



**Trusted Foundry**  
*Be Safe. Be Sure. Be Trusted.*

# Trusted DoD Microelectronics

*Ensuring “Trust” for National Security & Defense Systems*

*-- How Can Section 818 Impact You?*

*DoD Trusted Foundry Program*

*January 2012*

# Today's Message

- Issue of counterfeit parts in DoD supply chains has been a recognized problem - - and an escalating concern - - over the past decade
- Despite these actions and concerns - - incidence of counterfeiting continues to climb
- Situation has now prompted aggressive, Congressionally mandated action that shifts the liability burden to the contractor not only for the acquisition phase but also for the full life cycle of the defense system
- DoD has taken a number of steps to provide “trusted” sources - - particularly for microelectronics (also known as integrated circuits – ICs – or semiconductors)

# Congress Has Acted

- Recent Senate hearings highlighted the real and growing threat of counterfeit or maliciously altered microelectronics in Department of Defense supply chain
- SASC investigation tracked 100 cases of suspected counterfeit parts that covered a variety of military systems:
  - Thermal weapons sights delivered to the Army
  - Mission computers for the Missile Defense Agency's THAAD (Terminal High Altitude Area Defense) missile
  - Airplanes including the C-17, C-130J, C-27J, and P-8A
  - Helicopters including the AH-64, SH-60B, and CH-46
  - Counterfeits have reportedly cost a single agency more than \$600m
- Concerns led to bi-partisan (Levin/McCain) language in FY2012 National Defense Authorization Act- - **passing much of anti-counterfeit burden to industry**

# FY2012 NDAA Section 818

- *DoD RESPONSIBILITIES -- Assessment of Department of Defense Policies and Systems — not later than 180 days . . . the Secretary shall*
  - *Establish definitions*
  - *Issue or revise guidance for purchase of electronic parts*
  - *Issue or revise guidance for remedial actions for violations*
  - *Establish counterfeit reporting process*
  - *Establish process to analyze counterfeit reports*
- *Will revise the DFAR within 270 days*
- *Issue being worked at various AT&L offices – with SCI (Paul Peters) taking the lead*

## FY2012 NDAA Section 818

(2) **CONTRACTOR RESPONSIBILITIES.**—The revised regulations issued pursuant to paragraph (1) shall provide that—

**(A) covered contractors who supply electronic parts or products that include electronic parts are responsible for detecting and avoiding the use or inclusion of counterfeit electronic parts** or suspect counterfeit electronic parts in such products **and for any rework or corrective action** that may be required to remedy the use or inclusion of such parts; and

**(B) the cost of counterfeit electronic parts and suspect counterfeit electronic parts and the cost of rework or corrective action that may be required to remedy the use or inclusion of such parts are not allowable costs** under Department contracts.

# FY2012 NDAA Section 818

The short version of Section 818 as it relates to contractors - -

- Contractors (primes and all tier of subcontractors) must purchase parts and components from OEMs or trusted suppliers wherever possible
- Contractors are financially responsible for *cost of counterfeit electronic parts and the cost of rework or corrective action that may be required to remedy the use or inclusion of such parts* – **across the entire system life cycle**
- *Contractors are responsible for the development and implementation of highly complex policies and procedures to eliminate counterfeit parts from the DoD supply chain*

# Existing Trusted Options

Since 2003 U.S. Government has taken a number of affirmative steps to strengthen the Domestic supplier base to provide “trusted” microelectronics components and services - -

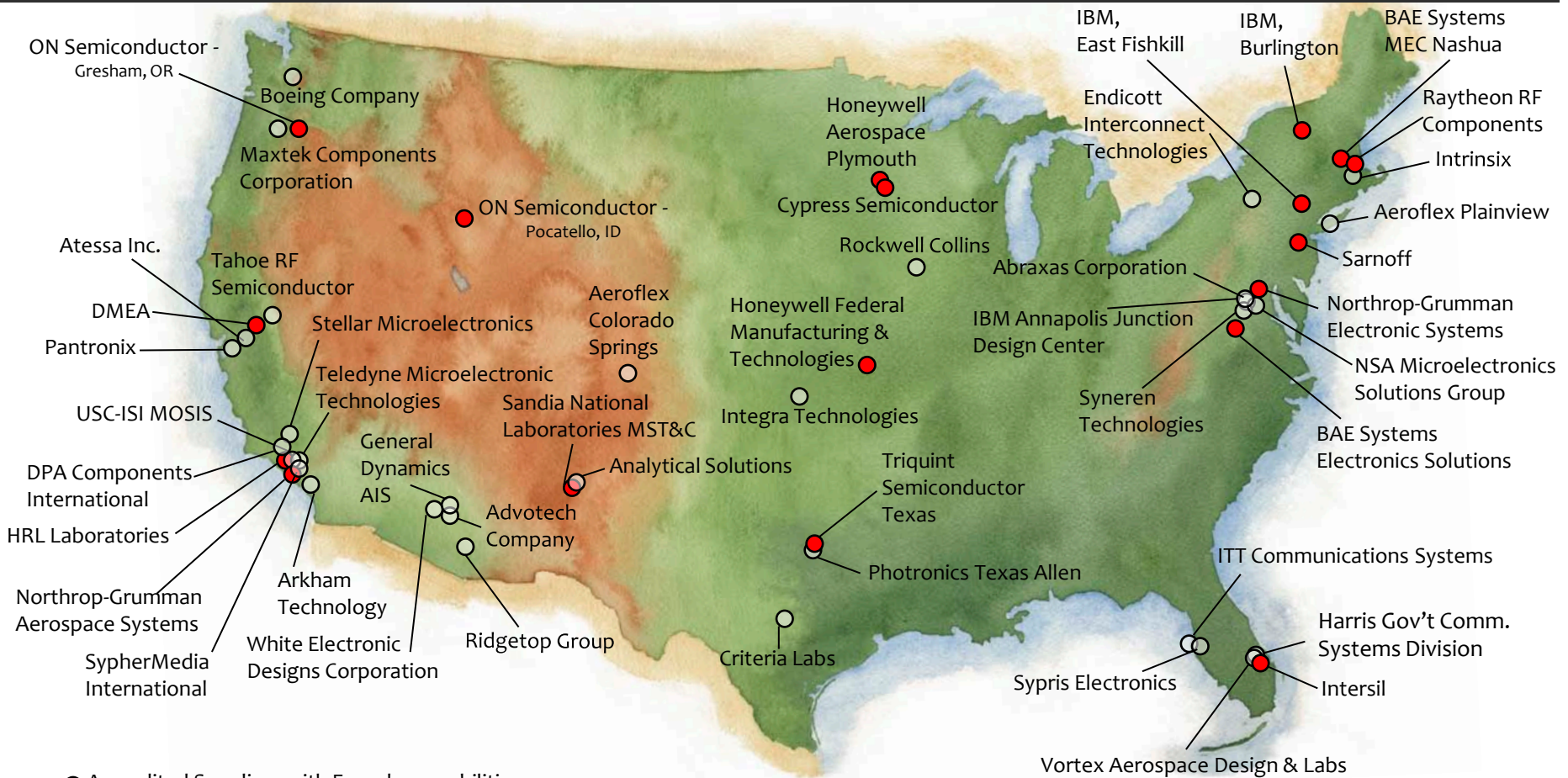
- **Trusted Foundry Program** (NSA/DoD )with IBM provides access to leading edge components, and design/support services
- **Trusted Supplier Program** (DMEA)includes 51 formally accredited suppliers offering a comprehensive range of leading edge and legacy components - - as well as full range of design/distribution/production support/logistics services
- **TEMPO Program** (Kansas City Plant) provides capability to produce legacy and obsolete components

# DoD / NSA / IBM Trusted Foundry Initiative

- Long term, stable business arrangement (10 year contract)
- Formally accredited (security/capability), leading-edge U.S. facilities, technology and people
- Government access to capacity as “Gold Customer” regardless of quantities - - at commercial pricing
- Government access to all IBM proprietary libraries, processes and R&D
- Positive agreement about “sunsetting” - - notification and duration
- Government aggregates demand from across the defense/intel community for MPW prototyping/production
- Single Government POC (TAPO) and contract simplifies & reduces administrative burden and complexity for users
- Government maintains a secure catalog of all designs - - available to all defense/intel PMOs



# 51 Trusted Suppliers

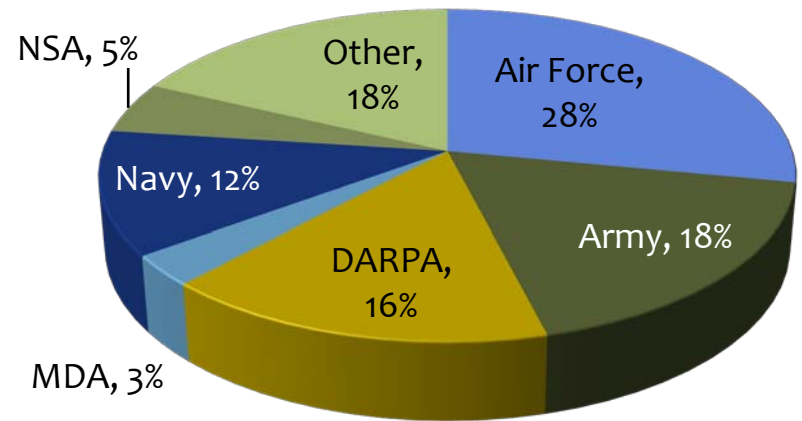
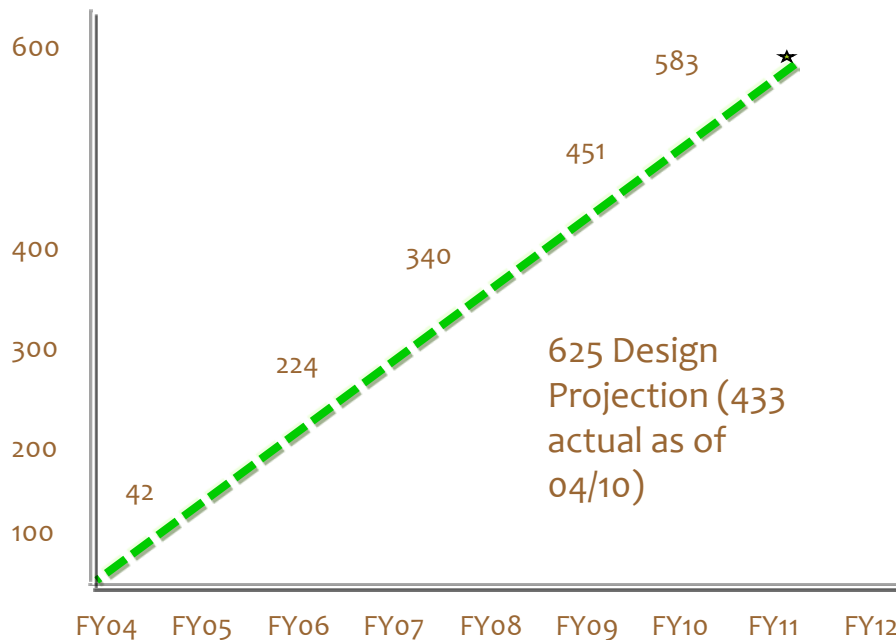






# MPW Access Model

Delivered New Device Types



**DoD MPW Access Program Use**  
 FY10 – 433 Unique Designs (as of 4/10);  
 ~625 designs projected by year end

The aggregation of many designs into a single manufacturing Multi Project Wafer Run (MPW) significantly reduces costs for each program.

## Trusted Domestic Sources are Available for a Full Range of Microelectronics Design, Production, and Test

- Trusted packaging design, test and assembly
- MEMS
- Trusted product evaluations such as failure analysis, counterfeit design evaluation, environmental testing, trade studies, non-destructive testing ...
- RAD HARD microcircuit design and fabrication
- Trusted microcircuit emulation
- Anti-cloning protection
- Trusted photomask development and parsing
- Military-grade cryptography Type 1 enabled IP cores
- Trusted ASIC and FPGA design and broker services

**For leading-edge, state-of-the-practice, & legacy microelectronics**

# Summary

- Congress action has shifted financial risk of counterfeit to industry
- Trusted Foundry Program was created to offset counterfeit and other risks with microelectronics
- What is the role for NDIA and its members with regards to the Section 818 requirements?

## For Further Information

- DMEA – DOD Program Management & Accreditation
  - (916) 231-1514
  - [TrustedIC@dmea.osd.mil](mailto:TrustedIC@dmea.osd.mil)
- NSA – Trusted Access Program
  - <https://www.tapoffice.org>
- DBS (Outreach)
  - (202) 683-2021
  - [jpoplin@definedbusiness.com](mailto:jpoplin@definedbusiness.com)