



COMMERCIAL SPACE LESSONS

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AGENDA

Parsons Commercial Space Lessons

- My Background
- Parsons Corporation
- Space Ground System Evolution
- Comparison of 2 US Govt - Commercial Programs
- Lessons Learned

MY BACKGROUND

- **Operations on the Satellite Control Network (SCN) since 1986**
 - Worked with and mentored by contractors who started in 1958
- **25 Years in the USAF almost entirely on space related efforts**
 - Bought and deployed commercial solutions, partnered with contractors
- **3 deployments to Afghanistan, Qatar and Iraq**
 - Bought and deployed commercial solutions, partnered with contractors
- **13 Years in industry delivering commercial space products and commercial space services**



PARSONS CORPORATION

Delivering innovative solutions that make the world safer, healthier, and more connected.



Critical Infrastructure

Connected Communities & Mobility Solutions

- Airports
- Bridges and highways
- Clean water
- Critical infrastructure
- Environmental remediation
- Industrial systems
- Rail
- Urban mobility
- Zero emissions
- Broadband



Federal Solutions

Defense and Intelligence & Engineered Systems

- Advanced military technologies
- Border security technology
- Chemical demilitarization
- AI, advanced data and analytics
- Law enforcement information technology
- Warfighter training
- Missile defense
- Renewable energy
- Full Spectrum cybersecurity
- Next-gen air traffic control
- Space operations
- Space ground control
- Geospatial
- C5ISR
- Biometrics

SEGMENTS



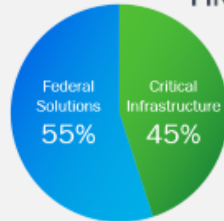
Critical Infrastructure
Lead smart, sustainable infrastructure deployment



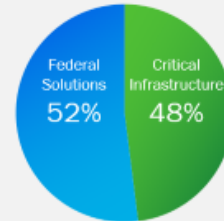
Federal Solutions
Deliver information dominance across all domains

FINANCIAL SNAPSHOT

\$5.1B
Total Revenue
Trailing 12-Months (Q3 2023)



\$5.9B
Contract Awards
Trailing 12-Months (Q3 2023)



KEY FACTS AND FIGURES



80
Years Of History



~ 18K
Employees



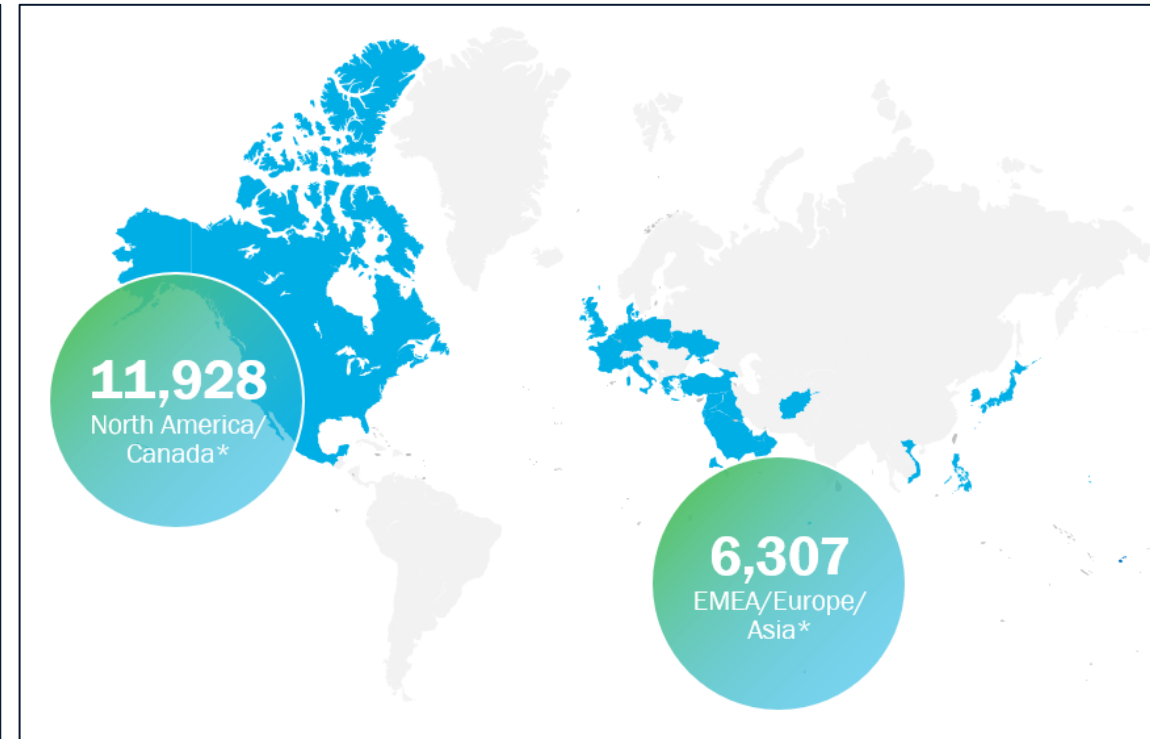
\$307M
Cash Flow From Operations
Trailing 12-Months (Q3 2023)



1.2X
Book-To-Bill Ratio
Trailing 12-Months (Q3 2023)



\$8.8B
Backlog As Of
9/30/2023





SPACE GROUND SYSTEM EVOLUTION

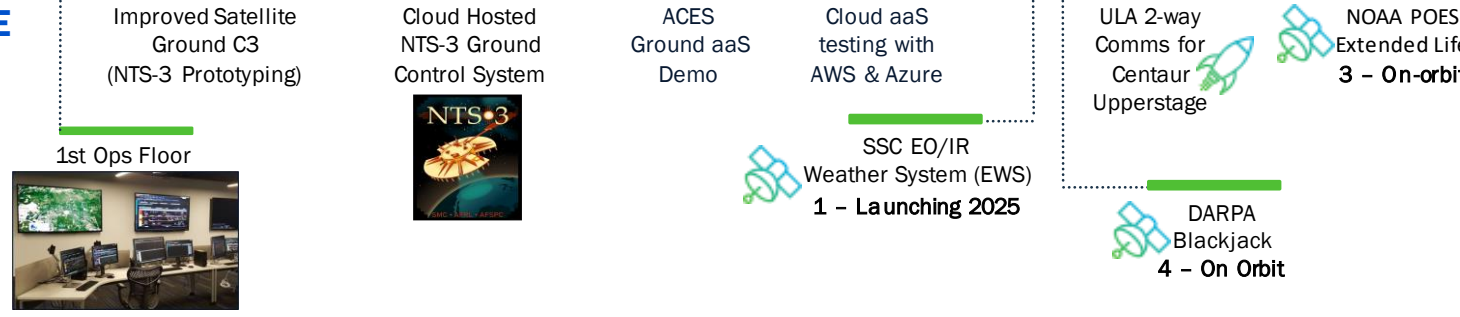
From stand-alone COTS Products to Ground as a Service

Providing ground system products since 1998 and now using them to provide as-a-Service options



SUPPORT TO OVER 180 SPACE GROUND SYSTEMS WORLDWIDE

DoD / IC									
ARCS	CORD	GeoRobotics	GTG	MUOS	PGMM	SASSA	STPSat-3	TIE	
Bean Dip	Coriolis	FREND/Phoenix	INTOP	NEMO	Phoenix	SBIRS	STPSat-4	Upper Stage	
Biarri	Crow's Nest	GLADIS	Jalepeno	NFIRE	Project 7	SBSS	SUMO	WASP	
CARINA	DMSP	GPIM	JMAPS	NTS-3	Project 8	SENSE	T2E	WFOV Payload	
Clementine	DSCS	GPS-III	Kestral Eye 2	ORS Phase III Bus	QBX	SnAP	TACSAT	WFOV	
CLEO	DSP	GPS-III	LAPIS	ORS-1	Queso	SSULI	TacSat-1	WGS	
Colony 1 Cubesat	DSX	GPS-IIR	MC3	ORS-2	RPP	STARE	TacSat-2	Windsat	
COMmX Payload	Fountainhead	GPS-IIRM	Minuteman-III	ORS-5	RSGS	STPSat-2	TETRA-2	Blackjack	
Civil									
ACE	COSMIC-2	GIFTS	HESSI	Jason-2	Messenger	RBPS-2	STSS	TRIANA	
AIM	DAWN	GLAST	Hubble	Jason-3	NASA Restore	SECCHI	Super Nova	URM	
ALICE	EO-1	GLORY	IBEX	JPS	NEAR	SIRTF	SWIFT	X-33	
AQUA	FAME	GOES	ICESAT	JWST	New Horizons	SNOE	TDRS	X-38	
AURA	FAST	GOES-R	ICESAT-2	LADEE	NPP	SOHO	TERRA		
CASSINI	FUSE	GP-B	ICM	LandSat-5	OCO	SORCE	THEMIS		
CNOFS	GALEX	GPM	IJPS	LandSat-7	OCO-2	Spacelab	TIMED		
CONTOUR	GCOM	GRACE-1	ISS	LDCM	POES	STEREO	TRACE		
Commercial & International									
Atlantic Bird-7	EchoStar-X	Galaxy 18	IM-4	Intelsat-21	MTSAT	SCISAT	TET		
Calipso	EchoStar-XI	Galaxy 19	Inmarsat-4	JCSat-9	NEOSAT	SICRAL-1B	Thuraya-3		
Capricorn	Eutelsat-70B	Galaxy-16	Intelsat-18	KoreaSat-5	RADARSAT	TANDEM-X			
DirectTV-11	FedSAT	HTV	Intelsat-19	MetOp	ROCKSAT	TERRARSAR-X			



LEGEND

- █ COTS
- █ GOTS
- █ aaS



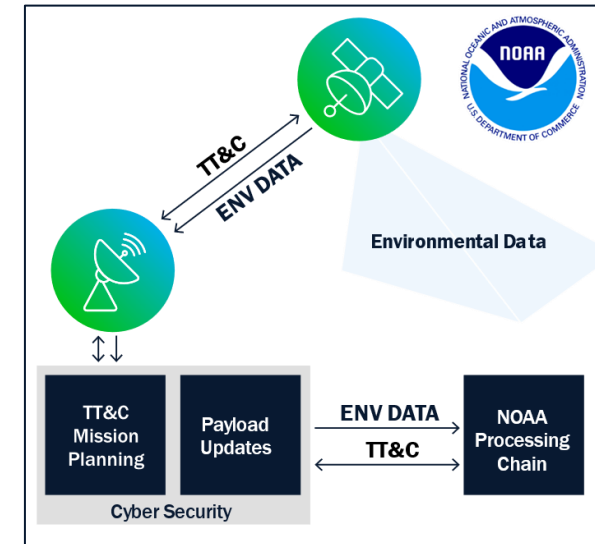
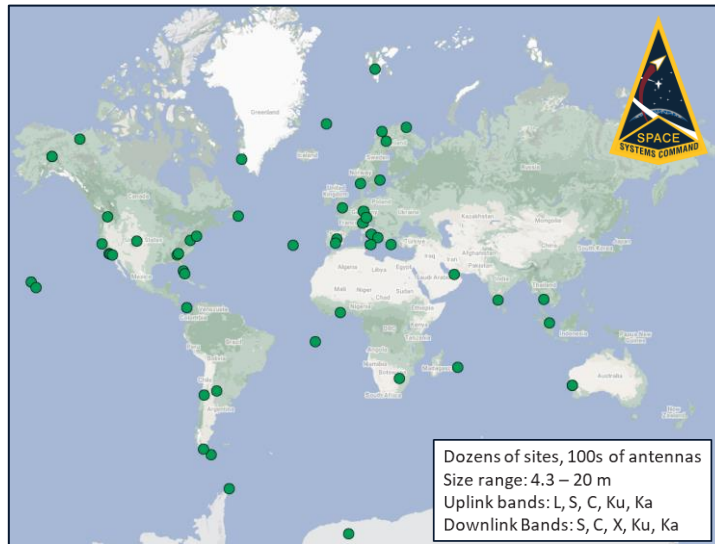
COMPARISON OF 2 US GOVT - COMMERCIAL PROGRAMS

Commercial Augmentation Service (CAS)

- PoP: August 2013 - ongoing
- Awarded by AFRL, Transferred to SSC April 2020
- Use of commercial antennas operated by KSAT, Swedish Space Corp, Viasat and Intelsat
- On-prem GOCO control center
- ATO, 24/7 cyber security monitoring

NOAA POES Extended Life

- PoP: September 2022 – ongoing, SCA Nov 2023
- Commercial Ops a a Service for 3 POES satellites
- Commercial ground system with commercial antennas operations by Parsons and KSAT
- Azure Cloud hosted with Parsons owned C2
- ATO, 24/7 cyber security monitoring





LESSONS LEARNED

- **Advantages of partnerships**
 - Government with Commercial
 - Commercial to Commercial
- **Commercial procurement and aaS**
- **Managing risk**
- **Frequency licensing**
- **Requirements**
- **Over classification**
- **ICDs and documentation are never 100% accurate**
- **Staff turn-over, architectures and technologies**