



## THE CHVALETICE MANGANESE PROJECT

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Poised to Support the  
Energy Transition

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International Precious Metals  
& Commodities Show

November 5, 2022





## Forward-Looking Statements and Risks Notice

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All forward-looking statements are made based on the Company’s current beliefs as well as various assumptions made by the Company and information currently available to the Company. Generally, these assumptions include, among others: the presence of and continuity of manganese at the Project at estimated grades; the ability of the Company to obtain all necessary land access rights; the availability of personnel, machinery, and equipment at estimated prices and within estimated delivery times; currency exchange rates; manganese sales prices and exchange rates assumed; growth in the manganese market; appropriate discount rates; tax rates and royalty rates applicable to the proposed operations; the availability of acceptable Project financing; anticipated extraction losses and dilution; and success in realizing proposed operations. Although the forward-looking statements contained in this presentation are based upon what management of the Company believes are reasonable assumptions, the Company cannot assure investors that actual results will be consistent with these forward-looking statements. These forward-looking statements are made as of the date of this presentation and are expressly qualified in their entirety by this cautionary statement. Subject to applicable securities laws, the Company does not assume any obligation to update or revise the forward-looking statements contained herein to reflect events or circumstances occurring after the date of this presentation.



# Battery metals company poised to become a leading producer of high-purity Mn

Focused on delivering fully-traceable, responsibly-produced high-purity Mn products for the EV industry



Set to become a major European producer of high-purity manganese



Strategically located in heart of world's fastest-growing EV battery market



Positioned to support the shift to a circular, low-carbon economy



Well-funded; project backed by EU institutions (EBRD, EIT InnoEnergy)



Aim to have best-in-class environmental & social performance



Experienced team with deep high-purity manganese experience



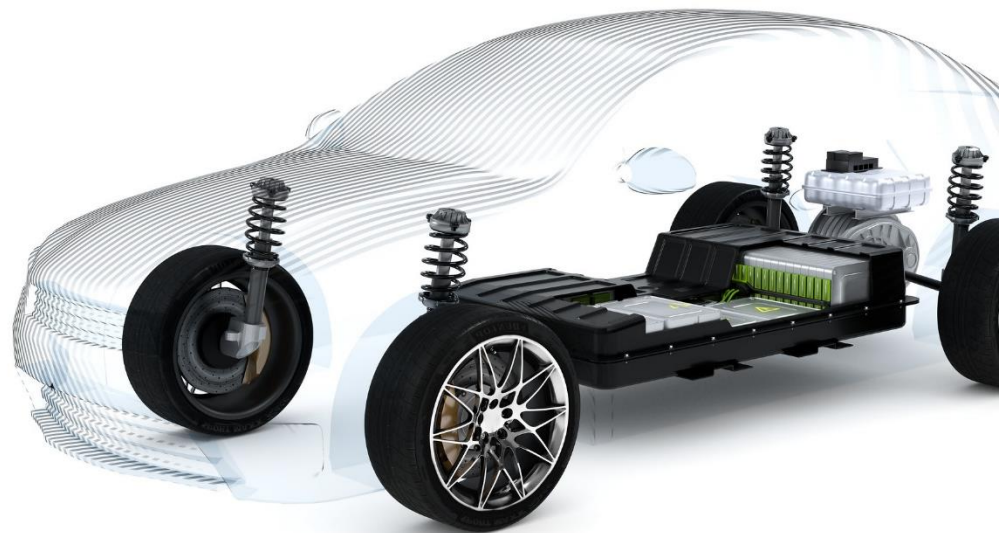
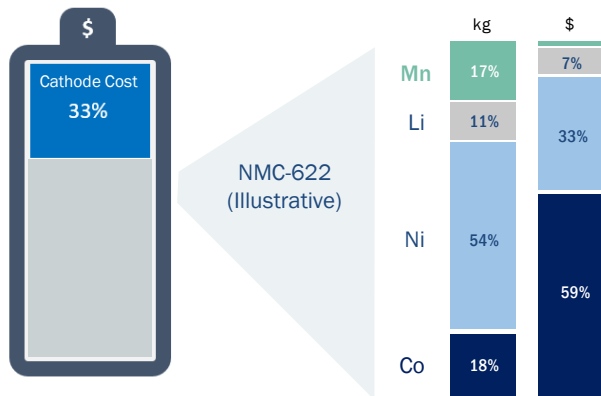
First step in building a multi-asset manganese platform





## Manganese (Mn), the affordable battery metal, is essential in cathode chemistries

High-purity manganese, like cobalt, stabilises nickel in a modern Li-ion EV battery, yet it accounts for **only 1-2%** of the cost of cathode materials



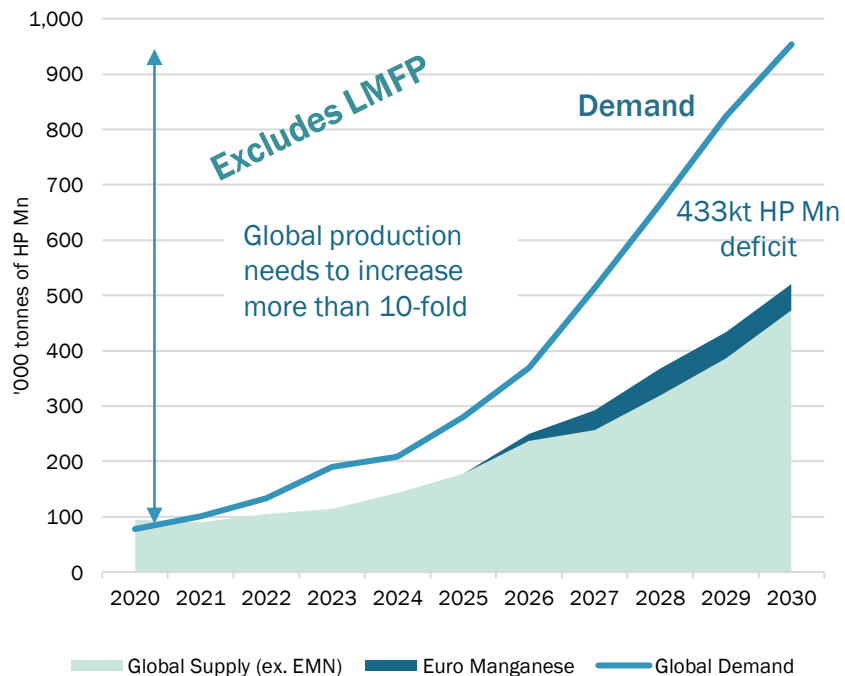
Nickel-manganese-cobalt (NMC) cathode batteries are currently the dominant chemistry, with ~ 50% market share (2020)



# Key demand drivers: EV market growth, supercharged with high Mn chemistries

## Global High-Purity Manganese Demand & Supply to 2030

(thousand tonnes of Mn)



Battery manufacturers are developing high manganese chemistries, which lower costs (NMC370, LMNO, NMx, LMFP)

**SVOLT**

Commercial NMx 30% Mn

**BASF**

Scaling up NMC370 70% Mn

**MORROW**  
HALDOR TOPSOE

Scaling up LNMO ~40% Mn

**CATL**

Commercial 2023 LMFP 40-60% Mn

Under Development

**umicore**



**posco**

Developing Mn-rich, layered (NMx-type) CAM. R&D stage.

**SAMSUNG**  
SAMSUNG SDI  
NMx

**Panasonic**

Cobalt-free battery for Tesla



## Demand for traceable local supply, but lack of production capacity in Europe

### Regional Primary Ore Supply

#### EUROPE

- ◆ No ore supply in Europe today
- ◆ EMN primary supply

#### CHINA

- ◆ Low grade ore
- ◆ 90% of Mn ore needed is imported (mainly from Africa)

#### AFRICA

- ◆ Large ore resources
- ◆ Ore exported to China
- ◆ Small amount exported to Europe
- ◆ Some processed in South Africa



### Regional High Purity Mn Production

#### EUROPE

- ◆ One small plant processing African ore in Belgium (2ktpa)
- ◆ Euro Manganese plans to be the third non-China plant (50ktpa at full capacity)

#### CHINA

- ◆ 3/4 of global HP Mn Production
- ◆ Lack of traceability
- ◆ Variable specifications and purity

#### AFRICA

- ◆ One plant in South Africa currently producing high purity manganese metal (28ktpa)

Source: CPM Group, based on 2020 data

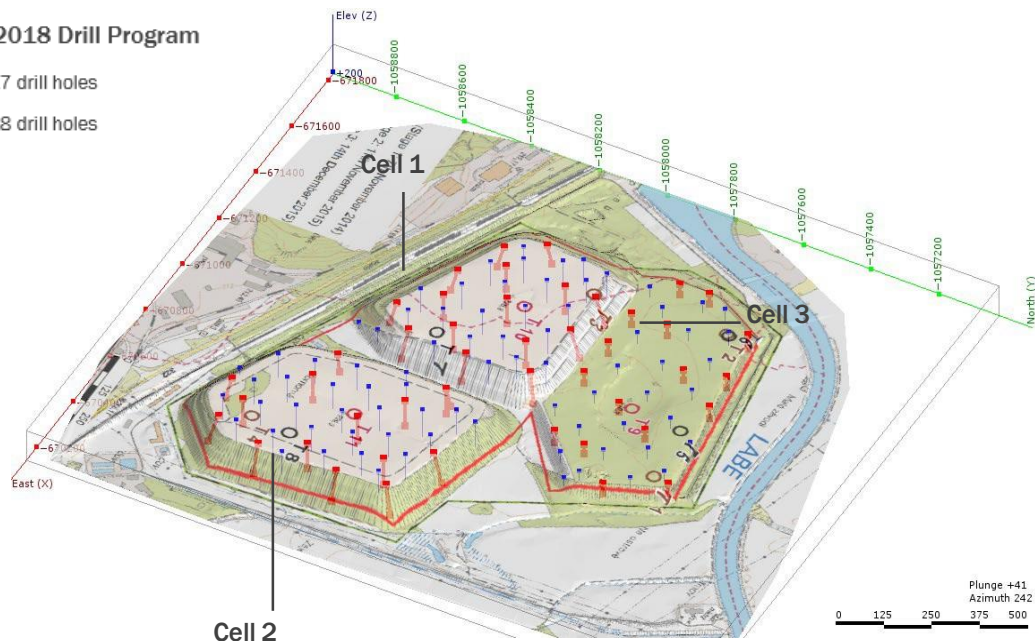


# Chvaletice delivers high-purity manganese supply security for Europe...

Stable production over 25-year project life, supported by 27 Mt reserve base

## 2017-2018 Drill Program

- 2017 drill holes
- 2018 drill holes



- ❖ Strategically located
- ❖ Unique waste-to value project
- ❖ Mineral Reserve is well defined & uniform
- ❖ Supports stable production over 25 years

- (1) Clean carbonate ores, most suitable for HP Mn production, are rare. Oxide ores require extra treatment and removal of impurities is challenging.
- (2) Based on 2022 Feasibility Study, published on 27 July, 2022.





## ... with exceptional ESG benefits

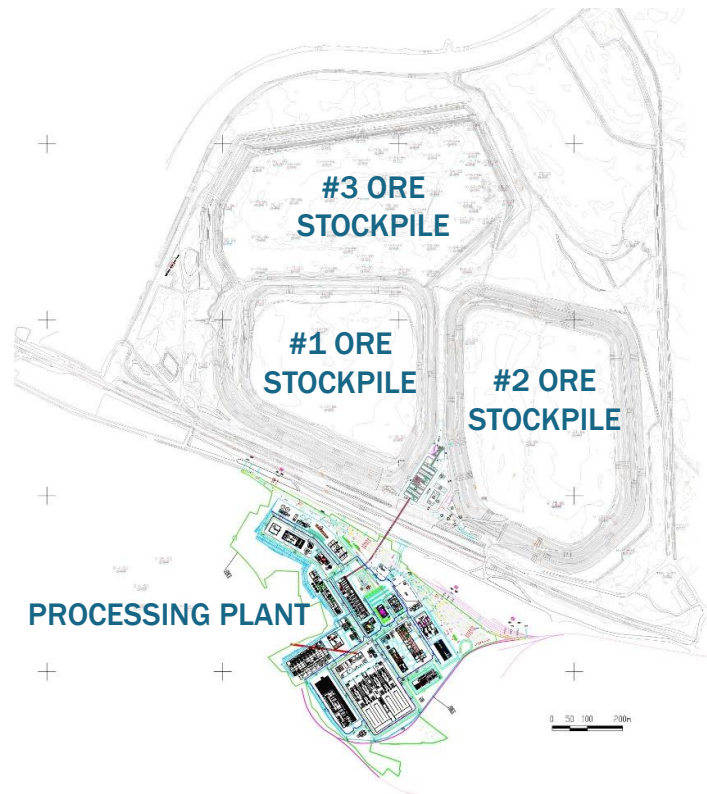
### Chvaletice project delivers wide-ranging benefits for all stakeholders

#### ❖ Use of Best Available Technologies for Low Carbon Footprint

- Net positive environmental benefits from remediation of historic tailings
- MoU to use 100% renewable electricity
- Supply of industrial wastewater from neighboring power plant
- Recycling of CO<sub>2</sub> and hydrogen process emissions; reagent recycling
- Zero toxic selenium or fluorine used in process
- Best practice tailings management (filtered, dry-stacked)
- No carbon footprint from long-distance ore transportation

#### ❖ Value creation for local communities and Czech Government

- Strong support from local communities and governments
- ~ 400 jobs created during operation
- US\$1.5 billion in corporate taxes and royalties over life of project







## Life Cycle Assessment confirms benefits of remediating historic tailings site

**Using 100% renewable electricity reduces the Project's carbon footprint by 50%**

	Target Scenario: Renewable Electricity		Baseline Scenario: Czech Electrical Grid Mix	
Impact Category	HPEMM (kg CO <sub>2</sub> eq.per kg)	HPMSM (kg CO <sub>2</sub> eq.per kg)	HPEMM (kg CO <sub>2</sub> eq.per kg)	HPMSM (kg CO <sub>2</sub> eq.per kg)
Scope 1	1.2	0.4	1.2	0.4
Scope 2	2.1	0.7	9.5	3.3
Scope 3	3.3	1.2	3.3	1.2
Total	6.6	2.3	13.9	4.8

Note: Totals may not add exactly due to rounding. HPEMM and HPMSM are not additive.

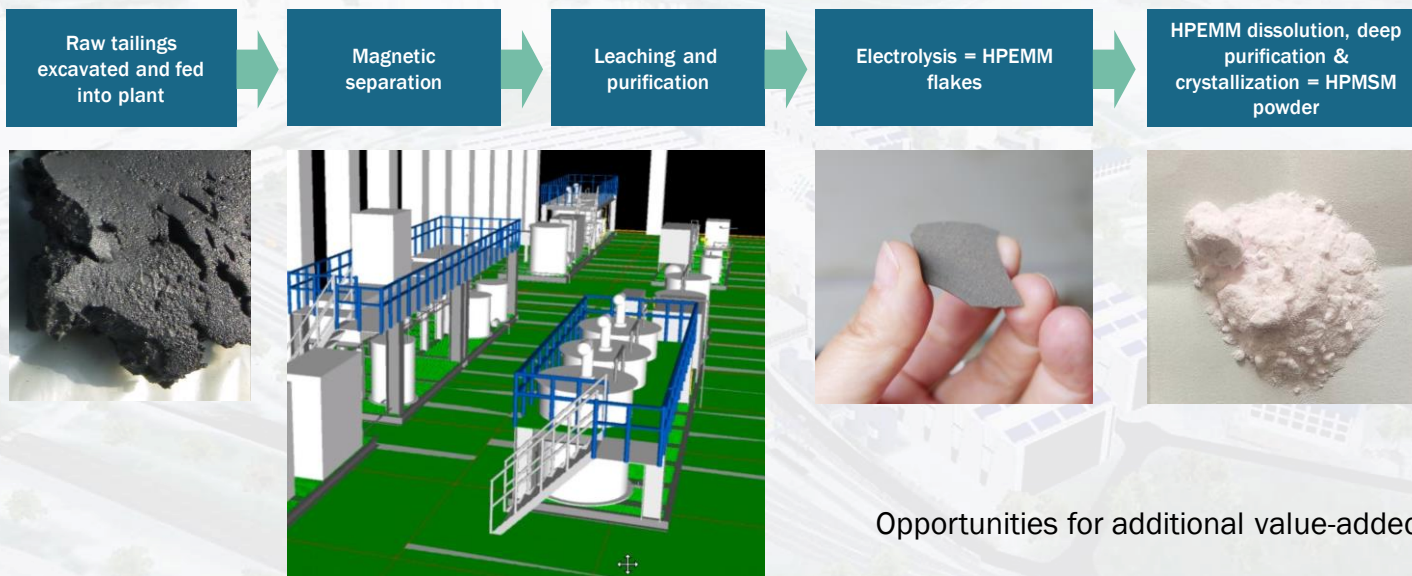
- ❖ Validates environmental credentials of the Project
- ❖ Net positive impact on soil and water
- ❖ LCA critical for potential customers and supporting ESG with financiers
- ❖ Benchmarking exercise underway to compare Project's carbon footprint against similar products



## Robust process flow sheet

Process uses proven, conventional and commercial technologies, and adheres to strict European environmental regulations

High quality product assurance, flexible, efficient and clean



Opportunities for additional value-added products.



## High-capacity sample production

- ❖ Completed assembly, cold-commissioning, inspection and module acceptance
- ❖ Installation commenced in two completely refurbished buildings
- ❖ Commissioning of Demonstration Plant modules scheduled for completion in Q4/Q1
- ❖ A key step on the path to supply chain qualification
- ❖ Allocation of first year's capacity at 55% to 5 major international MoU customers
- ❖ Discussions and negotiations with other potential customers ongoing





## Key highlights: strong cashflow and margins for years to come (\$ in USD)

Base Case*			Upside Case (CPM Group Price Forecast)		
NPV <sub>8%</sub>	IRR	Mn Production	NPV <sub>8%</sub>	IRR	Mn Production
<b>\$1.34B</b> <i>Net Present Value post tax</i>	<b>22%</b> <i>Ung geared, post tax</i>	<b>48ktpa</b> <i>(100Kt HPMSM + 15Kt HPEMM)</i>	<b>\$1.79B</b> <i>Net Present Value post tax</i>	<b>24%</b> <i>Ung geared, post tax</i>	<b>48ktpa</b> <i>(100Kt HPMSM + 15Kt HPEMM)</i>
Revenue	Opex	Margin	Revenue	Opex	Margin
<b>\$554M</b> <i>Average per year</i>	<b>\$229M</b> <i>Average per year</i>	<b>59%</b> <i>EBITDA margin</i>	<b>\$625M</b> <i>Average per year</i>	<b>\$229M</b> <i>Average per year</i>	<b>63%</b> <i>EBITDA margin</i>
Capital	Payback	Life of Project	Capital	Payback	Life of Project
<b>\$757M</b> <i>To initial production</i>	<b>4.1</b> <i>years</i>	<b>25</b> <i>Years</i>	<b>\$757M</b> <i>To initial production</i>	<b>4.1</b> <i>years</i>	<b>25</b> <i>Years</i>

\* Base case project economics are based on Tetra Tech Canada Inc.'s adoption of a risk-adjusted short-term price forecast.



## Project is attractive for a variety of potential financial partners

Together with Stifel, EMN is exploring multiple pools of debt capital

### European Institutions

**EBRD** – one of EMN's largest shareholders. Interested in participating in next round of development funding.

**EIB** – align funding with EU policy; mandate to support energy transition & localization of EV supply chain. Recycling and remediation plus ESG credentials. Interested in participating in next round of development funding.

### Commercial Banks

Inbound expressions of interest received from pre-marketing announcement re: project financing.

### ESG Funds

Strong ESG credentials of the project expected to be of interest to these sources of debt funding.

### Export Credit Agencies

Potential pool of debt financing being explored.

EPCM tender process will request firms show how they intend to maximize potential for ECA support.

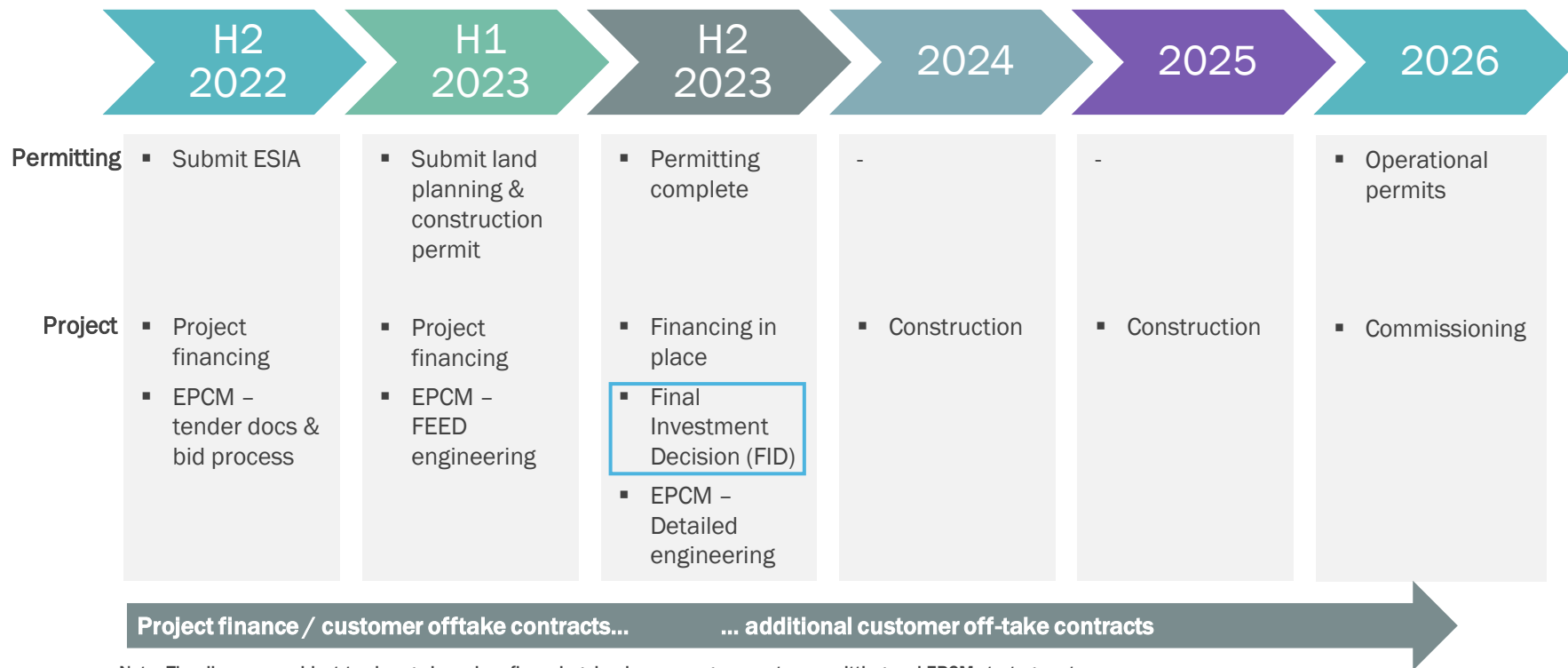
### Customers/OEMs

Potential for various forms of funding by purchasers beyond standard offtake contracts (i.e. loans, prepayments, equity support).



## Permitting & next steps

On track to deliver final investment decision by H2 2023



Note: Timelines are subject to change based on financing, land access agreements, permitting and EPCM strategy outcomes.



# Euro Manganese's Value Proposition

**EMN is well positioned to create significant value for its shareholders**



## Privileged Asset

- The only sizable manganese reserve in the EU
- Brownfield site with significant existing infrastructure
- Carbonate orebody (cost & environmental advantages)
- Premium product = premium pricing & valuation



## Well-Funded

- Project backed by EU institutions (EBRD, EIT InnoEnergy, European Battery Alliance)
- Fully funded to Final Investment Decision (expected in H2 2023) and 12 months of corporate G&A
- Project financing underway; Stifel appointed as financial advisor



## Partner of Choice

- Excellent ESG credentials; focus on operating with the highest integrity
- Positioned to support the shift to a circular, low-carbon economy
- Strong strategic relationships



## Solid Management Team

- Track record of raising capital & delivering large-scale projects
- Deep high-purity manganese experience





Jan Votava  
Managing Director of  
MANGAN Chvaletice, s.r.o.

info@Mn25.ca  
www.Mn25.ca

TSXV: EMN  
ASX: EMN  
OTCQX: EUMNF  
Frankfurt Stock Exchange: E06

**THANK YOU FOR YOUR ATTENTION**