



Managing Connector Obsolescence

DESIGN > DEVELOP > DEPLOY

CASE STUDY



The Challenge

After the end-of-life of a critical connector component, a technology integrator found themselves at-risk of being unable to fulfill production orders. This connector in question was designed with precise functions and features to meet the requirements of a specific application. The cost and time required to redesign and re-qualify a new connector were too large to consider.

ATRENNE'S SOLUTION

With over forty years experience serving military, aerospace and industrial customers, Atrenne, a Celestica company, understands the pressure of delivering products while efficiently managing part obsolescence. When our customer approached us for help, we quickly put together a plan to supply the connectors.

ANALYSIS OF CURRENT DESIGN

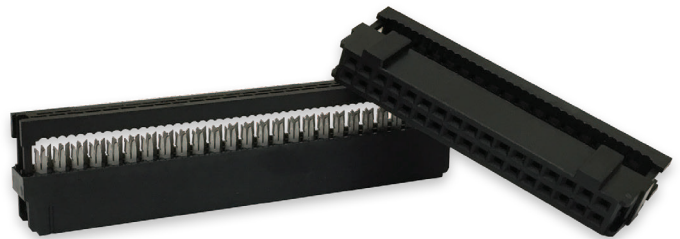
Starting with a few sample parts and high-level drawings the Atrenne engineering team studied the part's component materials, performance and relationship to the system design. To efficiently produce a compatible replacement, we would need to understand all aspects of the part.

DESIGN FOR MANUFACTURABILITY (DFM)

Our goal was to develop a drop-in replacement for the existing design that could be easily and economically manufactured. Using AutoCAD® and SOLIDWORKS® the Atrenne engineering team reverse engineered the connector. We designed, build, tested and delivered prototype connectors to the customer for testing and verification of form, fit, and function compatibility.

DESIGN AND BUILD TOOLING

After approving prototypes, Atrenne set out to build economic and reliable fixtures, molds, and stamping dies. Working with our customer to understand technical requirements for initial units and future production, we fabricated fixtures that could be used both for the current and future connector variations. We also worked with our stamping-die and mold-design partners to develop tooling that could be used across multiple configurations of the connector contacts and headers. Our solution cut down on the total tooling charges and provided a streamlined process for future connectors.



BILL OF MATERIALS (BOM)

Understanding the critical nature of this system and the prohibitive costs associated with redesign and re-qualification, we worked with our suppliers to develop a component lifecycle monitoring process of the assembly bill of materials.

DELIVERY

Atrenne provided First Article Inspections (FAIs) to the customer and have taken over as the supplier of the critical connector under discussion.

THE RESULTS

Through the collaborative process Atrenne delivered a cost-effective and reliable solution and in turn the technology integrator was able to continue supporting the production program. By successfully partnering, Atrenne was able to manage the obsolescence challenge and enable the integrator to avoid late deliveries, expensive factory down-time and costly redesign and re-qualification.

Atrenne's mission is to provide exceptional solutions to the military and aerospace electronics industry, mitigating risk for our customers by Specializing in obsolescence management for electronic components. We provide design support, reverse engineering and DFM services to support your obsolescence challenges.

WHY CHOOSE ATRENNE?

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- Specializing in obsolescence management for electronic components. We provide design support, reverse engineering and DFM services to support your obsolescence challenges.
- Being agile, responsive, effective and creative. Our team of engineers strives to develop application-specific solutions.
- Vertically integrating our capabilities. From metal fabrication to molded capabilities, being vertically integrated allows Atrenne to have complete control over the manufacturing process, simplifying the supply chain for our customers.
- Delivering products, as scheduled, over 98% of the time, allowing our customers to confidently meet their own production targets.

ABOUT ATRENNE

For more than 50 years, Atrenne Computing Solutions has been designing, developing and deploying rugged electronic packaging, chassis, backplanes, and integrated assemblies.

We are proud to provide customers with fully tested, reliable, electromechanical solutions on-schedule and with world-class quality. In addition, our design-to-build model and custom engineering capabilities foreground us in the market. Our mission-critical and performance critical, embedded computing platforms are currently deployed in over a hundred programs, operating reliably in the harshest environments.



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