NEXT GENERATION ELECTRONICS FOR DEFENSE APPLICATIONS

Lockheed Martin — Global Vision Center

May 15-16, 2018

Sponsored by: LOCKHEED MARTIN

Agenda

Tuesday, May 15, 2018

– A.M. –

AUDITORIUM

8:30 *Welcome* - Lockheed Martin: Jeff Stuart, PhD - Principal Member, Engineering Staff, Lockheed Martin Advanced Technology Laboratories

8:40 *Overview* - Benjamin Leever, PhD, Government CTO of NextFlex, Air Force Research Laboratory; Jason Marsh, Director of Technology, NextFlex; Scott Miller, PhD, Director of Strategic Programs

8:50 *Keynote* - Robert Irie, PhD, Microelectronics, C4I, EW SME at DoD OSD AT&L Manufacturing & Industrial Base Policy Office (MIBP)

SESSION 1: WARFIGHTER HEALTH AND PERFORMANCE MONITORING

9:00 SESSION INTRODUCTION // Session Chair: LTC Melinda Eaton - US Air Force, Biomedical Sciences Corps Deputy Project Manager, Tissue Injury and Regenerative Medicine (TIRM) Project Management Office US Army Medical Materiel Development Activity (USAMMDA)

9:05 PANEL: Requirements, Development, and Transition

- *Creating Pathways for Innovation* - Bindu R. Nair, Basic Research Office, Office of the Secretary of Defense
- *Military Operational Medicine Program Overview* - LCDR Christopher Steele, PhD, Military Operational Medicine Program
- *Health Readiness and Performance System Product Development Effort* - Steven Hawbecker, US Army Medical Materiel Development Activity (USAMMDA)
- *Wearable Technologies and Regulation of Devices* - M. Lisa Borek, RAC, US Army Medical Materiel Development Activity, Office of Regulated Activities

10:20 BREAK

10:40 PANEL: Highlighted Projects

- *Conformal Exoskeletons and Flexible Electronics* - Gavin Barnes, Lockheed Martin
- *Hydration Sensor Patch for Human Performance Monitoring* - Azar Alizadeh, PhD, GE Global Research Center; and Jeremy Ward, PhD, Soft Matter Materials Branch, Air Force Research Laboratory
- *Smart Flight Suit* - Jeremy Ward, PhD, Soft Matter Materials Branch, Air Force Research Laboratory; and Brian Farrell, Human Systems Integration
- *Vital Signs and Electromyography Monitoring Capability for the Warfighter (TALOS Baselayer)* - Anthony Piazza, Flex; and Mudhafar Hassanali, PhD, Flex

– P.M. –

12:00 LUNCH

SESSION 2: STRUCTURAL HEALTH AND ASSET MANAGEMENT

1:15 SESSION INTRODUCTION // Session Chair: Kenneth Blecker - Engineer, ARDEC

TALKS

- *Structural Health Management: A Rotorcraft Perspective* - Mark Davis, Sikorsky, a Lockheed Martin Company
- *Fabrication Challenges for Soldier Active Eyewear* - Brian Kimball, Natick Soldier Research Development and Engineering Center
- *Integration of Flexible Hybrid Electronics to Increase the Effectiveness of Monitoring Munitions Assets to Address the U.S. Army Modernization Priorities* - Giuseppe L. Di Benedetto, PhD, U.S. Army RDECOM ARDEC

PANEL

- John Hotmer, UTC Aerospace Systems
- Mark Davis, Sikorsky, a Lockheed Martin Company
- Brian Kimball, Natick Soldier Research Development and Engineering Center
- Giuseppe L. Di Benedetto, PhD, US Army RDECOM ARDEC

3:00 BREAK

SESSION 3: ANTENNAS AND WIRELESS COMMUNICATION

3:20 SESSION INTRODUCTION // Session Chair: Joseph Kunze, PhD - President and CEO, SI2 Technologies, Inc.

TALKS

- *Additive Manufacturing Materials for Liquid Cooled T/R Module* - Matthew Walsh, NSWC Crane
- *Radome is an Antenna* - Kurt A. Fiscko, PhD, Navy PEO C4I, PMW/A-170
- *Soldier-borne Sensors and Power Enabled by Novel Materials, Modeling, and Microantennas* - Richard Osgood III, PhD, NSRDEC

PANEL

- Robert A. Smith, PhD, Boeing Research and Technology
- Joseph J. Maurer, PhD, Raytheon Company
- Andrew M. Kwas, Northrop Grumman
- Stephen Gonya, Lockheed Martin

5:30 CONCLUSION

5:40 NETWORKING RECEPTION (SPACE EXPERIENCE CENTER)

7:30 ADJOURN

Wednesday, May 16, 2018

DoD Needs and Requirements and the Role of NextFlex *(NextFlex Members and Government Partners Only)*

A working session to identify opportunities, challenges, and priorities to support anticipated defense and other government needs in three NextFlex Technical Platform Demonstrator/application areas. NextFlex members and government partners will lay a foundation for roadmapping and potential collaborative funded project efforts.

AUDITORIUM

7:30 CHECK-IN and BREAKFAST

8:00 *Welcome*

8:05 *Keynote* - Michael Doctor, Director of Systems Engineering, Office of the Deputy Assistant Secretary of the Navy RDT&E

8:25 *Day 2 Overview*

8:40 BREAKOUT

- Warfighter Health and Performance Monitoring
- Structural Health and Asset Management
- Antennas and Wireless Communication

10:10 BREAK

10:30 BREAKOUT

- Warfighter Health and Performance Monitoring
- Structural Health and Asset Management
- Antennas and Wireless Communication

12:00 END

TOUR *Lockheed Martin Corporate Legacy Experience and 100 Moments*

12:30 Group 1 – Meet at the Globe in the Lobby

1:00 Group 2 – Meet at the Globe in the Lobby