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Program Researcher**

December 3 - 5, 2024

Digital Infrastructure and I&C Modernization Strategy

Plant Modernization Pathway Stakeholder Engagement Meeting



Digital Infrastructure and Modernization Strategy

America Leads in Nuclear Innovation

LWRS Plant Modernization pathway has performed extensive R&D on digital I&C infrastructure modernization

Technological

- Higher fidelity
- Better signal quality
- Easier data manipulation
- More accurate data storage, transmission, and processing

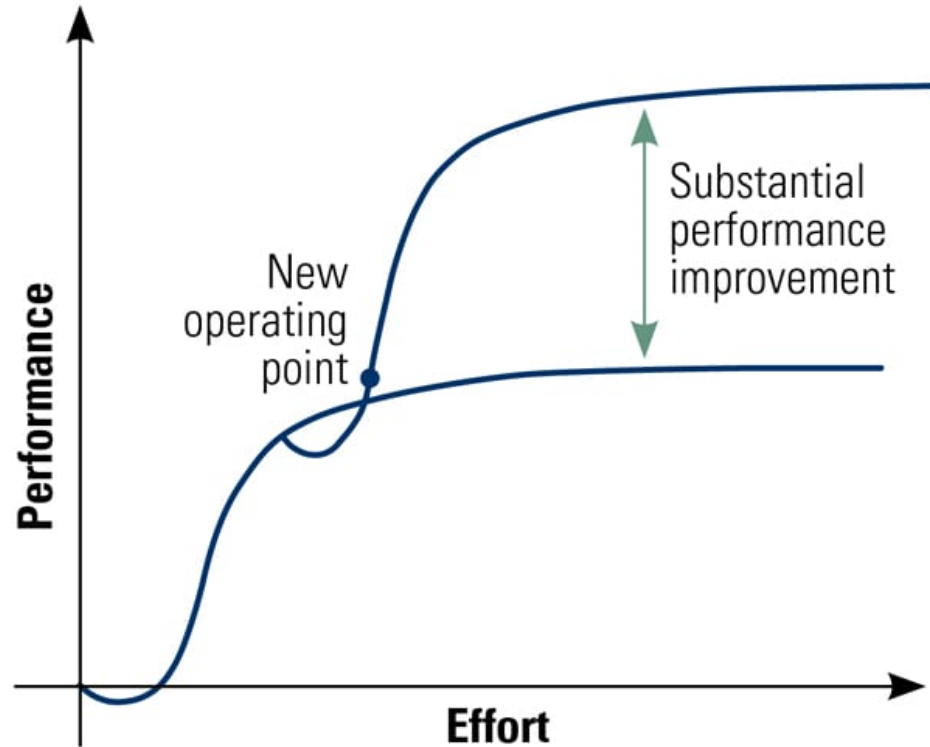
Economic

- Availability
 - Replacement costs
 - Subject matter expertise
- Flexibility

[Presentations in Session 3 highlight new work in these areas](#)

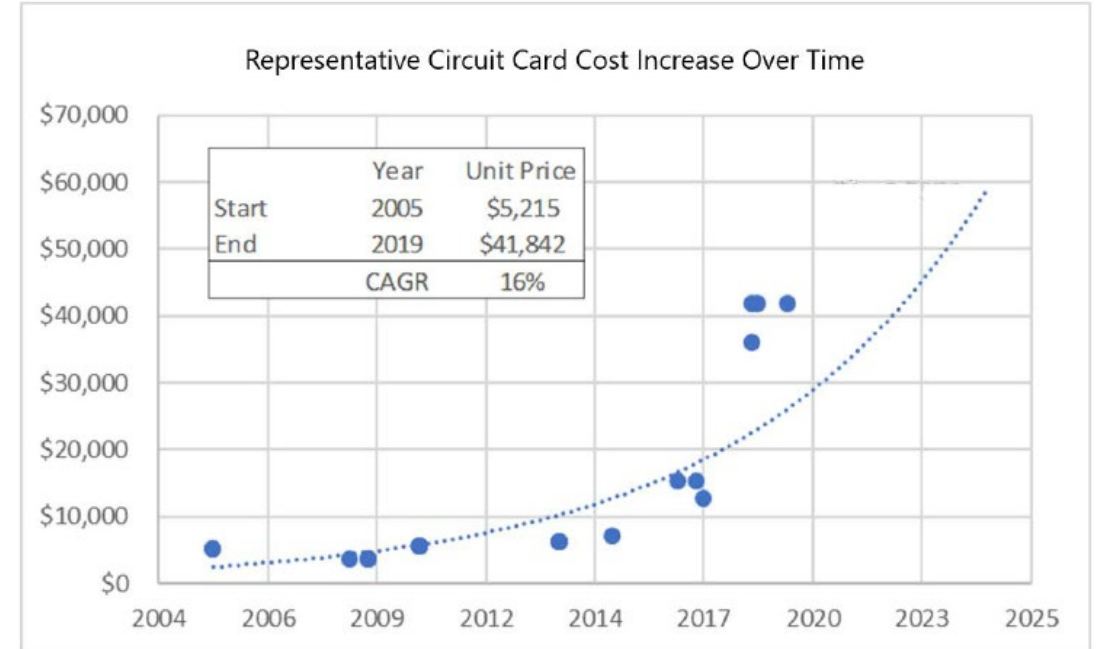
Business Case Analysis for Digital I&C Upgrades

- Digital upgrades are economically justified.



Potential performance improvement based on a digital transformation of the operating model. *Source: Ken D. Thomas*

- Like-for-like replacements of individual I&C systems is not economically sustainable

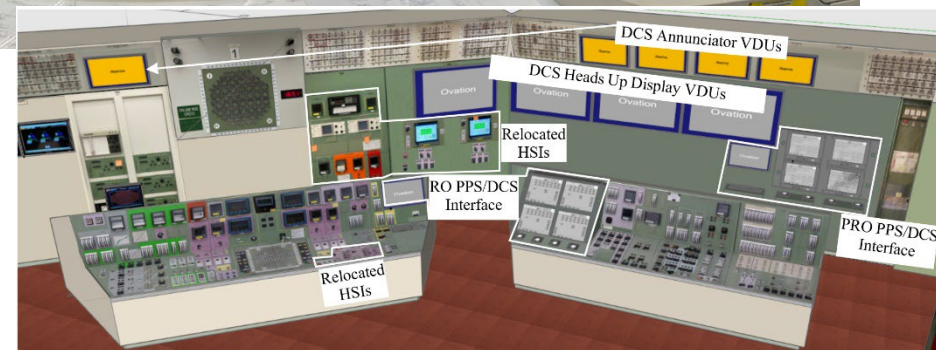
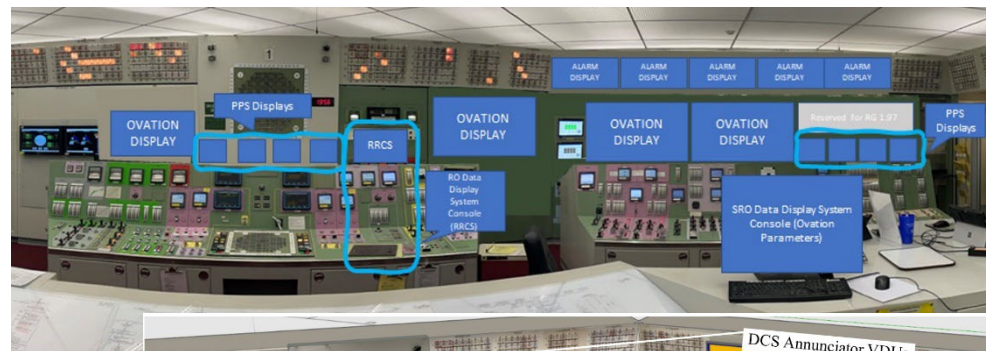
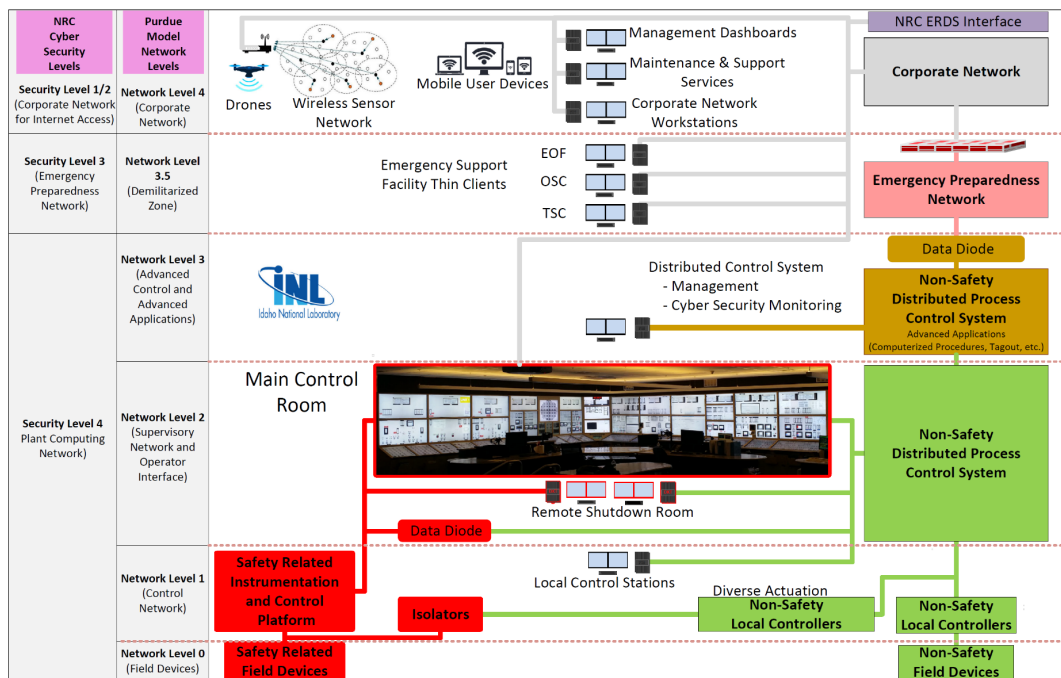


Representative example of circuit card cost escalation over time. *Source INL/EXT-20-59371*

Integration Guidance

- Compatibility of existing infrastructure.
 - How to integrate digital I&C into the existing infrastructure

- Compatibility of existing work processes.
 - How to integrate the capabilities of digital I&C into the concepts of operations within the licensing and regulatory context.



Day 2 - Session 3 - Digital Infrastructure and Modernization Strategy

Wednesday, December 4, 2024
10:00am – 1:00pm (EST)

Time (EST)	Topic	Speaker - Organization
10:00 - 10:05	Introduction	Jeffrey Joe, INL
10:05 - 10:30	Innovative Approaches to Digital I&C Sustainment	Sean Lawrie, Lumera
10:30 - 10:55	A Risk and Economics-informed Evaluation of Work Management Automation Technologies	Christianna Howard, Sargent & Lundy
10:55 - 11:20	Technology Deployment Plan for Emerging Technologies in Nuclear Power Plants	Alex Tylecote, Scott Madden
11:20 - 11:45	I&C Insights from the Limerick Safety Related Systems Upgrade Project	Scott Schumacher, Constellation
11:45 - 12:30	General Q&A and Session Wrap Up	Jeffrey Joe, INL
12:30 – 01:30	Lunch Break	





Sustaining National Nuclear Assets

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