

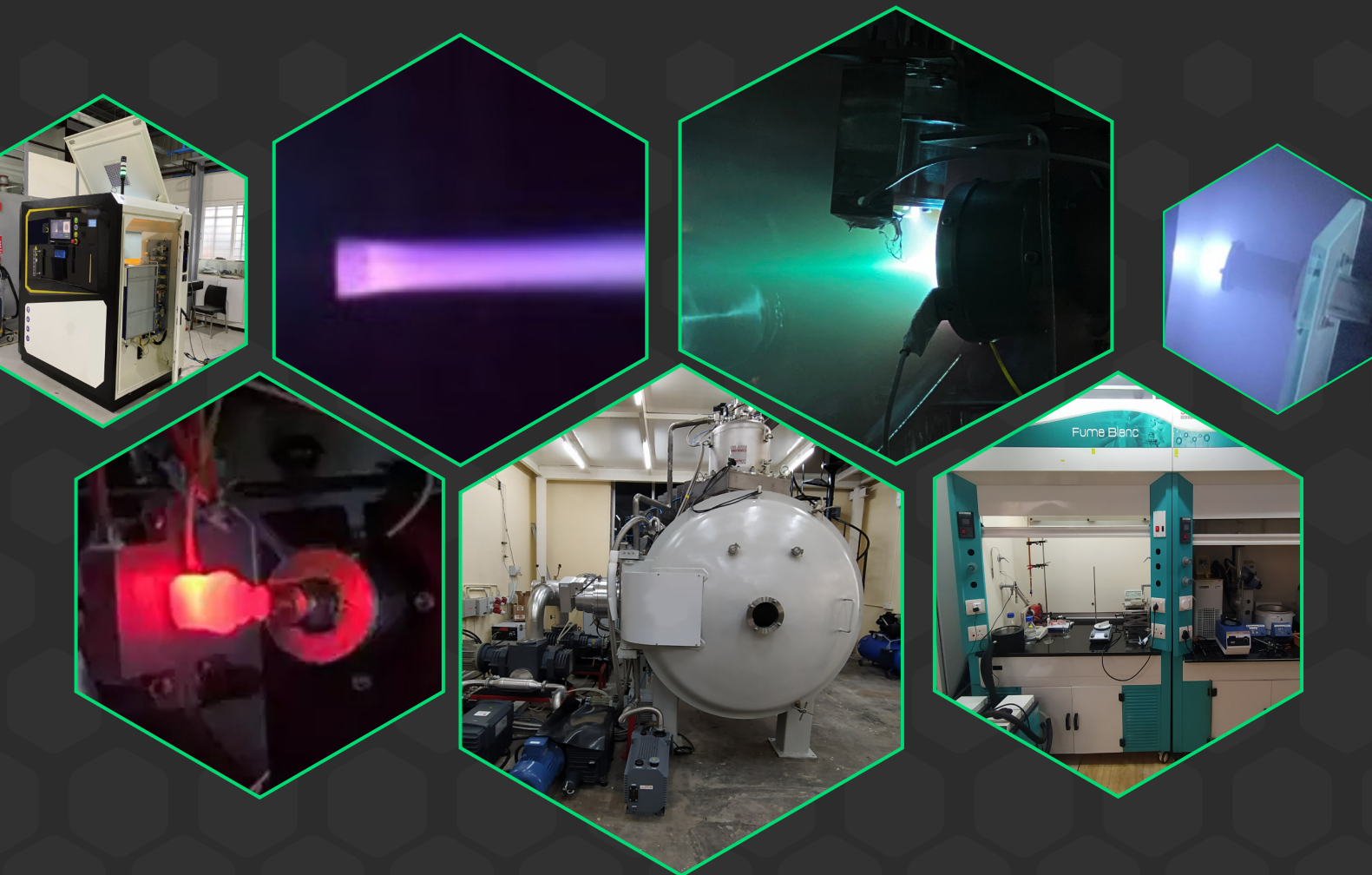
ABOUT

Bellatrix is a full-stack space transportation company. We design, develop and build high-tech electric and chemical propulsion systems for a wide range of end-use cases, from deploying and phasing micro-satellite constellations to ferrying multi-ton communications satellites into the geo-stationary orbit.

We bring the best of both worlds – the agility, innovation and lead times of a start-up coupled with the diverse portfolio and reliability of a legacy prime contractor. Our products are designed to overcome challenges associated with incumbent technologies, be it better performance, longer life and reduced costs. Since our inception in 2015, our short but storied legacy boasts of multitude of firsts from testing the first privately built plasma thruster that uses water as a fuel to creating a greener, high performance alternative to hydrazine based chemical propulsion systems.

Our state-of-the-art in-house production and test facilities augmented by our deep inter-disciplinary expertise help us to engineer products for the next generation of space transportation ensuring that our thrusters are qualified at globally accepted standards to meet the harsh space environments.

Our orbital transfer vehicle, **PUSHPAK®**, represents the next step in our evolution to an end-to-end space logistics provider, capable of deploying satellites into multiple orbits affordably on a single ride-share mission.



CONTACT

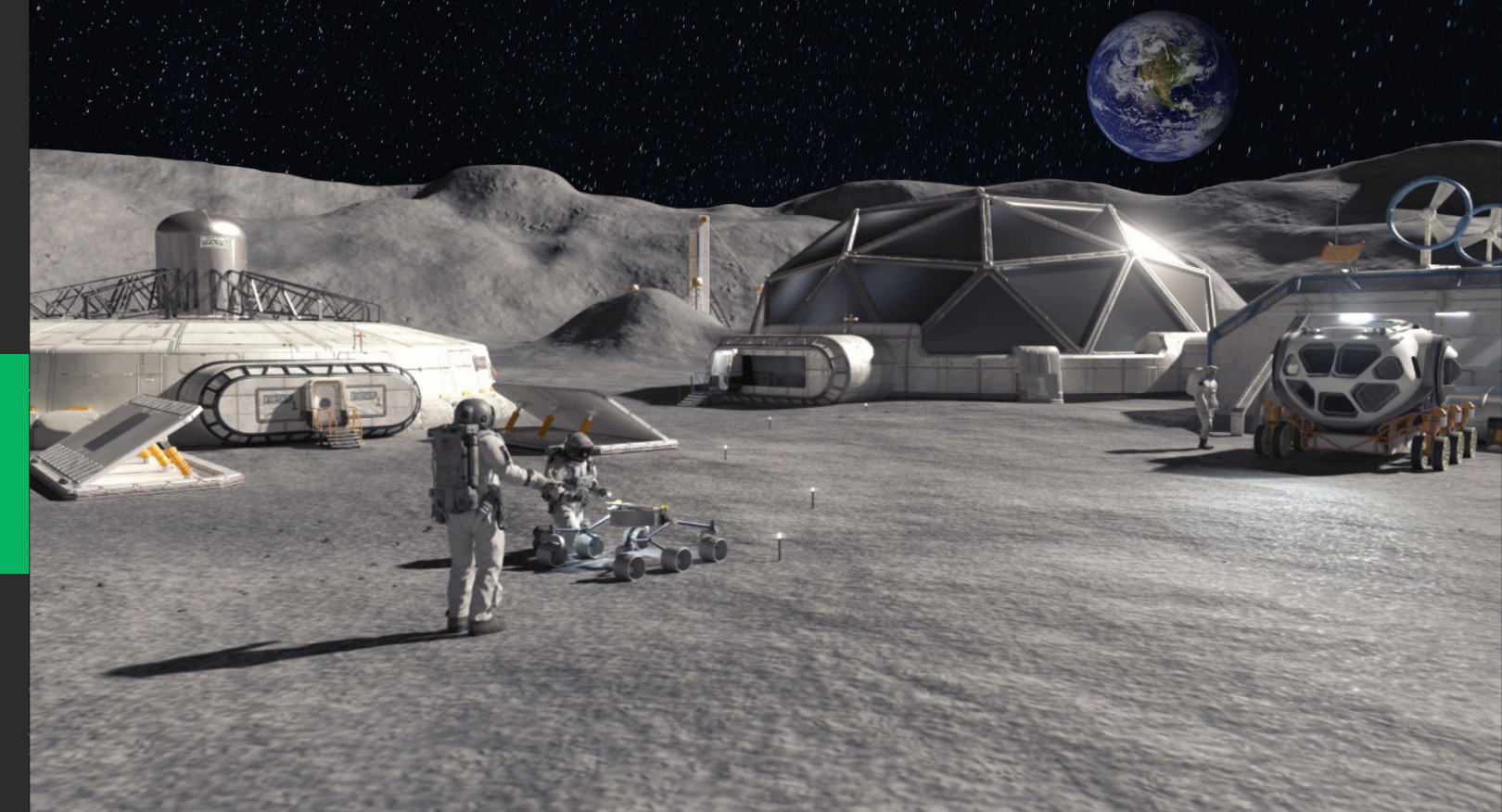
Bellatrix Aerospace Pvt. Ltd.,
22, 5th Floor, Sankey Road,
Bengaluru - 560020,
Karnataka, India.

info@bellatrix.aero
+91 90085 23170
www.bellatrix.aero

 [company/bellatrix-aerospace](https://www.linkedin.com/company/bellatrix-aerospace)  [bellatrixaero](https://twitter.com/bellatrixaero)  [bellatrixaerospace](https://www.facebook.com/bellatrixaerospace)

BELLATRIX
AEROSPACE
Propelling Dreams

Future of Space Transportation is here



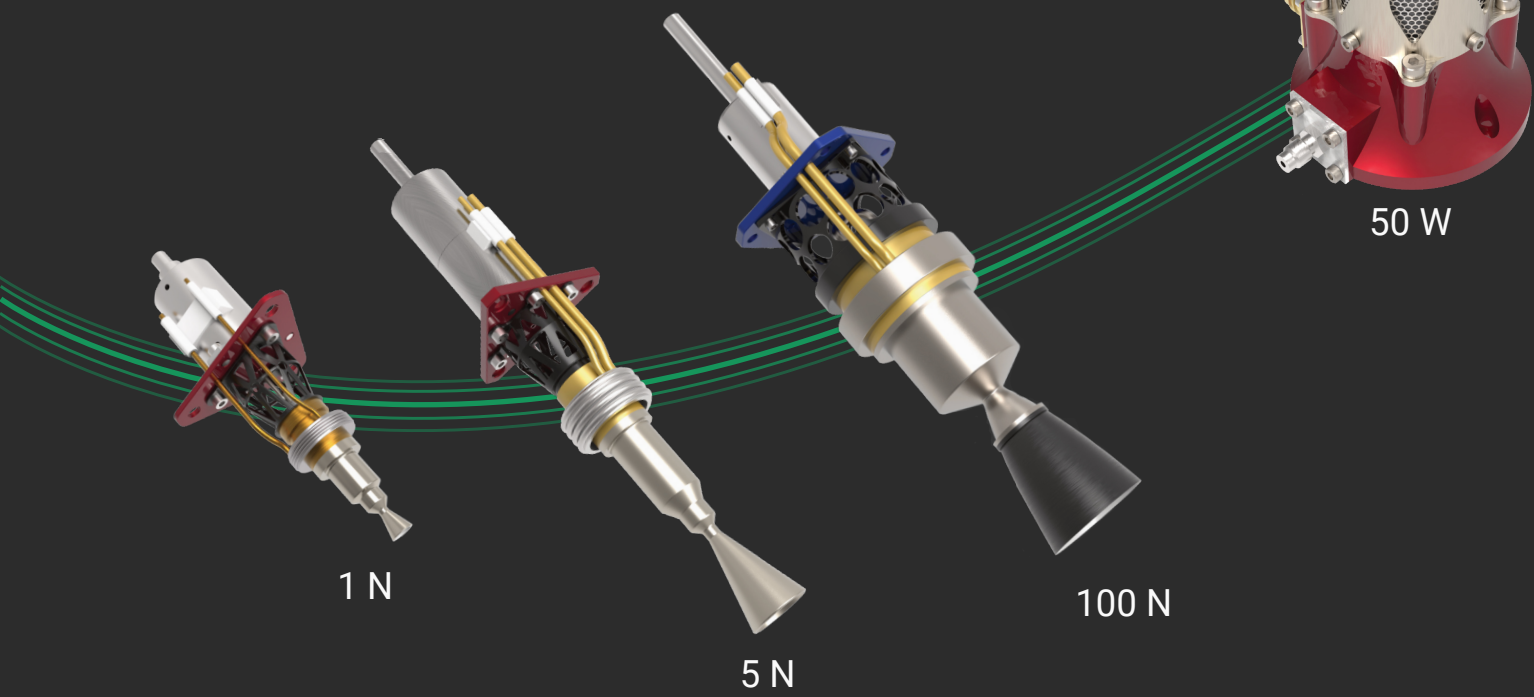
Our state of art **RUDRA®** series of green propulsion systems offer superior performance than Hydrazine and are also less toxic and easier to handle. Our our stable green propellant blend in conjunction with our proprietary high performance catalyst offers longer mission life and high specific impulse.

Bellatrix incorporates post launch pressurization and several other design improvements for easy integration into modular 1U platform while being flexible to scale to 2U, 3U and higher volumes depending upon the mission requirements / type of satellites.

	Rudra - 1	Rudra - 5	Rudra - 100
Nominal Thrust	1 N	5 N	100 N
Propellant	BHP-69MA (Proprietary Green Mono Propellant)		
Inlet Pressure	8 - 26 bar	8 - 26 bar	5.5 - 23 bar
Vacuum Specific Impulse	235 s	250 s	255 s
Minimum Impulse Bit	< 50 mN s	< 0.1 N s	< 2.5 N s
FCV Type	Dual Coil, Dual Seat Solenoid		Single Coil, Single Seat Solenoid
FCV Power	8 - 10 W @ 28 - 32 V DC		35 W @ 28 V DC
Catalytic Bed Heater power	8 - 10 W	15 - 20 W	75 -100 W

* contact us for more information

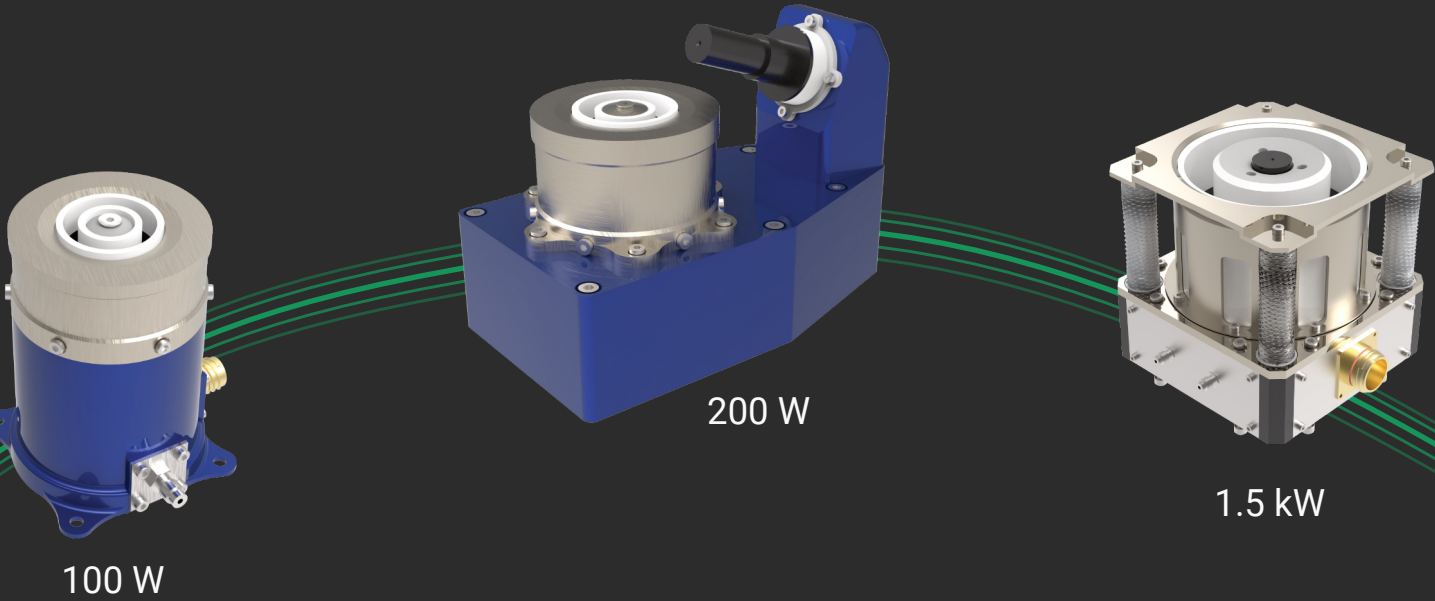
GREEN PROPULSION



ELECTRIC PROPULSION

Bellatrix Aerospace has been pioneering in Electric Propulsion technologies with over 10 years of experience. Our **Arka®** series of HETs represents our commitment to continually innovate, even with products that encapsulate a mature technology. With our novel design approach, we have achieved improvements in terms of performance, operational life, cost and weight savings to the HET which makes it ideal for a plethora of mission requirements.

Our Water powered **JAL®** series of Microwave Plasma Thrusters offer class leading thrust to weight ratio for any commercial electrical propulsion system and 4X higher specific impulse compared to chemical propulsion systems. With high Thrust to Power Ratio, low cost, high reliability and ease of handling makes it an ideal choice for GEO missions. We offer MPT at power levels >5kW.



	Arka 050	Arka 100	Arka 200	Arka 1500	Arka 5000
Thrust	3 mN	7 mN	13.2 mN	86 mN	260 mN
Discharge Power	50 W	100 W	200 W	1.5 kW	5 kW
Voltage	140 - 280 VDC	200 VDC	250 VDC	350 VDC	400 VDC
Propellants	Xenon, Krypton & (Proprietary Solid Propellant under development)				
Specific Impulse	860 s	1000 s	1357 s	1668 s	2080 s
Anode Efficiency	25 %	34 %	39 %	50 %	52 %

* contact us for more information

NANO THRUSTER

Nano satellite propulsion technologies are plagued with challenges such as very low thrust, high power requirements and volume constraints. Our novel nano thruster has been designed to solve these shortcomings and enable collision avoidance and de-orbiting capabilities. Our advanced nano fabrication processes allow the entire thruster to be a one-piece assembly entailing a significant reduction in time and cost while also retaining its flexible plug and play interface for easier integration.



MEMS Nano Thruster

PUSHPAK OTV

Pushpak®, our Orbit Transfer Vehicle, is conceptualized to be a multi-mission, modular platform for complex mission trajectories. It caters to a broad spectrum of satellites ranging from cubesats to small satellites weighing up to 750kg. It is equipped with a unique hybrid propulsion configuration comprising of our proprietary electric and green propulsion units and offers an unprecented ΔV of 7 km/s

