NPF 2026

FORGING BOLD HORIZONS

Digital Twin and Agentic AI

The Future of Intelligent Operations

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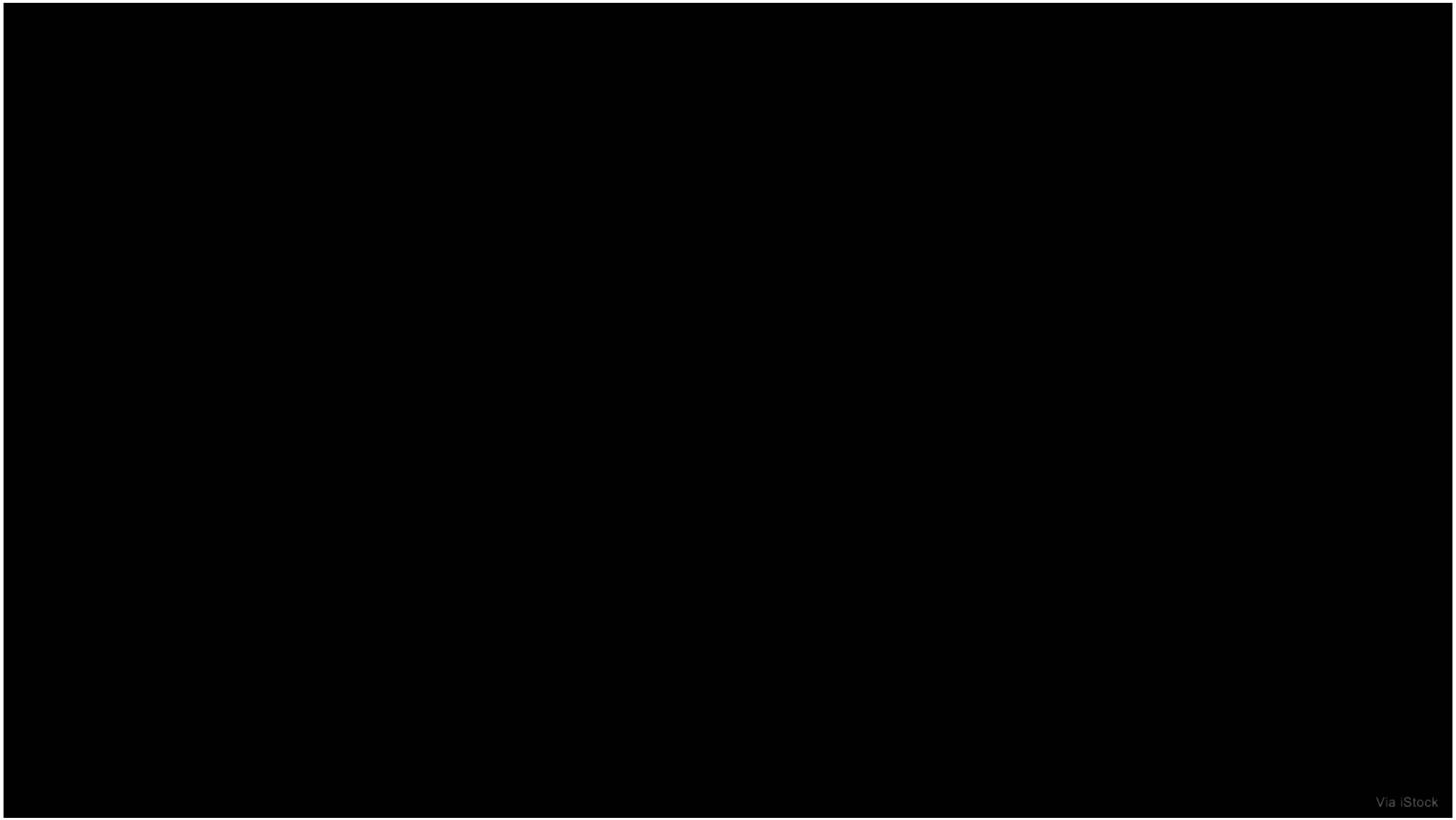
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POSTAL OPERATIONS
REIMAGINED WITH AI

Digital Twin and Agentic AI converge so your operations can adapt, learn, and improve continuously

Digital Twin

Your entire network, ready for optimization

Real-time Virtual Representation

Digital Twin create a dynamic, real-time virtual model of physical systems, processes, or objects, allowing for continuous monitoring, analysis, and optimization.

Predictive Capabilities

By combining data from sensors and advanced simulations, Digital Twin can predict potential issues, enabling proactive maintenance and operational efficiency.

Cross-Domain Applications

Used across industries like healthcare, manufacturing, and urban planning, Digital Twin enhance decision-making, from optimizing factory production to improving patient care.

Agentic AI

Intelligent systems that enhance decision-making

Autonomous Decision-Making

Agentic AI systems operate independently, making decisions and taking actions to achieve goals without requiring constant human input.

Goal-Oriented Learning

These systems adapt and improve their performance over time, learning from their environment and experiences to refine strategies and outcomes.

Collaborative Interaction

Agentic AI can work alongside humans or other AI systems, solving complex problems in dynamic, multi-agent environments such as logistics, gaming, or disaster response.

Digital Twin + Agentic AI

Together, these two technologies supercharge your operations

Transform static networks into dynamic, responsive systems

Gain unprecedented visibility across your entire operation

Optimize performance and cost while maintaining complete control

Stay ahead of challenges instead of reacting to them

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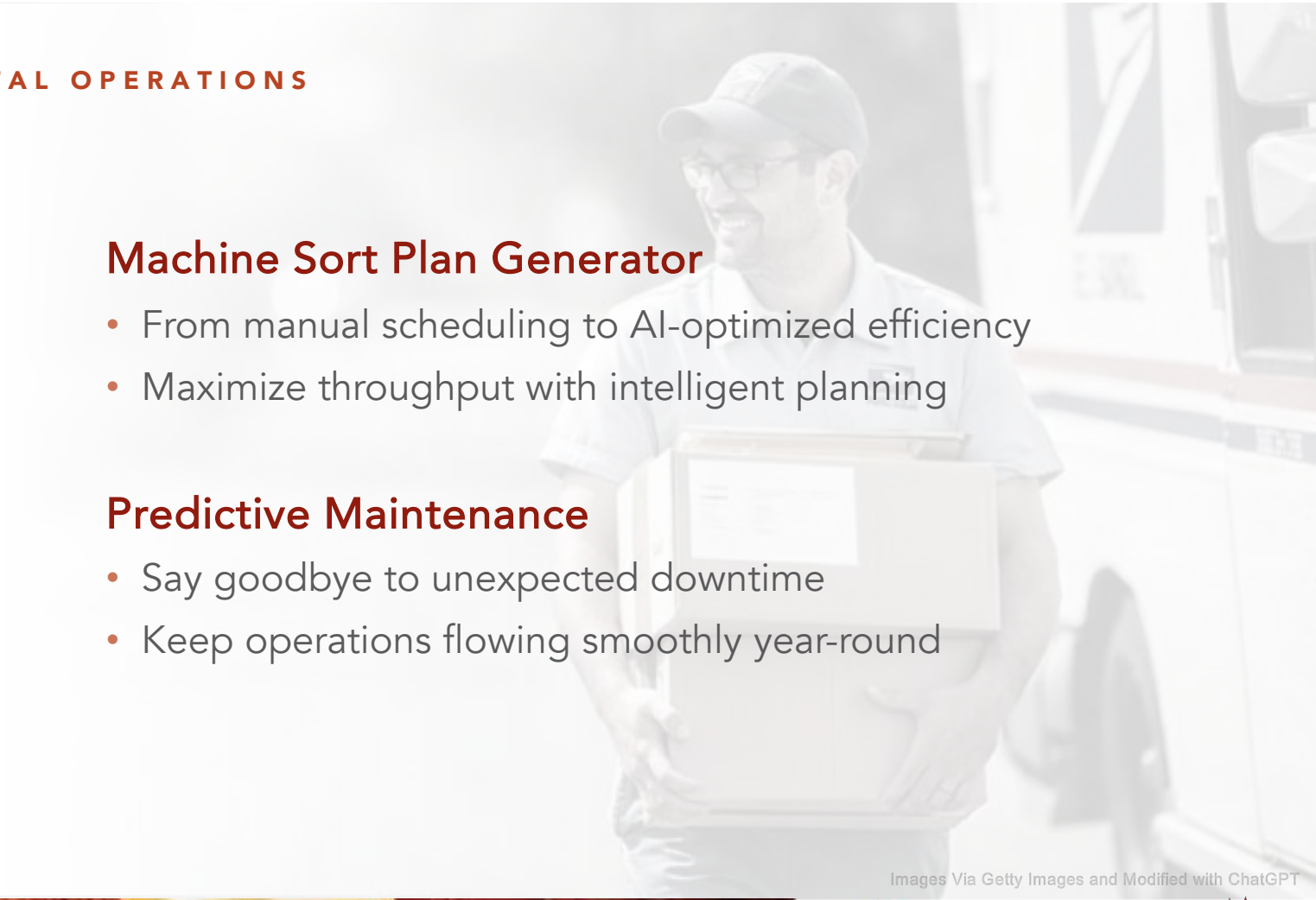
Improved Processing

Machine Sort Plan Generator

- From manual scheduling to AI-optimized efficiency
- Maximize throughput with intelligent planning

Predictive Maintenance

- Say goodbye to unexpected downtime
- Keep operations flowing smoothly year-round



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Revolutionizing Logistics

Transportation Optimization

- Dynamic rescheduling based on real-time and predicted volumes
- Optimize your baseline network for maximum efficiency

Network Flow Management

- Proactively address capacity constraints before they become problems
- Visualize and optimize your entire network at once

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"What If" Scenario Testing

- **Evaluate** network resilience against weather events or equipment failures
- **Test** impact of adding or modifying facilities
- **Model** effects of changing service standards or delivery windows

Via Getty Images

Peak Season Readiness

- Early identification of **seasonal staffing** needs
- Facility **capacity planning** for holiday volume
- **Volume forecasting** with greater accuracy
- Testing how your network handles **surge scenarios**

Via Getty Images

Agentic Decisioning Agent

- **Early warning system** for developing network issues
- AI-generated **decision intelligence** recommends solutions for consideration, including benefits and rationale to aid in decision-making
- **Continuous learning** from operational decisions and outcomes

Via Getty Images

CHALLENGES TO ADDRESS

Data Considerations

1

Getting Complete Data

Ensuring you have accurate data to model your operations

2

Connecting Disparate Systems

Bringing together data from different operational areas

3

Filling Visibility Blindspots

Identifying where you need new data collection

Human Oversight

1

Keeping Human in the Loop

Ensuring AI recommends but doesn't act without human approval

2

Working Within Agreements

Addressing contractual considerations when implementing changes

DIGITAL TWIN AND AGENTIC DECISIONING IN ACTION


UNITED STATES
POSTAL SERVICE

The scenario:

A winter storm is headed to the Indianapolis RPDC Plant.

Digital Twin and Agentic AI can provide tools that:

- Proactively prepares the team for this weather event
- Mitigates – or even eliminates – service disruption
- Learns from this experience to improve for the next surprise

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DEMO

USPS Intelligent Operations Decisioning Agent

Network Insights

Top section gives users a snapshot of key KPIs for their facility

Charts and graphs are available to give users an in-depth look at how their facilities are running

Mitigation actions prioritze and highlight the highest impact problems for a user

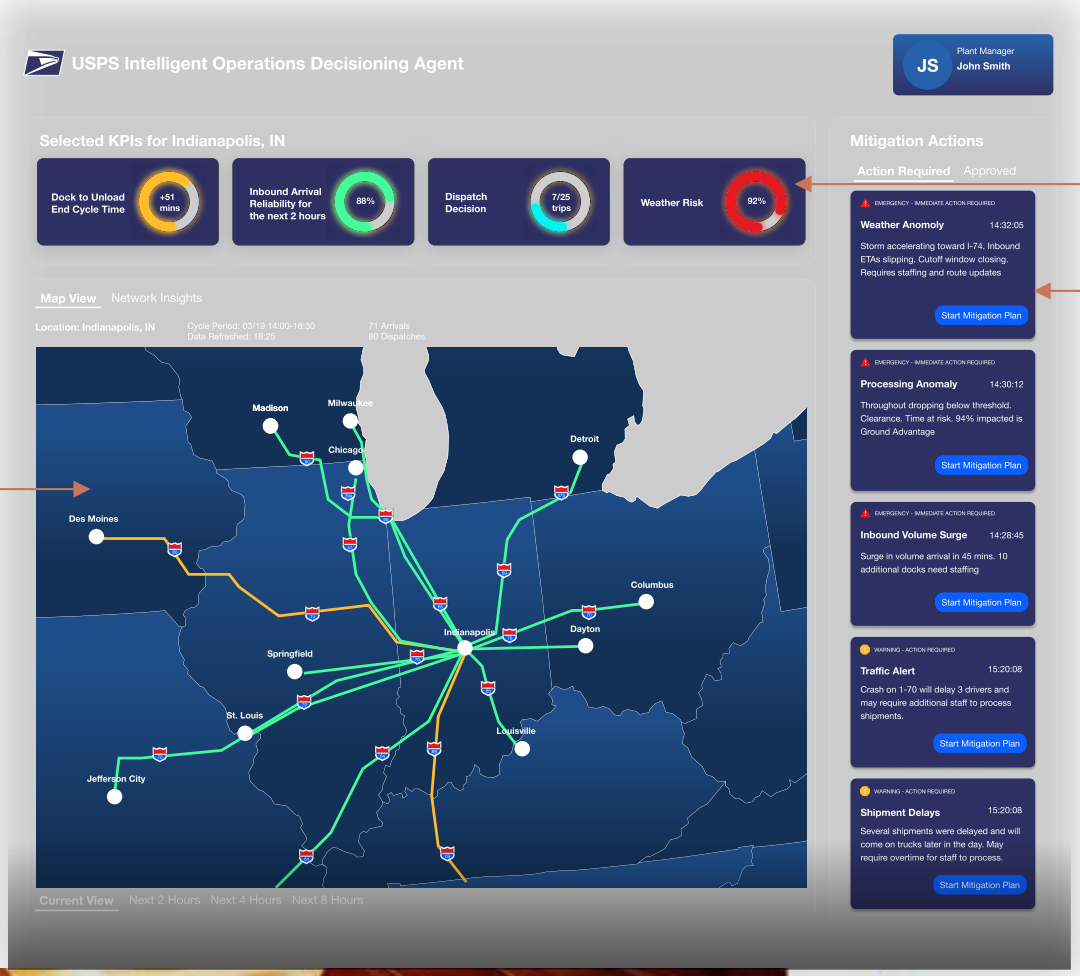
DEMO

USPS Intelligent Operations Decisioning Agent

Map View

Map views allow users to track traffic and routes that drivers are using to come in or out of the facility

Currently, traffic patterns are not a concern



In this scenario, a weather risk in the form of a winter storm is going to impact our location.

The need for action is indicated on the sidebar, and a mitigation plan is suggested

DEMO

USPS Intelligent Operations Decisioning Agent

Map View

By toggling the view to show predictions for the next 2 hours, users can get a sense of how their facilities will be impacted

Traffic is becoming more of a concern as indicated by the growing number of yellow and red roads

DEMO

USPS Intelligent Operations Decisioning Agent

Map View

Understanding the risk in more detail, the user now starts on a mitigation plan

If we look 4 hours into the future, we can see that almost all routes to Indianapolis will be blocked or experience major slowdowns

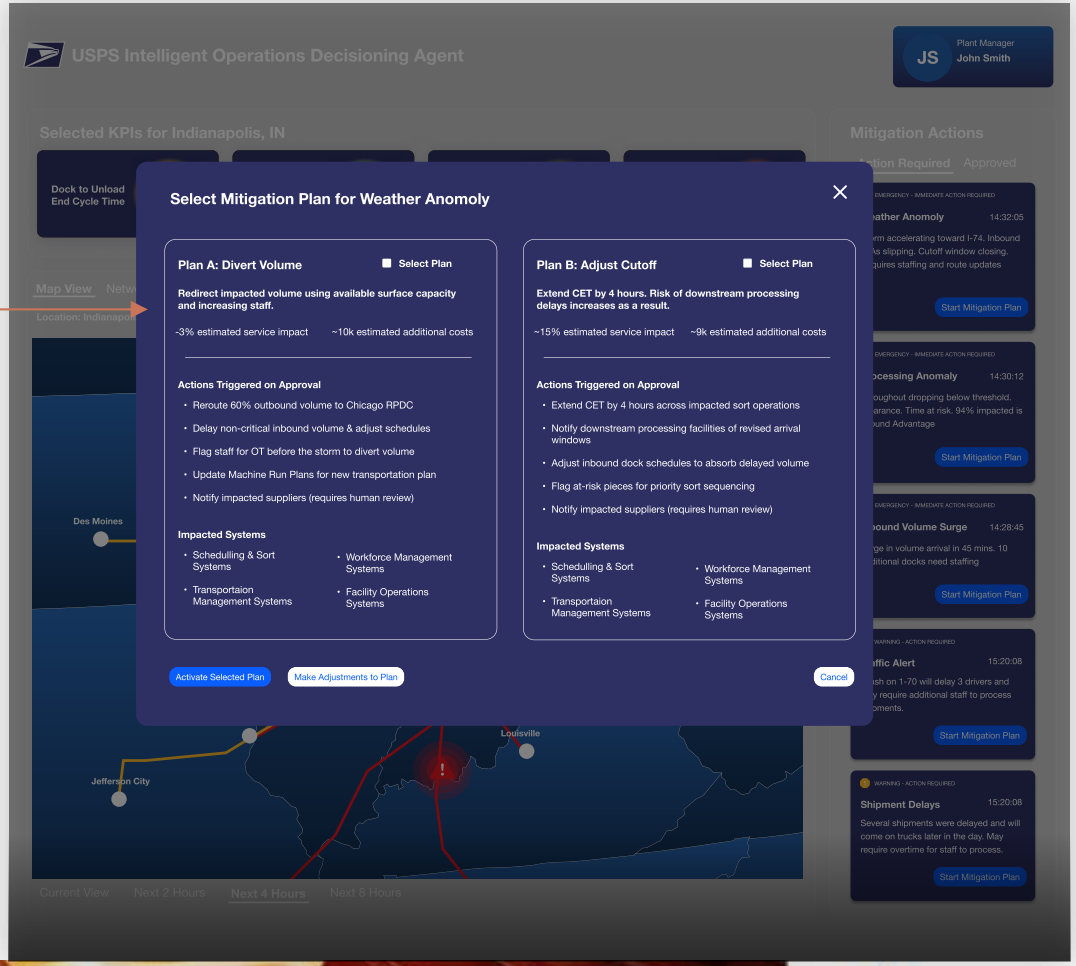
DEMO

USPS Intelligent Operations Decisioning Agent

Mitigation Plans

The user is shown a shortlist of plans to choose from.

Each plan prioritizes different goals to give the user a variety of options to consider.

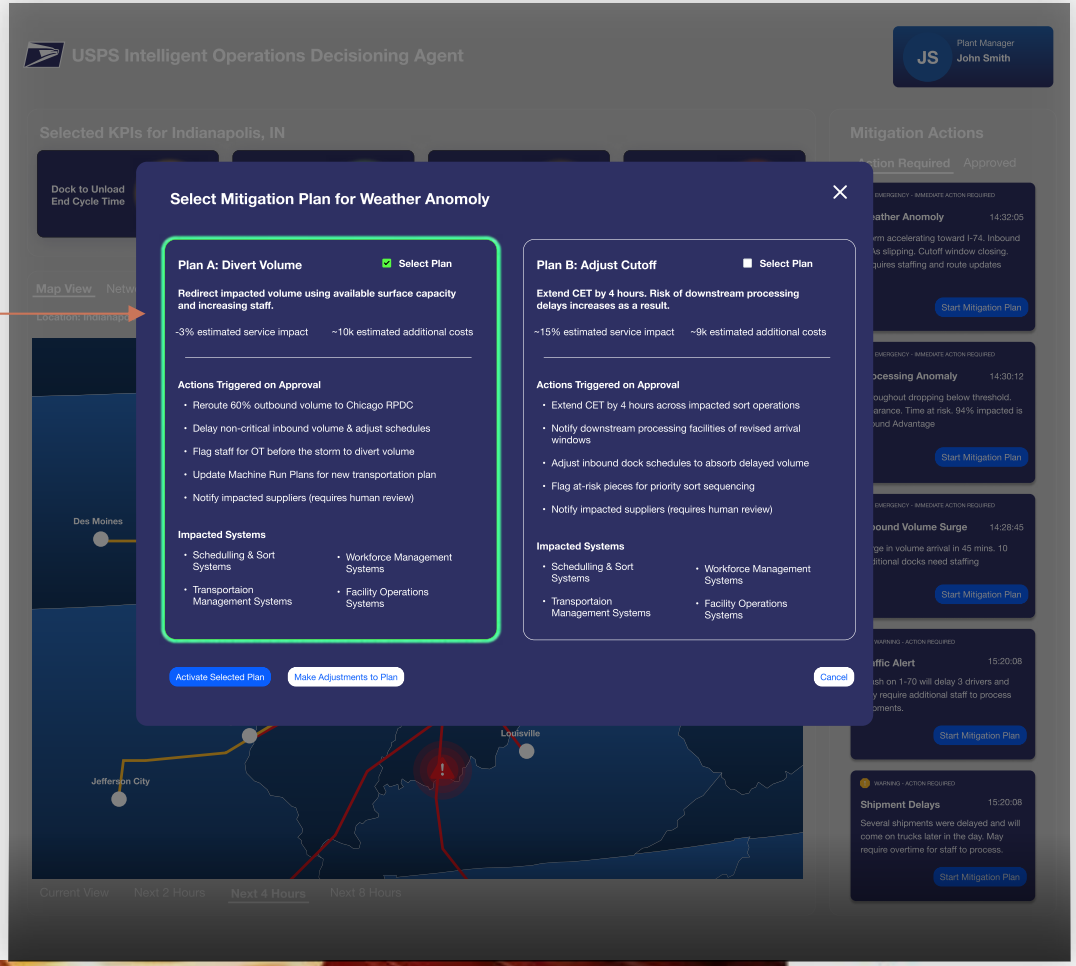


DEMO

USPS Intelligent Operations Decisioning Agent

Mitigation Plans

Once selected, the actions listed in the plan will be deployed



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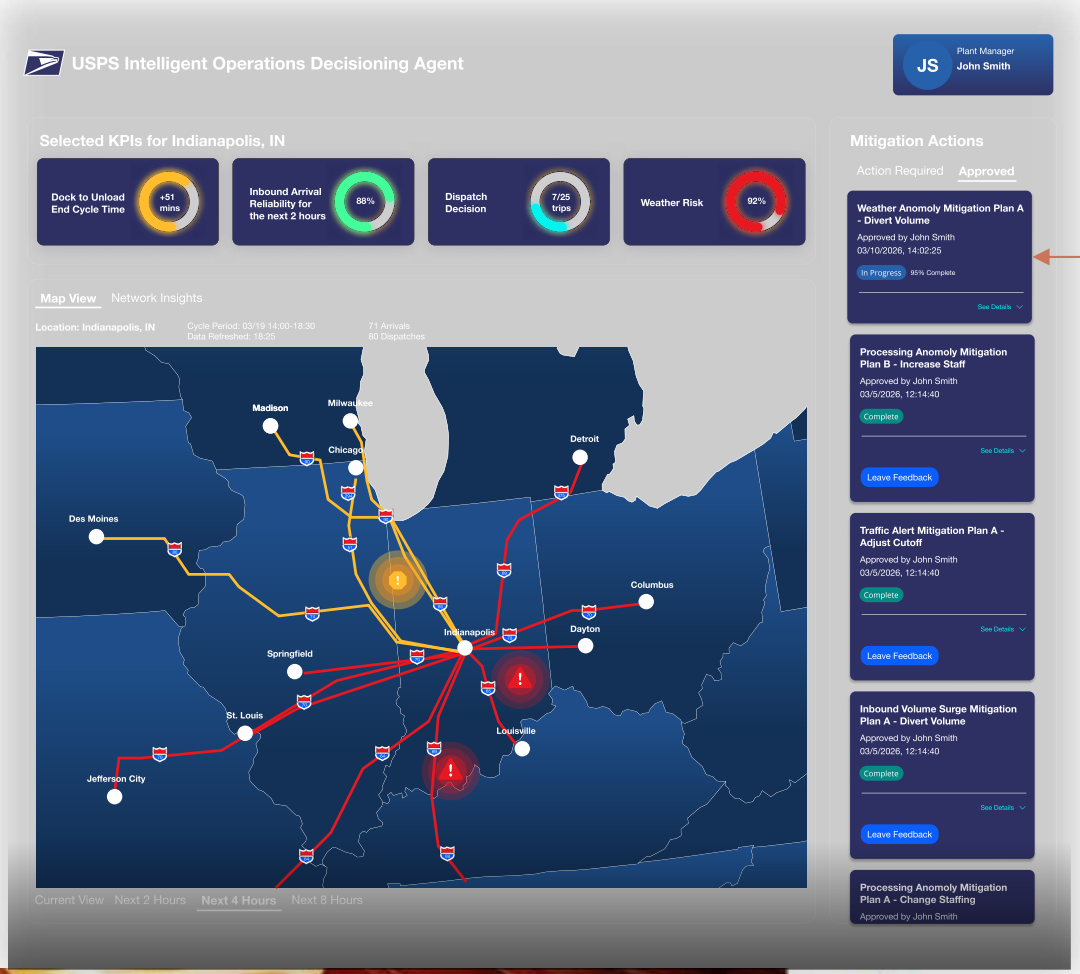
USPS Intelligent Operations Decisioning Agent

Mitigation Actions



The mitigation plan now moves into the "Approved " section where users can track progress

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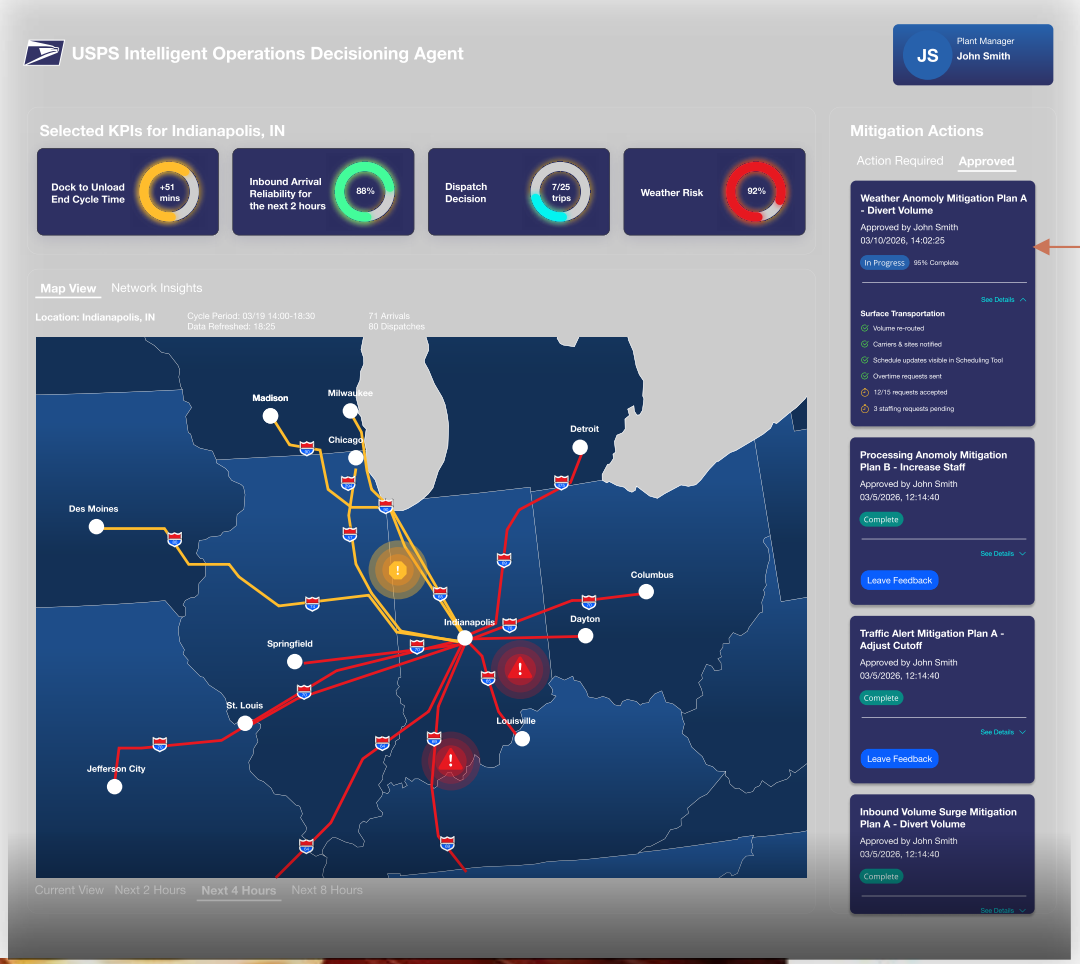
Mitigation Actions



Users can track exactly which actions have been executed and which are still waiting on responses

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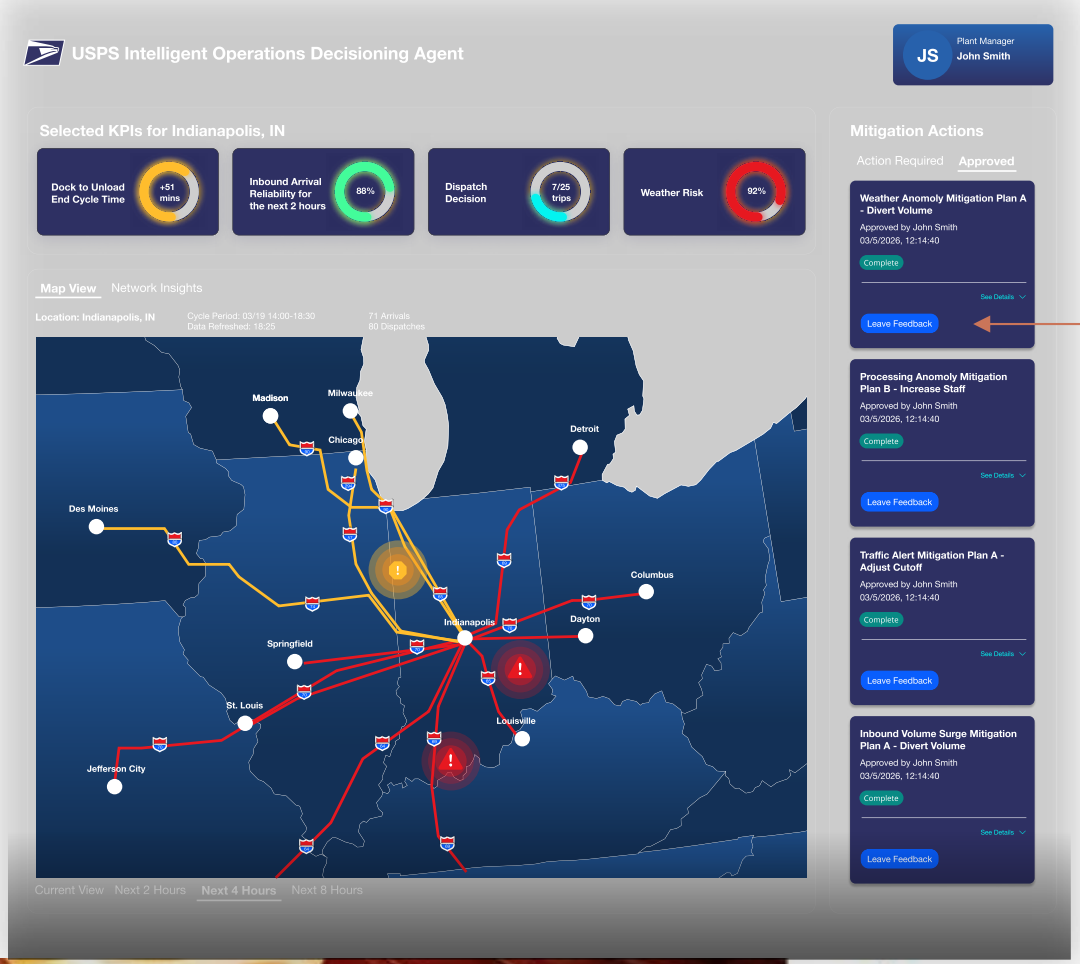
Feedback



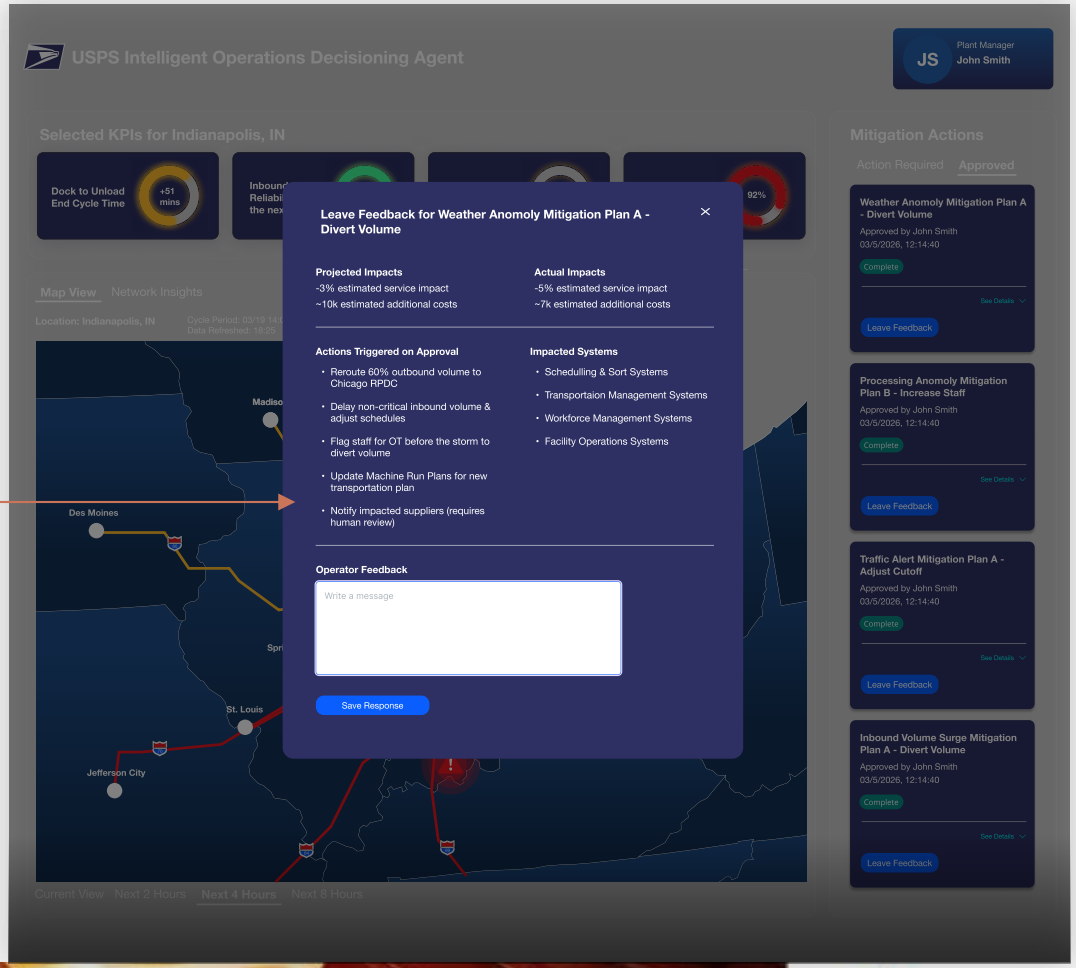
Once completed, users are able to submit feedback in order to capture input for continuous improvement.

DEMO

USPS Intelligent Operations Decisioning Agent

Feedback

By submitting feedback, users are able to help agents learn and grow allowing it to become an even more accurate and powerful partner in the future.



CONCLUSION

Digital Twin + Agentic AI
Reimagine Postal Operations

Streamlined operations

Simplify workflows and boost efficiency with advanced technology

Proactive operations management

Anticipate challenges and ensure seamless operations

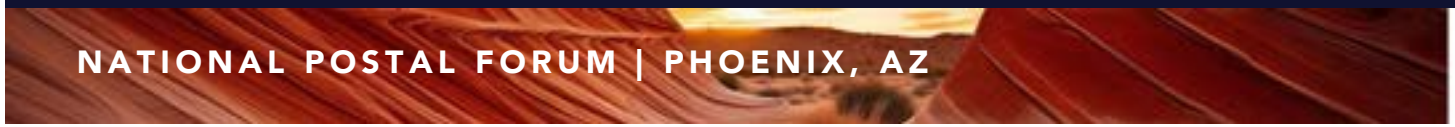
Measurable results

Increase efficiency, reduce costs, and enhance service quality

Continuous improvement

Enable ongoing innovation and long-term success

Build a more intelligent solution today.



QUESTIONS?