Stations, Facilities & Accessibility (SF&A)

Work and Asset Management

Presenters:

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May 2023

Agenda

Amtrak Connects Us

- New era in passenger railroad

Enterprise Asset Management at Amtrak

- Asset management impact at Amtrak
- Path to Transformation
- MainLine Rail Maximo solution
- Evolving EAM landscape at Amtrak

Location Hierarchy

- Founding principles
- Real Estate, Mechanical, Infrastructure hierarchy
- SF&A location hierarchy

Enterprise Asset Management and SF&A

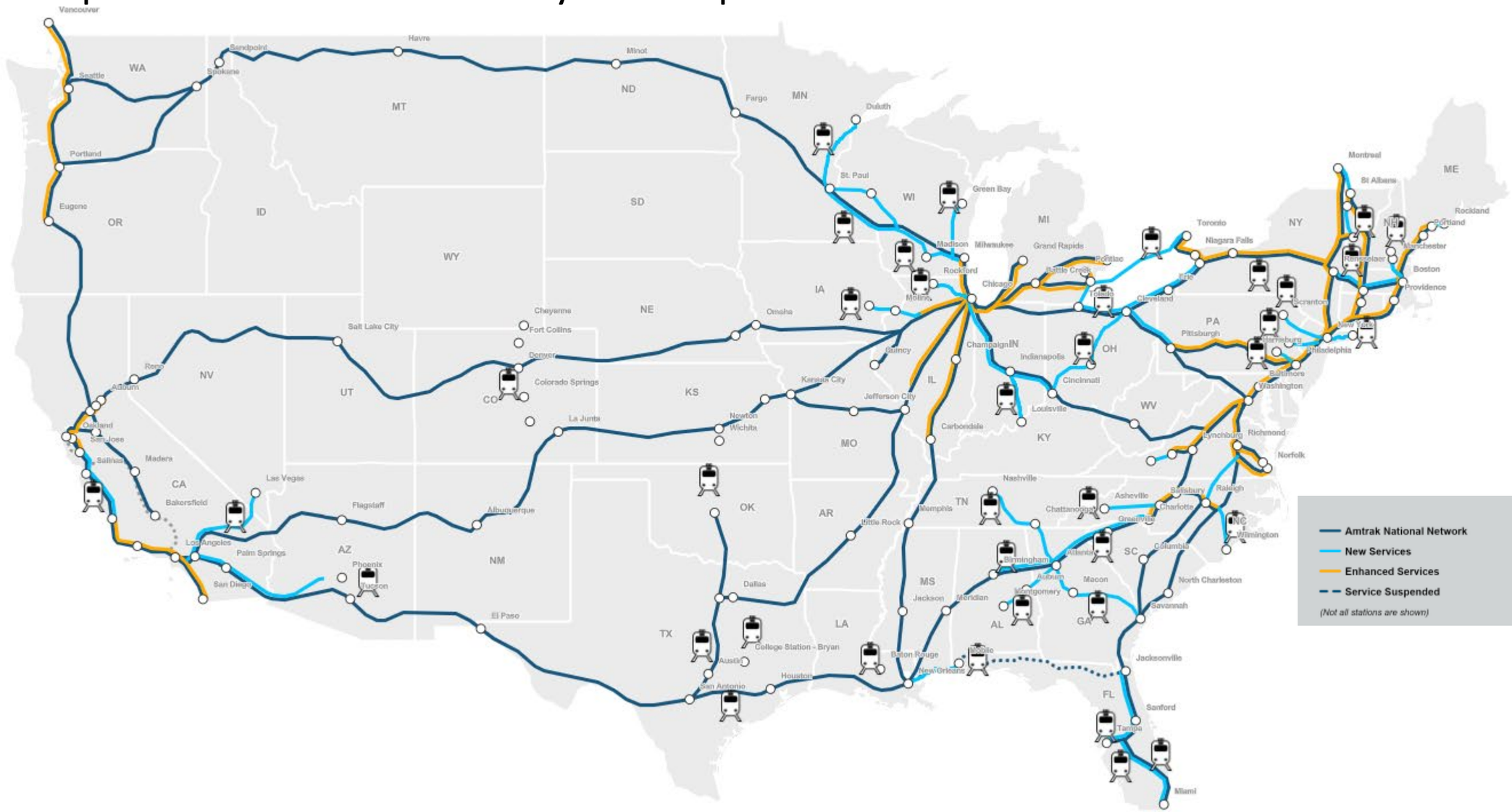
- Asset Management Goals
- Real World Scenarios

Current Status and Road Ahead

- MLR Solution Go Live
- Implementation at Baltimore Union Station
- Challenges
- Gen MWE – Mobile Work Management Application
- High Level Timeline

Amtrak Connects US

Amtrak, which began operations in 1971, is the United States' intercity passenger rail operator. With safety as the highest priority, our goal is to provide efficient and effective intercity passenger rail mobility with modern trains that offer friendly, high-quality service that is trip-time competitive with other intercity travel options.



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Enterprise Asset Management (EAM) Impact On Amtrak

Impacted Physical Assets

Right of Way

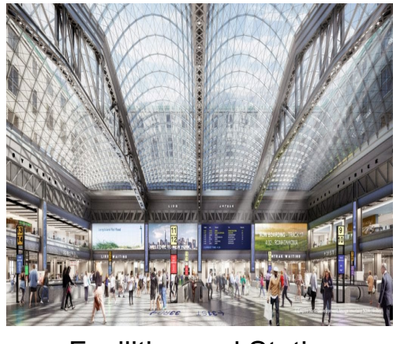
Signals & Comm.

Key Engineering Safety & Security Areas

Locomotives

Passenger Cars

Bridges & Tunnels



Facilities and Stations

Asset Management Drives Outcomes That Support:

Right Of Way; Track, Signals & Communications, Electric Traction, Bridges & Tunnels:

- Implement PTC or achieve PTC-levels of safety across Amtrak's network and deploy new technology to strengthen safety performance
- Develop and execute FAST Service and Asset Line plans
- On-time performance

Locomotives & Passenger Cars:

- Achieve New Acela and new fleet goals on budget, cope, schedule and train performance

Stations, Facilities, & Accessibility:

- Achieve ADA compliance goals
- Fully implement Stations Repair & Clean Up Program and develop & implement a system-wide station and train signage and branding plan

Other:

- Train Safety Metrics:
  - No NTSB defined rail passenger accidents
  - No employee fatality or FRA serious injury
  - Lower Customer and Employee FRA Reportable injury rate
- Achieve IT security goals of zero cyber security breaches
- Operate services in accordance with Annual Operations Plan levels

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Riding History Into the Future

And a Path to Transformation

Real time data is available to all users	✓
Data is used to **optimize decisions**	✓
Users know where to **focus their efforts**	✓
Reduction of tedious tasks allows users to work on **value added tasks**	✓
Insights now brings **new collaboration** amongst users	✓

People | **Process**

Digital | **Technology**

Leading practice **asset management processes**	✓
Measurable process productivity	✓
Consistency of process across asset classes and geographies	✓
Single line of sight from front line to Exec	✓

Enforces **data accuracy and integrity** turning data into insight	✓
Optimization of maintenance regimes	✓
Optimization of opex vs capex asset investment	✓
Improved response to asset failure	✓
Capture and share life-time asset Information in the system	✓

Elimination of disparate legacy systems	✓
Single Upgradable Platform for all Amtrak's assets	✓
Extension into the field via **intuitive mobile**	✓
Agile development enables **Continuous improvement culture**	✓

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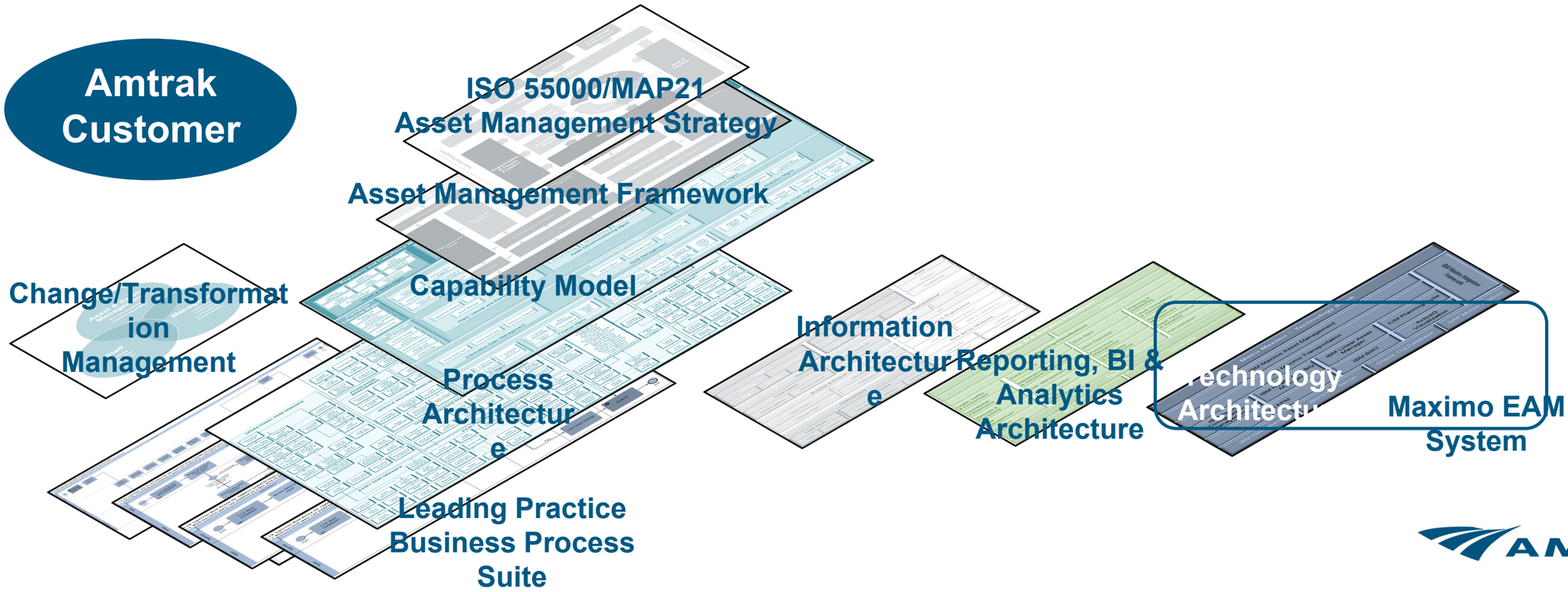
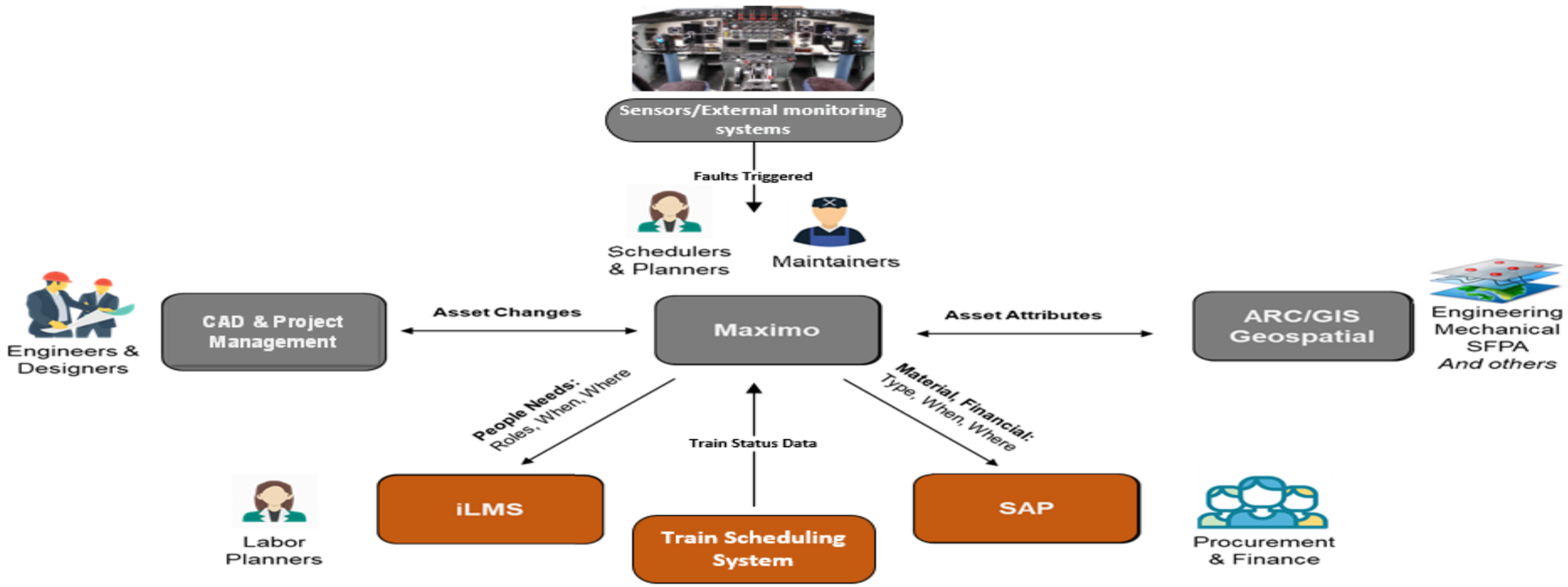
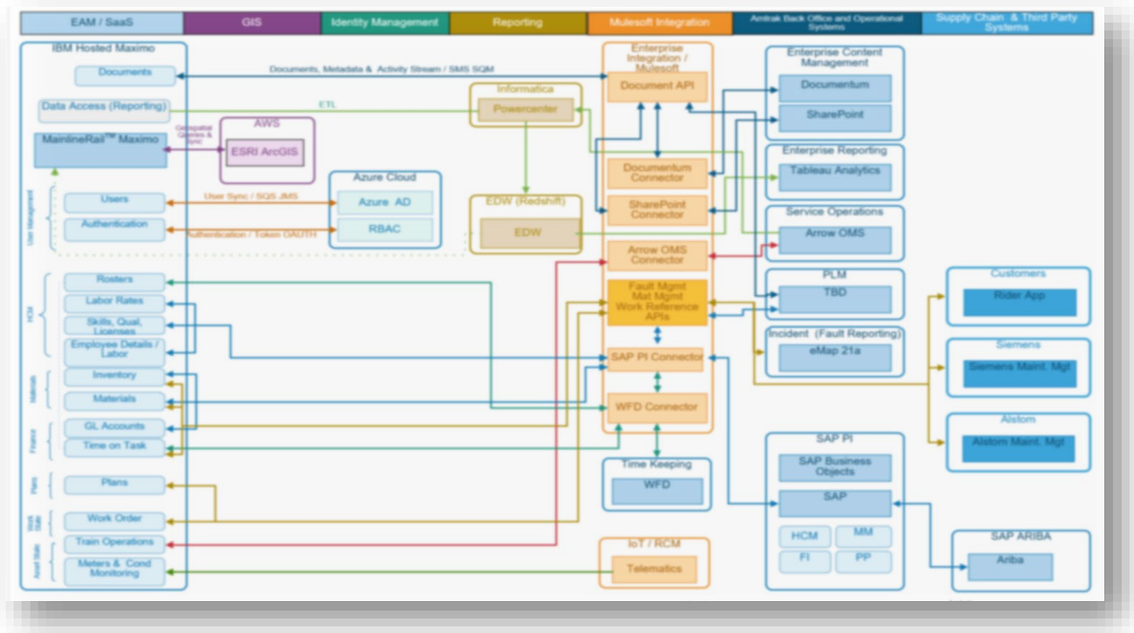
MainLine Rail Maximo Industry Solution

- Workflows encoded with 1000+ optimized and automated processes covering end-to-end asset and safety management leading practices
- Mobile solution providing real-time access to full asset details and maintenance history of assets--at the job site
- Real-time access to actual or nearby hazard information that can be updated on the move, constantly improving quality of hazard data
- Maximo 7.6.1 with Industry solution MLR hosted at IBM CDS



Evolving EAM Landscape at Amtrak





- No Single Tool ‘does it all’
- Unified platform approach
- Complete asset management workflows and controls
- Cloud first and mobile first platform
- Anchor for Amtrak asset management standard
- Integration with future fleet technologies for maintenance records
- FRA standard of reporting for all asset and work management

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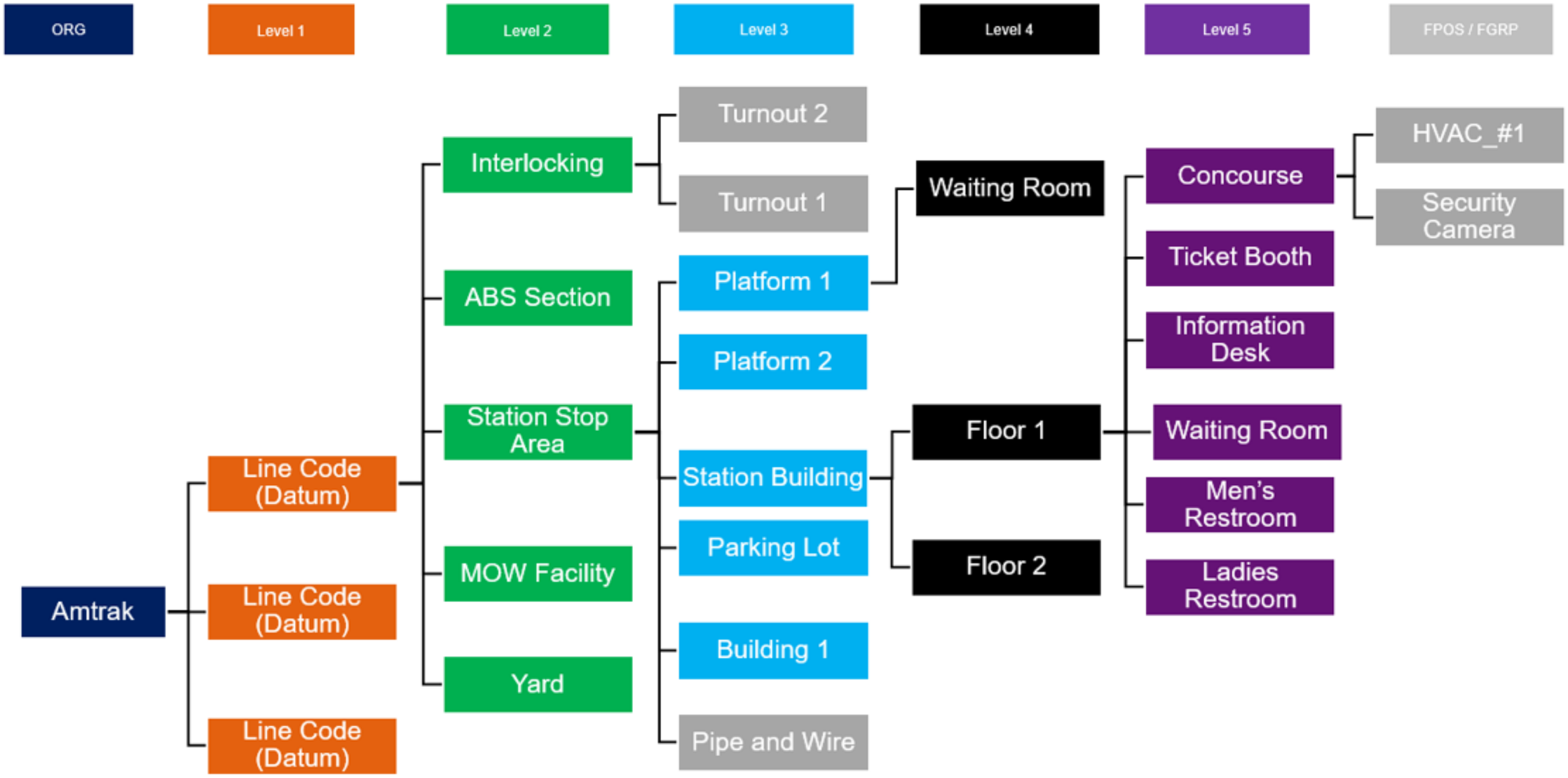
Amtrak Location Hierarchy

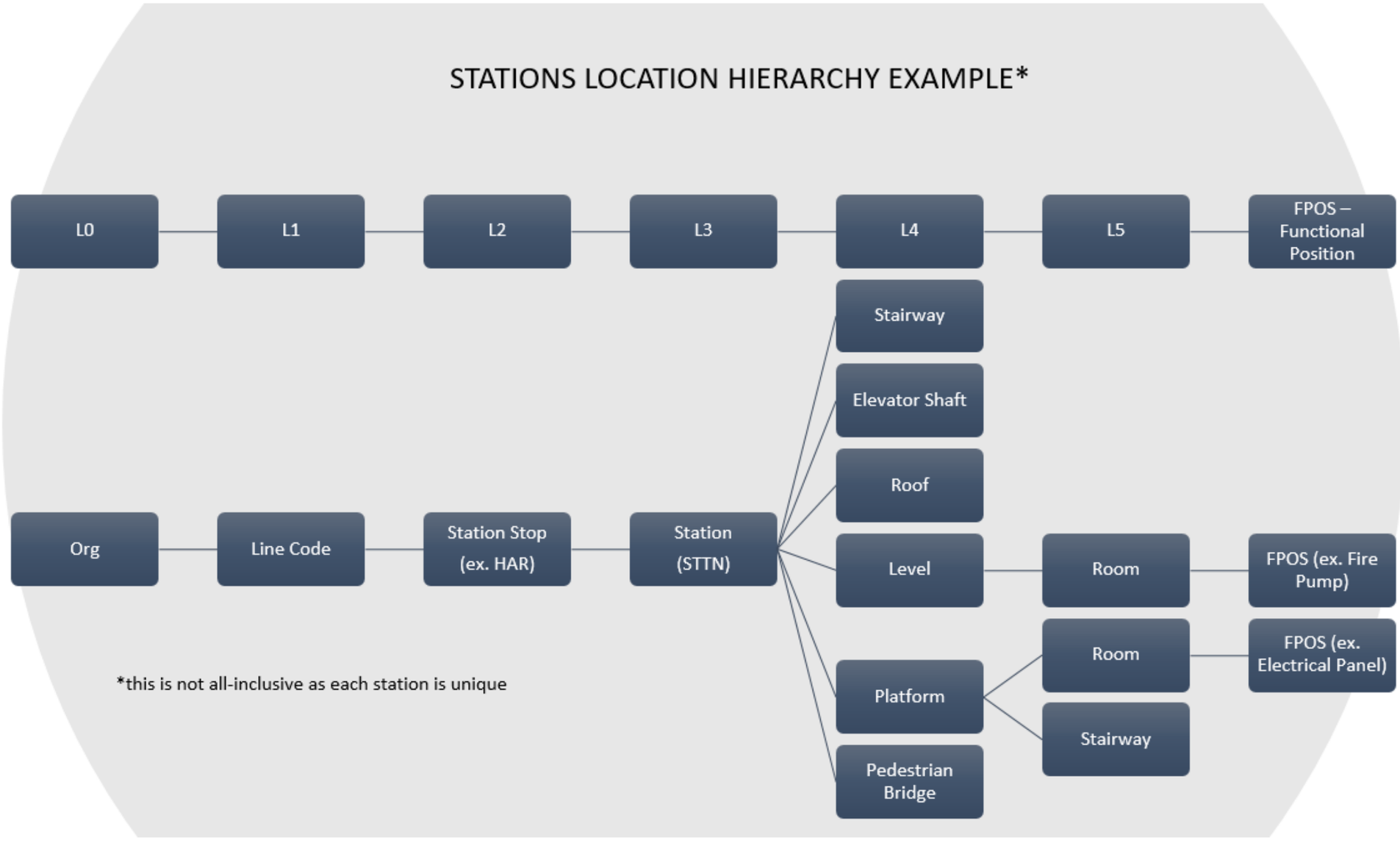
Various Location Levels

How it ties within all three departments

Amtrak (Proposed)Physical Location Hierarchy



SF&A Hierarchy



EAM Goals for SF&A

- **Single source of truth**
  - Information about our Stations and Facilities assets and their attributes is consistent, reliable, efficient, and meets federal reporting and compliance regulations

- **Advanced reporting**
  - Data driven decision making on capital investment and reduction in unplanned downtime

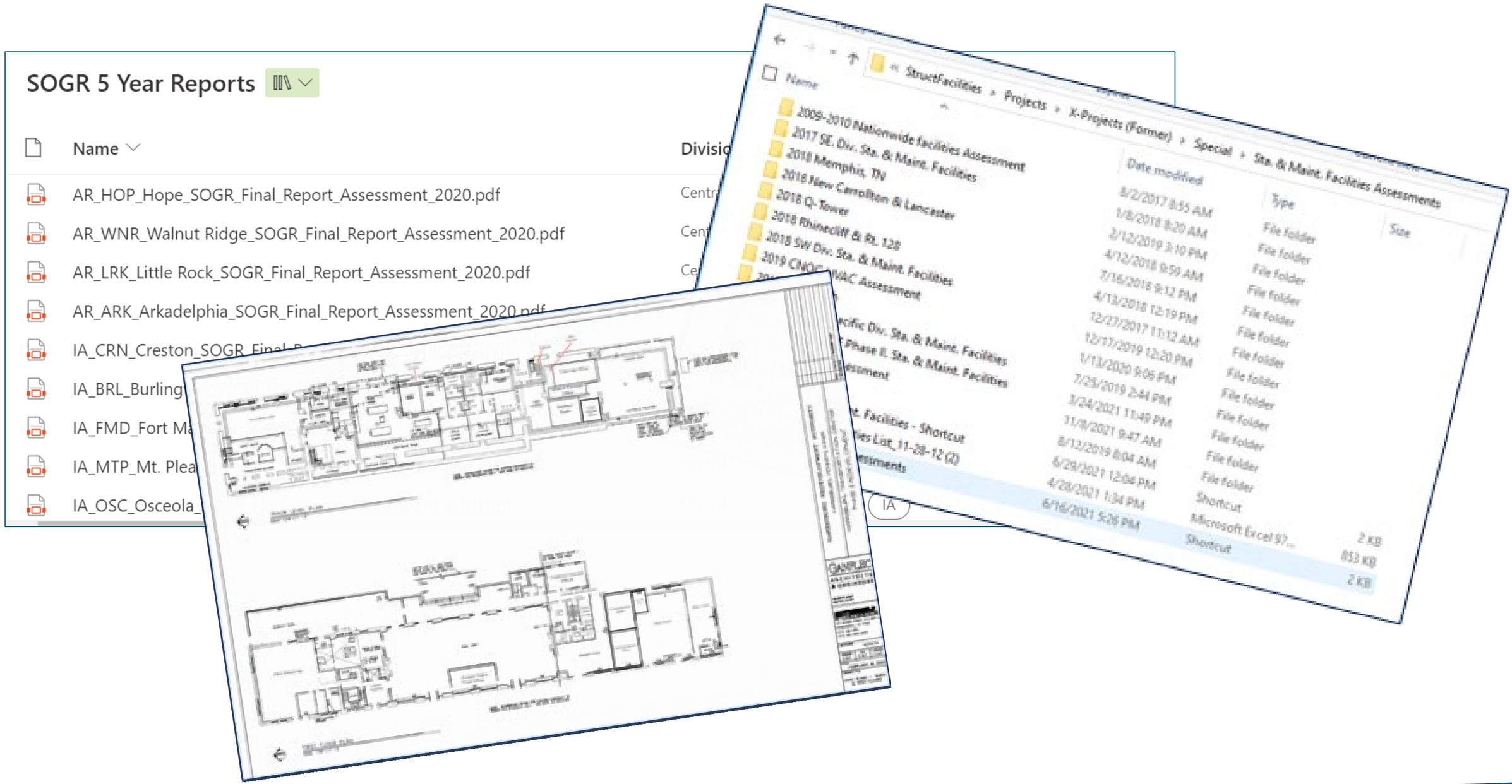
- **Capture data/information that is falling through the cracks**
  - Information should be in real time, not a moment in time

- **Data interoperability**
  - Develop standards to allow information to be shared across systems

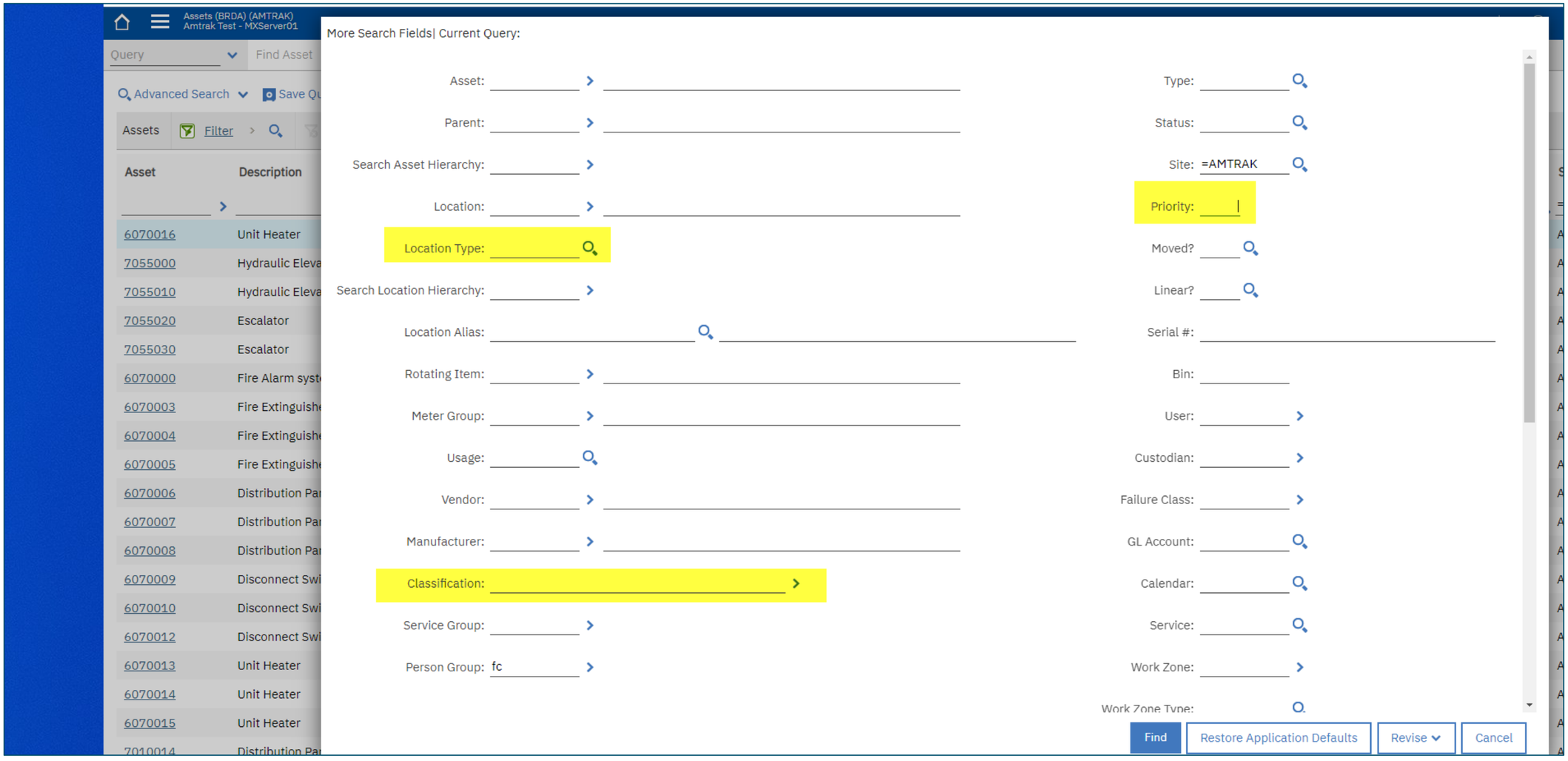
Real World Scenario #1 – Single Source of Truth

The Director of Sustainability contacts us for specific station information to support her team's vulnerability assessment…

Real World Scenario #1 - Before

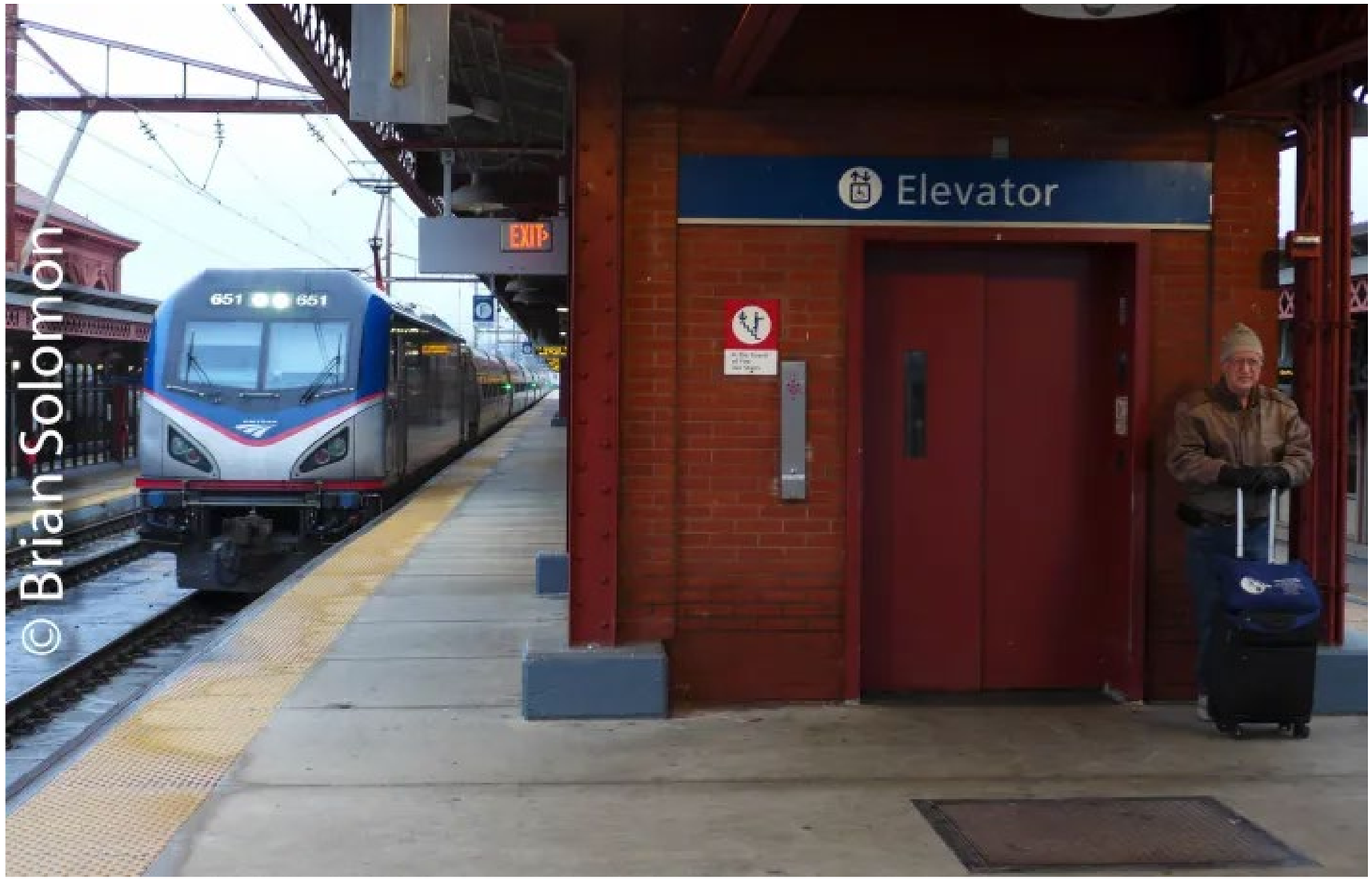


Real World Scenario #1 - After



Real World Scenario #2 – Transparency & Advanced Reporting

The Facility Development Manager is noticing an increase in issues with the elevator…



http://briansolomon.com/trackingthelight/tag/wilmington/

Real World Scenario #2 - Before

Real World Scenario #2 - After

Assets (BRDA) (AMTRAK)
Amtrak Test - MXServer01

Query | Find Asset | Select Action

List View | Asset | Spare Parts | Safety | Meters | Specifications | Features | Relationships | Work | Work Zones | Service Address | Asset History | Map

Asset: 7009243 Hydraulic Elevator Site: AMTRAK

View Work Orders and Tickets that are open for this asset. Additional details are available in Work Details.

View Work Details

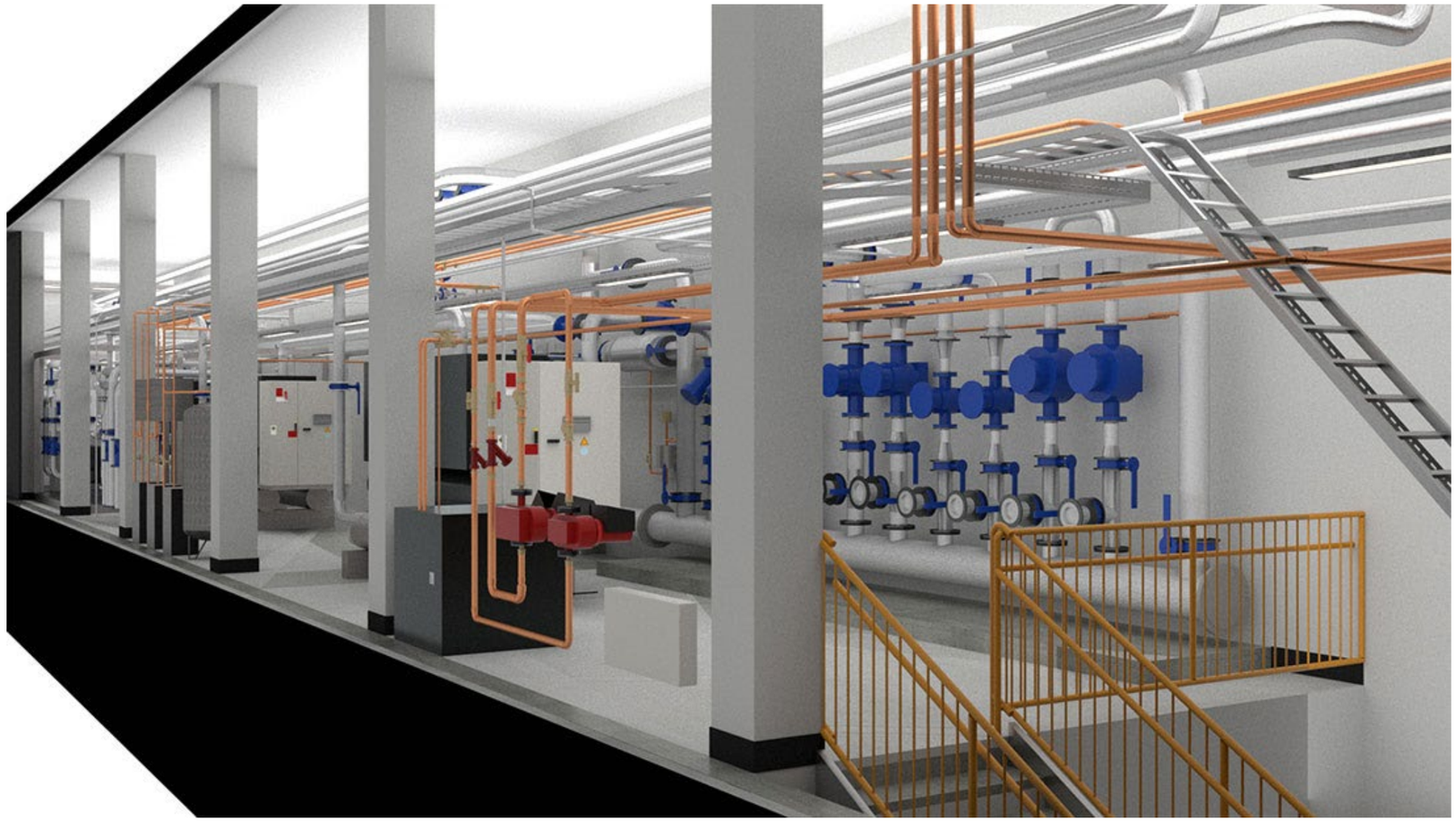
Work Orders | Tickets

Work Orders | Filter | 1 - 3 of 3

Work Order	Description	Status	Status Date	Target Start	Target Finish	Scheduled Start	Scheduled Finish
F100098-01	Door won't open on Elevator 3	SCHEDULED	07/10/2022 6:19 PM			02/09/2022 9:29 AM	07/10/2022 7:15 PM
F100251-01	Elevator 3 Door Not Closing Properly	SCHEDULED	07/10/2022 6:18 PM			05/16/2022 3:22 PM	07/10/2022 7:18 PM
1003167	Monthly Elevator Inspection	REVIEWED	07/10/2022 6:10 PM	07/10/2022 12:00 AM	07/10/2022 12:00 AM	07/10/2022 6:15 PM	07/10/2022 7:15 PM

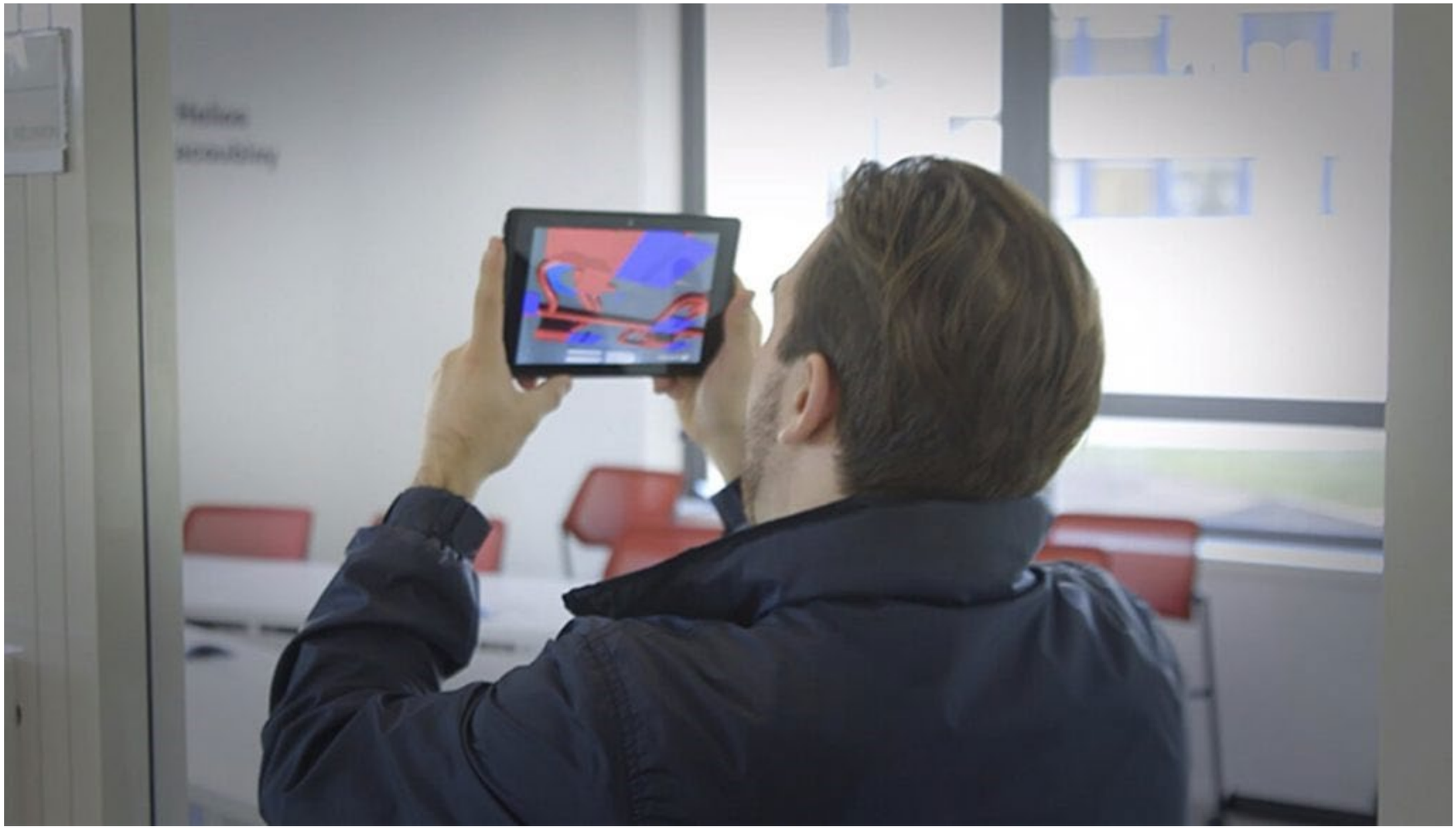
Real World Scenario #3 – Capture Data Falling Through the Cracks

Construction Closeout Documents include AutoCad and Building Information Models that include floor plans, asset locations and specifications



Real World Scenario #3 - Before

Real World Scenario #3 - After



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https://www.theagilityeffect.com/en/article/bim-set-conquer-facility-management/

Current Status and Road Ahead

MainlineRail Maximo Stations and Facilities Timeline

Asset Management Go Live June 2021

Asset Management Team Expansion! Dec/Jan 2023

Work Management – Vertical Transportation (Annual Inspections – National, and NYP) May/June 2023

Work Management – Chicago Union Station July 2023

Work and Asset Management 401 King Street, REA Building, Training Center

FY21 | FY22 | Q1 FY23 | Q2FY23 | Q3 FY23 | Q4 FY23 | FY24 | FY25

Work Management - CMs BAL Go Live January 2022

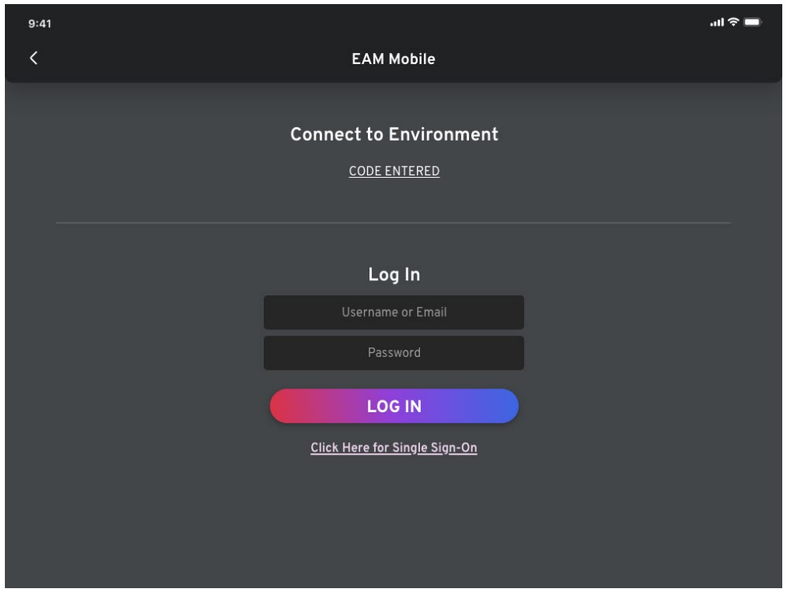
Work Management - PMs BAL May 2023

SE Condition Assessment Data in MLR Maximo

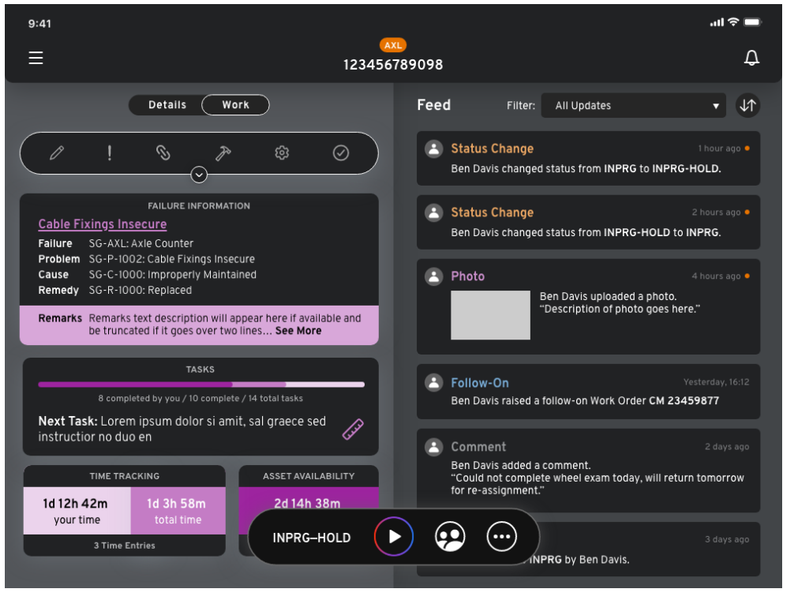
Washington Union Station Asset Collection July-Sept 2023

Lots of other fun asset management projects ☺

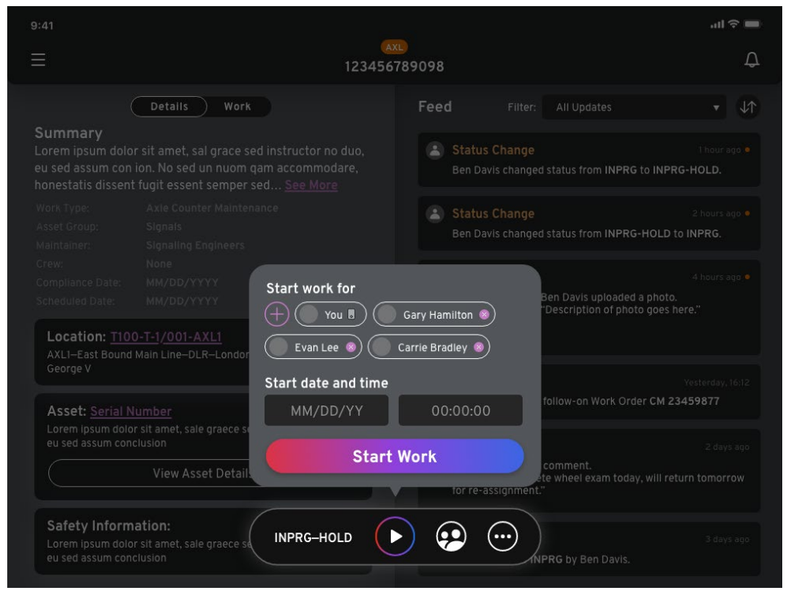
Gen MWE Mobile Application



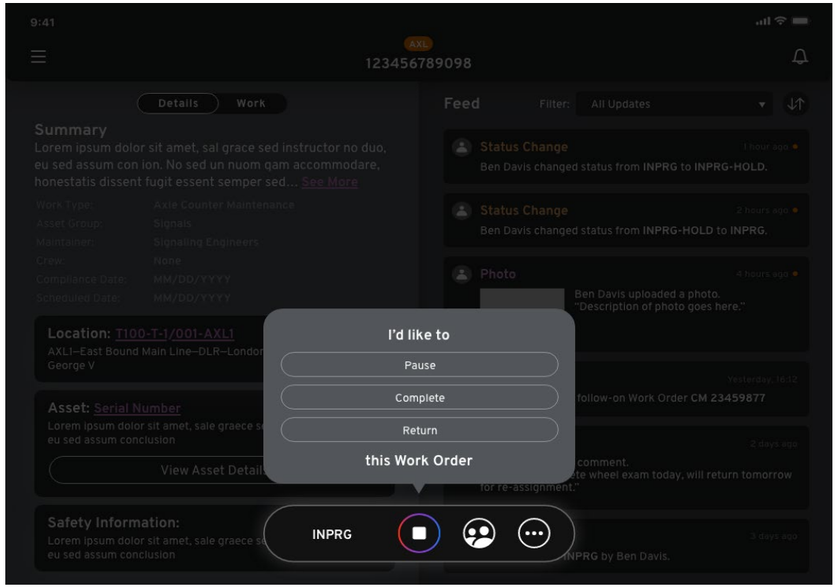
Work Order Details



Work Processing



Pause/Complete/Return Work Order



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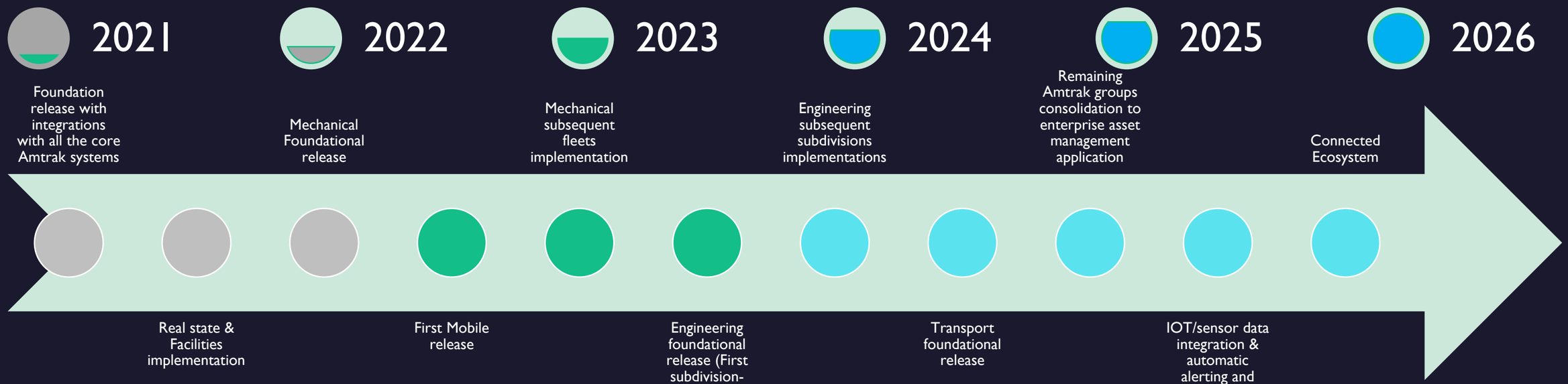
EAM at Amtrak: Notional timeline

Vision to create 'Connected Ecosystem' leading to increased asset utilization, reliability & safety



Questions?

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