

COTS Integration: Success & Challenges in Mission Critical Systems

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2026 marks 30 years since Department of War policies were implemented to utilize COTS products and best practices where practical. COTS components and assemblies' benefits include market availability, volume production cost savings and performance advantages offered by companies in various technology sectors. The challenge of Integrating COTS items in harsh aerospace & defense environments, is to ensure they can operate as intended and that the system design is tolerant of material and process variances associated with high volume COTS products.

With items such as circuit card assemblies (CCA's) intelligent sensors & power supplies, the use of COTS electronics is essential to take advantage of latest technology advances and contain cost. This presentation covers analysis methods needed to assess COTS assembly performance. Examples will be provided of COTS integration challenges and lessons learned associated with integrating and qualifying COTS items in mission critical systems.