



Space Based Infrared Systems (SBIRS) Wing

SMC Industry Days 2007

Col Randall S. Weidenheimer
Commander
19 April 2007



Space Based Infrared Systems Wing

Mission:

Develop, acquire, and sustain space-based infrared surveillance, tracking and targeting capabilities for missile warning/defense and intelligence.

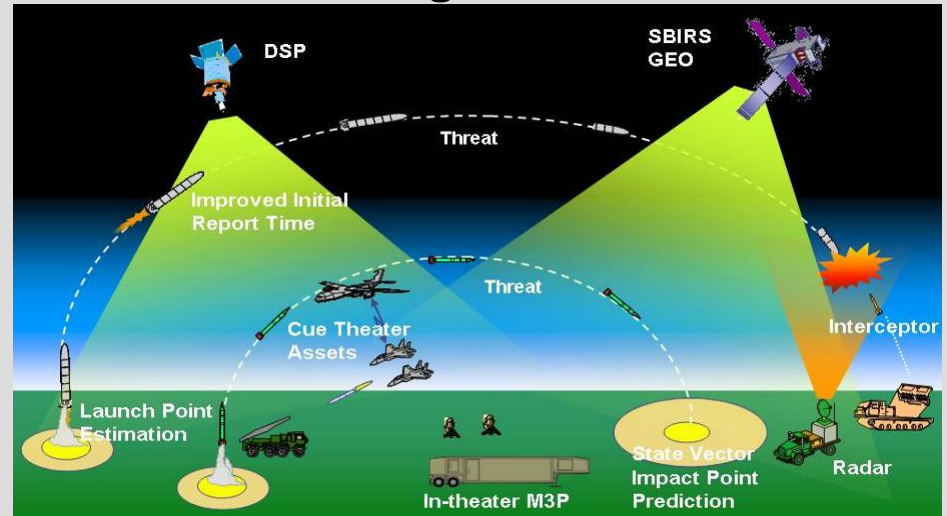


Col Randall Weidenheimer

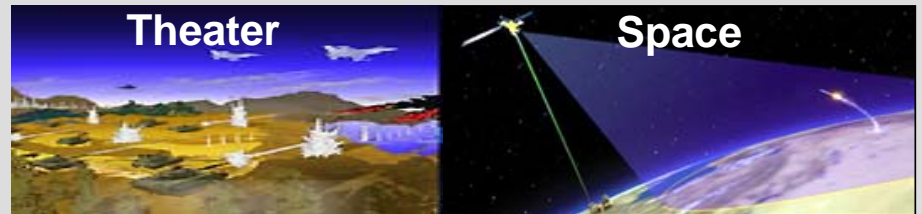


ISSW - FY08 PB (\$M)		
	FY07	FY08
TOTAL PROGRAM	\$775.50	\$1,157.60

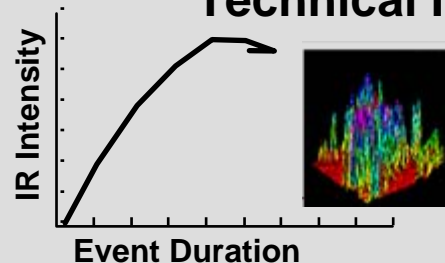
Missile Warning / Missile Defense



Battlespace Awareness



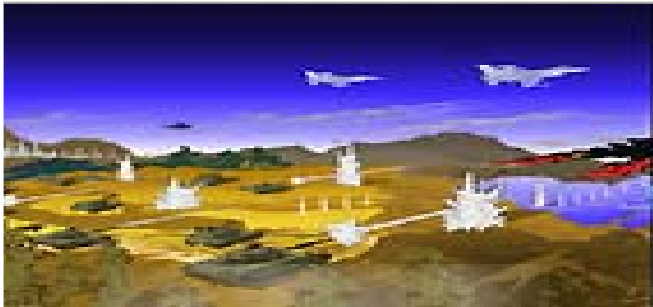
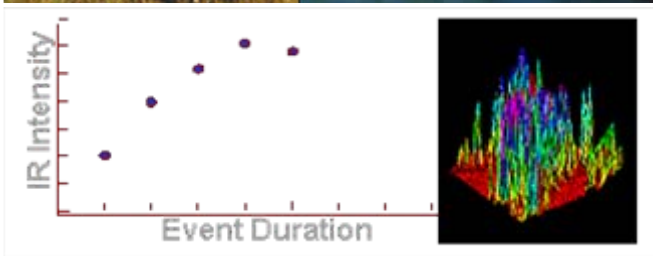
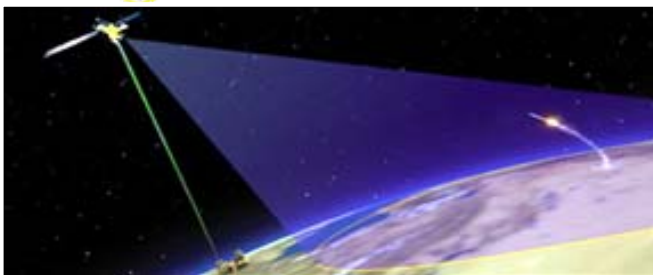
Technical Intelligence



- Missile characterization
- Space object signatures and characteristics
- Phenomenology
- Other target data



SBIRS Mission Capabilities

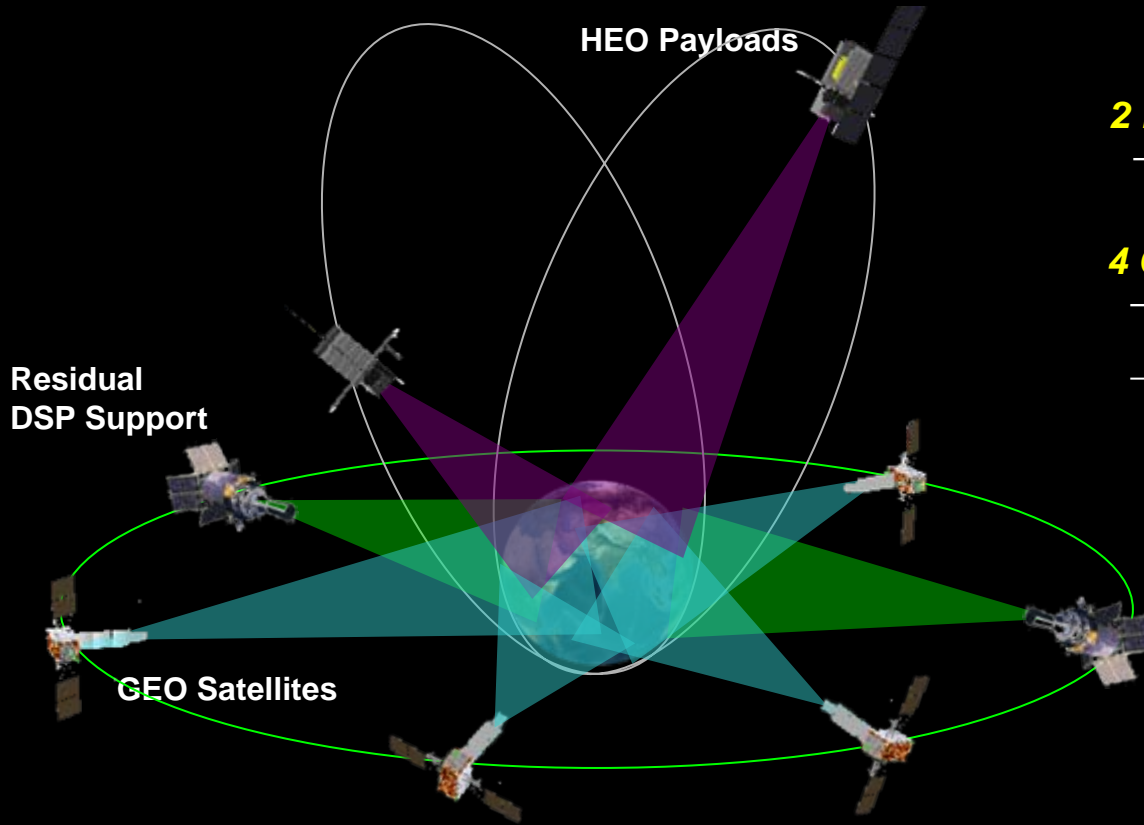


- **Missile Warning**: provide timely warning of strategic and theater ballistic missile attacks
 - Launch origin, missile typing, trajectory, impact point
- **Missile Defense**: detect track and cue missile defense systems
 - Provides better missile detection/tracking and hand-off to radar tracking and kill vehicle systems
 - Supports launcher detection, target discrimination and target hit/kill assessments
- **Technical Intelligence**: provide data to technical intelligence analysts
 - Multi-mode sensors to detect/collect on evolving threats
 - Characterize missiles and other IR events/signatures/phenomenology
- **Battlespace Awareness**: provide an “IR view” of the battlefield to the warfighter
 - Provide situational awareness/targeting/assessment for command, control, and execution of joint operations



SBIRS Architecture

(Restructured Dec 2005)



2 Highly Elliptical Orbit (HEO) Payloads

- Detect missile events in polar regions

4 Geosynchronous (GEO) Satellites*

- Provide mid-latitude global coverage for missile warning and additional missions
- * Only 3 GEO in current program content

Mission Control Station

- Control system operations
- Primary and backup facilities

Relay Ground Stations

- Relay downlinked satellite data to MCS
- Europe and Pacific locations

Multi-Mission Mobile Processors*

- Mobile units for user data receipt / processing
- Include survivable MCS and RGS
- * 9 M3Ps in original architecture; Current certified cost baseline does not include M3Ps



M3Ps



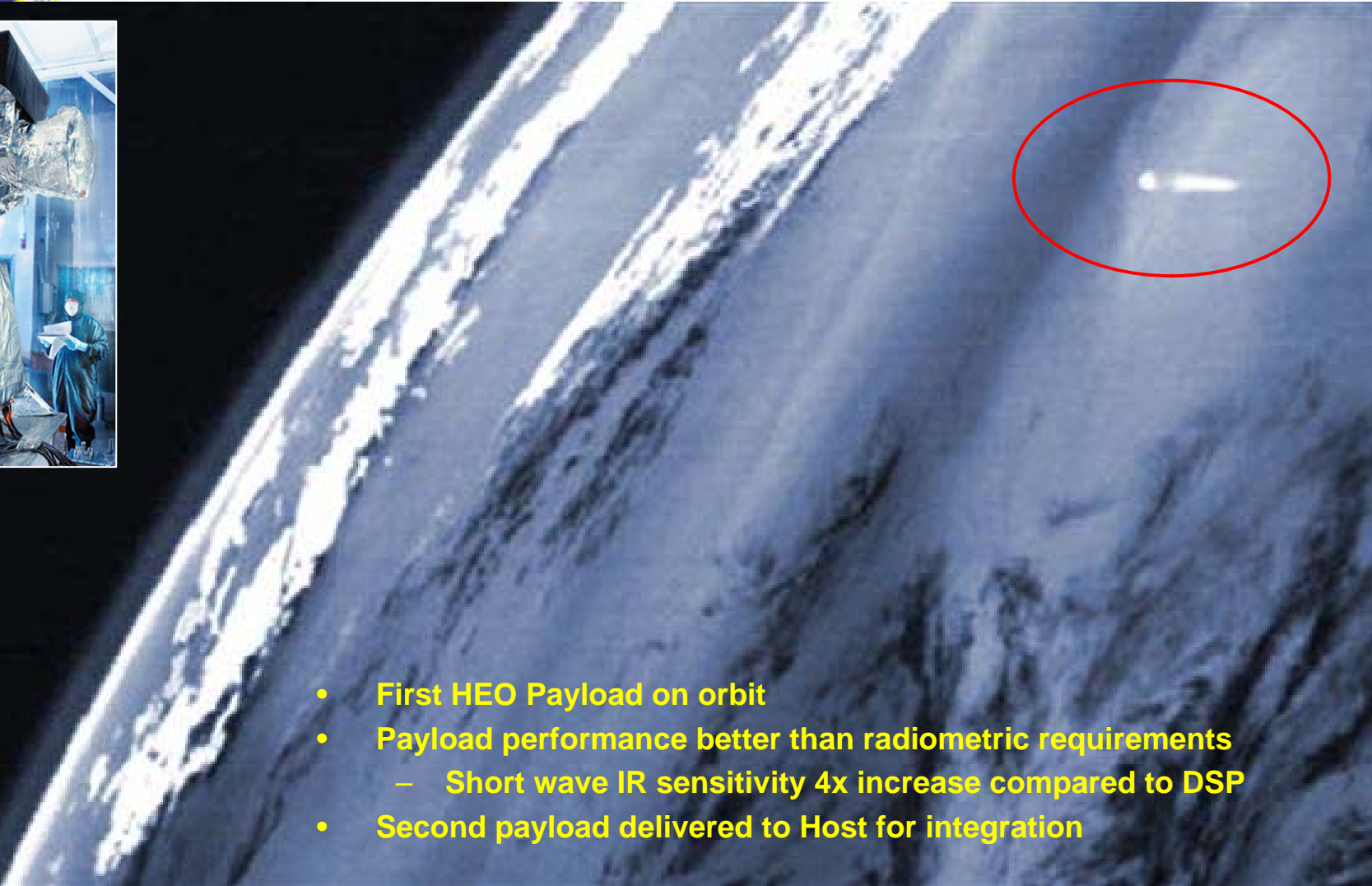
MCS



RGS (Europe & Pacific)



HEO Key Events & Status



- First HEO Payload on orbit
- Payload performance better than radiometric requirements
 - Short wave IR sensitivity 4x increase compared to DSP
- Second payload delivered to Host for integration

Image: HEO Collection of DMSP Launch on Delta IV MLV, VAFB / 4 Nov 06



GEO Key Events & Focus Areas



- GEO-1 Bus testing
 - Completed Bus TVAC testing Feb 07
 - Started post TVAC re-work Feb 07

- GEO-1 Payload acceptance tests
 - Completed Post Acoustic functional testing Jan 06
 - *Start Payload TVAC-2 testing Mar 07*



- GEO Intersegment tests
 - Completed Systems Interface checkout test Feb 07
 - Started SST-4101 Dry Runs Mar 07

- Ground GEO Early Orbit Test installations & test
 - Installed Interim Mission Control Station-Backup H/W Jan 07
 - Delivered GEOT-D S/W (13 days early) Jan 07
 - Approved plans for new ground S/W launch baseline Mar 07
 - Allows schedule compression between launch & ops cert

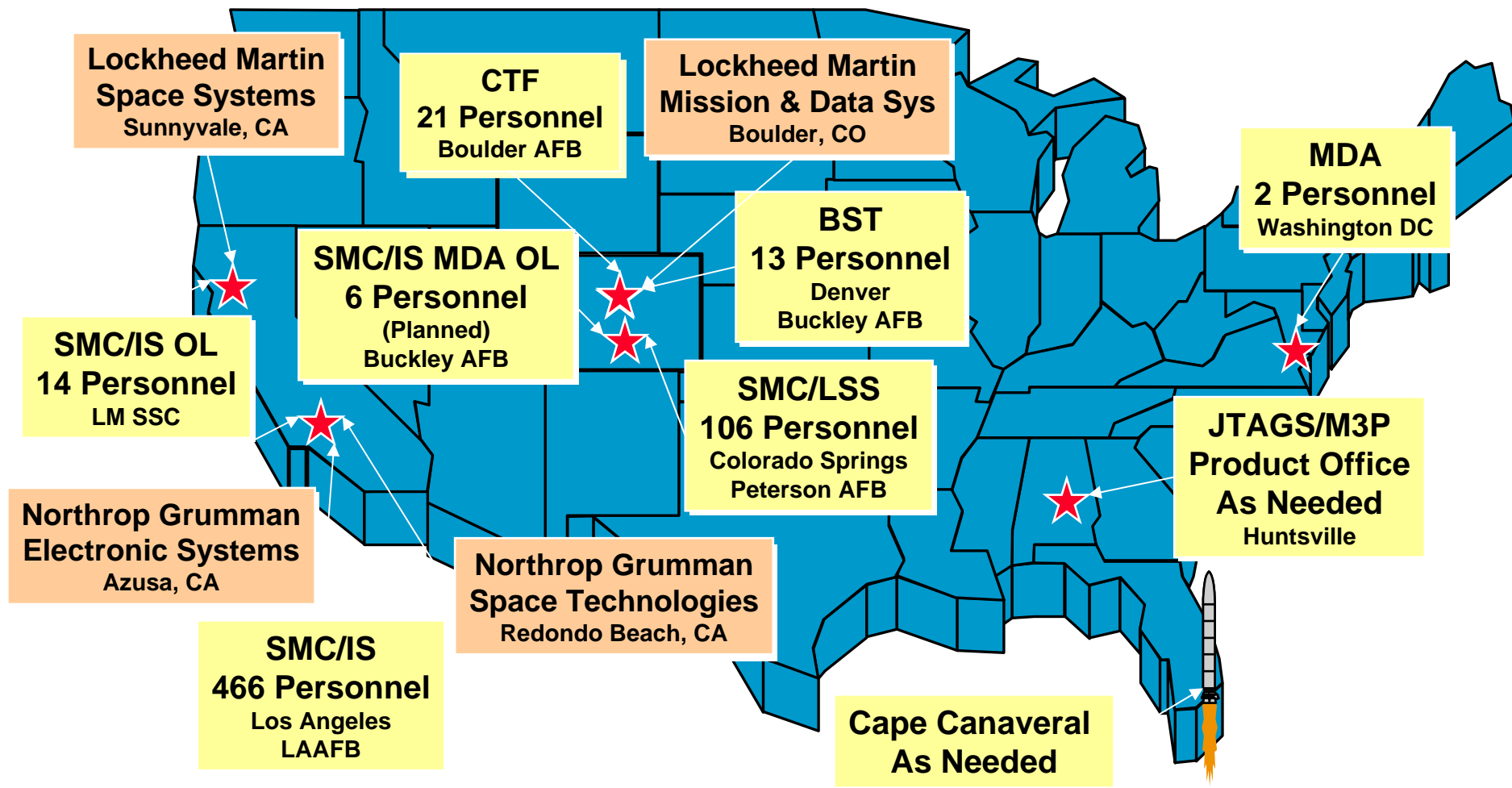
Focus Areas

- Management Reserve (Schedule / Cost); Near-critical path activities
- Crew Availability for Mission Control Station-Backup
- Ground Resource Contention (S/W dev/test, crew training, launch)
- Process Escapes – poor discipline / poor quality workmanship





SBIRS People, Places, and Major Contractors



SBIRS PERSONNEL			
Military: 120	Civilian: 69	FFRDC: 124 (103 SBIRS and 21 DSP)	Contr: 109

As of 30 Mar 07



Contact Info

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