



*Presented to:*

Huntsville Aerospace Marketing Association  
(HAMA)

14 Dec 2012

## *System Simulation and Development Directorate (SSDD) Overview*



***TECHNOLOGY DRIVEN. WARFIGHTER FOCUSED.***

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*Presented by:*

**Mike Eison**

**Director (A), SSDD**

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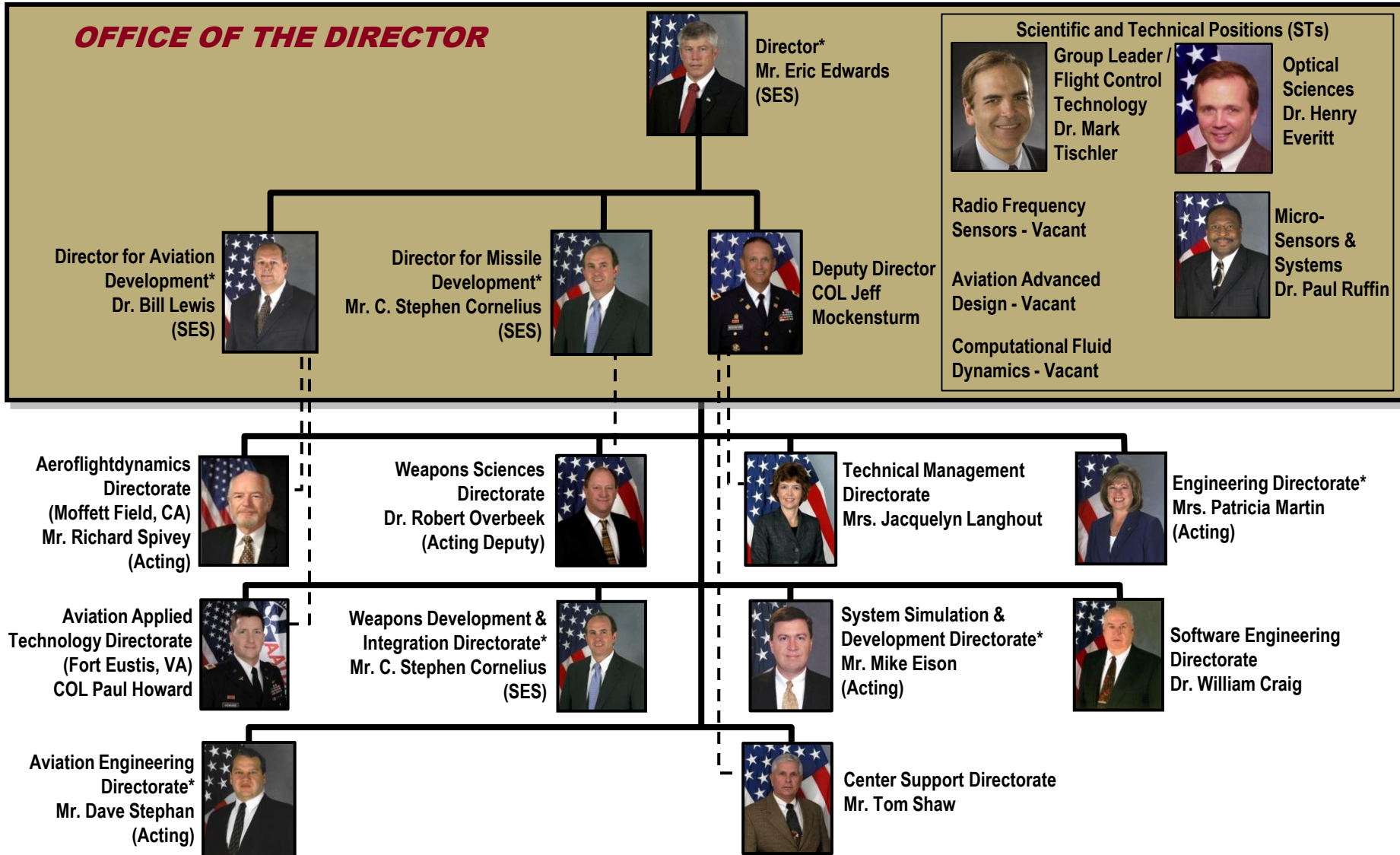


# SSDD Overview

## Mr. Mike Eison

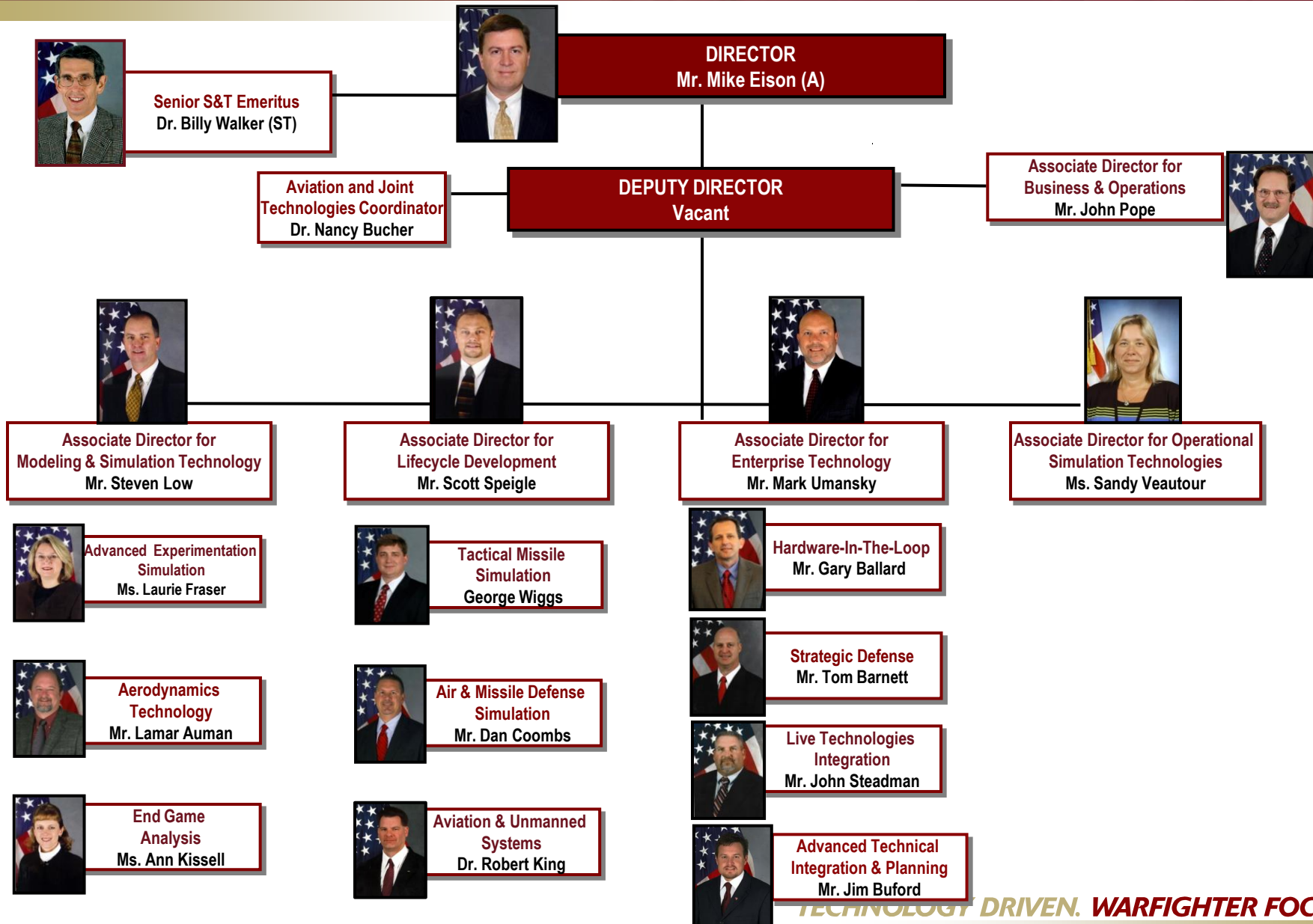


# AMRDEC Organization



\* SES Position

**TECHNOLOGY DRIVEN. WARFIGHTER FOCUSED.**



## Our Mission

**Provide World-class modeling and simulation; system development, analysis and transition, and system of system engineering and integration expertise for aviation and missile programs.**

## Lifecycle Modeling & Simulation Focus

- ❑ S&T Program Development:
  - ❑ Leading Edge Technology Development
- ❑ Future Systems Development and Integration:
  - ❑ Integrating Cutting-Edge Technology into Systems
- ❑ Fielded Systems Support:
  - ❑ Providing Full Spectrum Engineering Support of Fielded Systems for Customer Success

## Primary Customers

- ❑ Missile Defense Agency
    - ❑ M&S, Engineering, Test, GMD, THAAD, Targets & Countermeasures, C4ISR, BC, Sensors, AEGIS BMD, BMDS
  - ❑ PEO Missiles and Space
    - ❑ JAMS PO, CCWS PO, PFRMS PO, CMDS PO, C-RAM PO, LTPO, Patriot, JLENS
  - ❑ PEO Aviation
    - ❑ Unmanned Aerial Systems PO, Utility Helicopter PO, Cargo Helicopter PO, Aviation Mission Equipment, Air Traffic Control, Aviation Systems
  - ❑ PEO Simulation, Training, & Instrumentation (STRI)
    - ❑ PM-ITTS, PM TRADE
- Training and Doctrine Command (TRADOC)
- ❑ TCM-LIVE



## M&S Facilities



## M&S Supporting Analytical Applications

- ❑ Real-Time Hardware-In-the-Loop and All-digital Simulations for system development and performance analysis
- ❑ Software-In-the-Loop (SIL) for system software integration and verification
- ❑ End Game Analysis
- ❑ Collaborative engineering models with real-time interactive displays
- ❑ Virtual simulators for prototyping Human-Machine interfaces
- ❑ Constructive simulations for force-on-force analysis
- ❑ CFD and aerodynamic analysis
- ❑ Virtual and Live experimentation
- ❑ Live Technologies Integration
- ❑ LVC Based RDT&E at a Joint & Coalition Level



SSW (COS)



ARC



Building 4505



Test Area 10



Huntsville, Alabama

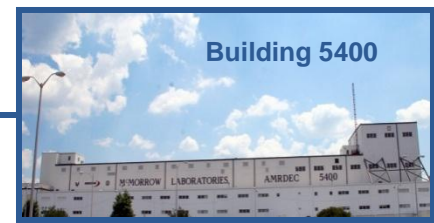
Redstone Arsenal



Building 3707



VBII & VBIII

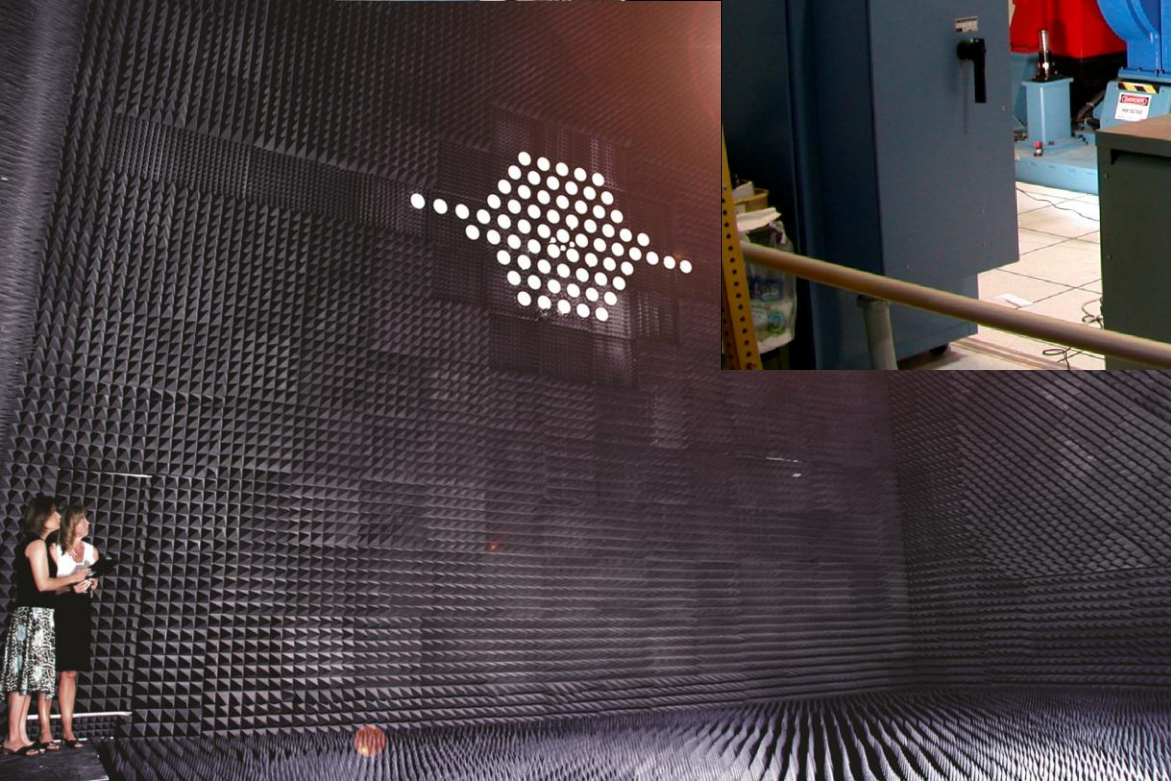
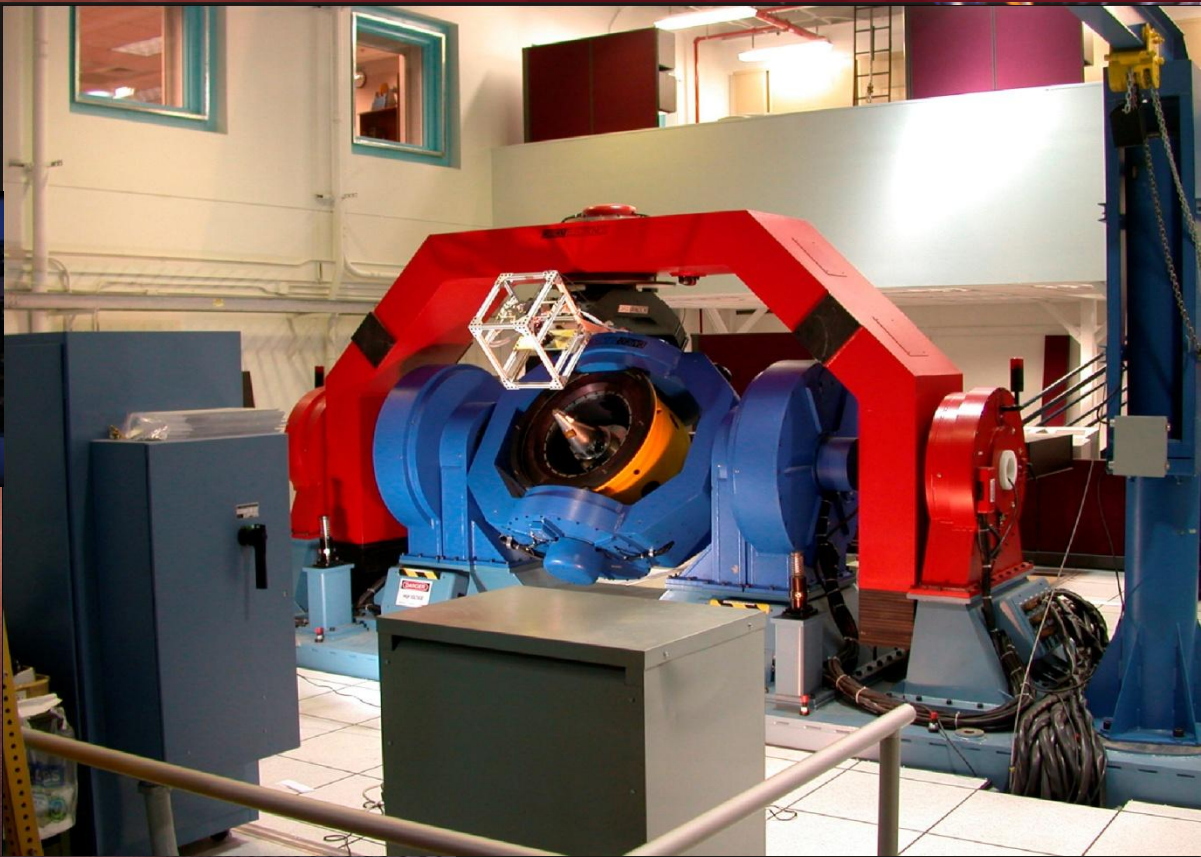


Building 5400



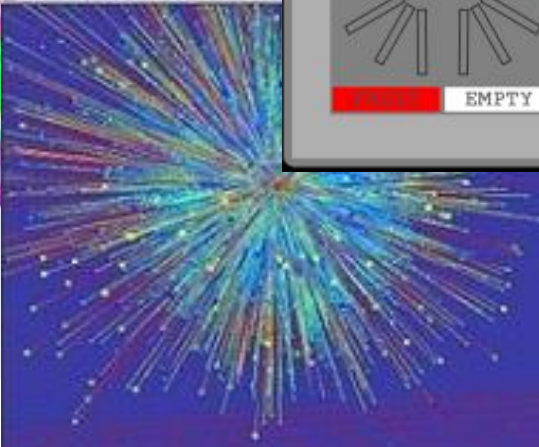
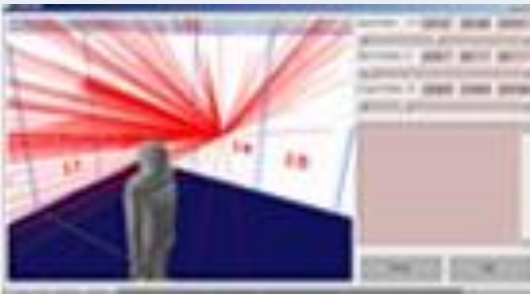
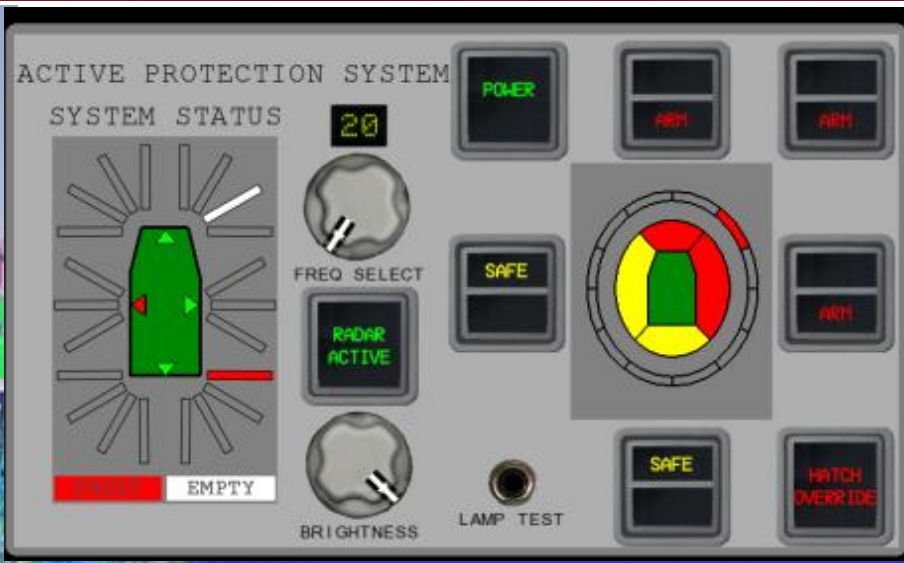
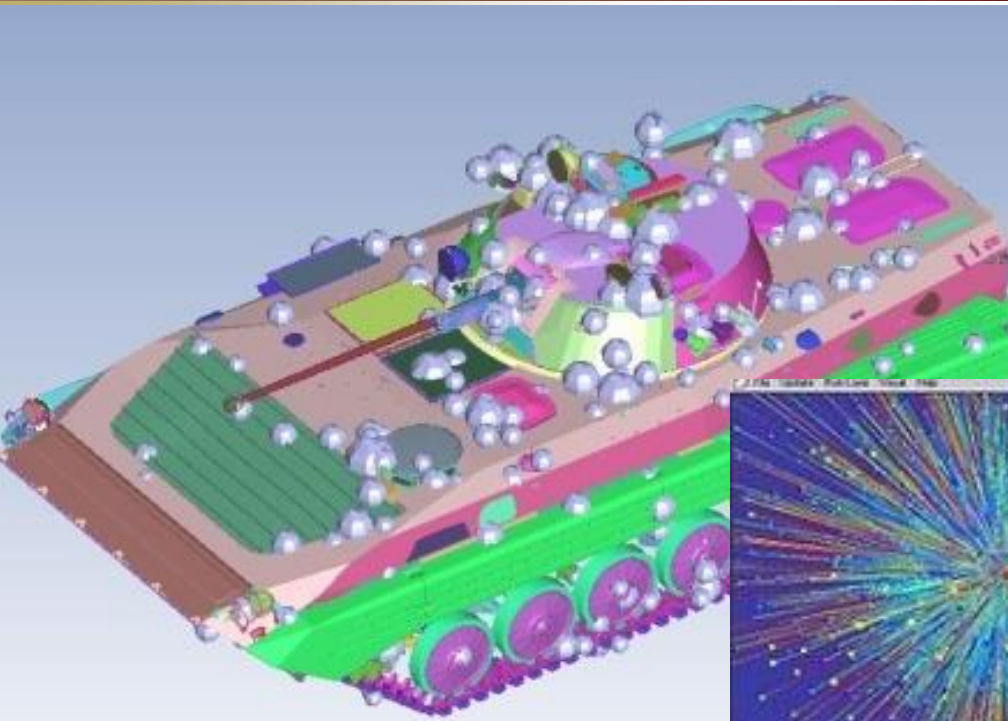
- SSDD = ***System and Simulation*** Development
- **“Systems”** are:
  - Aviation Systems
  - Missile Systems
  - Protection Systems
  - Networked System of Systems
- **“Simulations”** are:
  - Tools (mathematical, virtual, physical) used to represent systems across environmental and threat conditions
- **What SSDD brings:**
  - ***System Solutions derived through Analyses***
  - **“Solutions”** are:
    - Models, Simulations, Physical Prototypes, Virtual Prototypes, Conceptual Designs, Requirement Trades, Acquisition Planning, Technology Transitions, and Payload Integrations











- **Lots of challenges (sequestration, hiring freeze, etc.)...**
- **Yet have an expanding customer base – Army and other DoD**
- **Aviation and Missile-based, but have technologies that transition into other areas (e.g., SPL, etc.).**
- **Always seeking to collaborate – with industry, with OGA, and within AMRDEC...Always interested in pursuing sustainable, new business opportunities.**

***SSDD: Creating Innovative System Solutions***