

Payload Integration

Cosmica Spacelines and EMXYS offer a responsive and accessible means to access microgravity and the space environment at competitive pricing.

Our payload flights onboard the Lynx suborbital spaceplane provide research opportunities and technology validation to professionals in industry, government and academia.

With frequent flights and standardized payload interfaces, the Lynx becomes an extension of the laboratory, enabling rapid innovation for your experiments and prototypes. Our services include:

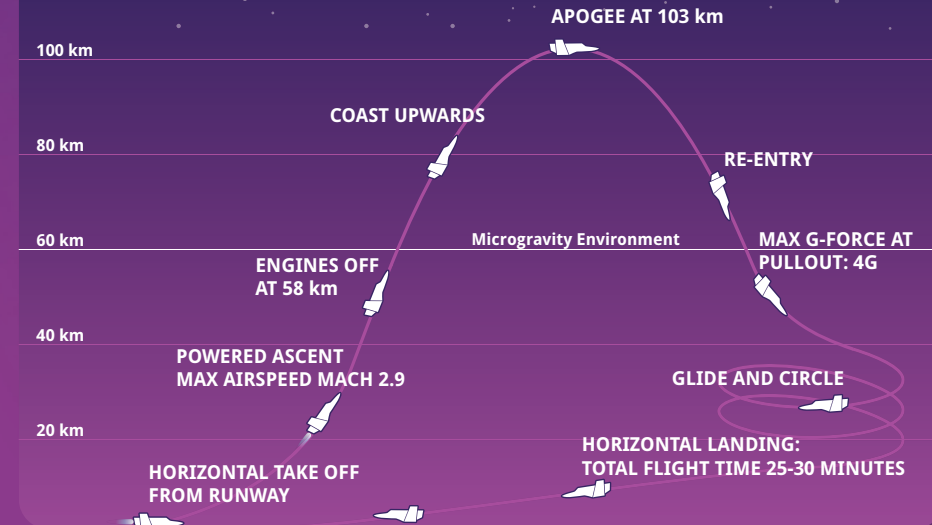
Technical Support

- Payload Qualification
- Engineering & Manufacture
- Data & Telemetry Services
- Astronaut Operators
- Flight Engineer Training

Administrative Support

- Flight Bookings
- Project Management
- Design & Safety Reviews
- Flight Insurance
- Export/Import Paperwork

FLIGHT PLAN



Top image: The "Suborbital Particle Aggregation and Collision Experiment" (SPACE) of the University of Braunschweig (Germany), which flew on DLR's REXUS-12 flight in March 2012.

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Spacecraft Management

Demanding clients can rely upon the highly competent team at Cosmica Spacelines to professionally manage your future Lynx spaceplane.

Whether you are looking for a dedicated spaceflight vehicle or a fractional share, we can advise you. The Lynx is a perfect complement to an existing fleet of vehicles for research or pleasure.

Cosmica Spacelines is the world's first company to offer suborbital spacecraft advisory and management services for private, corporate and institutional clients. We have assembled a unique group of passionate individuals who are ready to make your spacecraft ownership experience both profitable and truly enjoyable.



Cosmica Spacelines & EMXYS

Cosmica Spacelines and EMXYS have formed an alliance to bring commercial suborbital flight services to European professionals, researchers, scientists, educators and students.

As authorized payload integrators for XCOR Aerospace, we are ready to assist you to prepare and qualify your experiment as a suborbital payload to give you regular access to microgravity and the space environment.

Contact Us to Book a Flight

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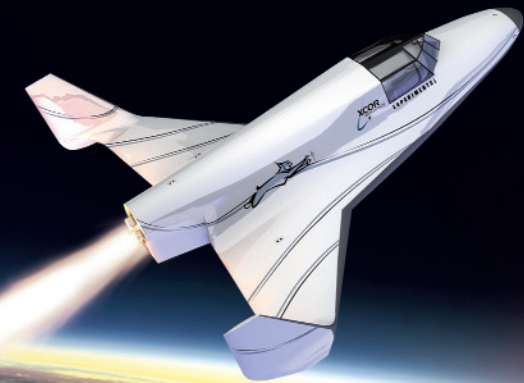
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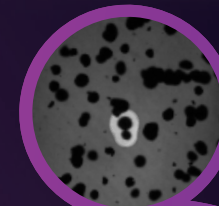
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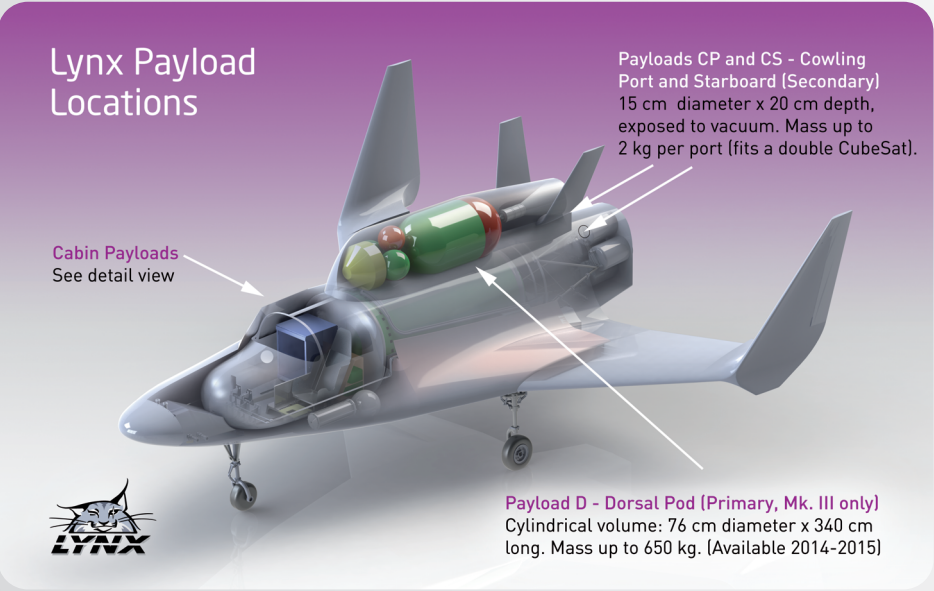


Payload Integration, Microgravity & Spacecraft Management Services



- Astronomy
- Zero-g Science
- Aerospace Testing
- Earth Observation
- Atmospheric Physics
- Nanosat Launch





XCOR Lynx – Your Space Laboratory

Lynx is the piloted, two-seat reusable launch vehicle developed by XCOR Aerospace to take people and payloads on a 25 minute suborbital flight up to at least 60 or 100 km (Mark I or Mark II respectively) and then return safely to a horizontal landing on the take-off runway.

Lynx’s unique capabilities will allow aircraft-like operations, including up to four flights per day, rapid call-up (ready to fly in two hours), and fast turnaround between flights (ready to fly again in no more than two hours). The focus is on safety and reliability. First flight is expected in early 2013 with commercial flights available after a comprehensive flight test program.

Lynx offers several multi-mission primary and secondary payload capabilities including, but not limited to: in-cockpit experiments, externally mounted experiments, test pilot/astronaut training, Earth and space observation, upper atmospheric sampling, microsatellite launch, flight readiness testing of space instruments, ballistic trajectory research, and personal spaceflight (space tourism).

Lynx extends the capabilities of your laboratory by enabling frequent access to the space environment. Book a payload or secure a multi-flight contract onboard Lynx. Contact us for further details.

Payload Qualification & Design Capabilities

For technology development and fundamental science, we provide complete payload design and integration support so that the space industry’s leading professionals can unleash their creativity and truly focus on innovation.

Here is a partial list of available facilities and capabilities to support hardware design, manufacture, integration, validation and test:

- ISO 7 Clean Room (Class 10000)
- AS9100C:2009 ISO9001 Quality Certifications
- Complete R&D Electronics Equipment
 - Thermal-Vacuum and Climatic Chambers
 - Vibration, Shock, EMC/EMI and Radiation Test Facilities.



Lynx – Operational Safety

In order to demonstrate operational safety, XCOR has successfully fired their engines over 5000 times. They have already flown two generations of rocket powered aircraft which served as developmental prototypes to work out the concept of operations for rocket propelled flight vehicles. The experience gained is directly applied to making the Lynx the world’s safest reusable spaceplane.



Student Missions & Educational Outreach

Educational missions onboard Lynx improve the learning process with real world practice. Suborbital payloads make a great capstone project and provide empirical data for a doctoral thesis.

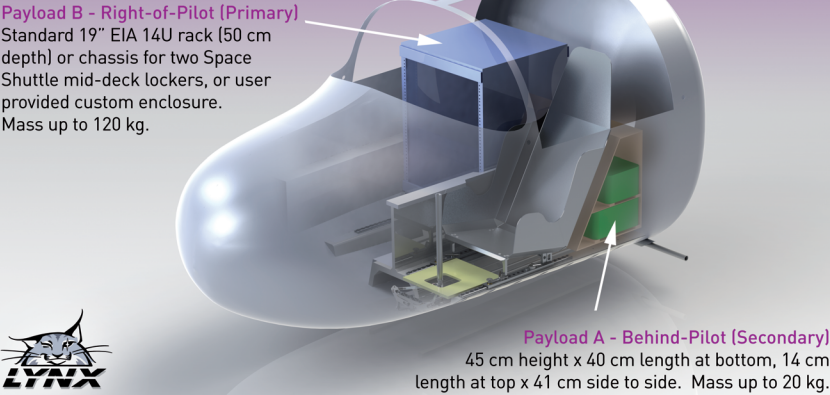
Younger students can also innovate with a flight experiment on the Lynx. It is never too early to spark a child’s imagination with a class project where hand built hardware is flown to space and returned with results, a story and an astronaut speaker.

Cosmica works closely with teachers and students at all levels as they strive for excellence and achieve their full potential. Contact us regarding your educational projects and goals. Let us give wings to your inspiration.

Suborbital Benefits for European Innovation

- **Multiple flights** each day and short lead times enable rapid iteration
- **Low launch and re-entry accelerations** allow payloads with fragile samples
- **Excellent micro-g** quality and long duration expands research possibilities
- **Lower cost** than traditional launches gives more flights with same budget
- **Researcher onboard** facilitates immediate fine tuning while in flight.

Payload Locations in Lynx Pressure Cabin



Specifications	Lynx Mark I	Lynx Mark II
Nominal Apogee (assumes 120 kg internal payload)	60 km +	100 km +
Microgravity Time (10E-3 g)	1 minute	3 minutes
Power Available	24/28 VDC, 140W each – Payloads A, B & D 28W each – Payloads CP & CS	
Pointing Accuracy	+/- 2 degrees	+/- 0.5 degrees