

# Addressing the Growing Challenges of Electronic Component Unavailability and Industry Knowledge Loss

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This presentation will explore the dual challenges facing organizations reliant on electronic components: the loss of expertise due to an aging workforce and the increasing problem of part unavailability due to various factors including obsolescence. As experienced personnel retire, critical knowledge regarding part designs and system components is being lost. The ongoing talent shortage is only aggravating the situation further. Concurrently, the rising frequency of component unavailability, due to shortages, obsolescence, and other mitigating factors threatens to disrupt operations. Adding to this, supply chain opacity—caused by limited visibility and human error—creates further delays and risks, complicating long-term system sustainability and increasing operational costs.

In this study, we will examine how industries, particularly high-reliability sectors, should address these challenges through modern solutions. Key strategies include enhancing supply chain resilience, implementing stringent case management practices like DMSMS, and leveraging artificial intelligence (AI), such as predictive analytics, to support workforce transitions and part design optimization. Through these emerging technologies, organizations can mitigate the risks associated with knowledge loss and part shortages, ensuring continued operations, reducing costs, and securing vital expertise.

This presentation will be valuable for procurement professionals, design engineers, supply chain managers, and other stakeholders in all industries--especially high-reliability sectors such as A&D and medical devices--facing similar workforce and supply chain challenges. In this study, we will examine the factors contributing to workforce challenges and component unavailability and how typical go-to strategies, such as spot buys and LTBs, are not enough. We will then examine how adopting proactive strategies and AI-driven solutions can help industries navigate these crises and create long-term systems that are more sustainable and efficient.