



+PURE
BATTERY
TECHNOLOGIES

Company Presentation

New York Mining Club

October 3, 2019

Company Overview

Pure Battery Technologies Pty Ltd (“PBT”) is a Brisbane, Australia based nickel and cobalt refiner of nickel intermediate product called MHP.

Vision: Integrated battery material producer / cost and technology (IP) leader for Lithium Ion Batteries (LIB).

Strategy:

- (i) Commercially produce premium NiSO_4 product to generate cash flow
- (ii) Directly precipitate NMC battery materials from MHP
- (iii) Apply technology portfolio to recycled battery material.

Status of Strategy Implementation:

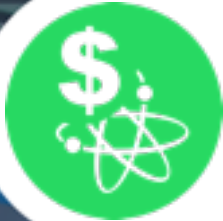
- Pilot Plant (NiSO_4) completed and best in class sample product produced
- PBT confirmed significant **environmental and commercial** benefits and advantages (**70% less capex and opex**) of our approach. Feasibility Study for operational plant completed and peer-reviewed.
- PBT also confirmed ease in applicability of our IP to NMC and battery recycling. Collaborating with leading University Australia and US and industry partners globally in R&D partnerships.

PBT Board in market and discussion with investors to capitalize the business with funding of up to U\$150m.

Who we are



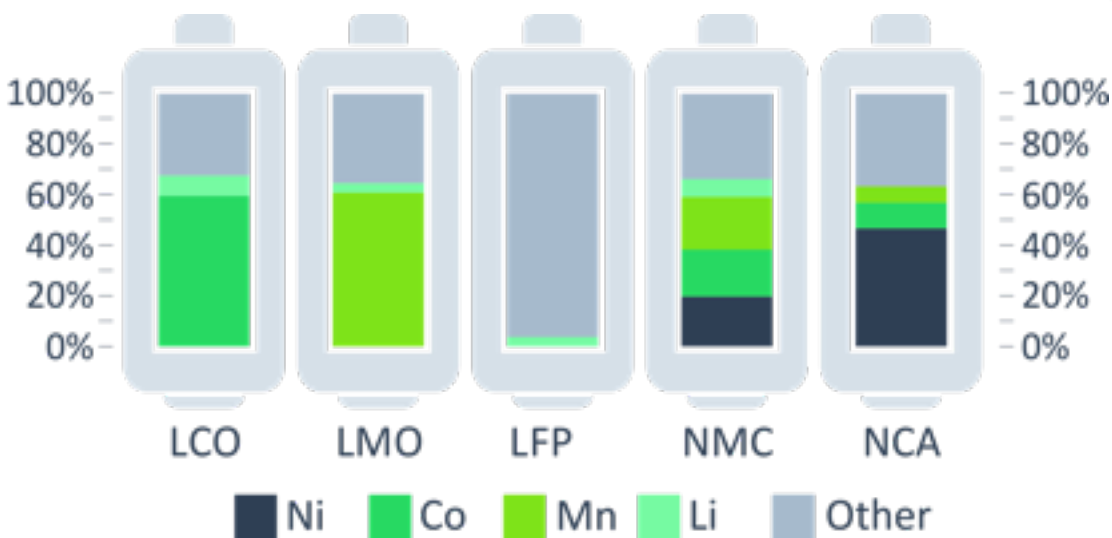
What we do



EV Battery Chemistry trending towards high Ni Content

Nickel & Cobalt (NCA & NMC) required in leading cathode chemistry for EV **Li-ion batteries**

Composition of major battery cathodes



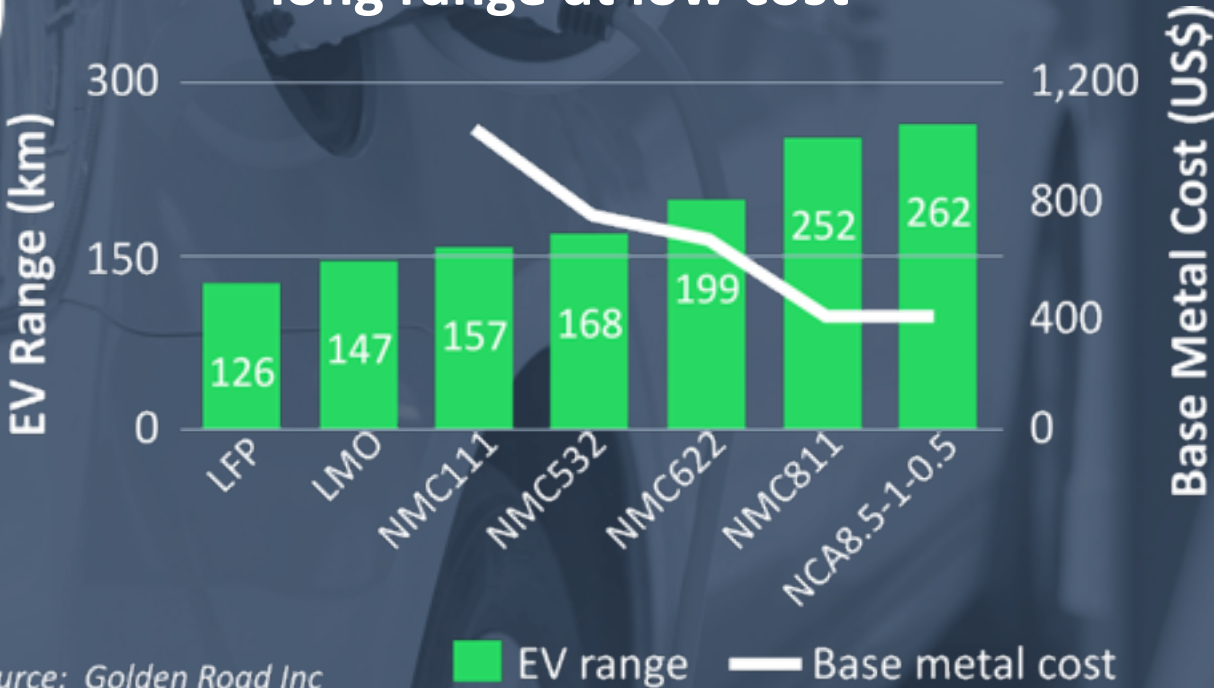
Source: Avicenne, Macquarie Research, 2017

Shift towards high Ni Content EV batteries



- Superior energy density
- Increased range
- Mitigating cost of cobalt
- Security concerns of Co supply

Li-ion batteries high in Nickel offer long range at low cost

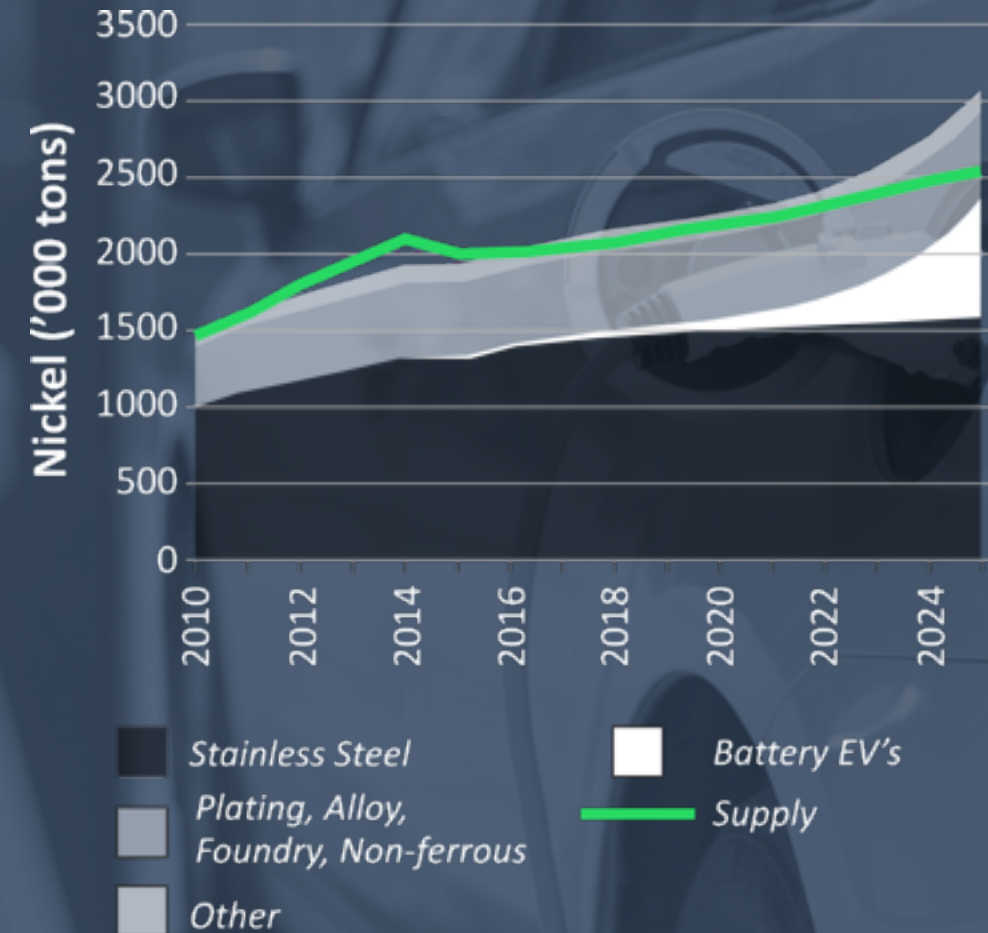


Source: Golden Road Inc

EV range Base metal cost

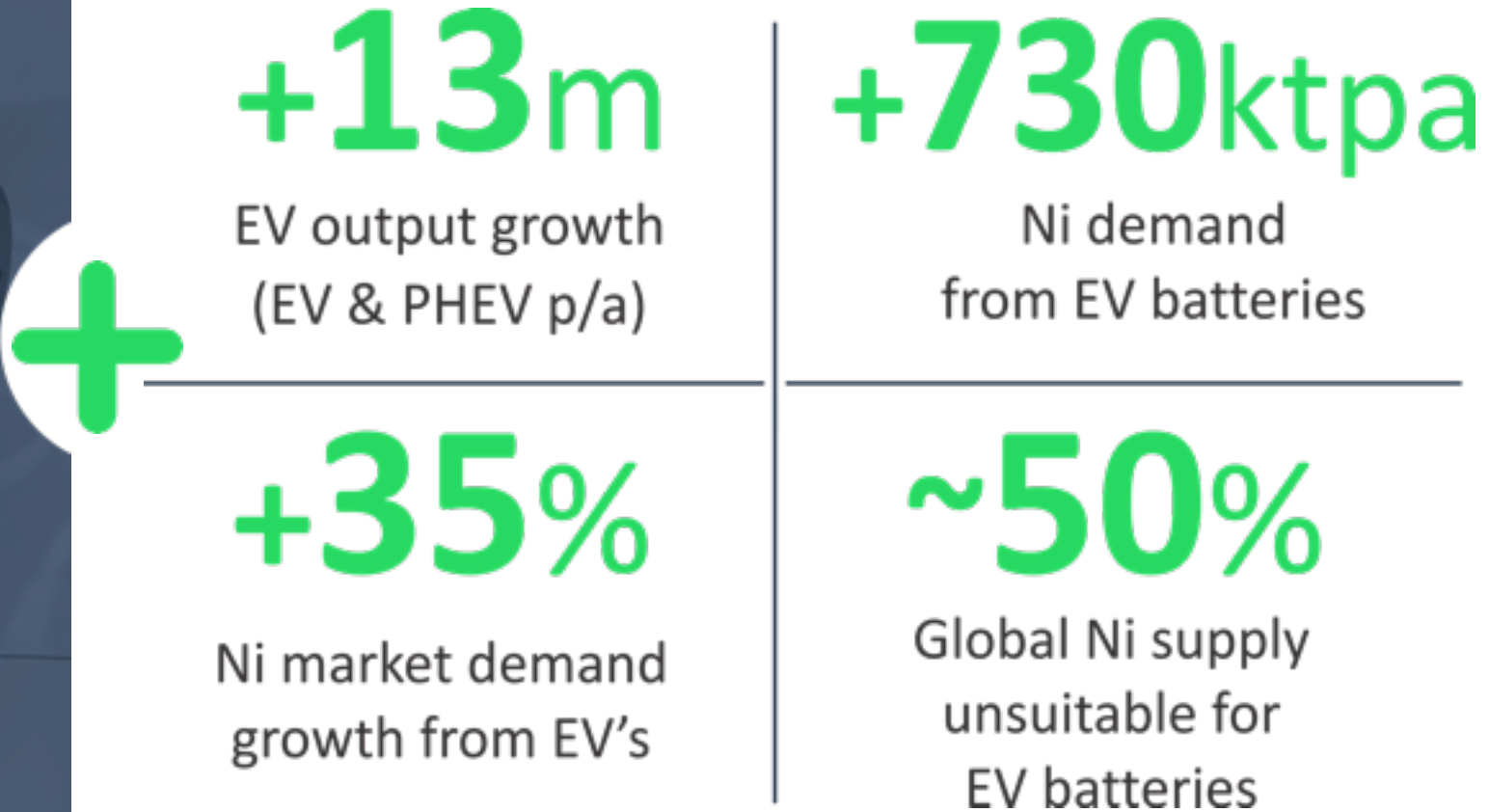
Nickel - The essential metal for new premium precursors

Nickel Demand and Supply



Source: AME, WBMS, UBS

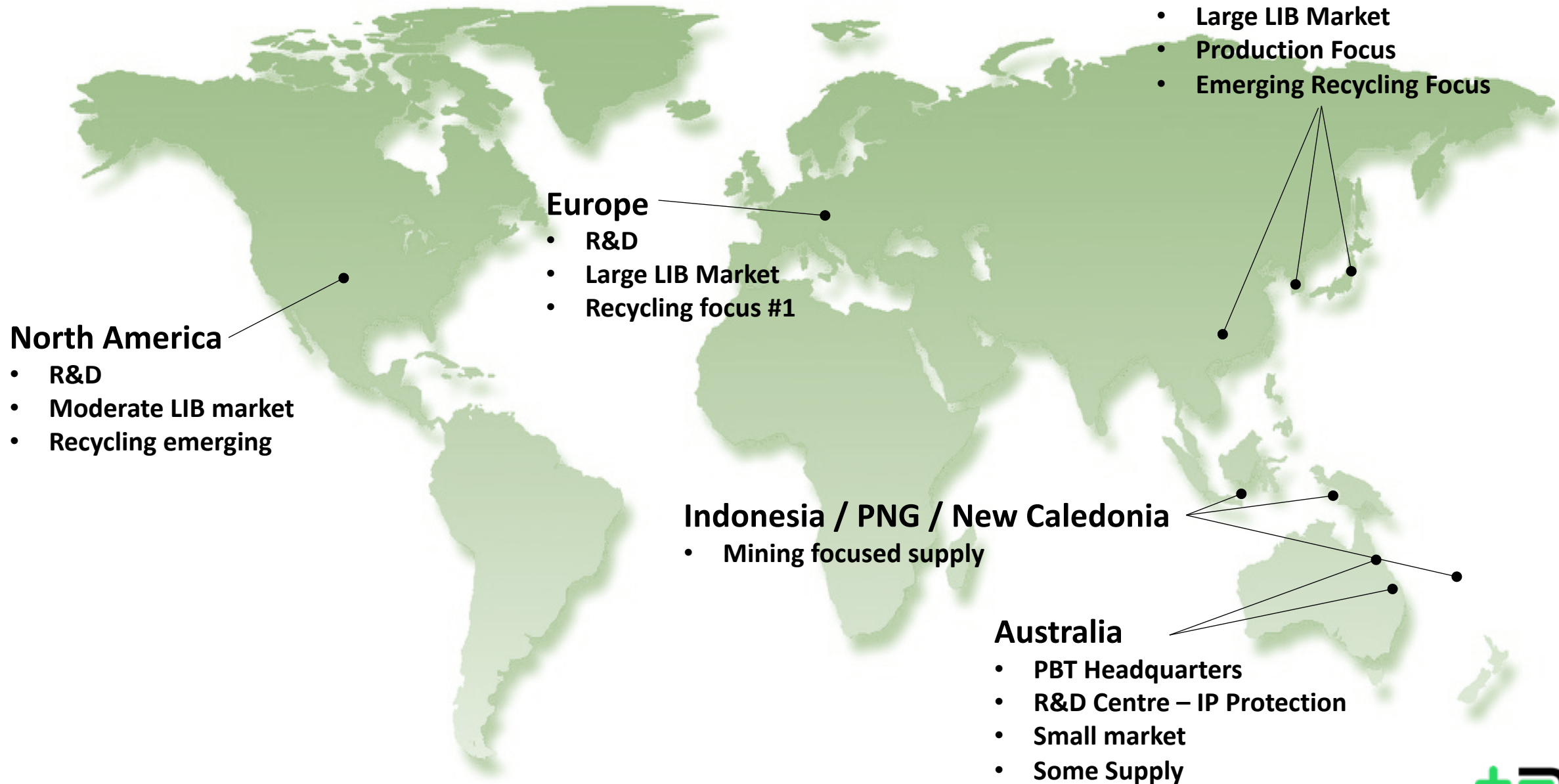
Estimated nickel market impact of EVs by 2025



Li-ion batteries require **high purity nickel** feedstock

Source: UBS Research, BHP

Strategic Market View (simplified)



MHP Conversion - Still In Its Infancy

Global MHP Operations

- Mostly remote and risky operations
- **Cheap Default Product**
- Large Capex
- Low returns through the cycle
- Long time to market
- Most fail to then make acceptable battery supply chain products or if so at exorbitant costs

MHP Conversion



- Dirty
- Environmentally Unfriendly
- Historically Complex
- CAPEX Extensive

Where Supply Meets Demand

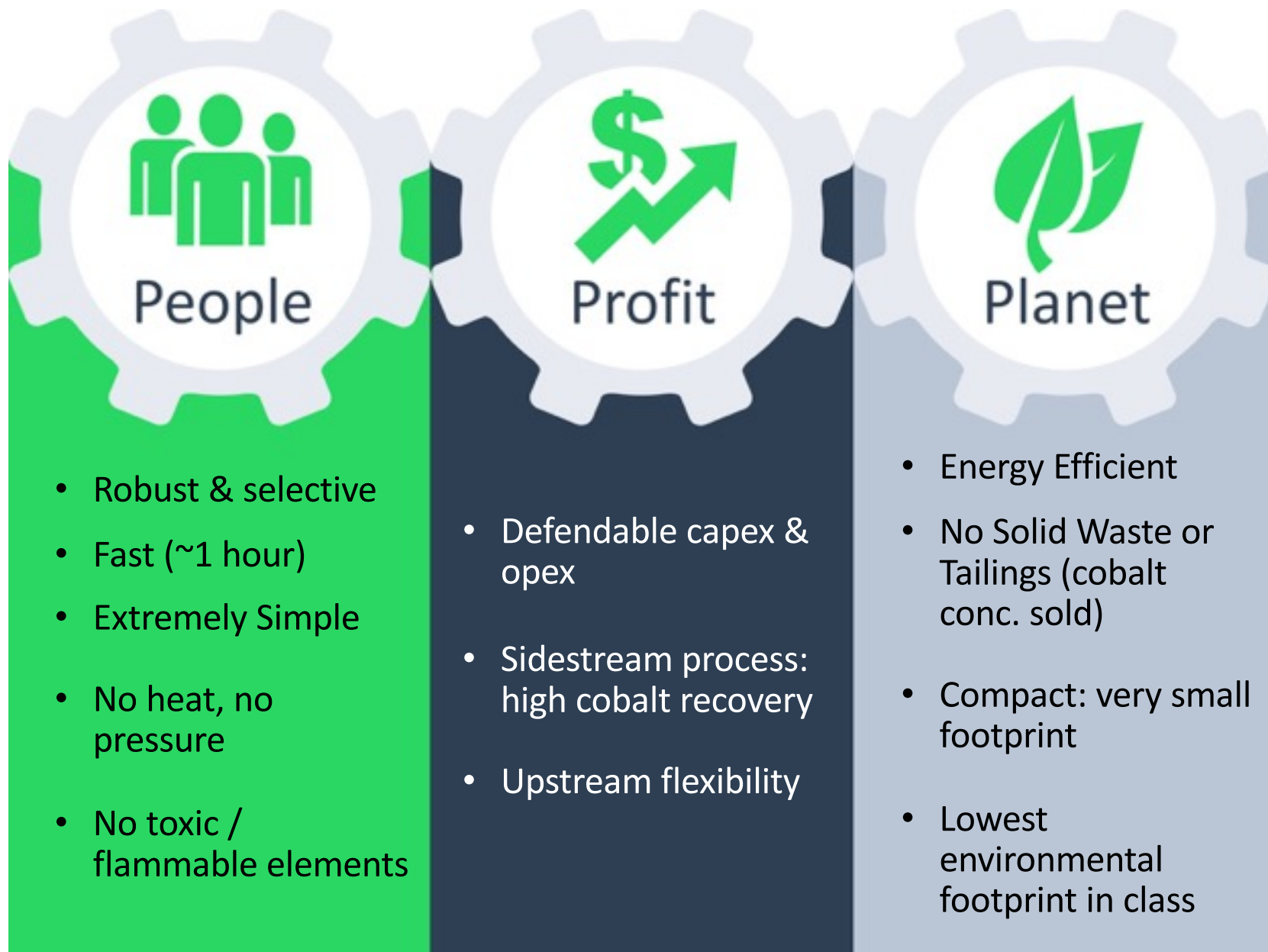
Battery / Automotive / Consumer



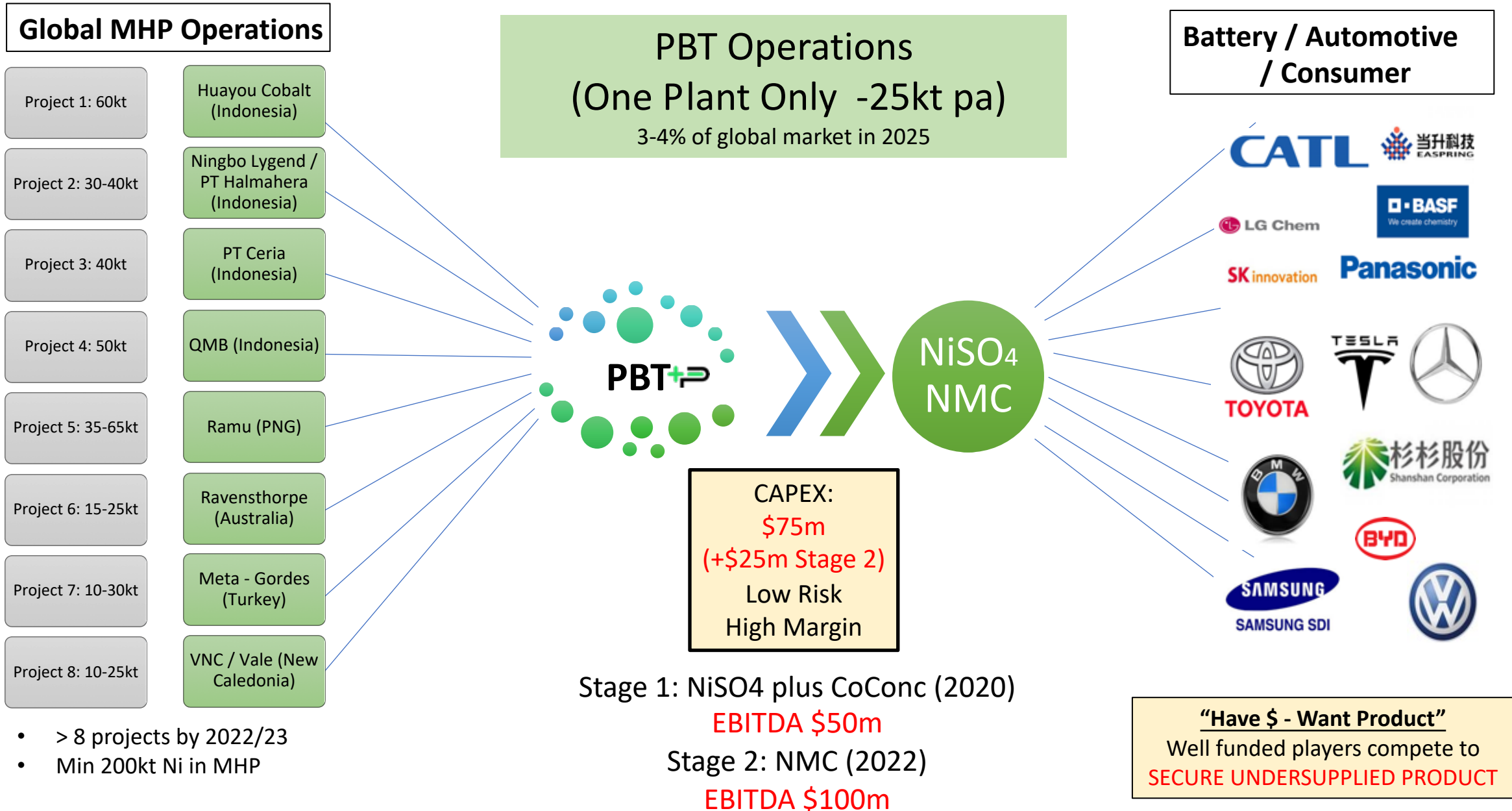
"Have \$ - Want Product"
Well funded players compete to
SECURE UNDERSUPPLIED PRODUCT

Summary and Advantages of the PBT Process

- Simple one step fully globally patented process. No solvent extraction (SX) required.
- MHP refining via PBT – game shift: Focus effort on elegantly eliminating 2-5% of the impurities in the material instead of complex treatments in extracting 50% of the treated mass volume.
- Metal separation focus: strong, clean and immediate separation of nickel and cobalt.
- High nickel recovery with valuable side stream of unique cobalt concentrate.



PBT Market Opportunity – SINGLE PLANT ONLY



Current Product Development (Pilot Plant)



MHP → Cobalt Concentrate + NiSO₄



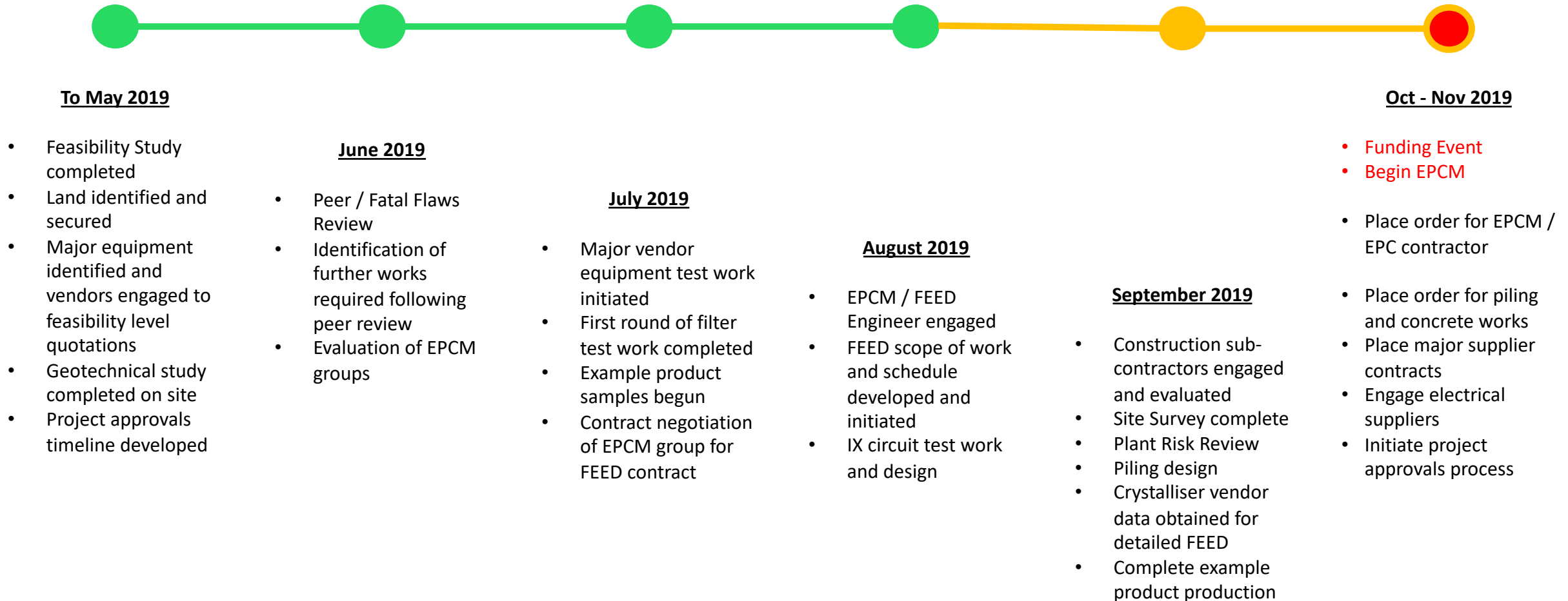
Five different peer products, PBT on the right.
Crystal sizing to improve with commercial crystallizer.

RESULTS COMP TABLE -NiSO₄ Product Specs

Components (ppm)	Global Mean	Global Best	PBT (05/2019)
Ni	22.0 (wt.%)	22.3 (wt.%)	22.3 (wt.%)
Co	<50	<2	<1
Mn	<4	<1	<1
Fe	<6	<1	<1
Cu	<6	<1	<1
Zn	<5	<1	<1
Pb	<5	<1	<1
Al	<20	<1	<1
Ca	<50	<1	<1
Mg	<50	<1	<20
Cr	<10	<5	<1
Cd	<6	<1	<1
Na	<260	<5	<50
Si	<30	<10	<10
K	<1000	<10	<1
Cl	<10	<10	<10
Insolubles	<27	<3	<5

PBT comparison to peer group of 20 commercially available NiSO₄ products – “Best in Class”

PBT Engineering / Project timeline



Funding Round 2H 2019 - underway

Funding Targeted: U\$150 million

Use of Funds:

- U\$85 m CapEx (incl. contingency) for Townville NiSO₄ plus Cobalt Concentrate Plant
- U\$65 m Townsville working capital (including start-up provisions)
- U\$10 m Corporate Development to accelerate development of NMC and Recycling

Source of Funds:

- Equity / JV contributions: U\$50m
- Debt (project finance incl R&D tax credits), trade finance facilities: U\$100m

Sourcing Party / Parties:

- **Capex**: Strategic / Financial Investors, Traders, NAIF*, CEFC**
- **Trade Finance / Working Capital**: Suppliers, Off-take parties, Tolling Arrangements

* NAIF- Northern Australia Infrastructure Facility - \$5bn Australian Government Funding (Long Term Debt)

** CEFC – Clean Energy Finance Corporation - \$20bn Australian Government Investment Arm (Project Debt/ R&D Credit Finance)

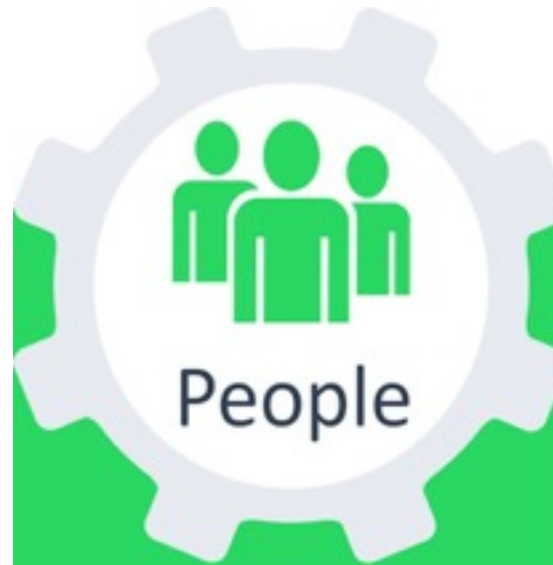
Key Risks & Mitigation

RISK	ANALYSIS	MITIGATION
MHP Supply	Short term issue	Education of MHP producers, use tolling arrangements, multi-geographic customer and supplier mix
Alternative solutions in EV / Energy Storage	Hard to foresee details	Develop new products, lead cost curve, recycling solution
Novelty of Technology	External perception / devil's advocate	IP protection, integrating existing process guarantee packages following our elegant patented process approach

SUMMARY AND CONSIDERATIONS



- Global MHP production ramping up.
- PBT demonstrates best in class NiSO₄ (purity) with its novel and elegant process.
- PBT confirms big environmental and commercial benefits and advantages (Capex and Opex) and completed FS.
- PBT able to generate substantial returns short term and beyond
- Lab and pre-pilot work confirms applicability of our processes to NMC and battery recycling.
- PBT raising first significant round of funding



- PBT is teamed up with one of the best global Hydromet Teams
- Very experienced advisory board and global execution team
- Industry experts and participants accessible
- Started selection of reliable partners with capital and market reach



- Prompt plant build will speed up first cash flow and market share
- First plant will also facilitate collaboration with new MHP sources
- NMC and recycling the ultimate target
- Target NASDAQ listing in 2021 / 2022



- World chasing recycling - no good backend solution available
- Focus on hydromet versus pyromet
- PBT can provide recovery and re-refining direct or via MHP route



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