PTAC
PETROLEUM TECHNOLOGY ALLIANCE CANADA

Technology Compass

Company Profiles • Technology Applications • Commercialization Opportunities

Exploring Technology and Innovation in Canada's Energy Sector



Introduction

Technology Compass

PETROLEUM TECHNOLOGY ALLIANCE CANADA



Exploring technology and innovation across Canada's energy sector and beyond

The PTAC Technology Compass highlights a range of PTAC members and the innovative technologies and solutions they are developing to address opportunities and challenges across Canada's energy sector. While the publication represents only a portion of PTAC's broader membership, it brings together a range of made-in-Canada innovations that improve operational performance, reduce environmental impacts, and accelerate technology adoption.

From emissions reduction and methane monitoring to automation, digital solutions, and advanced materials, the companies featured in the Technology Compass are developing practical solutions for applications across the energy sector. By working with industry partners and customers, these innovators are advancing technologies that could support safer, more effective operations and create new opportunities in Canada and international markets.

The Technology Compass connects industry and other stakeholders with Canadian technology developers. By highlighting these members and their technologies in one resource, PTAC aims to increase awareness, encourage collaboration, and support the commercialization and adoption of advanced solutions across Canada's energy sector.

PTAC

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NevadaNano / 360 EEC

Technology Compass

Company Overview

NevadaNano develops advanced gas-sensing technologies for safety and emissions monitoring. Its MethaneTrack™ platform provides continuous methane detection for oil and gas facilities, helping operators identify, locate and quantify emissions. Through 360 Engineering & Environmental Consulting, its authorized distributor in Western Canada for MethaneTrack, NevadaNano supports Canadian deployment, field testing and commercialization of practical emissions-monitoring solutions.

How it Works

Wireless MethaneTrack™ endpoints are installed close to tanks, equipment and other potential emission sources, where they continuously measure methane concentrations. An onsite anemometer records wind speed and direction, while a central gateway collects encrypted sensor data and transmits it to the cloud through cellular, satellite, Wi-Fi or Ethernet connectivity. Leak Source Isolation™ software combines the gas and wind data to detect an emission, identify its location and estimate its release rate. Results are displayed through the MethaneTrack™ dashboard, which provides configurable alerts, historical emissions records and automated reporting. The wireless, battery-powered design requires no onsite wiring and allows a typical installation to be completed by one technician within a few hours.

Value Proposition

MethaneTrack™ provides continuous, close-proximity methane monitoring that detects, locates and quantifies emissions. Automated alerts direct operators to the emission source, supporting faster repairs and more effective leak prioritization. Wireless installation, five-year battery life, long-life sensors and no field calibration reduce maintenance and operating costs. The system also provides historical records and automated reporting to support emissions management, regulatory compliance and improved LDAR efficiency.

Commercial Status

- ☒ Commercial
- ☐ Demonstration
- ☐ Pilot
- ☐ Prototype

Target Market

- ☐ Oil Sands
- ☒ Conventional Oil & Gas
- ☐ CCUS
- ☐ Hydrogen
- ☒ Mining
- ☐ Renewable Energy

Market Traction & Commercial Success

MethaneTrack™ is a commercial emissions-monitoring platform with more than 16,000 units deployed or on order globally across onshore and offshore applications. Its commercialization is supported by testing and collaboration opportunities in Canada and the United States, including the NGIF Emissions Testing Centre, the Methane Emissions Technology Evaluation Center (METEC), and the BC Oil and Gas Methane Emissions Research Collaborative. These initiatives provide opportunities to independently evaluate performance, validate the technology under controlled and field conditions, and support regulatory acceptance. MethaneTrack™ is also being advanced through continued industry demonstrations, customer deployments and regulatory submissions focused on its use as an alternative methane-screening technology.

PTAC Contribution

360 EEC and NevadaNano participate routinely in, and benefit from, PTAC events including the PTAC Methane Leadership Summit (Exhibitor) and the AUPRF Remediation, Reclamation, and Ecological Forum (Attendee).

Export Achievements

- MethaneTrack has more than 16,000 units deployed or on order globally, including onshore and offshore applications.

Arolytics

Technology Compass

Company Overview

Operational efficiency through the lens of strategic emissions management. Founded in Calgary in 2018 by scientists who have studied emissions at over 10,000 oil and gas sites, Arolytics operates in almost every basin in North America, including offshore GoA. Our AroIQ platform turns existing SCADA data into emissions detection, root-cause diagnosis, and equipment insight with no new hardware.

How it Works

AroIQ is a pure machine learning platform that reads the pressures, temperatures, and flows facilities already stream through SCADA. A pre-processing pipeline maps tags to a common schema, fills gaps, and screens out faulty sensors. For every event, AroIQ delivers four outputs: detection, flagged as it happens; duration and localization, since duration drives volume; quantification, using equipment-specific volumes rather than generic emission factors, with an exportable audit trail; and causation, explaining why it happened, with confidence scores. Events are then costed against operator KPIs such as lost product, carbon cost, and maintenance spend, and the Action Centre surfaces only the alerts worth acting on. Results are delivered through the AroIQ dashboard or as model outputs into an operator's own systems, such as Snowflake or work orders. The detection method was independently validated at Colorado State University's METEC facility, models are human-reviewed, and AroIQ is SOC 2 Type 2 compliant.

Value Proposition

AroIQ connects emissions to the equipment problems causing them. The compressor seal that vents methane burns extra fuel and trips. By catching abnormal conditions before failure and turning leading patterns into early warnings, operators avoid unplanned maintenance costing $50,000 to over $150,000 per event, cut root-cause investigations from days to minutes, and report measured volumes instead of estimates. The result: lower costs, mitigated risk, and lower emissions, with payback under one year.

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Market Traction & Commercial Success

Since 2018, Arolytics has supported 7,000+ facilities for operators including Chevron, Shell, ConocoPhillips, Cenovus, Imperial, and Enbridge across the WCSB, Permian, DJ, Bakken, and Eagle Ford basins, and its modelling supported AER approval of roughly 75% of Alberta's alternative fugitive emissions management programs. AroIQ, launched in 2025, is in active trials with nine North American producers. Field results include a 25%+ reduction in blowdown and maintenance venting identified across 130+ compressor stations; a 95% reduction in flaring from controlled tanks through a zero-cost operating change; multiple unlit flare events identified from SCADA alone; and 50%+ fewer callouts by telling a stuck dump valve apart from a normally operating PVRV. In a blind-tested pilot, AroIQ closely matched a pipeline operator's withheld event records and cut station onboarding from six weeks to one. Arolytics has raised over $3.5M in equity and non-dilutive funding.

PTAC Contribution

Arolytics contributes applied emissions science, SCADA-based emissions monitoring expertise, and Alberta field data to PTAC's collaborative research, including work on optimized leak detection strategies for tanks and other key equipment. We share findings on detection performance and operational emissions to help PTAC members reduce methane cost-effectively.

Export Achievements

- Actively deploying AroIQ and AroViz with upstream and midstream operators across all of North America including offshore GoA

Boreal Laser Inc.

Technology Compass

Company Overview

Boreal Laser designs and manufactures laser-based gas detection systems that accurately and reliably measure gases in demanding industrial environments. Our GasFinder products help companies detect and monitor toxic, combustible, and greenhouse gases to protect people, facilities, and the environment. Trusted in 48 countries, our products combine dependable performance, built-in safety features, and easy maintenance.

How it Works

Boreal Laser's methane detectors send a laser beam through open air. Methane absorbs a specific wavelength of that light, and the instrument measures this absorption to determine how much methane is present along the beam.

In fixed installations, the beam runs between a measurement head and a reflector across a facility or along its perimeter. Continuous readings support both environmental monitoring of methane releases and safety detection of gas leaks.

For mobile detection, the same sensing principle is used in a compact, vehicle-mounted open-air measurement path. As the vehicle travels through a methane plume, the instrument records changes in methane concentration, supporting mobile surveys within Leak Detection and Repair (LDAR) programs.

Value Proposition

Boreal Laser's open path systems combine environmental monitoring and safety leak detection, providing continuous coverage 24/7, 365 days a year.

Its mobile platform offers a fast, easy way to screen multiple facilities and guide Leak Detection and Repair (LDAR) teams toward areas needing closer investigation. With no sampling pumps or lines, the technology reduces maintenance burdens while supporting safer operations and methane emissions management.

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Market Traction & Commercial Success

Boreal Laser's fixed and mobile gas detection technologies are commercially established, with large-scale deployments backed by three decades of operating experience and field data. Fixed systems are widely used in industrial facilities for environmental monitoring and safety leak detection, measuring methane and the other gases supported by Boreal's product range. Mobile systems are used by service providers and regulators around the world to conduct methane surveys and support leak detection programs. Together, these technologies demonstrate a strong commercial track record, with proven performance in demanding field conditions and practical applications across a wide range of industries, facilities, and operating environments.

PTAC Contribution

PTAC provides a platform for networking and industry connections that can help expand our reach. Opportunities to connect with operators, service providers, and technology partners raises awareness of our gas detection solutions, open conversations about new applications, and support relationships that lead to broader commercial adoption.

Export Achievements

- 48-Country Presence
- Global Distributor Network
- International Deployments

BridgeFlow Valve Ltd.

Technology Compass

Company Overview

BridgeFlow Valve Ltd. is a Calgary-based company developing valve and bolting technologies for energy and industrial applications. Our flagship mechanized ball valve combines mechanically forced sealing, double isolation, and internal solid-barrier isolation in one full-port design. We focus on reducing seat wear, improving isolation reliability, and simplifying maintenance. Working with our manufacturing team in China and industry customers, we bring field-tested technology to Canadian and international markets, supported by ongoing product development and application engineering.

How it Works

The trunnion-mounted ball contains two solid sealing plates. During opening, the mechanism retracts these plates from the stationary seats before the ball rotates, avoiding sliding contact across the sealing surfaces. In the fully open position, the plates are housed within the ball assembly, leaving a full-port flow path. During closing, the ball returns to the closed position and the mechanism forces the plates against the seats to establish two sealing barriers. The body cavity provides a means to bleed pressure and test the seat seals independently. The design supports double block and bleed and double isolation and bleed arrangements, with manual, electric, or pneumatic operation. Materials and sealing options are selected for the specified fluid, pressure, and temperature.

Value Proposition

BridgeFlow combines multiple isolation functions in a single valve, offering a compact alternative to conventional multi-valve arrangements where application requirements permit. Its sealing elements disengage before ball rotation, reducing rubbing and seat wear. Mechanically forced sealing supports reliable shutoff, while independent seat-leakage testing helps verify isolation integrity. These features can reduce maintenance demands, replacement frequency, installation space, and the number of potential external leak points.

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Market Traction & Commercial Success

Hundreds of BridgeFlow valves have been installed, with the longest-running installation approaching three and a half years as of September 2026. Based on customer feedback received to date, no field issues have been reported. In Canada, a valve installed at Canlin Energy's Robb-Hanlan sour gas plant has operated since January 2024. International references include PipeChina national metering centres and refinery hydrogen service. Repeat orders from PipeChina and CNPC demonstrate adoption beyond initial trials. The technology received the 2024 ASME Best Mechanical Engineering Achievement Award for Best Innovation and the 2024 OTC Spotlight on New Technology Small Business Award. Standard supply extends through NPS 12, Class 600; larger sizes remain under validation.

PTAC Contribution

BridgeFlow has received PTAC support through IRAP as we develop our Canadian market presence. We value opportunities to engage with producers and technology stakeholders through PTAC. Our aim is to use these connections to identify suitable applications, obtain operational feedback, and advance collaborative evaluation of our valve technology in Canada.

Export Achievements

- International deployment includes pipeline metering, gas processing, and refinery applications in China. In 2026, an NPS 8, Class 600 valve was delivered for a Sabah Energy trial

CoreFlowMC, Inc.

Technology Compass

Company Overview

CoreFlowMC is a US-incorporated subsurface decision-intelligence company that finds hydrocarbons standard seismic screening misses. Our proprietary DDAV™ (Deep Detect AVO Validation) platform fuses rock physics, AVO and machine learning to score DHI confidence for deep clastic and carbonate targets to 8,000 m. Backed by 13 years of R&D and a proven Egyptian offshore discovery, we serve NOCs and IOCs.

How it Works

CoreFlowMC operates as a remote, data-driven service: no field equipment or site installation is required. Clients share existing 2D or 3D seismic (ideally partial-angle stacks) and available well logs. Our geoscientists QC and condition the data, then build a basin-specific rock-physics model with fluid substitution that defines what a true hydrocarbon response looks like. DDAV™ extracts AVO and spectral attributes and passes them through seismic processing workflow physics-anchored machine-learning models (gradient-boosted trees) trained against that baseline. A stochastic multi-scenario engine then tests thousands of rock and fluid outcomes to quantify uncertainty. Results are delivered as DHI-confidence volumes, ranked prospect maps and an interpretation report that load directly into standard interpretation platforms. Companion modules extend coverage to carbonates (CoreFlowCDAV) and to datasets lacking far-angle stacks (CoreFlowDR). Typical throughput: 10,000 km² in about two months.

Value Proposition

Most portfolios chase bright, high-impedance amplitudes that are often water-wet or low quality. DDAV™ finds the "invisible reservoirs" — low-amplitude, deep pays bypassed by standard screening — and gives each a quantified DHI confidence score. Operators de-risk wells before spud, rank prospects objectively and unlock new value from seismic they already own: no new acquisition, no field footprint and fewer dry holes, cutting cost and emissions per discovered barrel.

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Market Traction & Commercial Success

CoreFlowMC's methodology was proven in the field: offshore Egypt, its precursor workflow helped identify a Messinian gas discovery, a low-amplitude AVO Class II sand bypassed for more than 20 years. The approach has been validated against blind wells and published in peer-reviewed journals, including EAGE First Break (2026) and Scientific Reports. Since incorporating in 2026, CoreFlowMC has delivered three commercial projects in Egypt and, building on a successful pilot, is now a technology partner to Egypt's Ministry of Petroleum. A joint venture with a Saudi Arabian partner extends commercial delivery across the Arabian Gulf, and a commercial with a national operator in Libya's Sirte Basin is under way. Through PTAC, we are now bringing the technology to Canadian conventional and carbonate plays, where a commercial project with a Canadian operator is our next milestone.

PTAC Contribution

As a 2026 PTAC Technology & Service Provider member, CoreFlowMC is working with PTAC to reach Canadian producers through its network, identify field-validation opportunities on Canadian seismic datasets, and access R&D funding for extending DHI detection to carbonate reservoirs, such as Western Canada's Devonian plays, and to 4D seismic monitoring.

Export Achievements

- Egypt: 3 commercial projects; Ministry of Petroleum partner
- Arabian Gulf: joint venture with a Saudi Arabian partner
- Libya: deep-DHI project with a national operator (2026)

eifHub Inc.

Technology Compass

Company Overview

eifHub is a Calgary risk advisory firm. We find and score the risks that stop proven energy technology from reaching the market, and most of them sit outside the technology: regulatory, commercial, financial and operational. Our proprietary methodology scores every risk on one framework. Our work centres on the step from a working pilot to a first commercial project.

How it Works

An engagement starts with the project team's own documents and an interview with its leaders. Our multi-stage analytical process reads every document across five dimensions: Technology, Commercial, Regulatory, Financial and Operations. Each risk is identified, scored for likelihood and impact, and ranked. A built-in quality review checks every score before delivery.

The team receives a written report with the risks ranked and the steps to reduce each one. Three engagement levels fit different stages. The 360° Risk Sprint is a point-in-time assessment. The Integrated Risk Assessment (iRa) adds a phased implementation roadmap for teams near a funding or go/no-go decision. Integrated Risk Management (iRm) continues with monthly monitoring for teams in active deployment.

Value Proposition

A working pilot can still stall on a permit, an offtake term or a host site's operating rule. eifHub names those risks early, scores them on one framework, and ranks the actions that reduce each one. The developer goes into producer and funder conversations with a ranked list of what could stop the next phase and a plan for each item. A producer hosting the pilot can see the same list before the site commits.

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Market Traction & Commercial Success

eifHub has assessed 20+ projects in energy and cleantech. They include paid engagements, validation runs with early-stage teams, and independent analysis of public project reports in oil sands extraction, tailings, methane capture, CCUS and clean fuels. Teams use the reports for funding applications and stakeholder management.

Len Bykowski of Highbury Energy said that while most technology risks can be readily mitigated, "the associated project risks are a different matter," and that the eifHub assessment helped the project "recognize and score these risks in advance." Harvest Bioindustrial and EnviCore worked with us on validation runs. Ed Corbett, CEO of Harvest, said the 360° Risk Sprint gave the leadership team "a shared, structured view of the risks to manage as we move toward FID." Aseem Pandey, CTO of EnviCore, said the assessment "helped us identify critical blind spots early."

PTAC Contribution

eifHub joined PTAC in 2026 and has no PTAC-supported project to report yet. We expect PTAC's pathway from demonstration to pilot to commercial reference to be where our work is most useful to members: helping technology teams show a pilot host which non-technical risks are known, scored and managed.

Export Achievements

- None yet. Our work to date is in Canada.

Envirosoft Corporation

Technology Compass

Company Overview

Envirosoft is the gold standard for emissions management software and consulting services, supporting the Energy Industry with compliance and voluntary air emissions quantification and reporting for over 20 years. Envirosoft combined deep regulatory and technical domain expertise with purpose-built technology to support accurate reporting, stronger compliance, and defensible, audit-ready data across complex, multi-jurisdiction operations.

How it Works

Envirosoft's platform is a secure, cloud-based, emissions management software that becomes the single source of truth for current and historical emissions data. It captures data from field systems, meters, and business systems through flexible integrations, APIs, and bulk workflows; applies preconfigured calculation methodologies aligned to the regulations of each operating jurisdiction; and produces regulatory and voluntary disclosures along with dashboards that show emissions performance and trends down to the facility and equipment level.

In Canada, Envirosoft supports reporting requirements for Fuel, Flare, Vent volumetric reporting, Glycol Dehydrator requirements, Multi-sector Air pollutant regulations, and all provincial and federal air emissions reporting.

Value Proposition

Reduce Risk & Costs
Structured, defensible reports that satisfy regulatory requirements across jurisdictions.

Confidence in Data
Granular, bottoms-up emissions data you can defend under audit at every stage of collection and calculation.

Operational Efficiency
Compliance becomes a streamlined, operationally embedded advantage rather than an annual scramble.

Commercial Status

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Target Market

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Market Traction & Commercial Success

Envirosoft has been commercially deployed in the Canadian energy sector for more than two decades and today manages emissions data for a large portfolio of facilities on behalf of upstream and midstream operators, including several of the largest producers operating in Canada. The methodologies behind the platform have been through hundreds of third-party verifications and audits by engineering and accounting firms.

PTAC Contribution

Envirosoft has been a member of PTAC for over 10 years and annually participates in the Methane Leadership Summit.

Export Achievements

- Envirosoft has worked with clients in the USA, Malaysia, Mexico and South America

Equilibrium Environmental

Technology Compass

Science-Based Biological Decision Support
for Selenium-Impacted Soils

for a balanced environment...

Equilibrium Environmental Inc. is a multidisciplinary environmental consulting firm specializing in human health and ecological risk assessment, ecotoxicology, and innovative remediation approaches. Working across Western Canada, Equilibrium combines expertise in toxicology, engineering, biology, chemistry, and soil science to develop science-based solutions for contaminated-site management. Through applied research and technology development, the company advances practical approaches that support environmental protection, optimize remediation and reclamation, and reduce environmental liabilities for industry and government.

How it Works

The approach combines controlled plant toxicity testing, soil characterization, and quantitative dose-response modelling to evaluate selenium toxicity under different environmental conditions.

Five representative plant species (barley, alfalfa, cucumber, northern wheatgrass, and red fescue) are tested in coarse- and fine-textured soils across a range of selenium and sulphate concentrations.

Biological responses, including seed germination, root and shoot growth, and biomass production, are evaluated using statistical dose-response models to estimate concentrations associated with adverse effects.

The results are integrated with historical toxicity data to evaluate selenium–sulphate interactions and support science-based decisions on soil remediation and reclamation.

Value Proposition

Existing soil selenium guidelines may not fully account for the influence of sulphate concentrations and soil properties on biological toxicity.

By incorporating these factors into contaminated-site assessment, the proposed approach could support more appropriate remediation targets, reduce unnecessary soil disturbance and disposal, and potentially minimize the environmental footprint of remediation and reclamation activities while maintaining environmental protection.

Commercial Status

- ☐ Commercial
- ☒ Demonstration
- ☐ Pilot
- ☐ Prototype

Target Market

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Market Traction & Commercial Success

The project builds on historical selenium toxicity investigations and has generated new experimental data examining selenium–sulphate interactions in agricultural and grassland plant species.

Preliminary findings indicate that sulphate concentrations and soil texture can substantially influence plant sensitivity to selenium.

These results are being integrated with historical datasets to support future technical discussions with industry and regulatory stakeholders.

The approach is being developed for potential application in contaminated-site assessment, environmental risk assessment, and remediation planning in Alberta's energy sector.

PTAC Contribution

Through the Alberta Upstream Petroleum Research Fund (AUPRF), PTAC has supported laboratory investigations of selenium toxicity and selenium–sulphate interactions in soils.

This support has enabled new experimental studies, integration with historical research, and collaboration with industry and technical stakeholders to advance the scientific basis for selenium remediation guideline development.

Export Achievements

Currently focused on research and guideline development in Alberta, with potential applications in other jurisdictions.

Exosens

Technology Compass

Company Overview

Telops, now known as Exosens, designs and manufactures high-performance hyperspectral imaging systems and infrared cameras for defense, industrial, and academic research applications.

How it Works

Our Hyperspectral solutions, the Hyper-Cam Mini, Hyper-Cam Airborne Mini and Hyper-Cam Airborne Nano, are advanced passive infrared hyperspectral imaging systems. Our remote sensing cameras combine high spatial, spectral and temporal resolution providing unmatched performances. Regarding your needs, they each are perfect for many applications, such as oil and gas monitoring, environmental monitoring, mineralogy and remote sensing.

Value Proposition

Our solution delivers standoff multiple gas detection and identification, enabling safe, remote monitoring without the need for direct contact with hazardous areas.

Designed for maximum operational flexibility, the system offers full airborne capability, suitable for integration on a wide range of manned and unmanned platforms. OEM versions can also be seamlessly integrated onto various Pan/Tilt ground or vehicle platforms, adapting to diverse mission profiles and deployment environments.

Beyond detection, the system provides gas cloud quantification, giving operators actionable data on concentration and dispersion.

A dedicated airborne version addresses the specific challenge of methane gas leak detection, supporting emissions monitoring and regulatory compliance efforts at scale.

Finally, the technology extends to ground and airborne mineral mapping, opening applications in geology and exploration, and demonstrating the versatility of the platform beyond traditional gas-detection use cases.

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Market Traction & Commercial Success

Regulations and efforts aimed at reducing toxic and greenhouse gases, first and foremost methane, are one of the main drivers of this market. In addition, operators are constantly seeking solutions that are both innovative and proven, to improve both their CAPEX and OPEX, as well as enhance the safety of installations and personnel.

Exosens has carried out service campaigns for methane leak detection on behalf of oil operators in North America, working closely with aerial service providers. Exosens has also supplied OEM modules to integrators in Asia, providing simultaneous multi-gas detection solutions for petrochemical facilities.

Beyond purely industrial applications, Exosens is also highly active in its collaborations with research organizations and universities specializing in oil and gas activities in the US, Canada, Europe and Asia.

PTAC Contribution

PTAC has had a positive impact by providing valuable collaborations. It is always a pleasure to participate in its various activities and engage with fellow industry members to share knowledge, build relationships, and advance our collective goals.

Export Achievements

- Exosens markets their products and solutions worldwide, especially in North America, Europe and Asia, with a new focus on Middle East.

Forefront Energy Ltd

Technology Compass

Company Overview

Forefront Energy is a family-owned Canadian company developing innovative, zero-emission technologies for the energy industry. Drawing on decades of field experience, we design practical solutions that improve wellsite reliability, reduce operating costs, and eliminate methane emissions. Our technology portfolio includes solar-powered MRK Power Units, advanced hydraulic control systems, and our Zero-Emission Generator (ZEG), which converts wellhead pressure into clean, reliable power. Through continuous research and development, Forefront is advancing the future of efficient, sustainable wellsite operations.

How it Works

MRK Power Series – Renewable Power:
Harnesses solar energy and battery storage to provide dependable off-grid power for wellsite operations, with back up generation for extended low-solar conditions.

HD- Control – Efficient Actuation:
Hydraulic systems provide rapid, high-thrust hydraulic control, from individual actuators to centralized management of multiple wellsite systems.

ZEG – Pressure-to-Power:
Converts wellhead pressure into electricity or hydraulic power without combustion, returning de-pressurized gas to the flowline with no venting or product loss.

Integrated Site Control:
Together, Forefront's technologies provide scalable, remotely managed power and control solutions designed to improve reliability, reduce fuel consumption, and eliminate emissions.

Value Proposition

Zero-Emission Operations:
Eliminating combustion-related emissions and methane release while reducing the environmental footprint of wellsite operations.
Lower Operating Costs:
Reducing fuel consumption, maintenance requirements, and ongoing site operating costs.
Reliable Remote Power:
Providing dependable power and control in remote environments with solutions designed for extended autonomy.
Retrofit-Ready:
Integrated with existing well-site infrastructure with minimal modifications, making adoption practical for both new and existing sites.
Built for the Future:
Scalable technologies and ongoing R&D provide a pathway towards cleaner, more efficient well-site operations.

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Market Traction & Commercial Success

Forefront Energy has demonstrated strong market traction with 85+ units deployed, including 70 MRK Power Units and 15 HD hydraulic units operating in the field. Our Zero-Emission Generator is currently undergoing on-site testing, advancing the technology toward commercial deployment. With growing interest from prospective U.S. clients, Forefront is also actively pursuing opportunities to expand its power and control technologies into the U.S. market.

PTAC Contribution

PTAC provides Forefront Energy with opportunities for industry engagement, knowledge sharing, commercialization support, and connection to potential partners and customers across the energy sector. Through the PTAC network and COMPAS catalogue, Forefront can showcase its technologies, build industry relationships, and increase awareness and adoption of innovative solutions.

Export Achievements

- Actively pursuing U.S. market entry, with prospective clients engaged and export opportunities currently in development.

Foundry Spatial

Technology Compass

Company Overview

Foundry Spatial creates actionable insights from complex water and weather data. Our team of environmental scientists, developers, and geospatial experts connect people with technology and science to support sustainable resource management and protect mission-critical assets. We enable energy producers and governments to shift from reactive responses to proactive, data-driven decision-making.

How it Works

Flux Forecast: The system intakes real-time and multi-source ensemble weather forecast models, then cross-references this data against landscape factors (like snowmelt, road density, or fire-burned areas) and specific asset locations. By comparing forecasted conditions to historical baselines and location-specific risk thresholds, it automatically identifies high-risk flooding conditions and triggers customized alerts up to seven days in advance.

Alberta Water Tool: The platform collects, analyzes, and integrates data from vast environmental databases. Through a simple point-and-click interface, it utilizes sophisticated hydrologic models to generate timely, location-specific reports on watersheds, streamflow, and water usage allocations.

Value Proposition

Flux Forecast: Designed for proactive risk management, Flux provides advanced warning for extreme precipitation that causes flooding at specific infrastructure points (pipeline water crossings, bridges, and culverts). Instead of simply reporting expected rainfall amounts, the tool evaluates the significance of each event and sends notifications minimizing downtime and safeguarding assets.

Alberta Water Tool: This open-access platform dramatically improves the efficiency of water source evaluation. It replaces hours or weeks of manual data gathering by instantly providing comprehensive information about water supply and demand for any stream, lake, or river.

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Market Traction & Commercial Success

Both tools have achieved significant industry adoption:

Flux Forecast: Commercially deployed across North America, providing 24/7/365 situational awareness for more than 15 dedicated enterprise customers and actively monitoring over 500 critical locations.

Alberta Water Tool: Relied upon heavily by industry, communities, and government decision-makers in Alberta to streamline regulatory compliance, water sourcing, and environmental reporting.

PTAC Contribution

Through the Alberta Upstream Petroleum Research Fund (AUPRF) program, PTAC provides crucial support that enables open access to the Alberta Water Tool. This ongoing partnership ensures that the tool remains free and accessible to the public, fostering transparent, efficient, and scientifically sound water sourcing evaluations across Alberta's energy sector. *(Note: Flux Forecast is independently developed and has not received PTAC support).*

Export Achievements

- **Water Tools:** The technology powering the Alberta Water Tool drives specialized platforms operating in British Columbia and California.
- **Flux Forecast:** Actively deployed and utilized by clients across North America to monitor flood risks.

GHGSat

Technology Compass

Company Overview

GHGSat is a global technology leader with pioneering emissions-monitoring capabilities that drive industrial efficiency with positive impact. Harnessing the power of satellites and aircraft, GHGSat traces emissions directly to their source at an unmatched speed, delivering the data and insights required to take action. A trusted partner for organizations around the world, GHGSat empowers decision-makers to tackle emissions, accelerating progress towards a resilient energy future.

How it Works

GHGSat combines the strengths of satellites and aircraft in a multi-tier monitoring system, flying one patented imaging spectrometer across both technologies. Satellites (DATA.SAT) provide high-frequency monitoring of key infrastructure, screening at 25-metre resolution and detecting leaks as small as 100 kg/hr. Observing critical sites as often as daily, satellites detect anomalies as they emerge and deliver alerts about emissions to operators within hours of detection. When a satellite flags an event, or a survey campaign calls for it, aircraft (DATA.AIR) fly over the target area with an even lower detection threshold (3.5 kg/hr) and locate the emission on specific equipment. Data is delivered to operators through GHGSat's SPECTRA portal, with alerts issued within hours of detection. Operators use the results to prioritize field crews, verify repairs, and support leak detection and repair (LDAR) programs and regulatory reporting.

Value Proposition

Methane leaks are intermittent and often fugitive, and a small number of facilities drive a disproportionate share of emissions. GHGSat gives oil and gas operators independent, facility-level data to find those sites and fix leaks faster. Ultimately, the ability to swiftly address methane emissions enables oil & gas operators to meet regulatory requirements, reduce financial hits associated with lost methane, and ensure market entry to geographies with stringent emissions limits.

Commercial Status

- ☒ Commercial
- ☐ Demonstration
- ☐ Pilot
- ☐ Prototype

Target Market

- ☒ Oil Sands
- ☒ Conventional Oil & Gas
- ☒ CCUS
- ☐ Hydrogen
- ☐ Mining
- ☐ Renewable Energy

Market Traction & Commercial Success

GHGSat's technology has moved from Alberta demonstration to global commercial deployment. With support from Emissions Reduction Alberta's Methane Challenge, GHGSat worked with COSIA, Schlumberger, Encana and GreenPath to prove its satellite-aircraft approach, completing the project in 2021. To date, GHGSat has successfully launched 20 satellites, which have contributed to DATA.SAT emissions monitoring efforts around the globe. These services are complimented by the fleet of DATA.AIR aircraft sensors that fly planned customer campaigns. In 2025, GHGSat announced monitoring partnerships with ExxonMobil, Aramco, and Petrobras. The company was named to the Financial Times' 2026 list of the Americas' fastest-growing companies and is a recognized Fortune Change the World honoree.

PTAC Contribution

PTAC connected GHGSat with Alberta and B.C. producers, regulators and research partners to validate satellite-aircraft methane monitoring against established detection methods. Through its methane research network, PTAC provided technical review, industry introductions and field-validation opportunities, helping GHGSat align its data with Canadian operator needs and regulatory expectations.

Export Achievements

- Aramco (Saudi Arabia): Satellite methane monitoring
- ExxonMobil (North America & Asia): Satellites deployed across onshore & offshore operations

GLOBAL POWER TECHNOLOGIES

Technology Compass

Company Overview

Based in Calgary, AB, Global Power Technologies is powering the Energy Transition with ultra-reliable off-grid industrial power and integrated systems. Our emission abatement technologies and remote power solutions enable companies across multiple industries to balance the energy trilemma of reliability, affordability and sustainability.

GPT is a vertically integrated manufacturer delivering standard commercial products, custom projects, OEM subassemblies, and panel shop or integration services from our ISO 9001 factory and certified panel shop.

How it Works

Global Power Technologies (GPT) has a portfolio of technologies for reliable off-grid power generation and methane abatement solutions.

TEGs: GPT is the sole designer and manufacturer of commercial thermoelectric generators (TEGs) for remote, unmanned sites. TEGs generate power by combusting natural gas or propane to create heat for conversions to DC power. TEGs provide up to 500W each, can capture heat for buildings, and destroy >99% of methane.

MX Primegen: For higher power applications, the MX Primegen is an ultra-high efficiency natural gas or propane generator that uses a long-run internal combustion engine to provide up to 6kVA (and newly available 14kVA). The unit is UL and EPA certified for operation globally and has Combined Heat and Power options for building or glycol heat trace.

Integrated Systems: Other products such as instrument air, fuel conditioning, gas pressure reduction, industrial panels and integrated systems can be designed, built, tested and commissioned by GPT.

Value Proposition

TEGs
Their solid-state design means they are ultra-reliable and have no moving parts that need to be maintained. They can be paired with solar to increase reliability and reduce fuel consumption.

MX Primegen
The MX has a 9,000 hour service interval and is easily maintained by local technicians to reduce cost of ownership. It is the most fuel efficient option in its power class.

Integrated Systems
Our knowledge of industrial off-grid site requirements guides the design and quality of all our solutions and typically target one year maintenance intervals for lowest cost of ownership.

Commercial Status

- ☒ Commercial
- ☐ Demonstration
- ☐ Pilot
- ☐ Prototype

Target Market

- ☐ Oil Sands
- ☒ Conventional Oil & Gas
- ☐ CCUS
- ☐ Hydrogen
- ☐ Mining
- ☐ Renewable Energy

Market Traction & Commercial Success

Since 1975, Global Power Technologies has deployed more than 40,000 systems in over 50 countries globally. TEGs are field proven to offer more than a 20-year design life and provide one of the lowest total costs of ownership in the market. They support projects with lower power requirements in applications like electrification of valves, powering SCADA or RTU panels and cathodic protection. MX units have been deployed across Canada, the USA and Latin America to support upstream and midstream gas operations to power instrument air systems, PLC buildings and cathodic protection.

New products under development leverage TEGs for vented methane destruction and measurement, offer higher power MX systems, provide new zero emission power generating options and will progress heat to power opportunities.

PTAC Contribution

GPT is a proud member of PTAC that benefits from knowledge sharing in smaller forums such as TEREE meetings larger market events like the Methane Leadership Summit, or international exposure by participating in the CERA Week (Houston) activities. PTAC has opened doors with introductions, educated through industry knowledge and supported company growth within Canada and abroad.

Export Achievements

- Export annually to USA, Asia, Latin America and Middle East.
- OEM partner to USA military supplier.
- Network of over 30 sales channel partners globally.

Hetek

Technology Compass

Company Overview

Hetek Solutions Inc. provides gas and water leak detection equipment and services to utilities, municipalities, and industrial customers across Canada. With over 70 years of experience, Hetek offers a wide range of products, including leak detection equipment, calibration, repairs, and field services. Hetek helps customers maintain safe, reliable infrastructure through dependable products, knowledgeable service, and practical solutions.

How it Works

Hetek Solutions provides gas and water leak detection equipment and services that help customers identify leaks, monitor infrastructure, and maintain safe and reliable operations. Solutions include portable detection equipment, continuous monitoring systems, and specialized technologies designed to detect gas and water leaks in a variety of environments. Hetek has been manufacturing gas quantification equipment that measures the volumetric flow rate of methane emissions. Hetek also offers calibration, repair, and field services to help ensure equipment operates accurately and reliably. By combining technology with industry knowledge and support, Hetek helps utilities, municipalities, and industrial customers identify potential issues, reduce water loss and gas emissions, and protect critical infrastructure. The team works closely with customers to understand their needs and provide practical solutions that support safety, efficiency, and long-term infrastructure reliability.

Value Proposition

Hetek Solutions combines trusted technology, industry experience, and reliable service to help customers detect leaks, protect infrastructure, and improve safety. With over 70 years of experience, Hetek provides practical solutions backed by knowledgeable support, methane measurements, calibration, repairs, and field services.

Commercial Status

- ☒ Commercial
- ☐ Demonstration
- ☐ Pilot
- ☐ Prototype

Target Market

- ☒ Oil Sands
- ☒ Conventional Oil & Gas
- ☒ CCUS
- ☐ Hydrogen
- ☐ Mining
- ☐ Renewable Energy

Market Traction & Commercial Success

Hetek Solutions has built a strong market presence through more than 70 years of experience providing gas and water leak detection products and services. Hetek works with utilities, municipalities, and industrial customers across Canada, supporting a wide range of infrastructure and environmental applications. The company has established long-standing customer relationships by combining reliable detection technology with calibration, repair, field services, and technical support. Hetek continues to expand its product offerings and capabilities to meet changing industry needs. Its experience across the gas, water, oil and gas, and industrial sectors provides a strong foundation for continued growth in emerging markets such as carbon capture and other applications where accurate gas detection and monitoring are essential.

PTAC Contribution

Hetek Solutions contributes industry experience in gas detection, leak detection, and emissions monitoring, supporting PTAC's focus on advancing practical technologies for Canada's energy sector. Hetek brings knowledge of field applications and infrastructure integrity, helping connect detection solutions with real-world industry needs.

Export Achievements

- Expanding international reach with gas and water leak detection solutions for customers beyond Canada such as in Europe, Middle East, Asia, and South America.

PTAC
PETROLEUM TECHNOLOGY ALLIANCE CANADA

Highwood Emissions Management

Technology Compass

Highwood Emissions Management

Company Overview

Highwood is the Oil and Gas industry's independent partner on methane. The world needs clean, reliable, and affordable energy. Consumption of low-methane oil and gas is growing, and buyers around the world increasingly require empirical proof of emissions performance. Highwood provides methane solutions at the intersection of expertise and digital innovation through expertise support for defined methane projects, integrated methane strategy, and our methane reporting and intelligence software, Emissions Intelligence Platform. Highwood has delivered more than 300 methane engagements to more than 50 customers across six continents and 100,000+ sites. Highwood's customers represent over 10% of global oil and gas production.

How it Works

Highwood's Emissions Intelligence Platform (EIP) provides data consolidation, analysis, reconciliation, and reporting across voluntary and regulatory frameworks, reducing manual effort while improving traceability, consistency, and time to value.

Built alongside an industry steering committee, EIP produces methane inventories aligning with the global transition to use measurement data for improving reporting and operations. EIP compiles bottom-up inventories, site information, measurement results, activity data, emission factors, and other reporting inputs in one system. EIP users then standardize materiality, uncertainty, sampling, extrapolation, emission factors, and other complex calculations across assets and reporting periods. EIP then allows comparison for top-down and bottom-up results, investigate discrepancies, document assumptions, and produce measurement-informed inventories. EIP's structured workflows produce automated, verifiable, and consistent estimates. Operators produce data from EIP that meets buyer needs and futureproofs strategy and investment.

Automation and digital innovation reduce the cost and effort required to build a measurement-informed view of emissions. AI-powered tools streamline error corrections. EIP allows operators to produce a measurement-informed methane estimate in minutes, then combine estimates to track performance over time.

Value Proposition

EIP is the world's most widely deployed methane reporting and intelligence platform:

Defensible numbers
Standardized data, analysis, and reporting across corporate voluntary initiatives (e.g., OGMP 2.0) and emerging regulatory drivers (e.g., EUMR).

90% lower cost and effort
Less manual work on materiality, uncertainty, emission factors, and reconciliation, and more time for investigation and action.

From reporting to intelligence
A platform designed to help you understand your emissions in context, benchmark your data, and make better decisions.

Rapid time to value
Most EIP deployments take days to weeks, not months or years like other software.

Commercial Status

- ☒ Commercial
- ☐ Demonstration
- ☐ Pilot
- ☐ Prototype

Target Market

- ☐ Oil Sands
- ☒ Conventional Oil & Gas
- ☐ CCUS
- ☐ Hydrogen
- ☐ Mining
- ☐ Renewable Energy

Market Traction & Commercial Success

EIP has been used on over 100,000 sites across six continents since its commercial launch. EIP has been used to achieve OGMP 2.0 Gold Standard by leading North American producers, like Devon Energy, and by independent oil and gas companies that lead on responsible energy, like Triple Crown Resources. Highwood has partnered with Bridger Photonics to create a methane intelligence pathway, with direct integration for Bridger Photonics' measurement data set up in the platform. Highwood Emissions Management maintains a 100% success rate across every OGMP 2.0 report submitted for Gold Standard on behalf of clients, and much of that work has been backed by experts reporting through EIP or supporting EIP users.

PTAC Contribution

PTAC has supported Highwood with funding coordination, project logistics support, and industry connections as Highwood has brought EIP to market. Specifically, PTAC worked alongside Highwood to access funding through Alberta Innovates Digital Innovation Clean Energy program. Doing so allowed Highwood to use the program to derisk EIP's development timeline and advance towards commercialization.

PTAC
PETROLEUM TECHNOLOGY ALLIANCE CANADA

Innovation Coating Technology (ICT) Systems Ltd

Technology Compass



Company Overview

ICT is a coating company that laser welds high density diamond powder (80%) and matrix in the manufacture of the most protective product on the market. Instead of replacing or repairing your worn-out equipment every 2-3 years, ICT will ensure your product will last 20-25 years. It can be used in the defense sector for bullet proof vests, or armor protection on tanks, or tiles that produce minimal radar cross section for jet fighters. It will also be shown for its thermal heat sink capability for laser diodes or CPU data farms.

How it Works

ICT's proven technology and knowledge to create a very high density (80%+) of laser welded diamonds of various sizes, joined in a matrix material, has denied the smallest grains of sand to not penetrate between the diamonds and wash away the matrix. For example, the bends in slurry transportation pipelines which see a tremendous amount of impact and erosion damage during operation will be given a layer of diamond coating on the interior of the pipe. As these pipelines are replaced every 2-3 years, the cost of replacing the pipelines with new or even re-manufactured units, along with the lost production time during changeout, is quite substantial. Even though the cost of the diamond application is much higher than the current use of rubber liners, the pay-back is currently only 7 years. Savings also extend to the cost of steel, as well as the reduction in carbon emissions for the manufacture new steel.

Value Proposition

By using a coating that lasts 20-25 years the mining company can now depreciate its assets over 25 years versus 3 years. An increase in production with less shutdowns due to maintenance is a result of ICT's diamond coating. Cost of maintenance drops significantly and allows the potential of adding a few percentage points to profits. Having replacement parts always available will not be needed with the ICT solution.

Commercial Status

- ☐ Commercial
- ☐ Demonstration
- ☒ Pilot
- ☐ Prototype

Target Market

- ☒ Oil Sands
- ☐ Conventional Oil & Gas
- ☐ CCUS
- ☐ Hydrogen
- ☒ Mining
- ☐ Renewable Energy

Market Traction & Commercial Success

Although ICT is in the 'startup' phase of its early life, the potential for success is limitless. ICT has received much interest from the Oil & Gas industry, as well as the mining, but more recently the Defense has shown a significant interest in the ICT product as well.

To move forward, the O&G industry would like to see more controlled testing on the proposed product as well, to look at other applications which requires this type of protection.

We have customers with downhole tools which wear-out prematurely and are very costly to replace. By using ICT prepared/manufactured products they save themselves countless time and money by having to replace their equipment less often.

PTAC Contribution

PTAC has been instrumentation in helping ICT get started by providing a number of possible grant funding options, as well as connections to O&G operators who may be in need of this product. Their expertise has been invaluable to ICT's move to the marketplace.

Export Achievements

None at this time, however we have a customer who is having issues in Peru who is very interested in the ICT product

Ionada Canada Corporation

Technology Compass

Company Overview

Ionada Canada Corp. is a Canadian carbon capture technology company founded in 2022 that is developing compact, modular, and energy-efficient carbon capture solutions for industrial facilities, marine vessels, and offshore operations. Its proprietary Hollow Fiber Contactor (HFC) technology enables up to 50% smaller footprints and up to 30% lower energy consumption compared to conventional systems. Ionada has successfully demonstrated its technology through a 1-tonne-per-day pilot and is advancing commercial deployments across energy, industrial, and maritime markets.

How it Works

Ionada's carbon capture technology uses a proprietary **Hollow Fiber Contactor (HFC)** platform to remove CO_2 from industrial and marine exhaust gases in a compact, modular system. Flue gas flows across the outside of thousands of hollow fiber contactors while the solvent circulates inside the fibers. The contactors create a large gas-liquid contact area, enabling CO_2 to selectively diffuse through the fibers and be absorbed into the solvent without direct mixing of the gas and liquid streams. This independent control of gas and liquid flow improves process efficiency and avoids common operational issues associated with conventional packed towers.

Once the solvent becomes CO_2-rich, it is regenerated in a separate process where the captured CO_2 is released for compression, utilization, or permanent storage, and the solvent is recycled back into the system for the next cycle. The modular HFC design delivers up to 90% CO_2 capture while reducing footprint by up to 50% and energy consumption by up to 30% compared with conventional amine systems, making it particularly well suited for space- and utility-constrained industrial, offshore, and marine applications.

Value Proposition

Ionada's value proposition is delivering **compact, modular, and energy-efficient carbon capture** for industrial and marine emitters that are underserved by conventional systems. Its proprietary Hollow Fiber Contactor (HFC) technology provides up to **50% smaller footprint**, **up to 30% lower energy consumption**, and capture rates of up to **90% CO_2**, enabling deployment where space, weight, and utility constraints make traditional carbon capture uneconomic or impractical.

Commercial Status

- ☐ Commercial
- ☐ Demonstration
- ☒ Pilot
- ☐ Prototype

Target Market

- ☒ Oil Sands
- ☒ Conventional Oil & Gas
- ☒ CCUS
- ☐ Hydrogen
- ☐ Mining
- ☐ Renewable Energy

Market Traction & Commercial Success

Ionada is rapidly advancing from pilot validation to commercial deployment. The company successfully designed, built, and operated the world's first industrial HFC carbon capture pilot, achieving approximately 86% average CO_2 capture efficiency in over 2,000 hours of continuous operation. Ionada has secured multiple non-dilutive funding awards, including support from CRIN, NRC-IRAP, and NRCan, accelerating technology development and commercialization. The company has established strategic relationships with leading organizations including TotalEnergies, Petrobras, Yinson, Archrock, and Veolia across offshore, marine, industrial, and energy sectors. Through funded projects, feasibility studies, pilot opportunities, and engineering evaluations, Ionada has built a growing commercial pipeline and strong market presence. Backed by proven technology, industry validation, and strategic partnerships, Ionada is well positioned to deliver the next generation of compact, modular carbon capture solutions at commercial scale.

PTAC Contribution

Introduction to Alberta Oil & Gas companies

Introduction to Clean Resource Innovation Network and other government agencies

Jereh Canada Corporation

Technology Compass

Company Overview

Jereh Canada Corporation supplies equipment and energy solutions to Canada's oil and gas, industrial and emerging data center markets. Its offerings include coiled tubing, fracturing equipment, electric oilfield systems and local aftermarket support. The company is expanding its Canadian portfolio to include natural gas power generation, battery energy storage systems, environmental solutions and recycling technologies. Backed by Jereh's global engineering and manufacturing capabilities, its Canadian team supports customers from equipment selection through operation and service.

How it Works

Jereh Canada works with customers to understand their operating conditions, equipment needs and power requirements. Its Canadian team develops a suitable solution using Jereh's engineering and manufacturing capabilities, then coordinates equipment supply, delivery and commissioning. For oilfield customers, this can include coiled tubing, fracturing equipment, electric systems and replacement parts. For power customers, it can include gas generation and battery storage configured for the required scale and application. Local inventory and a Red Deer service team support maintenance, troubleshooting and ongoing operations. The same approach allows Jereh to bring environmental and recycling technologies to Canadian projects as those opportunities develop.

Value Proposition

Jereh Canada combines global engineering and manufacturing capacity with local inventory, technical support and service. Customers can source equipment suited to their operating conditions and receive support close to where it is deployed. Its broad portfolio also helps customers address oilfield equipment, power and environmental needs through one supplier.

Commercial Status

- ☒ Commercial
- ☐ Demonstration
- ☐ Pilot
- ☐ Prototype

Target Market

- ☒ Oil Sands
- ☒ Conventional Oil & Gas
- ☐ CCUS
- ☐ Hydrogen
- ☒ Mining
- ☒ Renewable Energy

Market Traction & Commercial Success

Jereh Canada has established a presence in Alberta's coiled tubing market, supplying locally stocked products to oilfield service providers and producers. E-Frac and fracturing pump field trials have demonstrated performance in Canadian operating conditions, with technical and aftermarket support provided through its Red Deer team. This operating base supports the company's expansion into power generation for oil and gas facilities, industrial sites and AI data centers. Jereh is engaging customers on solutions that range from smaller distributed power packages to larger, scalable projects, while continuing to develop its equipment sales, service and support capabilities across Canada.

PTAC Contribution

Jereh Canada engages with PTAC and other industry stakeholders to exchange practical perspectives on technology deployment and Canadian energy needs. Its participation in the 2026 Digital Innovation Forum includes discussions about Alberta's data center development, power requirements, infrastructure constraints and the role equipment suppliers can play in meeting growing demand.

Export Achievements

- Jereh Canada primarily serves Canadian customers, drawing on Jereh's international manufacturing network to bring equipment and technology into the country.

PTAC
PETROLEUM TECHNOLOGY ALLIANCE CANADA

Kathairos Solutions

Technology Compass

KATHAIROS

Company Overview

Kathairos Solutions is North America's leading methane elimination provider for upstream and midstream oil and gas operators. Since its 2022 commercial launch, Kathairos has scaled to 70+ operator partners across thousands of facilities—from Northern Alberta to South Texas. Its patented system uses liquid nitrogen to power pneumatic controllers and pumps, eliminating methane venting with no external power, moving parts, or maintenance. In June 2026, Kathairos surpassed one million verified metric tons of CO2e eliminated, powered by 3,000+ deployed systems averaging 1,250+ tCO2e eliminated daily.

How it Works

Kathairos' system replaces methane with liquid nitrogen as the power gas for pneumatic controllers and pumps—the largest source of routine venting on oil and gas sites. Liquid nitrogen is stored on-site in tanks and leverages its thermodynamic properties to expand into a clean, dry, inert gas at a 700:1 liquid-to-gas ratio, delivering continuous power to existing pneumatic equipment with no retrofit required.

Because the system has no external power requirement and no moving parts, it operates with minimal maintenance and industry-leading uptime (99.994%+) across harsh field conditions. Nitrogen also protects equipment longevity by preventing the fouling, corrosion, and seal degradation that methane and produced gas cause over time.

Each system doubles as a data node through Atlas, Kathairos' digital platform, transmitting hourly site-specific performance and emissions data—giving operators verified, real-time proof of elimination rather than modeled estimates.

Value Proposition

Kathairos delivers methane elimination at scale—3,000+ systems, 70+ operators, thousands of sites across North America. Purpose-built for pneumatics, the system runs on liquid nitrogen with no moving parts or external power, achieving 99.99%+ uptime. Atlas telemetry adds hourly, site-specific data—giving operators verified performance and elimination proof, not estimates.

Commercial Status

- ☒ Commercial
- ☐ Demonstration
- ☐ Pilot
- ☐ Prototype

Target Market

- ☐ Oil Sands
- ☒ Conventional Oil & Gas
- ☐ CCUS
- ☐ Hydrogen
- ☐ Mining
- ☐ Renewable Energy

Market Traction & Commercial Success

Since its first commercial deployment in 2022, Kathairos has scaled rapidly to a North American leading methane elimination provider for pneumatic devices. The company now serves 70+ upstream and midstream operators—including major E&Ps—across thousands of facilities, from Northern Alberta to South Texas, and Colorado to Pennsylvania. More than 3,000 liquid nitrogen systems are deployed in the field, eliminating over 1,250 tCO2e daily—a pace that has already surpassed one million cumulative metric tons of verified CO2e eliminated. Adoption continues to expand beyond upstream into midstream gathering, compression, and processing, reinforcing Kathairos as the standard for pneumatic methane elimination.

PTAC Contribution

PTAC was integral in supporting Kathairos' initial technology trial in 2020 and has continued to support the company as it scaled across North America in the years that followed. Kathairos now eliminates pneumatic venting at over 3,000 facilities and has directly abated over 1 million tons CO2e.

Export Achievements

- 1,000,000 tc0e2 eliminated, thanks to Kathairos solution!
- Trusted by over 70+ upstream and midstream operators in North America

Kinitics Automation Limited

Technology Compass

Company Overview

Kinitics Automation Limited is a Vancouver-based manufacturer of motion control products built on proprietary Shape Memory Alloy technology. Its flagship KVA38 valve actuator replaces methane-venting pneumatic actuators at natural gas facilities. The same technology powers linear actuators, piston pumps and rotary actuators for industries such as aerospace and chemical processing

How it Works

The KVA38 is a drop-in replacement for pneumatic actuators at natural gas facilities such as separators and compressor stations. It is compatible with 1/2 to 2 NPS globe valves and needs two connections, power and signal, with no instrument air or supply gas, so a typical changeout takes about 45 minutes. The technology works by deploying a Shape Memory Alloy wire bundle, which moves the stem in place of a motor or diaphragm, removing gearbox backlash and the deadband that actuators commonly introduce. This means deadband measured under 0.25% and positional accuracy within 0.1% (19 µm) in University of Calgary testing from −43 °C to +46 °C. The KVA38 can run continuously at 100% duty with no motor or gearbox to wear, fails closed on loss of power or signal, and is certified Class I, Zone 1 in Canada and the US.

Value Proposition

A midstream operator that replaced legacy venting pneumatics with the KVA38 recorded a 2,856% return on investment, and its own crews installed the units. The KVA38 eliminates 100% of vented methane while improving control: effectively zero deadband at 100% duty, accuracy within 0.1% in University of Calgary testing, and no compressors, dryers or instrument gas to maintain. It fails closed on loss of power.

Commercial Status

- [x] Commercial
- [ ] Demonstration
- [ ] Pilot
- [ ] Prototype

Target Market

- [ ] Oil sands
- [x] Conventional Oil & Gas
- [ ] CCUS
- [ ] Hydrogen
- [ ] Mining
- [ ] Renewable Energy

Market Traction & Commercial Success

A midstream customer that replaced legacy linear venting pneumatics with the KVA38 recorded a 2,856% return on investment, installed the actuators in two hours per facility, and is ordering more. Those results were presented at CERAWeek 2026 in Houston. Commercially launched in September 2024, the KVA38 is now scaling into field deployment under a large commercial order.

PTAC Contribution

Kinitics is a PTAC member. It showcased the KVA38 at PTAC's 2025 Methane Leadership Summit in Banff and presented it at PTAC's February 2025 Technology Information Session, putting the actuator in front of Canadian producers and industry partners. Their response was overwhelmingly positive.

Export Achievements

- US$100,000 Rose Rock Bridge grant
- KVA38 certified Class I, Zone 1 in both the US and Canada
- Opened US office in Tulsa, OK
- Enterprise-scale deployment with midstream customer

Mbrace Energy Ltd.

Technology Compass

Company Overview

Calgary-based Mbrace Energy restores production from liquid-loaded, shut-in and underperforming gas wells in the Western Canadian Sedimentary Basin. Our Pressure Gap Platform bundles multiphase compression, power, SCADA-connected software and field services into a turnkey managed service that brings marginal wells back online without venting. Production up, emissions down.

How it Works

Many gas wells stop flowing not because the reservoir is exhausted, but because the pressure gap between the wellhead and the gathering line is too small to lift fluids. Mbrace closes that gap. A skid-mounted multiphase compressor is connected at the wellhead, drawing down flowing pressure and pushing gas and liquids together into the existing gathering system, with no venting to atmosphere. Each package carries its own spec break, emergency shutdown and power interface, so it connects to client sites quickly and safely. Mbrace's software layer screens candidate wells using production, SCADA and satellite data, sizes the compressor to each well, and monitors operation and adjusts suction and discharge setpoints remotely. Lower, steadier wellhead pressure keeps liquids moving, restores flow and unloads wells without blowdowns.

Value Proposition

Producers recover gas and liquids from wells they had written off, without buying equipment or adding work for their crews. Ventless liquid unloading replaces blowdowns to atmosphere, cutting methane emissions and compliance exposure. Portable, skid-mounted units move from well to well, remote monitoring and setpoint control reduce site visits, and Mbrace carries the equipment, integration and field support, turning shut-in liabilities back into producing assets.

Commercial Status

- ☐ Commercial
- ☐ Demonstration
- ☒ Pilot
- ☐ Prototype

Target Market

- ☐ Oil Sands
- ☒ Conventional Oil & Gas
- ☐ CCUS
- ☐ Hydrogen
- ☐ Mining
- ☐ Renewable Energy

Market Traction & Commercial Success

Mbrace's first field deployment is under way with a major Canadian natural gas producer on a three-well pad near Rimbey, Alberta. The system has completed a ventless liquid unload and freed a stuck plunger during spring breakup without a swab rig or wireline. The pilot is now moving to a larger compressor to return a loaded well to autonomous production. Mbrace has secured a $400,000 contribution from Natural Gas Innovation Fund's Methane Reduction Demonstration Program for its Emissions-Free Well Blowdown Solutions project, which runs to July 2027 and delivers a commercial-ready unit and a replication demonstration. A portable, trailer-deployable package is being engineered for multi-site service, and Mbrace is in discussions with several additional Alberta producers on follow-on deployments.

PTAC Contribution

PTAC has been an active partner since Mbrace rejoined as a member. PTAC provided a letter of support and hands-on application review for our CRIN funding proposal, developed our producer-facing fact sheet, and connects Mbrace with operators through its technology network and industry events.

Export Achievements

- No export sales to date; commercial focus is the Western Canadian Sedimentary Basin. The platform is transferable to liquid-loaded gas wells in mature basins internationally.

MEDENG

Technology Compass

Company Overview

MEDENG is a Calgary-based technology company pioneering mass-based multiphase flow measurement and advancing AI/ML-enabled virtual multiphase flow metering (vMPFM). Building on over 30 years of multiphase flow research and commercially proven non-radioactive MPFM products, its newest technology combines physics-based models with data-driven analytics to accurately quantify individual phase flow rates. Since 2009, MEDENG has supported well testing, production allocation, reservoir surveillance, and production optimization across diverse onshore and offshore operations worldwide.

How it Works

MEDENG's MPFM uses specially engineered flow elements to measure pressure, differential pressure, and temperature while minimizing permanent pressure loss. Proprietary physics-based models apply fluid mechanics and mass conservation principles to determine mixture properties, phase fractions, and individual oil, gas, and water mass flow rates without physical separation or radioactive sources.

Building on these principles, MEDENG's virtual MPFM (vMPFM) combines physics-based mathematical models with AI/ML algorithms to interpret existing field sensor data. By integrating fundamental flow equations with data-driven analytics, vMPFM quantify individual phase flow rates without dedicated multiphase metering hardware, where sufficient field instrumentation and data are available.

Value Proposition

MEDENG MPFMs deliver accurate, continuous, real-time oil, gas and water mass flow measurements without radioactive sources or conventional separation. Key advantages include:

- Wide operating range across varying flow regimes and production conditions.
- Minimal permanent pressure loss and compact equipment footprint.
- Reduced installation, operating and maintenance costs.
- No dependency on conventional PVT-based correlations.
- Improved production allocation, reservoir management and operational efficiency through reliable, real-time data.

Commercial Status

- ☒ Commercial
- ☐ Demonstration
- ☐ Pilot
- ☐ Prototype

Target Market

- ☒ Oil Sands
- ☒ Conventional Oil & Gas
- ☐ CCUS
- ☐ Hydrogen
- ☐ Mining
- ☐ Renewable Energy

Market Traction & Commercial Success

Since entering the global MPFM market in 2009, MEDENG has established an extensive international track record, supplying multiphase flow metering solutions to major oil and gas operators and service companies across North America, South America, Europe, Africa, the Middle East and Asia.

Its technology has been deployed in both permanent installations and mobile well-testing applications, covering conventional production, heavy oil, SAGD, wet gas and offshore operations.

Notable achievements include nearly 200 permanent MPFM installations for field-wide production allocation in Utah, USA; high-temperature SAGD applications in Alberta's oil sands; and successful deployments of mobile and permanent MPFM systems across diverse onshore and offshore operations worldwide.

MEDENG continues to expand its global presence through established customer relationships, international partnerships and proven performance across diverse operating environments.

PTAC Contribution

MEDENG brings proven multiphase flow measurement expertise to PTAC's innovation network, supporting heavy-oil, SAGD, production allocation, and operational optimization applications. Through collaboration with Canadian operators and technology partners, MEDENG aims to validate advanced measurement technologies and develop AI/ML-enabled virtual MPFM, improving production accountability and reducing metering infrastructure and associated costs.

Export Achievements

- Successfully exported MPFM technologies to over 20 countries across six continents since 2009, serving diverse onshore and offshore oil and gas applications.

Monitor Emissions Inc.

Technology Compass

Company Overview

Monitor Emissions is an Indigenous Owned Gas Leak Detection and Asset Integrity company that utilizes the latest technologies to detect and locate industrial process issues.
We currently use Optical Gas Imaging, Infrared, Airborne / Structural & Acoustic Ultrasound, and we're the exclusive Canadian Representative of PipeSense – Pipeline Leak and Anomaly Detection and Locating, and Real-time Pig Detection.

How it Works

Monitor Emissions Inc. provides the following services:

PipeSense - Pipeline Leak & Blockage Detection with GPS Locating – We're Canada's exclusive supplier of PipeSense technology for one-time detection / locating of pipeline issues, pig tracking, or permanent monitoring installations for critical pipelines systems.

Gas Leak Detection – Detection of natural gas, nitrogen, hydrogen, instrument air, all gas leaks.

Fugitive Emissions Surveys – Regulatory-compliant surveys and reporting using client-preferred software platforms.

Electrical Inspections & Predictive Maintenance – We combine Infrared & Ultrasound for inspections on electrical equipment of any size and mechanical bearing inspections (EG: MCCs, motors, transformers, substations).

Valve Integrity – Structural ultrasound inspections of PSVs, control valves, steam traps, and other critical valves to detect internal issues (EG: Passing and unseated conditions)

Value Proposition

Using Monitor Emissions' services helps clients reduce product loss, improve personnel safety, protect equipment, and minimize their environmental impact.

Recent studies indicate that effective Leak Detection and Repair (LDAR) and Predictive Maintenance programs can deliver returns of up to 5:1 by preventing product loss, identifying developing equipment issues, and extending equipment lifespan by as much as 60%.

Supporting Indigenous-owned businesses also creates opportunities to strengthen local economies, build long-term partnerships, and expand Indigenous participation across Canada's industrial and energy sectors.

Commercial Status

- [x] Commercial
- [ ] Demonstration
- [ ] Pilot
- [ ] Prototype

Target Market

- [x] Oil sands
- [x] Conventional Oil & Gas
- [x] CCUS
- [x] Hydrogen
- [x] Mining
- [x] Renewable Energy

Market Traction & Commercial Success

We go far beyond conventional methane detection. By combining advanced OGI, infrared, multiple ultrasonic technologies, ultra-high-frequency sensing, and AI-driven analytics, we detect a wide range of gas leaks—including methane, hydrogen, nitrogen, instrument air, and more.

From wellhead to facility to pipeline, our experienced technicians deploy advanced technology to find problems others can't see or hear.

We don't just detect and locate difficult issues—we help solve them. Through our partnership with Sundown Oilfield Services, we can provide repair and resolution solutions ranging from minor repairs to major projects.

PTAC Contribution

Monitor Emissions is proud to be a PTAC member and excited to connect, collaborate, and contribute through upcoming PTAC events and initiatives.

Export Achievements

Over the past three years, Monitor Emissions has surveyed, detected, and located hidden process issues for many of Canada's major oil and gas companies, while also supporting industrial and government research projects advancing next-generation technologies.

PEnG Mobile Micro-Refinery Unit (MRU)

Technology Compass

Company Overview

Patience Enterprises Group inc. (PEnG) is a Montréal-based cleantech company developing compact, modular micro-refineries that recover wasted or stranded methane from oil and gas operations, landfills, wastewater treatment and biogas sources. PEnG converts these underutilized gas streams into transportable sustainable liquid fuels, with hydrogen as an additional pathway. Through proprietary reactor, catalyst and process-intensification technologies, PEnG aims to reduce methane emissions, create value from stranded resources and provide practical decarbonization solutions for remote and distributed energy sites.

How it Works

The Mobile Micro-Refinery Unit (MRU) captures and conditions methane-rich gas directly at the source, enabling the recovery of resources that would otherwise be vented, flared or left unused. Catalytic partial oxidation (CPOX) converts methane and air into synthesis gas, primarily composed of carbon monoxide and hydrogen. This syngas is then processed through Fischer-Tropsch synthesis to produce liquid hydrocarbons, followed by product separation and downstream upgrading. Designed as a compact, trailer-mounted platform, the system can be deployed at remote or space-constrained locations and integrated with existing oilfield, landfill, wastewater-treatment and biogas infrastructure. Its modular configuration supports flexible capacity, easier transportation, and faster installation while avoiding the high capital costs and extensive infrastructure associated with conventional centralized gas-to-liquids facilities.

Value Proposition

PEnG's modular micro-refinery converts wasted and stranded methane into transportable, valuable fuels. Its compact, mobile design enables deployment at remote and distributed sites where conventional infrastructure is impractical or uneconomic. The MRU can be scaled to different gas volumes and integrated with existing operations. By recovering methane that would otherwise be vented or flared, the technology creates economic value while reducing greenhouse gas emissions.

Commercial Status

- ☐ Commercial
- ☐ Demonstration
- ☒ Pilot
- ☐ Prototype

Target Market

- ☐ Oil Sands
- ☒ Conventional Oil & Gas
- ☐ CCUS
- ☐ Hydrogen
- ☐ Mining
- ☒ Renewable Energy

Market Traction & Commercial Success

PEnG has advanced from bench-scale validation to an operational pilot plant at the Chimie Parachem industrial site in Montréal. The company has developed proprietary Fischer-Tropsch catalyst technology, manufactured and operated more than 30 kg of in-house catalyst, and completed integrated CPOX–FT pilot activities. It has also developed a trailer-mounted Micro-Refinery Unit and an electrified CPOX reactor, supported by formal process-safety reviews, engineering documentation, operating procedures and maintenance protocols. PEnG secured CAD 750,000 in CRIN funding to support commercialization and field validation. The company is now preparing operator-hosted demonstrations in Western Canada while advancing discussions with prospective customers, industry partners and deployment collaborators in Canada and the United States.

PTAC Contribution

PTAC connects PEnG with oil and gas operators, field-test hosts, technical experts, regulators, fabricators, and funding partners. Through PTAC, PEnG can validate deployment plans, identify suitable methane streams, share non-confidential performance data, and accelerate field demonstrations, commercialization, and adoption of distributed methane-to-fuels technology across Canada and international markets more efficiently.

Export Achievements

- PEnG is building commercial relationships in the United States.
- The company is developing export channels through direct MRU sales, licensing, distributors, service contracts, and joint ventures.
- PEnG is targeting opportunities in the United States, the Middle East, Africa, and Latin America.

Prabhu Energy Oxiperator

Technology Compass

Company Overview

Prabhu Energy was founded in California and expanded to Canada in 2025. We target emissions escaping at concentrations far too low to ignite (less than 2% in air)
Our Vision is to make weak methane from waste gases a source of energy.
Our Mission is to be the world leader in harnessing weak methane emissions.

How it Works

Prabhu Energy's Oxiperator is a gradual oxidation process that leverages hot exhaust conditions to remove methane from lean burn engines. The Oxiperator removes all Methane, VOCs and CO while producing no additional NOx. The technology is catalyst-free, has no moving parts and can be field installed in a single module and covers a wide range of engines sizes.

The unit can also accept other hydrocarbon emission streams from the site. This is an additional benefit compared to catalytic systems.

Value Proposition

- We lower regulatory costs associated with GHG emissions. Methane is 28 times more potent than CO2.
- The Oxiperator will remove all methane, VOCs, CO and formaldehyde.
- Extending the life of poorly performing engines resulting in capital savings.
- Recovery of high-grade heat for use on site. This improves unit economics with both emissions and energy efficiency credits.

Commercial Status

- [ ] Commercial
- [ ] Demonstration
- [x] Pilot
- [ ] Prototype

Target Market

- [ ] Oil sands
- [x] Conventional Oil & Gas
- [ ] CCUS
- [ ] Hydrogen
- [ ] Mining
- [ ] Renewable Energy

Market Traction & Commercial Success

Prabhu Energy has received letters of interest from major gas producers in Canada and the US. Currently building our first commercial demonstration unit.

PTAC Contribution

$670,000 via the AUPRF program

$530,000 Cash

$120,000 In-Kind

Export Achievements

- None to date. Exploring US and European markets.

PTAC
PETROLEUM TECHNOLOGY ALLIANCE CANADA

Emissions Advisor & RT-X

Technology Compass

PROCESS ECOLOGY

Company Overview

Process Ecology is a Calgary-based engineering and technology company that helps energy producers turn operational data into better performance. For more than 15 years, our process engineers have worked with operators across conventional oil and gas, oil sands, and renewable energy facilities to improve operational and energy efficiency, recover lost product, lower costs, and reduce emissions. Our software, Emissions Advisor for emissions management and reporting and RT-X for real-time monitoring and optimization, brings that expertise to operators around the world.

How it Works

RT-X connects to a facility's existing historian, SCADA, or PLC data and runs it through a first-principles process model of the site. It reviews data every minute to detect energy losses, compressor and equipment issues, flaring, and venting, and traces each event to its root cause so operators know where product, energy, and money are being lost. Emissions Advisor brings assets, monthly operations data, and third-party API uploads into one auditable platform. It applies the correct regulated calculations, reconciles fuel, flare, and vent streams, and generates compliance-ready reports. Together, they connect real-time operational insight with accurate emissions reporting, without new field hardware.

Value Proposition

Process Ecology helps operators run more efficient facilities while meeting their emissions obligations. RT-X uncovers energy losses, lost product, and equipment issues in real time, with documented results such as an 88% flare reduction and up to $2MM in potential OPEX savings. Emissions Advisor is a trusted single source of truth for emissions reporting, used by 60+ producers to manage 20,000+ facilities and generate 1,000+ reports a year, ~2x faster than manual methods.

Commercial Status

- [x] Commercial
- [ ] Demonstration
- [ ] Pilot
- [ ] Prototype

Target Market

- [ ] Oil sands
- [x] Conventional Oil & Gas
- [ ] CCUS
- [ ] Hydrogen
- [ ] Mining
- [ ] Renewable Energy

Market Traction & Commercial Success

Emissions Advisor and RT-X are both commercially available to operators today. Emissions Advisor is trusted by producers across conventional oil and gas, oil sands, and renewable energy to manage their emissions reporting. RT-X has been deployed at six Canadian gas plants, including Tourmaline, where it delivers real-time emissions visibility and identifies opportunities to improve performance. RT-X has identified a 40% methane reduction opportunity from tanks, 88% reduction in flaring, cut time-to-actionable-data from weeks to seconds, and made root cause analysis 10x faster. One deployment integrates 300 sensors, 100+ KPIs, and four years of data recorded at 10-second intervals. Adoption is now extending toward OGMP 2.0 Level 4 and EU Methane Regulation compliance, which positions both products for international markets.

PTAC Contribution

PTAC has supported both Emissions Advisor and RT-X by giving Process Ecology a platform to present its technologies to industry at the PTAC Methane Leadership Summit and the PTAC Digital Innovation Forum. PTAC has also opened access to customers and a community of well-established operators and service providers whose feedback has shaped the development of both products.

PTAC
PETROLEUM TECHNOLOGY ALLIANCE CANADA

Qnergy

Technology Compass

Qnergy

Company Overview

At the heart of Qnergy's mission is a simple goal: stop methane emissions at the source while delivering reliable power, heat, and compressed air. As the first company to successfully commercialize a Stirling Engine generator, Qnergy provides scalable, reliable, low-maintenance solutions that turn methane from a challenge into an opportunity. With thousands of installations since 2018, Qnergy is expanding its global impact across the U.S., Canada, Latin America, Australia, India, and beyond.

How it Works

At the core of Qnergy's technology is the Free Piston Stirling Engine, a sealed external-combustion engine that converts heat into electricity without rotating parts or lubrication. The engine can operate on a range of gaseous fuels, including natural gas, propane, and biogas, delivering reliable performance for extended periods with minimal maintenance. This proven engine platform powers Qnergy's remote power and methane mitigation solutions, enabling dependable energy generation and emissions reduction in remote and challenging environments.

Value Proposition

Qnergy's proprietary Free Piston Stirling Engine converts methane and other fuels into clean, reliable power without internal combustion or rotating parts, cutting maintenance and maximizing uptime. It runs efficiently on low-quality gas and in remote sites, making it ideal for distributed generation and methane emissions management.

Commercial Status

- ☒ Commercial
- ☐ Demonstration
- ☐ Pilot
- ☐ Prototype

Target Market

- ☐ Oil Sands
- ☒ Conventional Oil & Gas
- ☐ CCUS
- ☐ Hydrogen
- ☐ Mining
- ☐ Renewable Energy

Market Traction & Commercial Success

Qnergy has established a growing global footprint, partnering with oil and gas companies to deploy nearly 5,000 remote power and compressed air systems across North America, Latin America, Asia, and Australia. Since launching PowerGen for oil and gas in 2018, Qnergy has expanded its technology into additional markets, including landfills, demonstrating the versatility of its Free Piston Stirling Engine. Qnergy subsequently introduced the Compressed Air Pneumatics (CAP) product line to help operators reduce methane emissions from pneumatic devices. Today, Qnergy's systems are deployed across thousands of sites, delivering dependable power and air in remote and challenging environments. With proven commercial adoption, global deployments, and 50+ million field operation hours, Qnergy continues to expand its reach across industries and geographies.

PTAC Contribution

Qnergy is a proud repeat sponsor of the PTAC Methane Leadership Summit held in Banff each year.

Rigid Robotics

Technology Compass

PTAC
PETROLEUM TECHNOLOGY ALLIANCE CANADA

RIGID ROBOTICS
PRECISION MINING SOLUTIONS

Company Overview

Rigid Robotics helps mines produce more from existing equipment and people. Our DIAGNOSE shovel productivity system identifies what is slowing production and gives supervisors and dispatchers specific actions during an active shift to improve performance before the shift ends. Built on field-validated onboard sensing and machine intelligence, it combines detailed shovel behaviour with site operating data. Our technology serves surface mining, including oil sands, with measurement and positioning systems deployed across the Americas on hydraulic and electric rope shovels.

How it Works

A retrofit onboard system captures shovel movements and operating states using proven-robust sensors and edge computing. DIAGNOSE™ is a site software that combines this information with available production data to identify the behaviours and operating conditions behind productivity losses in near real-time.

It ranks opportunities by recoverable impact and recommends corrective actions during the shift.

Supervisors and dispatchers review recommendations and supporting evidence through the software interface, then coordinate action through existing operating workflows.

Post-shift analysis provides operator scorecards and training priorities to help sustain improvements.

Deployment includes installation, calibration, data integration and a site-specific baseline.

Value Proposition

DIAGNOSE helps mines recover lost production from and maintain productivity across existing shovels and operators. It connects productivity losses to specific causes and practical actions while there is still time to improve the shift. Mines gain a consistent basis for prioritizing interventions, improving operator performance and targeting training. The result is a practical path to higher output, lower unit costs and more consistent performance across shifts.

Commercial Status

- ☐ Commercial
- ☐ Demonstration
- ☒ Pilot
- ☐ Prototype

Target Market

- ☒ Oil sands
- ☐ Conventional Oil & Gas
- ☐ CCUS
- ☐ Hydrogen
- ☒ Mining
- ☐ Renewable Energy

Market Traction & Commercial Success

Rigid's sensing and onboard computing systems have been commercially supplied across North and South America, with field deployments at copper and coal mines. Customers and partners include MineSense, Teck and Peabody. These deployments underpin DIAGNOSE, now available for structured mine-site pilots. A 12-month assessment at a U.S. coal mine identified up to 24% recoverable production opportunity from existing equipment and crews. DIAGNOSE has been demonstrated on recorded production shifts from two electric rope shovels. Pilot engagements establish site baselines, support within-shift interventions and quantify realized productivity gains, creating a clear basis for continued commercial subscription use and wider fleet adoption.

PTAC Contribution

PTAC has helped Rigid Robotics connect with the oil sands sector since 2023. Current work focuses on productivity software and outreach to mine operators. PTAC brings industry contacts and guidance to help Rigid engage potential users, build relationships and advance opportunities for site demonstrations and adoption within oil sands mining.

Export Achievements

- Commercial systems supplied across the Americas.
- Hitachi LANDCROS 2026 Smarter Machines Grand Winner.

SensorUp Inc.

Technology Compass

Company Overview

SensorUp is a Calgary software company founded by Dr. Steve Liang. SensorUp brings data and insights together to drive action. It starts with an operating record that reads from the historian, SCADA, work-order, and EHS systems you already run, and connects that knowledge to the work. Historical data, read against live production, turns better decisions into better actions.

How it Works

SensorUp starts with a flexible asset model that maps to your assets at the detail you have today. Satellite, aerial, OGI, monitor, and SCADA data land on the asset they describe, in one operating record your teams share, alongside historian data and work-order history. Existing systems stay in place.

Agents sort the signals and draft the next step. A person approves before anything runs, and each agent writes only where IT and governance teams permit.

Most teams start from a finished SensorUp Solution, such as leak detection and repair, or regulatory reporting, which SensorUp builds and maintains. When an operator's workflow requires a custom solution, SensorUp Studio lets teams configure those new processes using 18 governed modules across data foundation, logic and work, governance, and intelligence.

Value Proposition

Oil and gas assets produce thousands of data points a minute. SensorUp turns them into closed work orders. It matches each signal to its equipment, drafts the work order with the operating history attached, and sends it to the owning crew once a person approves. Teams shape workflows to their operation from 18 configurable modules. At one upstream operator, median time to close an emission event fell from about four weeks to under one week.

Commercial Status

- ☒ Commercial
- ☐ Demonstration
- ☐ Pilot
- ☐ Prototype

Target Market

- ☐ Oil Sands
- ☒ Conventional Oil & Gas
- ☐ CCUS
- ☐ Hydrogen
- ☐ Mining
- ☐ Renewable Energy

Market Traction & Commercial Success

SensorUp's deployments cover over 20,000 wells, several thousand facilities and well over 1,000 continuous monitors.

Oxy, Repsol and Petrobras run SensorUp in production, three of the five OGCI member companies that do.

At one upstream operator, the team closed twice as many emission events with no rise in detections. Emissions event work orders open past 30 days fell from 50% to under 10%, and false alarms were cut nearly in half.

In 2025, Emissions Reduction Alberta committed $3 million to SensorUp's multi-sensor MMRV deployment across Alberta.

SensorUp holds a SOC 2 Type II report and ISO 27001 certification.

In June 2026, SensorUp closed a growth round led by Pender Ventures with Climate Investment, Evok Innovations and Occidental.

PTAC Contribution

Through CRIN's Digital Oil and Gas competition, SensorUp ran a $1.37 million project with an Alberta operator in 2022. Dr. Steve Liang presented at PTAC's Digital Innovation Forum in 2023, received PTAC's President's Impact Award in 2025, and spoke on the AI panel at the 2026 Methane Leadership Summit.

Export Achievements

- SensorUp serves operators in North America, Europe and South America.

SLR Consulting (Canada) Ltd.

Technology Compass

Company Overview

SLR is a global sustainability consultancy with a team of more than 5,000 professionals operating from offices across the Americas, Europe, Asia-Pacific, the Middle East, and Africa. We deliver advice and support on a wide range of strategic and project-specific issues to a diverse and growing base of business, regulatory and government clients. We want to be our client's partner of choice, providing independent and highly responsive advice and solutions across our six key industry sectors.

How it Works

SLR brings together deep sector knowledge and a global network of technical specialists to address our clients' unique needs. Our multidisciplinary teams provide tailored, practical expertise across the project lifecycle—from addressing a specific technical or professional challenge to delivering integrated solutions for complex projects. Guided by its purpose of Making Sustainability Happen, SLR combines strategic advisory services, scientific and engineering expertise, and data-driven insights to help clients navigate complex challenges and deliver sustainable outcomes. Working across more than 60 technical disciplines, SLR partners with clients throughout the project life cycle, serving industries including mining and minerals, infrastructure, energy, the built environment, finance, and industry.

Throughout the years SLR has developed strong ties with the regulators, industry, academia and non-for-profit groups and associations. Since 1994, SLR have built "One Team" of talented environmental and business consultants, engineers and scientists. We partner with clients throughout their project life-cycle from strategy and design, through compliance and operations to closure.

Value Proposition

- Proven teams applying scientific research to create efficiencies and solve our client's most complex needs
- Increased data certainty to support decision making
- Site specific applications and outcomes
- Reduced environmental liabilities and associated management costs
- Improved corporate image and reduced financial and regulatory uncertainties through Making Sustainability Happen

Commercial Status

- ☒ Commercial
- ☐ Demonstration
- ☐ Pilot
- ☒ Prototype

Target Market

- ☒ Oil Sands
- ☒ Conventional Oil & Gas
- ☒ CCUS
- ☒ Hydrogen
- ☒ Mining
- ☒ Renewable Energy

Market Traction & Commercial Success

SLR's work with PTAC has effectively driven change throughout AURF funded projects as follows:

1) Novel Molecular Test to Detect Canadian Toad Environmental DNA (eDNA). Unexpected discoveries of the Canadian toad can introduce costly delays to ongoing projects. Early detection of this species is key to minimizing schedule interruptions. By sampling eDNA from potential breeding ponds, presence or absence can be inferred. This early-warning approach to Canadian Toad detection provides flexible survey scheduling, opportunities for mitigation, and ultimately reduces regulatory and project risks.
2) Review of Analytical Methodologies and Interpretation of Analytical Results in Peat: Overcoming Alberta Challenges. This study produced best practices for assessment in peatlands, where concentrations of naturally occurring chemical compounds often exceed current regulatory guidelines. Project focused on faster and more cost-effective closure of assets located in peatlands.

PTAC Contribution

In 2025/2026 SLR in partnership with Bureau Veritas Laboratories and PR Enviro Forensics developed a best practice document on assessment methodologies in peat for the purposes of regulatory site closure.
In 2024, the Ecological Research Planning Committee (ERPC) partnered with SLR Consulting and University of Guelph to develop a rapid, safe, and cost-effective molecular test to detect Canadian toad environmental DNA (eDNA) in wetland samples.

Export Achievements

- eDNA project
- Peatland Assessment project

Spartan Controls

Technology Compass

Company Overview

Spartan Controls helps industrial operators improve performance and reduce environmental impacts through integrated automation, measurement, electrification and emissions-reduction solutions. Our Sustainable Operations portfolio combines field-proven technologies, engineering expertise and lifecycle support across three scalable areas: (1) electrification and low-emission control; (2) emissions measurement and monitoring; and (3) mitigation, optimization and emissions elimination. Together, these solutions support projects from baseline measurement through implementation and ongoing optimization at new and existing facilities across Canadian energy, mining, and other industrial markets.

How it Works

1. Electrification and Low-Emission Control:
Electric chemical injection, non-pneumatic control, electric and electro-hydraulic actuation, electric instrumentation, motor-driven equipment, VFDs, MCCs and integrated power and control systems reduce reliance on methane-emitting or inefficient field equipment.

2. Emissions Measurement and Monitoring:
Vent-gas and compressor-packing measurement, sampling systems, instrument-air quantification, flare and open-path monitoring, stack emission quantification and mitigation, tank-level and vapour-space monitoring, and equipment diagnostics establish actionable baselines and improve operating outcomes.

3. Mitigation, Optimization and Emissions Elimination:
Combustion optimization, catalysts, vapour recovery, vent-gas capture, pressure management, compressor and valve upgrades, and advanced control convert measured data into practical reduction projects.

Solutions can be deployed individually or combined into a site-level program.

Value Proposition

Spartan brings measurement, automation and emissions-reduction technologies together into practical, integrated solutions that address both operational and environmental priorities. By combining field-proven technology with application expertise, engineering and lifecycle support, Spartan helps operators identify reduction opportunities, select the right technology and implement solutions within existing and planned infrastructure. This integrated approach helps reduce emissions, improve reliability and efficiency, simplify deployment, and create a scalable pathway from individual equipment upgrades to broader site-wide improvements.

Commercial Status

- ☒Commercial
- ☐Demonstration
- ☐Pilot
- ☐Prototype

Target Market

- ☒Oil Sands
- ☒Conventional Oil & Gas
- ☒CCUS
- ☒Hydrogen
- ☒Mining
- ☒Renewable Energy

Market Traction & Commercial Success

Spartan's Sustainable Operations solutions are commercially available and have been deployed across Western Canada's energy sector.

The portfolio builds upon established automation, instrumentation, actuation, combustion and emissions-management capabilities, enabling customers to implement targeted retrofits or integrated, site-wide programs.

Spartan has also supported PTAC-related methane-reduction projects involving electric chemical injection pumps, instrument-air systems, measurement and monitoring technologies, and emissions-reduction retrofits, helping move proven solutions toward broader industry adoption.

PTAC Contribution

Working with PTAC, LCO successfully secured CRIN funding to advance and validate its CROSSFIRE™ Platform, an ultra-low-power system designed to replace conventional gas-driven pneumatic equipment, a major source of methane emissions. PTAC supported the project through funding application expertise, industry engagement, and commercialization activities. The project resulted in 183 field installations, including deployments with PTAC members.

Trido Energy Services

Technology Compass

Company Overview

Trido Energy Services designs and manufactures 100% electric, solar-compatible equipment for oil and gas production sites. Our injection pumps, circulation pumps, and instrument air compressors share a platform: a 3-phase AC motor paired with a Trido VFD controller, built for reliable off-grid performance with industry leading autonomy.

How it Works

Every Trido unit — the TR5100 Injection Pump, Circulation Pump, and SolAIR Compressor — is built around the same core: a 24V, 3-phase permanent-magnet AC motor driven by a Trido Minimizer or TSC-1000 VFD controller. Because these motors draw as little as 75–190W peak, each unit runs efficiently on solar power alone, with battery backup for continuous off-grid operation. The shared controller platform also standardizes remote monitoring — every unit reports strokes, runtime, and performance data over SCADA/MODBUS, so operators get the same visibility whether they're managing chemical injection, fluid circulation, or instrument air. Because the platform is fully electric, it eliminates the venting associated with gas-driven pneumatics, making every site Carbon Credit compliant without changing how field staff operate the equipment.

Value Proposition

One electric platform, three applications. By standardizing the TR5100 Injection Pump, Circulation Pump, and SolAIR Compressor on a common 3-phase AC motor and VFD controller, Trido lets operators replace pneumatic and gas-driven equipment site-wide with a single, solar-ready design — cutting emissions, simplifying spares and training, and giving every unit the same remote monitoring and Carbon Credit compliance.

Commercial Status

- ☒ Commercial
- ☐ Demonstration
- ☐ Pilot
- ☐ Prototype

Target Market

- ☐ Oil Sands
- ☒ Conventional Oil & Gas
- ☐ CCUS
- ☐ Hydrogen
- ☐ Mining
- ☐ Renewable Energy

Market Traction & Commercial Success

Trido's electric platform has scaled well beyond pilot deployment: over 10,000 chemical injection pumps, 4,000+ circulation pumps, and 100+ compressors are active in the field across Western Canada and the United States. Operators are converting chemical injection, circulation, and instrument air systems from gas-driven pneumatics to Trido's solar-compatible electric equipment at scale. All three products are Class 1 Division 1 certified for hazardous locations and integrate with existing SCADA/MODBUS infrastructure, so operators can adopt the technology without disrupting existing remote monitoring systems. As methane and venting regulations tighten, this shared platform gives producers a proven, repeatable path to emissions-free instrumentation across their sites.

PTAC Contribution

Every Trido unit is 100% emissions-free and independently verifiable, giving producers a direct, quantifiable emissions reduction for each pneumatic device replaced — supporting methane-reduction targets and making converted sites straightforward to document and monetize through carbon credit programs.

Export Achievements

- Deployed at remote, off-grid well sites across the Western Canadian Sedimentary Basin, replacing gas-driven pneumatics with fully electric, solar-compatible equipment.

PTAC
PETROLEUM TECHNOLOGY ALLIANCE CANADA

Ultimarii

Technology Compass

Company Overview

Ultimarii is an AI-driven regulatory intelligence platform for energy infrastructure development. It streamlines complex permitting, compliance, and approval processes using high quality reference data and agentic workflows.

How it Works

Ultimarii combines leading AI models with curated regulatory data, purpose-built workflows and embedded subject-matter expertise. Its public libraries hold more than 2 million curated documents from over 50 Canadian and U.S. regulatory bodies, including decisions, historical applications, hearing records, rules, directives and tariffs.

Customers add secure, access-controlled private libraries of their own past project materials, internal guidance and asset documentation. Users can search this data instantly, ask questions and get expert answers in seconds, automatically review documents to flag critical details before submission, and draft applications, information request responses and regulatory roadmaps.

Hundreds of configurable AI Playbooks cover recurring workflows such as permitting roadmaps, project risk analysis and hearing preparation. The platform is shaped by more than 25 industry advisors and holds SOC 2 Type II, ISO 27001 and ISO 42001 certifications.

Value Proposition

Ultimarii helps regulatory, legal and project teams complete regulatory workflows up to 10 times faster. By automating the document-intensive work around professional judgment, such as finding precedents, reviewing applications, drafting information request responses and building permitting roadmaps, the platform shortens approval timelines for projects where delays can put billions of dollars of capital at risk, while meeting the security standards required by governments and critical utilities.

Commercial Status

- [x] Commercial
- [ ] Demonstration
- [ ] Pilot
- [ ] Prototype

Target Market

- [x] Oil sands
- [x] Conventional Oil & Gas
- [ ] CCUS
- [ ] Hydrogen
- [x] Mining
- [x] Renewable Energy

Market Traction & Commercial Success

Ultimarii has demonstrated strong market traction since launching commercially, rapidly earning the trust of leading organizations across energy, utilities, infrastructure, professional services, and government.

The company has grown to 25+ enterprise customers, including major utilities, energy producers, law firms, and public-sector organizations, validating both the scale of the regulatory challenge and demand for purpose-built AI-powered solutions. This momentum has been driven by meaningful enterprise adoption, expansion within existing customers, and a growing customer base across Canada and international markets.

PTAC Contribution

Export Achievements

- Serving US customers alongside Canadian clients

Ventmedic Corporation

Technology Compass

Company Overview

VENTMEDiC® is a cutting-edge digital Measurement, Reporting, and Verification technology (d-MRV). It goes beyond traditional methods, ensuring unparalleled accuracy and transparency in methane emissions quantification. We create trust in the development of carbon markets, with auditable mass flow measurements.

How it Works

Connect
Start by connecting your VENTMEDiC® device directly to the well site. We ensure easy installation in even the most remote locations.

Configure
Use our intuitive user-interface software to tailor the system to your specific industry requirements, remotely or onsite.

Monitor & Manage
Enjoy autonomous control capabilities to remotely adjust settings, responding proactively to data insights.

Annual Calibration
Designed for low-maintenance operation with an annual calibration process ensuring long-term reliability and compliance.

Value Proposition

VentMEDIC Corp pioneers the future of environmental stewardship with our cutting-edge emission measurement technology. Born from 25 years of industry expertise and spanning a global market our mission is to transform how businesses measure and manage greenhouse gas emissions.

Commercial Status

- ☒ Commercial
- ☐ Demonstration
- ☐ Pilot
- ☐ Prototype

Target Market

- ☐ Oil Sands
- ☒ Conventional Oil & Gas
- ☐ CCUS
- ☐ Hydrogen
- ☐ Mining
- ☐ Renewable Energy

Market Traction & Commercial Success

- Continued field testing VM units in Canada to identify challenges of real-world scenarios of various emissions markets.
- Entered initial discussions with USA manufacturing partner – ongoing.
- Attracted re-seller / end user from EU (Romania) working on deal currently.
- Attracted re-seller / end user from AUS with recommendation from Cdn Trade Commissioner.
- Attracted re-seller / end user from Colorado with interest in multi state exclusivity.

PTAC Contribution

Export Achievements

- Attracted re-seller agreements and sales within MENA region and Australia.

VL Energy Ltd.

Technology Compass

Company Overview

VL Energy is a Calgary-based industrial AI and clean technology company specializing in predictive emissions monitoring and energy optimization. Its regulator-approved ES-PEMS™ platform uses existing operational data to provide real-time, multi-gas emissions monitoring without physical analyzers, while ES-OptiEnergy uses AI-driven analytics to optimize energy performance, reduce fuel costs, and improve efficiency. Together, the platforms help industrial operators strengthen compliance, lower monitoring costs, reduce emissions, and improve operational performance.

How it Works

ES-PEMS™ and ES-OptiEnergy connect to a facility's existing operational data, including temperature, pressure, flow, oxygen, fuel consumption, equipment load, and other process variables. ES-PEMS™ applies AI-driven predictive models to estimate and monitor emissions, flue-gas conditions, and related performance indicators in real time. ES-OptiEnergy analyzes the same data to identify energy losses, inefficient operating conditions, and opportunities to improve equipment performance. The platforms present results through secure dashboards, alerts, reports, and actionable recommendations for plant personnel. Site-specific models are developed and validated using facility data, then monitored to maintain performance as operating conditions change. Together, the solutions support emissions compliance, energy management, cost reduction, and continuous operational improvement without requiring extensive new monitoring hardware.

Value Proposition

VL Energy combines regulator-approved predictive emissions monitoring with AI-driven energy optimization in one integrated offering. ES-PEMS™ lowers the cost and complexity of emissions monitoring, while ES-OptiEnergy helps facilities reduce fuel use, energy costs, and operational inefficiencies. By using existing plant data, both platforms can be deployed with minimal disruption and deliver continuous, actionable insights that strengthen compliance and improve performance.

Commercial Status

- ☒ Commercial
- ☐ Demonstration
- ☐ Pilot
- ☐ Prototype

Target Market

- ☒ Oil Sands
- ☒ Conventional Oil & Gas
- ☐ CCUS
- ☐ Hydrogen
- ☒ Mining
- ☒ Renewable Energy

Market Traction & Commercial Success

VL Energy has commercialized ES-PEMS™, a regulator-approved, AI-powered predictive emissions monitoring platform designed for industrial operations. The system is recognized as the first software-based emissions monitoring solution approved by both the Alberta Energy Regulator and Alberta Environment and Protected Areas. By using existing plant sensors rather than additional monitoring hardware, ES-PEMS can reduce monitoring costs by up to 90% while delivering real-time, multi-gas emissions monitoring and continuous reporting. VL Energy is expanding its commercial reach across oil and gas, power generation, AI data centres, agriculture and combined heat and power, and heavy industry. ES-OptiEnergy strengthens the offering with real-time energy monitoring, performance benchmarking, demand forecasting, automated utility analysis, and actionable efficiency recommendations. Together, the platforms address growing industrial demand for lower compliance costs, improved energy performance, and measurable emissions reductions.

PTAC Contribution

PTAC supported VL Energy's CRIN project by providing a formal letter of support and committing $20,000 of in-kind support for project management and knowledge-sharing activities. PTAC also facilitated industry collaboration, increased project visibility, supported knowledge mobilization, and helped promote broader adoption of VL Energy's methane- and emissions-reduction technologies across the energy sector.

WeldFit Services Canada LTD.

Technology Compass

Company Overview

Experts in pipeline intervention, flow assurance and mobile compression. From safeguarding the largest transmission networks to maintaining the distribution lines that deliver energy directly to communities, we help keep critical energy infrastructure operating safely, efficiently and without interruption. Our core offerings are all wrapped around maintaining pipeline uptime and mitigating voluntarily vented / flared emissions.

How it Works

WeldFit's ReCAP mobile gas re-compression technology eliminates gas venting/flaring during blowdown. Once isolated, stranded gas is pulled out of your pipeline or other gas processing infrastructure and then recompressed into another system (typically on the other side of the isolation).

Value Proposition

For your gas infrastructure, ReCAP eliminates the need to vent/flare/incinerate, keeping profitable gas in the pipe while avoiding emission tax.

Commercial Status

- ☒ Commercial
- ☐ Demonstration
- ☐ Pilot
- ☐ Prototype

Target Market

- ☒ Oil Sands
- ☒ Conventional Oil & Gas
- ☒ CCUS
- ☐ Hydrogen
- ☐ Mining
- ☐ Renewable Energy

Market Traction & Commercial Success

WeldFit has successfully gone through HAZOP & testing with a large Canadian midstream operator. We have completed 4 blowdown elimination events to date in Canada. This technology has been working in the US for 5 years, with many operators.

PTAC Contribution

WeldFit has participated in several Methane Leadership Summits and has presented our ReCAP technology online on 1 occasion.

Export Achievements

- This is a US based technology, exported into Canada. It has also been exported rom the US to the Middle East.

PTAC
PETROLEUM TECHNOLOGY ALLIANCE CANADA

WestMET ERS Technology Compass

Company Overview

WestMET ERS helps energy producers solve complex reclamation, remediation, soil and water-management challenges by combining decades of field experience with applied research and technology development. From conventional reclamation to field trials and commercial implementation, WestMET develops practical solutions that reduce environmental liabilities and improve closure outcomes. Current innovation includes humalite-based soil enhancement and fabrication, remediation and water treatment, with a focus on generating defensible field evidence and scalable solutions.

How it Works

WestMET ERS begins by understanding site conditions, client objectives, and environmental challenges. The team develops practical reclamation, remediation, soil, vegetation, and environmental-management strategies supported by field implementation and monitoring.

Where innovation can add value, WestMET integrates applied research, laboratory testing, field trials, and collaboration with academic and industry partners.

This approach addresses immediate environmental needs while generating the scientific evidence and performance data required to build regulatory confidence, inform decision-making, and advance humalite-based technologies toward broader field and commercial application.

Value Proposition

✓ **Integrated environmental services** — practical reclamation, soil, vegetation, and site management.
✓ **Research connected to practice** — applied research in remediation, reclamation, and water treatment.
✓ **Humalite innovation** — advancing applications in soil enhancement, reclamation, remediation, and water treatment.
✓ **Better outcomes** — supporting informed decisions, reduced liabilities, and sustainable land management.

Commercial Status

- ☒ Commercial
- ☒ Demonstration
- ☒ Pilot
- ☐ Prototype

Target Market

- ☒ Oil Sands
- ☒ Conventional Oil & Gas
- ☐ CCUS
- ☐ Hydrogen
- ☒ Mining
- ☐ Renewable Energy

Market Traction & Commercial Success

✓ **Established experience** — Experienced provider in reclamation, land restoration and environmental management services.

✓ **Applied research** — progressing from laboratory evaluation to field-scale testing and operational demonstrations.

✓ **Expanding humalite portfolio** — opportunities in soil fabrication, reclamation enhancement, remediation, and water treatment.

✓ **Strategic partnerships** — Collaborating with industry, academic, indigenous, and regulatory partners to validate solutions, share information, and support commercialization

PTAC Contribution

WestMET ERS looks forward to partnering with PTAC to connect operators, regulators, and technical experts with emerging research and field learnings. By creating opportunities to share results, demonstrate applications, and discuss performance in real-world settings, PTAC can help operators assess field applicability while supporting regulator understanding and confidence in science-based environmental solutions.

Export Achievements

Humalite for soil and vegetation enhancement exports to:
✓ North America ✓ Europe ✓ Asia