

# Maximo for Transportation



Move Your Operations Into The Fast Lane With Maximo  
Enterprise Asset Management For Transportation

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# A **digital re-invention** is disrupting the **operating model** of transportation industries



Vehicles are connected and predicting their own failures



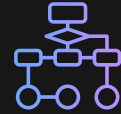
AI changing the driving experience



Autonomous vehicles are in service



Transportation data created fills corporate servers daily



Assets are more complex driving engineering complexity

# Creating Daily challenges for Transportation operations

Reduce  
cost



Asset reliability and  
availability

Rising fuel and  
operating cost

Warranty  
requirements

Attract and retain  
talent



Knowledge attrition

Attracting new  
talent

Productivity of  
technicians

Improve  
Operations



Predict, Prevent,  
Plan

Inventory  
Composition

Scheduling &  
Processes

Safety and  
Compliance



Sustainability  
and Regulatory

Health and safety  
risks

Training gaps

# And requiring optimization of Asset Maintenance and Operations Spend

**50%**

of rail asset TCO is spent on maintenance <sub>1</sub>

**9%**

Preventive Maintenance per month cost increase (2018)<sub>2</sub>

**1:3**

Hours of bus fleet maintenance to operating hours <sub>3</sub>

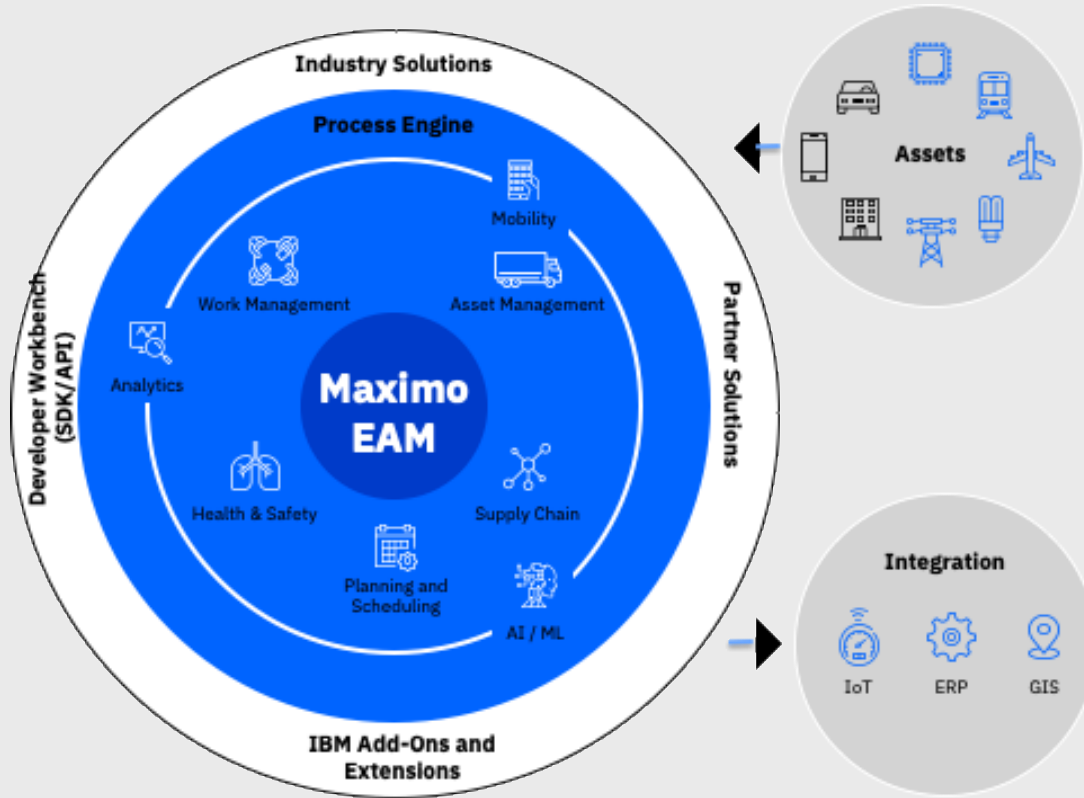
<sub>1</sub> McKinsey study

<sub>2</sub> Global Fleet & MRO Market Forecast Summary

<sub>3</sub> Pioneer Instituts

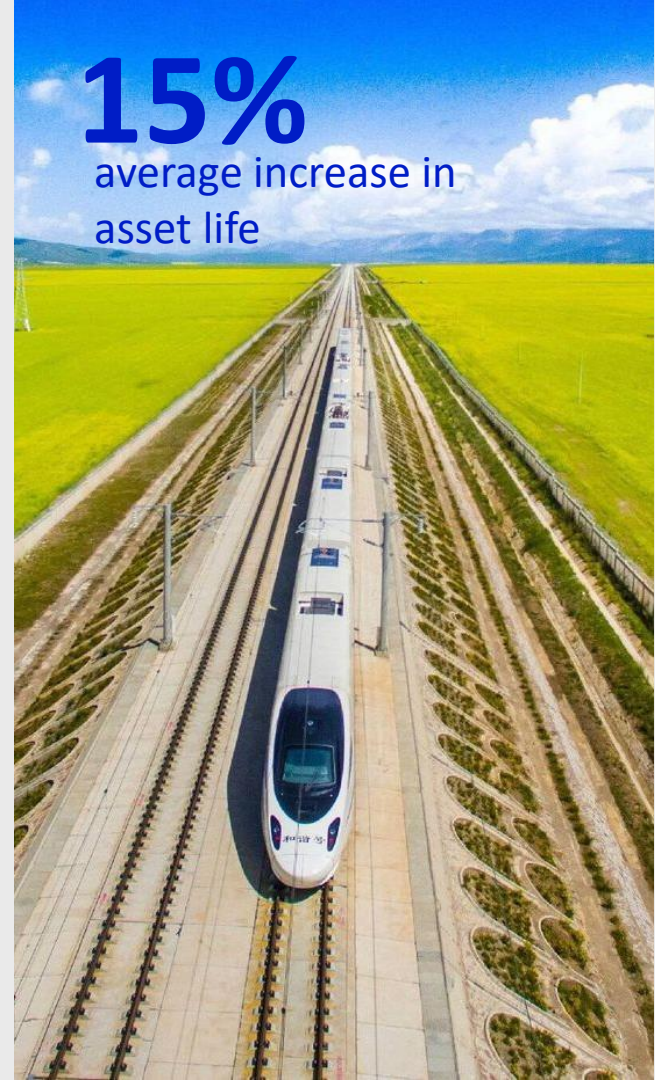


# Maximo EAM provides a strong core to control costs and extend asset lifecycles



# 15%

average increase in  
asset life



# Maximo addresses a broad range of transportation requirements

An Enterprise Asset Management (EAM) solution designed to manage the lifecycle of mobile equipment such as buses, trucks, construction equipment and railroad rolling stock.

***Maximo for Transportation*** for managing all fleet assets, including metro cars, light rail, buses, and support vehicles

***Maximo Asset Management*** for managing stations, facilities and real estate, including fare gate, HVAC, and security assets



IBM Watson IoT / © 2018 IBM Corporation



# Maximo for Transportation Capabilities

All the capabilities of Maximo plus:

## Industry specific capability *to reduce costs*

- **Tire and wheel management** – Manage one of the largest expenses of operating a vehicle or rail fleet
- **Fuel consumption monitoring** - Track one of the major costs of operating a fleet and respond if fuel consumption increases
- **Campaign management** – Manage programs to update an entire fleet for safety or performance improvements
- **Warranty management** - Easily identify all potential warranty situations to get every opportunity to either avoid the cost of repair or recover expended costs
- **Motor pool** – Manage motor pools that provide short term access to vehicles including billing for usage





# Maximo for Transportation Capabilities

All the capabilities of Maximo plus:

Industry specific capability to reduce the effort to maintain the fleet

- **Telematic data** – Automatically import telematic data from vehicles, fuel systems, dispatch systems and other systems to ensure accurate information
- **Maintenance coding** – Support for commonly used coding systems such as VMRS (fleet) and AAR (rail)
- **Manage large fleet additions** - Easily create multiple assets based on a template with full vehicle details
- **License and insurance** – Track the license and insurance information for all vehicles
- **Asset Alias** – The ability to identify a vehicle by multiple ID numbers such as VIN, license plate, or company asset number



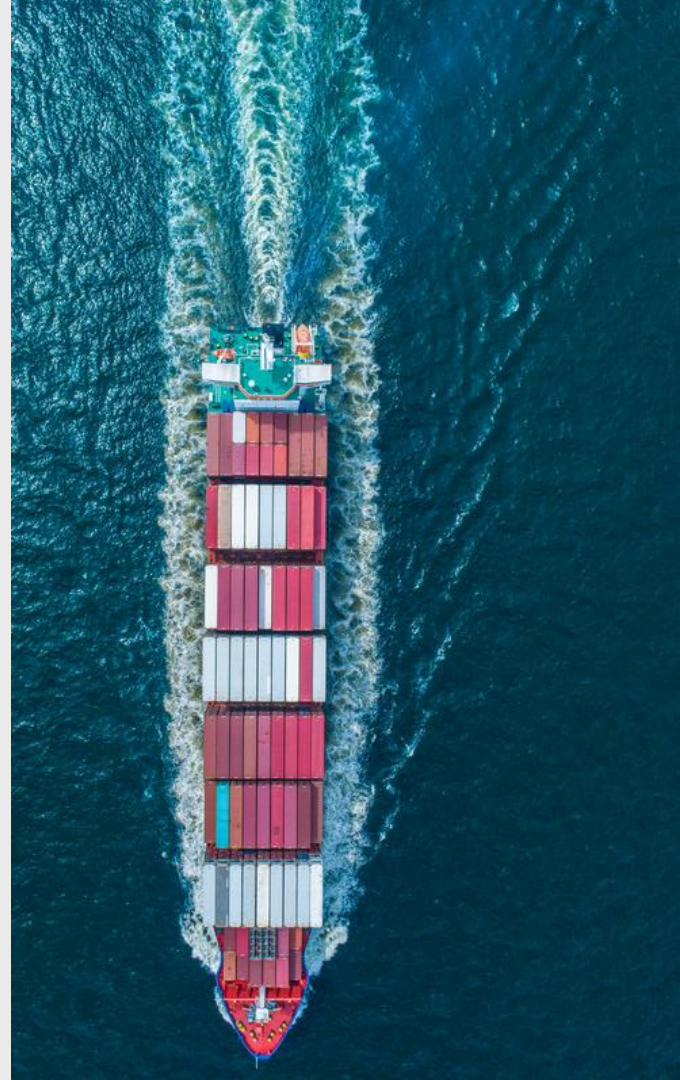


# Maximo for Transportation Capabilities

All the capabilities of Maximo plus:

## Industry specific capability *to automate repetitive tasks*

- **Maintenance alerts** – Automatic notification of outstanding work needing action, deferred work, and PMs due in the near future
- **Outsource of repair** – Simple processing of outsourced or sublet repairs, and management of the full repair history on the work order
- **Inspection and servicing** – Manage repetitive activities not normally considered PMs such as daily vehicle inspections
- **Recent and repeat repairs** – Automatically view all recent repairs to determine if there are repeat repairs
- **Asset history** – See the full history of the asset on one screen



# Maximo for Transportation Capabilities

All the capabilities of Maximo plus:

Industry specific capability to handle constantly varying asset configurations

- **Consist Management** – Manage the configuration of assets such as a train to be able to schedule and perform maintenance for all the cars that are part of that configuration



# IBM Maximo: Extensions to Support Transportation



## Linear Assets

*Referencing linear assets while maintaining roads, railways and pipelines.*



## Spatial

*Visualize asset relationships and locations on maps.*



## Health Safety Environment

*Improving safety, reliability, and environmental performance.*



## Calibration

*Managing calibration assets and the standards that are used to calibrate them.*



## ERP Adapters

*Connecting financial information to external systems.*



## Maximo Anywhere Mobile

*Accessing critical asset data while in the field.*



## Service Provider

*Managing third party assets effectively.*



## Scheduler

*Advanced planning and scheduling of resources.*



# Example Transportation success stories



## Use case

Needed a highly reliable, cost-effective and proactive means of addressing the demanding maintenance requirements for stock rolling at 190 MPH

## Solution

IBM Maximo supports a maintenance platform that employs advanced sensing and condition-based monitoring. The system currently gathers over 320,000 data elements

## Benefits

Increased safety and reliability through monitoring. Extended life of fixed-assets, increased asset efficiency and network uptime.



## Use case

Tur-Bus was looking for an end to end maintenance and warranty management system for their fleet of 1,500 buses.

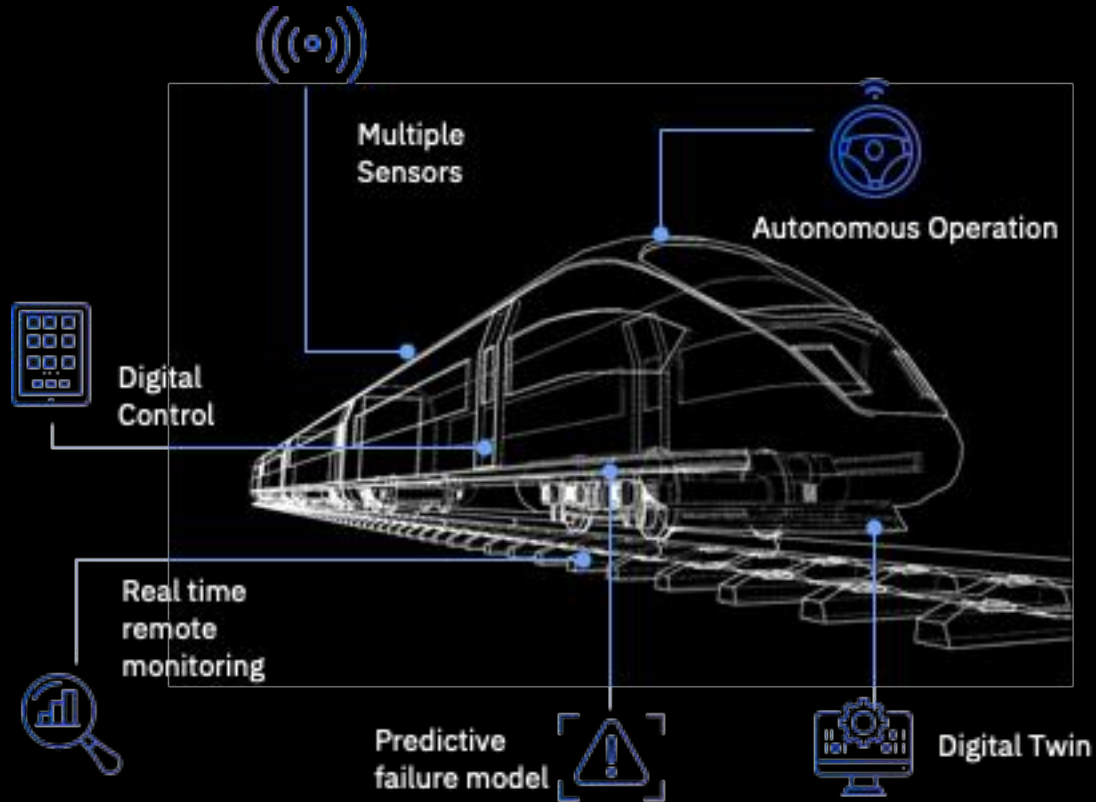
## Solution

Tur-Bus chose Maximo to adopt a procurement and preventive maintenance model for its fleet of 1,500 buses

## Benefits

IBM Maximo inventory and procurement management capabilities reduced inventory costs by \$1.5 million and warranty costs by \$500,000,

# Unleash innovation for Next generation transportation



50% of asset-intensive organizations  
have some form of asset analytics

**However....**

<10% have an APM platform

(Source: IDC, 2018)

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By 2020, 60% of asset-intensive  
organizations will rely on APM to help  
them optimize the performance of  
their mission-critical assets

(Source: Gartner, 2018)

Leaders of asset-centric and  
asset-intensive  
organizations recognize they  
**must focus** on optimizing  
asset performance as a  
**primary strategy** to remain  
competitive



# IBM Maximo APM

*Improves uptime and reduces maintenance costs*



## Health

*Asset Health Visibility and Analysis*



## Monitor

*Monitoring at Enterprise-Scale*



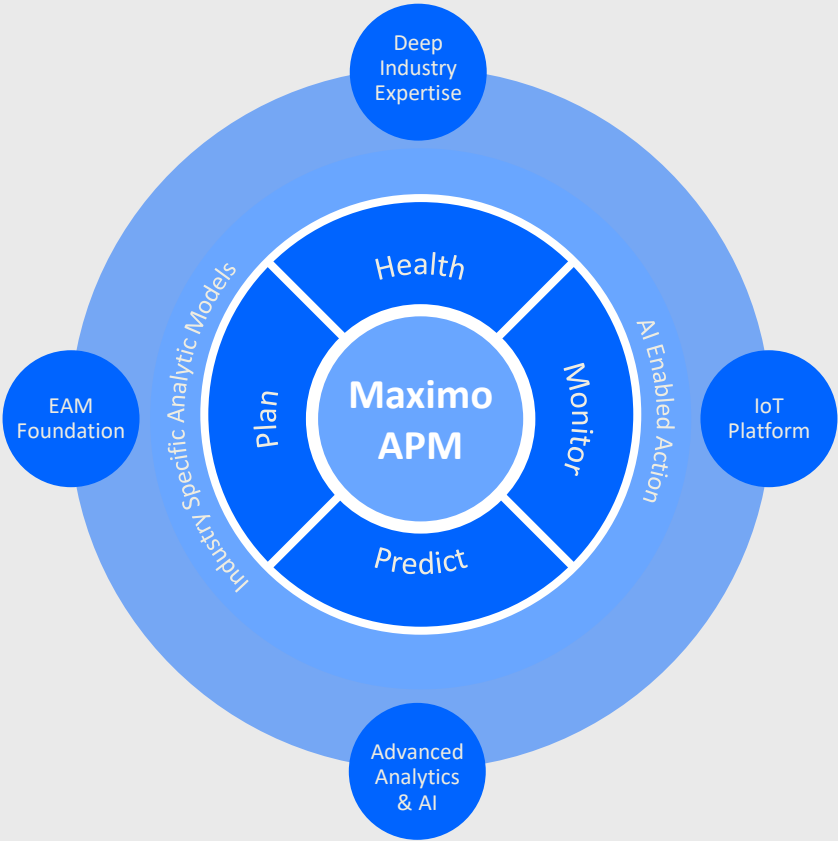
## Predict

*Predict Failures in Advance*



## Plan

*Getting started workshop, partner collateral*



# Transportation focus: Drive outcomes from IBM Maximo innovation



## Asset Performance Management

Extend EAM with asset health metrics, and predictive insights. Begin to collect the data to understand the causes of failure and the drivers of cost.



## Work-centers and UX 2.0

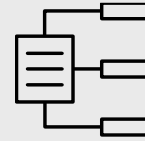
Aligning teams with role-based work and KPI views across all their devices with Next generation interfaces ensures that workflow is automated, issues escalated, and performance managed.



## AI / AR Technician Assistance

Access to expert information powered by Watson AI and AR.

Giving inspectors the additional knowledge and access they need, when they need it, for effective execution in the field.

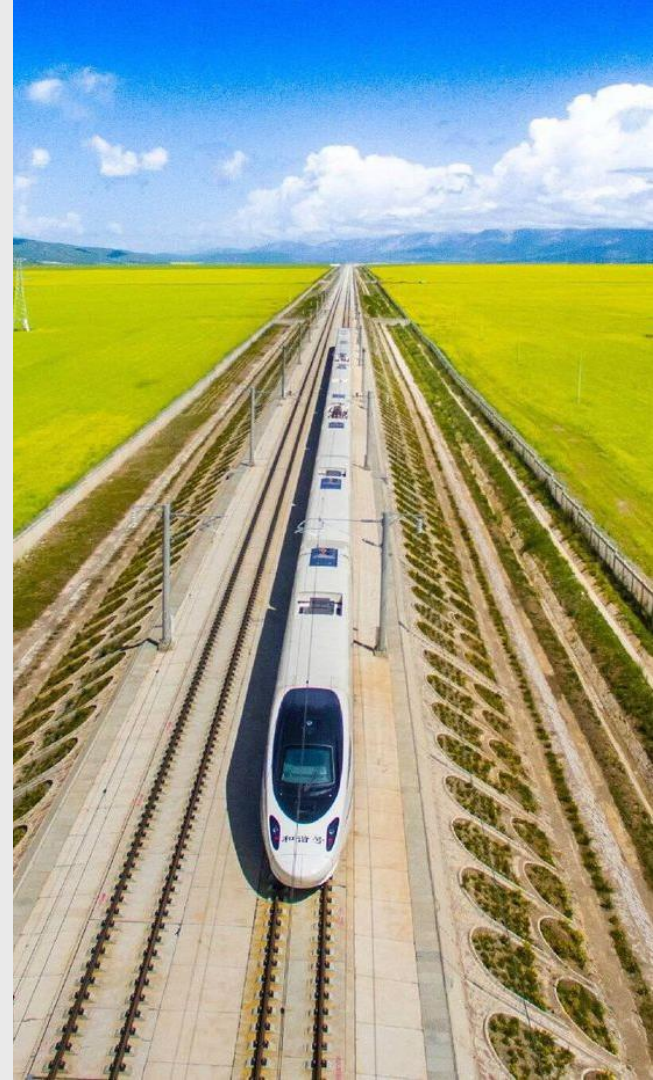


## MRO Inventory Optimization

Optimize your maintenance, repair and operations (MRO) inventory to significantly cut costs and reduce unplanned asset downtime, using predictive and prescriptive analytics.

# Maximo for Transportation benefits

- Less time and cost to introduce new vehicles into service
- Reduced cost and increase safety by management of tires and wheels
- Reduced costs by quickly processing all eligible warrantee claims
- Reduced fuel consumption by monitoring usage
- Increase the efficiency and safety of the fleet by quickly recalling or upgrading the fleet
- Ensure compliance at all times by management of licenses, permits and insurance information
- Management of motor pools including billing for usage





# Who uses Maximo?



4.7BN Riders  
Annually depend on  
Maximo



8 out of the 11  
busiest airports  
in the world



15 out of top 20  
automotive companies



8 out of top 10  
major aerospace and  
defense companies



9 out of 10  
World's largest  
utility groups



7 of the top 10  
oil & gas companies



7 out of the 10  
largest pharmaceutical  
companies



7 out of 10  
worlds largest water  
utilities

Maximo is deployed in 99 Countries, and on all seven continents...

# Consistent Market Leader



## Gartner Magic Quadrant

IBM named a leader in Enterprise Asset Management Software for 27 years straight.

→ [Register for the report](#)



## IDC MarketScope for EAM

Learn why IBM was named a leader in their assessment of 11 prominent EAM providers.

→ [Register for the report](#)



## G2 GridBest Enterprise Asset Management Software

Learn why IBM is ranked the EAM leader, and what users are saying about this best-in-class platform.

→ [Visit G2](#)

# Taking action pays back

Using powerful AI, standard data platforms and advanced analytics, **IBM Enterprise Asset Management** minimizes unplanned repair work, increases asset availability, lowers maintenance costs, and reduces the risk of equipment failure and safety incidents, **increasing the average return on asset across utilities worldwide.**

20%

Reduction in inventory carrying cost

15%

Increase in asset life

40%

Reduction in operational maintenance costs through prediction

50%

Reduction in unplanned downtime

30%

Reduction in MRO inventory costs

60%

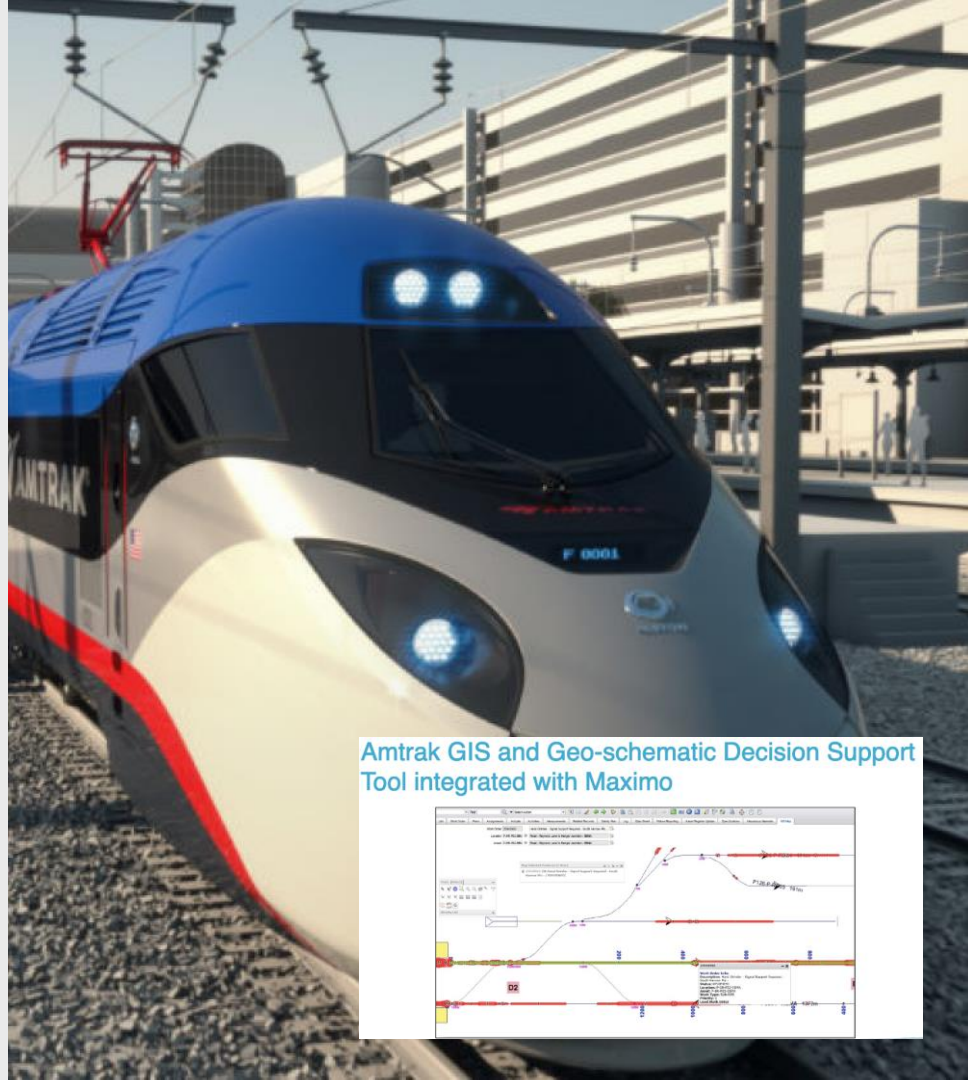
Labor cost savings from auto detection of asset conditions



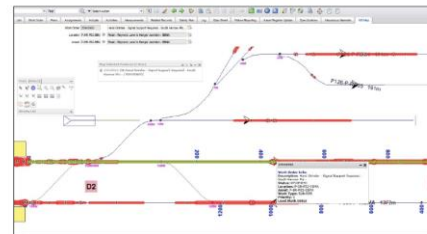


Gained over US\$8M annual ROI in reimbursable work execution

- Uses Maximo for maintenance of linear infrastructure of Amtrak-owned property, including 363 miles of the Northeast Corridor connecting Washington DC to Boston
- Amtrak needed to integrate with financial, graphical information (GIS) and analytical systems. Amtrak was able to address the needs of linear assets and support fleet with the Maximo solution and support ISO-55001
- Currently expanding corporate wide to manage all strategic assets in Maximo SaaS. Rolling stock, real property, and Engineering Infrastructure.
- Asset Health Monitoring is next phase with Predictive Analytics soon to follow. Project started in 2018.



Amtrak GIS and Geo-schematic Decision Support Tool integrated with Maximo



# Summary

## Maximo for Transportation

- Built on the industry leading Maximo EAM solution
- Scalable solution that is available for on-prem or SaaS deployment
- A proven solution for maintaining buses, trucks, construction equipment and railroad rolling stock that helps
  - increase vehicle availability
  - reduce maintenance costs
  - increase vehicle life
  - improve vehicle safety and compliance
  - maximizes the lifetime value of the entire fleet
- Extend with IoT, Analytics and AI to deliver innovation





Thank you