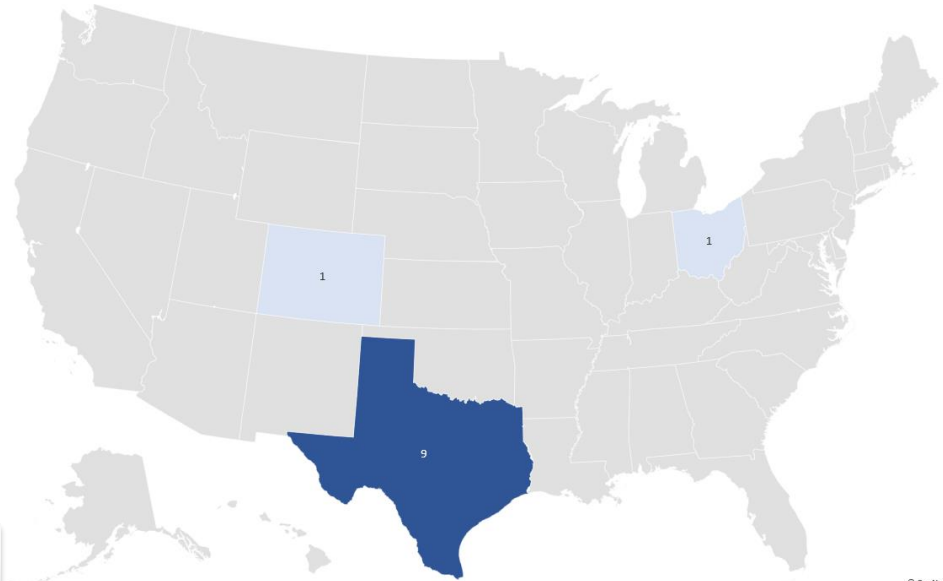


**What's
Next?**

Introduction



- Robert Phelan
SAP Development Manager
- Joined MPC during acquisition of Andeavor Energy in 2018



Marathon Petroleum became the largest independent Refining company in the U.S.

Marathon Eastern US

Andeavor Western US

About Marathon Petroleum



**~18,000
employees**



**2022 revenue
\$157B**



**13 Refineries
across the U.S.**
Approximately 3MM
barrel per day refining
capacity

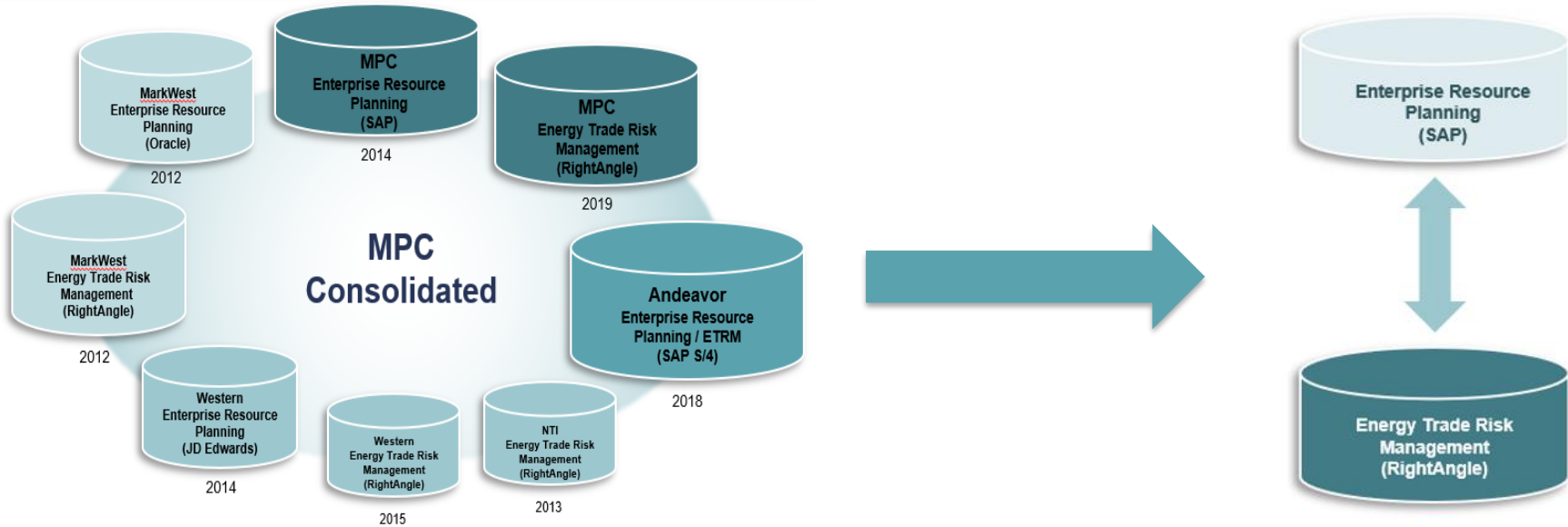


**8 Renewable Fuel
Facilities**



**Marathon Oil <>
Marathon Petroleum**

The Project Unify Story



Prior to Unify, we had a fragmented system landscape that included four distinct ERP and four separate Energy Trade Risk Management (ETRM) systems

Previous State



Disparate and decentralized systems and processes



Increased workload and limited time for optimization due to inefficiencies



Slow to respond to issues or problems



Data and transactions are not standardized



Reporting differs, causing inefficient analysis and difficulty understanding results

Bridging the Gap

Project Unify aims to:

- ✓ Standardize business processes
- ✓ Enhance reporting functionality
- ✓ Improve visibility
- ✓ Leverage technology during negotiations
- ✓ Standardize the current platforms in order to harmonize data used to run the business processes
- ✓ Establish common set of system and process controls

Current State



Everything in one system; integrated, common tools



Easier, standardized processes



Improvements in forecasting and reporting



Less manual effort leading to faster processing

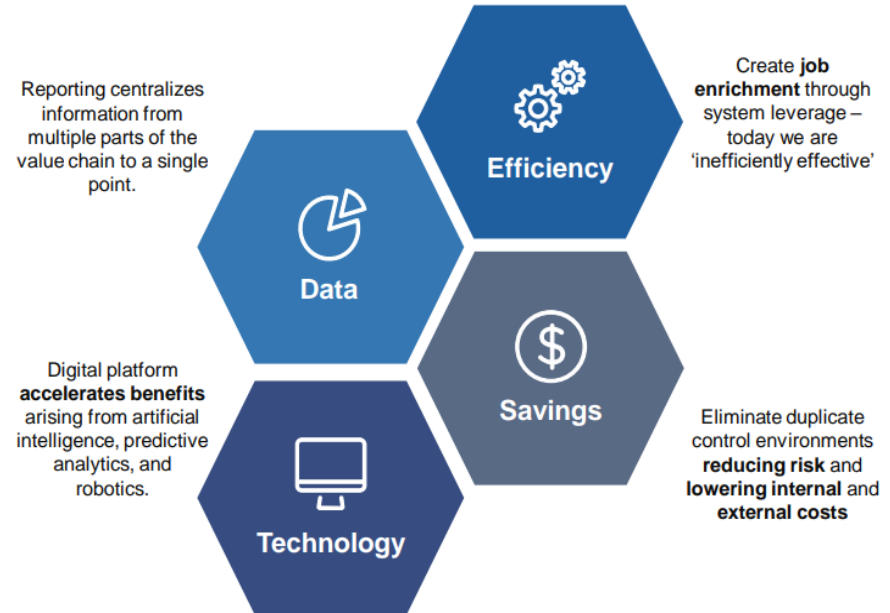


Common understanding of process and data

Vision and Guiding Principles



End State Benefits





PTP – Procure to Pay

Process of procuring materials and services including receipt and payment activities

RTR – Record to Report

Process of recording all general ledger transactions to Central Finance and consolidated reporting

EAM – Enterprise Asset Management

Process of managing and executing maintenance and repair activities including longer term shutdown, turnaround, and project activities

PFI – Product Forecast to Invoice

Process of product forecasting through invoice generation

HSC – HydroCarbon Supply Chain

Process of purchasing crude and feedstocks to satisfy refinery demands, and also the bulk activity necessary to supply the rack sales forecast demand, additional bulk sales and light product exchanges

Business Process Areas by Workstream



RTR

- Manage Financial Master Data
- Perform General Ledger Transaction Processing
- Perform Allocations
- Perform Financial Close
- Perform Intercompany Accounting and Reconciliation
- Perform FERC Accounting
- Perform Financial Reporting
- Perform Management Reporting
- Perform Debt Activities
- Perform Customer Billing and Invoicing
- Process Payment and Cash Application
- Manage Asset Master Data
- Perform Asset Accounting
- Manage Customer Information (Receivables Management)
- Manage Customer Credit (Receivables Management)
- Manage Collections and Disputes (Receivables Management)
- Perform Credit Scoring (Receivables Management)
- Perform Credit/AR Reporting
- Manage Project Master Data
- Initiate Projects
- Perform Project Accounting
- Manage Bank Master Data
- Perform Bank Processing
- Manage Rebate Master Data
- Perform Rebate Processing
- Perform Rebate Reporting

EAM

- Plant Maintenance
- Shutdown Turnaround
- Reliability Methodology/Requirements
- Preventative Maintenance
- Document Management
- Organization Structure and Master Data
- Capital & Expense Projects

MDG

- Financial Master
- Vendor Master
- Customer Master
- Material Master

PTP

- Contract Management Ariba/CLM
- Operational Contracts / Pricing
- Strategic Sourcing in Ariba
- Supplier Qualification and Registration
- Catalog Management in Ariba
- Vendor Classification and Spend Reporting
- Process Purchase Requisition
- Process Purchase Order
- Process PO Confirmations
- Supply Chain Reporting Requirements
- Inbound Processing and Receipt Confirmation
- MRP-based Detailed Scheduling
- Outbound Processing
- Cycle Count/Physical Inventory process
- Warehousing & Storage
- Stock Transport Orders (Transfers)
- Returns Processing
- Batch/Serialization
- Refurbishment
- Process Invoice
- Managing Outgoing Checks
- Processing Outgoing Payments
- ERS / Progress Payments
- Process Close-Out Transactions/ Reports

HSC/PFI

- Petrochemicals
- Asphalt
- Heavy Products
- Natural Gas
- Crude
- NGLs
- Truck Freight
- TMIS
- Transaction Upload
- Allocation Manager
- Kittyhawk
- Non-RightAngle Interfaces

Multiple Release Strategy



- Eastern Refining & Marketing Locations
- All Corporate Functions

- Central US Locations
- Southern California

- Northwestern Locations (WA & AK)

Release Schedule by Asset Group



Office Locations

All items

Refinery Locations

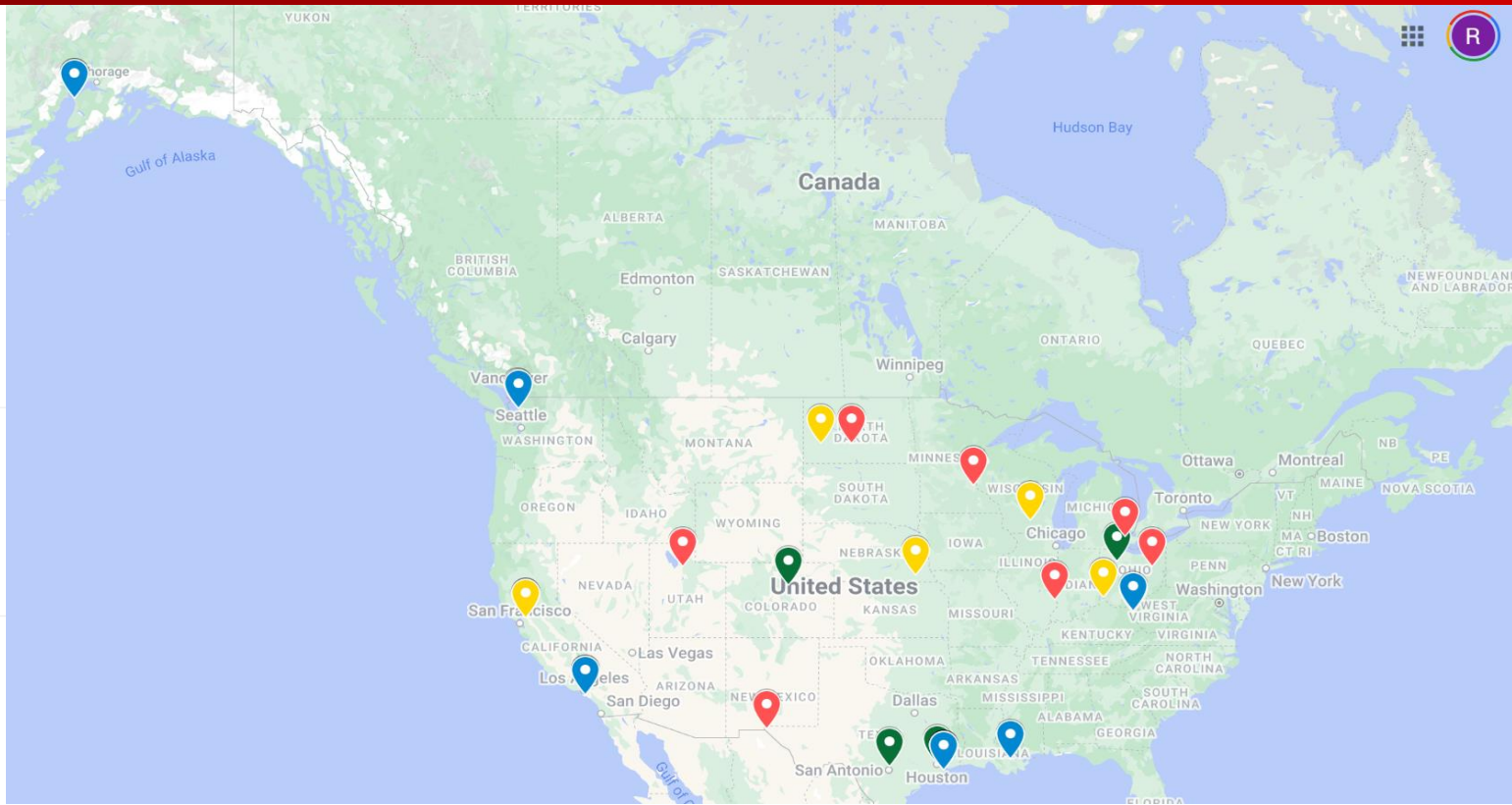
All items

Marine Locations

All items

Renewables Locations

All items



965 People Assigned to the Project (MPC Employees + Contractors)

3.3 Million Hours Worked

Feasibility

- **165** Workshops
- **710** Gaps Identified

Implementation

- **18,000** Build/Config Items
- **523** RICEFW Objects
- **42,494** Hours of Dev. Work
- **16,000** Business Requirements
- **11,500** Defects
- **4.1 MM** Data Recs Converted

Testing

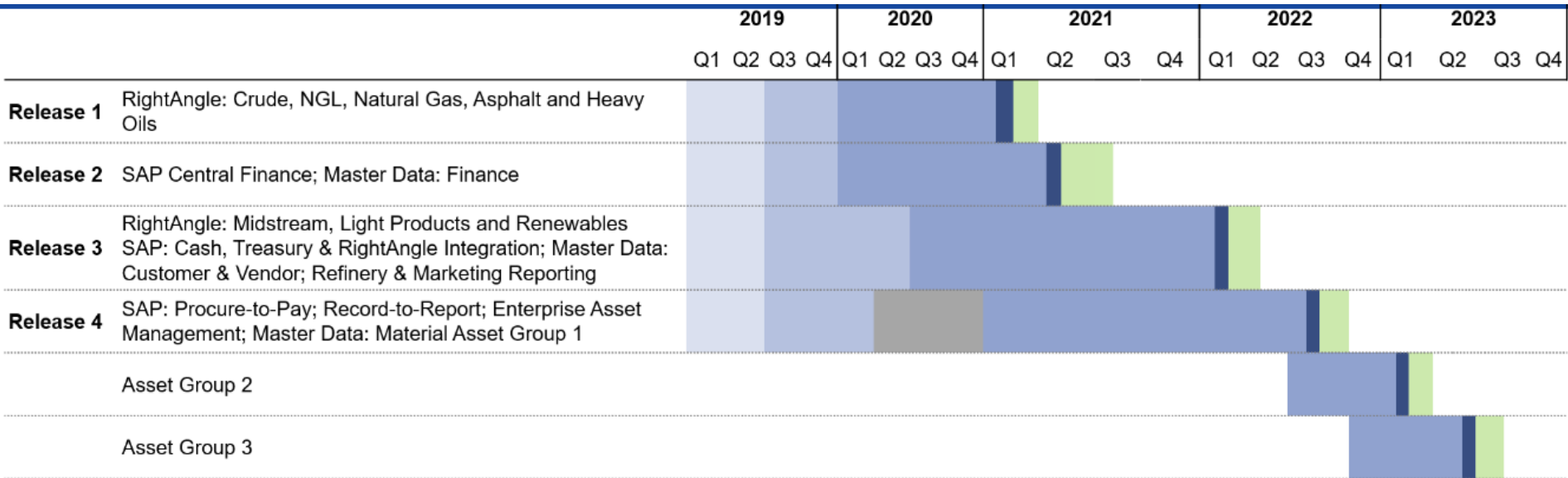
- **22,209** Test Cases Passed
- **51,000** Test Runs

Go Live

- **5,040** Hypercare Tickets
- **1,000** Facilitated Sessions
- **13,000** Training Attendees
- **11,000** Virtual Trainings

Lessons Learned

Multiple Release vs. Big Bang Go-Live



Lessons Learned

Multiple Release vs. Big Bang Go-Live



Pros

Testing

Fewer concurrent support items

Mult. Smaller go-lives vs. 1 go-live

Cons

Resource needs – need more otherwise burnout

The workstreams span multiple releases. Working on new work at the same time as PRD Support for Release go-live

Coordination

Conducting business in multiple ERPs simultaneously

Interim Processes/Interfaces

- **Full backing of leadership**
 - Past experiences - asked for 4 developers for 6 months for a project then told 2 developers for 4 months to get it done.
 - Junk gets moved to PRD. More difficult to clean it up once the data is there.
- **Realistic Timelines are critical**
- **Data, Data, Data**
 - “Pause” during COVID allowed for focus on cleaning up master data.
 - Two major delays in the project, and both were data-related.

You *need* a process for everything, and everyone needs to follow those processes

- Streamline onboarding!!!
 - This is critical. Dozens to hundreds of contractors on your project.
- System Access Requests, Role Authorizations, Code Reviews, Transports
- Good Communication

Standardize Trackers for easier reporting

Centralized and *Easy-to-Access* Project Documentation

- SharePoint / Teams Sites etc...

Automate as much as possible using appropriate tools

- This takes time up front, but will save you ongoing effort and time
- Automated Testing
- Automated Code Reviews
- Transports
- We even have a RICEFW ID Generator

Lessons Learned



Choosing a quality partner is important

Labor shortage coming out of COVID

People and Change Enablement...do not forget this!!

Traveling Roadshows, cheat sheets, knowledge base articles -> AI (MQ)

Take care of employees on the project

This will be a multi-year endeavor & they will see off-project employees taking advantage of open positions and/or promotions.

Realize people have lives outside of work

May not be able to work extended hours/weekends for long periods of time.

Now that we're LIVE, what's next?



UPGRADE!

- Brand-new instance is 4-years old
- Planned upgrade completion Q2 2024

CLEAN CORE MIGRATION

BTP - THE FUTURE OF SAP DEVELOPMENT

- Working w/SAP Max Attention to upskill developers
- Currently 91 services available

<https://discovery-center.cloud.sap/serviceCatalog>

What does the future look like?



Near-Term

- Address the backlog
- Citizen-developer tools to automate processes and build mobile applications
- Drag and drop tools with standard SAP integrations
- Building governance

Three mobile application screens are displayed side-by-side. The left screen shows a 'Cycle Count' app with a list of 'Inventory Documents (506)'. The middle screen shows a log of errors with the message 'Refused to get unsafe header "x-xhr-logon"'. The right screen shows a 'Home page' with a 'Build Cycle Count' section listing document numbers and their details.

Inventory Documents (506)

Doc. #	Doc. Date	Status	Claimed by
100000013	01/30/2023	Partially Counted	Amie Lammers
100000041	02/20/2023	Partially Counted	Atul Savur
100000042	02/20/2023	Partially Counted	Atul Savur

Home page

Build Cycle Count

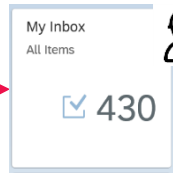
Doc #	Doc. Date	Plant	Claimed by
100000000	2023-01-05	M001	C7X4
100000010	2023-01-05	M001	ZUN
100000011	2023-01-05	M001	ZUN
100000020			

What does the future look like?



Current POC

- After hours material checkout



After Hours Warehouse Log

****Completion of log is required by the Shift Lieutenant accompanying material requester.**
The Shift Lieutenant must remain with requestor(s) at all times within controlled areas.**

Requestor Name _____ Date _____
(Print) (Last, First)

Shift Lieutenant Name _____ Time _____

Work Order # _____ SAP Reservat _____

List all items taken. Use additional sheets if necessary. Fill log

Material Number	Description

The screenshot displays the SAP S/4HANA interface for a maintenance order. The browser address bar shows the URL: <https://e4dmgrouppnet.com/sap/bc/ui2/fflo/sap-client=1000/sap-language=EN/MaintenanceOrder-change/sap-ui-tech-hint=GUI>. The page title is "Change Preventive Maintenance Order 1200278614: Central Header".

Key data points visible in the screenshot include:

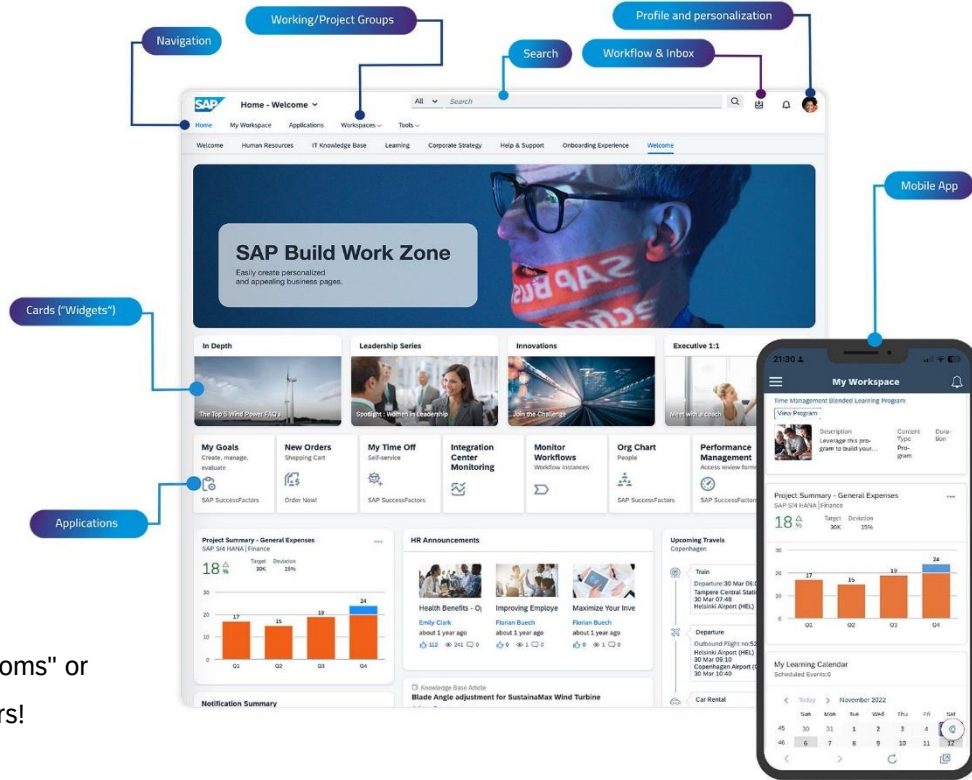
- Order: PREY 1200278614 | GP2.COND BYPASS SPRAY PMP 1.24M
- System Status: REL CSER MANG MMT PRC SETC | P2RS MOCN
- Person responsible: PlannerGrp: MECH / R170 CNTR MECH PLANNER; * Mruak.cdr: SHOMECH / R170 GB SHGP MPC Mecha...
- Dates: Disc start: 04/17/2019 07:00; Basic fin.: 04/17/2019 08:39; Priority: 2 Routine
- Reference object: Func. Loc.: _____; Equipment: 18000784351 | CONDENSATE BYPASS SPRAY PUMP 1.1480
- Mail/in data: Mail Start: 09/06/2023 14:33:38; Mail End: _____ 00:00:00
- First operation: Operation: COUPLING INSPECTION - 24M | Calc. key: Calculate work

What does the future look like?



SAP Build Work Zone Advanced Edition

- Secure login & single sign-on
- Access to SAP & non-SAP systems
- Integration of custom applications
- User-specific personalization
- Integration of unstructured content
 - Web Content
 - Documents
 - Texts
 - Images
 - Video
- Interactive workspaces ("Collaboration Rooms" or "Workspaces"), can be created by the users!





rwphelan@marathonpetroleum.com