

ValveLink: Future Vision

Presentation and Prototype

September 13, 2019

EMERSON



What you'll see today

Research Recap

Design Principles

Prototype

Next Steps



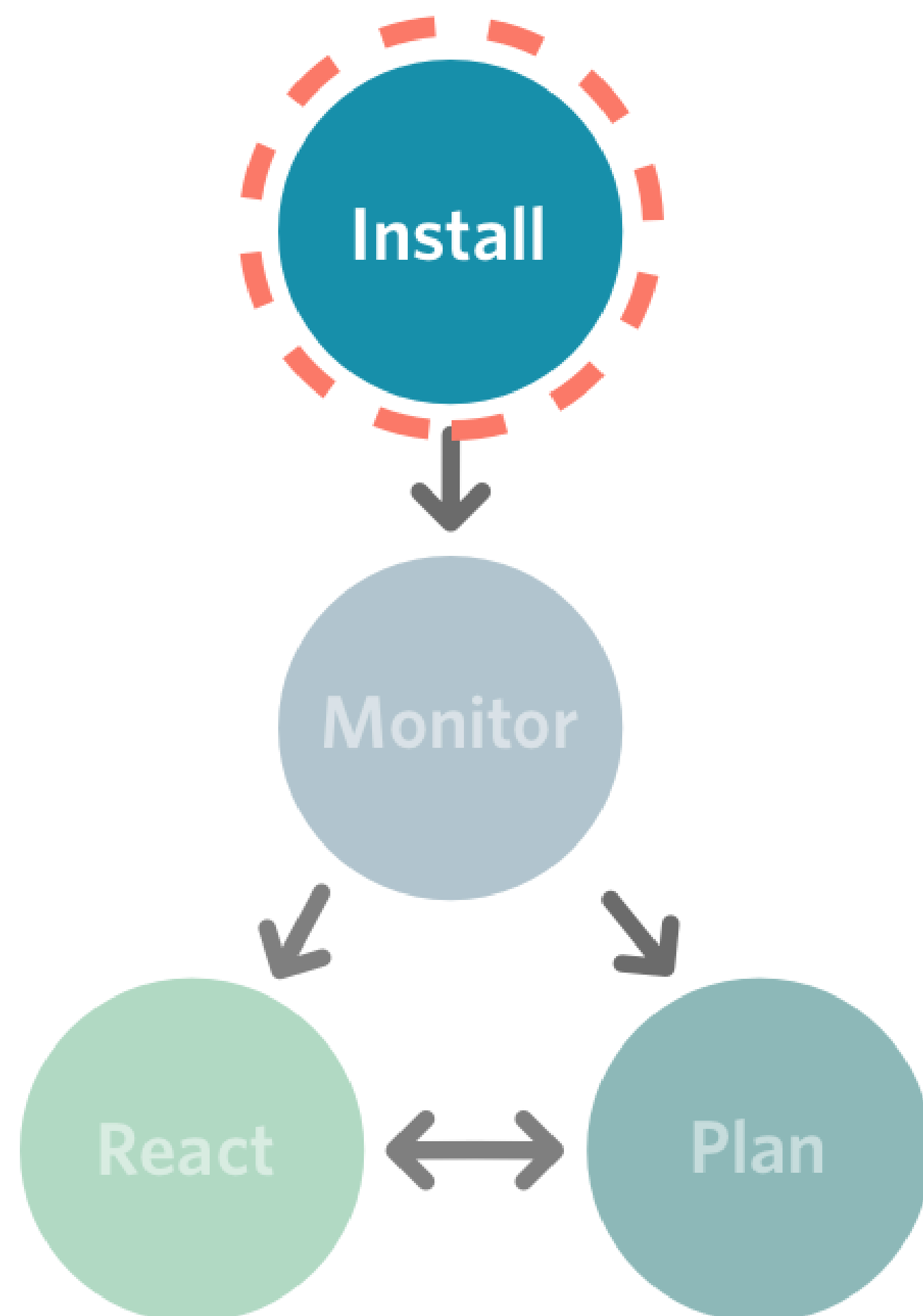


Research Recap

A photograph of an oil field at sunset. The sky is a gradient of blue and orange. In the foreground, there are several large, dark pipes or valves. In the background, there are hills and an oil pumpjack. The overall scene is industrial and atmospheric.

Vision Statement

The new ValveLink software proactively monitors valve health and diagnoses valve issues while providing a modern, guided, time-saving experience that inspires confidence and empowers users to keep their valves running optimally.



Install Software

Set-up Software

Users (internal + partners)

Auxiliary Devices

- e.g., Modems, Image Scanning, AR, Voice

- Management Systems (AMS and DTM)

- Licensing

- Apply Template

Tag Configuration

Factory Signature

Template

Initiate Chain of Custody

To-Do List

Baseline Calibration

Calibration Result

Install Device in Plant

Diagnostic for Validation

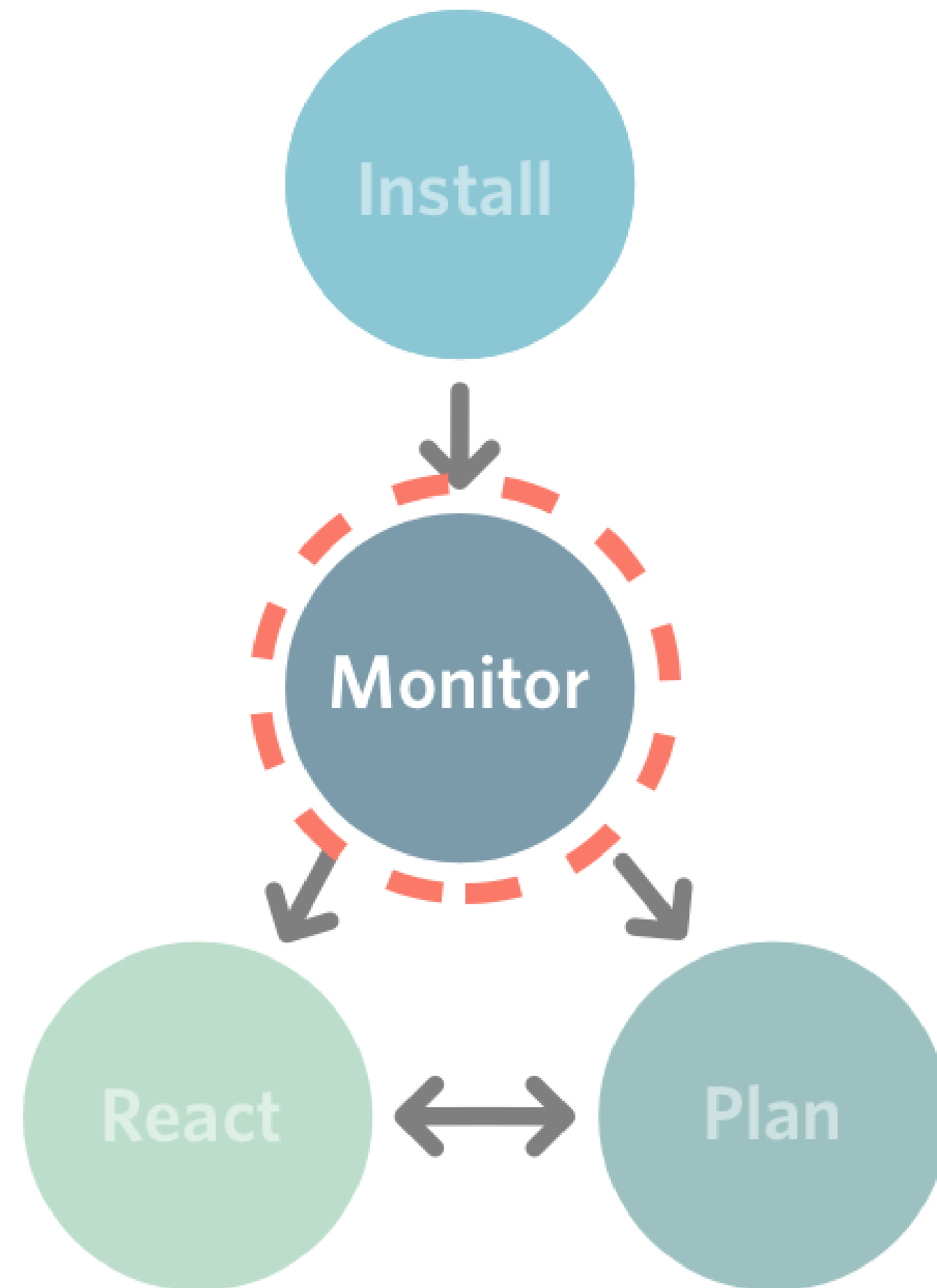
Results

Data Opt-In and Opt-Out

Valve Build Sheet

Lead Times, Ordering info

Share Data with Emerson



Configure Dashboard

Customize Views

User-defined Thresholds

View Valve in Dashboard

Last Connected

Most Recent Diagnostic Data

Sort/Configure

Schedule Monitoring for Valve

Single vs. Batch

Assign Valve Attributes

Criticality

Location

Unique IDs

Group

View Health Trends and Index

View Alerts

Receive Push Notifications

Push into Watchlist

Create Work Order

Ignore

Hide

Flag for Planning

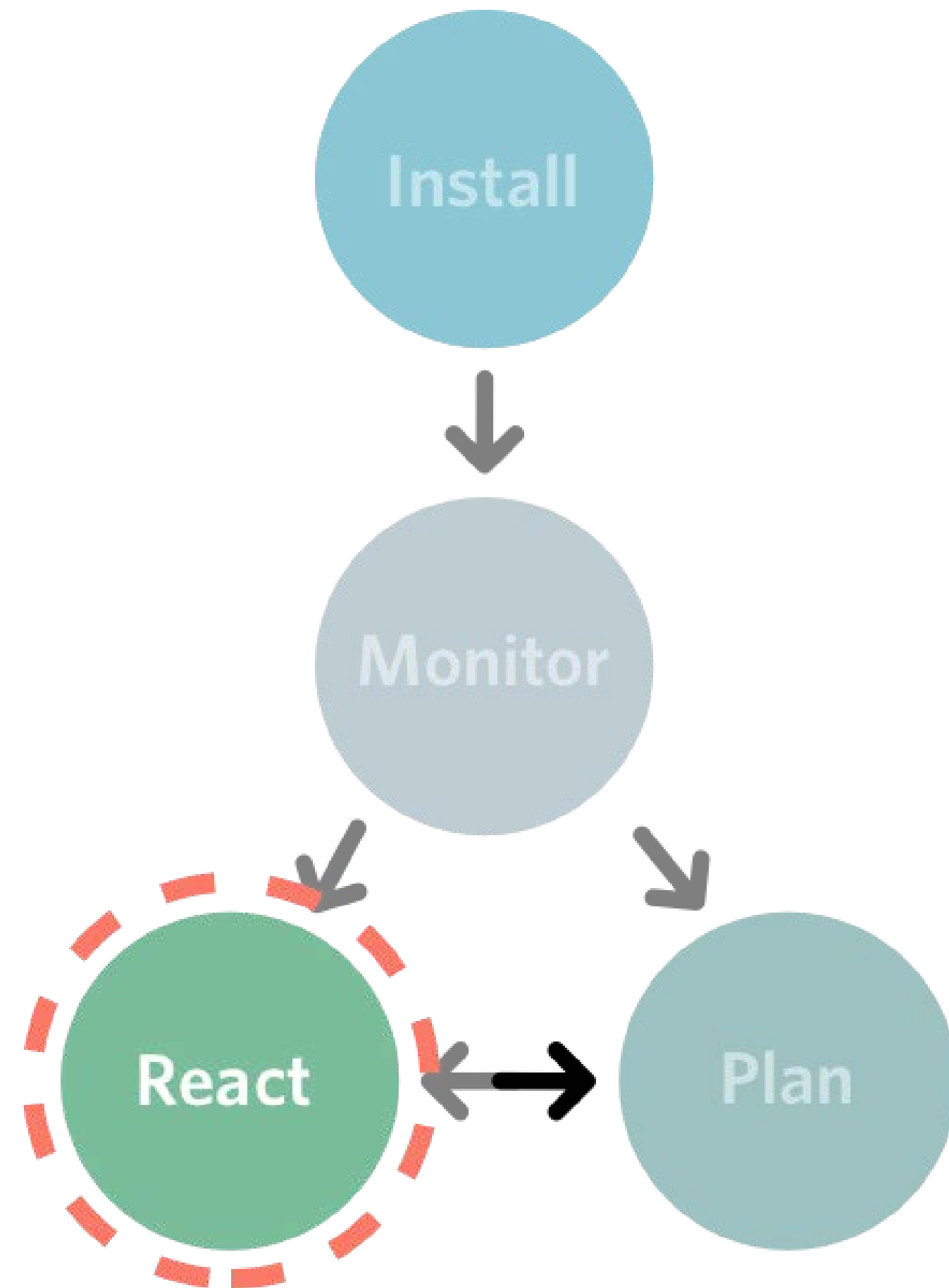
Generate Alert Snapshot

Prioritize/Assign Alert

Set DVC Actions

Pull Alert Records

Clear Buffer



View Alert

Actionable Insight
(e.g., your pressure is low)

Guided Troubleshooting

Take Actions

- Offline Diagnostics
- Online Diagnostics
- Manual Inspection and Go to Valve and Adjust it
- Engage SME and Get Expert Help
- Work Order
- Parts Order

Reference Historical Issues

From Single Device

From Plant

From Multi-Plant Enterprise

View Advanced Graph Data

Manipulate View

Export

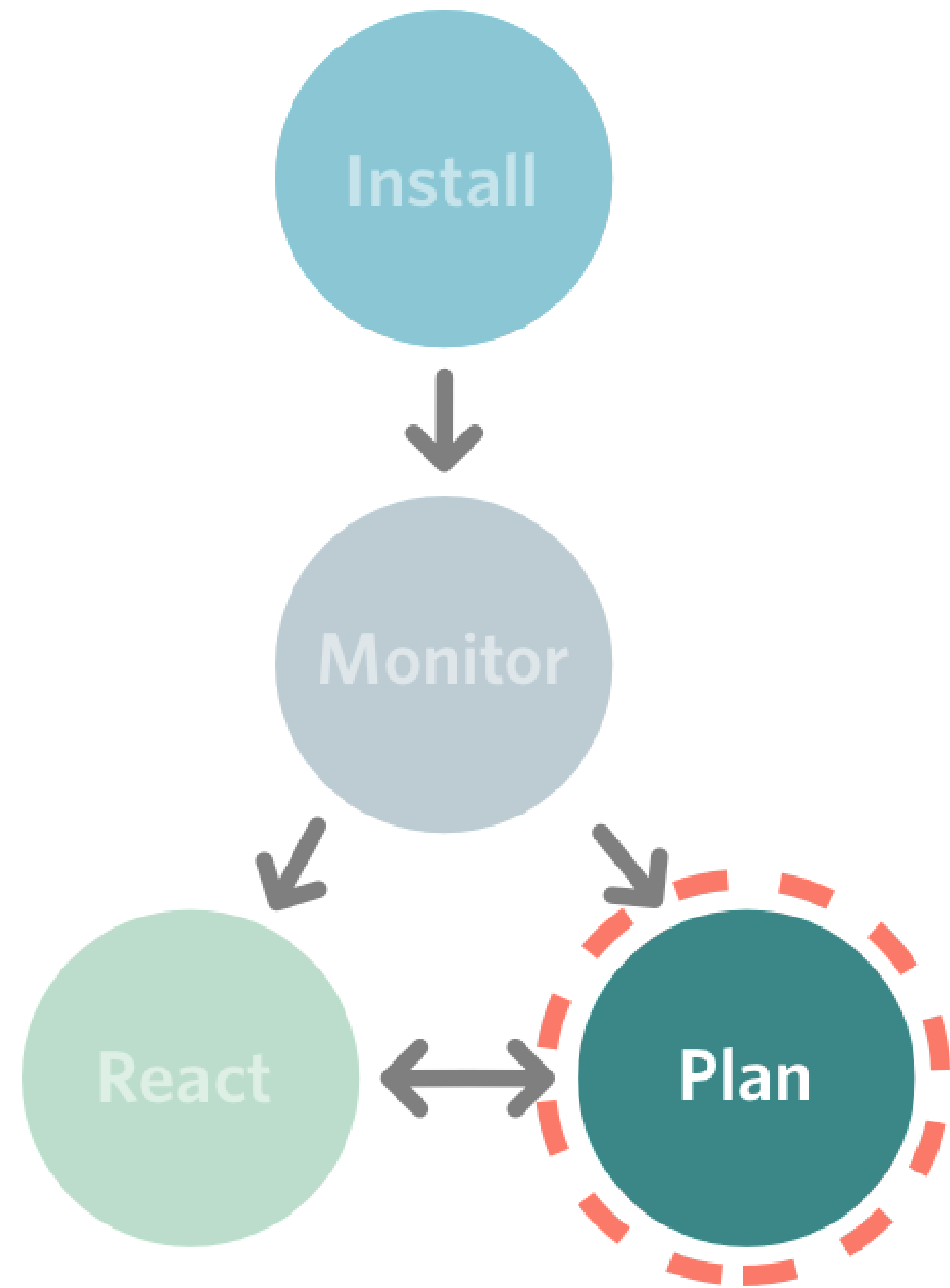
Get Help

How-to Videos

AR Assist

Live Support

Knowledge Base



Manage Plan

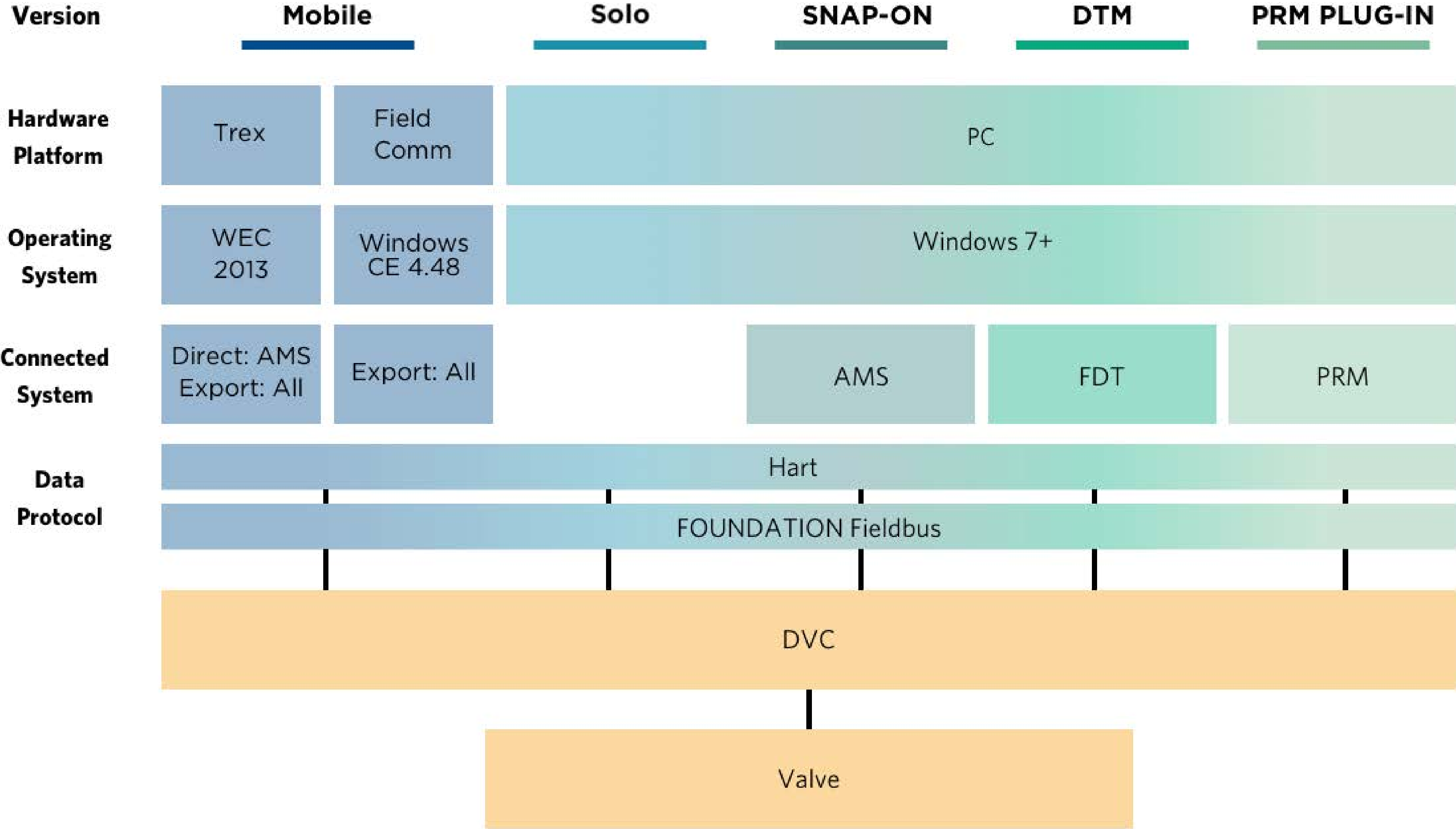
- Pre-Report
- Post-Report
 - Share Success
- Contact SME for Help

Schedule Activities and Reminders

- Manual Task (e.g., replace bracket)
- Flag for Manual Data Pull
- Work Orders
- Parts to Order
- Installation
- STO Setup

View Calendar

- Outage Dates
- Order Dates
- Edit/Remove Item(s)

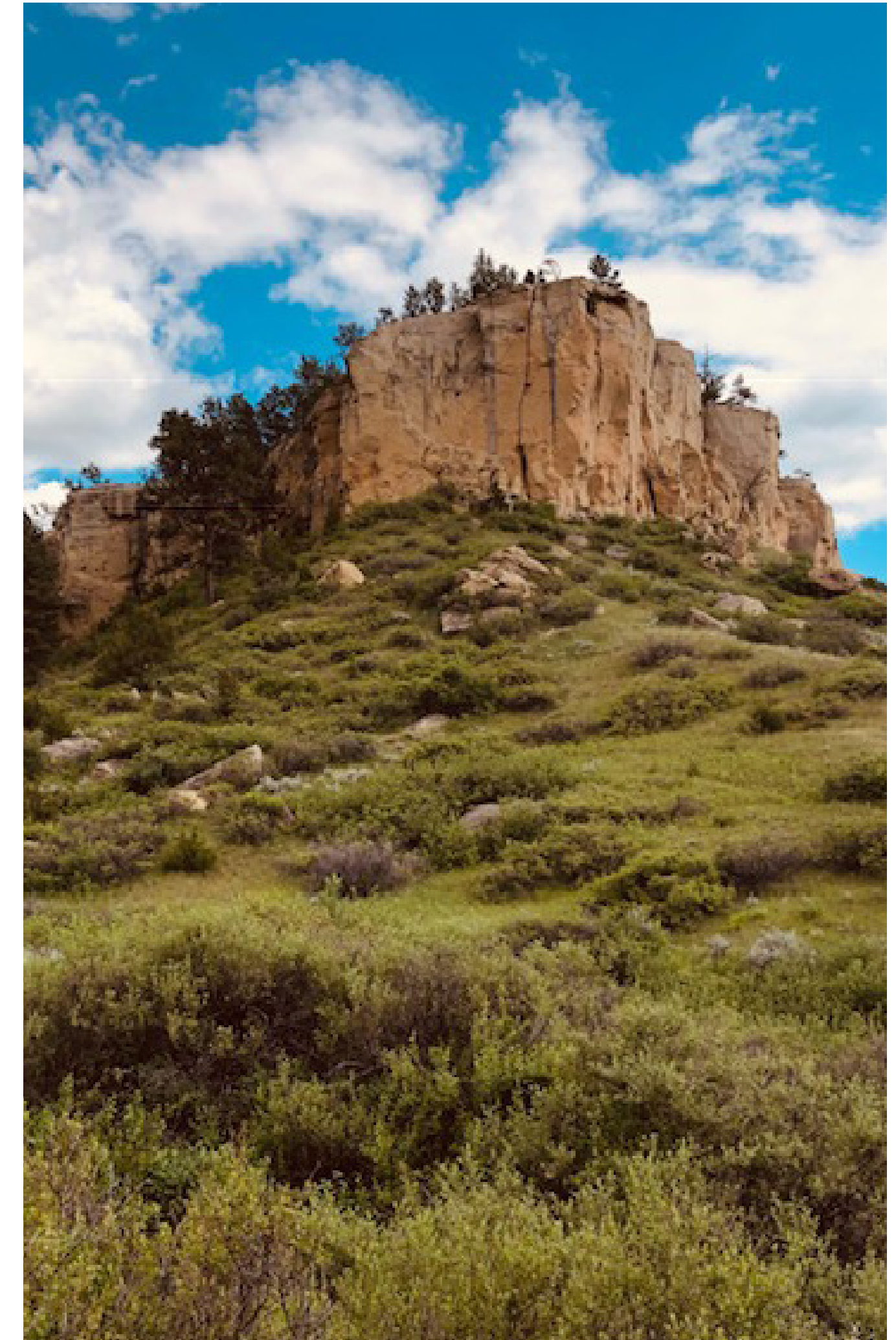




Bayer Crop Sciences
Muscatine, Iowa



WE Energy
Milwaukee, Wisconsin



CHS Refinery
Billings, Montana

Joel Holmes

Principal Engineer

Bayer Crop Sciences, Muscatine, Iowa

"In my mind, if you open up ValveLink you should come to a menu or some sort of system with buttons to take a recommended action. Something intuitive!"





Bob Vigansky

Computer Instrument Technician
WE Energies, Milwaukee, Wisconsin

"I would like to have the ability to look at this device and look at historical data, not live data. I want a way to open up the valve within VL without having to look at the status monitor live. I want to look at the dynamic scan, or past data, without taking the time to go find the device."

"ValveLink should allow for image upload for the TAG, not just the task...and the ability to scribe notes!"

Ken Paulson

Process Controls Engineering Supervisor
CHS Refinery, Billings, Montana

“The user environment of mobility is a big deal.... There is a lot of effort at this refinery and others to talk about what we want to look like in the future with respect to mobile tools. We want a commercial, off the shelf tablet that we can wander around and use different tools.”

“It would be massively beneficial to be able to take a picture of the tag itself and store that data since we have QR codes attached to each tag.”

“Augmented reality could be valuable to communicate from group to group.”





Dashboard

Customization

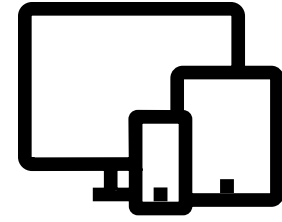
Grouping: Zones, Valve Type, and Criticality

View trends for valves and groups

Customize glanceable data and sorting and filtering by chosen values

Monitoring

Allow monitoring and other diagnostic needs to be run dynamically and conditionally



Platform

Device-agnostic experience

Create an experience that can be deployed and accessed on any preferred device or OS

Connected Experience

Ensure that the platform is built to accommodate both solo and fully connected functionality, striving for feature parity.



Alerts

Actionable Insights

More information alerts

Provide direction on what to do next

Base on historical, universal data

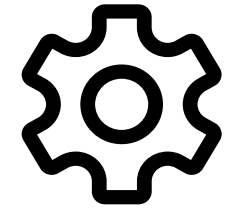
Monitoring

Ability to stash, dismiss, and snooze alerts

Add date-related data and trends

Create a clear and easy to understand alert labeling system

Predictive logic and settings to better surface alerts that matter to the user



Tools

Batch Runner

Simplify the process, reduce clicks

Wizards

Revamp wizards and support methods for set-up, installations, etc.

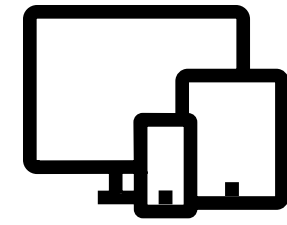
-Including step-by-step instructions

Search

Create a robust and dynamic search

Third-Party Services

Allow integration with work order systems and other auxiliary applications



Data

Valve Data

Make comparing records more accessible and informational

Offer ability to perform trend analysis

Scratch Pad

Tag-specific notes that persists through incidents and interactions

Track, per user, what has been done to each tag

Preventative Maintenance

Value Proposition

Longer valve life, recommended replacement parts

Syncing

Automated and easier to manage

Help

Revamp help strategy to better support users

Calls to Action and Affordances

Need more directives, hints, and relevant tasks surface

Actionable information should be presented with affordances to move to the next step of the task

Balance Spatial Allocations and Create Hierarchies

Too much unused screen space while working areas are cramped and hidden

Allow resizing and expansion and collapsing of areas

Need to prioritize menu items and affordances within working spaces to create visual hierarchies

Iconography & Menus

More intuitive icons, potentially keep text labels visible or optional rather than rely solely on hover tool-tips

Need clearer separation between universal vs contextual task menus

Feedback

Need better visual communication of latency and load times for data transfers

Not enough validation checks (“are you sure?”) when completing irreversible actions (TREX)



Design Principles

Design Principles

Modernize the ValveLink design style while ensuring a consistent, usable core experience that can be translated across devices

Exercise restraint (less is more), with a design approach that considers the user's environment and respects their time

Introduce additional features and functionality with a modular mindset so the design can be extended without undermining the core experience

Branding Elements

color

We chose a monochromatic blue color scheme as a nod to Emerson, as well as ensuring the data remains the focus. A monochromatic primary color palette will draw the users' eyes to the alerts and/or health scores.

Primary



Alerts



Health Scores



Branding Elements

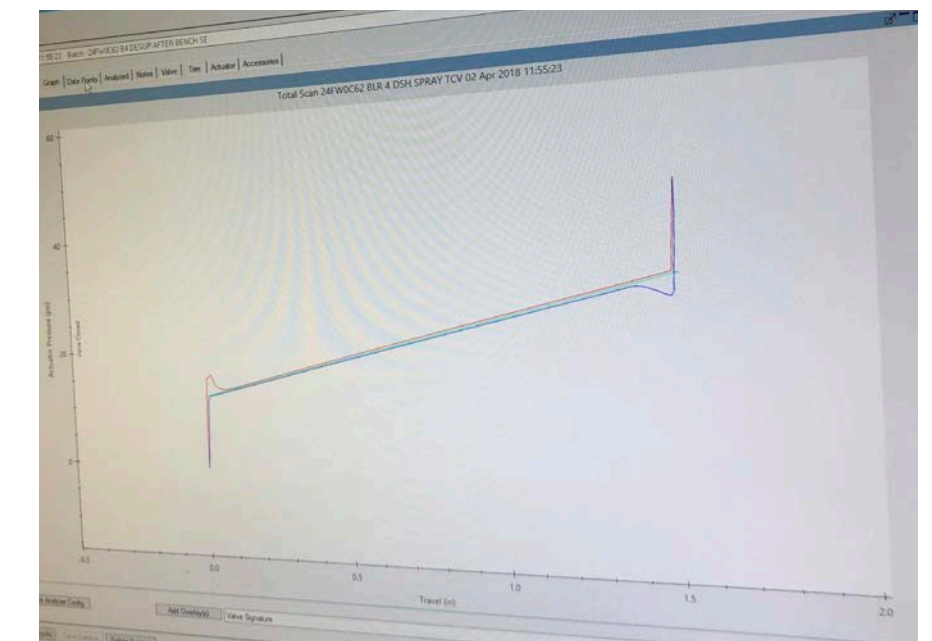
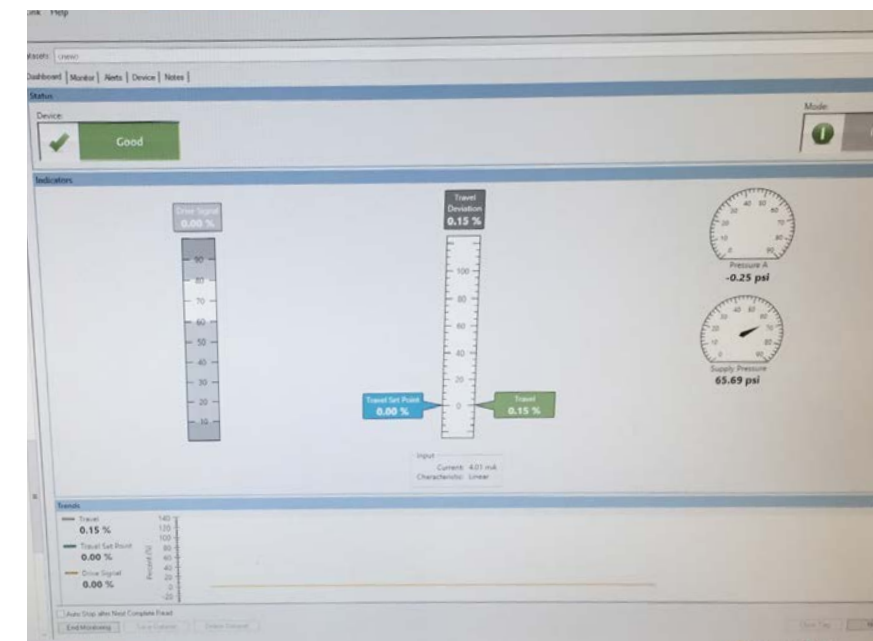
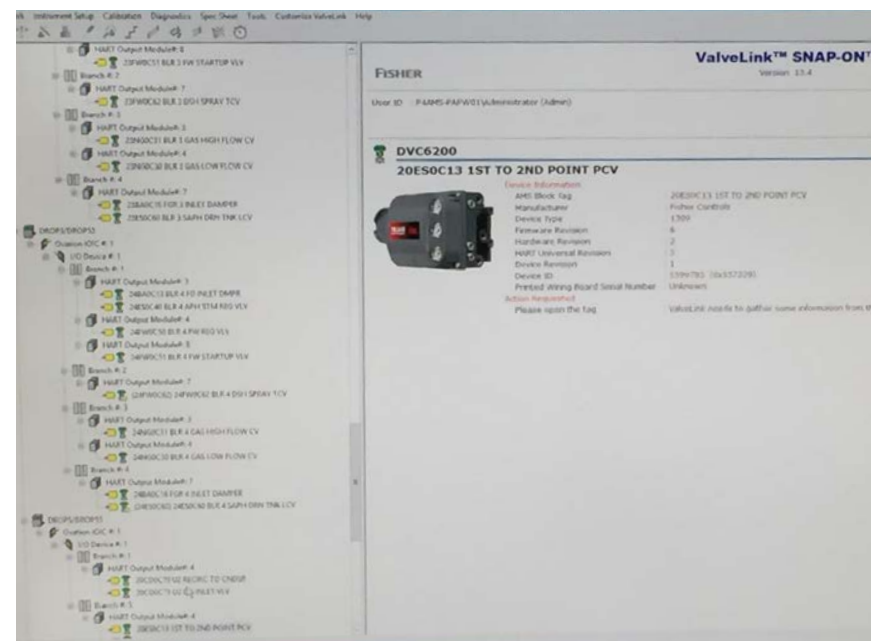
logos

The ValveLink word mark is based off Montserrat Black Italic. We chose this base font to represent strength and industrialism. The forward slant embodies the movement of fluids through industrial plants.

The VL secondary mark is taken from the “V” and “L” from the main logo, and is connected. This represents how pipes, valves, and fluids are intrinsically connected.



Design Principles From / To



From

No clear home base or starting point

Disorganized navigation and information architecture

Information buried behind blank screens and modals, requiring multiple clicks to discover

Complex configuration and validation processes

Steep learning curve requires advanced engineering experience

To

Customizable dashboard with key summary data

Navigation grouped by system, universal, and contextual tasks

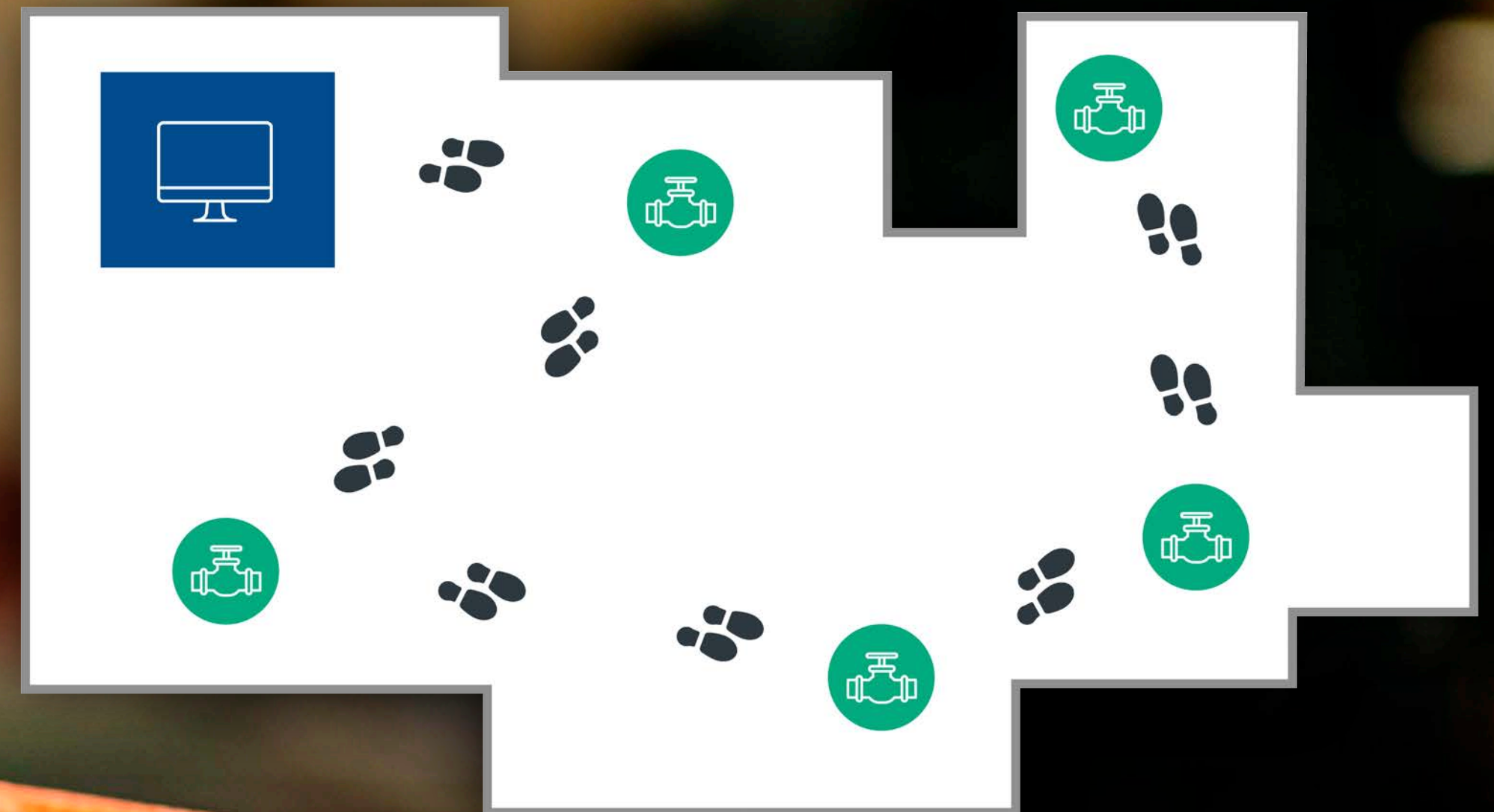
Glanceable, easy-to-access key tasks and prompts to action

Step-by-step instructions and intuitive confirmations

Simplified interface guided by actionable insights



Engineer's Environment





Prototype

The image shows a close-up of industrial machinery, likely a valve or actuator, with a large white handwheel in the foreground. The background is filled with more machinery, including several green handles, all rendered in a soft, out-of-focus state. The lighting is bright, suggesting an outdoor industrial setting.

Next Steps

Next Steps

Usability Testing at Emerson Exchange (9/23 & 9/24)

Design Sprint Cadence: 4 x 3-week sprints

Sprint 0

Requirements gathering & initial prioritization of tasks

Kick-off on 10/1

Sprint 1, 2 & 3 - Design Sprints

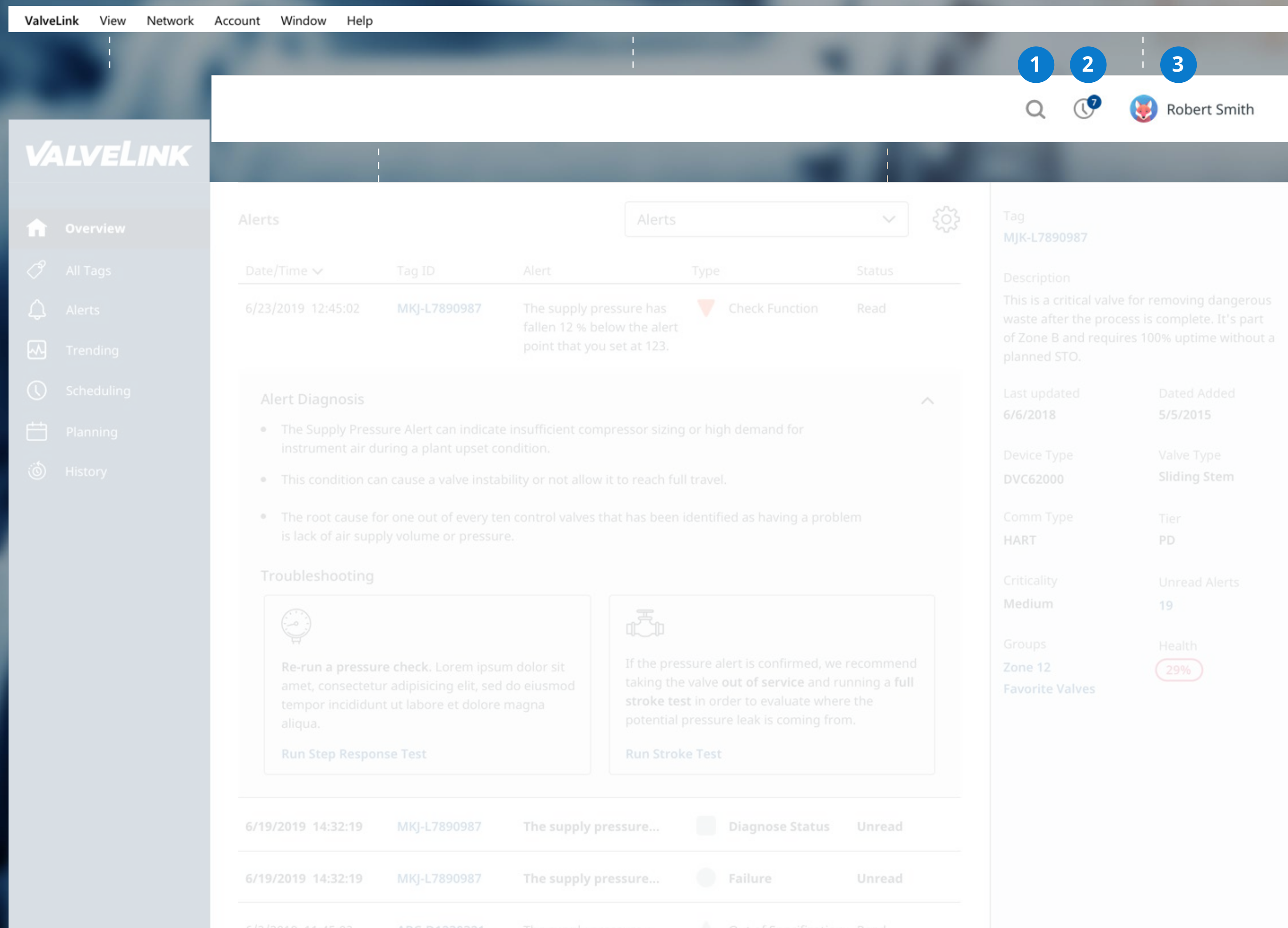
KO: prioritize features from requirements backlog

Midpoint Review: execute on prioritized tasks

Final Review

The image shows a close-up of industrial machinery, likely a large metal pipe or tank, with several bolts and nuts visible. The scene is bathed in a strong blue light, creating a monochromatic effect. In the background, more machinery is visible but out of focus. The word "Appendix" is centered in the middle of the image in a white, sans-serif font.

Appendix



System Settings

The System Settings bar appears as a thin white strip above the ValveLink logo. It includes system-wide controls, such as system-level preferences, system help, network configuration, license information and other administrative settings.

Top Navigation

The Top Navigation area appears as a thin white strip above the main user interface and below the system navigation. It includes search (and type-ahead search), scheduled tasks, and last logged in user/profile.

1. Search with predictive results
2. Scheduled tasks
3. Logged in user

ValveLink View Network Account Window Help

VALVELINK

1

2 Health Summary

3

Overview

- All Tags
- Alerts
- Trending
- Scheduling
- Planning
- History

Speak a command

Search, Notifications, Robert Smith

Total Tags: 78

- Unhealthy (22)
- At Risk (24)
- Healthy (32)

Trouble Tags Group

Tag ID	Device	Criticality	Updated	Health
ABC-D1230321	DVC60000	Low	7/1/19	100%
EFG-H4560654	DVC50000	Medium	7/2/19	38%
IJK-L7890987	DVC62000	Medium	7/1/19	19%
DEC-P1265321	DVC60000	High	7/1/19	70%
FGB-D6230309	DVC60000	Medium	7/3/19	90%
DEC-P1265321	DVC60000	High	7/3/19	29%

Recent Activity

- 7.29.2019 - Tony Johnson
Ran a Partial Stroke Test
View Results
- 7.24.2019 - Robert Smith
Edited the Dynamic Response Configuration
- 7.23.2019 - Robert Smith
Added Tag to Group "Zone B"
- 7.22.2019 - Admin
Travel Deviation Performance Diagnostic Completed
View Results
- 7.21.2019 - Admin
Batch ABC123 Tasks Completed
View Results
- 7.14.2019 - Admin
Batch ABC123 Tasks Completed
View Results

View Full History

Quick Links

- Add New Tag
- Create Plan
- Schedule New Batch
- Configure Overview

Diagnostic Time Trends

Calibrations Diagnostics

January 2019 February 2019 March 2019 April 2019

Avg: 6h 21m Avg: 6h 14m Avg: 5h 58m Avg: 4h 51m

Avg: 5h 57m Avg: 6h 02m Avg: 5h 39m Avg: 4h 07m

6h 34m

Device Tiers

Groups: Zone 1 Zone 2 Zone 3

HC AD PD SIS

Scheduler

July 5, Wednesday

M	T	W	T	F	S	S
3	4	5	6	7	8	9

7:45 am — PD Test on ABC-D1230321 Complete

8:15 am — PD Test on IJK-L7890987 Complete

9:30 am — PD Test on JET-B0390912 Upcoming

9:30 am — PD Test on JET-B0390912 Upcoming

9:30 am — PD Test on JET-B0390912 Upcoming

Main Navigation

The Main Navigation is the vertical blue strip that appears immediately below the system settings strip. It includes the ValveLink logo, the top sections and related sub-tasks, and an area for voice-based interactions. The main Navigation can be collapsed to add more real estate to the center area of the user interface. The Main Navigation represents a key branding area for the new ValveLink experience.

1. Logo
2. Top sections & sub-tasks
3. VoiceLink command area

ValveLink View Network Account Window Help

VALVELINK

All Tags / MJK-L7890987 Dashboard

MJK-L7890987 Edit Tag Details

Description: This is a critical valve for removing dangerous waste after the process is complete. It's part of Zone B and requires 100% uptime without a planned STO.

Health: 29%

Last Updated: 6/6/2018 | Date Added: 5/5/2015 | Last Serviced: 8/5/2016

Invoice: Add Invoice | Device Type: DVC6200 | Valve Type: Sliding Stem

Comm Type: HART | Tier: PD | Criticality: Medium

Unseen Alerts: 19 | Groups: Zone 12 | Model Info: Spec Sheet, CAD/3D Drawings, Manual, Help Videos

Diagnostics

Tag Signature - 5/5/2018 | Last Diagnostic: 7/4/2019

Actuator Pressure (psi) vs Travel (deg) graphs.

Right Panel:

- 1. Status: MJK-L7890987, Connected
- Instrument Mode: Automatic, Manual
- 2. View Monitoring, View Alerts, View Diagnostics, View Detailed Setup
- 3. Full Configuration Template, Auto Travel Calibration, Instrument Status, Step Response, Dynamic Scan, Partial Stroke Test
- 4. Notes

Speak a command

The Right Panel

The Right Panel is the vertical, powder blue strip that appears immediately below the top navigation. It includes contextual information, calls to action based on the content interactions available to the immediate left of the right panel, and access to create or view related notes.

1. Contextual Information*
2. Primary CTAs*
3. Secondary CTAs*
4. Notes

*Will vary depending on content in the central section of the user interface. In this case, the Right Panel supports the a Tag Details page.

ValveLink View Network Account Window Help

VALVELINK

Overview
All Tags
Alerts
Trending
Scheduling
Planning
History

1

2 View Groups

3 Find a tag

4

Tag ID	Device Type	Valve Type	Criticality	Updated	Unread Alerts	Health
ABC-D1230321	DVC60000	Sliding Stem	Medium	7/1/2019	45	100%
EFG-H4560654...	DVC50000	Rotary	Medium	8/1/2018	42	38%
MJK-L7890987	DVC62000	Sliding Stem	High	7/1/2018	40	29%
ABC-D1230321...	DVC60000	Sliding Stem	Medium	7/1/2018	28	89%
EFG-H4560654...	DVC50000	Rotary	Medium	6/15/2018	22	70%
MJK-L7890987	DVC62000	Sliding Stem	High	6/6/2018	19	29%
ABC-D1230321...	DVC60000	Sliding Stem	Medium	5/28/2018	16	55%
EFG-H4560654	DVC50000	Rotary	Medium	5/7/2018	12	78%
MJK-L7890987	DVC62000	Sliding Stem	High	3/19/2018	9	90%
ABC-D1230321	DVC60000	Sliding Stem	Medium	1/18/2018	7	14%
EFG-H4560654...	DVC50000	Rotary	Medium	11/18/2017	3	21%
MJK-L7890987	DVC62000	Sliding Stem	High	9/15/2017	1	65%
ABC-D1230321...	DVC60000	Sliding Stem	Medium	7/19/2017	0	73%
EFG-H4560654	DVC50000	Rotary	Medium	4/29/2017	0	85%
MJK-L7890987	DVC62000	Sliding Stem	High	9/15/2017	1	65%

Last updated: 7/1/2019 by Robert Smith

Device Types
DVC5000 (6)
DVC6000 (14)
DVC6200 (16)

Valves Types
Sliding Stem (24)
Rotary (12)

Comm Type
Hart (36)

Tier
PD (36)

Criticality
High (6)
Medium (14)
Low (16)

Recent Groups
Zone 12
Highly Critical
Favorite Valves
Group A
Group B

Add New Tag

Notes

Speak a command

All Tags

The All Tags view is a primary experience of the software. The All Tags view appears in the center area of the user interface, and lists all tags that have been added to the application. It includes structured data about each tag, which can be sorted and filtered to adjust to the user's needs. The All Tags view also includes a scoped search mode to find specific tags, as well as a link to view tags organized into Groups.

1. Tag summary details w/ VL Health Score
2. Tag Groups access
3. Tag search
4. Contextual settings/controls

ValveLink View Network Account Window Help

VALVELINK

Overview
All Tags
Alerts
Trending
Scheduling
Planning
History

1 **All Tags / Groups** **2 View All Tags** **3 Find a group: All** **4**

Group Name	Updated	Tags	Unread Alerts
Zone 1	8/14/2019	6	45
Highly Critical	8/1/2019	3	42
Zone 2	7/19/2019	24	40
Favorite Valves	6/11/2019	6	45
Low Criticality	5/12/2018	3	42
Problem Tags Lorem Ipsum Dolor Sit Amet	3/1/2018	24	40
Zone 3	2/17/2018	6	45
Group A	2/4/2018	3	42
Trouble Tags Group	2/1/2018	24	40

Last Updated
7/1/2019 by Robert Smith

Device Types
DVC5000 (6)
DVC6000 (14)
DVC6200 (16)

Valves Types
Sliding Stem (24)
Rotary (12)

Comm Type
Hart (36)

Tier
PD (36)

Criticality
High (6)
Medium (14)
Low (16)

Recent Groups
Zone 12
Highly Critical
Favorite Valves
Group A
Group B

Create Group

Notes

Speak a command

All Groups

The All Groups view is a sub-view within the All Tags section of the application. It includes all created groups as well as the ability to create new groups and add tags to existing groups. Groups can be added to batch scheduling.

1. Group summary details
2. All Tags access
3. Group search
4. Contextual settings/controls

ValveLink View Network Account Window Help

VALVELINK

Overview
All Tags
Alerts
Trending
Scheduling
Planning
History


All Tags / MJK-L7890987

Dashboard

MJK-L7890987 Edit Tag Details

1 Description
This is a critical valve for removing dangerous waste after the process is complete. It's part of Zone B and requires 100% uptime without a planned STO.

2 Health
29%

3 

Last Updated: 6/6/2018
Date Added: 5/5/2015
Last Serviced: 8/5/2016

Invoice: Add Invoice
Device Type: DVC6200
Valve Type: Sliding Stem

Comm Type: HART
Tier: PD
Criticality: Medium

Unseen Alerts: 19
Groups: Zone 12, Favorite Valves
Model Info: Spec Sheet, CAD/3D Drawings, Manual, Help Videos

4 Status: MJK-L7890987
Connected

Instrument Mode: Automatic, Manual

View Monitoring
View Alerts
View Diagnostics
View Detailed Setup

Full Configuration Template
Auto Travel Calibration
Instrument Status
Step Response
Dynamic Scan
Partial Stroke Test

5 Diagnostics

Tag Signature - 5/5/2018
Last Diagnostic - 7/4/2019

Actuator Pressure (psi) vs Travel (deg) graphs showing 1st, 2nd, and Best Fit curves.

Speak a command

Tag Details

The Tag Details view includes all of the detailed information associated with a singular tag and its constituent parts. The Tag Details view includes a drop-down menu with access to all key sub-sections within the Tag Detail.

1. Tag information/meta data
2. Tag drop-down menu
3. Tag image (factory, CAD, user-generated)
4. Contextual settings/controls
5. Diagnostic results
6. History (not pictured, scroll to view)

ValveLink View Network Account Window Help

VALVELINK

Overview
All Tags
Alerts
Trending
Scheduling
Planning
History

All Tags / MJK-L7890987 3 Alerts

MJK-L7890987

Date/Time	Tag ID	Alert	Type	Status
6/23/2019 12:45:02	MKJ-L7890987	The supply pressure has fallen 12 % below the alert point that you set at 123.	Check Function	Read

1 Alert Diagnosis

- The Supply Pressure Alert can indicate insufficient compressor sizing or high demand for instrument air during a plant upset condition.
- This condition can cause a valve instability or not allow it to reach full travel.
- The root cause for one out of every ten control valves that has been identified as having a problem is lack of air supply volume or pressure.

2 Troubleshooting

Re-run a pressure check. Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua.

[Run Step Response Test](#)

If the pressure alert is confirmed, we recommend taking the valve **out of service** and running a **full stroke test** in order to evaluate where the potential pressure leak is coming from.

[Run Stroke Test](#)

6/19/2019 14:32:19	MKJ-L7890987	The supply pressure...	Diagnosis Pass	Unread
6/19/2019 14:32:19	MKJ-L7890987	The supply pressure...	Failure	Unread

Speak a command

Status: MJK-L7890987
Connected

Instrument Mode: Automatic Manual

Tag: MJK-L7890987

Description: This is a critical valve for removing dangerous waste after the process is complete. It's part of Zone B and requires 100% uptime without a planned STO.

Last updated: 6/6/2018 | Dated Added: 5/5/2015

Device Type: DVC62000 | Valve Type: Sliding Stem

Comm Type: HART | Tier: PD

Criticality: Medium | Unread Alerts: 19

Groups: Zone 12 | Health: 29%

Favorite Valves

Notes

Tag Alerts

The Tag Alerts list is a sub-section of the Tag Details view. The expanded view provides an alert diagnosis and actionable insights.

1. Alert diagnosis summary
2. Troubleshooting advice
3. Tag drop-down menu

ValveLink View Network Account Window Help

VALVELINK

Overview
All Tags
Add New Tag
Create Group
View Groups
Alerts
Trending
Scheduling
Planning
History

Speak a command

All Tags / MJK-L7890987 **2** Diagnostics

MJK-L7890987
View All Diagnostics

Valve Step Response 19117059 - 7/14/2019 10:35:28 **3** Step Response

1

Results **4**

The Step Response test, which completed at 2:30 p.m., on July 24th, 2019, has registered a potential issue with the tag. The expected packing friction parameters do not match the expected or original specifications of the valve assembly. This deviation may mean that there is a leak from the stuffing box. Packing success and valve operability need accurate gland loading to perform correctly. Packing friction is a byproduct of tightening packing that needs to be compressed. If left unattended, dangerous performance issues can arise.

Troubleshooting

- Review valve installation to ensure high static friction is
- Review the valve actuator sizing followed by test
- If problems persist, please contact your Impact Partner

Note Title

Upload Media
Select Files
Maximum file size: 20MB

Labels
Step Response Critical Test Zone 1
Lorem Ipsum Longer Zone 1

Add Label
Add label and press Enter

Save Note
Cancel

Diagnostic Result

The Diagnostic Result page appears as a sub-section underneath a Tag Detail page. It includes the detailed results of a diagnostic, as well as access to view all diagnostics. The Diagnostic Result page includes the results of the test, recommended actions, and the complete data set of the results.

1. Graphical result
2. Tag drop-down menu
3. Diagnostics drop-down
4. Results summary/actionable insights
5. Data set (not pictured, scroll to view)

ValveLink View Network Account Window Help

VALVELINK

Robert Smith

All Tags / Add New Tag

Step 9 of 10 **1**

Review Configuration

Please review the following tag configuration information.

Tag ID	DVC Model	Valve Style	Actuator Style
SKW-K345438	6200	Sliding Stem	Spring and Diaphragm
Control Mode	Restart Control Mode		
Digital	Resume Last		

Valve Assembly Specifications

Tag ID	Manufacturer	Model Number	Size
SKW-K345438	Fisher	ET	2 inch
Class	Serial Number	Rated Travel	Actual Travel
600	F001400499	2.0 inches	2.059 inches
Stem Diameter	Packing Type	Inlet Pressure	Outlet Pressure
.5 inches	TFE/Single	0.0 PSI	0.0 PSI

Trim Specifications

Seat Type	Leak Class	Port Diameter
Metal	V	1.87 inches

Advanced Setup To make additional configurations, please use Advanced Setup.

Save & Complete Save this configuration as a new template

[← Step 8 Tuning](#)

SKW-K345438 **2**

Configure a new tag step by step or choose a [Configuration Template](#).

Step 9 of 10

- Edit tag name ✓
- Initial setup ✓
- Valve Assembly Specifications ✓
- DVC Specifications ✓
- Inputs/Input Characterization ✓
- Dynamic Response ✓
- Travel/Pressure Control ✓
- Tuning ✓
- Alerts ✓
- Review Configuration ○
- Complete ○

Validate Configuration

Need help?

Speak a command

Add New Tag / Configuration

The Configuration section allows a user to add a device to ValveLink, and make adjustments to the configuration values specific to their plant or facilities needs. Users see the progress of the configuration in the Right Rail of this section.

1. Configuration area
2. Progress area

ValveLink View Network Account Window Help

VALVELINK

Overview
All Tags
Alerts
Trending
Scheduling
Planning
History

Alerts

Alerts

Date/Time	Tag ID	Alert	Type	Status
6/23/2019 12:45:02	MKJ-L7890987	The supply pressure...	Check Function	Unread
6/19/2019 14:32:19	MKJ-L7890987	The supply pressure...	Diagnosis Pass	Unread
6/19/2019 14:32:19	EFG-H4560654	The supply pressure...	Failure	Unread
6/2/2019 11:45:02	ABC-D1230321	The supply pressure...	Out of Specification	Read
5/22/2019 14:00:19	MKJ-L7890987	The supply pressure...	Diagnosis Pass	Read
5/19/2019 10:32:02	ABC-D1230321	The supply pressure...	Failure	Read
5/19/2019 12:23:02	ABC-D1230321	The supply pressure...	Check Function	Read
5/6/2019 14:32:19	MKJ-L7890987	The supply pressure...	Diagnosis Pass	Read
5/6/2019 16:12:13	EFG-H4560654	The supply pressure...	Failure	Read
4/14/2019 14:32:19	MKJ-L7890987	The supply pressure...	Out of Specification	Read
4/14/2019 10:16:22	ABC-D1230321	The supply pressure...	Diagnosis Pass	Read
4/3/2019 09:12:36	ABC-D1230321	The supply pressure...	Failure	Read
3/23/2019 07:45:02	MKJ-L7890987	The supply pressure...	Check Function	Read
3/19/2019 06:30:04	ABC-D1230321	The supply pressure...	Diagnose Active	Read

Total Alerts
Unread Alerts (3)
Read Alerts (34)

Types

- Failure (8)
- Check Function (2)
- Out of Specification (6)
- Diagnosis Pass (12)
- Maintenance Required (6)
- Diagnosis Active (23)

Notes

Alerts

The Alerts section contains a sortable, customizable list of alerts. On click, the alert details expand within the list.

1. Alert list
2. Alert scoped search
3. Alert settings

ValveLink View Network Account Window Help

VALVELINK

Overview
All Tags
Alerts
Trending
Scheduling
Planning
History

Scheduling **3** **View Batches** **4** Find a task **5**

September 2019 **1**

Scheduler **3** Tuesday, September 3rd

W T F S S M T W T F S S M T W T F
28 29 30 31 1 2 3 4 5 6 7 8 9 10 11 12 13

7 batches are scheduled

Daily Tasks **2**

9/3/2019

Scheduled Run	Task	Batch	Frequency
13:00	Dynamic Scan	Batch_A_F_123	Weekly
13:15	Valve Friction Test	Batch_A_F_123	Weekly
13:45	Step Response	Batch_12_D_123	Monthly (Every 2)
14:00	Dynamic Error Band	Batch_BCD_567	Daily (Every 3)
14:15	Full Performance Diagnostic Test	Batch_Building 4	Daily
15:45	Drive Signal	Batch_Zone 2	Daily (Every 2)
16:30	Step Response	Batch_Zone 8	Monthly (Every 2)

Weekly Schedule

Organize a set of tags into batches to run diagnostics and other tasks on a regularly scheduled basis. You can run multiple diagnostics and tasks when scheduling batch routines.

Schedule New Batch

Speak a command

Diagnostics in Progress 1 of 2 50%

Notes

Scheduling

The Scheduling section allows a user to schedule one or multiple tests for one or multiple tags on a recurring basis. Users can view all scheduled tests through the main Scheduling page. Users can create new batch tests or view the complete list of scheduled batches within this section of the software.

1. Calendar view
2. Task view
3. View batches
4. Search for tasks or batches
5. Scheduling settings

ValveLink View Network Account Window Help

VALVELINK

Overview
All Tags
Alerts
Trending
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Planning
History

Planning / Q42019 Zone 4 STO

Q42019 Zone 4 STO [Edit Details](#)

Last Updated: 6/6/2018 Date Added: 5/5/2015 **1**

Description
We're taking Zone 4 offline for 3 hours in order to swap out 6 mission-critical tags with all new DVCs, and we will connect these to the new multiplexers and update several I/Os to reconfigure this zone. The final details are being reviewed by Russ for approval next week.

Septemeber 2019

S	M	T	W	T	F	S
22	23	24	25	26	27	28

2 Activity Plan [Add Another Activity +](#) **3** [Export Plan](#)

9/25/2019

Time	Activities	Tag/Group
13:00	Full maintenance check	Favorite Valves
13:00	Replacement Parts	Favorite Valves
16:00	Order an extra set of spares	

9/26/2019

Time	Activities	Tag/Group
01:00	Safety & Emergency Test	
01:00	Reporting	

Last Updated: 7/1/2019 by Robert Smith

[Export Plan](#)
[Customize Activity Options](#)
[Delete Plan](#)

Notes

Speak a command

Plan Detail

The Planning section allows a user to create a plan for an STO or other events that requires downtime or special consideration. The Planning section includes the functionality to create, edit, and view plans.

1. Summary view
2. Planned activities
3. Export plan
4. Create plan (not pictured)
5. Plan List (not pictured)

ValveLink View Network Account Window Help

VALVELINK

Overview
All Tags
Add New Tag
Create Group
View Groups
Alerts
Trending
Scheduling
Planning
History

Speak a command

All Tags / MJK-L7890987

Diagnostics

MJK-L7890987

< View All Diagnostics

Valve Step Response 19117059 - 7/14/2019 10:35:28

Step Response

Travel (%)

Time (sec)

Data Target

38s, 130%

Add Overlay

Results

The Step Response test, which completed at 2:30 p.m., on July 24th, 2019, has registered a potential issue with the tag. The expected packing friction parameters do not match the expected or original specifications of the valve assembly. This deviation may mean that there is a leak from the stuffing box. Packing success and valve operability need accurate gland loading to perform correctly. Packing friction is a byproduct of tightening packing that needs to be compressed. If left unattended, dangerous performance issues can arise.

Troubleshooting

- Review valve installation to ensure high static friction is...
- Review the valve actuator sizing followed by test...
- If problems persist, please contact your Impact Partner...

Robert Smith

Note Title

1

2

3

4

Upload Media

Select Files

Maximum file size: 20MB

Labels

Step Response x Critical Test Zone 1 x

Lorem Ipsum Longer x Zone 1 x

Add Label

Add label and press Enter

Save Note

Cancel

Notes

The Notes tool appears at the bottom of the contextual Right Panel. When selected, it expands vertically and fills the Right Panel area. The hamburger menu provides access to all notes related to the tag and all notes management.

1. Notes field
2. Notes menu
3. Upload file
4. Add label information

ValveLink View Network Account Window Help

VALVELINK

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Scheduling View Batches

Weekly Schedule

Organize a set of tags into batches to run diagnostics and other tasks on a regularly scheduled basis. You can run multiple diagnostics and tasks when scheduling batch routines.

Schedule New Batch

September 2019

Scheduler Tuesday, September 3rd

W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	
28	29	30	31	1	2	3	4	5	6	7	8	9	10	11	12	13

7 batches are scheduled

Daily Tasks

9/3/2019

Scheduled Run	Task	Batch	Frequency
13:00	Dynamic Scan	Batch_A_F_123	Weekly
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14:15	Full Performance Diagnostic Test	Batch_Building 4	Daily
15:45	Drive Signal	Batch_Zone 2	Daily (Every 2)
16:30	Step Response	Batch_Zone 8	Monthly (Every 2)

Speak a command

1 Diagnostics in Progress **3** **2**

1 of 2 50%

Notes

Task Status Tray

The Task Status Tray includes a list of all currently running diagnostics and tasks. The user can expand the tray to view all in-process tasks, or minimize it to see a rolled up view of the time left for all tasks. Selecting "X" closes the tray. It re-appears once a diagnostic or task is complete (depending on a user's settings). Users can select "View Results" to go the completed diagnostic or visit the History or Scheduling sections to access results.

1. Close
2. Expand
3. Progress bar

VALVE LINK



The Vision

The Engineer By 2023

Voice commands inside

Visor interfaces outside

Seamless ERP/system integration

Other modes to consider for 2023

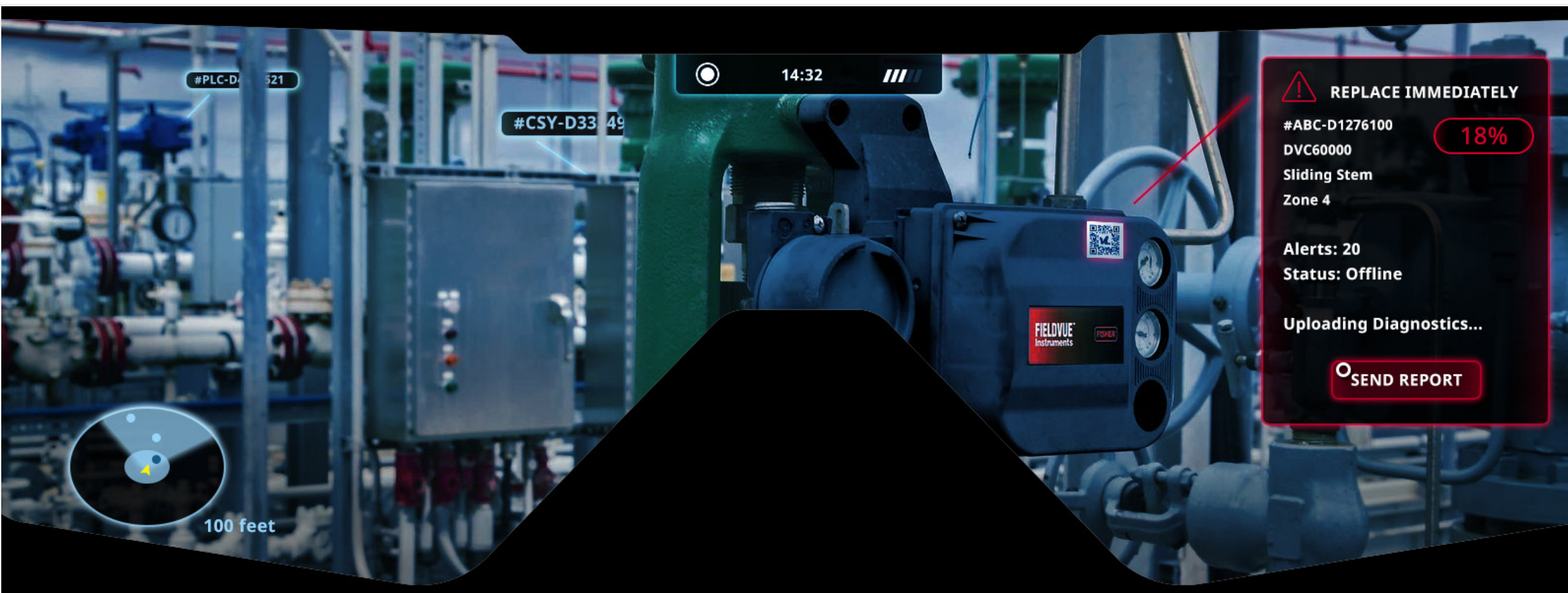
Gestural

Facial recognition

Plug-and-play (built-in with all valves): program automatically generates the data you need to view

No interface at all, just generates alerts and reports





The VL Visor

An essential part of the outdoor experience

AR experiences

Elements of gamification

Identifies all valves in range

View DVC alerts in real-time and actionable insights

Video teleconference with Impact Partner for real-time troubleshooting

Record video and use voice to input

Voice

External environments are too loud

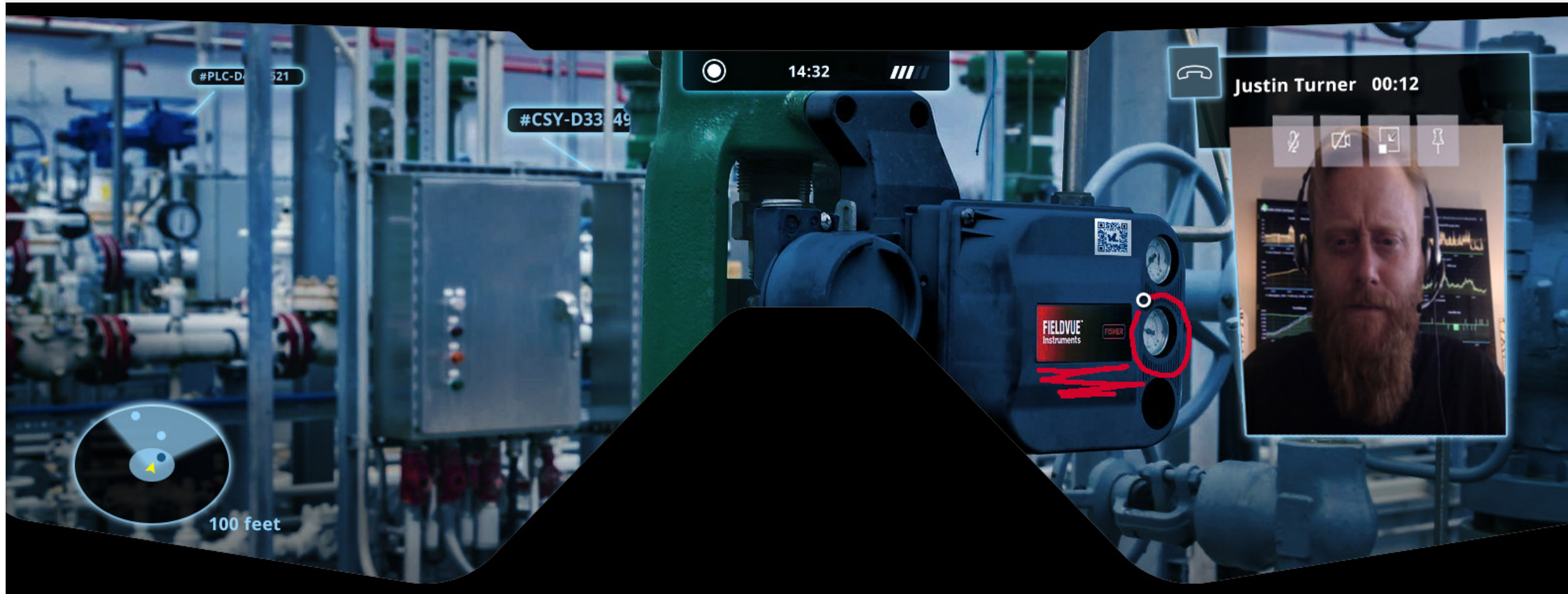
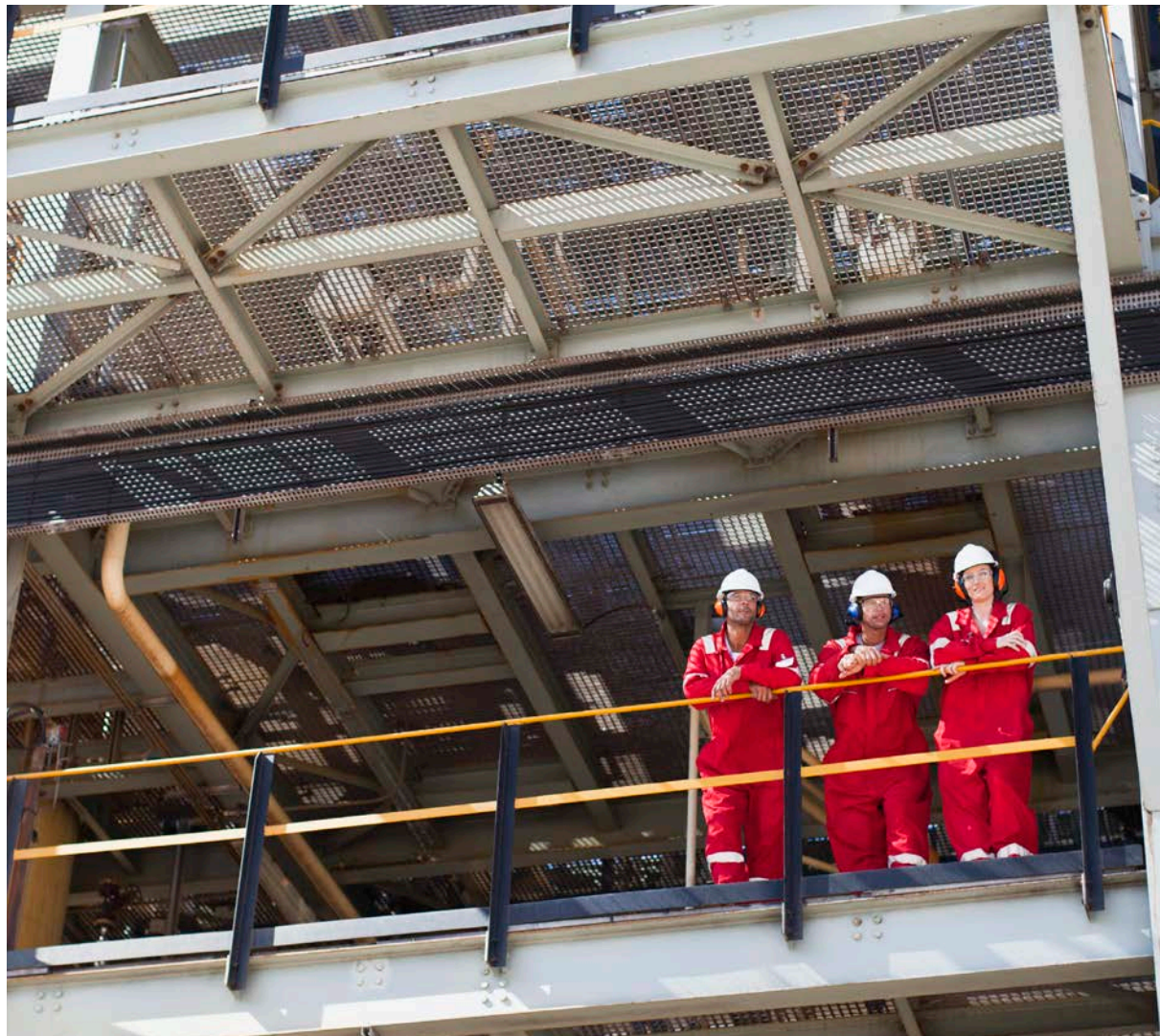
Limits scope of voice opportunities unless combined with noise canceling technology and mics

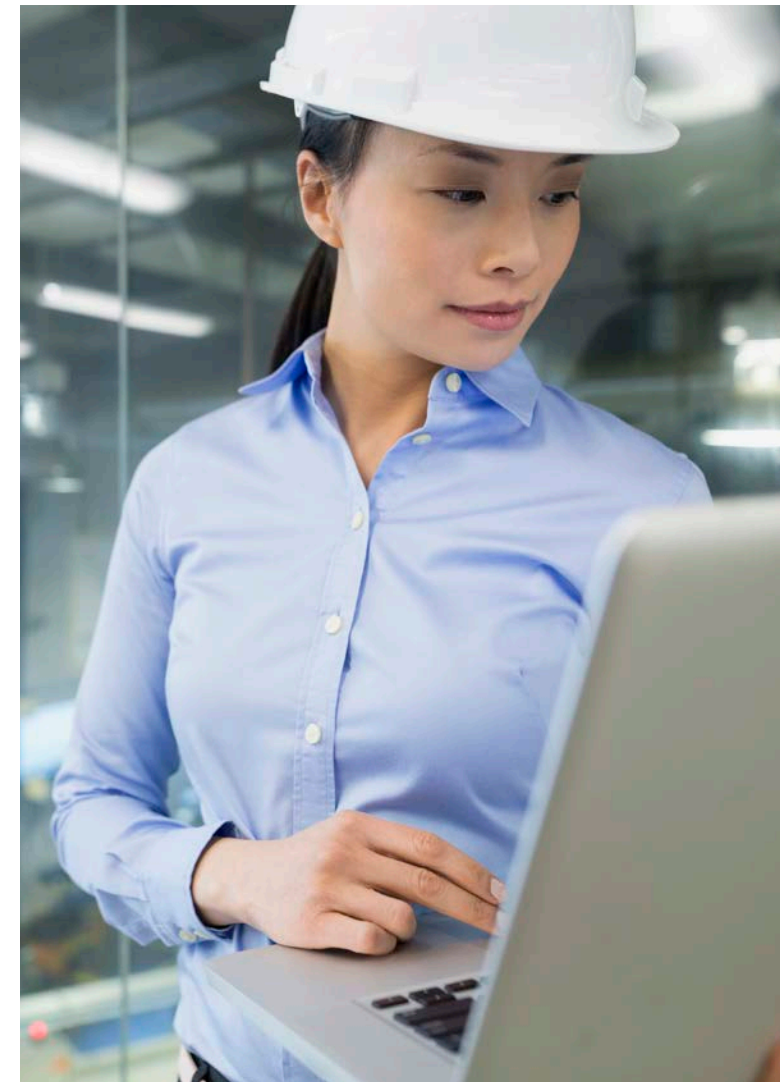
Internal environments may be suitable

Voice commands within a control room

Toggle to voice mode

Voice command is the equivalent of a hot key by 2023





Gamification

Engineer Profile

Incentivize engineers to be more productive and active with ValveLink by gamifying their accomplishments in ValveLink

Ethical questions to consider:

Only viewable by individual engineer?

Can supervisor view?

Or stats only reflect entire team's accomplishments?

