



**THE CHVALETICE
MANGANESE PROJECT
/ CHVALETICE 锰项目**

**Poised to Support the Energy
Transition / 支持能源转型**

**GCFF Virtual Conference
/ GCFF 线上会议**

**November 3, 2022 / 2022年
11月3日**





Forward-Looking Statements and Risks Notice / 前瞻性陈述与风险提示

Certain statements in this presentation constitute “forward-looking statements” or “forward-looking information” within the meaning of applicable securities laws. Such statements and information involve known and unknown risks, uncertainties and other factors that may cause the actual results, performance or achievements of the Company, its Project, or industry results, to be materially different from any future results, performance or achievements expressed or implied by such forward-looking statements or information. Such statements can be identified by the use of words such as “may”, “would”, “could”, “will”, “intend”, “expect”, “believe”, “plan”, “anticipate”, “estimate”, “scheduled”, “forecast”, “predict” and other similar terminology, or state that certain actions, events or results “may”, “could”, “would”, “might” or “will” be taken, occur or be achieved. Readers are cautioned not to place undue reliance on forward-looking information or statements.


Results of the Feasibility Study constitutes forward-looking information or statements, including but not limited to estimates of internal rates of return (including any pre-tax and after-tax internal rates of return), payback periods, net present values, future production, assumed prices for HPMSM and HPEMM, proposed extraction plans and methods, operating life estimates, cash flow forecasts, metal recoveries and estimates of capital and operating costs. Such forward-looking information or statements also include, but are not limited to, statements regarding the Company’s intentions regarding the Project in the Czech Republic, the development of the Project, the ability to source green power and other requirements for the Project, the completion and submission of an environmental and social impact assessment, statements regarding the ability of the Company to obtain remaining surface rights, the benefits of remediating the historic tailings areas, the growth and development of the high purity manganese products market, the desirability of the Company’s products, the growth of the EV industry, the use of manganese in batteries, and the Company’s ability to obtain financing for the Project.


Factors that could cause actual results or events to differ materially from current expectations include, among other things: the ability to develop adequate processing capacity; the availability of equipment, facilities, and suppliers necessary to complete development; the cost of consumables and extraction and processing equipment; risks and uncertainties related to the ability to obtain, amend, or maintain necessary licenses, or permits, risks related to acquisition of surface rights; risks and uncertainties related to expected production rates; risks and uncertainties related to the accuracy of mineral resource and reserve estimates, the price of HPEMM and HPMSM, power supply sources and price, reagent supply resources and prices, future cash flow, total costs of production; risks related to global epidemics or pandemics and other health crises; risks and uncertainties related to interruptions in production; unforeseen technological and engineering problems; the adequacy of infrastructure; risks related to Project working conditions, accidents or labour disputes; social unrest or war; risks relating to variations in the mineral content and grade within resources from that predicted; variations in rates of recovery and extraction; developments in EV battery markets and chemistries; and risks related to fluctuations in currency exchange rates, changes in laws or regulations; and regulation by various governmental agencies. For a further discussion of risks relevant to The Company, see “Risk Factors” in the Company’s annual information form for the year ended September 30, 2021, available on the Company’s SEDAR profile at www.sedar.com.


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.




Focused on delivering fully-traceable, responsibly-produced high-purity Mn products for the EV industry / 专注于为电动车行业提供完全可追溯的、负责任地生产的高纯度锰产品


 Set to become Europe's primary producer of high-purity manganese products / 将成为欧洲高纯度锰产品的主要生产商


 Strategically located in heart of world's fastest-growing EV battery market / 位于全球增长最快的电动车电池市场的中心地带

 Positioned to support the shift to a circular, low-carbon economy / 支持向循环、低碳经济的转变

 Well-funded; project backed by EU institutions (EBRD, EIT InnoEnergy) / 资金充足; 项目得到欧盟机构的支持 (欧洲复兴开发银行、EIT InnoEnergy)

 Aim to have best-in-class environmental & social performance / 致力于行业最佳的环境和社会表现

 Experienced team with deep high-purity manganese experience / 经验丰富的团队拥有深厚的高纯度锰领域的经验

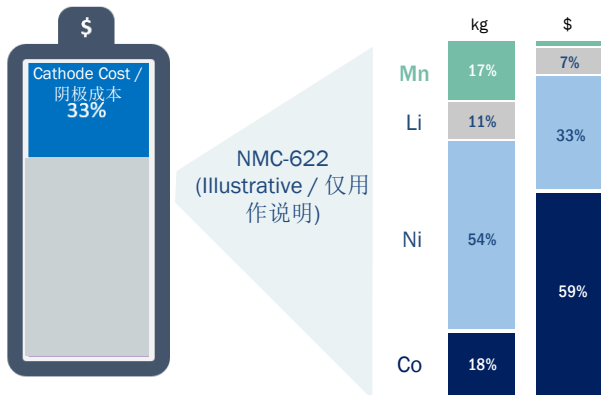
 First step in building a multi-asset manganese platform / 构建多资产锰平台的第一步





Manganese (Mn), the affordable battery metal, is essential in cathode chemistries / 锰 (Mn) 是价格实惠的电池金属，在阴极化学材料中是必不可少的

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 / **高纯度锰**像钴一样，在现代锂离子电动车电池中稳定镍，但它**只占**阴极材料成本的**1-2%**。



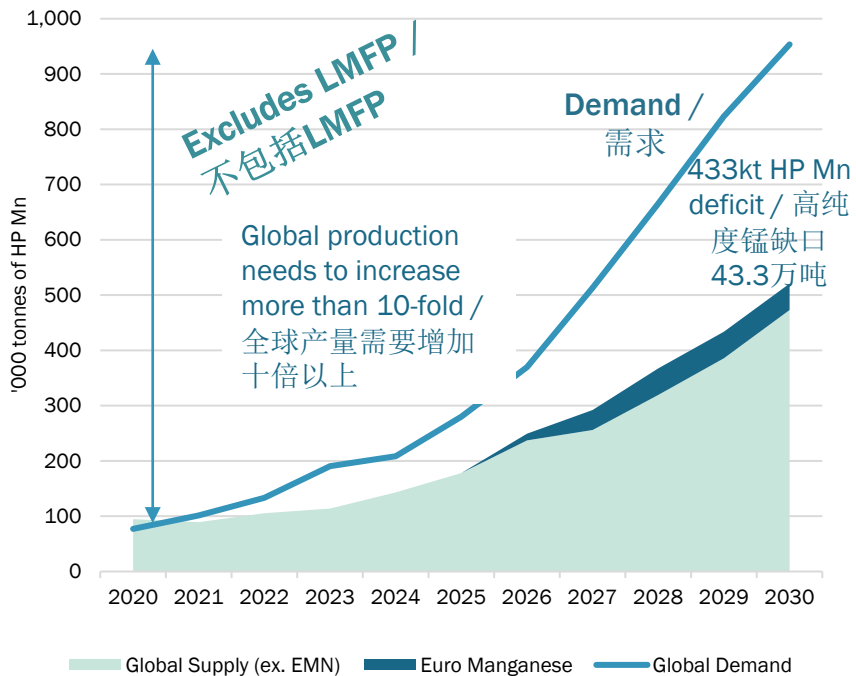
Nickel-manganese-cobalt (NMC) cathode batteries are currently the dominant chemistry, with ~ 50% market share (2020) / 镍-锰-钴 (NMC) 阴极电池是目前最主要的化学材料组合，占据约50%的市场份额 (2020年)



Key demand drivers: EV market growth, supercharged with high Mn chemistries / 主要的需求驱动因素：电动车市场的增长，高锰化学材料的增压作用

Global High-Purity Manganese Demand & Supply to 2030 / 2030年

全球高纯度锰的供需状况
(thousand tonnes of Mn / 千吨锰)



Battery manufacturers are developing high manganese chemistries, which lower costs / 电池制造商正在开发高锰化学材料，从而降低了成本 (NMC370, LMNO, NMx, LMFP)

SVOLT	Commercial / 商业化 NMx	30% Mn
BASF	Scaling up / 升级 NMC370	70% Mn
MORBOW HALDOR TOPSOE	Scaling up / 升级 LNMO	~40% Mn
CATL	Commercial 2023 / 2023年商业化 LMFP	40-60% Mn
Under Development		

umicore	SAMSUNG SAMSUNG SDI	Panasonic
	NMx	
POSCO		
Developing Mn-rich, layered (NMx-type) CAM. R&D stage.		Cobalt-free battery for Tesla



Customers and regulators committing to sustainable, traceable, local supply / 客户和监管机构致力于可持续、可追踪的本地供应

Demand for locally-sourced, low-carbon battery raw materials is increasing / 对本地生产的低碳电池原材料的需求正在增加

OEM, Battery & Cathode Makers / 原始设备制造商、电池和阴极制造商



“We in BASF have always believed in having the **supply of key raw materials** in close customer proximity. We believe that **local production and local content** for battery materials are key to ensure a resilient and sustainable supply chain.” / “我们巴斯夫一直认为应该在客户附近有**关键原材料**的供应。我们认为，**电池材料的本地生产和本地材料**是确保弹性和可持续供应链的关键。”



“Setting out to establish a **fully localized European supply chain for e-mobility made in Europe** certainly marks a rare opportunity in business history.” / “着手建立一个完全本地化的欧洲电动车供应链，这当然是商业史上难得的机会。”



“The Company intends to maximize the full value of the battery life cycle through repair, remanufacturing, second-life use and recycling, as well as ensure **a sustainable system** that prioritizes customer needs and **environmental concerns**.” / “公司计划通过维修、再制造、二次使用和回收，最大限度地提高电池生命周期的全部价值，并确保建立一个优先考虑客户需求和环境问题的可持续系统。”

Regulators / 监管机构



Critical Raw Materials Act / 《关键原材料法案》

- Focusing on strategic applications / 聚焦战略应用
- A more resilient supply chain / 更加有弹性的供应链
- A strong and sustainable level playing field / 一个强大和可持续发展的公平竞争环境



Inflation Reduction Act / 《通货膨胀削减法案》

- \$369 billion for energy security and climate change / 3690亿美元用于能源安全和气候变化
- Tax credit for the purchase of new electric vehicles / 购买新电动汽车的税收优惠
- Secure supply of critical minerals / 关键矿物的安全供应



Global Battery Alliance’s Battery Passport accreditation required to be sold in Europe. Establishment of **green battery supply chain with mandatory green procurement**, including **responsible sourcing** and minimum levels of recycled content. / 在欧洲销售需要全球电池联盟的**电池护照**认证。建立**绿色电池供应链**，**强制进行绿色采购**，包括**负责任的采购**和设定回收成分的最低含量。



Stable production over 25-year project life, supported by 27 Mt reserve base / 25年项目寿命期间稳定生产，有2700万吨储量

Strategically located / 处于战略位置

- Czech Republic is a stable and business-friendly jurisdiction / 捷克共和国是一个稳定和商业友好的司法管辖区
- In the heart of European EV battery supply chains / 位于欧洲电动车电池供应链的中心地带
- Is a secure, traceable & responsibly produced supply of high-purity Mn / 是一种安全、可追踪和负责任地生产的高纯度锰的供应源

Unique waste-to value project / 独特的废物再回收利用机会

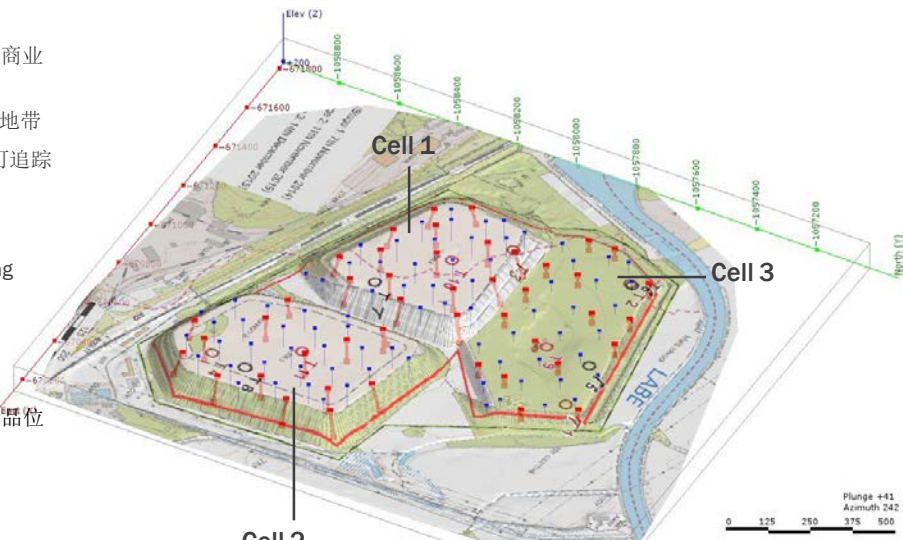
- Recycling & remediation project involving reprocessing historical mine tailings containing manganese / 一个回收和修复项目，将重新处理历史的含锰矿山尾矿
- No hard-rock mining impacts / 没有硬岩采矿的影响

Mineral Reserve is well defined & uniform / 矿产储量明确且均匀

- Reserves of ~27 Mt with an average grade of 7.41% Mn / 储量为2700万吨，锰的平均品位为7.41%
- Easily treated manganese carbonate orebody / 容易处理的碳酸锰矿体⁽¹⁾

Supports stable production over 25 years / 可稳定生产25年

- Production of 48Kt/annum of Mn equivalent for 25 years / 可每年生产4.8万吨锰当量，持续25年⁽²⁾



2017-2018 Drill Program / 2017年-2018年钻探活动

■ 2017 drill holes / 2017年钻孔

■ 2018 drill holes / 2018年钻孔

(1) Clean carbonate ores, most suitable for HP Mn production, are rare. Oxide ores require extra treatment and removal of impurities is challenging. / 最适合生产高纯度锰的清洁碳酸盐矿石是罕见的。氧化物矿石需要额外的处理，去除杂质是一个挑战。

(2) Based on 2022 Feasibility Study, published on 27 July, 2022. / 基于2022年7月27日发布的2022年可行性研究报告



... with exceptional ESG benefits / 具有卓越的ESG效益

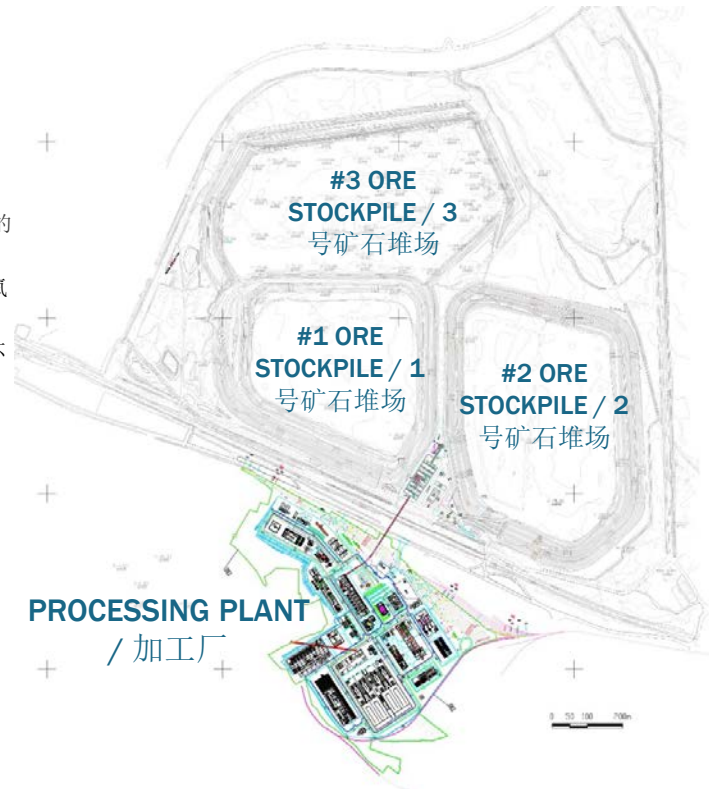
Chvaletice project delivers wide-ranging benefits for all stakeholders / Chvaletice项目为所有利益相关者带来广泛的益处

❖ Use of Best Available Technologies for Low Carbon Footprint / 使用现有最佳技术以实现低碳足迹

- Net positive environmental benefits from remediation of historic tailings / 历史尾矿修复带来的净积极环境效益
- MoU to use 100% renewable electricity / 谅解备忘录要求使用100%可再生能源
- Supply of industrial wastewater from neighbouring power plant for process make-up water / 从邻近的发电厂供应的工业废水作为工艺补水。
- Recycling of CO₂ and hydrogen process emissions, as well as reagent regeneration and recycling / 二氧化碳和氢气工艺排放的回收，以及试剂的再生和循环利用
- Zero toxic selenium or fluorine used in process, unlike other manganese production / 与其他锰生产不同，在加工过程中不使用有毒的硒或氟
- Best practice tailings management (filtered, dry-stacked) / 最佳实践尾矿管理（过滤、干堆积）
- No carbon footprint from long-distance ore transportation: resource is adjacent to process plant / 没有长距离矿石运输带来的碳足迹：资源临近加工厂

❖ Value creation for local communities and Czech Government / 为当地社区和捷克政府创造价值

- Strong support from local communities and governments / 当地社区和政府强力支持
- ~ 400 jobs created during operation / 运营期间创造约400个就业机会
- US\$1.5 billion in corporate taxes and royalties over life of project / 在项目的生命周期内，支付的公司税和权利金为15亿美元





Robust process flow sheet / 强大的工艺流程表

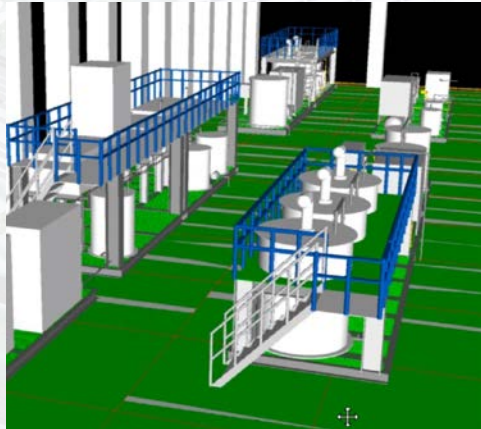
Process uses proven, conventional and commercial technologies, and adheres to strict European environmental regulations / 工艺采用成熟的常规和商业技术，并遵守严格的欧洲环境法规

High quality product assurance, flexible, efficient and clean / 高质量的产品保证，灵活、高效、清洁

Raw tailings excavated and fed into plant / 挖掘出的未加工尾矿被送入工厂



Magnetic separation / 磁选



Leaching and Purification / 浸出和提纯

Electrolysis = HPEMM flakes / 电解=片状高纯度电解金属锰(HPEMM)



HPEMM dissolution, deep purification & crystallization = HPMSM powder / HPEMM溶解，深度提纯和结晶=粉末状HPMSM



Opportunities for additional value-added products. / 更多增值产品的机会



Demonstration plant enables large-scale product samples / 示范工厂能够提供大规模的产品样本

- Completed assembly, cold-commissioning, inspection and acceptance at fabrication facility / 在制造厂完成组装、冷试车、检查和验收
- Shipped modules from China to Czech Republic in Apr 2022; both shipments now arrived / 2022年4月从中国向捷克共和国发运组件；两批货物现已抵达
- Installation commenced in two completely refurbished buildings, all modules in place by early September 2022 / 在两座完全翻新的建筑中开始安装，所有模块在2022年9月初到位。
- Commissioning of Demonstration Plant modules scheduled for completion in Q4 / 示范工厂模块的调试工作计划在第四季度完成
- A key step on the path to supply chain qualification of Chvalětice high-purity manganese products / 在Chvalětice高纯度锰产品的供应链资格道路上迈出的关键一步
- Allocation of first year's capacity at 55% to 5 major international high-purity manganese MoU customers / 将第一年产能的55%分配给5个主要的国际高纯度锰谅解备忘录的客户
- Discussions and negotiations with other potential customers ongoing / 正在与其他潜在客户进行讨论和谈判





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

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

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



主要亮点：未来多年的强劲现金流和利润率（美元）

基准情况*			乐观情况（CPM Group价格预测）		
净现值 ^{8%}	内部收益率	锰产量	净现值 ^{8%}	内部收益率	锰产量
\$13.4亿 税后净现值	22% 无杠杆，税后	每年 4.8万吨 (10万吨HPMSM + 1.5万吨HPEMM)	\$17.9亿 税后净现值	24% 无杠杆，税后	每年 4.8万吨 (10万吨HPMSM + 1.5万吨HPEMM)
营收	运营开支	利润率	营收	运营开支	利润率
\$5.54亿 平均每年	\$2.29亿 平均每年	59% EBITDA 利润率	\$6.25亿 平均每年	\$2.29亿 平均每年	63% EBITDA 利润率
资本开支	资本回收期	项目寿命	资本开支	资本回收期	项目寿命
\$7.57亿 至投产	4.1 年	25 年	\$7.57亿 至投产	4.1 年	25 年

* 基准情况的项目经济价值是基于Tetra Tech Canada Inc.采用的风险调整后的短期价格预测。



Project is attractive for a variety of potential financial partners / 该项目对各个潜在的财务合作伙伴具有吸引力

Together with Stifel, EMN is exploring multiple pools of debt capital / 与Stifel一起，EMN正在探索多个债权资本池

European Institutions / 欧洲机构

EBRD – one of EMN's largest shareholders. Interested in participating in next round of development funding. / **欧洲复兴开发银行** – EMN的最大股东之一。有意参与下一轮的开发融资。

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. / **欧洲投资银行** – 资金使用与欧盟政策保持一致；支持能源转型和电动车供应链的本地化。资源回收和土壤修复以及ESG资格。有兴趣参与下一轮的开发融资。

Commercial Banks / 商业银行

Inbound expressions of interest received from pre-marketing announcement re: project financing. / 从有关项目融资的路演前公告中收到的投资意向书。

ESG Funds / ESG基金

Strong ESG credentials of the project expected to be of interest to these sources of debt funding. / 预计这些债务资金来源会对项目的强大ESG资格感兴趣。

Export Credit Agencies / 出口信贷机构

Potential pool of debt financing being explored. / 正在探索潜在的债务融资库。

EPCM tender process will request firms show how they intend to maximize potential for ECA support. / EPCM招标过程将要求企业展示他们打算如何最大限度地发挥ECA支持的潜力。

Customers/OEMs / 客户/原始设备制造商

Potential for various forms of funding by purchasers beyond standard offtake contracts (i.e. loans, prepayments, equity support). / 在标准承购合同之外，购买者有可能提供各种形式的资金（即贷款、预付款项、股权支持）



Permitting & next steps / 许可和未来

On track to deliver final investment decision by H2 2023 / 将在2023年下半年做出最终投资决定



Project finance / customer offtake contracts... / 项目融资/客户承购合同 ... additional customer off-take contracts / 更多客户承购合同

Note: Timelines are subject to change based on financing, land access agreements, permitting and EPCM strategy outcomes. /注：时间表可能会根据融资、土地使用协议、许可和EPCM战略成果而改变。



Inbound interest from North American OEMs for Chvalitec's high-purity manganese / 北美的原始设备制造商对Chvalitec的高纯度锰感兴趣

Tariff-free trade with battery and OEM manufacturers providing security from supply chain disruption and mitigating geopolitical risks

risks 与电池制造商和OEM进行无关税贸易，保障不发生供应链中断，并减少地缘政治风险

In the U.S. through the **CUSMA**
In APAC through the **CPTPP**
In the EU through the **CETA**
In South Korea through the **CKFTA**

在美国，通过**CUSMA**
在亚太地区，通过**CPTPP**
在欧盟，通过**CETA**
在韩国，通过**CKFTA**

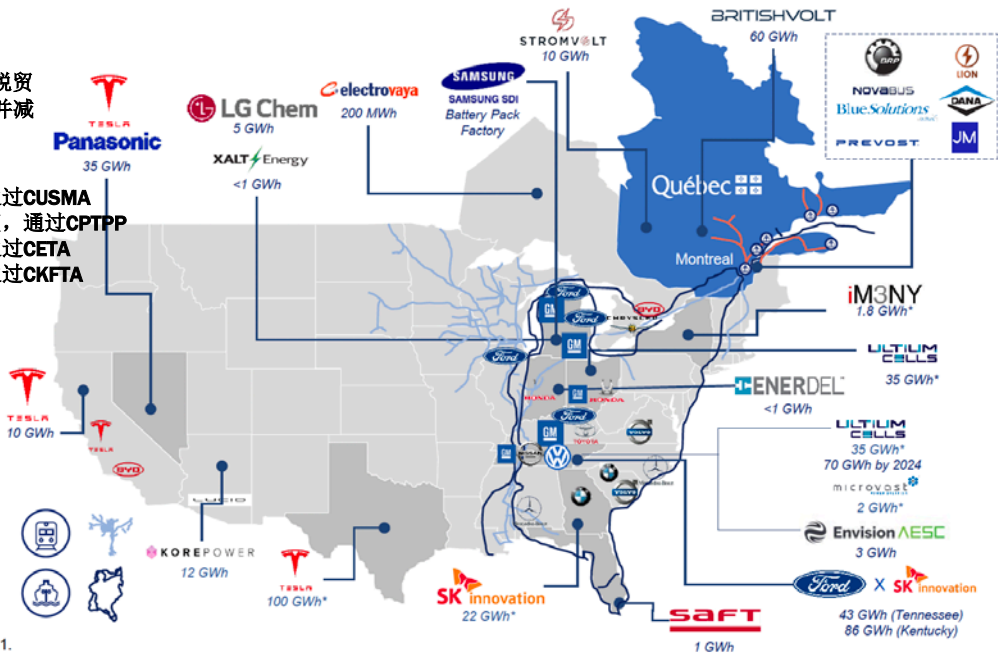
Proximity to "Auto Alley" rail links and ~65% of North America's cell manufacturing capacity

临近“汽车地带”的铁路线和约北美65%的电池制造产能

Multiple deep-sea ports with the shortest route from Europe to North America

多个深海港，从欧洲到北美线路最短

North American battery cell manufacturing landscape 北美电池制造商版图 Company announcements, 2019-2021 公司声明，2019年-2021年



* Announced Capacity.
Source: Québec Government Market Study, "Bloomberg Electric Vehicle Outlook", 2019 and 2021.



Euro Manganese's Value Proposition / Euro Manganese的价值定位

EMN is well positioned to create significant value for its shareholders / EMN准备好为其股东创造巨大价值



Privileged Asset / 特殊资产

- Chvaletice orebody (Czech Republic) is the only sizable manganese reserve in the EU / Chvaletice矿体（捷克共和国）是欧盟唯一大规模的锰储量。
- Brownfield site with significant existing infrastructure / 拥有重要的现有基础设施的棕地项目
- Carbonate orebody (cost & environmental advantages) / 碳酸盐矿体（成本和环境优势）
- Premium product = premium pricing & valuation / 优质产品=更高的定价和估值



Partner of Choice / 合作伙伴的选择

- Excellent ESG credentials; focus on operating with the highest integrity / 优秀的ESG资格；专注于以最高的诚信经营
- Positioned to support the shift to a circular, low-carbon economy / 将支持向循环、低碳经济的转变
- Strong strategic relationships / 强大的战略关系



Well-Funded / 资金充足

- Project backed by EU institutions (EBRD, EIT InnoEnergy, European Battery Alliance) / 欧盟机构（欧洲复兴开发银行、EIT InnoEnergy、欧洲电池联盟）支持的项目
- Fully funded to Final Investment Decision (expected in H2 2023) and 12 months of corporate G&A / 为最终投资决定（预计在2023年下半年）和12个月的企业一般及行政费用提供充分资金。
- Project financing underway; Stifel appointed as financial advisor / 项目融资正在进行，选择Stifel担任财务顾问



Solid Management Team / 坚实的管理团队

- Track record of raising capital & delivering large-scale projects / 在筹集资金和交付大型项目方面有成功的履历
- Deep high-purity manganese experience / 深厚的高纯度锰经验



**Euro
Manganese
Inc.**

Thank You

谢谢

info@Mn25.ca

www.Mn25.ca

TSXV: EMN

ASX: EMN

OTCQX: EUMNF

Frankfurt Stock Exchange: E06





Euro Manganese Inc. Capitalization / 公司资本结构

CAPITALIZATION AS AT JUNE 30, 2022 / 截止2022年6月30日资本结构

Shares (including ~254.5 Mill. CDIs) / 股票 (包括 2.545亿CDI)	401,115,551
Options / 期权	35,162,664
Warrants / 认股权证	8,500,000
Fully Diluted / 完全摊薄后股数	444,788,215

TRADING SYMBOLS / 交易代码

TSX-V and ASX: EMN OTCQX: EUMNF Frankfurt: E06

FINANCIAL METRICS / 财务数据

Cash balance – June 30, 2022 / 现金余额 – 2022年6月30日	~ CDN\$28.0 million / 约2800万加元
Total Liabilities – June 30, 2022 / 总负债 – 2022年6月30日	~ CDN\$1.6 million / 约160万加元
Debt / 债务	Zero debt / 零债务
Market cap (Jun 30, 2022 @ \$0.29) / 市值 (2022年6月30日@ \$0.29)	~ CDN\$116.3 million / 1.163亿加元
Enterprise value (June 30, 2022) / 企业价值 (2022年6月30日)	~ CDN\$88.3 million / 8830万加元

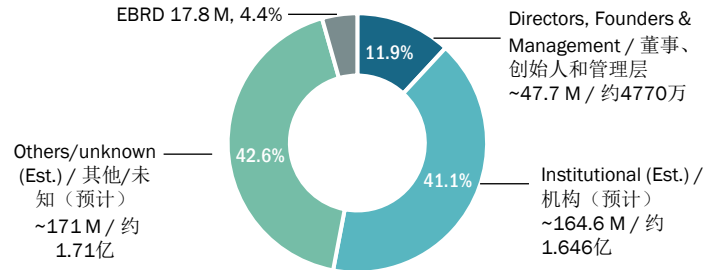
RESEARCH COVERAGE / 研报覆盖

Canaccord Genuity (Australia / 澳大利亚)

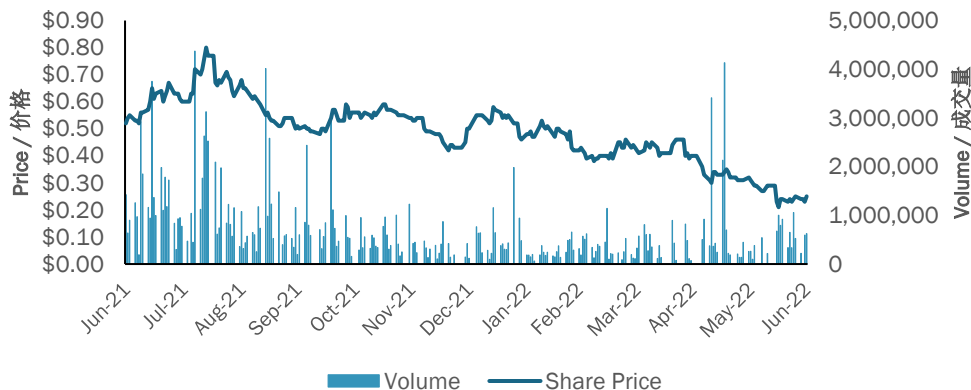
Ownership Structure at June 30, 2022 /

股权结构, 2022年6月30日

Total / 总计 401,115,551



12-month share price and volume – ASX / 12个月股价与成交量 – 澳交所





Q3 2022 Financial highlights and position / 2022年第三季度财务亮点

Fully funded to FID and ~12 months of corporate G&A / 为最终投资决定和12个月的企业一般及行政费用提供充分资金

Cash Balance – April 1, 2022 / 现金余额 – 2022年4月1日	C\$ 32.1 M / 3210万加元
Advancing the feasibility study and other operating costs / 推进可行性研究和其他运营费用	(C\$ 3.1 M / 310万加元)
Demonstration plant under construction / 正在建造示范工厂	(C\$ 0.5 M / 50万加元)
Deposits for land acquisitions / 征地保证金	(C\$ 0.5 M / 50万加元)
Cash Balance – June 30, 2022 / 现金余额 – 2022年6月30日	C\$ 28.0 M / 2800万加元

Fully funded to complete: / 有充足的资金，可以完成：

- Demonstration plant installation, commissioning and 1-year operation / 示范工厂的安装、调试和1年的运行
- Environmental and Social Impact Assessment and other permitting / 环境和社会影响评估及其他许可
- Certain critical land acquisitions / 某些关键的土地收购
- EPCM tender process / EPCM招标流程
- Over 12 months corporate (G&A) costs / 12个月的企业（一般及行政）费用