



U.S. ARMY COMBAT CAPABILITIES DEVELOPMENT COMMAND AVIATION & MISSILE CENTER

Software, Simulation, Systems Engineering and Integration (S3I)
Directorate Brief to Huntsville Aerospace Marketing Association (HAMA)

08 DEC 2023

AvMC LEADERSHIP TEAM



Director
Dr. James Kirsch
(SES)



Chief of Staff
Mr. Steve Fisher



MILDEP
LTC (P) Shannon
Thompson



**Systems
Readiness
Directorate**
Mr. Keith Darrow
(SES)



**Software, Simulation,
Systems Engineering
and Integration
Directorate (A)**
Mr. David Zecher



**Technology
Development
Directorate**
Ms. Christi Dolbeer
(SES)

Scientific & Technical Positions (STs)



**Radio Frequency
Sensors**
Dr. Brian Smith



**Protective
Technologies**
Dr. Donna Joyce



**Airvehicle
Aerodynamics &
Preliminary Design**
Dr. Mahendra Bhagwat



**Rotorcraft Flight
Dynamics and
Control**
Dr. Jeffery Lusardi

S3I: OUR ROLE IN AvMC



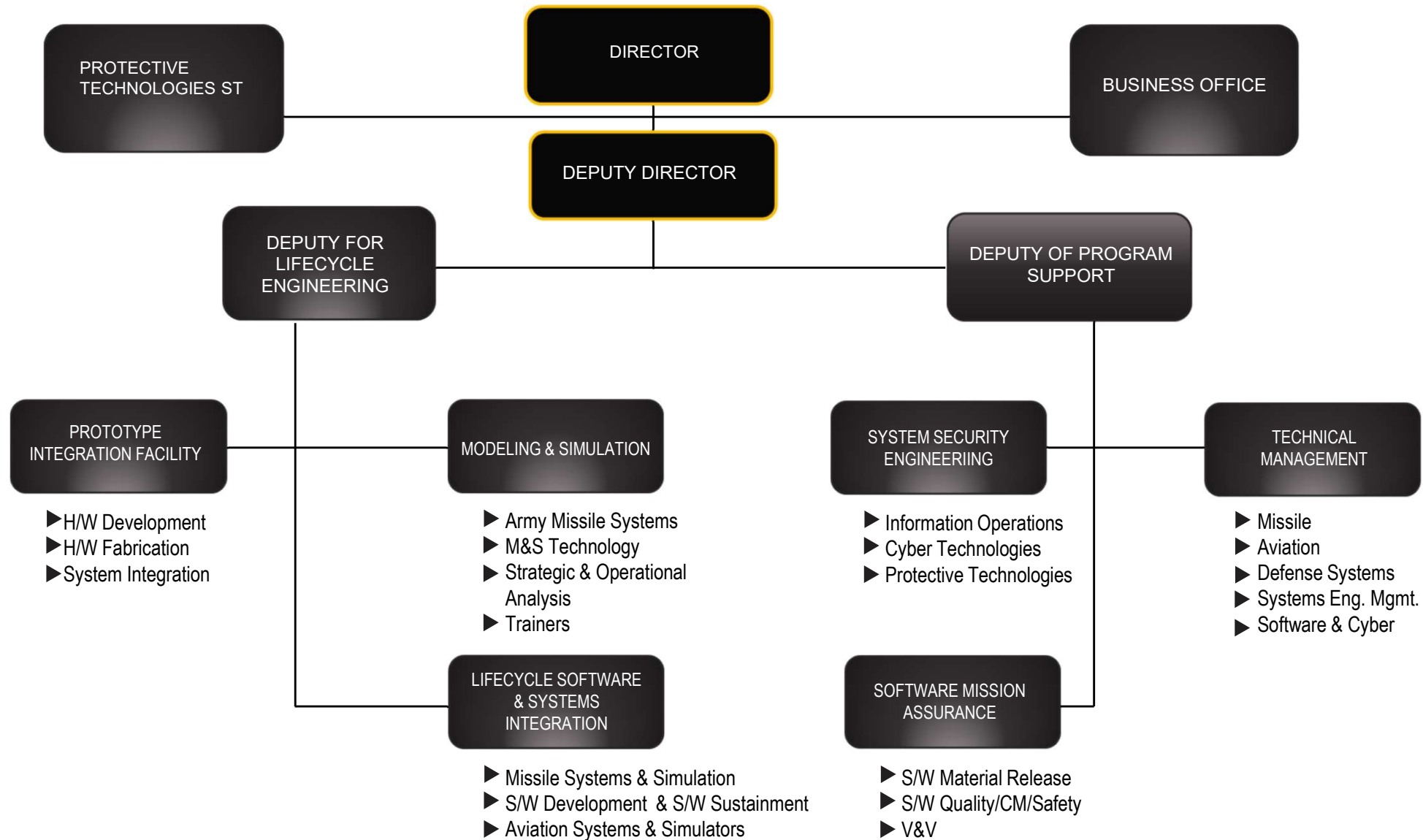
Mission: Provide best value soldier-focused life cycle engineering through integrated hardware, software, and simulation products and services.

Vision: Trusted provider of innovative solutions for aviation and missile customers.



S3I STRUCTURE

SOFTWARE, SIMULATION, SYSTEMS ENGINEERING, & INTEGRATION



S3I FOOTPRINT & NUMBERS



**FY22
STRENGTH**



1172
CIVILIANS

7037
CONTRACTORS

FY22 STATS

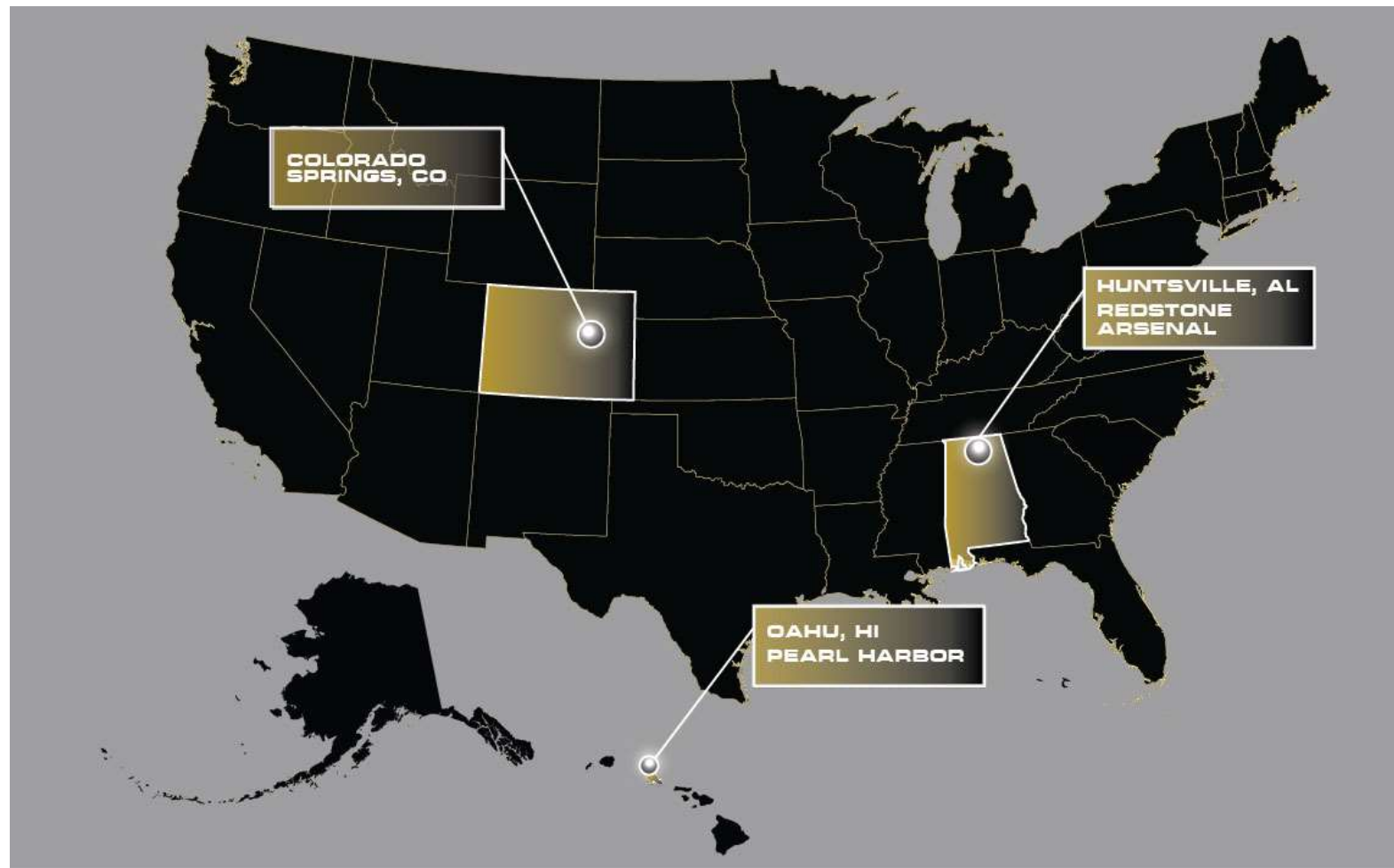
\$1,926M

0%
AVIATION S&T

3%
MISSILE S&T

56%
ARMY

41%
OTHER



LIFE CYCLE SOFTWARE & SYSTEMS INTEGRATION

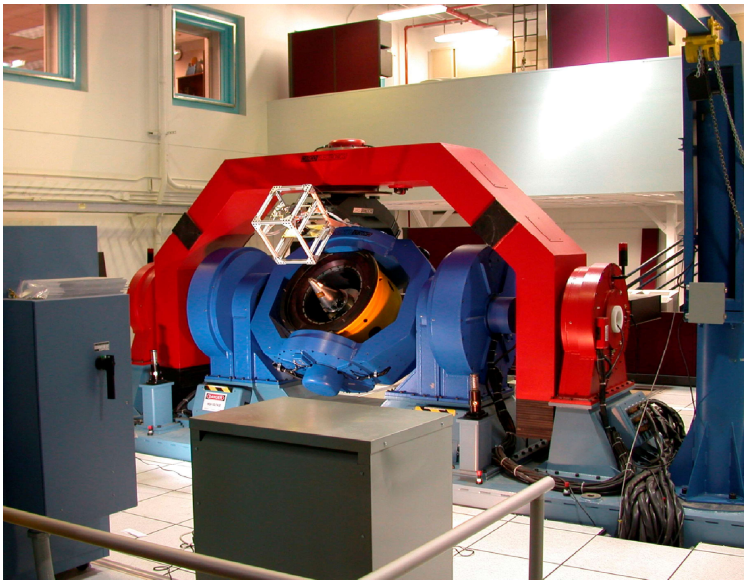


OUR ROLE

Develop and sustain software and perform interoperability engineering, hardware-in-the-loop simulation and systems integration and test to support readiness

CAPABILITIES

- Hardware & Software Development & Integration
- Software Development
- Systems Engineering and Integration
- Interoperability Engineering and Test (IET)
- Hardware-in-the-Loop Simulation
- Software Sustainment (PDSS/PPSS)
- Software Fielding / New Equipment Training
- Prototypes
- Performance Analysis/System Performance
- Computer Hardware / Software Technology



MODELING AND SIMULATION (M&S)



OUR ROLE

Develop and apply models and simulations to enable readiness.

CAPABILITIES

- Digital Simulations w/Integrated Tactical SW
- Live/Virtual/Constructive Simulations
- Virtual Threats/Environments/Phenomenology
- Trainers
- Operational Simulations
- Aerodynamics Analysis
- Lethality/Vulnerability/Survivability Analysis
- Model Based Systems Engineering
- Machine Learning/Data Analytics
- System Performance
- Human Performance Testing
- Mobile and Immersive Technologies



PROTOTYPE INTEGRATION FACILITY (PIF)



OUR ROLE

Provide rapid development & delivery of integrated hardware solutions.

CAPABILITIES

- Program Management
- Design and Analysis
- Modeling
- Mechanical and Electrical fabrication and assembly
- Advanced Composites manufacturing and repair
- Polymer and metal additive manufacturing
- Platform Integration
- Aircraft and Missile modification, field retrofits
- Operations Support
- Technical Data Package Development
- Sustainment Documentation Development



SOFTWARE MISSION ASSURANCE (SMA)



OUR ROLE Perform Software Independent Verification & Validation (IV&V), Verification, Validation and Accreditation (VV&A), Software Quality and Safety Assessments in support of the design, development, fielding and sustainment of Weapons Systems.

CAPABILITIES

- Software Independent Verification and Validation
- Verification, Validation and Accreditation M&S
- Independent Software Test and Evaluation
- Software Requirements, Design and Code, evaluations and analyses
- Software Process Assessments
- Software Safety Analyses
- Material Release Software



TECHNICAL MANAGEMENT (TM)



OUR ROLE

Technical and System Engineering leadership in support of PEOs & PMs



CAPABILITIES

- Provide Technical and System Engineering leadership in support of PEOs and PMs
- Serve in Key Leadership Positions (KLPs)
- Establish, evaluate, and manage technical & program milestone requirements
- Provide technical support for International and Foreign Military Sales (FMS)
- Ensure product system safety in design, development, and evaluation
- Establish and support technical acquisition strategies and plans
- Provide oversight to interoperability, system and component interfaces, determine integration solutions
- Establish Technical Performance Measurement requirements and evaluation methods
- Responsible for risk management, trades study optimization, System Engineering Plans (SEP), and technology maturity assessments



SYSTEM SECURITY ENGINEERING (SSE)



OUR ROLE

Develop and apply cybersecurity & protective technologies to enable readiness.

CAPABILITIES

- Anti-tamper Assessment
- Hardware Assurance Assessment
- Software Assurance Assessment
- Cyber Vulnerability Assessment & Engineering
- Cyber Table-Top Exercises
- Supply Chain Security Analysis
- Criticality Analysis
- Mission Impact Assessment (Cyber)



INTERFACES WITH INDUSTRY



- Communications
 - White paper on contracts consolidation in February 2023
 - S3I Industry Day in August 2023 -
<https://sam.gov/opp/30b84543dbca43319d9e17f78b92e9e1/view>
 - AMTC OTA
- Planned future industry engagements in CY 2024 (expect at Center level)
- Continued use of ACC EXPRESS, OTAs, GSA OASIS & OASIS+



THANK YOU.



U.S. ARMY