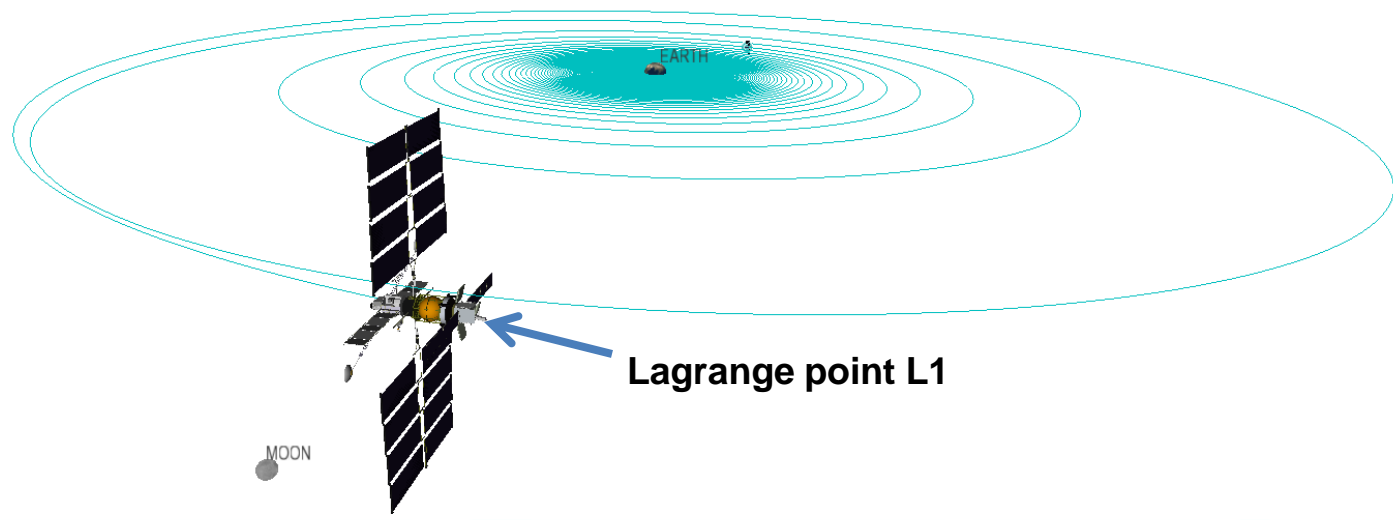




VASIMR 400 kW Solar Electric Space Tug for Cargo Delivery from LEO to L1

- Mounting interest for L1 as staging point near Moon for deep space missions
- Support of this outpost needs to be (economically) sustainable
- chemical propulsion not cost effective (low payload capability=high cost)
- IMLEO is limited by foreseeable launch capability (~50 t to LEO)
- Study assumes 400 kW VASIMR solar electric propulsion
- Ad Astra is conducting a mission study based on potential outpost mass



Isp [sec]	Mass Budget [t]						Time [days]		mdot [kg/sec]	DelV[m/sec] LEO-L1
	IMLEO	Prop(LEO-L1)	PayLoad	IML1	Prop(L1-LEO)	FMLEO	LEO-L1	L1-LEO		
5000	50	6.3	37.5	5.6	0.7	4.8	363	41	0.00020	6,556
2500	50	12.0	30.3	6.5	1.6	4.8	173	22	0.00080	6,652
1500	50	18.8	21.1	8.2	3.1	4.8	98	16	0.00222	6,811
450	50	29	15	6	chem one way only		4	N/A	N/A	3800
350	50	33	10	7	chem one way only		4	N/A	N/A	3800