SPONSORSHIP PACKAGE

2025-2026

ORONOS

POLYTECHNIQUE MONTRÉAL

CONTENTS

ABOUT US

Oronos is a student group, founded in 2010, specializing in the design and building of sounding rockets.

Made up of over sixty students majoring in aerospace, mechanical, electrical, physics, computer, software, biomedical, civil and chemical engineering, Oronos is more than just a club; it is an opportunity for future engineers to work in a field closely linked to space technologies.

Every year, the team designs, builds and launches rockets at local and international events. Its main goal for 2025-2026 is to participate in the annual *Launch Canada (LC)* competition, the only rocket competition in Canada.

Beyond achieving international recognition, Oronos strives, through its activities, to build Canadian expertise in the space sector and to share its members' passion for space and the sciences with the general public. To that end, Oronos frequently tables at various aerospace events held in the province of Quebec.

ACHIEVEMENTS & GOALS

During the 2024-2025 academic year, Oronos participated in 3 competitions and launched 3 different rockets. First, a rocket propelled by a hybrid motor, designed by our propulsion department, was launched at the Far-Out competition. Next, our first two-stage rocket was launched at the IREC competition. Finally, our second two-stage was launched at the Launch Canada competition.

The performances of our hybrid rocket and our first two stage rocket each earned a second place. When it comes to our second two-stage rocket, it received **first place in its category**, as well as **first place of the overall competition**. This last victory was historic, as Oronos broke the **all-time canadian altitude record** by a rocketry team, surpassing 65,000 feet.

Oronos's 2025-2026 objectives are to launch the first hybrid two-stage rocket in North America. This rocket will be powered by a new hybrid motor, designed by our propulsion department, and reach an altitude of 60,000 feet. This rocket will be launched at the Launch Canada competition and will put Oronos at the forefront of student-built rocket history.

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2012, 2013, 2014, 2019, 2022, 2023, 2025

SDL Payload Challenge: **2023**

Gil Moore Innovation Award: **2018**

Forces AVENIR finalists: **2013, 2015, 2018**

AEROSTRUCTURES DEPARTMENT

The Aerostructures Department

The Aerostructures Department is the backbone that brings our rockets to life. Among its responsibilities are:

- Design and manufacturing of the rocket's outer shell: **fuselages, fins, and nose cone**,
- **Integration** of subsystems (avionics, engine, and payload),
- Parachute **deployment** systems,
- **Separation** system for a two-stage rocket,
- Flight dynamics **simulation**,
- **Aerodynamic** and **structural** analyses of all systems.

The department's objectives this year focus on process improvement and overcoming key challenges:

- Designing, manufacturing, and launching a hybrid two-stage rocket reaching **60,000 feet** in altitude, with a first stage powered by a hybrid engine entirely designed and built by students, and a second stage powered by a solid motor,
- The rocket must be able to withstand **supersonic** flight,
- Having all components designed by **students**, from parachutes to composite fuselages, including ejection and separation systems,
- Developing a versatile **test rocket** serving as a testing platform for the department's **R&D** projects, showcasing student innovation and enabling the practical validation of research and development concepts.

AVIONICS DEPARTMENT

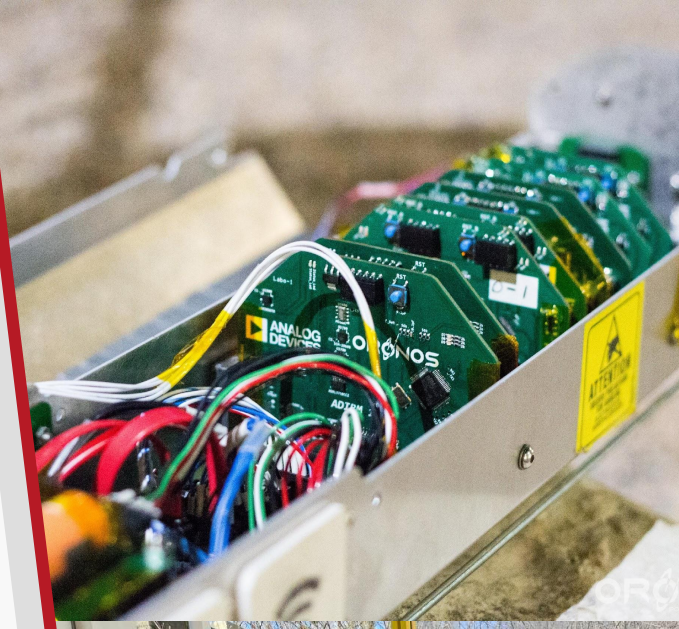
The avionics department is responsible for the design, development, production and integration of the avionics modules inside each rocket:

- Acquisition of **inertial flight data**
- **Reliable and redundant** parachute deployment signal
- **Radio telemetry** between the rocket and the ground station
- **Student-made** antennas for GPS and telemetry
- **Valve operation** for the hybrid and liquid rocket engines using a precise algorithm

Oronos have stood out from other teams repeatedly for their advanced avionics systems. The avionics department will now use this experience to improve its motor control capabilities to control the new hybrid engine for the two-stage rocket.

To this end, the department uses leading industry practices for software components, and advanced manufacturing techniques and electronic components.

The team is constantly on the lookout for potential industry partners willing to offer any support, be it PCB printing or acquiring tools and components.

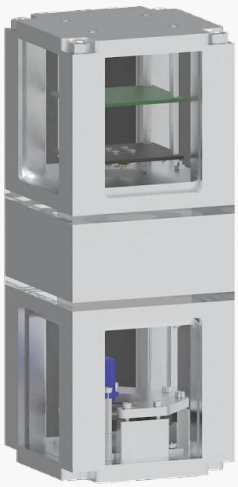


PAYLOAD DEPARTMENT

An experimental sounding rocket is useless without its payload. Every year, Oronos designs a new experiment with different themes, ranging from optics to biomedical engineering. These experiments onboard the payloads are designed to take advantage of the unique flight conditions and data acquisition opportunity that a rocket launch offers.

The payload department is responsible for the design and manufacturing of this experiment. In collaboration with the avionics and aerostructures teams, the payload is outfitted with the necessary data acquisition system and integrated into the rocket.

At SACup 2023, Oronos launched Lucina, an experiment that replicated the process of **creating a fluidic optical lens from a polymer inside of a CubeSat in microgravity**. The success of this experiment led our team to the **2nd place** at the SDL Payload Challenge 2023**.** This year, the team launched an experiment studying the **effect of acceleration on the compression of intervertebral discs** in the lumbar region on **3D printed vertebrae**. The team received **2nd place** at the Launch Canada competition.



PROPULSION DEPARTMENT

In 2018, Oronos launched its first hybrid rocket at Spaceport America Cup: Prometheus reached an altitude of 2,410 feet and won the **Dr. Gil Moore Innovation Prize** for its engine. In 2019, Atlas reached an altitude of 7,552 feet using the second iteration of this engine and won the team first place in the 10,000 feet hybrid category. Atlas Mk II and Mk III again propelled the team to **first place** in 2022 and 2023, reaching a maximum altitude of **9,242 feet**.

This year, Oronos launched its most powerful engine to date, earning the team a **second place** at the Far-Out competition.

For 2025-2026, the propulsion department is looking to develop its expertise even further. This includes :

- Developing a new hybrid engine designed for multi-stage flight
- Completing the development of Pegasus, the first liquid engine in the team's history
- Testing novel fuel compositions, ablatives and injection methods in the team's new lab-scale hybrid engine

Designing an engine is no easy task, but the team members have the know-how and the unwavering motivation necessary to achieve their goal.

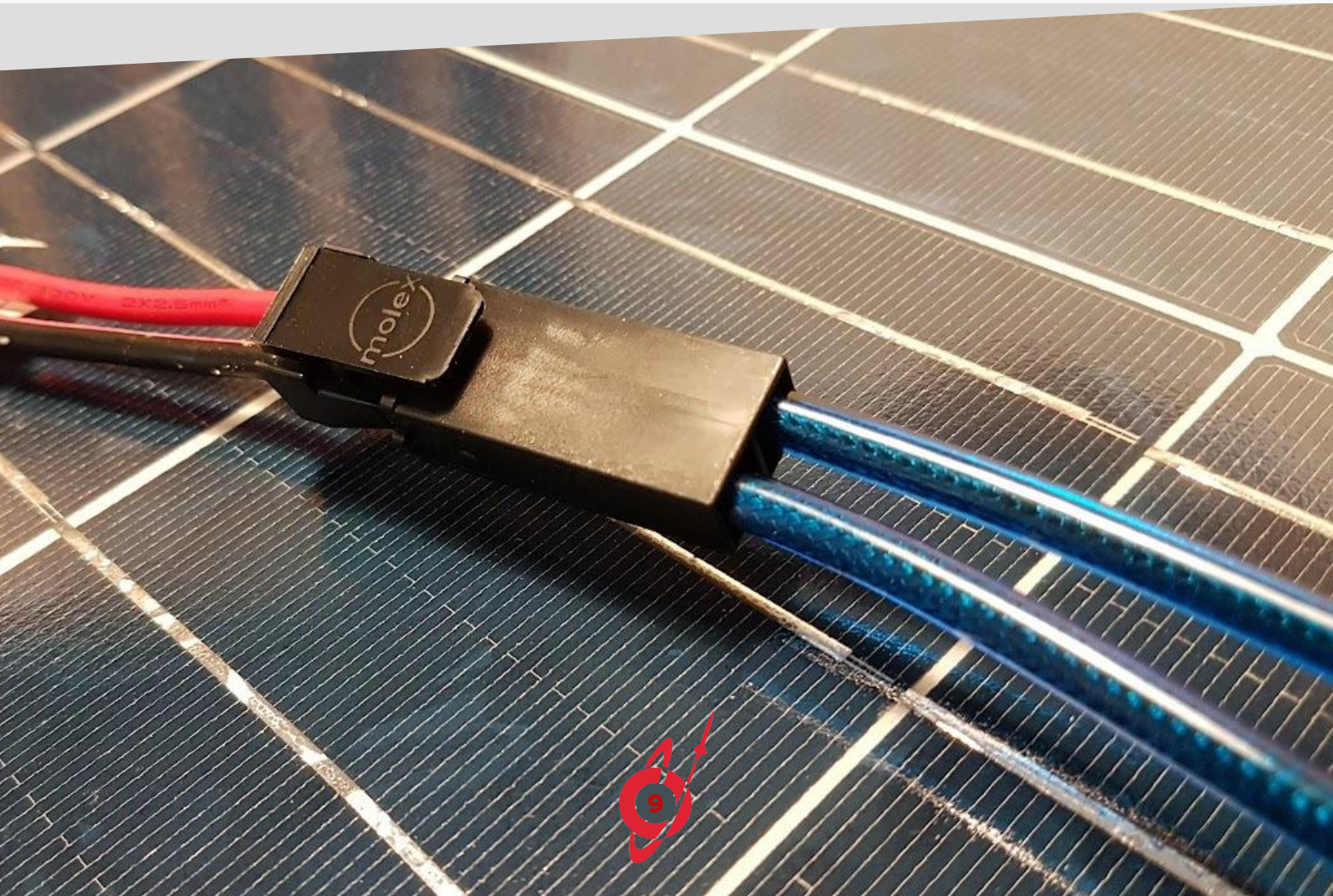
SUSTAINABLE DEVELOPMENT

Oronos continues to put forward sustainable development in its activities with the goal of improving its practices.

In fact, the team is currently undertaking many efforts to reduce its carbon footprint.

In the aerostructures department, research has begun to develop **bio-based composites**. The avionics department has shifted toward using **solar energy** during competitions to power the rocket avionics and tools prior to launch. For its part, the payload department has studied projects to **generate electricity from the vibrations** of the rocket during flight. The department's objective for 2023-2024 was to **analyse the air quality** at high altitudes. More recently, the propulsion team has kickstarted a project to use greener fuels in its hybrid rocket engine by using **beeswax** as a replacement to paraffin wax.

The team is proud of its green initiatives. We constantly work to review our protocols and our consumables waste management to reflect and respond to current global challenges.



BENEFITS FOR COMPANIES

By becoming a partner, a company benefits from great exposure at all the media events that Oronos attends nationally and internationally.

Exposure is provided through special mentions, as well as logos on posters, documents, rockets and the team's website.

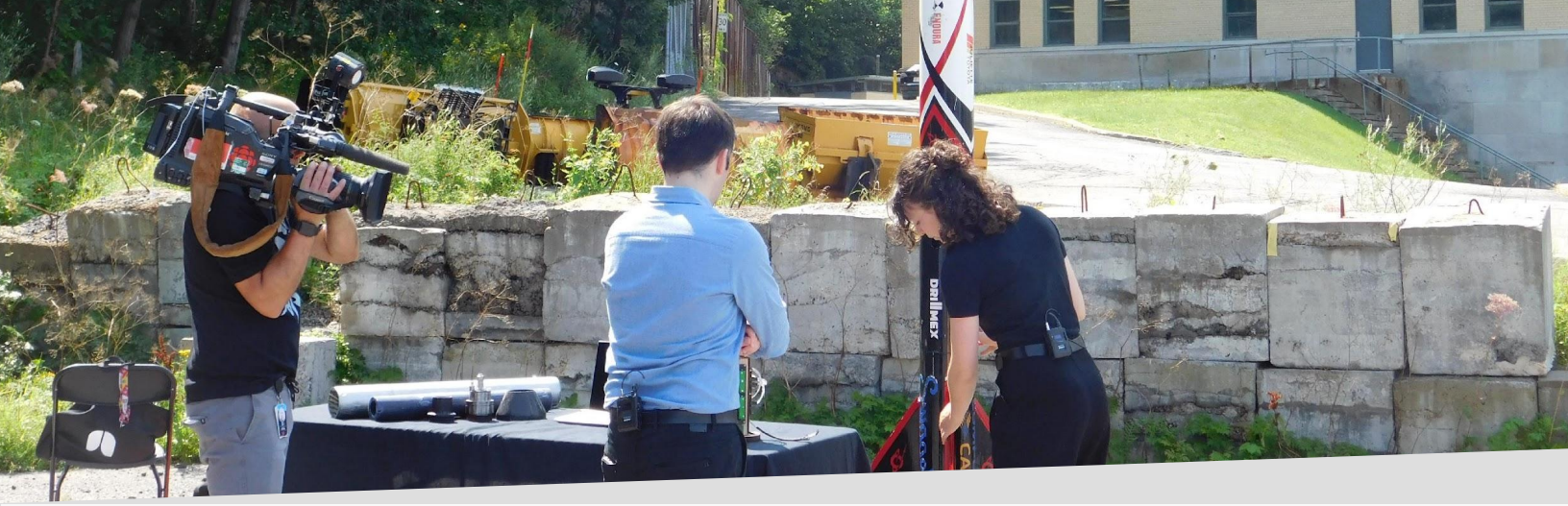
Given Oronos' frequent presence in the media, sponsor participation in the project is beneficial to all parties.

Oronos places a lot of importance on the project's aesthetics and is committed to representing its partners with pride, respect and professionalism.

Tier	BRONZE $100+	SILVER $1000+	GOLD $2000+	PLATINUM $4000+
Logo on rockets	If possible	Small	Large	X-large
Logo on website	Small	Medium	Large	X-large
Logo on poster during events	Bottom of poster	✓	✓	✓
Promotion on social media			✓	✓
Photo signed by the team				✓

Monetary values are for reference only. If an in-kind sponsorship is offered, the benefits will depend on the commercial value of the sponsorship. If a discount is offered, the amount saved at the product's purchase will be the sponsorship amount. Finally, if technical expertise is offered, the benefits will be negotiated between Oronos and the partner.

For partners offering $4,000 or more, additional arrangements for exposure can be made on demand.



PRESS REVIEW

City News August 6, 2025	Polytechnique Montréal students showoff innovative projects to campers
CTV News August 6, 2025	Polytechnique Montreal hosts annual science expo for summer camp kids
TVA Nouvelles December 12, 2024	Le Québec à la conquête de la Lune… et plus loin encore
The Gazette August 1st, 2024	Polytechnique students show off cool inventions to kids' science camp
Global News July 31, 2024	Engineering students show off Robots, rockets and submarines at Montreal's Polytechnique engineering school
98,5 FM August 10, 2023	Victoires éclatantes de projets de Polytechnique Montréal à l'international
ICI Radio-Canada Télé August 9, 2023	Le Téléjournal avec Patrice Roy
LaPresse August 3, 2022	Des prototypes québécois récompensés sur la scène internationale

TO CONCLUDE

This year, Oronos made significant progress, notably by completing the fabrication and launching three rockets this summer, of which one was hybrid and two were solid two-stages. We also stood out thanks to our innovative manufacturing methods, which were proven during the launch of our rockets this summer.

Oronos continues to strive for excellence by participating in a competition specializing in hybrid and liquid rockets. This experience allows us to grow in an environment that truly aligns with our goals and motivates the entire team. We anticipate major innovations this year, with more professional and ambitious projects that enable students to gain hands-on experience and develop solid skills for the workforce.

By supporting Oronos, you contribute to a project that fosters innovation and practical training for students, while strengthening their dedication to the dynamic field of aerospace through an inspiring and pioneering student initiative.

Finally, the entire Oronos team expresses its gratitude for your interest in our project. We are confident that, with the support of industry partners like you, we can realize our ambitions and bring our ideas to life. Please feel free to reach out to explore collaborative opportunities that will allow us to reach new heights together!

Anne Sophie Spiridonakis-Batista & Guillaume Martineau
Team Leads

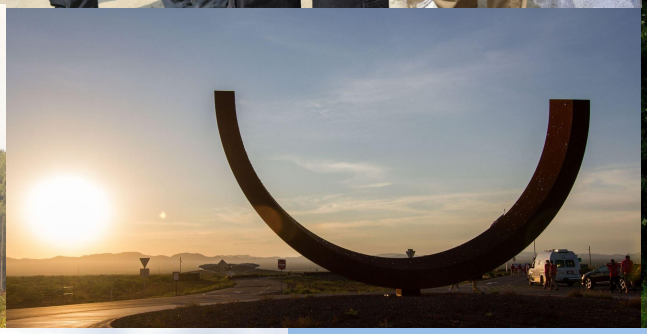
CONTACT US

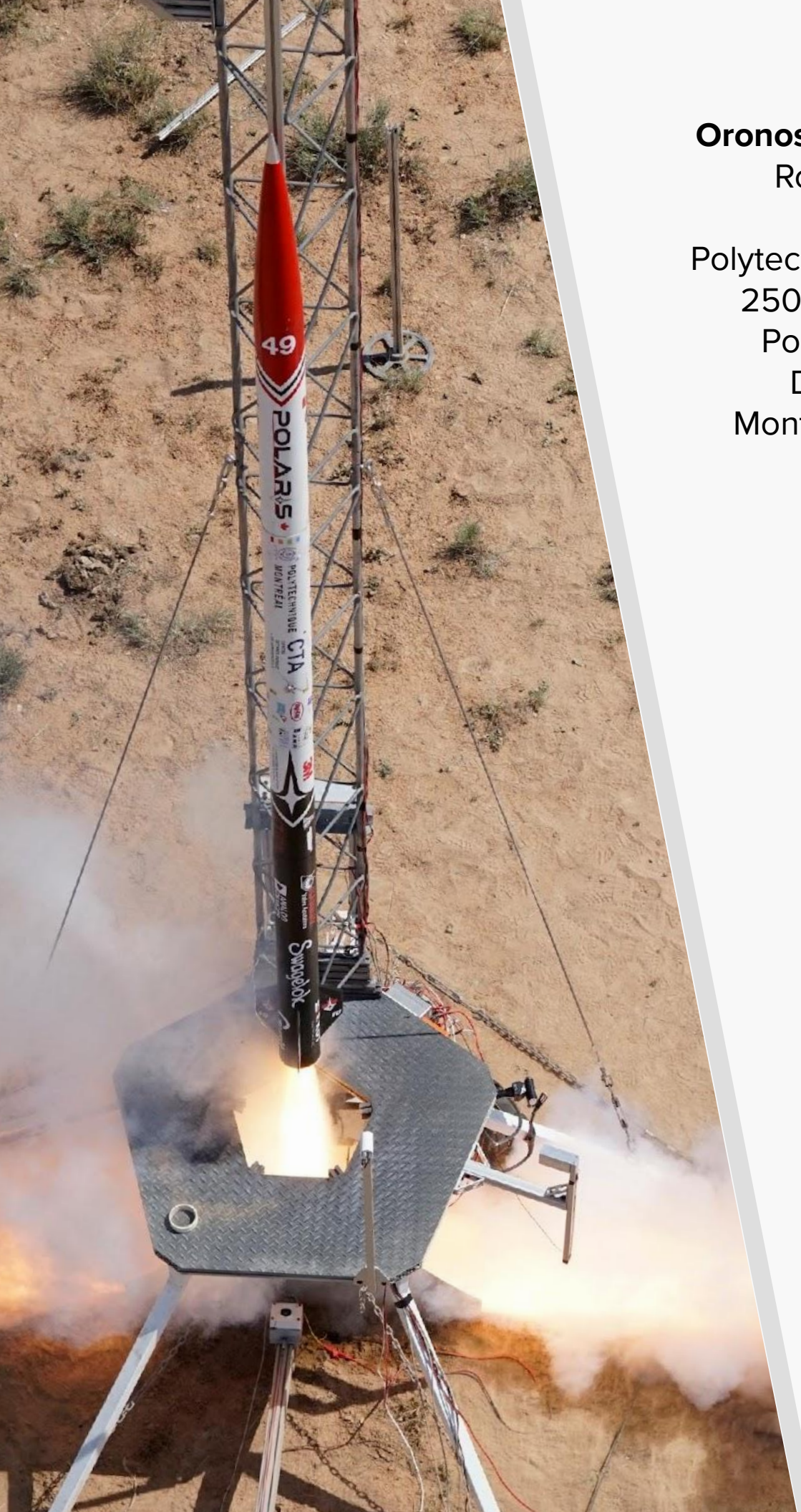
Thomas Baril
Communications Lead
thomas.baril@oronospolytechnique.com
(819)-355-9211

General inquiries
commandite@oronospolytechnique.com

www.oronospolytechnique.com

ORONOS IN PICTURES





Oronos Polytechnique
Room C-572

Polytechnique Montréal
2500 Chemin de Polytechnique
Door S-114
Montréal, Quebec
H3T 1J4