

After the Funeral: Re-issuing Critical Products after EOL

Re-creating embedded boards can save a long term, ongoing project

By Lynnette Reese, Editor-in-Chief, Embedded Systems Engineering



Everything ages in this world and electronics are no exception. However, the lifetime of some devices can be critical to your operations. What do you do if a Commercial Off the Shelf (COTS) product is at the end of its lifecycle and you aren't ready? What do you do if the SBC that you're so dependent upon has been orphaned?

There's a solution for that: Legacy manufacturing, planning, assurance, and engineering. It's possible to get newly built replacements and repairs for embedded boards using tested parts that are built to Original Equipment Manufacturers (OEM) specifications.

Once component End-of-Life (EOL) notices have been issued and COTS embedded boards are discontinued, the processes for keeping your embedded systems vital drastically changes...and your overall thinking about them must change as well.

When a supply chain is active, acquiring an inventory of boards, small form factor modules, and other components that you need requires simply placing an order. However, extending the lifetime of a product or even reviving it after it has reached maturity and affected by discontinued parts takes much more effort to support.

Embedded boards older than seven years will typically encounter sustainment issues including EOL'd components, rising production and material costs, and even "tribal knowledge" drain due to natural staff attrition.

Companies like GDCA, established in 1987, can save a long-term, ongoing project by working with OEM engineers to re-create embedded boards. GDCA is the leading industry provider of proactive obsolescence management services that ensure embedded longevity. In a win-win situation, the OEM offloads an EOL'd original product while keeping the OEM's customers happy.

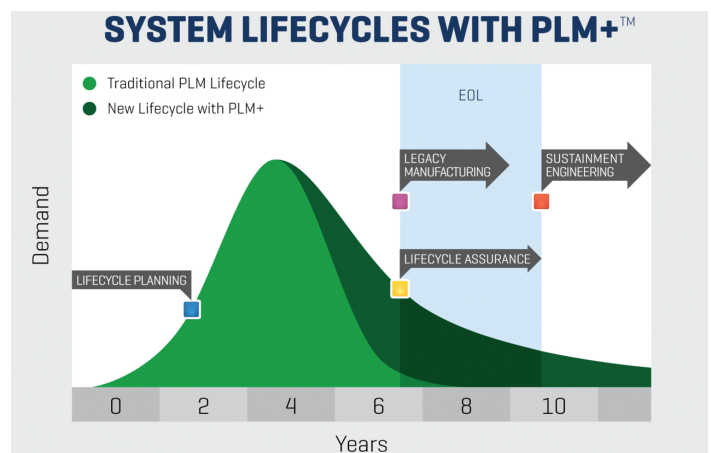


Figure 1: GDCA's legacy solutions take a new approach to sustaining critical systems for longer-lasting life cycles. GDCA offers accurate forecasting assessments, legacy management early in the design and development cycle, protection and assured access to critical COTS IP, and visibility into potential obsolescence threats along a program's life cycle. (Image: GDCA.com)

Happy customers continue to purchase newer product lines while maintaining old products in an individualized, case-by-case approach. GDCA has a methodology, called PLM+™, that's an innovative alternative to traditional obsolescence management. Long-term customer support and sustainment for embedded legacy products that are critical to long-lasting applications. Using original Intellectual Property (IP) and specifications authorized by respective OEM partners, GDCA continues the manufacture and repair of important COTS and custom embedded boards and systems for customers that reach out to GDCA.

When your system shifts from active to mature, the legacy manufacturer (e.g., GDCA) indicates that there some important things to consider:

- 1. YOUR ISSUES ARE UNIQUE:** When you get the lifecycle stage when an embedded board cannot be supported by the OEM any longer, the available sustainment options are shaped by the customer's specific requirements. It can take up to 80 work hours for the legacy engineering company to assess your needs.

- 2. OEMs AND ENGINEERS LIKE TO BUILD NEW STUFF:** OEMs are positioned to design and introduce the cutting edge of technology into the marketplace. Supporting older products with dwindling supply chains challenge business as usual policies and procedures and create bottlenecks and congestion. It takes a unique culture to sustain products designed by someone else.
- 3. PARTS NEED TO BE SOURCED:** Once a component on your board is out of production, finding what you need is more difficult due to counterfeits and supply chain constraints. A legacy engineering company understands the necessity of a competent component sourcing process which is rooted in counterfeit avoidance policies and procedures.
- 4. TARGETED ENGINEERING** may be required to solve obsolescence issues and bring a product back to a state where it can be reliably produced and repaired. These issues go far beyond finding components and managing the BOM. Processes that were made to fabricate parts 20 years ago are not used today.
- 5. BOARDS NEED TO BE TESTED:** Not only do new remanufactured boards go through the same rigorous testing for durability, efficiency, and quality assurance, the test equipment itself is actively managed and maintained.
- 6. TECHNICAL DATA** TDPs are not always complete and finding them can sometimes be a challenge. Often engineering files that are helpful in crafting solutions are not always included in the package.
- 7. PROACTIVE MANAGEMENT** is a vital part of predictably maintaining your long-lifecycle applications and mitigating unforeseen and costly delays. For the purposes of obsolescence management, viability or health of an embedded board reaches far beyond how old it is and instead is defined by how many sustainment options are still available. Just because a board can be manufactured now does not mean that in 3 months the same could be said.

When your electronics need to last longer than expected, Legacy engineering provides reliable and expert sustainment services to deliver form, fit, function compatible embedded products. Legacy solutions are possible for commercial aviation, industrial automation, robotics, medical, military, aerospace, railway, telecommunications, and more. Solutions include a counterfeit avoidance program, manufacturing and/or repair, as well as customer support.



Figure 2

Legacy engineering can resolve specific obsolescence issues on a board and recommend alternative approaches to keep mature boards and systems healthy for longer. With some planning, you can work around obsolescence.

Established in 1987 and located in Livermore, California, GDCA has deep roots in Silicon Valley. GDCA's location affords access to leading technology experts who help develop the ever-evolving tools that GDCA uses to sustain critical customer programs.

As the pioneer in COTS obsolescence management, GDCA is authorized by OEM partners to continue to manufacture and repair embedded legacy products critical to long-lasting applications. Using OEM-authorized IP and original specifications, GDCA provides repair, long-term customer support, manufacturing, and sustainment for over three thousand End-of-Life, COTS, and custom-embedded computer boards and systems.

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*Lynette Reese is Editor-in-Chief, Embedded Intel Solutions and Embedded Systems Engineering, and has been working in various roles as an electrical engineer for over two decades. She is interested in open source software and hardware, the maker movement, and in increasing the number of women working in STEM so she has a greater chance of talking about something other than football at the water cooler.*