



EMPowered Heat

Industrial process heat is going electric.

September 2024

www.acceleware.com



Forward Looking Statements & Advisory

Certain statements in this presentation include forward-looking information (as defined in Canadian securities legislation). Such statements appear in Slide 3 (Introducing Acceleware), Slide 5 (Future Market Size), Slide 6 (Up to 2000°C), Slide 7 (EMPowered Heat is Entirely Different), Slide 8 (How EMPowered Heat is Entirely Different), Slides 9 ((EMPowered Heat with Clean Tech Inverter), Slide 10 (EMPowered Heat at Work), Slide 11 (Molecular Heat = Efficient Heat), Slide 13 (Achievements), Slide 14 (EMPowered Heat Commercialization), Slide 15 (Business Model), and Slide 16 (Strategic Pillars).

These statements involve numerous assumptions about future economic conditions and courses of action and are therefore subject to various risks and uncertainties. These risks and uncertainties include, but are not restricted to, the ability of Acceleware Ltd. ("Acceleware", "AXE" or the "Corporation") to fund its research and development ("R&D") activities, the timing of such R&D, the likelihood that the patent applications filed by the Corporation will be granted, continued increased demand for the Corporation's products, the Corporation's ability to maintain its technological leadership in various fields, the future price and cost of producing heavy oil and bitumen, the availability of key components, the Corporation's ability to attract and retain key employees and defend itself against any future patent infringement claims, and the ability of the Corporation to extend the application of RF heating to new markets.

There can be no assurance that such statements will prove to be accurate. Actual results could differ materially from those anticipated in such statements. These and all subsequent written and oral forward-looking statements are based on the estimates and opinions of management on the dates they are made and expressly qualified in their entirety by this notice. The Corporation assumes no obligation to update forward-looking statements should circumstances, or management's estimates or opinions, change except as required by law.



We develop highly scalable electromagnetic (EM) heating solutions for industrial process heat to economically electrify and decarbonize processes previously considered difficult to abate.

The Problem:

Industrial heat accounts for a massive **15% of global GHG emissions**. The DOE defines industrial process heat as the use of thermal energy to produce, treat, or alter manufactured goods.

Electrifying Industrial Process Heating is Hard

Electrification methods are often:



expensive

difficult to scale



inefficient



15%



\$1 Trillion



Recent reports quantify the electrification of industrial heat as the next \$1 Trillion market.

Bloomberg NEF

US\$500 Billion by 2037

Energy transition expert and founder of Bloomberg NEF Michael Liebreich expects the market for the electrification of heat will reach \$500 billion by 2037.¹

Ambienta Research

€1 Trillion Market

Ambienta Environmental Investments' Saverio Zefelippo and Fabio Ranghino predict the Electrifying Industrial Heat market will reach €1 trillion².

¹ Liebreich: The Next Half-Trillion-Dollar Market – Electrification of Heat

² Ambienta Environmental Investments: Electrifying Industrial Heat 2023

Heat pumps are part of the answer but can only target small scale and lower temperature electrification of heat processes (up to 200°C for now).

EMPowered Heat can do for high-temp, high-power process heat what heat pumps do for comfort/building heat.

Up to 2000°C



EMPowered Heat is Entirely Different

Entirely New Technology: allows for **economic** electrification of industrial process heat via electromagnetic (**EM**) energy for the first time, removing barriers that prevented success in large-scale electrification of heating in the past.

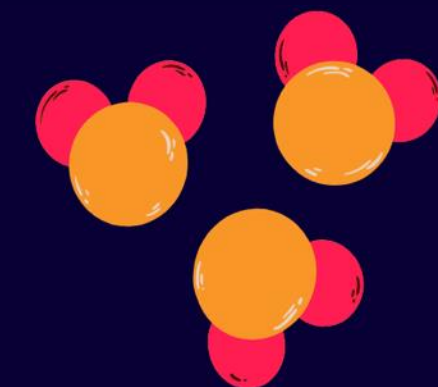


Delivers High Power/High Temp Heat with EM Energy: molecular level heating is scalable to high volume and high power (megawatts of heat power).



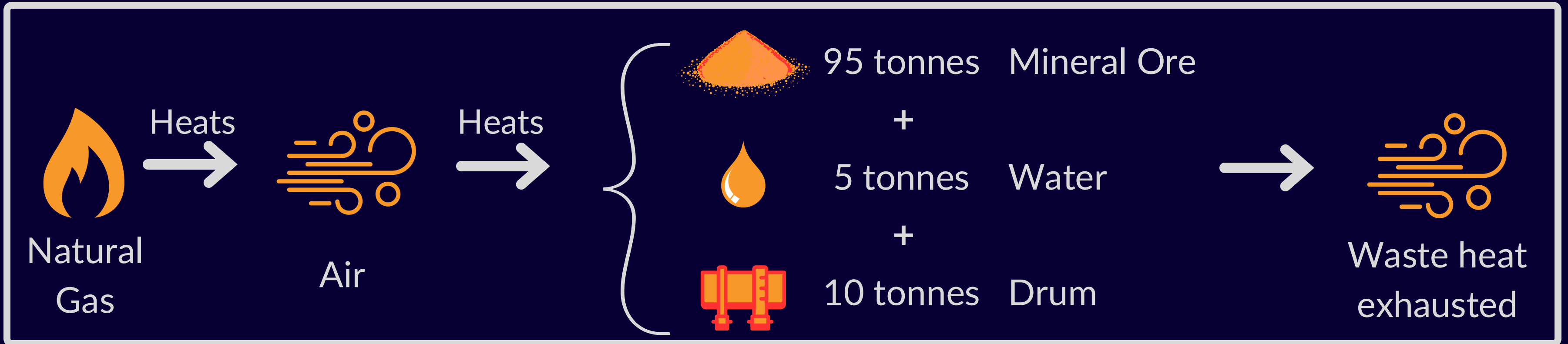
Less Expensive: At industrial scale, high temperature, or high power it can be less expensive than other electric methods.

Efficient: By coupling **EM** power directly to materials, the result is less waste energy.

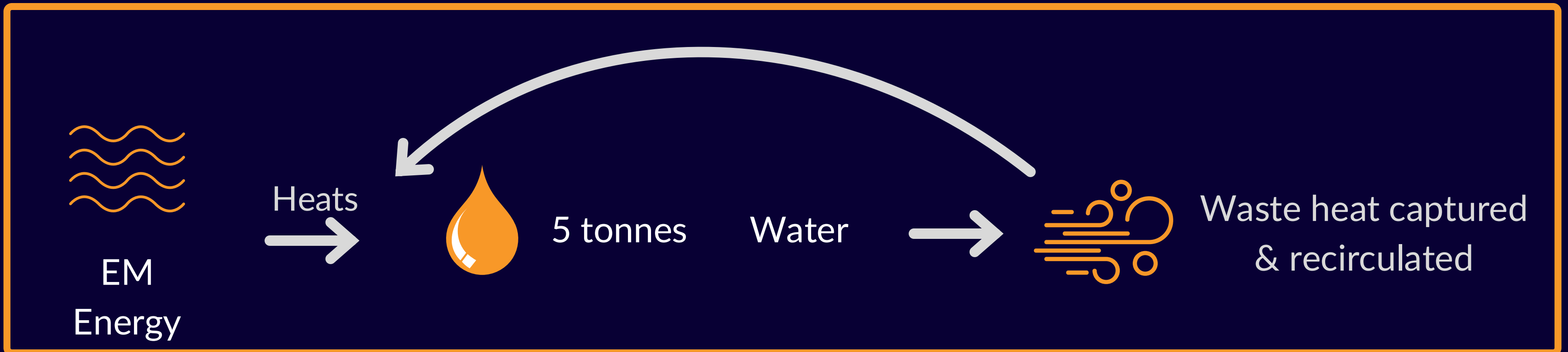


EMPowered Heat: Case Study

Traditional Combustion Dryers – Heat and Dry 110 Tonnes



Vs EMPowered Heat Dryers – Heat and Dry 5 Tonnes



EMPowered Heat with the Clean Tech Inverter

Cracking the code on **EM** energy for Industrial Process Heat is an Electrification Game-Changer

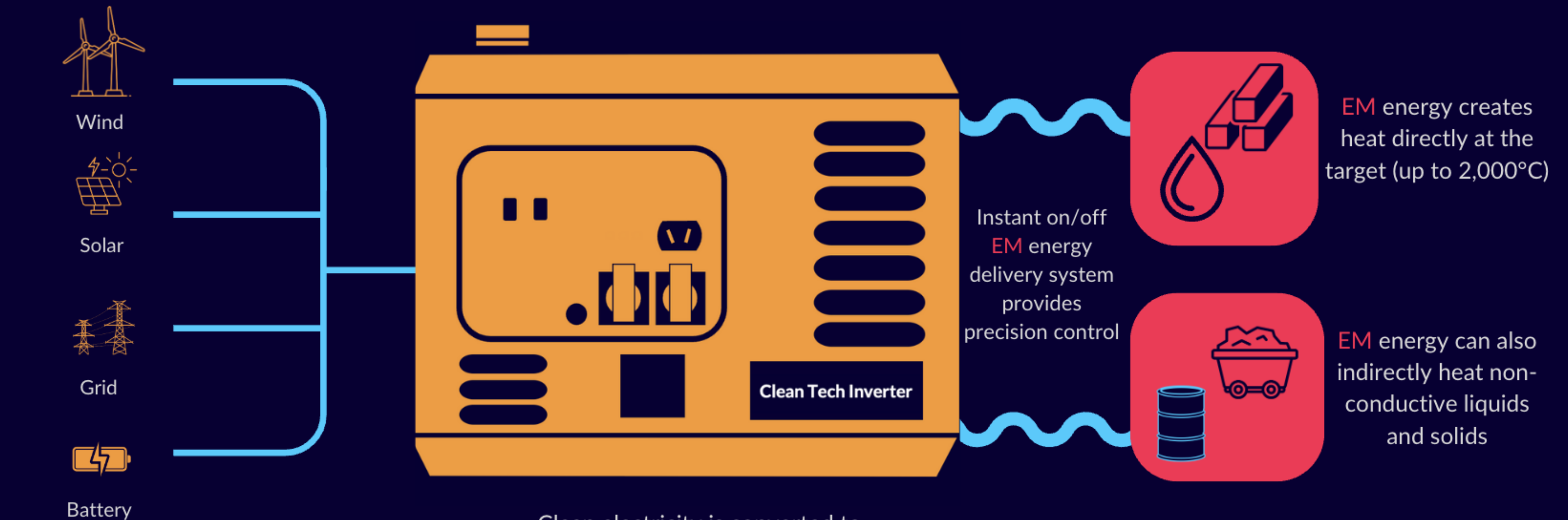


CTI



Breakthrough Solution + 15% Global GHGs + \$1 Trillion Market = Opportunity

EMPowered Heat at Work



Zero-carbon wind, solar, battery storage or grid power can be fed directly to the CTI

Clean electricity is converted to 98% efficient EM energy

EMPowered Heat takes advantage of electromagnetic properties found within all materials to heat molecules directly, rather than relying on multiple heat transfer paths - **eliminating significant energy losses** and unnecessary equipment footprint.

Molecular Heat = Efficient Heat

- Delivers EM energy intelligently by coupling power to heated materials at the molecular level.
- Precisely controls the power level and could improve yield.
- Highly tolerant to EM interference/noise.
- Can operate on intermittent power and instant on/off capability, avoiding peak time operation and allowing 100% renewable power sources without battery storage requirements

No wasted energy transferring heat from one place to another.

No wasted energy distributing heat throughout the material mass.



Applications



Heavy Oil

- Thermal enhanced oil recovery – RF **XL**
- Hot water flood
- Refinery heating processes



Mining

- Mineral drying
- Heap heating
- Calcining
- Thermal fracturing
- Pre-conditioning



Agriculture & Food

- Grain & seed drying
- Manure & slurry drying
- Powder drying



Clean Fuels & H₂

- Pyrolysis of methane or biomass
- Bio-fuel feedstock drying
- Process heat



Pulp & Paper

- Product drying
- Process heat



Steel

- Direct Reduction of Iron
- Calcining
- Blast furnaces
- Boilers / process heat



Cement

- Calcining
- Process heat
- Drying



Other

- Carbon Capture
- Pharmaceuticals
- Biomass
- Glass
- And more

Achievements



The **CTI** is a solid-state heat on demand technology able to deliver up to 100 MW of **EM** power with 98% conversion efficiency.

RF **XL** Heavy Oil Pilot

Commercial-scale pilot started heating in 2022. \$30M project with support from Suncor, Cenovus, 3rd major oil sands operator, ERA, AI, CRIN, and SDTC. RF XL longest duration RF subsurface test at highest power levels in history.

IP Portfolio

Extensive and growing portfolio of patents, filings and trade secrets protect the core technology (CTI) as well as each of the energy delivery methods designed for specific applications.

Mining - IMII

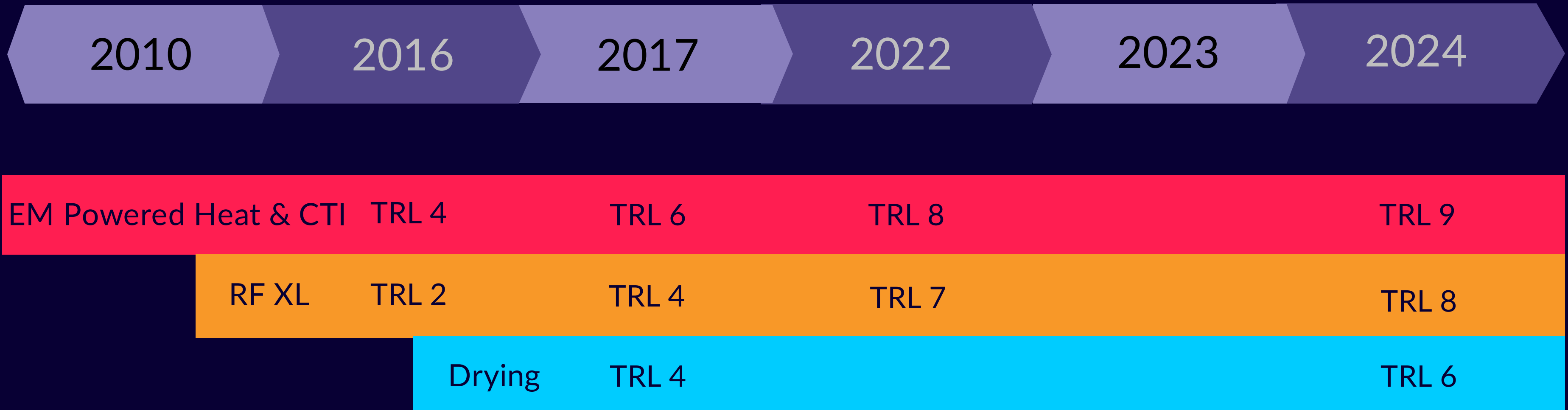
EMPowered potash ore drying pilot project with IMII members BHP, Nutrien, and Mosaic started Q3 2023 – 1 t/hr dryer in Q2 2024 and plan to scale to 10 t/hr in 2025. Mineral proof of concept dryer completed in 2017.

Mineral Dryer 500 kW

2017 Successful field test of mineral dryer technology – validated ability to dry at TRL 4 using high power.



EMPowered Heat Commercialization



Development time for new applications is dramatically reduced now that our core CTI technology is proven and commercial ready.

Business Model

	Value Proposition vs. Status Quo		AXE Revenue and GM			Serviceable Market
RF XL (per well)	% CAPEX Saving	50%	Initial Sale	\$2.9M	50% Gross Margin	AB / ROW wells / year 497 / 994
	% OPEX Saving	40%	Recurring Revenue	\$250K		
Dryers (per MW)	% GHG reduction	50%	Initial Sale	\$1.1M	50% Gross Margin	Global Market \$3.5B/yr
	% OPEX Saving	20%-60%	Recurring Revenue	\$60K		

Strategic Pillars

Novel decarbonization technology targeting \$1 trillion opportunity with strong IP portfolio.

- TRL 9 CTI – the core technology behind EM Powered Heat is ready to commercialize.
- Partnerships and pilot projects with global industry leaders to commercialize heating platforms with significant global demand:
 - Oil Sector: Suncor, Cenovus, Chevron
 - Mining: BHP, Nutrien, Mosaic Co. (potash).
 - This creates a massive (~ 1 Trillion dollar) energy transition opportunity for the efficient and cost effective decarbonization of industrial heat.
- Mineral dryer and EM Heavy Oil production tech targeted for TRL 9 in 2025.

15% Industrial Heat % of Global Emissions

Global Demand Driver

\$1 trillion Total Addressable Market

Massive Emerging Market

62 Patents Granted / In Progress

Strong & Growing IP Portfolio

Financial Overview

Trading Information (June 2024)

Symbol	TSXV: AXE
Shares Outstanding	118.3 million
Diluted Shares Outstanding	134.3 million
Recent Price	\$0.12

Capital Structure (June 2024)

Market Capitalization	\$13.0 million
Net debt (long-term debt less cash)	\$2.0 million
Insider ownership	14%
Key institutional investors	14%

Invested in R&D since inception

\$50M

Including \$30M invested in the RF XL Pilot

Capital raised since going public

\$21M

Private placement of shares, units, debentures and since 2006

Government Grants Awarded To Date

\$20M

For RF XL commercial scale prototype and subsequent field testing

Industry contribution to development

\$14M

For technology evaluation and development of the CTI and pilots

The Team: Proven Track Record

Leadership

Geoff Clark, BSc, MBA
Chief Executive Officer

Michal Okoniewski, PhD
Chief Scientific Officer & Co-Founder

Mike Tourigny, BComm, MBA
Chief Operating Officer

Tracy Grierson, CPA, CA
Chief Financial Officer

Kate Tourigny
VP Decarbonization

Our team is in it for the long term, with **average tenure of 13 years** and growing for management and a decade and growing for contractors and employees alike.

The leadership team has **over 150 years combined experience** in tech development and commercialization, as does the tech team, which has published hundreds of academic papers. To date we have **filed 62 patents with 26 granted**.

Our collective skill set is highly complimentary, resulting in the right people to develop the technology and the right people to scale the business.



EMPowered Heat

Industrial process heat is going electric.

Telephone
403.249.9909

Address
435 10th Avenue SE
Calgary, Alberta
T2G 0W2

Website
www.acceleware.com

September 2024