

Hornet



Hornet



Air Deliverable
Acoustic Sensor



Rattler
Aero-Spike



Textron Systems Next Generation Ground Combat Systems

Hornet



NSDA
Munition



Racal/Thales
Classic 2000



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Print in "Notes Page"
then
View in Slide Show

Hornet
Wide Area Munition



**Advanced
Hornet**
Dynamic Obstacle

Raptor
Intelligent Combat Outpost



UK ADW
Area Defence Weapon

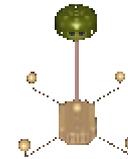
Air Deliverable
Acoustic Sensor



APLA RATTLER
Anti Personnel Landmine Alternatives
Rapid Tactical Terrain Limiter

**Textron Systems
Next Generation
Ground Combat Systems**

ADAS
Air Deliverable
Acoustic Sensor



Racal/Thales
Classic 2000



APLA NSDA
Anti Personnel Landmine Alternatives
Non Self Destruct Alternatives

Ninox
Australian Remote Area
Surveillance System



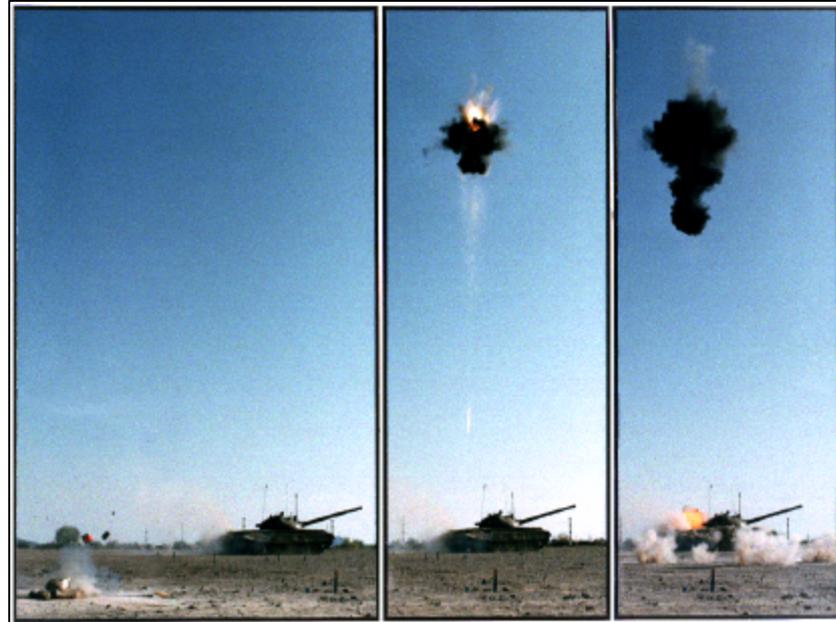
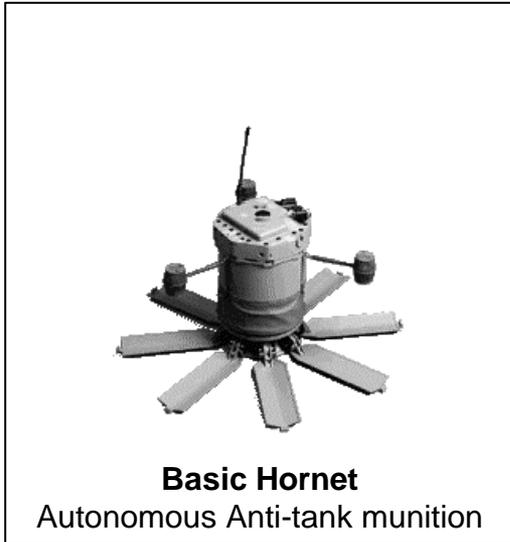
Current Programs: Ground Combat Systems

Six separate programs evolve to comprise an integrated capability

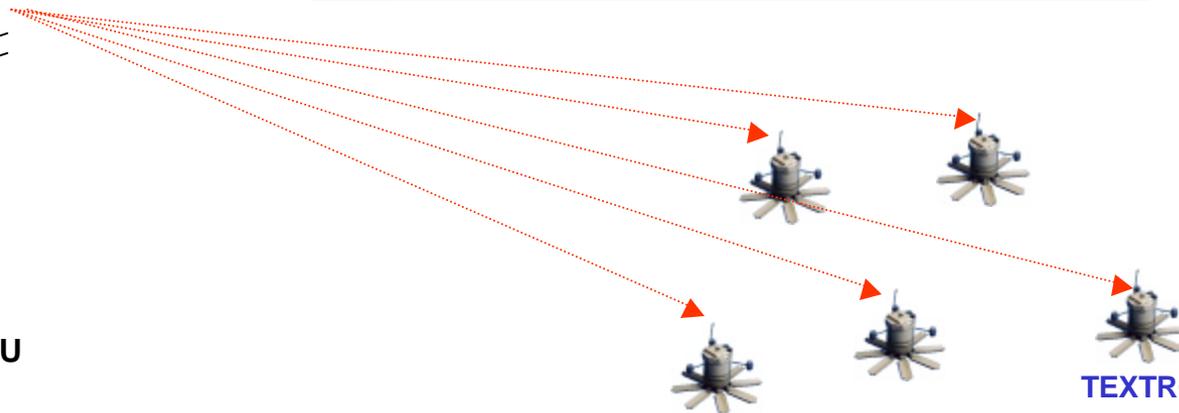
- **Hornet** Anti-tank, anti-vehicular munition
- **Adv Hornet** Two-way comms for improved performance
- **Raptor** Long range comms, networked sensors-munitions
- **APLA NSDA** Man-in-the-loop anti-personnel munition
- **APLA Rattler** Remote deployed sensor and AT/AP munitions system
- **Terrain Commander** Remote area surveillance system (Australian Army)

Except for the funded program descriptions, these are Textron's thoughts and visions and have not been accepted by the US Army ... yet.

Basic Hornet Wide Area Munition



M71 RCU



Advanced Hornet



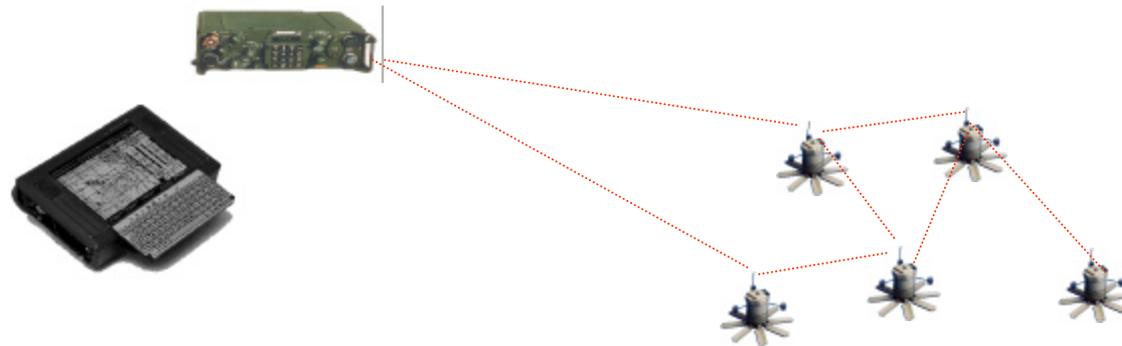
Advanced Hornet
Anti-tank munition w/2-way comms



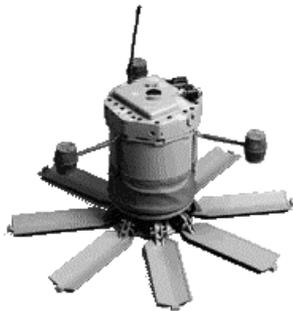
Handheld Terminal Unit
Command & Control of the field



Falcon II Secure Radio
Sensitive but unclassified comms



Raptor ICO (Concept) Intelligent Combat Outpost



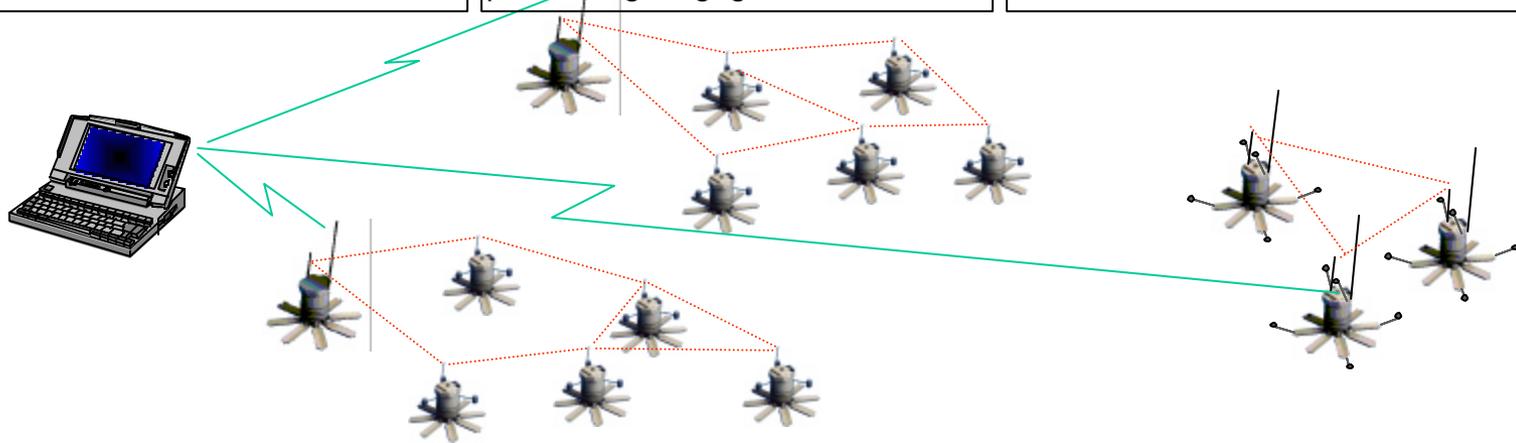
Advanced Hornet
Anti-tank/vehicle munition



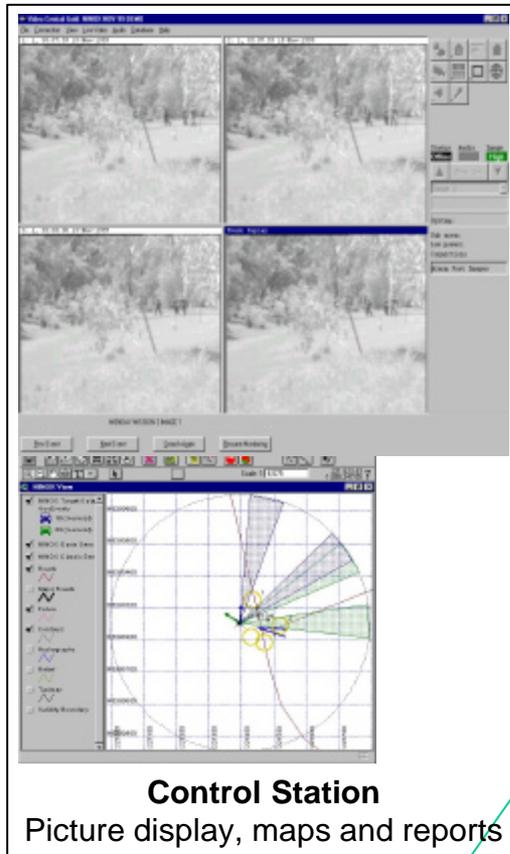
Gateway
Short- and Long-Haul Commo, local processing, engagement execution



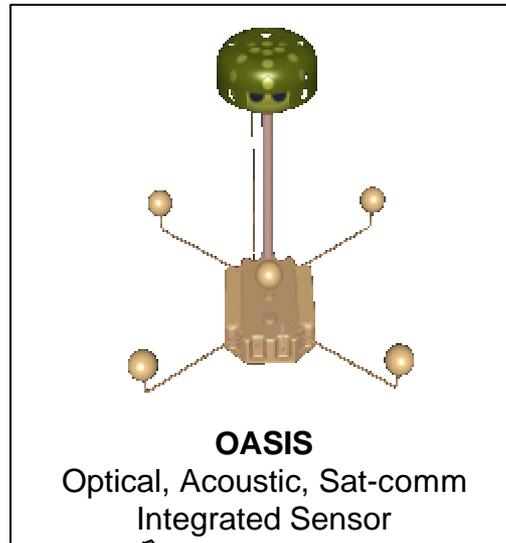
Long-range Acoustic Networked Sensors
Air Deliverable Acoustic Sensor



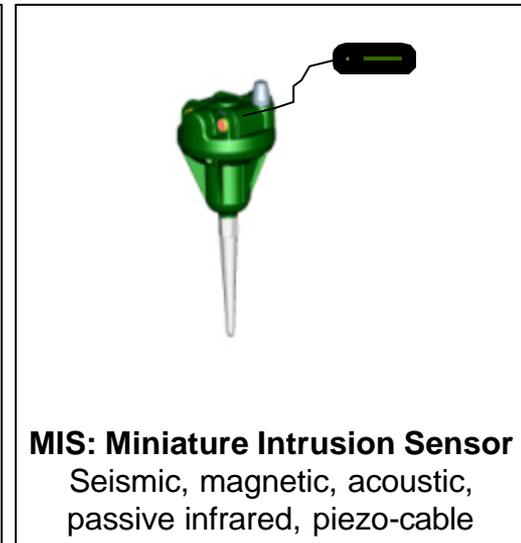
Ninox Terrain Commander Australian Outback Surveillance



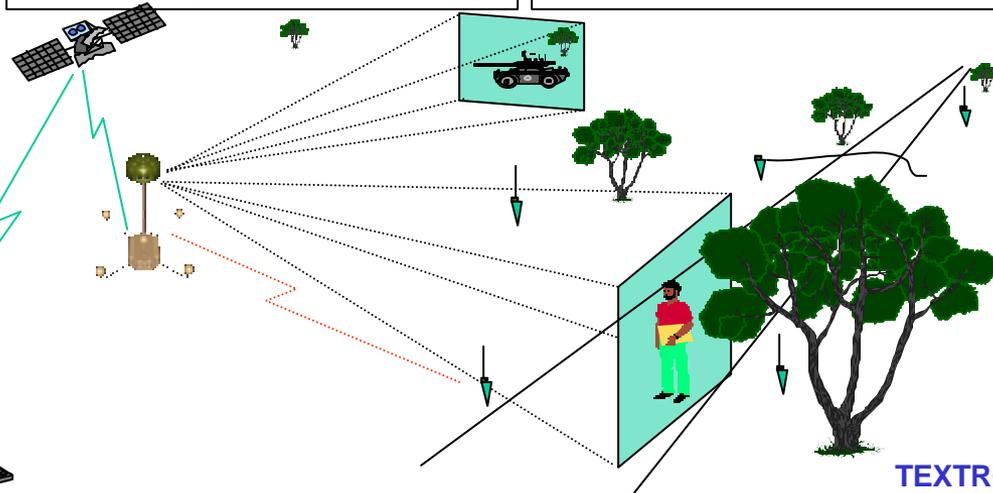
Control Station
Picture display, maps and reports



OASIS
Optical, Acoustic, Sat-comm
Integrated Sensor



MIS: Miniature Intrusion Sensor
Seismic, magnetic, acoustic,
passive infrared, piezo-cable



APLA Track I NSDA

Non Self Destruct Alternatives



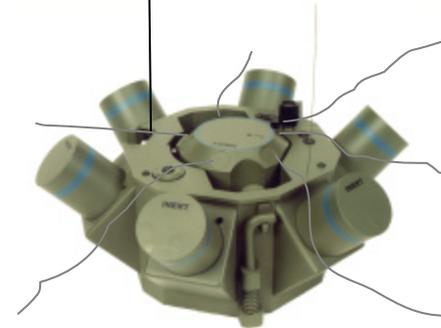
Remote Control Unit

Man-in-the-loop command & control of 84 (or more) MCU



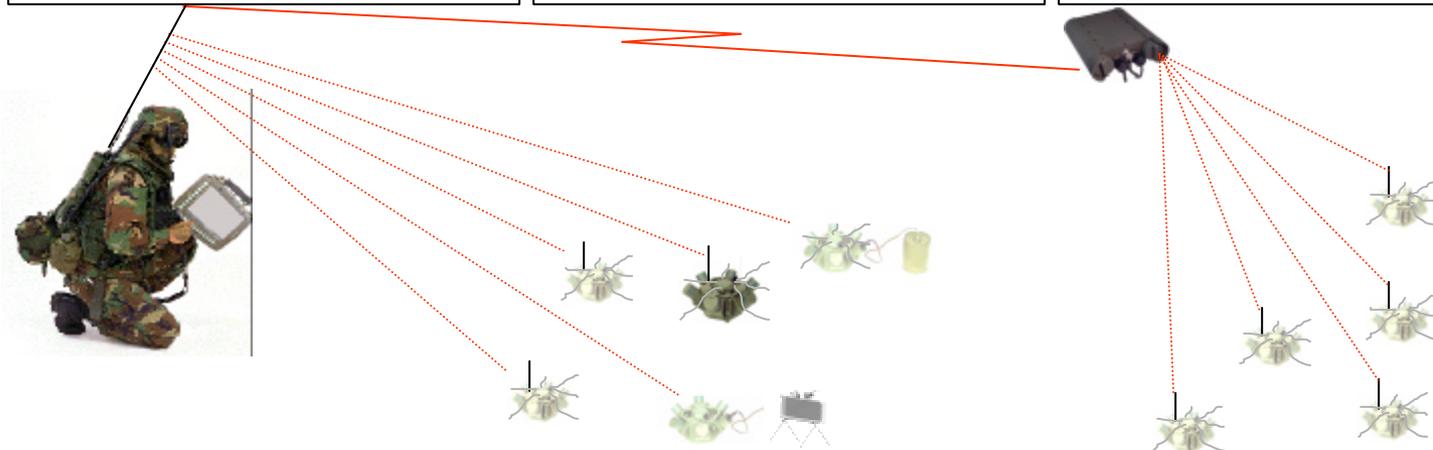
Repeater

Extended range control



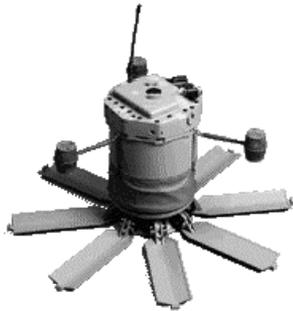
Munition Control Unit

Six lethal grenades or adapters for claymore or non-lethal munitions



APLA Track III Rattler

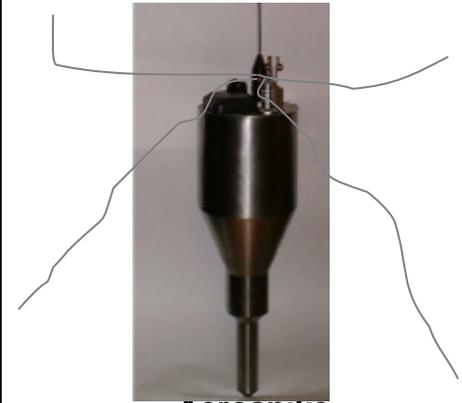
Rapid Tactical Terrain Limiter



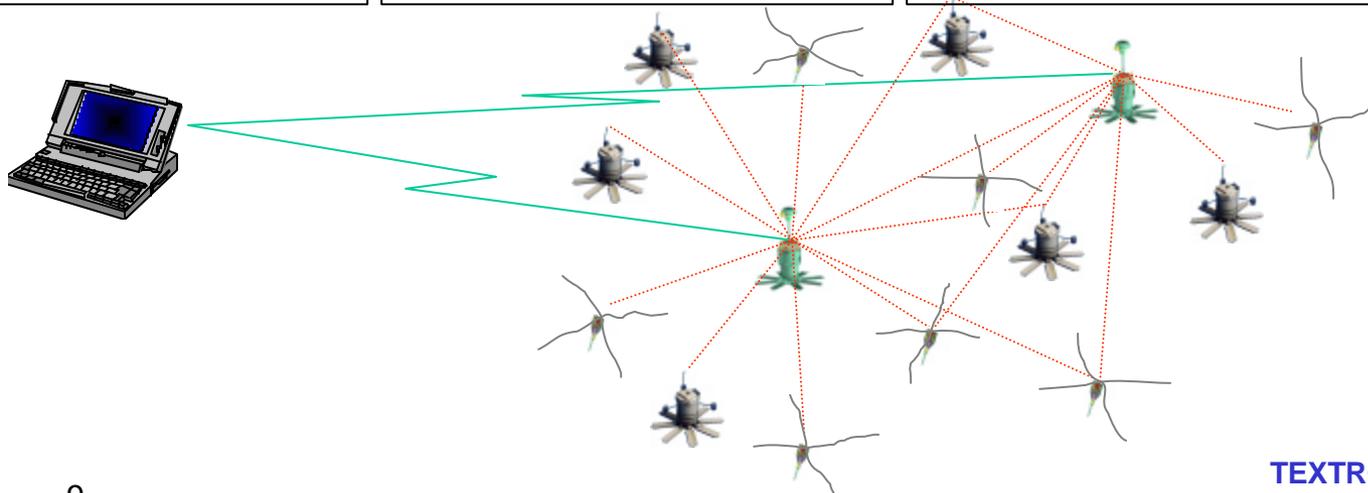
Advanced Hornet
Anti-tank/vehicle munition



Gateway
Acoustic and electro-optic sensors
executes directed engagement



Aerospike
Seismic and trip wire sensors with
command detonated grenade



Advanced Hornet

Dynamic Obstacle

Raptor

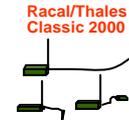
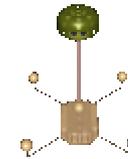
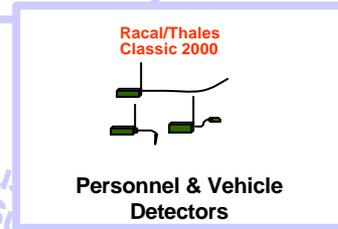
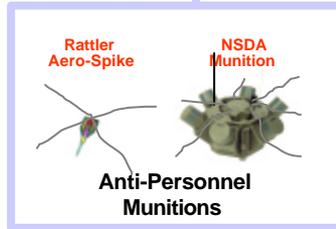
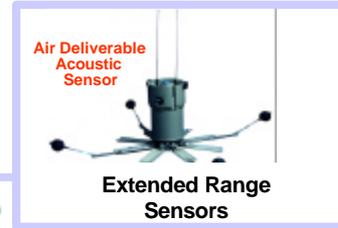
Intelligent Combat Outpost

UK ADW

Area Defence Weapon

Hornet

Wide Area Munition

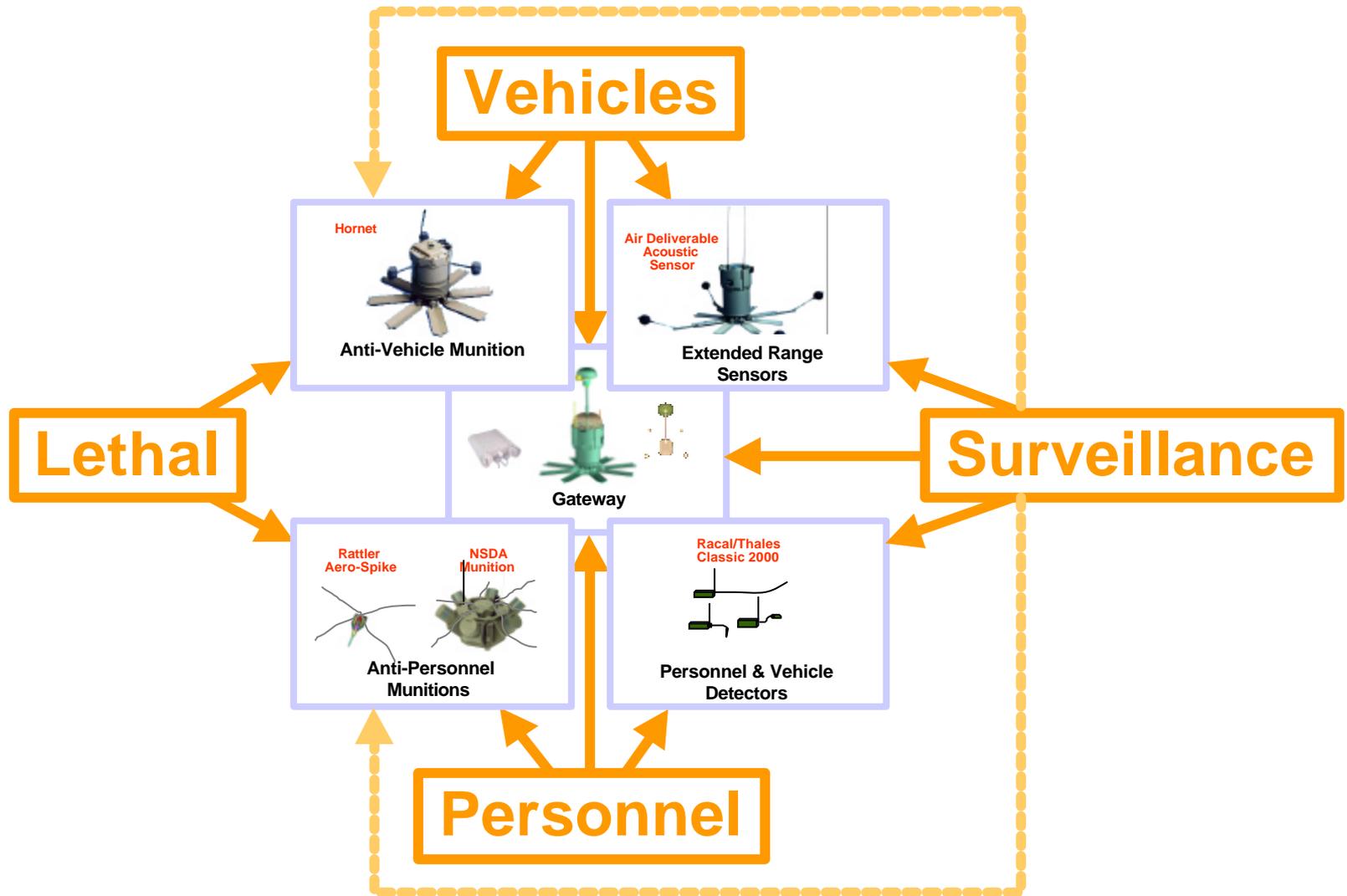


APLA RATTLER
Anti Personnel Landmine Alternatives
Rapid Tactical Terrain

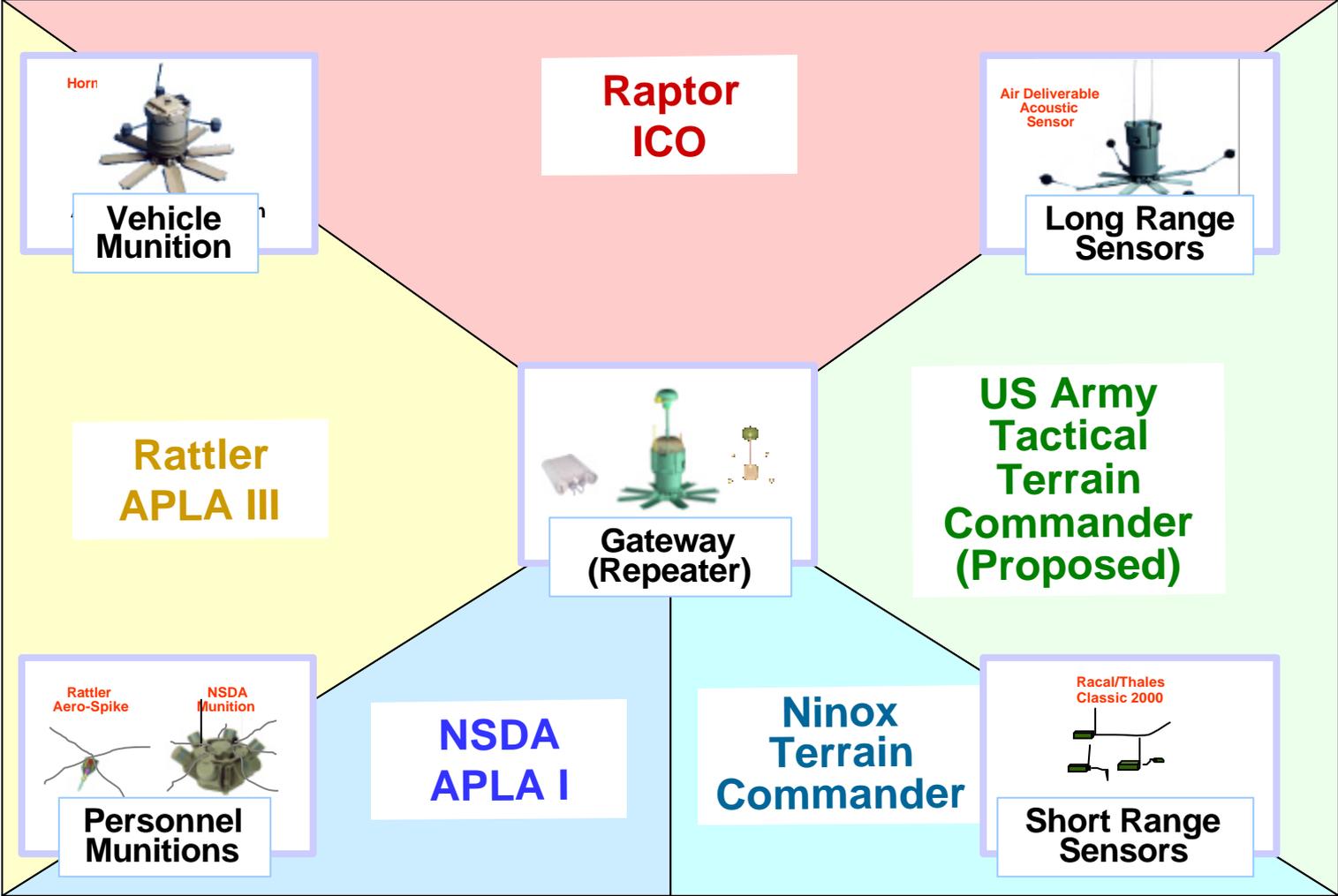
APLA NSDA
Anti Personnel Landmine Alternatives
Non Self Destruct Alternatives

Surveillance System
Remote Area

Textron Systems Products



Intelligent Battlefield Products & Systems



Every Program Plays a Part

Advanced Hornet

- Data share & GPS
- New Sublet

Raptor Intel Cbt Outpost

- System integration - FBCB2, Fire Ctl, MI
- Long range Sensors

Ninox UGS Terrain Commander

- Linked sensors
- Multi-sensor display

APLA I - NSDA

- AP munition
- Claymore controller

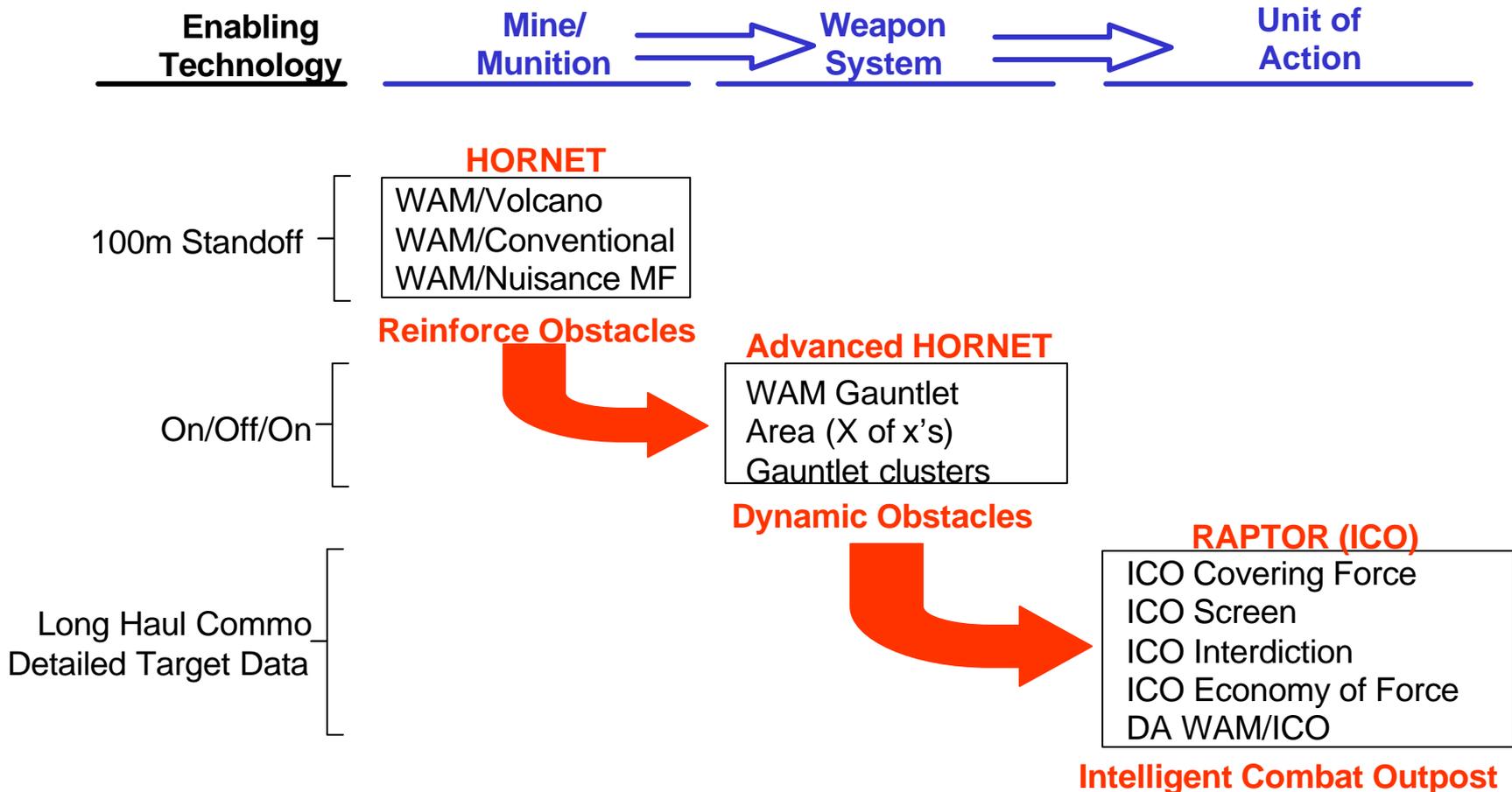
APLA III - Rattler

- Remote delivery
- SUO SAS Commo

Textron IRAD

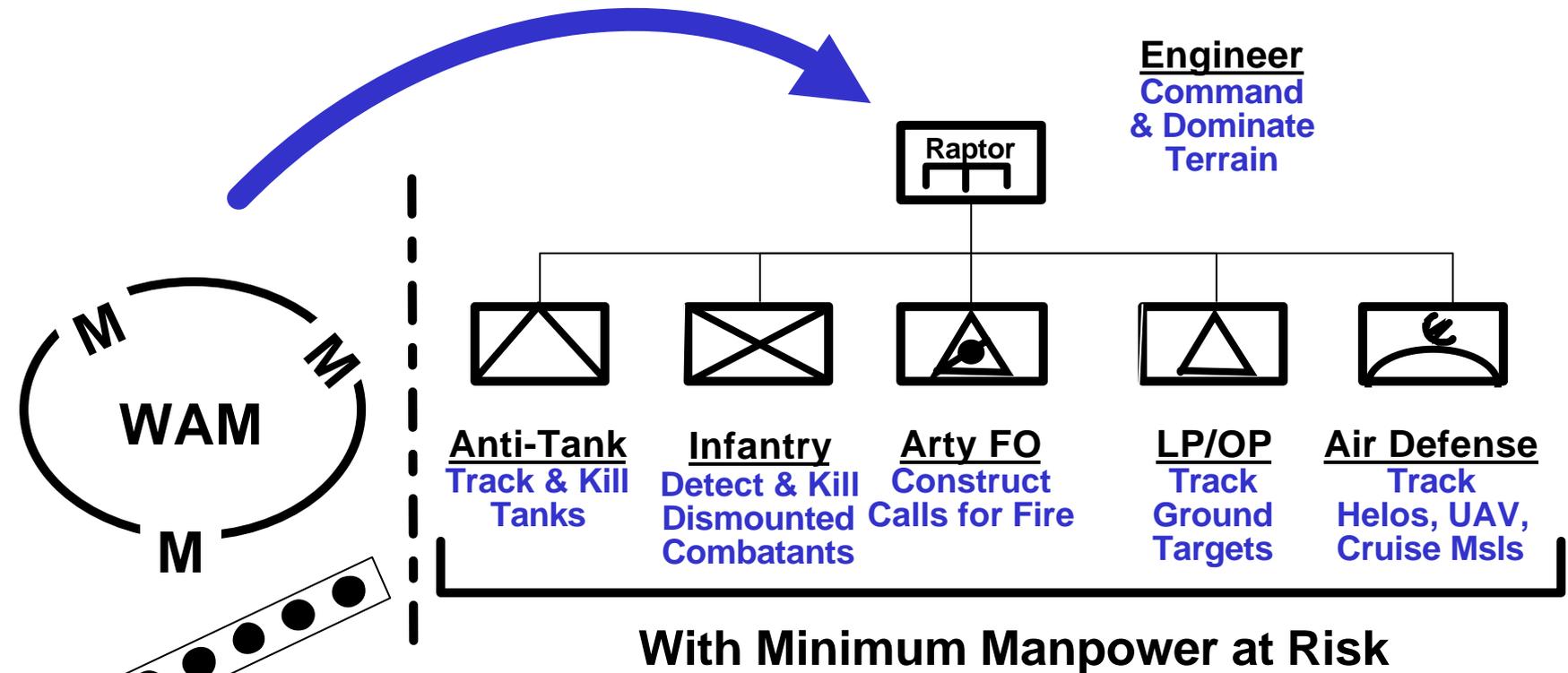
- Mission Planner
- Next Generations

Hornet's Increasing Capability Enables More Missions



Raptor

Demands a Shift in Thinking



Raptor Looks Less Like a Mine and More Like a Unit

Additional Operational Terms for Future Ground Combat Systems

Engineer Obstacle Effects

Block
Fix
Turn
Disrupt

Force Multiplier

Security Element (Cavalry) Missions

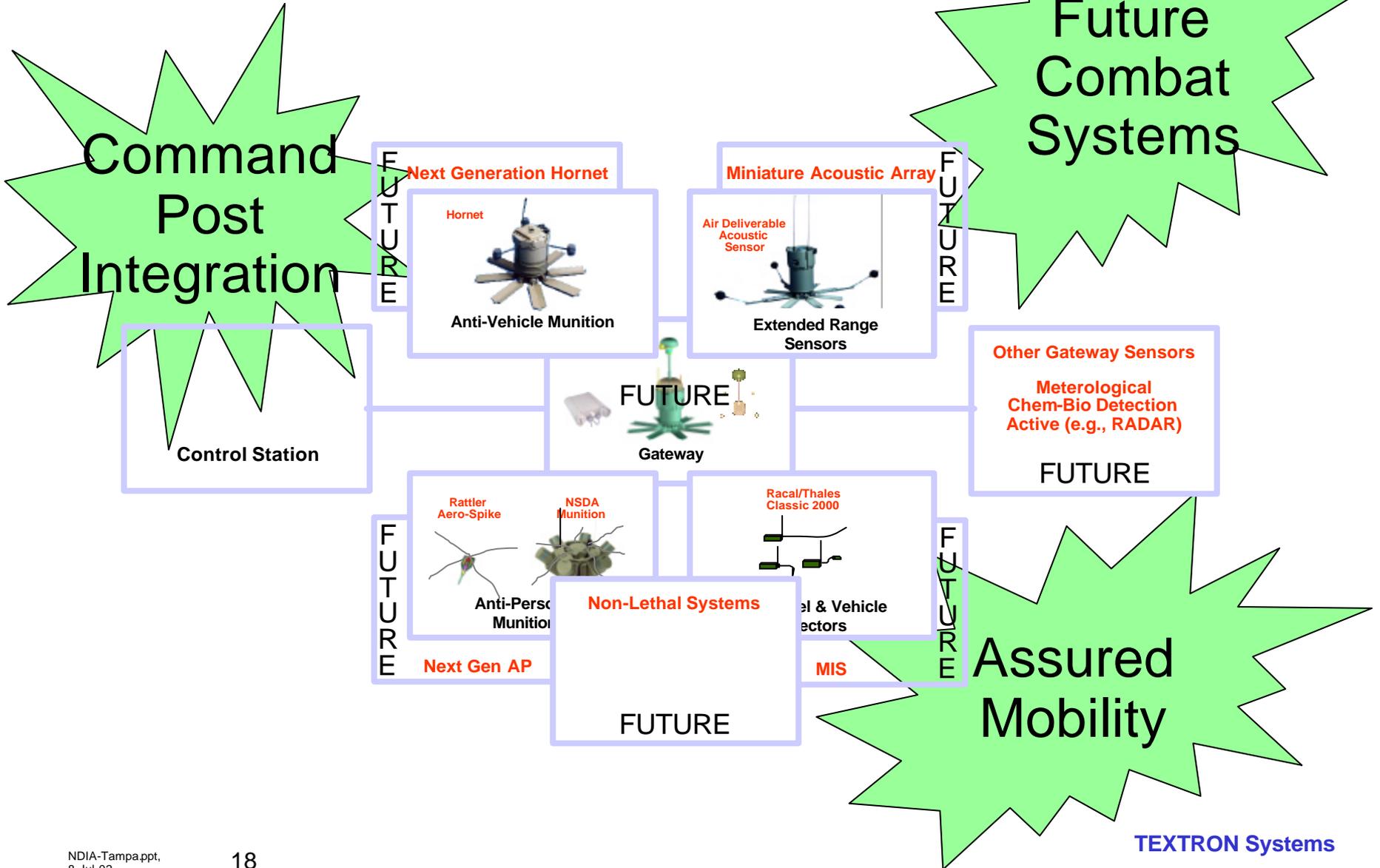
Economy of Force
Control
Screen
(Some) Cover
(Some) Guard
(Some) Reconnaissance

Force Replacement

Future Combat Squad

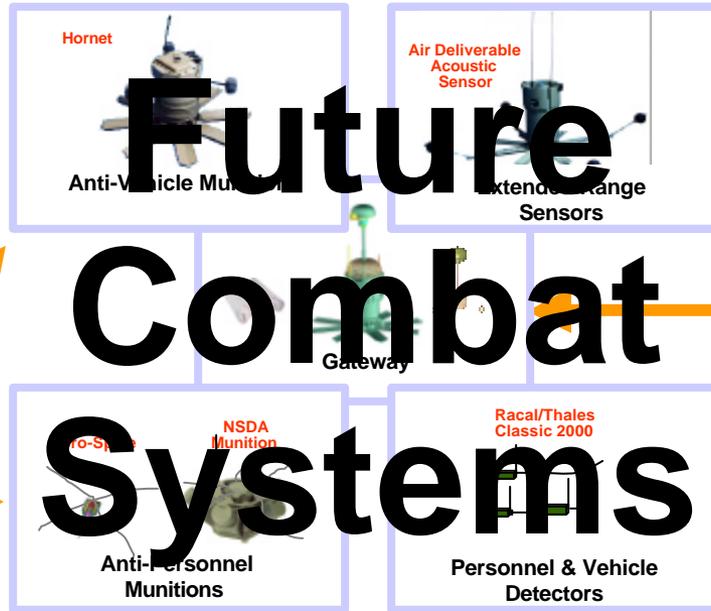
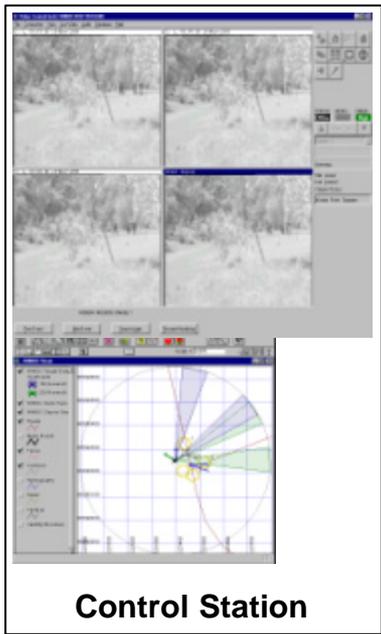


Growth Patterns



Integrated Ground Combat Systems

- See First
- Understand
- Act First



Short Sensor-Shooter Timelines

Decentralized Execution

Internetted Sensors

Network Centric Warfare

Advanced Hornet

Dynamic Obstacle

Raptor
Intelligent Combat Outpost

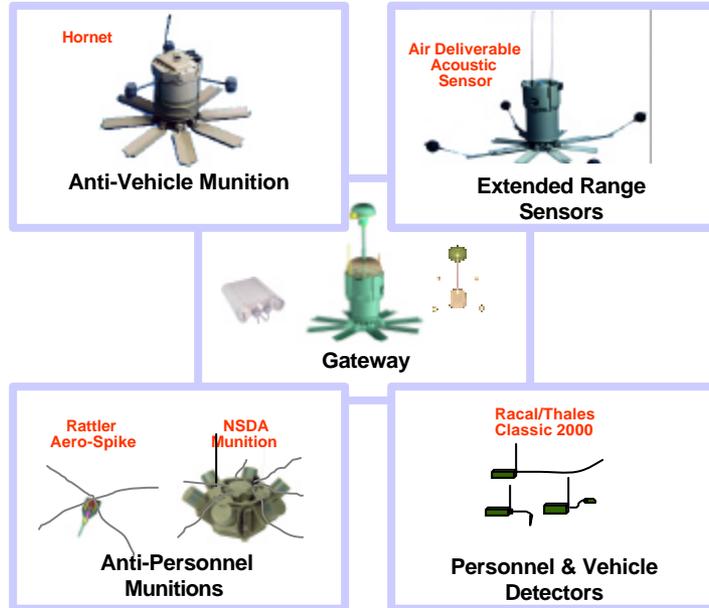
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Wide Area Munition

UK ADW

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Wide Area Munition



ADAS

Air Deliverable Acoustic Sensor

APLA RATTLER

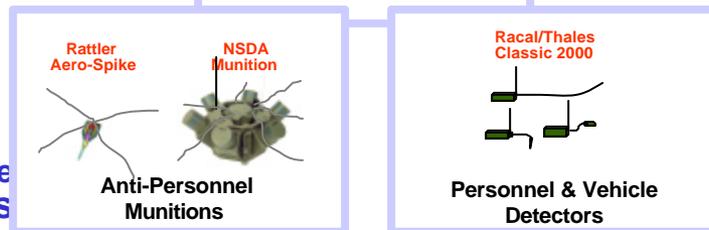
Anti Personnel Landmine Alternatives
Rapid Tactical Terrain Limiter

Terrain Commander

Tactical Surveillance System

APLA NSDA

Anti Personnel Landmine Alternative
Non Self Destruct Alternatives



Ninox

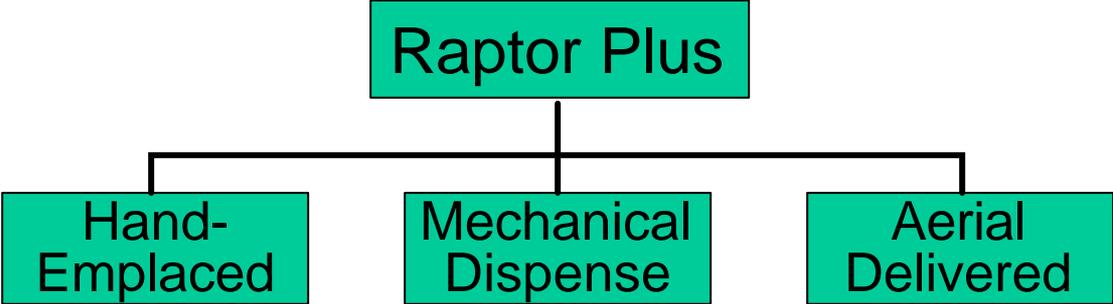
Australian Remote Area Surveillance System

**Textron Systems
Next Generation
Ground Combat System**

Backup

Not intended for presentation at NDIA,
but may be used in future
presentations/discussions.

Evolutionary Capability



Gateway



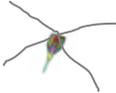
Sensors



AP



TBD



AT



TBD



Programs:

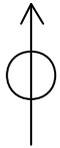
Ninox, NSDA
Adv Hornet

FCS

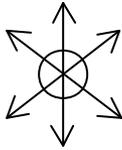
Rattler
Raptor

Extracts from FM 101-5-1

Operational Terms and Graphics



Light Grenade Launcher
(eg M203)



NSDA MCU
6 Bounding Grenades
Implied from FM



Wide Area Mine
FM 101-5-1
p 3-29



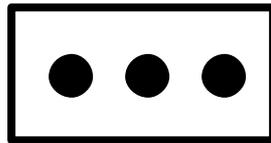
Anti-personnel Mine
FM 101-5-1
p 3-29



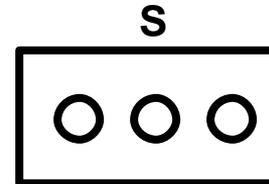
Anti-tank Mine
FM 101-5-1
p 3-29



Directional Mine
FM 101-5-1
p 3-29



AT Minefield
Line to center of mass



101200Z

Scatterable (Unspecified) Minefield
w/Self-Destruct Date-time-group

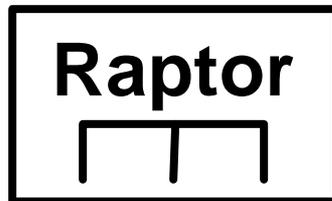
Proposed Raptor Graphics



- Throw-back to traditional mine warfare: target activated, no intel, and danger even to friendlies

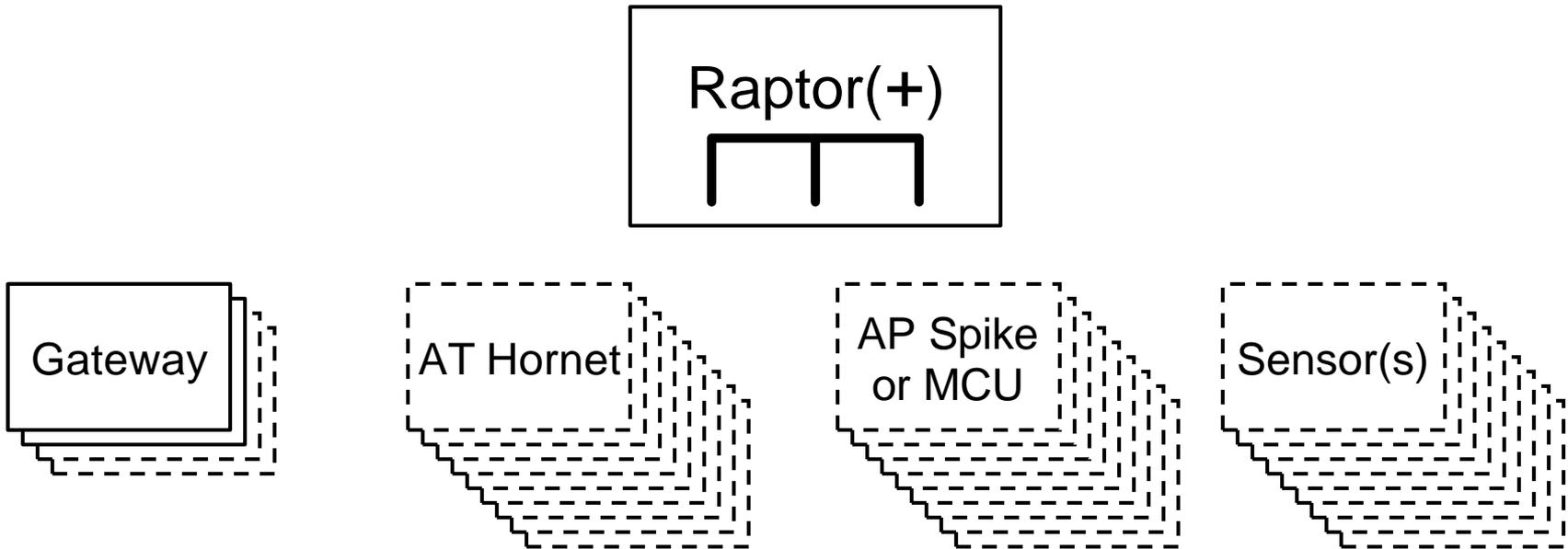


- Transitional symbology



- Represents a stationary unit with organic capabilities to engage and report

Raptor Plus Unit of Action Organizational Structure



“Raptor Plus” is an enhancement beyond the stated Raptor Requirement

“Raptor Plus” is tailored to each site with at least two Gateways and:

- Anti-tank Hornet
- Anti-personnel Spike or MCU
- Sensors

As appropriate to the mission

Raptor Graphics



- Raptor field controlled by 1-66th Armor
- It is Field Number C82A
- Raptor field's active lethal components:
 - 8 Anti-tank/vehicle munitions
 - 14 Anti-personnel munitions

New Capability Yields New Missions

