Ground Systems Panel Session

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TTO Office Wide BAA Proposers' Day

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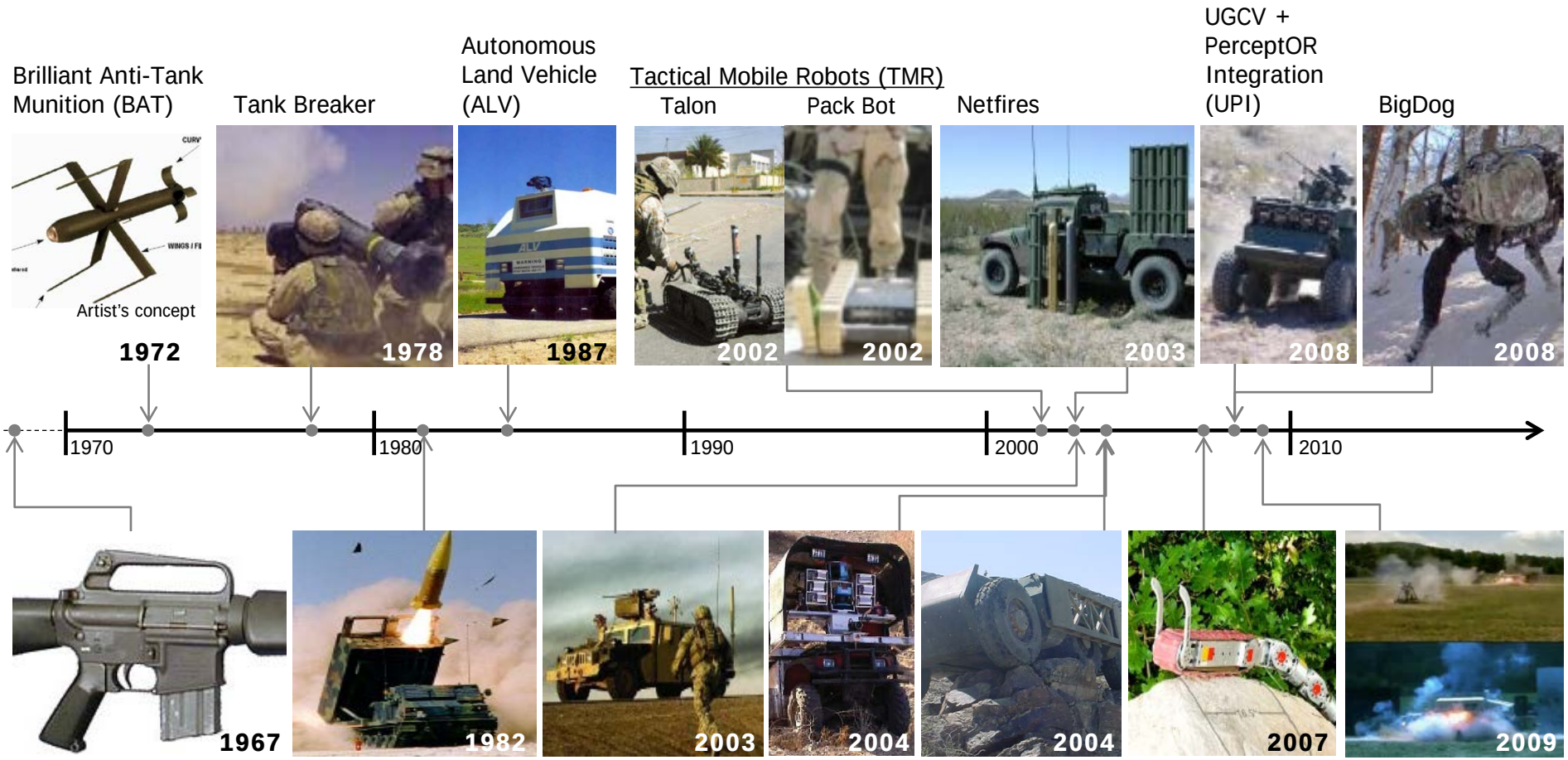
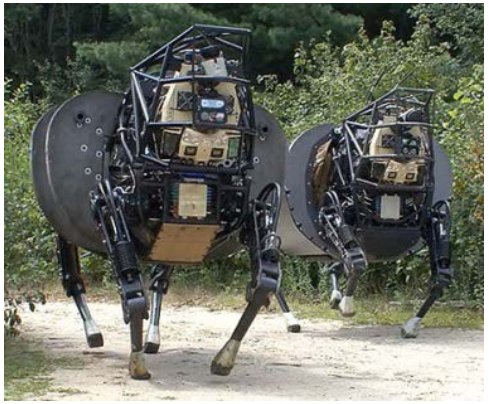
Ground Systems legacy programs



Ground Systems current programs

Legged Squad Support System (LS3)



Develop a highly mobile, semi-autonomous quadruped ground vehicle to lighten the Soldiers' load

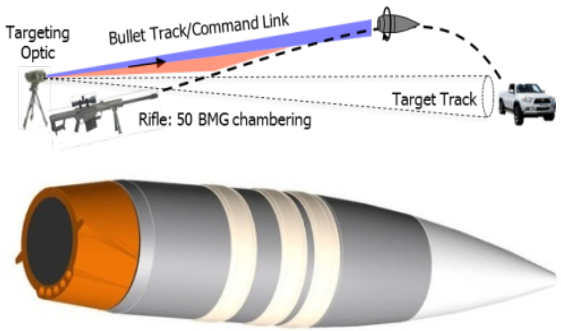
DARPA Robotics Challenge (DRC)

Artist's concept

Develop human-compatible robot system for response to natural and man-made disasters

Ground Systems current programs (cont.)

Extreme Accuracy Tasked Ordinance (EXACTO)



Demonstrate closed-loop guided flight of a .50-caliber bullet/weapon system and survivability of bullet components

Persistent Close Air Support (PCAS)

Enhance dismounted ground agent effectiveness with equipment enabling precise coordination and command of airborne weapons

Adaptive Vehicle Make (AVM)

Revolutionize the design and build process for complex defense systems by compressing the development timelines at least fivefold while increasing the national pool of innovation by several factors of 10

Ground Systems description

Objective: Amplify unit / Soldier effectiveness

Today's Environment

- Strategic environment is changing: ground forces must do more with less
- Adaptive enemies will continue to engineer countermeasures to U.S. technological advances
- A lack of overmatch at the Soldier and squad levels
- Increasing vehicle capability and protection is coupled to increasing vehicle weight and volume

Technical Goals

- Appropriate precision response at multiple scales
- Agility and novel mobility at multiple scales
- Reduced force density
- Manned and unmanned operations
- Digitization at the squad level

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Ground Systems summary

Soldier / squad

- Situational awareness and mission command
- Lethality
- Mobility and human performance
- Squad-integrated unmanned platforms
- Advanced human-machine teaming at multiple scales
- Signature management

Vehicles

- Force protection and signature management
- Crew augmentation capability
- Platform mobility and lethality
- Improved platform capability efficiencies

Complex urban environments

- Novel approaches to urban mobility
- Reliable localization and intrasquad communication
- Outdoors-to-indoors unmanned operation
- Threat “anticipation” technology
- Tagging, tracking and locating

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