# Research and Development
# ADVANCED MICROCIRCUIT EMULATION (AME)

Program Info

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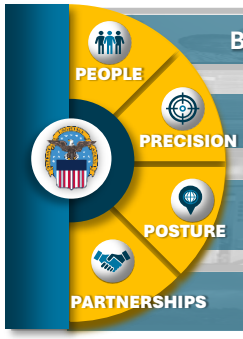
## DLA'S TRANSFORMATION IMPERATIVES



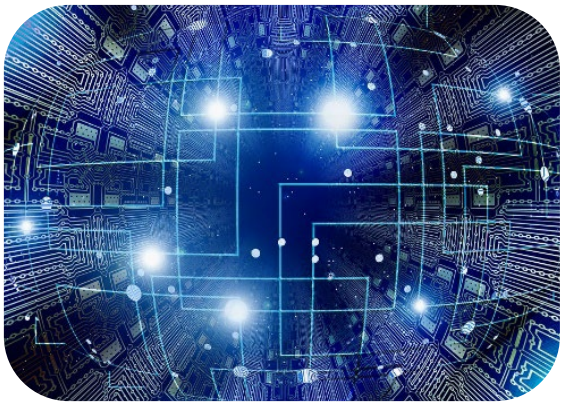

- Build Organization Agility Through Our People and Culture
- Calibrate Resilient And Responsive Logistics Solutions On Support Of Military Readiness
- Enhance Support To Integration Deterrence Across The Continuum Of Conflict In Contested Logistics Environments
- Lead Logistics Interoperability Across The Department, Allies, Whole Of Government, And Industrial Base

## OBJECTIVE

The Advanced Microcircuit Emulation (AME) program develops continuing technical capability for providing Military Specification (MIL-SPEC) form, fit, function, and interface equivalent Integrated Circuits (ICs) to mitigate electronics obsolescence in new and existing weapons systems. That technical capability is transitioned to the DLA Weapons Support (Columbus) Generalized Emulation of Microcircuits (GEM) Program for implementation as a production capability.

## INNOVATION & TECHNOLOGY

- Continued development of emulation capability for more complex ICs as they become commercially obsolete.
- Improvements in IC design and processing and expansion of capability for providing replacements for Linear/Analog ICs.



## STRATEGIC THRUSTS

Develop Microcircuit Emulation Capability

Ensure Microcircuit Case Supply

## THE CHALLENGE

Microcircuit obsolescence has been a significant maintenance cost-driver within DOW for many years. As Industry introduces increasingly higher performance microcircuits, earlier product offerings, used in the manufacture of electronic systems beginning in the 1960s, have become unprofitable and then discontinued. Most are no longer in production and DLA Weapons Support (Columbus) has identified increasing difficulty in procuring residual inventory of these parts that can be authenticated. The purpose of the project is to reverse that trend by establishing a continuing source of supply for these items.

## WARFIGHTER READINESS

### THE BENEFITS

The primary benefit of the program is to increase operational readiness by providing a continuing source of microcircuit spare parts. The secondary benefit is to reduce the need for costly redesign or replacement of systems and subsystems due to the lack of spares.

## INDUSTRY AND WHOLE OF GOVERNMENT PARTNERSHIPS

- **DLA WEAPONS SUPPORT (COLUMBUS)**
- **GENERALIZED EMULATION OF MICROCIRCUITS (GEM) PROGRAM**
- **OSW DEFENSE MICROELECTRONICS CROSS-FUNCTIONAL TEAM**

https://www.dla.mil/Information-Operations/Research-And-Development/

## ACCOMPLISHMENTS & ONGOING EFFORTS

- Complex application specific integrated circuits (ASICs).
- 20-Volt Analog/Linear devices.
- Digital Logic and Memory from the 1970s, 1980s and 1990s.
- Military specification MIL-PRF-38535 (QML) parts.