

Industrializing Nuclear Artificial Intelligence



HIVE™

Nuclear-Specific Artificial Intelligence System

bertha™

Nuclear-Specific Generative AI Model



Compliance

- Security
- Privacy
- Export Control
- Global AI
- Nuclear Regulatory



Data

- Ownership / Access
- Knowledge Base
- Traceability
- Integration
- Scalable



Quality

- Accuracy
- Pertinence
- Actionable
- No Hallucinations
- Expertise



Trust

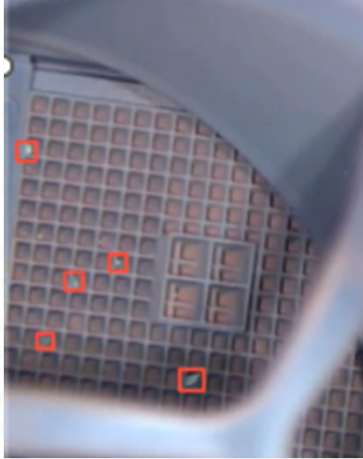
- Explainability
- Unbiased
- Incorruptible
- Human in the Middle
- WUQ-C

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Westinghouse AI Use Cases

Significant applications across the entire industry lifecycle



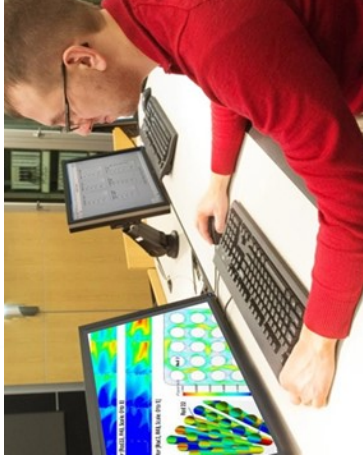
IMPROVE FUEL DEFECT DETECTION RATES

AI-enhanced visual inspections interpret live video feeds to identify debris, crud, corrosion, mechanical distortion, and other defects on nuclear components.



ACCELERATE LICENSING

bertha™ generative AI model accelerates licensing documentation and rapidly generates data ready for human preparation & authorship



IMPROVE SAFETY & ENHANCES FUEL PERFORMANCE

Predict complex Critical Heat Flux safety limits with higher accuracy than traditional methods.



WORKFORCE LEARNING

The bertha™ generative AI model powers Westinghouse IQ to make learning about the nuclear industry a breeze and freely available right from a browser.

Transform Your Knowledge-Based Workflow

KNOWLEDGE MANAGEMENT	INSIGHT	COMPLIANCE	COMPETENCY DEVELOPMENT	DESIGN
“Does a main steam line break transient directly cause a reduction in the core shutdown margin, or is there an intermediate factor at play?” bertha™ Nuclear-Specific Generative Artificial Intelligence Model	“How were the NRC’s questions addressed about ...?”	“I am a reviewer trying to challenge the robustness of the TCD model development, what questions should I ask?”	“Per the following NUREG-1021 guide, write three Level 2 multiple choice examination questions about fission gas release.”	“Suggest an alloy composition to create a more advanced cladding material”
	“What potential gaps may there be in the analysis?”		“Become a quiz-bot asking me Level 2 questions about...”	“How would this proposed alloy creep relative to Optimized Zirlo™?”
	“What downstream effects does cladding creep have on fuel models?”		“Become my mentor, I have a basic understanding of fuel rod design...”	“Calculate cladding creep for Optimized Zirlo™ from 280C - 330C where the irradiation component is reduced by 8%”



Artificial Intelligence Governance

Westinghouse AI Governance Office

- Harmonizes global AI compliance obligations
- Guided by Foundational AI Ethical Principles
- Provides framework to comply with all global AI laws and regulations

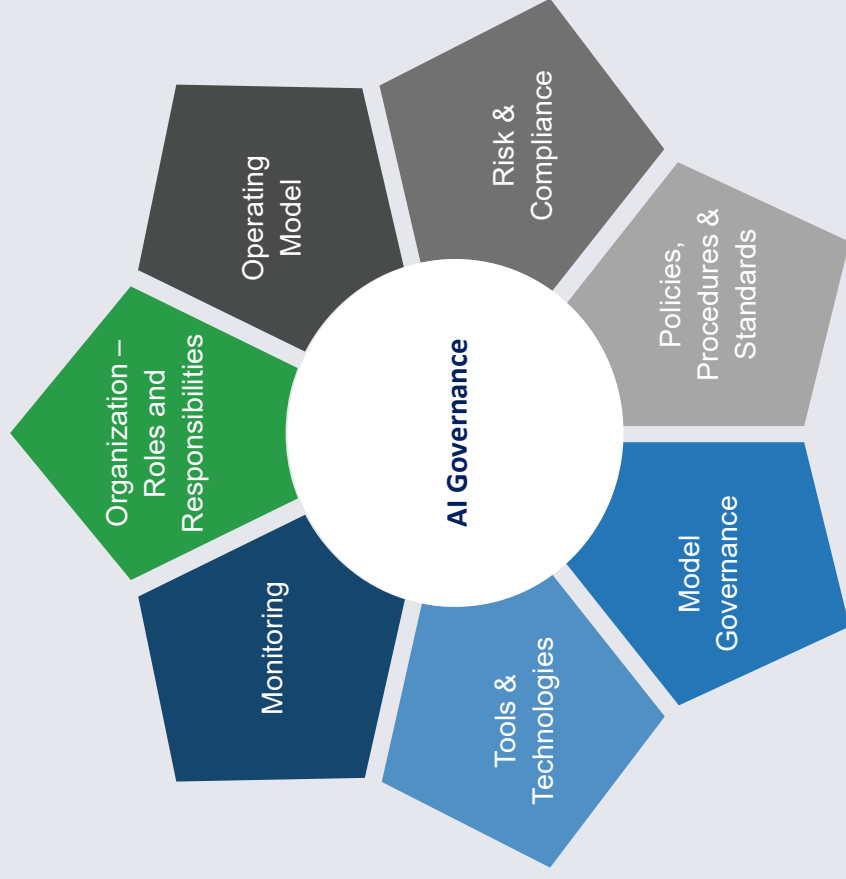
Adoption of the NIST AI Risk Management Framework

- Integration into Enterprise Risk Governance

Policy on the Responsible Use of Artificial Intelligence

Data Ethics Committee

Responsible AI Officer



«Thanks!!»»

Let's Continue the Conversation!



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