

ALTOMAXX

CASE STUDY

Paladin Canada, the Canadian division of Paladin Energy, is a leading global uranium mining and exploration company. The Michelin Project is located approximately 140 km north of Happy Valley-Goose Bay, Labrador with known mineral resources and is considered to be in advanced exploration. The company's goal is to further define current resources and discover more to make future mining operations more viable and profitable.

To guide future drilling decisions, Paladin required high-resolution radiometric survey data. Traditional approaches presented trade-offs:

- Manned aircraft surveys could cover wide areas but lacked the resolution needed for detailed exploration.
- Ground surveys offered accuracy but were slow, labour-intensive, and sometimes unsafe in remote, rugged terrain.

Paladin turned to Altomaxx to bridge this gap with a drone-based solution.

"In the past, multiple field seasons were spent conducting ground radiometric surveys across the Michelin Project. The data was a significant improvement over traditional helicopter-based airborne surveys and has been instrumental in our exploration planning but has been very time consuming to collect and is a high-risk field activity. Paladin approached Altomaxx with the experimental idea of flying a low altitude airborne radiometric survey using drone technology. We were hoping to improve over the helicopter-based surveys while mitigating the inherent risks associated with ground surveys."

– Matt Walsh, Senior GIS Analyst, Paladin Canada

CHALLENGE TO ALTOMAXX

The Michelin project site is extremely remote. It is only accessible by chartered flight with the survey fields only accessible by helicopter. The terrain is heavily forested, hilly, boggy, and filled with big game wildlife making traditional ground surveys especially difficult.

Paladin needed Altomaxx to:

- Deliver higher-resolution results than fixed-wing and helicopter surveys.
- Operate effectively in a remote, hilly, and heavily vegetated environment with no cellular connectivity.
- Train an exploration team that has never used drones before.
- Prove out the concept with emerging technology in a remote environment.

When first approached by Paladin about our experience with radiometric data and gamma ray spectrometers, my answer was honest, saying we haven't had any. However, our team has conducted numerous remote surveys and inspections around the globe, and we spoke about how we would approach the project, our experience and the methodology we would put in place."

—Steve Priestley, Chief Operating Officer, Altomaxx Technologies



THE SOLUTION

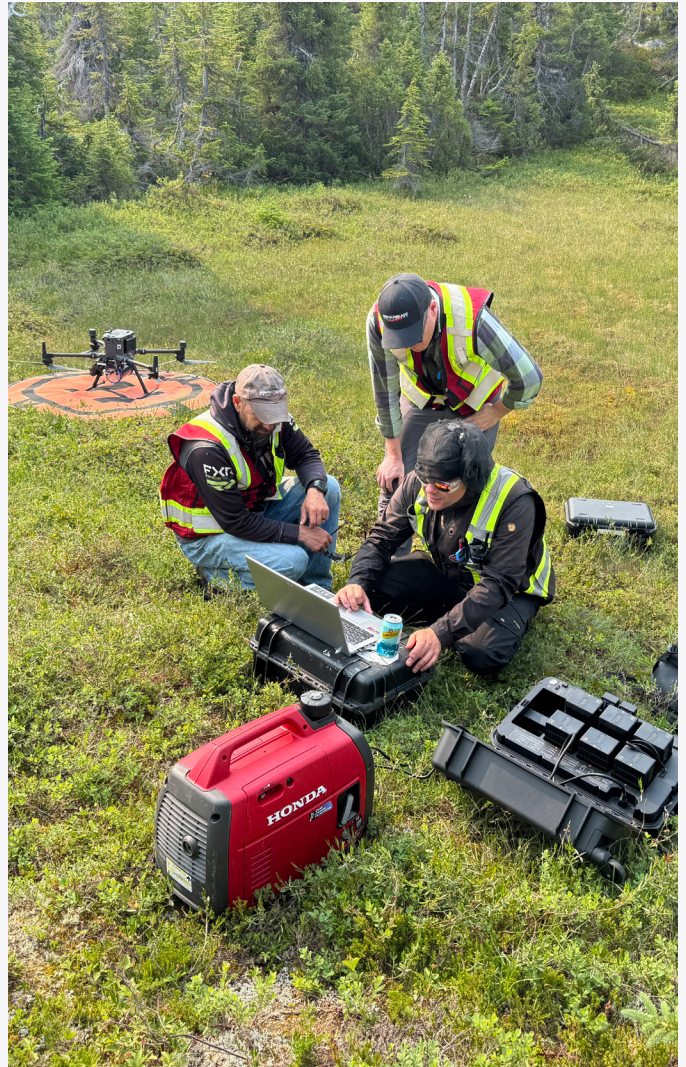
Medusa MS350 gamma ray spectrometer, integrated with SPH Engineering's SkyHub.

Through supply chain partnerships with Measur, SPH Engineering and Medusa, Altomaxx was able to bring the first deployment of the Medusa MS350 to the Canadian north.

Key elements of the solution included:

- **Flight Planning & Automation:** Using SkyHub, Altomaxx pre-programmed survey lines, elevations, and speeds. Flight speed was set to 2 m/s, yielding one data point every two meters.
- **Altitude Optimization:** Careful calibration of laser altimeters and integration with pre-existing DEMs and DSMs allowed the drones to maintain consistent, safe altitudes over uneven, forested terrain.
- **Training & Capacity Building:** Pre and post mobilization Altomaxx conducted both classroom and field training for the Paladin team that had no prior drone experience. Training covered advanced drone operations, payload handling, SkyHub workflows, and radiometric survey techniques.
- **Operational Execution:** In the field, surveys were conducted with a five-person crew: one pilot, two trainees manning the drone, and two visual observers maintaining line-of-sight. During the time in the field, the crew was able to cover XX km² of terrain.
- **Safety & Reliability:** Despite heavy vegetation, hilly terrain, and challenging insect conditions, the drone system maintained consistent altitude and stability, ensuring high-quality data capture.



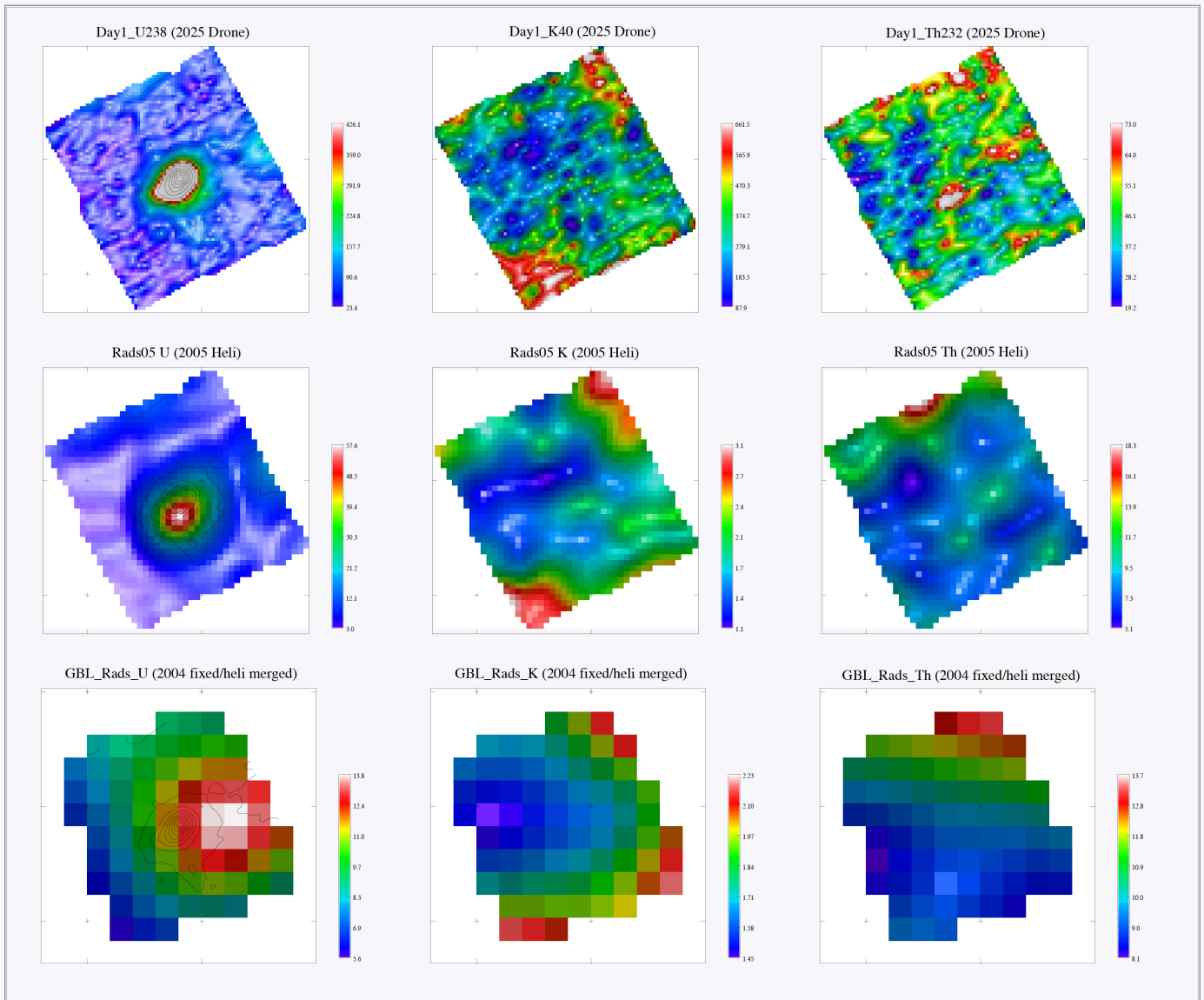


"This project was not without its hurdles. The remoteness of the operation, and lack of available communication to the outside world while proving out a new concept can add frustration to any project. However, our strategic partnership network and remote survey experience gave us the crutch to optimize deliverables in a unique environment. This, paired with the incredible teamwork and quick learning from the Paladin team made this quite a rewarding experience."

– Harrison Pritchard, Project Coordinator, Training & Mining, Altomaxx Technologies

RESULTS / IMPACT

The project was an overwhelming success. The drone surveys delivered high-resolution data that far exceeded expectations and produced radiometric results that significantly surpassed the resolution of previous, traditional manned aircraft surveys.



KEY OUTCOMES

- Strategic Partnerships are Important: When completing remote surveys without a solid and trusted strategic partnership and supply chain network projects of scale become increasingly risky and difficult. With the partnerships of Measur, SPH Engineering and Medusa, this project was able to obtain substantial results.
- Efficiency Gains: Surveys were completed far faster than possible with on-foot methods, while still delivering ground-level accuracy.
- New Discoveries: The data revealed radiometric anomalies at a precise resolution, further defining previously known anomalies and discovering new ones that will better guide Paladin's drill target accuracy.
- Capacity for Independence: With training from experienced projects on remote projects, Paladin Energy has a tailored drone program to their needs. Paladin now has the capability to continue surveys independently in future seasons and their own strategic partnership network to rely on for next level of scale or larger surveys.

"Altomaxx flew to our remote exploration site in northern Labrador, trained our staff on drone piloting, how to use the software, and how to conduct the survey safely and efficiently. Not only were Altomaxx staff friendly, professional, and extremely knowledgeable, but after a single flight the data produced showed an immediate improvement and even produced some new anomalies. Geologists were able to follow up on these anomalies and find new mineralization, which is very exciting. We had a great experience working with Altomaxx and would highly recommend them."

- Matt Walsh, Senior GIS Analyst, Paladin Canada

LOOKING AHEAD

Paladin has already committed to expanding this approach, planning to cover thousands of line kilometers using drone-based radiometrics over the coming exploration seasons. By proving that drones can deliver both resolution and efficiency in radiometric surveys, this project sets a new industry benchmark for uranium exploration.

For Altomaxx, the Michelin project not only validated the integration of advanced payloads like the Medusa MS350 but also highlighted the transformative role of drone-based geophysics across the mining sector.

ABOUT ALTOMAXX TECHNOLOGIES

Founded in 2018, Altomaxx Technologies is a global leader in drone services, offering comprehensive data acquisition, integrated solutions, and certification services. With its tailored solutions team, Altomaxx continues to push the boundaries of unmanned aircraft system innovation across industries.

Accredited by the Standards Council of Canada (SCC) for ISO 17065:2012, Altomaxx is the only certification body worldwide for ISO 21384-3, the international standard for drone operations.



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