

Using the Decision Tree to Help Scientists Navigate the Commercial Access to Space (ATS) Options

Bob Caffrey, NASA/Goddard Space Flight Center
robert.t.caffrey@nasa.gov



D2 – Commercial Hosted Payload (HP) Options/Contacts

Satcom Owner/Operators		
Vendor	Name	Email/Website
Intelsat General	Rory Welch	Rory.Welch@intelsatgeneral.com
SES Government Solutions	Bryan Benedict Todd Gossett	bryan.benedict@ses-gs.com todd.gossett@ses-gs.com
Eutelsat America	Eric Moltzau	emoltzau@eutelsatamerica.com
Inmarsat	R. Cohen-Hirsch	www.inmarsat.com
Telesat	Rich Pang	richpang@telesat.com
	Gerry Jansson	GJansson@telesat.com
EchoStar	Derek de Bastos	www.echostar.com

Mission-as-a-Service Provider		
Vendor	Name	Email/Website
GEO Share	Lon Levin	www.geoshare.com
Loft Orbital	Andrew Berg	andrew@loftorbital.com
Momentus	Negar Feher	negar@momentus.space
	Max Brand	Max.Brand@Momentus.space
Spaceflight, Inc.	Valerie Skarupa	Valerie@spaceflight.com

Space Station Hosted Payload Provider		
Vendor	Name	Email/Website
Airbus	Bill Corley	bcorley@airbusdshouston.com
Nanoracks	Ajeeth Ibrahim	aibrahim@nanoracks.com
	Mary Murphy	mmurphy@nanoracks.com
	Mike Lewis	mlewis@nanoracks.com

Launch Vehicle Upper-stage Hosted Payload Provider		
Vendor	Name	Email/Website
Firefly	Eric Salwan	eric@firefly.com
Northrop Grumman	John Dyster	John.Dyster@ngc.com
	Andy Haaland	andrew.haaland@ngc.com
Rocket Lab	Richard French	r.french@rocketlabusa.com
Virgin Orbit	Janice Starzyk	Janice.Starzyk@virginorbit.com
	Stephen Eisele	Stephen.Eisele@virginorbit.com

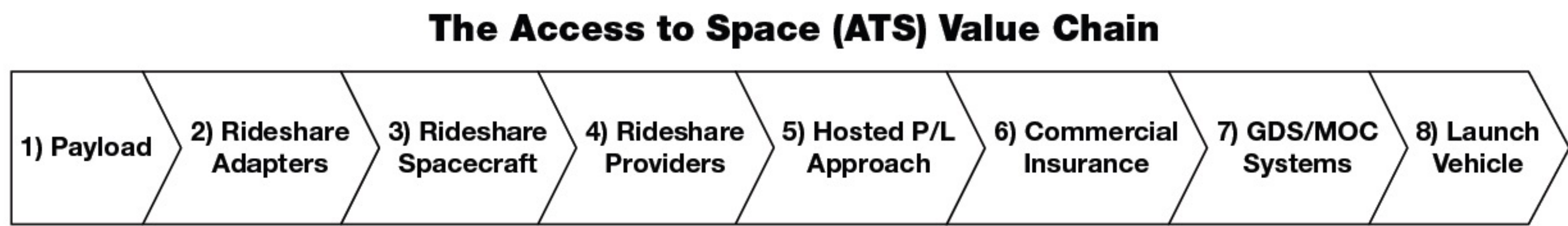
Spacecraft / Condo-sat Hosted Payload Provider
See the list of rideshare spacecraft providers

D5 – Small L/V Options/Contacts

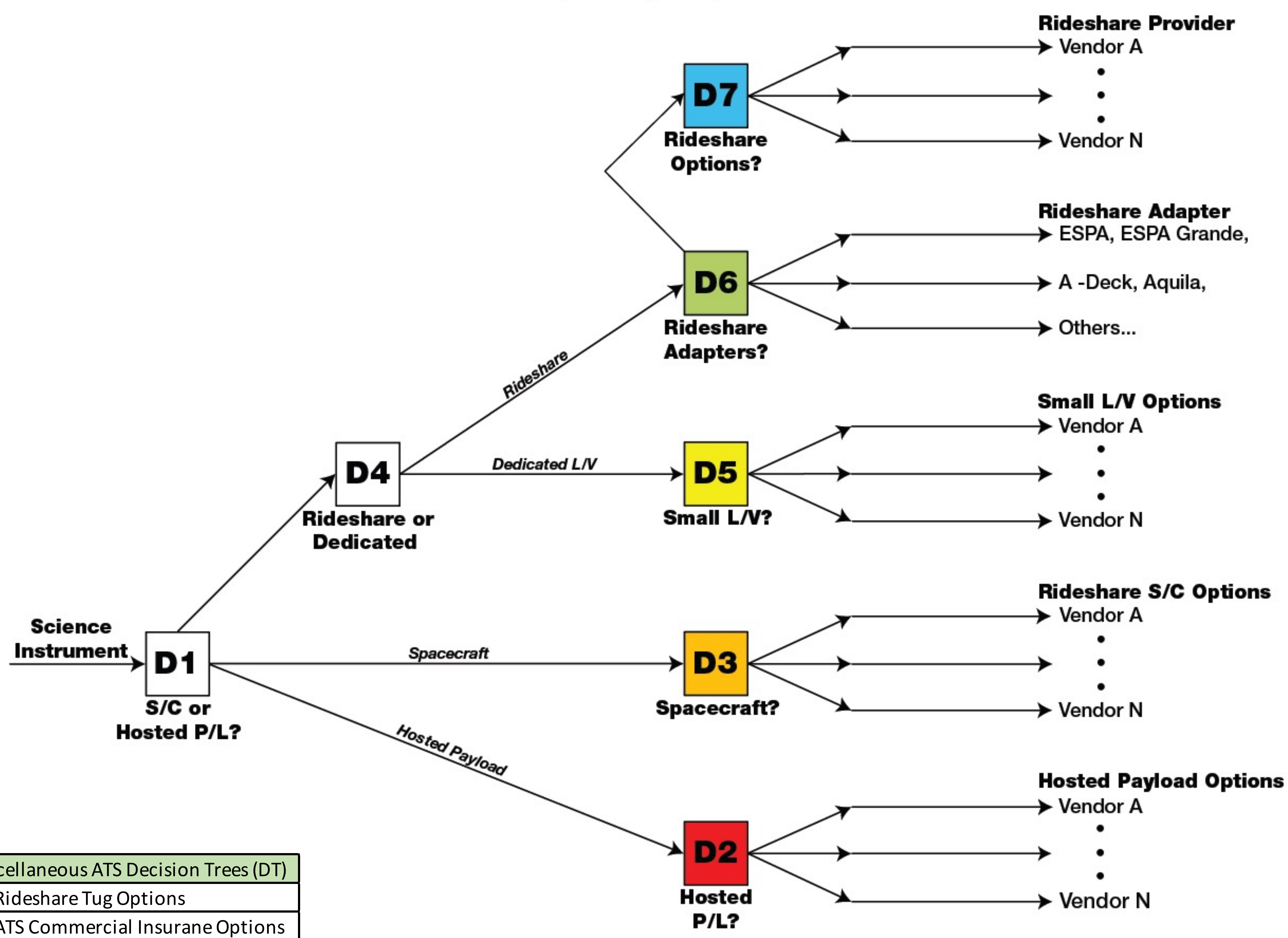
Vendor	Name	Email/Website
ABL Space Systems	John Conafay	www.ablspacsystems.com
Firefly	Eric Salwan	eric@firefly.com
Northrop Grumman	Warren Frick	Warren.Frick@ngc.com
Relativity Space	JR Francis	www.relativityspace.com
Rocket Lab	Brian Rogers	launch@rocketlabusa.com
Virgin Orbit	Janice Starzyk	Janice.Starzyk@virginorbit.com
	Stephen Eisele	Stephen.Eisele@virginorbit.com
VOX Space (Virgin Orbit US)	Wade McElroy Gilbert Tseng	Wade@voospace.com gilbert@voospace.com

D8 – Rideshare Tug Options/Contacts

Vendor	Name	Email
ExoTerra	Mike VanWoerkom	mvanwoerkom@exoterracorp.com
Momentus	Negar Feher	negar@momentus.space
	Max Brand	Max.Brand@Momentus.space
Moog	Chris Loghry	cloghry@moog.com
Northrop Grumman	Tim Rumford	Timothy.rumford@ngc.com
	John Dyster	John.Dyster@ngc.com
Spaceflight, Inc.	Valerie Skarupa	Valerie@spaceflight.com
	Phil Bracken	Pbracken@spaceflight.com



The Access to Space (ATS) Decision Tree



Miscellaneous ATS Decision Trees (DT)

- D8 Rideshare Tug Options
- D9 ATS Commercial Insurance Options

D3 – Rideshare Spacecraft (RSC) Options/Contacts

Vendor	Name	Email/Website
Ball Aerospace	Rob Baltrum	rbaltrum@ball.com
Blue Canyon	Josh Duncan	jduncan@bluecanyontech.com
	William Doyle	William.Doyle@ga.com
Boeing	Patricia Strong	Patricia.A.Strong@boeing.com
	Brent Marquand	Brent.Marquand@ga.com
General Atomics	Erin Jones	Erin.Jones@ga.com
	Brian Rider	www.leostella.com
Leostella	Laurie Chappell	www.maxar.com
Maxar	Jeff Ward	jeff.ward@millennium-space.com
	Natalie Watson	Natalie.Watson@millennium-space.com
Millennium-Space	Steven Thompson	steve.thompson@millennium-space.com
	Chris Loghry	cloghry@moog.com
Moog	Tim Rumford	Timothy.rumford@ngc.com
Northrop Grumman	John Dyster	John.Dyster@ngc.com
	Barry Allison	barry.allison@sncorp.com
Sierra Nevada	Tim Flora	tim.flora@sncorp.com
	Jarrod McLachlan	rideshare@spacex.com
SpaceX	Jeffrey Kwong	www.tyvak.com
Tyvak	Melanie Preisser	melanie.preisser@yorkspacesystems.com
YorkSpace		

D6 – Rideshare Adapter Options/Contacts

Vendor	Name	Email/Website
ALS	Anthony Kyriakidis	akyriakidis@adaptilaunch.com
CASA/Airbus	Pablo Lario Perea	pablo.lario-perea@airbus.com
Redwire	Greg Sanford	greg.sanford@redwirespace.com
Moog	Joe Maly	jmalym@moog.com
RUAG	Albert Thuswaldner	www.ruag.com

D7 – Rideshare Provider Options/Contacts

Vendor	Name	Email/Website
Blue Origin	JB Kalin	JKalin@blueorigin.com
	Kiah Erlich	KErlich@blueorigin.com
Maverick Space	Roland Coelho	roland@maverickspace.com
Maxar	Laurie Chappell	www.maxar.com
	Ajeeth Ibrahim	aibrahim@nanoracks.com
Nanoracks	Mary Murphy	mmurphy@nanoracks.com
	Mike Lewis	mlewis@nanoracks.com
	John Dyster	John.Dyster@ngc.com
Northrop Grum.	Andy Haaland	andrew.haaland@ngc.com
Parsons Space	Richard Waterman	richard.waterman@parsons.com
Spaceflight, Inc.	Valerie Skarupa	Valerie@spaceflight.com
SpaceX	Jarrod McLachlan	rideshare@spacex.com
TriSept L & InT	Jason Armstrong	Launch@trisept.com
ULA	Katie Bair	Katherine.A.Bair@ulalaunch.com
Xtenti	Dan Lim	dlim@xtenti.com

D9 – ATS Insurance Options/Contacts

Insurance Provider	Website
Assure Space	http://www.assure-space.com/
AXA XL	https://axaxl.com/insurance/products/space-insurance
PartnerRe	https://partnerre.com/risk-solutions/aviation-space/
Starr	https://www.starrcompanies.com/Insurance/Aviation-and-Aerospace
Insurance Broker	Website
AON	https://www.aon.com/industry-expertise/space.jsp
Marsh	https://www.marsh.com/us/industries/aviation-aerospace.html
Gallagher	https://www.ajg.com/uk/aerospace/space-satellite-insurance/

Rideshare Spacecraft/Adapter Capabilities

No.	Rideshare Carrier / Spacecraft	Max S/C	Volume	S/C Interface	Fastener Size	Comments
1a	ESPA (1 of 6 ports)	257kg	24"x28"x38"	15" cir.	1/4"	S/C height driven by faring (4m v. 5m)
1b	ESPA Heavy (1 of 6 ports)	450kg	24"x28"x38"	15" cir.	5/16"	Ring height & port number/size options
2a	ESPA Grande (1 - 4 ports)	700kg	42"x46"x56"	24" cir.	1/4"	S/C height driven by faring (4m v. 5m)
2b	ESPA Grande Heavy (1-4)	700kg	42"x46"x56"	24" cir.	5/16"	Ring height & port number/size options
3.0	A-Deck/Aquila	~1,000	56-diax60" h	24/38" cir.	---	A dual-spacecraft adapter for taller s/c
4.0	Propulsive ESPA S/C	~2,800	4m-diax24" h	62" dia.	---	Ports for Rideshare P/L or Hosted P/L
5.0	Propulsive ESPA Grande	~4,400	5m-diax42" h	62" dia.	---	Ports for Rideshare P/L or Hosted P/L

* ESPA Port P/L capacities assume P/L center of gravity at 20 inches (50.8 cm). * Capacities decrease to 485 lb, 710 lb, and 1026 lb (220 kg, 322 kg, and 465 kg) if utilizing the heritage ESPA load factors (8.5g/8.5g) regardless of P/L mass.
** See Moog's ESPA Users Guide for more information on the ESPA options (https://www.moog.com/)

Commercial Rideshare Spacecraft Options									
Rideshare Adapter	Ball Aerospace	Blue Canyon Technologies	Boeing	General Atomics (GA)	Millennium Space Sys.	Moog Space & Def.	Northrop Grumman	Sierra Nevada Corp. (SNC)	York Space Systems
ESPA Class Spacecraft	BCP Small BCP Small EP	X-SAT Venus	Boeing/502XS	SSTL-150 ESPA	ALTAIR	---	ESPAStar	SN-30L, SN-50G, & SN-50L	S-CLASS Spacecraft
ESPA Grande Spacecraft	BCP Small	X-SAT Saturn	Boeing/502S	SSTL-300	ALTAIR	---	ESPAStar	SN-100L, SN-200L, & SN-200G	LX-CLASS Spacecraft
A-Deck Class Spacecraft	BCP Med/Large	X-SAT Saturn	Boeing/502M	SSTL-600	WFOV (AQUILA M8)	---	LeoStar-2 GeoStar-1	SN-200	---
Prop. ESPA Spacecraft	BCP Small/Med.	---	---	SSTL-600	Millennium/OMS	SL-OMV	ESPAStar	SN-1000	---
Propulsive ESPA Grande	BCP Med./Large	---	---	SSTL-600	Millennium/OMS	METEOR	ESPAStar-HP	SN-1000+	---

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