USAF Space and Missiles Systems Center

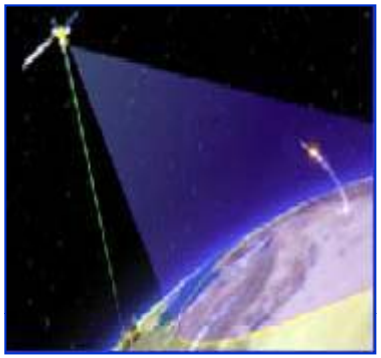
Missions Supported and Innovations in Context

ROBERTA M. EWART

Chief Scientist

SMC Mission Overview

Develop, acquire, field and sustain the world's best space and missile capabilities for the joint warfighter and the nation



Space Superiority

Space Situation Awareness
Defensive Counter Space
Offensive Counter Space

Space Support

Launch Systems
Spacelift Range
Sat Control & Network

Force Application

ICBMs
Prompt Global Strike

Space Force Enhancement

Milstar/AEHF(Comm)
DSCS/GBS/WGS(Comm)
GPS (Navigation)
DSP/SBIRS (Surv)
DMSP (Weather)
NUDET (Nuclear Detection)

Developing, Delivering, and Supporting Military Space Capabilities to Preserve Peace and Win Conflicts

A Brief History of SMC Developmental Innovation


NAVSTAR /GPS


CSEL


EELV

RAIDRS


Space Radar


Geodesic Phased Array Antenna


FALCON


3GIRS

Many operational DoD capabilities originated as XR projects

Project 621B

Satellite as a Sensor

SBR Space Sensor Study

ORS TACSATS Small LV Study

SBIRS Alt

Development Planning Studies

Current Studies

- *ORS*
- *LVDP*
- *PGS*
- *GPS NDS Alt*

Consolidated Mission Architecture
GPS A-side/b-side Multi-mission concept

Space Based SDI Weapons

Distributed Satellite Formations

INMILSAT

CSOS
Commercial Space Opportunity Study

GMSP
Global Multi-mission Service Platform

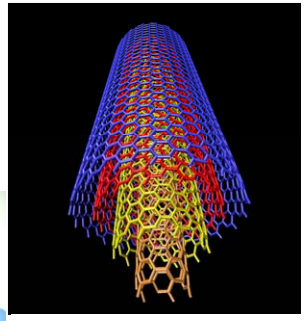
LTA
Lighter than Air

ARES
Affordable Reusable Spacelift

GPS has had the most positive impact on our operations, while distributed satellite formations have not met their potential

Key Innovation Factors

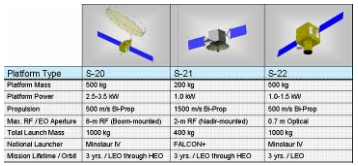
3 key factors must be balanced for innovation to occur: Identify, Mature and Transition innovative entities



. Multi-wall CNT

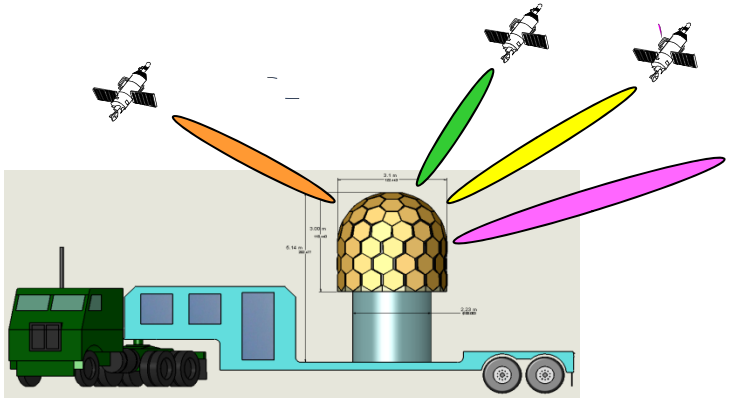
Future Lift

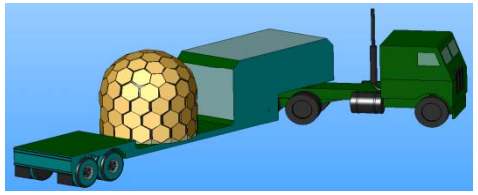
CNT Wire



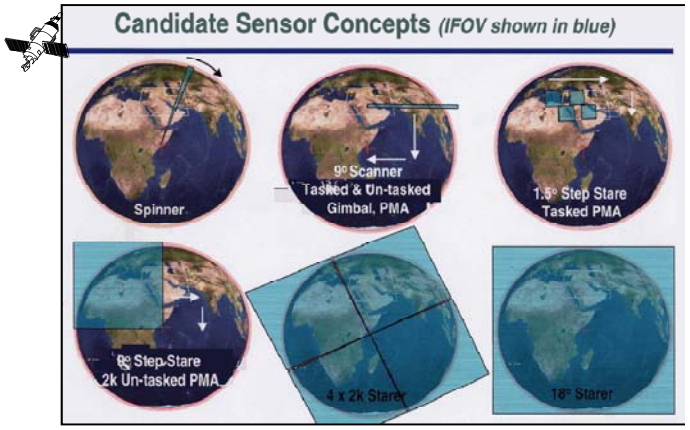
Future ORS SV

Rideshare/Secondary





Future Mobile AFSCN/ GDPAA



Future Sensors