Army Robotics at the Tactical Edge

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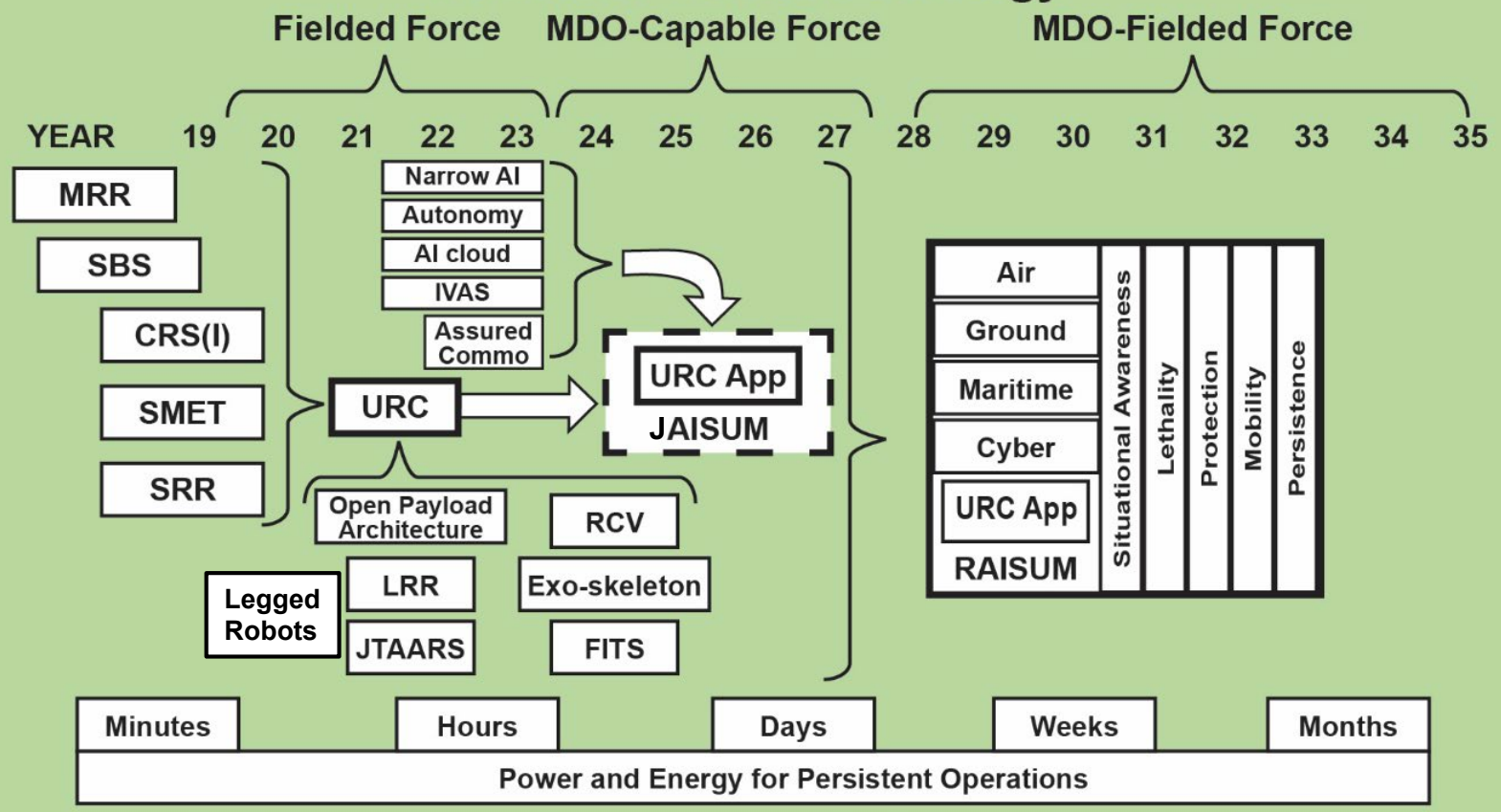
Maneuver Robotic Strategy



AI Cloud – Artificial Intelligence at the small-unit level
AISUM – Artificial Intelligence for Small-unit Maneuver
CRS(I) – Common Robotic System – Individual
FITS – Family of Integrated Tactical Sensors
IVAS – Integrated Visual Augmentation System
JTAARS – Joint Tactical Autonomous Aerial Resupply System (UAS)
LRR – Long-range Reconnaissance (SUAS)
MDO – Multi-domain Operations
MMP – Modular Mission Payload
MRR – Medium-range Reconnaissance Small Unmanned Aircraft System (SUAS)
RAISUM – Robotics and Artificial Intelligence for Small-unit Maneuver
RCV – Robotic Combat Vehicle
SBS – Soldier Borne Sensor (SUAS)
SMET – Small-multipurpose Equipment Transport
SRR – Short-range Reconnaissance (SUAS)
URC – Universal Robotic Controller
URC APP – Universal Robotic Controller Application

Robotics Programs, Initiatives, and Strategy

Unclassified

Robotics Capability Development

Ground Systems

- Small Multipurpose Equipment Transport (SMET) and Modular Mission Payloads (MMP)
- Common Robotic System – Individual (CRS(I))
- Movement and Maneuver Exoskeleton (M2E)
- Family of Integrated Tactical Sensors (FITS)
- Legged Robots
- Silent Tactical Energy Enhanced Dismount (STEED)

Air Systems

- Joint Small Unmanned Aircraft System (sUAS) Requirements Documents
- Soldier Borne Sensor (SBS) - Squad
- Short Range Recon (SRR) - Platoon
- Medium Range Recon (MRR) - Company
- Long Range Recon (LRR) – Battalion
- Tethered UAS (Te-UAS)

Artificial Intelligence

- Joint AI for Small Unit Maneuver (JAISUM) in Multi Domain Operations (MDO)/Joint All Domain Command and Control (JADC2)

Overarching Systems

- Universal Robotic Control (URC)
- Counter sUAS (C-sUAS) for the Maneuver Force
- System of Systems Enhanced Small Unit (SESU)

Robotics Strategy

Near-term / Fielded Force (2022-2026):

- 10X Robotic and AI Infantry Platoon Tech Demos (10X22, 10X23, …)
- Insert Soldier Operated Robots: SBS; SMET; CRS(I); SRR
- Mature capabilities for LRR; Te-UAS; URC; C-sUAS; M2E; FITS; JAISUM; Legged Robots, SESU
- Support NGCV CFT's Robotic Combat Vehicle (RCV)
- Support Soldier Lethality CFT with Robotics and AI
- Drive research for Network; Autonomy; AI; Energy

Mid-term / MDO Capable Force (2026-2030):

- Develop and field small, light, inexpensive, expendable air and ground robots to enable more effective maneuver formations (>X)
- Field current and interim robotic capabilities supported by a JAISUM minimum viable product (MVP)
- Field M2E
- Field RCV

Far-term / MDO Ready Force (2030-2040):

- Significantly more effective maneuver formations (>10X)
- Field integrated persistent air and ground robots controlled by JAISUM and commanded by Soldiers
- Develop and field a Warrior Suit

Unclassified

10X22 Robotic and AI Equipped Dismounted Infantry Platoon

Goal

Demonstrate current and near term industry, academic, and military lab capabilities integrated into a system of systems to make a dismounted Infantry platoon, with organic systems, 10 times more effective and make better decisions 10 times faster than the current platoon.

Team

- Maneuver CDID – Concept Lead
- DevCom Ground Vehicle System Center – Tech Lead
  - Army Research Lab
  - Armaments Center
  - C5ISR Center
  - Army AI Integration Center
- National Advanced Mobility Consortium – Prime Contractor
  - Lockheed Martin
  - Neya
  - Persistent Systems
  - Bounce Imaging
  - SSCI
- Georgia Tech Research Institute – Tech Integrator