TECHNOLOGY

# Mitigation of Obsolescence Cost Analysis (MOCA)

## OVERVIEW

Many electronic parts have life cycles that are shorter than the life cycle of the product in which they function. Life cycle mismatches caused by the obsolescence of electronic parts can result in high sustainment costs for long life systems. In particular, avionics and military systems often encounter part obsolescence problems before being fielded and nearly always experience part obsolescence problems during their field life. Researchers at the University of Maryland present a methodology for determining the optimum design refresh (redesign) schedule for long field life electronic systems based on forecasted electronic part obsolescence. The researchers also present a mix of obsolescence mitigation approaches ranging from lifetime buys to part substitution.

The methodology has been demonstrated on a Full Authority Digital Electronic Controller (FADEC) from Honeywell. The method, dubbed MOCA, represents the first methodology for part obsolescence driven design refresh scheduling and optimization. Based on a detailed cost analysis model, the methodology determines the optimum design refresh plan during the field-support-life of the product. The design refresh plan consists of the number of design refresh activities and their respective calendar dates and content to minimize the life cycle sustainment cost of the product. The methodology supports user determined short- and long-term obsolescence mitigation approaches on a per part basis, variable look ahead times associated with design refreshes. Part obsolescence mitigation strategies can be compared to design refreshing part obsolescence elimination strategy.

For more information please contact the University of Maryland, Office of Technology Commercialization. 301 405-3947 , or otc@umd.edu.

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# Additional Information

## INSTITUTION

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## PATENT STATUS

Not Filed

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## CATEGORIES

- Information Technology

## EXTERNAL RESOURCES

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