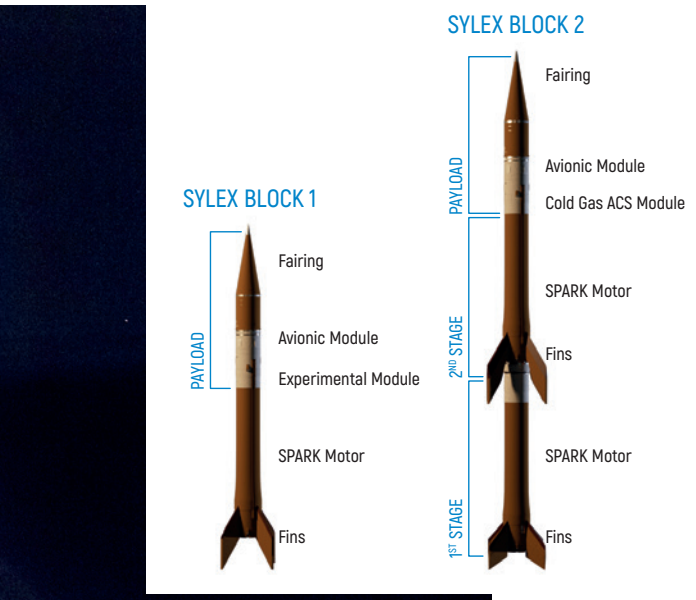
arianeGROUP

SYLEX®

SPACE FOR YOUR TEST

- ARIANEGROUP'S NEW SOUNDING ROCKET
- DESIGNED FOR HYPERSONIC FLIGHTS AND MICROGRAVITY RESEARCH EXPERIMENTS
- NEW 2-TONNE CLASS SOLID ROCKET MOTOR BAPTIZED "SPARK" (SPACE PROPULSION FOR AEROSPACE ROCKET)
- SINGLE-STAGE & TWO-STAGE VEHICLE VERSIONS
- HIGH PERFORMANCE AND LARGE EXPERIMENT ACCOMMODATION CAPABILITIES WITH ADDITIONAL SERVICES SUCH AS JETTISONABLE FAIRING, ATTITUDE CONTROL AND TELEMETRY



SyLEx®

ARIANEGROUP'S NEW SOUNDING ROCKET

ArianeGroup's know-how in solid propulsion, guidance systems and launcher design has been condensed into the new SyLEx sounding rocket family, designed for hypersonic flights and microgravity research experiments.

These single-stage or two-stage vehicles offer high performance, large experiment accommodation capabilities and additional services such as jettisonable fairing, attitude control and telemetry.

SyLEx's maiden flight was successfully completed in 2025 from the Biscarrosse test range in France, paving the way for future European cooperation and research for both civilian and defense applications.

Sounding rockets with a modular design allowing flexible configuration changes

- 2-tonne class "SPARK" motor with fins.
- Spin-motors & separation structure between stages on Block 2.
- Large payload accommodation capabilities and services included in the upper composite.
  - Avionics module with Flight Management System, Telemetry, Trajectography & "Yoyo despin" system.
  - Experimental case module with a capacity of 100 L / 35 kg; power, video and telemetry services.
  - ACS (Attitude Control System) module. Operation in the exoatmospheric phase following upper composite separation; Residual spin cancellation; Optimized microgravity conditions; Control of attitude conditions for experiments/object injection; Transmission of navigation context to the experiments/object.
  - Jettisonable fairings: 400 L fairing zone with clamshell release, ensuring experiment protection during flight and direct access to space for the experiments/object.

MAIN SPECIFICATIONS	BLOCK 1	BLOCK 2
CONFIGURATION	SINGLE STAGE 1 SPARK Motor	TWO STAGES 2 SPARK Motors
Lengh	# 10 m	# 15 m
Diameter	0.7 m	
Total mass	3.3 t	6.5 t
SPARK Motor Propellant Mass	2 t	
SPARK Motor Maximum Thrust	325 kN	
Microgravity time	4 - 5 min	> 6 min
Apogee	140 - 200 km	200 - 400 km
Max Range	350 km	1,300 km
Max Injection Speed	1,200 m/s	2,500 m/s
Max Payload	600 kg	600 kg
Experiment volume	Fairing: 400L - XP Case: 100 L	Fairing: 400 L

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