WEBINAR

Empowering Complex Development with Responsible AI

Our Speakers

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SENIOR PRODUCT MANAGER

Jama Software

Agenda

- Introduction
- The Role of AI in Modern Requirements Management
- Responsible Use of AI
- Partnership with AWS for AI Tools
- AI-Driven Features for Jama Connect®
- Q & A
- Conclusion

Jama Software® | #1 in Requirements Management

INTELLIGENTLY IMPROVE YOUR DEVELOPMENT PROCESS WITH JAMA CONNECT®

Jama Connect helps teams manage requirements with Live Traceability through the systems development process for proven cycle time reduction and quality improvement.

- Manage Complexity & Scale
- Intelligently Improve Requirements
- Bring All Collaboration & Reviews Online
- Unify Test-Case Management
- Auto-Detect Risk
- Maintain Product State Across Tools
- Measure & Improve Traceability

SPACE, AIRBORNE, & DEFENSE SYSTEMS

AUTOMOTIVE & SEMICONDUCTOR

MEDICAL DEVICES

SOFTWARE DEVELOPMENT

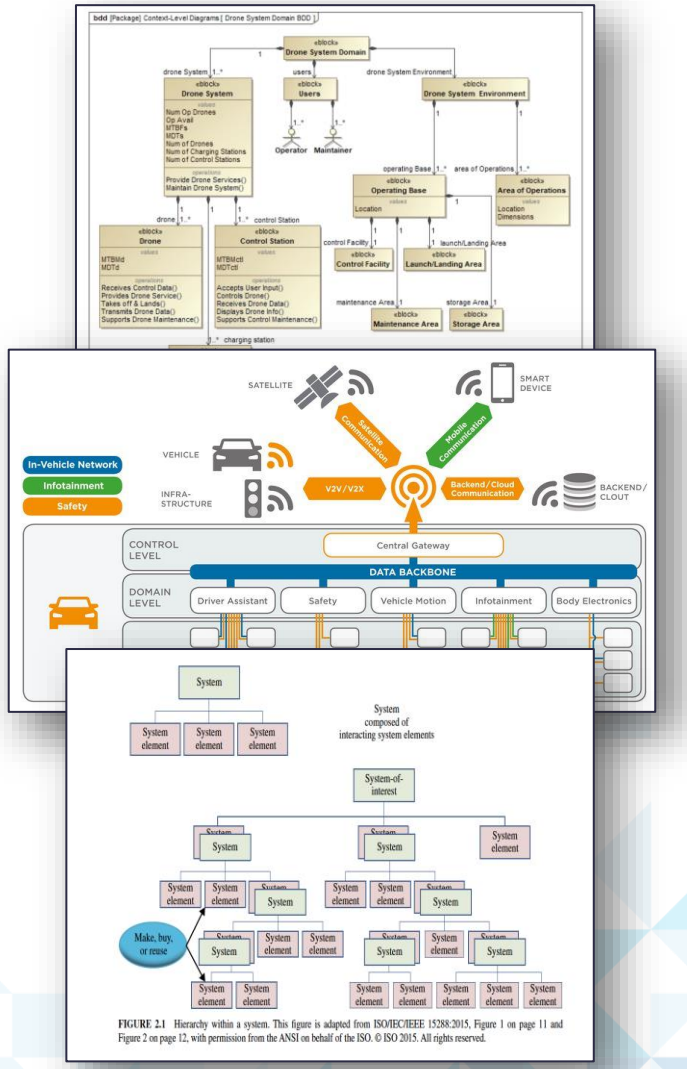
INDUSTRIAL MANUFACTURING

Today's Systems Have Become More Complex

COMPLEX PRODUCTS ARE EVERYWHERE IN EVERY SECTOR

Systems of Systems (SoS)

- A System of Systems (SoS) is a **collection of independent systems,** integrated into a larger system that delivers unique capabilities.
- Difficult to produce accurate predictive models of all emergent behaviors, so **global SoS performance is difficult to design**
- **Testing and verifying upgrades to an SoS is difficult and expensive** (sometimes prohibitively) due to scale, complexity and constant evolution



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The Role of AI in Modern Requirements Management

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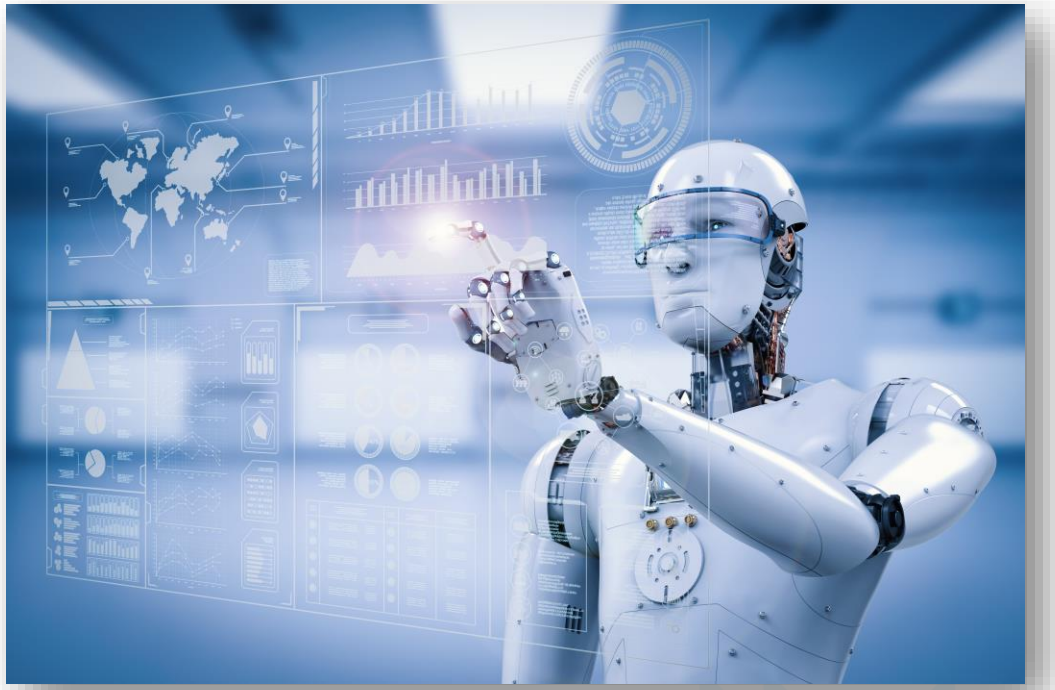
The Role of AI in Modern Requirements Management

GROWING COMPLEXITY IN PRODUCT DEVELOPMENT AND MANUFACTURING

- Multi-Disciplinary Product & Software Development
- Regulatory Pressures and Compliance Challenges
- The Push for Faster Development Cycles



AI-powered requirements management tools
reduce risk, improve compliance, and streamline workflows

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The Role of AI in Modern Requirements Management

NEED FOR INTELLIGENT, STREAMLINED WORKFLOWS IN HIGHLY REGULATED ENVIRONMENTS

- The Burden of Manual Processes
- The Need for Better Collaboration & Visibility

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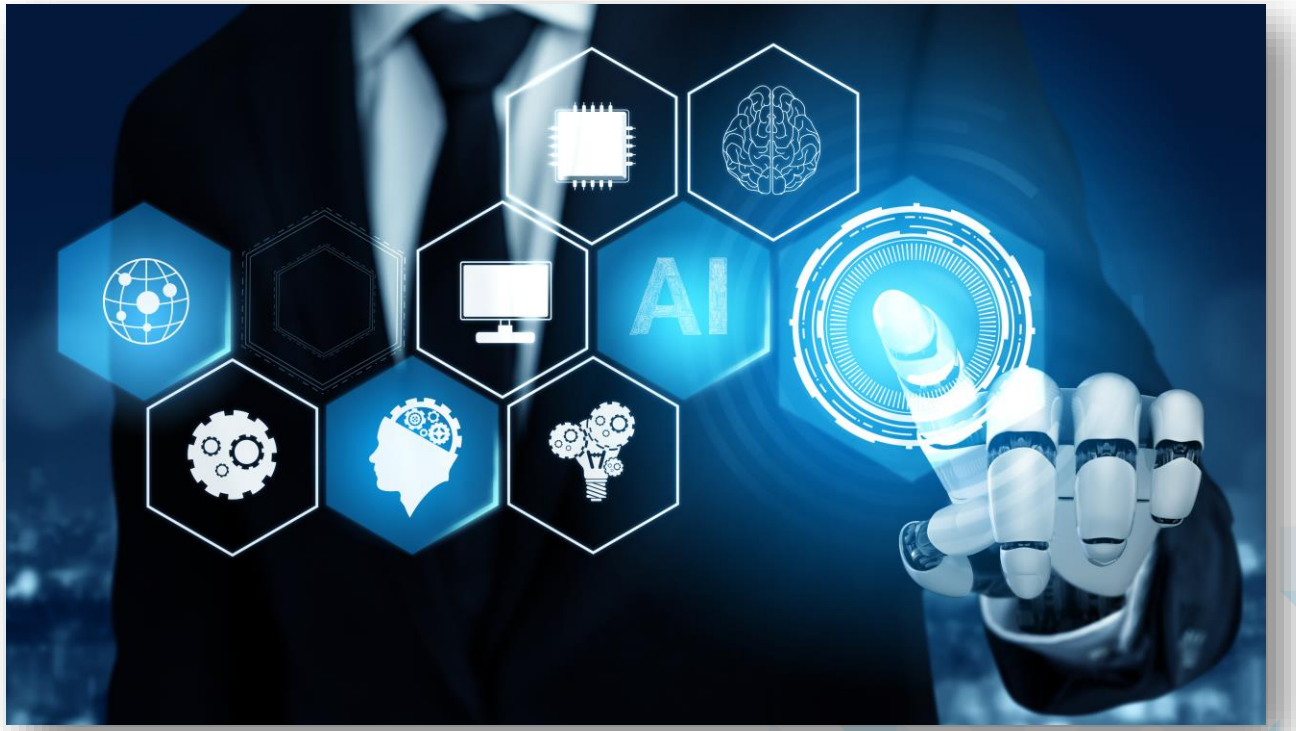
The Role of AI in Modern Requirements Management

AI'S POTENTIAL IMPACT ON PRODUCT DEVELOPMENT

- How AI Can Automate Repetitive Tasks
- Enhancing Accuracy in Requirements Traceability
- Improving Decision-Making Through Predictive Analytics



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Responsible Use of AI

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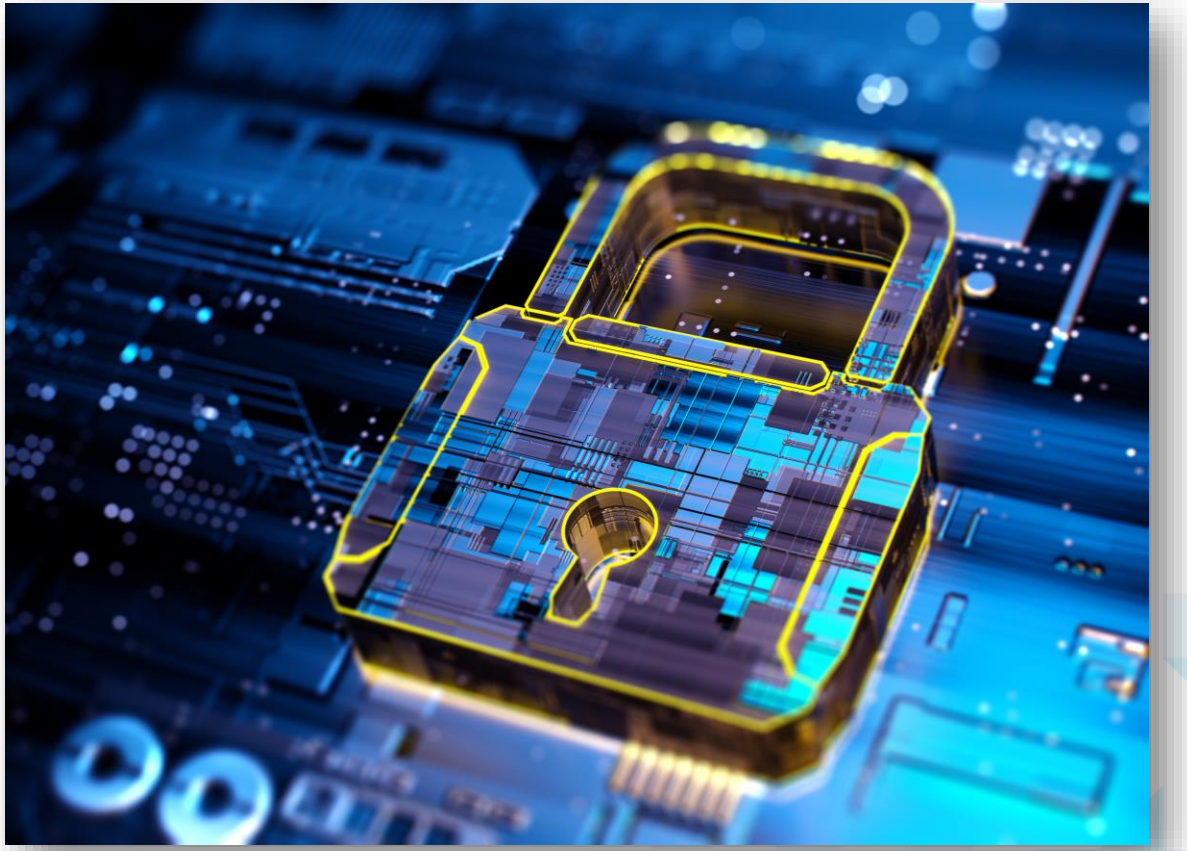
Ethical Considerations

DEFINING RESPONSIBLE AI

Responsible AI encompasses the following core principals:

- Fairness
- Transparency
- Accountability
- Privacy & Security



Ethical Considerations

ETHICAL AI PRACTICES IN SENSITIVE INDUSTRIES

AI is used in mission-critical applications, such as:

- Aerospace & Defense: Autonomous drones and AI-assisted surveillance.
- Automotive: AI-powered Advanced Driver Assistance Systems (ADAS).
- Medical Devices: AI-driven diagnostics and robotic surgery.

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Regulatory & Compliance Challenges

NAVIGATING REGULATIONS IN AEROSPACE, AUTOMOTIVE, AND MEDICAL DEVICES

Regulations governing AI vary by industry:

- Aerospace & Defense:
  - AI in avionics and defense systems must comply with DO-178C, MIL-STD-882E (safety), and ISO 15288 (systems engineering).
- Medical Devices:
  - The FDA's Good Machine Learning Practices (GMLP) sets guidelines for AI-driven medical software.
- Automotive:
  - AI in autonomous vehicles must meet ISO 21448 (Safety of the Intended Functionality, SOTIF) and ISO 26262 (Functional Safety).

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Regulatory & Compliance Challenges

ENSURING DATA PRIVACY AND SECURITY IN AI-DRIVEN SYSTEMS

Organizations must ensure compliance with:

- **GDPR (General Data Protection Regulation)** – Protects **EU citizens' data** from misuse.
- **HIPAA (Health Insurance Portability and Accountability Act)** – Governs **healthcare AI solutions** in the U.S.
- **CCPA (California Consumer Privacy Act)** – Regulates **AI handling consumer data**.

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Best Practices & Governance

FRAMEWORKS FOR IMPLEMENTING RESPONSIBLE AI

Organizations should implement structured AI governance frameworks such as:

- **NIST AI Risk Management Framework (AI RMF) –** Provides a structured approach for assessing AI risks.
- **ISO/IEC 42001 (AI Management Systems Standard) –** Establishes best practices for AI governance.
- **IEEE Ethically Aligned Design –** Focuses on human-centric AI development.

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Best Practices & Governance

INCORPORATING STAKEHOLDER FEEDBACK & CONTINUOUS MONITORING

Organizations must:

- Continuously monitor AI performance for bias and drift.
- Gather feedback from domain experts, users, and regulatory bodies.
- Implement AI auditing mechanisms to detect unintended outcomes.

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Real-World Examples

CASE STUDIES OF SUCCESSFUL AI ADOPTION

Improved early cancer detection by 30%

Reduced downtime by 25%

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Real-World Examples

CAUTIONARY TALES IN AI ADOPTION

Perform bias audits and fairness checks

Require continuous real-world testing & human oversight

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Real-World Examples

BUILDING TRUSTWORTHY AI IN REGULATED INDUSTRIES

To responsibly implement AI in complex regulated industries, organizations must:

- Follow ethical AI principles (fairness, transparency, accountability, privacy).
- Ensure compliance with industry-specific regulations.
- Implement robust governance frameworks to monitor AI risks.
- Incorporate stakeholder feedback and continuously test AI performance.

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Partnership with AWS

Partnership with AWS for AI Tools

KEY AI/ML SERVICES FROM AWS

- Tooling to build and scale generative AI applications
- Customer AI models
- Natural Language Processing (NLP)
- Bias detection and explainability tools
- Document processing to extract text, structured data and scanned documents

Partnership with AWS for AI Tools

BENEFITS OF AWS AI/ML OFFERINGS

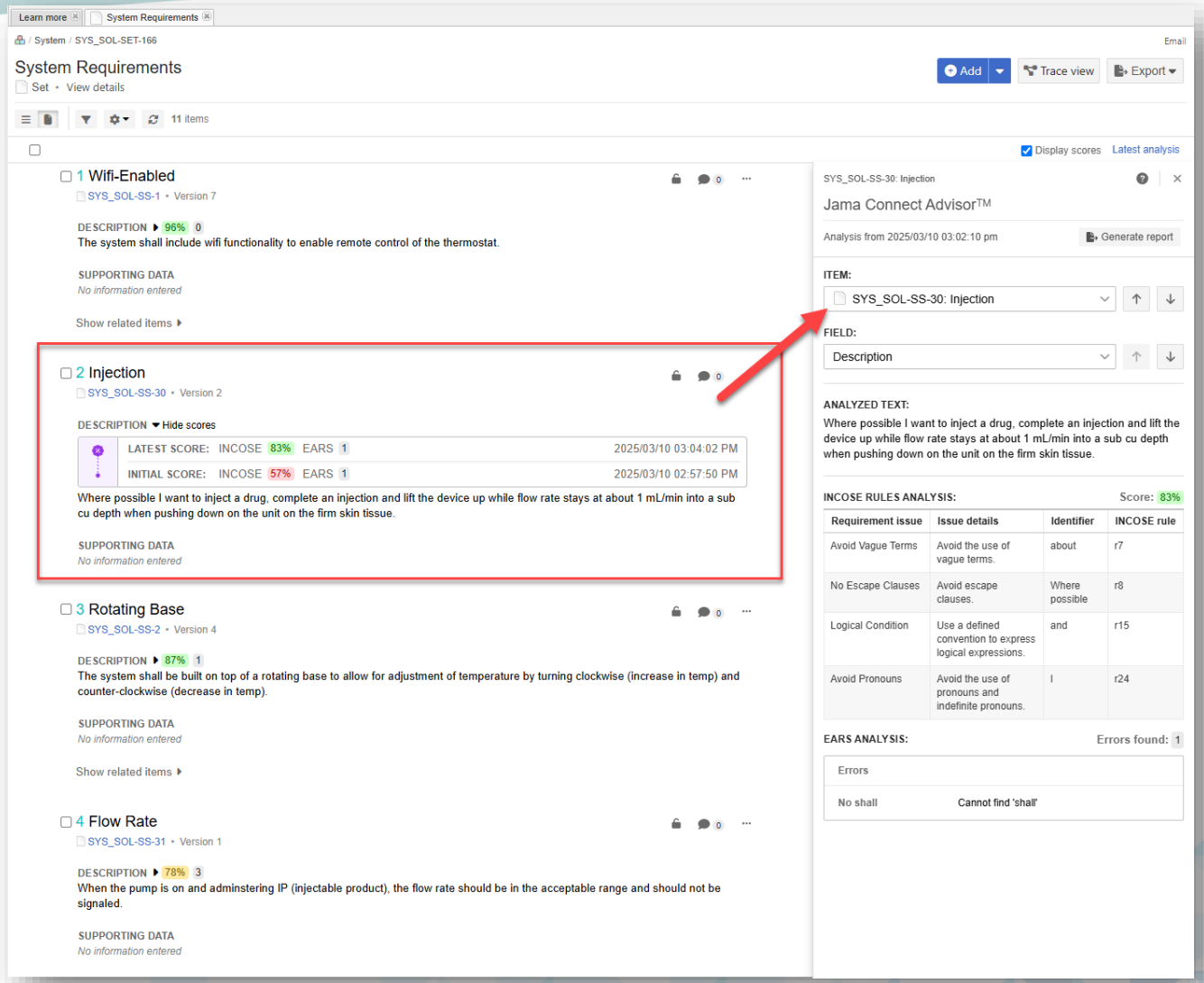
- Scalability and performance
- Security and compliance
- Responsible AI frameworks

Product Roadmap

Requirements Quality Intelligence and Metrics

RELEASED & NEAR-TERM ROADMAP

- Analyze requirement text with NLP to detect errors and violations
- Provide INCOSE and EARS compliance scores to assess requirement quality
- Offer AI-driven suggestions to reinforce best practices and ensure clarity
- Continuously learn from user modifications to improve accuracy over time



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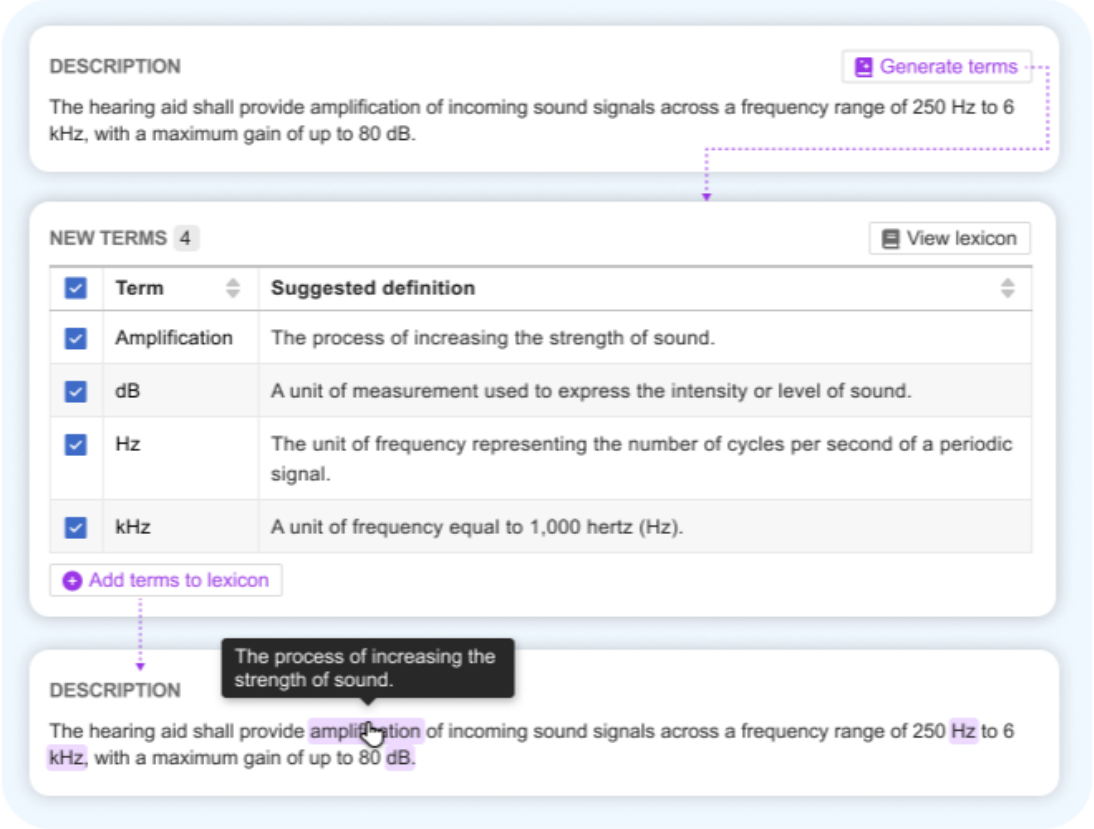
Lexicon

NEAR-TERM ROADMAP

- Automatically extract key terms
- Find the most relevant definitions
- Track term usage
- Ensure standardized terminology



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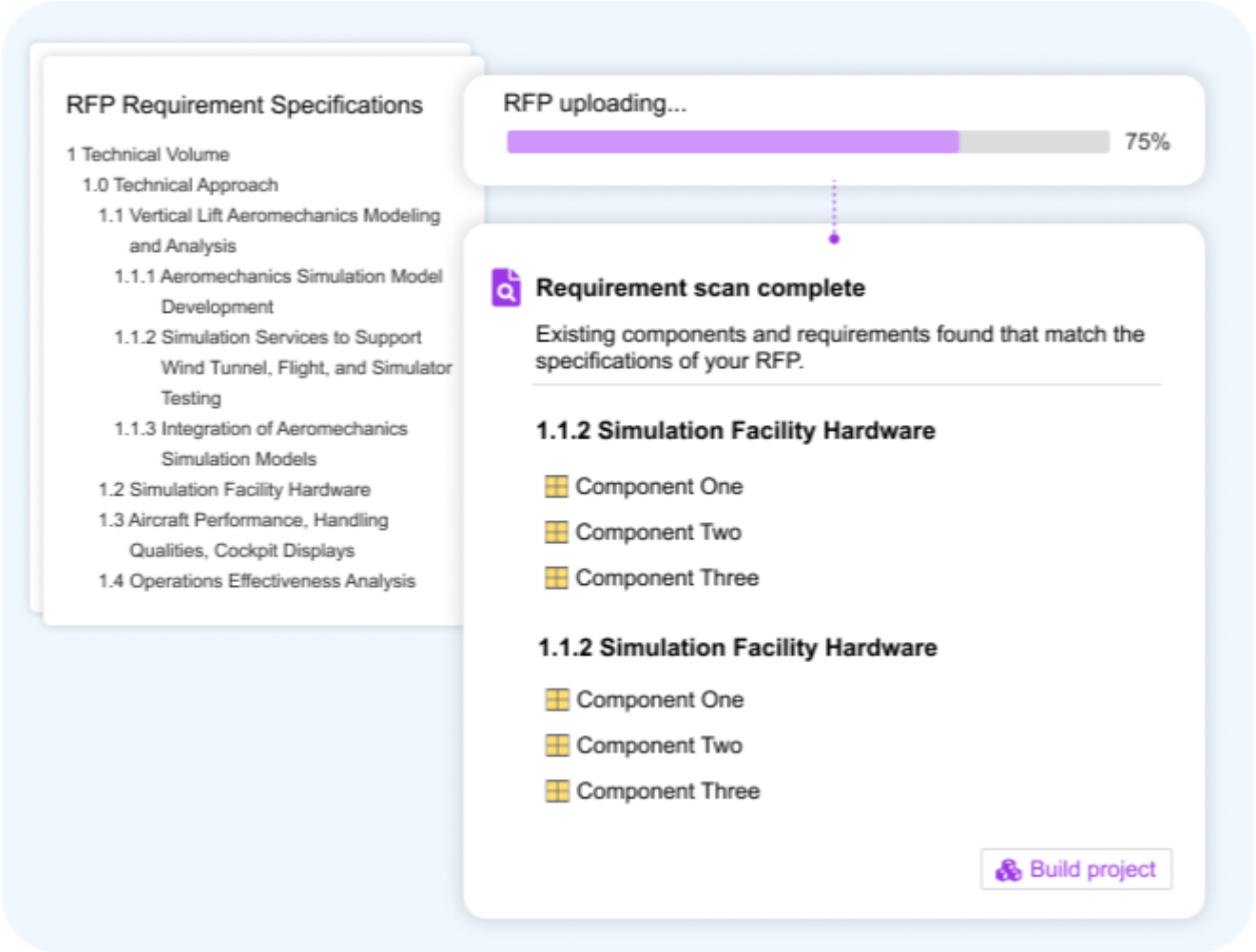
Document/PDF parsing and IP reuse

NEAR-TERM ROADMAP

- Automatically parse complex regulatory documents and RFPs
- Use AI-powered search and recommendation systems to match extracted requirements with existing ones
- Enable seamless IP reuse by identifying and recommending validated requirements from past projects
- Speed up response time for RFPs or Audits



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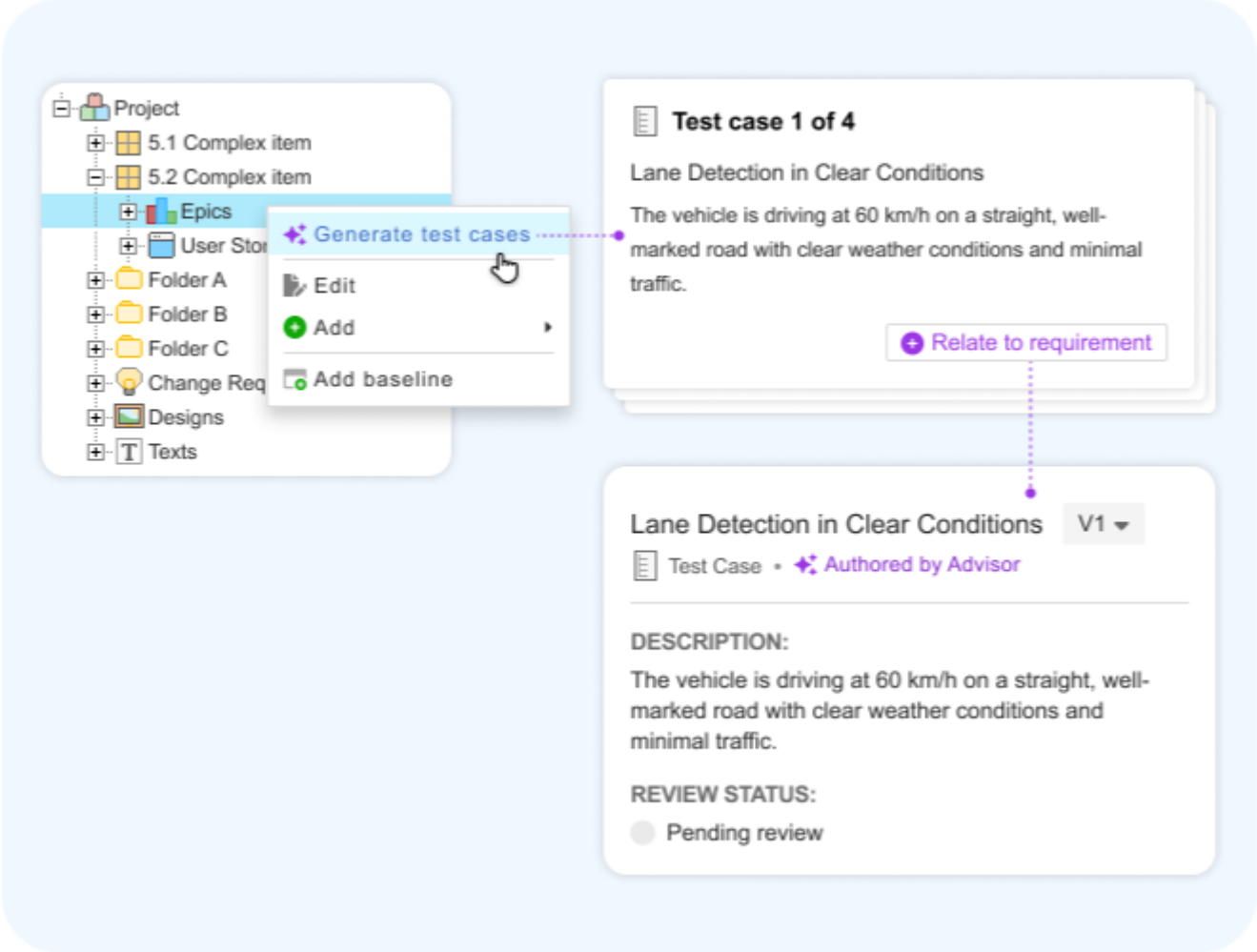
Test Case Generation

NEAR-TERM ROADMAP

- Automate the generation of test cases and test steps
- Enhance efficiency, consistency, and regulatory alignment in verification & validation
- Test Case Standardization



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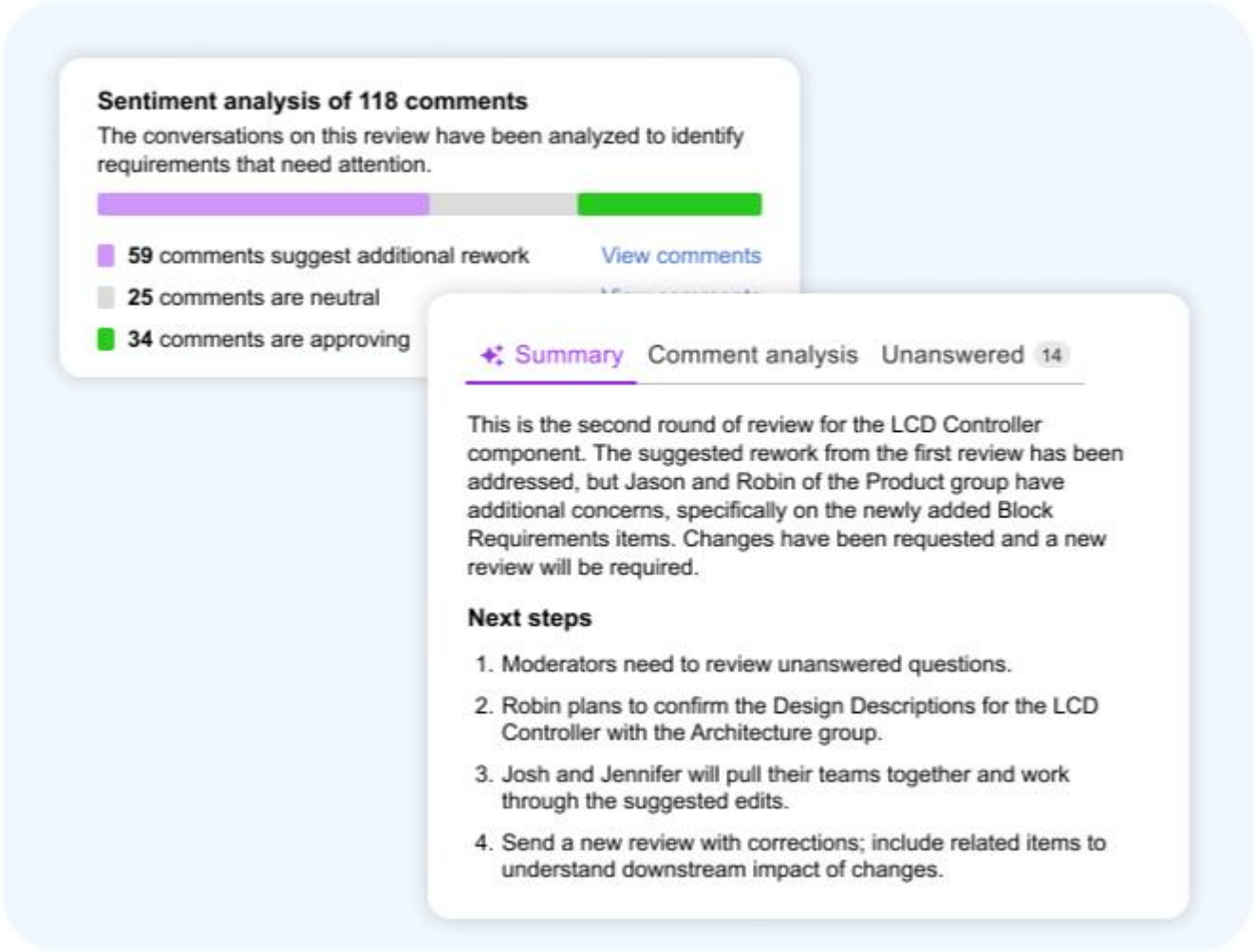
Intelligent Reviews

LONG-TERM ROADMAP

- Summarizes key feedback from Reviewers
- Providing AI-driven next steps based on review comments
- Uses sentiment analysis to identify rework-heavy comments
- Detect recurring issues and prioritizing high-risk requirements



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Q&A

Summary

JAMA CONNECT ADVISOR™

- **Automated Intelligence & Efficiency –** AWS AI tools automate **requirement extraction, test case generation, and formal review analysis**, reducing manual effort, improving traceability, and accelerating time to market.
- **Improved Decision-Making & Compliance** – AI-powered **summarization, sentiment analysis, and compliance validation** help teams identify risks, ensure regulatory alignment, and enhance verification/validation coverage.
- **Enhanced Collaboration & Reusability** – AI-driven **requirement matching, test case reuse, and review tracking** improve consistency, eliminate redundant work, and help teams leverage historical knowledge for higher-quality requirements.

Thank You!