

Advanced Systems & Development



Breaking (Space) Barriers for 50 Years: The Past, Present and Future of the DOD Space Test Program

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Director, DOD Space Test Program



August 9, 2017



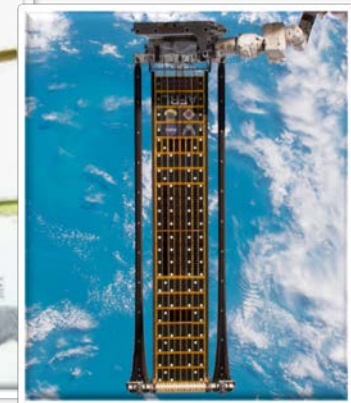
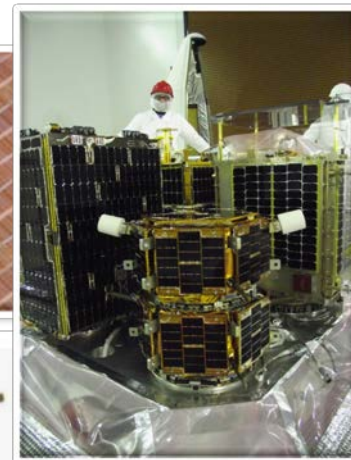
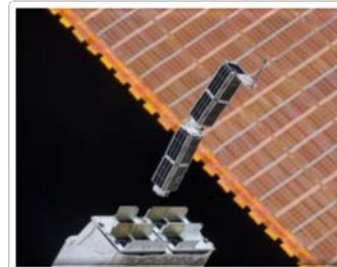
The STP Mission

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“...provide mission design, spacecraft acquisition, integration, launch, and on-orbit operations for the maximum number of DoD... experiments, consistent with priority, opportunity, and available funding.” – STP Management and Funding Policy

“The STP has been designated as the “front door” for all DoD auxiliary payloads (APLs) on DoD, civil and commercial launches, and for all non-DoD APLs seeking launch opportunities on DoD Missions.” – STP AFI 10-1202; AR 70-43; OPNAVINST 3913.1B

“Single manager for all DoD payloads on the ISS, future manned and unmanned NASA launch vehicles...” – STP AFI 10-1202; AR 70-43; OPNAVINST 3913.1B



**50 Years, 258 Missions, 569 Experiments
And Counting...**

Numbers current as of 3 Jul 2017

Envisioning and Shaping the Future of Space

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50th Anniversary of STP

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Launch Vehicle: Thor-Burner II

Launched: 29 June 1967

Partners:

- Army Corps of Engineers
- Office of Naval Research

Mission:

- Sequential Collation of Range (SECOR 9) - used to improve geodetic survey accuracy worldwide
- Aurora 1 - analyzed background radiation in UV wavelengths



Tri-service Mission Supporting Army/Navy Space Needs

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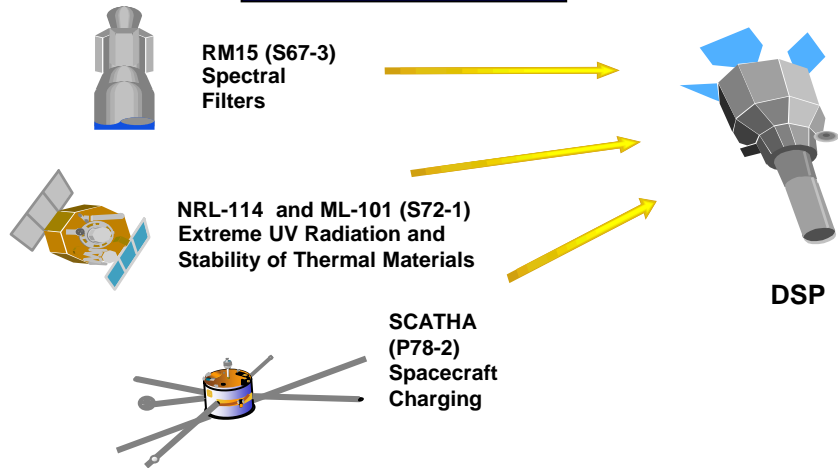
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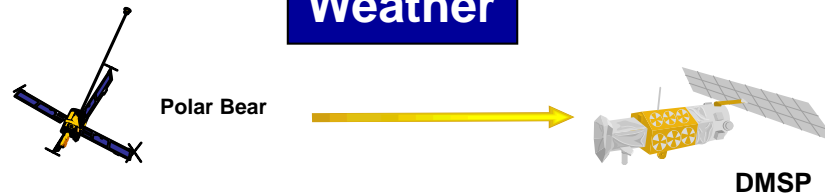
A Legacy of Transformation

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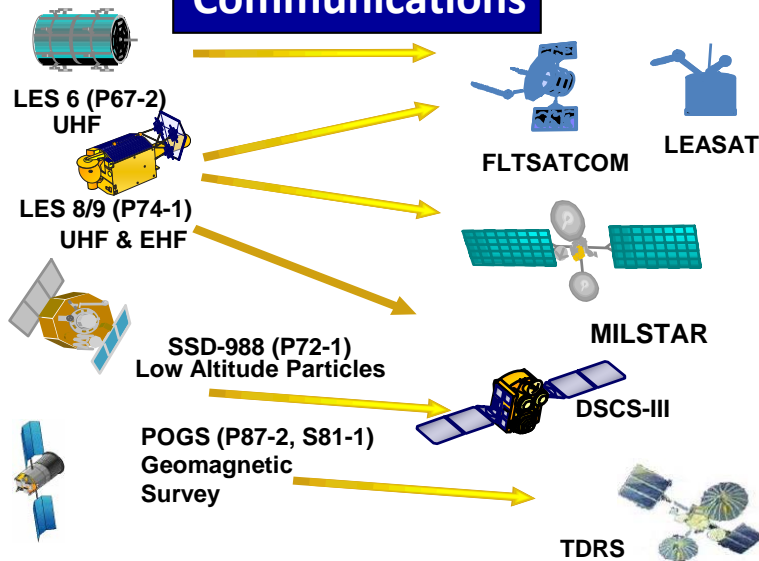
Surveillance



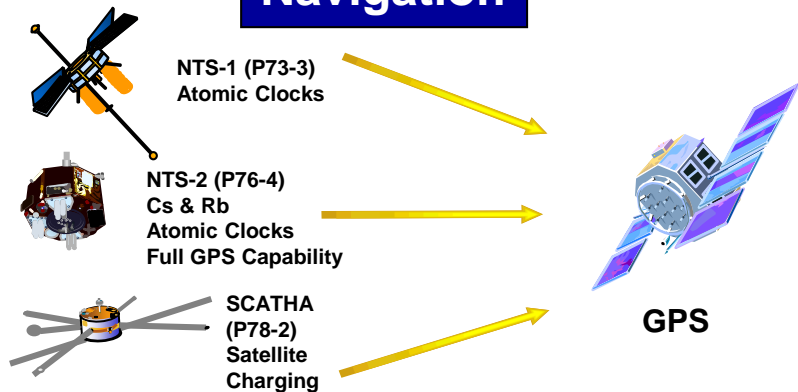
Weather



Communications



Navigation



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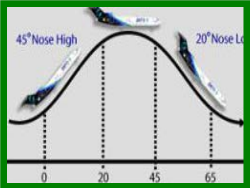





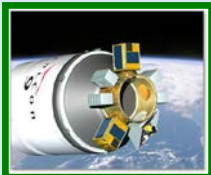


2017: A Spectrum of Affordable Space Access

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Instruments/Small Payloads

Small Free-flyers

Medium Free-flyers

	Zero-G / Suborbital	S/C Payload Hosting (LEO to GEO)	Orbiting Platforms (LEO)	Free-flyer Rideshare (LEO to GEO)	Small Launch (LEO)	Medium/ Heavy Launch (LEO to GEO)
Current Capabilities	<ul style="list-style-type: none"> • "Vomit Comet" • Sounding Rockets 	<ul style="list-style-type: none"> • Spacecraft Procurement (w/ payload integration) <ul style="list-style-type: none"> • "One-off" SMC acquisition • Other agency IDIQ contracts • Govt Hosted Payloads • Commercially Hosted Payloads (HoPS) • SMC Spacecraft IDIQ Contract 	<ul style="list-style-type: none"> • ISS: internal and external • ISS deployable: cubesats and nanosats 	<ul style="list-style-type: none"> • Government Rideshare <ul style="list-style-type: none"> • ESPA • Aft Bulkhead Carrier • NASA ISS Resupply 	<ul style="list-style-type: none"> • OSP-3 • NASA Launch Services • "One-off" launch service acquisition 	<ul style="list-style-type: none"> • EELV • OSP-3 • "One-off" launch service acquisition 
Future Capabilities	<ul style="list-style-type: none"> • SRP-4 Suborbital 	<ul style="list-style-type: none"> • Long Duration Propulsive ESPA as a hosting platform 	<ul style="list-style-type: none"> • X-37B to host/deploy payloads • Cyclops deployer on the ISS for larger spacecraft 	<ul style="list-style-type: none"> • Commercial Rideshare <ul style="list-style-type: none"> • GSA Schedule • IDIQ Contract • Propulsive ESPA as a deployment platform 	<ul style="list-style-type: none"> • SRP-4 orbital • New venture class small launch initiatives 	<ul style="list-style-type: none"> • EELV Heavy Class 

Full Spectrum DoD Small Payload Rideshare Support



Path to STP Support

SERB

DoD SERB

Design Mission
and Implement
Manifest Process

Executable STP
Mission

Reimbursable

Use STP as
executing agent

Design Mission
and
Provide ROM

Executable
Reimbursable
Mission

Rideshare

Partner
with STP

ID Shared Roles
and
Responsibilities

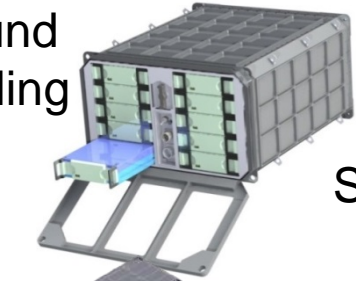
Executable
Rideshare



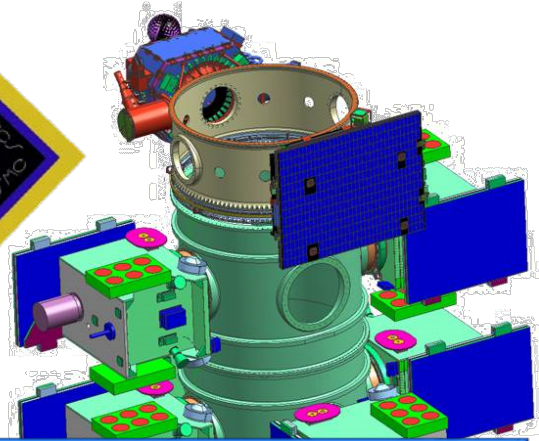
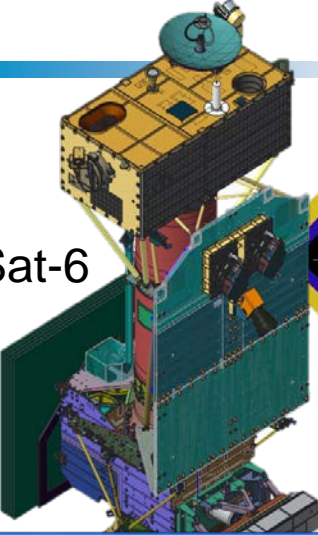
Current and Future Missions

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Wound Healing



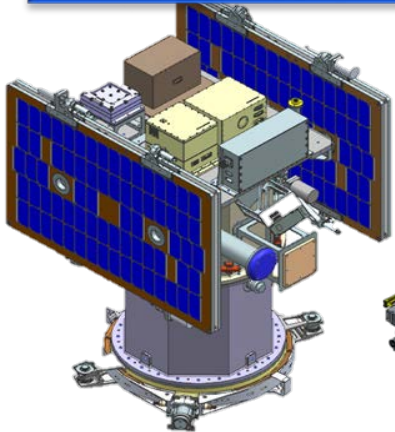
STPSat-6



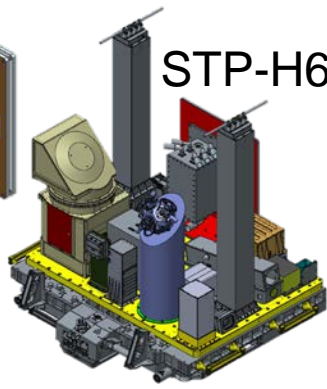
STPSat-4



30 Satellites and 54 SERB Experiments in the Next 2 Years



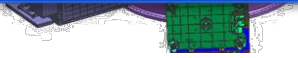
STPSat-5



STP-H6



Kestrel Eye II



STP-2



ASETS II

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Diagrams reprinted courtesy of the USAF



1967-2017

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