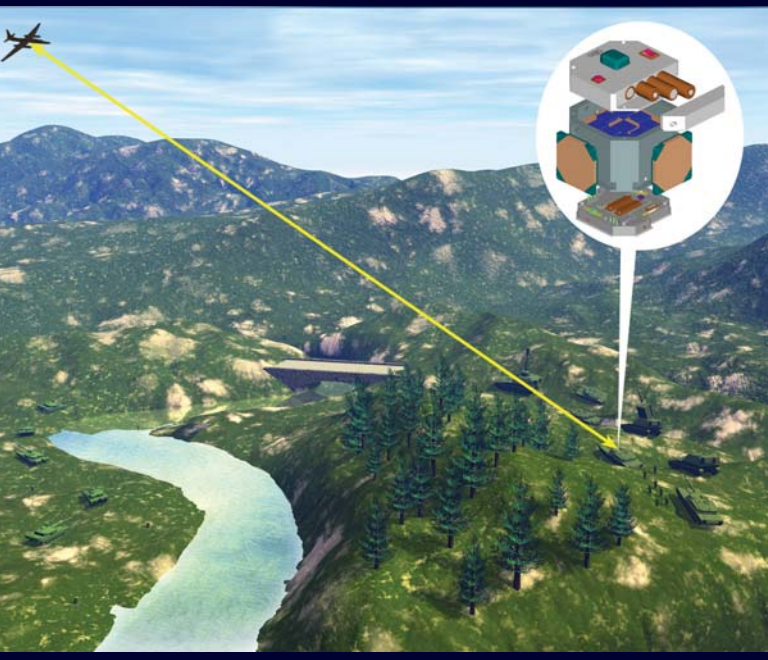
DRaFT
Digital Radio Frequency Tags



Programmable support
to multiple missions
and multiple sensors

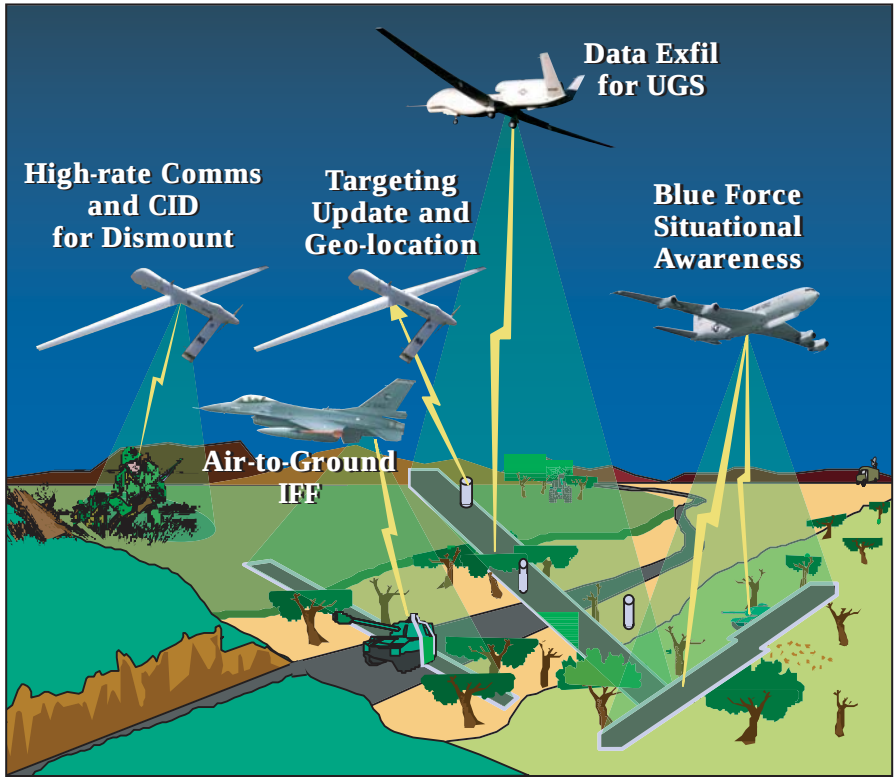
BAE SYSTEMS

DRaFT will provide for data exfiltration from unattended ground sensors and communication with vehicles and personnel throughout the battlespace. Particularly useful for the identification and location of coalition units, the DRaFT architecture can be exploited for other missions, enhancing U.S. situational awareness and combat identification. The DRaFT program is advancing tag performance in key areas such as data rate, with no impact to normal SAR and GMTI processing.

Features:

- High-bandwidth, long-range, two-way communication using X- and Ku-band SAR/GMTI radars
- Precise geolocation/Integral GPS
- Mission adaptable via software-only changes
- Standard external interfaces for adaptability and expandability
- Small, lightweight, affordable
- External or battery powered

Programmable support to multiple missions and multiple sensors



	Radars		Ground Systems
Current	JSTARS		Vehicles
	Global Hawk/U-2		UGS (generic interface)
	TESAR		Personnel (PDA display)
	TUAV/Lynx		
	Fighters (F-15, F-16, F/A-18, F/A-22, JSF)		
	Other		
Potential	All the above plus:		
	FOPEN	Longbow	FBCB2
	E-2C	P-3	GCCS
	B-1	B-2	UGS (integrated)
	BCIS/BTIDS		Personnel (OFW)

Mission Capabilities:

Enhanced Situational Awareness by Blue/Coalition/ Non-combatant Tracking

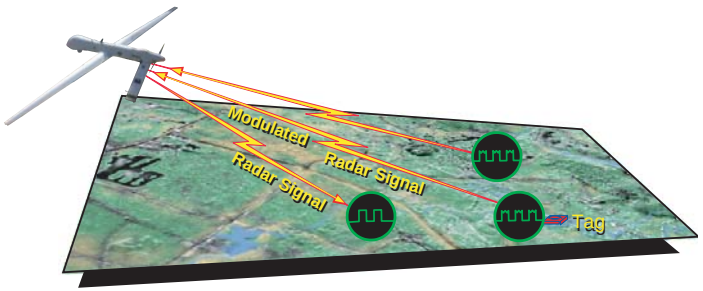
Air-to-Ground Combat ID to Reduce Fratricide

Data Extraction from Unattended Ground Sensors (UGS)

Combat Search and Rescue (CSAR)

Precision Target Registration via Reference to Known Location

Multiple radar interoperability and mission tailorable



DRaFT
Digital Radio Frequency Tags

BAE SYSTEMS' Digital Radio Frequency Tags (DRaFT) are radar transponders that use existing SAR and GMTI radar assets for high bandwidth, two-way communications over long ranges. DRaFT offers future combat forces assured real-time blue-force identification and a new high data rate exfiltration capability. Because each tag contains GPS, extracted data includes a unique ID and precise geolocation. While the initial application will be vehicle mounted, tags will eventually be carried by personnel in a form factor similar to a deck of cards, capable of supporting the Objective Force Warrior. Tags can operate either on external power or an integral battery.

DRaFT will perform air-to-ground IFF missions with completely unmodified radars. However, radar upgrades ranging from software to increased processing will expand mission capability, including higher communication data rates, lower latency, and improved performance.

DRaFT can be tied to sensors or data buses using standard interfaces to provide automatic and unattended data extraction, or they can uplink messages initiated by individuals. Because each tag is highly programmable, it is adaptable to multiple missions and radars through software modifications. This feature will provide a low-cost migration path for future mission requirements and radar systems.

DRaFT is the result of more than three years of cooperative development with DARPA. Extensive modeling and simulation of DRaFT designs, including algorithms that extract data from clutter, predict robust performance. Following integration and test, DRaFT prototypes in both X- and Ku-band will begin laboratory and field testing in 2003.

Situational Awareness and Reduced Fratricide for Blue/Coalition Forces

Long-range Communication Capability for Unattended Ground Sensors

Precision Targeting Aid

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Long-range Communication Capability for Unattended Ground Sensors

Precision Targeting Aid

DARPA

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