Over 25 Leading Experts from OUSD/AT&L, DDR&E, NAVAIR, DARPA, NSA, DMEA, AFRL, NRL, ARDEC, BIS/DOC, AFOSR, SAIC, DTRA, Raytheon, Lockheed Martin, IBM, Northrop Grumman, BAE Systems, National Semiconductor, Honeywell, Applied Materials, Aeroflex, Kopin, Penumbra and UMD/CALCE examine:

- Government Plans, Strategies, Needs and Initiatives
- Strengthening Military Electronics Supply Chain Security
- Developing “Trusted” Sources
- Showcasing the Latest Technologies – Nanoelectronics, GaN, 3D Technology, Graphene Electronics and more!

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Military Microelectronics in an Era of Dynamic Change, Vibrant Technology Development and New Threats, Missions, Markets and Opportunities

Shifting funding away from large, stovepipe platforms to joint, net-centric operations that emphasize improvements in C4ISR and weapons subsystems and components. Streamlined defense budgets and belt-tightening. A myriad of innovations in technology and production. Sustaining reliability and dealing with counterfeit parts. The emergence of new threats and adversaries. The diminished industrial base. New competitors for old (and new) markets. Never has there been such a period of intense examination of the future of the defense electronics industry estimated to be a more than a $10 billion annual market.

This conference brings together the government and industry strategic planners and technical experts who are shaping the future of military microelectronics. They will provide you with a close-in examination of OSD and Service plans, needs and initiatives and how these activities will impact future requirements and market opportunities. What is the status of the Trusted Foundry program? How do you become a “trusted” provider? How will the industry be impacted by mergers and acquisitions? How are we doing vs. foreign competitors? What are the latest ITAR restrictions? What is needed to ensure electronics supply chain security? These and many other critical questions will be addressed during this timely conference.

A special feature will be our technology showcase, featuring the key technologists who are working to develop next generation capabilities in nanoelectronics, 3D technology, graphene electronics, CNT, GaN and more!

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Our Distinguished Panel of Experts

- **Mr. Sydney Pope**  System Program Manager, Defense Priorities and Allocation, OUSD/AT&L
- **Mr. Sonny Maynard**  Program Manager, DoD Trusted Foundry Program, DDR&E
- **Dr. Gerardo Melendez**  Director, Armaments Research and Development Engineering Center
- **Senior Representative**  Trusted Access Program Office, National Security Agency (NSA)
- **Dr. Donald L. Dorsey**  Principal Materials Engineer, Electronic & Optical Materials Branch, AFRL
- **Mr. Brad Botwin**  Director, Industrial Base Studies, BIS/DOC
- **Dr. Patrick G. Carrick**  Director, Physics and Electronics, AFOSR
- **Mr. David Pentrack**  Program Manager, Trusted Integrated Circuit Supplier Accreditation Program, DMEA
- **Dr. Avram Bar-Cohen**  Program Manager, Microsystems Technology Office, DARPA
- **Dr. Bruce Wilson**  Branch Chief, Rad Hard Microelectronics, DTRA
- **Mr. Ric Loeslein**  Deputy Class Desk, PMA-266, NAVAIR
- **Dr. Les Palkuti**  Program Manager and Advisor, Rad Hard Microelectronics, DTRA
- **Dr. Brent Segal**  Director of Research Science, Lockheed Martin; Chief Technologist, Lockheed Martin
- **Mr. Hart Rossman**  Vice President and Chief Technology Officer for Cyber Programs, SAIC
- **Mr. Jeffrey Pond**  Senior Scientist, Naval Research Lab
- **Mr. John Kane**  Director, Foundry Services, Northrop Grumman Aerospace Systems
- **Dr. C. Y. Sung**  Program Manager, IBM T. J. Watson Research Center
- **Mr. Peter H. Behrens, II**  Trusted Foundry Manager, National Semiconductor Corporation
- **Mr. Henry Livingston**  Technical Director and Engineering Fellow, BAE Systems
- **Dr. John U. Knickerbocker**  Distinguished Engineer and Manager, System-on-Package and 3D Integration, IBM T. J. Watson Research Center
- **Ms. Rozalia Beica**  3D Interconnect Director, Semitool Operations, Applied Materials
- **Mr. Keith Nootbaar**  Senior Director, Honeywell Microelectronics and Precision Sensors
- **Dr. Timothy Imholt**  Senior Systems Engineer, Raytheon Network Centric Systems
- **Mr. Steve DeWaters**  President, Penumbra Strategies
- **Mr. Tom Terlizzi**  Vice President, Aeroflex Plainview
- **Mr. Jeffrey Jacobsen**  Senior Advisor to the CEO and Program Manager, Golden-i, Kopin
- **Dr. Michael Pecht**  Director, Electronic Products and Systems and Founder, Center for Advanced Life Cycle Engineering; George Dieter Chair Professor, UMd
Military Microelectronics
Conference

Washington, DC • May 9-11, 2011

Conference Agenda

I. DoD Initiatives in “Trusted” Microelectronics — Becoming a Trusted Supplier

“The Defense Microelectronics Challenge”
MR. SYDNEY POPE, System Program Manager, Defense Priorities and Allocation, Office of the Under Secretary of Defense for Acquisition, Technology and Logistics/Industrial Policy (OUSD/AT&L)

MR. E. D. (SONNY) MAYNARD, Program Manager, DoD Trusted Foundry Program, Research Directorate, Office of the Director of Defense Research and Engineering (DDR&E)
- Advanced Microelectronics are Critical for Technical Superiority
- Most of the Global Microelectronics Fabrication Capability is Now Done Outside the US
- Policy Initiatives will Soon Require Using Trusted Microelectronics for the Most Important DoD Systems
- The Trusted Foundry Program Provides Access to Microelectronics Technology from Accredited Sources

“Trusted Access Program Office (TAPO) Initiatives”
SENior REPRESENTATIVE, Trusted Access Program Office, National Security Agency (NSA)

“The Trusted Integrated Circuit Supplier Accreditation Program”
MR. DAVID PENTRACK, Program Manager, Trusted Integrated Circuit Supplier Accreditation Program, Defense Microelectronics Activity (DMEA)
- Definition of a Trusted Integrated Circuit Supplier
- Accreditation Process
- Suppliers, Services, and Technologies Available
- Cost Survey Results

“Trusted Supplier Perspective”
MR. PETER H. BEHRENS, II, Trusted Foundry Manager, National Semiconductor Corporation

“Best Practices in Foundry Management”
MR. JOHN KANE, Director, Foundry Services, Northrop Grumman Aerospace Systems (invited)

II. Government R&D in Microelectronics

“Army Microelectronics Initiatives”
DR. GERARDO MELENDEZ, Director, Armaments Research and Development Engineering Center (tentative)

“AFRL Microelectronics Initiatives”
DR. DONALD L. DORSEY, Principal Materials Engineer, Electronic and Optical Materials Branch, Air Force Research Lab (AFRL/RXPSE)
- New RF Materials – GaN Electronics, Graphene
- Electronics Reliability – Shortfalls and How We are Addressing Them
- Newly Established High Reliability Electronics Virtual Center (HiREV)
- TRUST
"Advanced Rad-Hard Microelectronics Strategy — from Basic Research to Productization"
DR. BRUCE WILSON, Branch Chief, Rad Hard Microelectronics, DTRA and
DR. LES PALKUTI, Program Manager and Advisor, Rad Hard Microelectronics, Defense Threat Reduction Agency (DTRA)
- Transition Results from Fundamental Research Projects
- Leverage the Developments in Commercial Technologies to Characterize and Test Rad Response
- Modeling/Simulation of Rad Challenges
- Radiation Mitigation Methods and Radiation Hardness Assurance
- Design, Fabricate and Test Generic Rad Hard Technologies — Technology Characterization Vehicles, Circuit Test Vehicles and Product Demonstration Vehicles
- Fabricate Circuits in Early Production Quantities — Fabrication Yield Models, Reliability Studies and Failure Models, Electrical and Radiation Qualification

"Air Force Office of Scientific Research: Sponsored Basic Research in Micro- and Nano-Electronics"
DR. PATRICK G. CARRICK, Director, Physics and Electronics, Air Force Office of Scientific Research (AFOSR)

"NRL Microelectronics Initiatives"
MR. JEFFREY POND, Senior Scientist, Naval Research Lab (invited)

Special Market(s) Analysis Session:
"The Emerging US Defense Electronics Market"
MR. STEVE DeWATERS, President, Penumbra Strategies
- Very Brief Look at CETI Budget History
- Technology and Supply Chain Flashpoints
- Implications and Adaptations
- Strategies to Maneuver

"Implications of China’s Growing Electronics Industry"
DR. MICHAEL PECHT, Director, Electronic Products and Systems and Founder, Center for Advanced Life Cycle Engineering; George Dieter Chair Professor, University of Maryland
- Implications for the US Military
- Supply Chain Issues
- Counterfeit Parts
- Potential for WMD

III. Counterfeit Electronics and Electronics Supply Chain Security

"Impact of Counterfeit Electronics"
MR. BRAD BOTWIN, Director, Industrial Base Studies, Bureau of Industry and Security, Department of Commerce (BIS/DOC)

"Guarding Against Counterfeit Parts"
MR. RIC LOESLEIN, Deputy Class Desk, PMA-266, Naval Air Systems Command (NAVAIR)
- Acquisition Strategies
- Sustainment Strategies
- Supply Chain Assessment
- Reporting

"Managing Electronics Supply Chain Security"
MR. HART ROSSMAN, Vice President and Chief Technology Officer for Cyber Programs, SAIC

"Counterfeit Detection"
MR. HENRY LIVINGSTON, Technical Director and Engineering Fellow, BAE Systems Electronics Solutions (invited)
IV. The Technology Showcase: Emerging Capabilities and Opportunities — Developing Next-Generation Microelectronics

“Challenges and Opportunities in Thermal Packaging of Military Electronics”
DR. AVRAM BAR-COHEN, Program Manager, Microsystems Technology Office, Defense Advanced Research Projects Agency (DARPA)
- State-of-the-Art in Thermal Management Technology
- Emerging Needs in Military Electronics
- Options for On-Chip Cooling
- Needed Research

Special Focus: Nanoelectronics and Nanosystems R&D

“Future Nanoelectronics Capabilities for Defense”
DR. BRENT SEGAL, Director of Research Science, Lockheed Martin; Chief Technologist, Lockheed Martin Nanosystems

“Nanoelectronics and Nano-Micro Interfacing”
DR. TIMOTHY IMHOLT, Senior Systems Engineer, Raytheon Network Centric Systems

“Large-Scale Graphene for Future Nanoelectronics”
DR. C. Y. SUNG, Program Manager, IBM T. J. Watson Research Center
- Large Scale Graphene Synthesis Technologies
- Graphene Nanoelectronics Device and Circuit Development
- Applications and Markets
- Challenges and Opportunities

Hot Topic Session: Burgeoning R&D in 3D Technology and Applications

3D IC Technologies: Challenges and Latest Advancements"
MS. ROZALIA BEICA, 3D Interconnect Director, Strategic and Technical Marketing, Silicon Systems Group, Semitool Operations, Applied Materials
- Key Drivers for Development of 3D Interconnect Technologies
- Via Processing Approaches using Vertical Chip Stacking
- Integration Challenges using Through-Silicon-Via (TSV) Technology
- Latest Development and Advancements of TSV Cost and Performance

“3D Technology for Microelectronic Systems”
DR. JOHN U. KNICKERBOCKER, Distinguished Engineer and Manager, System-on-Package and 3D Integration, IBM T. J. Watson Research Center

IV. Domain-Specific Microelectronics Requirements, Capabilities and Applications

“Microelectronics and Future Space Missions”
MR. KEITH NOOTBAAR, Senior Director, Honeywell Microelectronics and Precision Sensors

“RF Technology and Future Microelectronics Capabilities”
MR. TOM TERLIZZI, Vice President, Aeroflex Plainview

“The Golden-i Computing Headset”
MR. JEFFREY JACOBSEN, Senior Advisor to the CEO and Program Manager, Golden-i, Kopin Corporation
- Multi-Radio Interface and Hands-Free Control
- Streaming Real-Time Images from Robots and UAVs
- Head-Tracking Cameras
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ACCOMMODATIONS/CONFERENCE SITE

Attendee accommodations must be arranged directly with the hotel.

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Attendance is limited to US, NATO, and allied countries only.