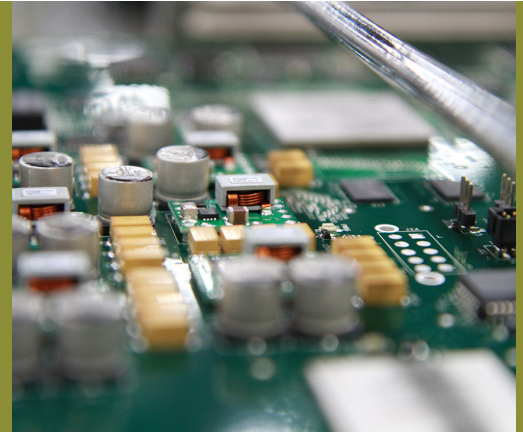




Solving Diminishing Manufacturing Sources and Material Shortages (DMSMS) for Northrop-Grumman



Northrop-Grumman Corporation (NGC) designs, builds and supports advanced aerospace and defense electronics systems for command, control, communications, computation and intelligence applications.

Most products have long lifecycles which result in either diminishing availability of components and or manufacturing capabilities.

DMSMS is defined as "...the loss of sources of items or material, surfaces when a source announces the actual or impending discontinuance of a product, or when procurement fails because of product unavailability. DMSMS may endanger the life-cycle support and viability of the weapon system or equipment."*

Recently final supply of fifteen critical components for a graphics display control unit that NGC provides for C-130 transports were exhausted. Some of the components had gone end-of-life as long ago as the late 1990's but through end-of-life purchases production of the controllers had continued.

OnCore Manufacturing, who builds the boards for the graphic display controller, had pursued options to continue sourcing the critical components. After-market manufacturing (reverse engineering) was deemed infeasible based on manufacturing technologies

required and time to fulfillment. Salvage of components from next-higher-assemblies (NHA) was considered but sufficient quantities were not available. Alternative sourcing on the secondary market proved unsafe as many components purchased tested as counterfeits. Also there was no equivalent for the Cypress graphics accelerator. The nearest equivalent was only a fourth of the speed.

With no feasible solution via sourcing, OnCore Engineering, on its initiative, designed a daughter board, using COTS components, with the same capabilities as the Cypress accelerator that did not change the form factor of the CCAs in the graphics display controller. Proto-types were manufactured and controllers assembled. When tested all the controllers performed exactly to specification.

The results were presented to NGC engineers who were delighted with the results and approved the design modification. Based on the new components used in the daughter board the controller's life will continue for the foreseeable future.

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* SD-22 DMSMS, A Guidebook of Best Practices and Tools for Implementing a Proactive DMSMS Management Program, September 2010



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