

# ***The Changing Landscape of a Trusted Microelectronics Supply Chain***

## **DoD Trusted Foundry Program**

### **ABSTRACT**

The Department of Defense (DoD) created the Trusted Foundry Program (TFP) in 2003 to respond to the threats of offshoring of microelectronics fabrication and the resulting diminishing influence of the DoD on leading-edge microelectronics research and development. The National Security Agency (NSA) and the Defense Microelectronics Activity (DMEA) equally fund the TFP.

Since 2003, IBM provided U.S. Government programs with leading edge application specific integrated circuits (ASICs). In July 2015, IBM transferred most of its commercial semiconductor business to GlobalFoundries. This transaction includes the ownership and operation of the two IBM foundries accredited by DMEA to provide microelectronics to U.S. Government programs through the TFP. GlobalFoundries established a new company, GlobalFoundries U.S. 2, with a separate security agreement (SSA) to continue to provide Trusted Microelectronics for defense and national security programs.

DMEA has accredited more than 70 additional facilities as Trusted Accredited Suppliers to provide Trusted state-of-the-practice, and legacy microelectronics devices and a full range of Trusted microelectronics services. The Trusted Accredited Suppliers program ensures all elements of the integrated circuit supply chain are available for defense and national security systems from companies that meet the rigorous Trust criteria.

A disciplined approach toward the goal of preventing malicious exploitation of the U.S. Government's microelectronics components requires structured analyses that include not only ensuring the security of leading-edge microelectronics but also the legacy integrated circuits important in the sustainment phase of a system's lifecycle that are more susceptible to counterfeiting.

Program protection planning identifies critical components, often microelectronics, that requires supply chain risk mitigations throughout the system's lifecycle. DMSMS managers' input to microelectronics selection during the acquisition cycle can reap significant benefits during the system's sustainment phase. Trust is an increasingly critical DMSMS issue as systems age and sustainment becomes more challenging.

The Trusted Foundry Program outreach team, funded through DMEA, meets regularly with government program offices, sustainment managers, and systems integrators to ensure the TFP's capability is communicated and the stakeholders' needs are understood.