Illumination Works

www.ilwllc.com

Enabling Predictive Logistics. Illumination Works' ReadyX™ decision support tool helps planners optimize supply chain maintenance and sustainment planning by identifying problems before they occur for improved readiness, reduced life cycle costs, and proactive decision making.

AI-driven automation coupled with simulation modeling empowers program managers by converting manual processes to automated activities resulting in sustainment optimization, prescriptive maintenance recommendations, and early identification of failures and their root cause for corrective actions.

Automation & Human-Machine Teaming

Across the DoD, weapon system maintenance planning is largely a manual process with limited analytic tools to inform decision making. ReadyX™ is a customizable solution that brings prescriptive approaches to weapon system sustainment planning through AI and human-machine teaming.

- Prioritize maintenance activities
- Predictive/prescriptive recommendations
- Enable what-if scenario modeling
- Forecast spare needs and readiness
- Focus planner on critical areas

Machine Learning & Simulation

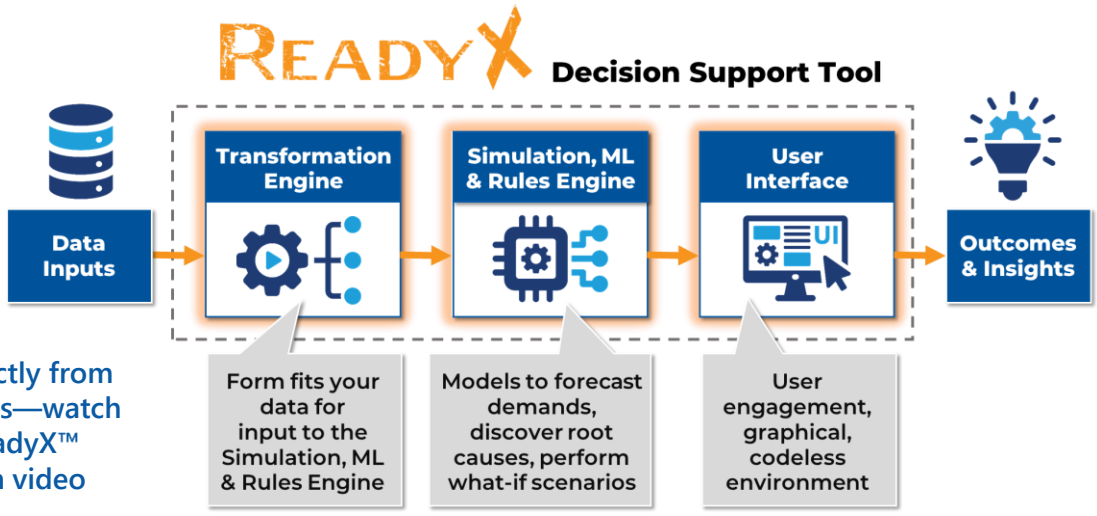
ReadyX™ provides a powerful alternative to optimize planning through machine learning and simulation modeling, providing planners with accurate, prioritized maintenance activities and spare procurement needs.

End-to-End AI-Enabled Solution

ReadyX™ starts with automated data processes and ends with visualization of advanced analytical and machine learning outputs.

Flexible, scalable, open-source code

Rapid extension across DoD organizations



← Hear directly from our experts—watch our ReadyX™ solution video

Deep Dive: ReadyX

www.ilwllc.com

Sound Innovation with a Firm Scientific Foundation

Illumination Works developed ReadyX™ through a Phase I Navy SBIR following rigorous scientific evaluation and project work for the Air Force using real-world DoD weapon system maintenance data. At present, ReadyX™ is a TRL 3, primed to be customized to meet your predictive logistics needs. ReadyX™ is designed to be robust and scalable for eased integration into a DoD environment through containerization.

Transformation Engine

- Customized for each program's unique maintenance data
- Dynamically processes text, categorical, and numeric properties
- Prepares variables for machine learning and simulation modeling
- Natural language processing automatically mines for textual remarks in maintenance records
- Extracts failure themes and generates new knowledge regarding maintenance issues, failures, and their causes

Simulation, Machine Learning & Rules Engine

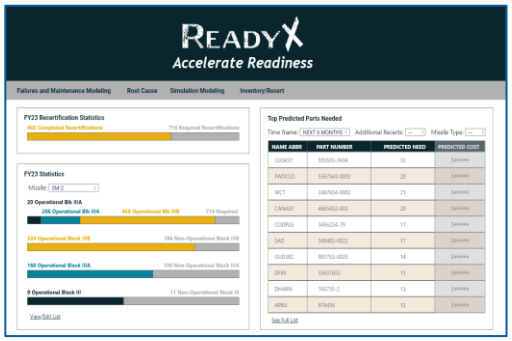
- Trained and tested 26 machine learning classifiers for the ability to predict the next type of failure for a Navy weapon system component
- Uses probabilistic modeling, time-series, and generative AI to deliver future maintenance data representative of historical inputs
- Predicted part outages with 2.5 times greater accuracy in far less time than two other predictive machine learning models being considered by an Air Force weapon system program

Proactive Maintenance Posture

- Improve readiness and operational availability
- Faster response times via ML prediction and trending of root cause of faulty parts
- Optimize maintenance strategies given funding constraints with simulation modeling
- Ease workload and cognitive stress with visualization of analytical outputs

Graphical User Interface

- Personnel interact with AI predictions
- Graphic, easy to use, codeless setting
- Provides high-value information
- Assists with maintenance and sustainment planning



ReadyX is a non-proprietary solution ready to be customized for needs with source code available to our DoD customers at deployment

Contact Us Today to Learn More

Jan Turkelson
Senior Vice President
jan.turlelson@ilwllc.com

Janette Steets, PhD
Associate Vice President
Defense Division
janette.steets@ilwllc.com

John Tribble
Director of Data Science
john.tribble@ilwllc.com

YouTube

ILLUMINATION WORKS