



Achieving The Ground Robotics Vision

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The Environment

- Declining Defense Appropriations (Budgets plus Supplementals)
 - Costs are rising (equip., services, labor, health, energy, etc.)
 - Declining force structures (after Iraq & Afghanistan)
 - Trends in U.S. demographics and debt payments are adverse

- Broad Spectrum of Security Concerns; and Much Uncertainty
 - Pirates; terrorists; cyber attacks; bio./chem./nuclear; IEDs; widespread proliferation; regional instabilities (that draw us in); nuclear Armageddon; etc.
 - “war among the people” different from tank-on-tank

- Rapid Changes (in technology, geopolitics, economics, globalization security)



To Successfully respond to this 21st Century Environment

- 20th Century policies, assumptions, laws, structures, acquisition practices, must change!
- Requires a focus on:
 - Affordability (in “requirements;” equipment selection; design; force structure, etc.)
 - Changes to resource allocations (dollars; people; organizations; education and training; etc.)
 - Flexibility and responsiveness
 - Staying ahead



Expect Significant Resistance to Change

- From Congress
- From Military
- From Incumbent Businesses
- From Unions
- Etc.

This resistance must be overcome!

For “culture change,” need:

- Widespread recognition of the need for change
- Proactive leadership (with a vision, a strategy, and a set of actions)



In This Era of Rapid Change

- Robots (ground, air, underwater) must be a significant part of the change
- Robots are far more affordable and save lives
- But, robots are counter-cultural (require a “paradigm shifts” and will be strongly resisted (e.g. Global Hawk example)

Robots are not a replacement for manpower; they are effective and affordable complements – “partners”; for a wide variety of needs (from RSI, to war fighting assistance, to logistics)



Actions, to Implement the “Vision,” are Critical

- Budgets
- Tactics and doctrine
- Organization
- Education
- Training
- Exercises
- R & D (e.g. with “intelligence”; controlled autonomy; etc.)
- Changes in policy (e.g. re. export controls)

The benefits will be in costs, lives saved, and increased force effectiveness.



The Vision Can be Achieved!

- There is widespread understanding of the need for change (driven by the declining budget)
- There is growing recognition of the life-saving and cost reduction benefits offered by robots
- The challenge is proactive leadership

It's Up To You!