2013 Ground Robotics Symposium

Ground Robotics Strategy

Jose M. Gonzalez
OUSD (Acquisition, Technology & Logistics)
Director, Land Warfare and Munitions

Discussion Topics

- What's Going On In The Building?
- SAE Baseline Review
- Evolving Enterprise Focus
- New JGRE and SSG Construct and Focus

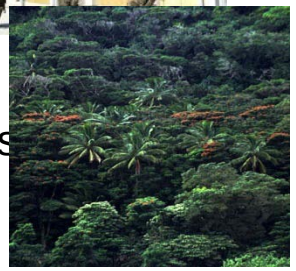
Evolving Enterprise Focus

	2000		2012

Focus	• Experimentation
	• Prototype development
	• Building up private interest in military apps
		• Applying technology to asymmetric threats
		• Rapid response to urgent needs
		• Continued S&T investment
			• DoD level
			  • Strategic shift to Asia/Pacific
			• JGRE level
			  • Requirements/CONOPs
			  • New mission domains
			  • Affordability
			  • Reliability, supportability, other "ilities"

Results	• Established DoD-level enterprise • Prototype systems • Technology advances • Private start-up companies	• 1000's of systems fielded in combat • Increased standoff resulted in saving lives • Mature tech base	• Robotics institutionalized in how we fight and operate
Influences	• Advances in CPU performance, sensors, and micro-electronic devices	• OIF/OEF • IED threat • Significant commercial advances	• U.S. debt • Drawdown of troops • New emerging threat environments • Continued global uncertainties

Mission Domain Focus



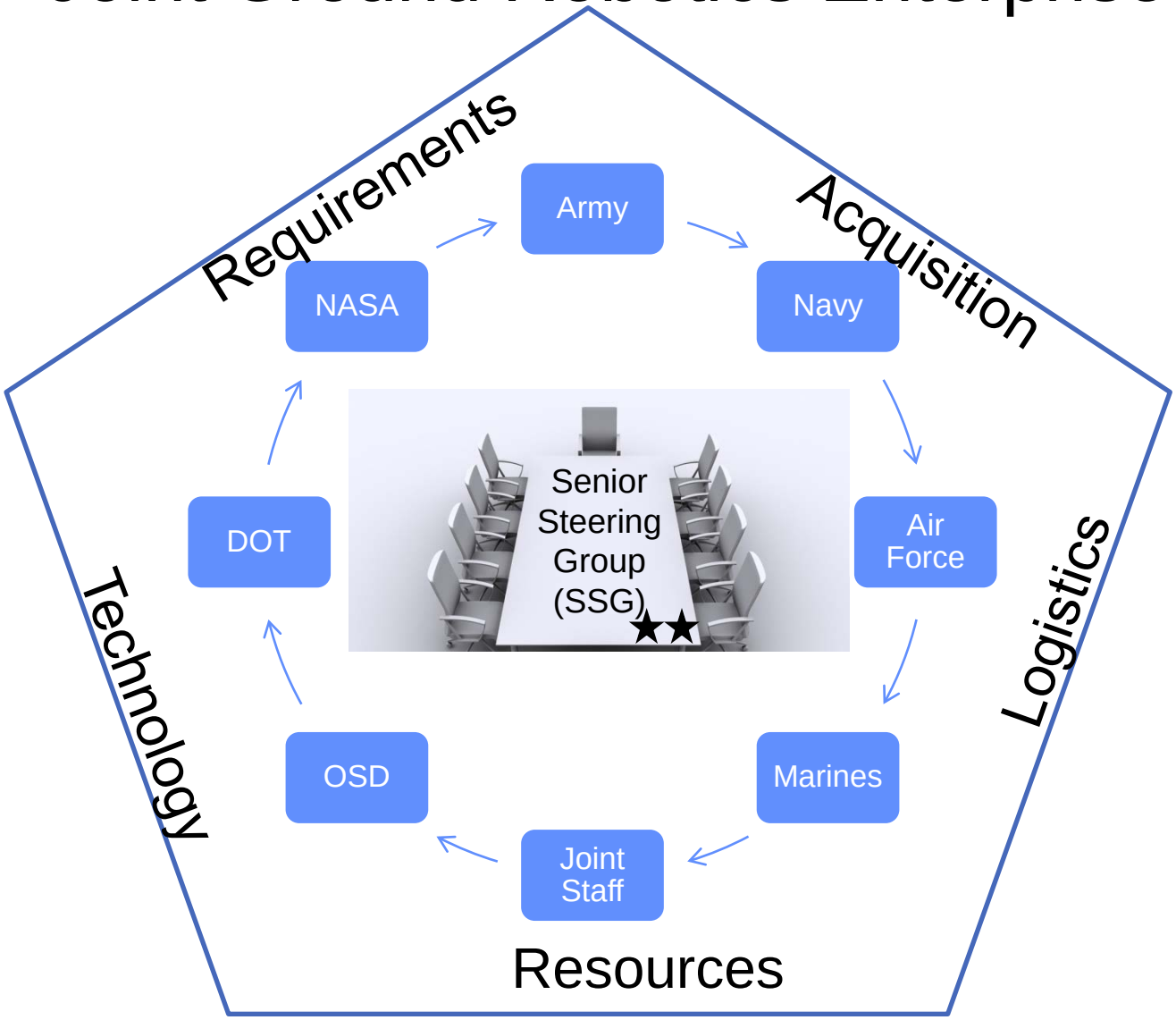
Battle Space Awareness: The Source (Safe Operations of Unmanned Systems for Reconnaissance in Complex Environments) effort develops, integrates and demonstrates robust robotic technologies required for Future Modular Force unmanned systems .

Force Protection: Threat Detection and Neutralization for Route Clearance efforts demonstrate and matures threat/mine detection and neutralization capabilities to address a broader spectrum of in-road threats for route clearance vehicles. Base protection capabilities such as MDARS (Mobile Detection Assessment Response System robot) are useful for patrolling remote areas.

Focused Logistics: The intent of the Autonomous Mobility Applique System (AMAS) JCTD is to implement convoy behaviors using low cost sensors and software. Robotics have also shown promise in range clearance and remediation.

Force Application: MAARS (Modular Advanced Armed Robotic System) is the first fully modular ground robot system capable of providing a measured response including non-lethal, less-lethal and even lethal stand-off capabilities.

Joint Ground Robotics Enterprise



Provides Vision, Leadership and Coordination

What We Plan To Achieve

A Cross-Service process to ensure JOINT collaboration on new or emerging UGV requirements and development

- **Promote the development of future joint requirements**
- **Leverage diminishing resources**
- **Minimize overlap/redundancies across Services**
- **Recognize and exploit common capability areas**

Joint Services IPT dedicated to harmonizing UGV system requirements and achieving acquisition savings across Services, Mission Domains and Capability Areas

DoD Ground Robotics Strategy

"The DoD has maintained an enterprise approach to UGS capability since the early 1990s. The Joint Ground Robotics Enterprise (JGRE) construct has enhanced joint-service capabilities and coordination, providing a means for focusing DoD efforts in UGS. The JGRE focus has evolved over time in response to technology advancements and warfighter needs. Today's enterprise focus is on establishing operational concepts and requirements for UGS in DoD, while ensuring that future systems are both affordable and supportable."

DoD Unmanned Systems Roadmap