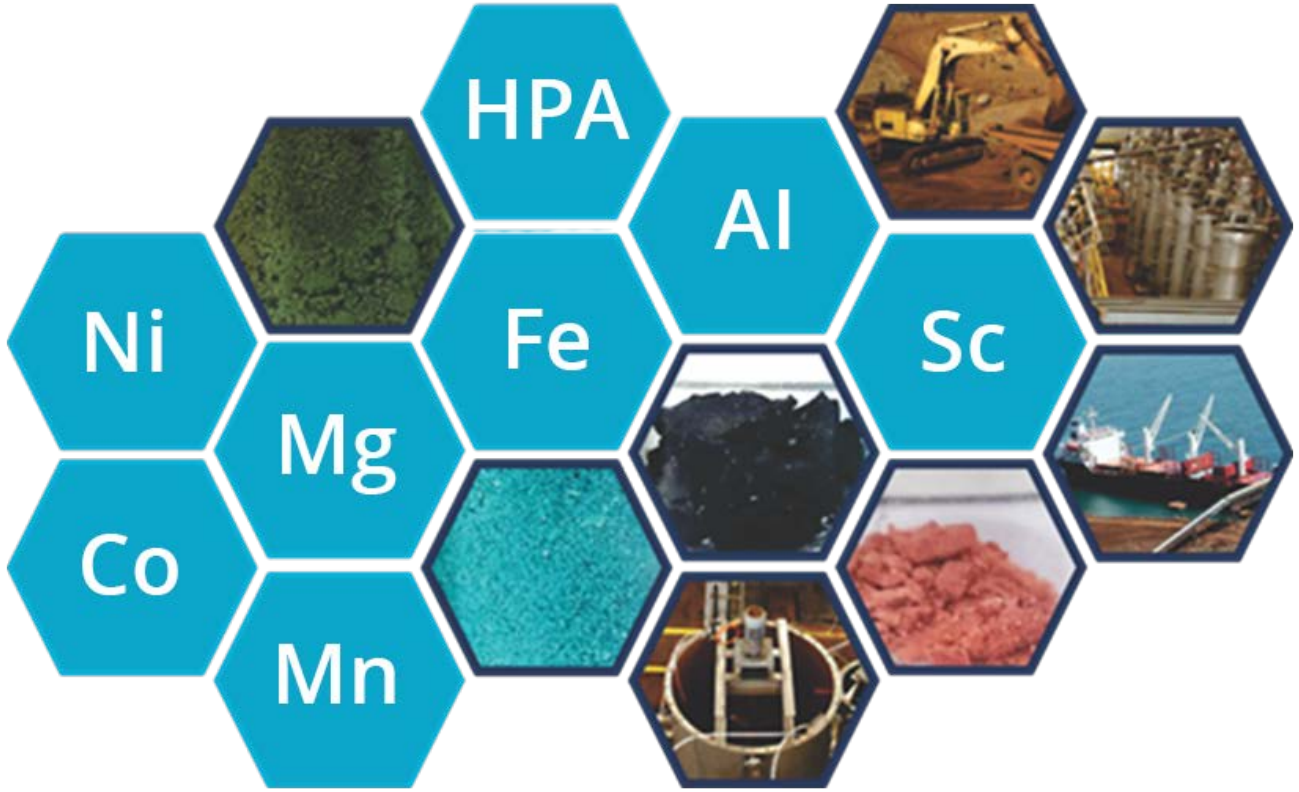
Pure Minerals Limited



Technical Presentation - Webinar

October 2020

ASX : PM1

QUEENSLAND PACIFIC METALS

Developing innovative processing technologies to produce nickel sulfate, cobalt sulfate and High Purity Alumina

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LG Chem Memorandum of Understanding

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Pure Minerals and LG Chem agree to negotiate a binding offtake agreement for:

3-5 year term

10,000tpa contained nickel

1,000tpa contained cobalt

Consideration of prepayment by LG Chem

Refer to ASX announcement 15 October 2020

Significant milestone for Pure Minerals and the TECH Project

- World class partner who is bankable
- Culmination of months of relationship development and negotiation
- Facilitates potential to increase the scale of the TECH Project to what was previously contemplated in the PFS (6,000t Ni)

About LG Chem

- Largest Korean chemicals company and 8th largest in the world
- Largest battery producer in the world
- Existing plants:
  - Poland
  - Nanjing, China
- Plants under construction:
  - Michigan, USA (5 GWh annually)
  - Ohio, USA (30 GWh annually) in joint venture with General Motors
  - China (10GWh annually) in joint venture with Geely Automobile Holdings
  - Poland expansion (increasing to 35 GWh annually)
  - 2nd Nanjing plant

LG Chem's aggressive expansion underpins their growing need for battery chemicals – the TECH Project has the opportunity to become part of the LG Chem supply chain

DNi Process™ - History

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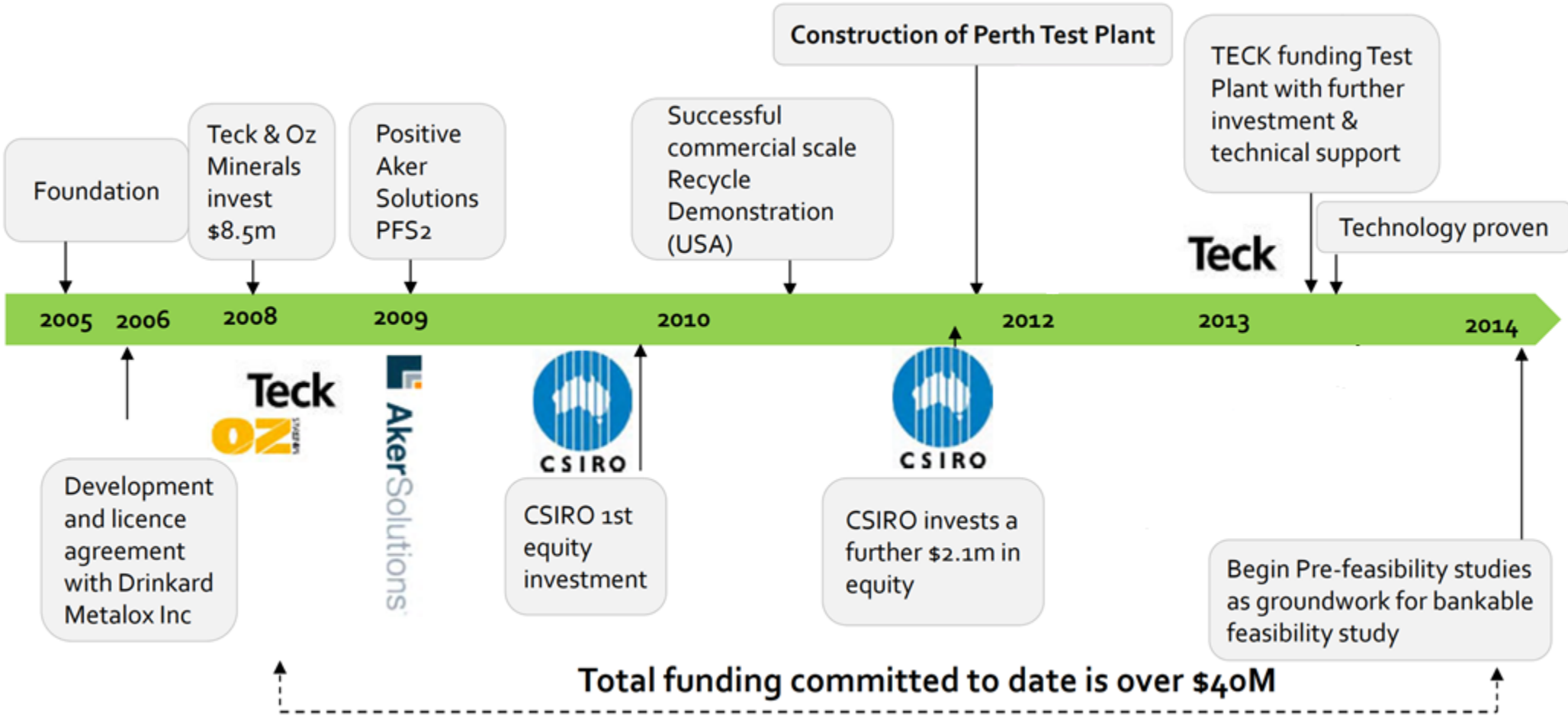
The DNi Process™ is not new – it has been extensively funded and developed for over a decade, but advancements in nickel pig iron prevented commercialisation of the technology…the emergence of the EV sector and requirement for class 1 nickel changes this



Source: Altilium Group (Formally Direct Nickel Holdings UK Ltd)

Projected EV Nickel Demand – The Right Time for DNi Process™

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First HPAL* 1960

* *HPAL "High pressure acid leach"*

2nd Generation HPAL
Bulong 1998-2003 *(C&M)*
Murrin Murrin 1999→ *(operational, 75% design)*
Cawse 1998-2009 *(C&M)*

3rd Generation HPAL
Ravensthorpe 2008-2009, 2011-2017 *(C&M)*, 2020 *(65% design)*
Goro 2009→ *(operational, 65% design → C&M 2021)*
Ramu 2012→ *(operational, 5 year ramp-up)*
Ambatovy 2012→ *(operational, poor availability)*
Coral Bay 2009→ *(successful)*
Taganito 2013→ *(operational, poor availability)*
Gordes 2014→ *(operational, low throughput)*

3rd Generation HPAL
Coral Bay 2006→ *(successful)*

DNi Pilot Plant Runs
Successful demonstration of technology on multiple ore types but the time wasn't right

EV Revolution
Class 1 nickel (after refining) for batteries – NPI not suitable for batteries.
Not enough sulfide resources to meet demand – laterites must be developed.
HPAL issues (capital, environment, failures) – Right time for DNi Process™

1998 2000 2002 2004 2006 2008 2010 2012 2014 2016 2018 2020

1st Gen Nickel Pig Iron
China plants – 8% Ni
(low quality)

2nd Gen Nickel Pig Iron (NPI)
14% Ni (high quality) squeezing out need for LME nickel metal for stainless steel.
Most viable process for stainless steel industry

The Need for Green
The world is more socially, environmentally conscious.
- HPAL/NPI - sovereign risk, tailings
- NPI - very high GHG intensity

TECH Project – delivering Ni/Co from a safe jurisdiction with a small environmental footprint

DNi Process™ – Extensive Piloting Historically Undertaken

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The DNi Process™ was extensively piloted at the CSIRO, Western Australia in 2013

- 19 continuous piloting runs throughout an 11 month period
- Successful demonstrated the integrated DNi Process™ flowsheet
- A range of ore blends were tested in the pilot plant, using nickel ore from Indonesia.
- Successful production of high purity Mixed Hydroxide Precipitate ("**MHP**")
- Significant investment by Australian government via CSIRO
- Detailed Engineering study completed by Lycopodium for a nominal 1.4M (dry) tpa ore processing plant (20ktpa Ni) Based on the PT Antam Tanjung (Buli) Resource
- Commercial plant did not proceed because of nickel pig iron boom and no Lithium Ion Battery nickel market

DNi Process™ pilot plant located at CSIRO, Western Australia

The DNi Process™ is comprised of long established, proven processing steps – it is well understood and has been extensively and successfully piloted

Piloting Activities

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QPM's pilot plant activities will:

- Reconfirm flowsheet with representative ore
- Produce samples for potential customers
- Generate supplementary results to feed into a Bankable Feasibility Study
- Provide opportunities for investor visits (physical or virtual)
- Clear the path to start Definitive Feasibility study

Completed✓
Bulk Sample sourced from New Caledonia partners has been transported to Perth

Representative Ore

Q3/Q4 2020
Direct Nickel pilot plant to be assembled and operated at ALS Global

Ni-Co MHP

Q1→ 2021
MHP will be further refined to produce battery chemicals Nickel sulfate and Cobalt sulfate at CSIRO.
Samples to be provided to potential offtakers

Aluminium Hydroxide

Q1/Q2 → 2021
Aluminium Hydroxide will be further refined to produce 4N HPA.
Samples to be provided to potential offtakers

High Grade Haematite

Sun Metals

Q1/Q2 2021
Haematite will be used for iron collaboration with Sun Metals (wholly owned subsidiary of Korea Zinc)

Preparation for the Bankable Feasibility Study

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Completed:

- **Pre-feasibility Study completed**
  - Altilium DNi Process™ design utilised
  - Detailed engineering and cost confirmed by Lycopodium
- **Study Lead Manager Appointed**
  - Highly experienced study lead has been bought onto Owner's team
  - Commenced discussions with potential EPC partners
- Bench scale testwork completed on representative ore samples from New Caledonia
- Bench scale testwork HPA Sulfate
- Made enhancements to DNi Process™

Decisions to be made:

- **Scale of TECH Project**
  - PFS 6,000tpa → LG Chem MOU for 10,000tpa
  - Larger plant - much lower capital intensity, same engineering costs, lower scale-up risk (PFS plant was at the bottom edge of operable scale and vendor support)
  - Determine plant size with consideration given to capex/fundability, project approvals, scale-up risk and meeting the needs of customers
- **Flowsheet**
  - Ore → MHP: DNi Process™ flowsheet locked
  - MHP → Sulfate: flowsheet to be finalised
  - Aluminium Hydroxide → HPA: flowsheet to be finalised
  - Sulfate + HPA flowsheets will either be already proven or have a slight change from proven flowsheets

Technical workstreams to be completed:

- **Pilot Plant Operation** – Data to be fed into BFS along with Altilium FS design
- **Build owner's team –** expand from Study Lead Manager

From Pilot Plant to Commercialisation – Scale up Risk

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Commercialisation for the TECH Project can be broadly split into two risk categories – Mechanical and Chemical

Mechanical – scale up can be difficult and is often empirical

- The level of risk depends on bulk flows and fundamental bulk-scale parameters such as:
  - Rheology, settling rate, etc
  - Abrasion
  - Mixing and local shear conditions
  - Heat transfer
  - 3D flows and interactions
- **Mechanical risk profile of TECH Project is lower because:**
  - Equipment is simple
  - Atmospheric pressure conditions
  - Simple mechanical agitation
  - Standard heat exchange, distillation, settling, filtration, etc
  - Unit operations within flowsheet are commercially proven across 00's of operations
- **Further measures to reduce mechanical risk:**
  - Pilot testwork to date is extensive and is far, far greater than what is typically undertaken for new processes
  - Selection of world class EPC partner for BFS
  - Vendor testwork throughout BFS

Chemical – scale up is relatively easy and fundamental

- "Chemistry" scale up is straight-forward, well understood and based on universal and long proven rules (less so for "mechanical/physical" scale up)
- Depends mostly on local chemical environment
- Good "chemistry" work at small scale perfectly replicates at large scale
- Chemicals react the same in a test tube or a commercial size tank
- **Chemical risk profile of TECH Project is lower because:**
  - Downstream of the iron hydrolysis section of DNi Process™, everything is standard
  - Nitric acid processing is practiced at 000's of sites
  - Nitric acid dissolution and regeneration is practiced at 00's of sites in other processes

Technology Scale Up

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Why the DNi™ Process has a lower risk profile from scale up of pilot plant to first commercial plant:

- Over a decade of development and $40+M spent
- Extensively piloted process (11 months, multiple ores – all successful)
- New Caledonian ores are even simpler (100% limonite)
- Flowsheet consists of unit operations that are already commercialised
- Atmospheric conditions – no pressure vessels or low availability
- No complex unit operations
- Short lead-time equipment

What we are doing to minimise risk of scale up:

- Confirmatory piloting of the process on New Caledonia ore
- Altilium support
- Formal independent technical and project risk studies (at a DD quality)
- Chemistry scale up relatively simple (chemicals don't care if they are in test tubes or tanks, vials or vessels)
- Equipment scale up address by:
  - Only use proven unit operations equipment
  - Vendor testing and guarantees
  - World class EPC

We are undertaking the requisite steps to de-risk scale-up, and we are further assisted by:

- The risk is not binary (i.e. not a "1 = success" or a "0 = fail"). It is a 0.8, a 1.0 or a 1.2
- The expected growth in demand for nickel for EV's (10x until 2030 alone) and the lack of supply (70% of world Ni production is not economical for batteries and 25% of the rest requires additional processing to battery grades. Nickel sulfide deposits are not available to meet this demand and is expensive to go through to nickel/cobalt sulfate
- The complexity in going from nickel sulphide concentrate through to sulfate battery chemicals
- The failures of the only significant (and still partial) alternative – HPAL
- Short time to market
- Sustainability credentials (zero liquid discharge, low GHG emissions intensity, full conversion of ore to products – little to no waste)

Sources of Nickel

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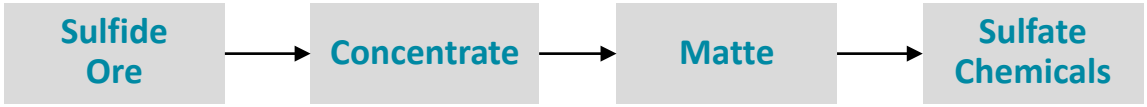
Nickel Sulfides

- Existing reserves are being depleted and make up <30% of the world's nickel reserves (contained metal basis)
- Sulfide ore is typically processed through to a concentrate and then smelted through to a nickel sulfide matte
- Matte must then be further refined through to nickel metal or sulfate
- New exploration finds will take considerably longer to come to market than the TECH Project

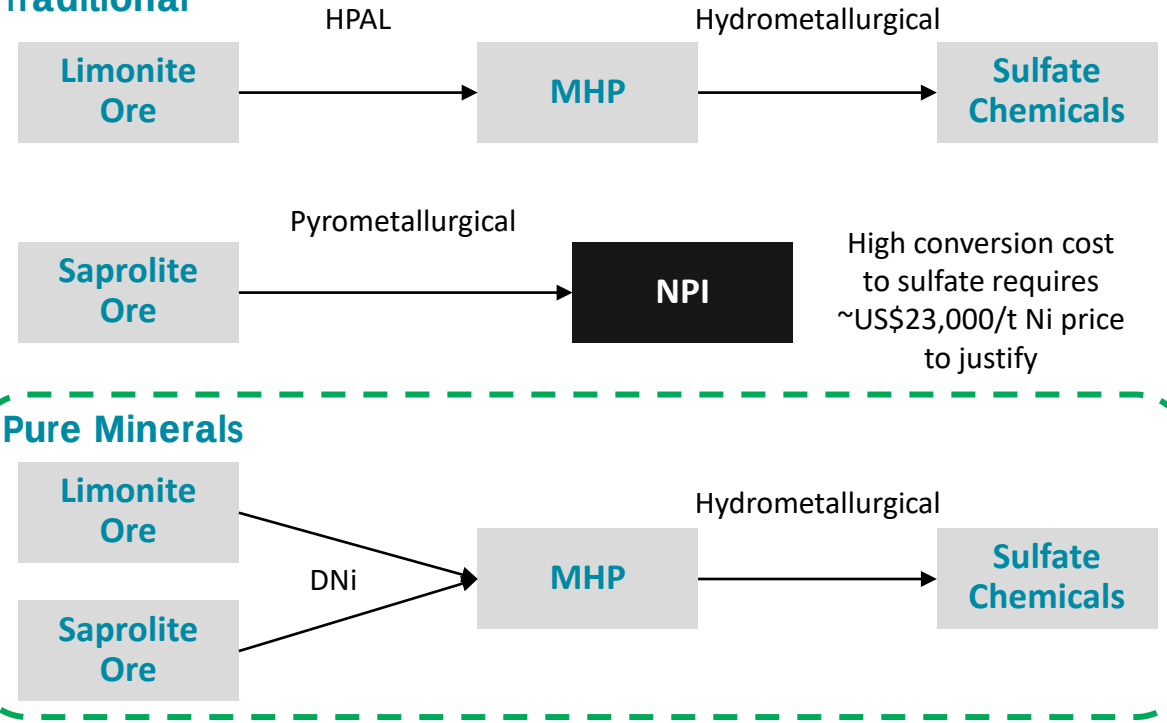


- Processes to convert concentrate straight to sulfate chemicals are in the early stages of development (high risk and expensive)

Nickel Laterites

- Limonite (high iron) and Saprolite (low iron, high magnesium)
- Limonite ore is typically processed through to MHP, which can then go straight to sulfate chemicals
- Saprolite ore is typically processed into nickel pig iron for stainless steel

Traditional



Overview of nickel ore processing options *(summary)*

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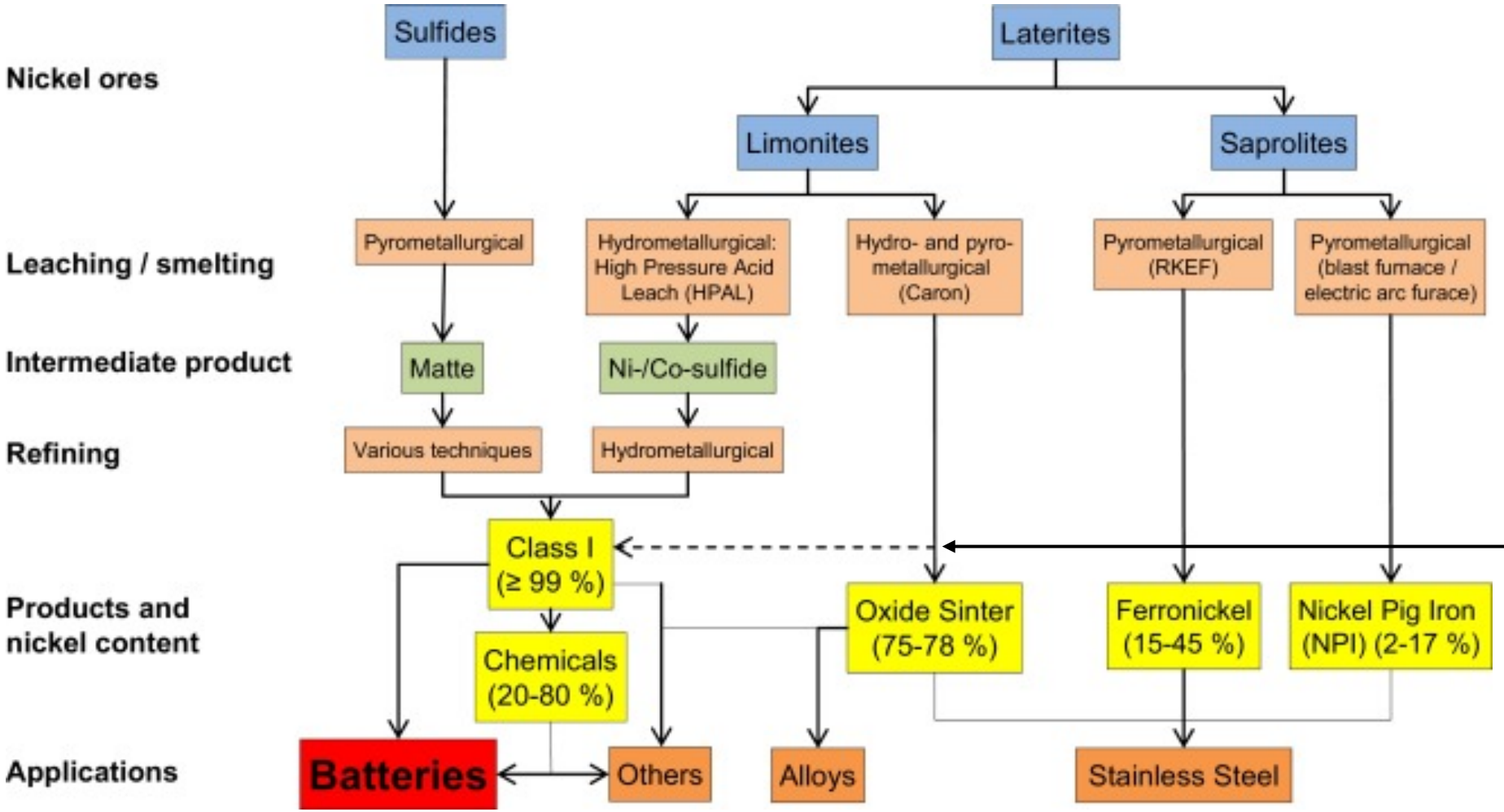
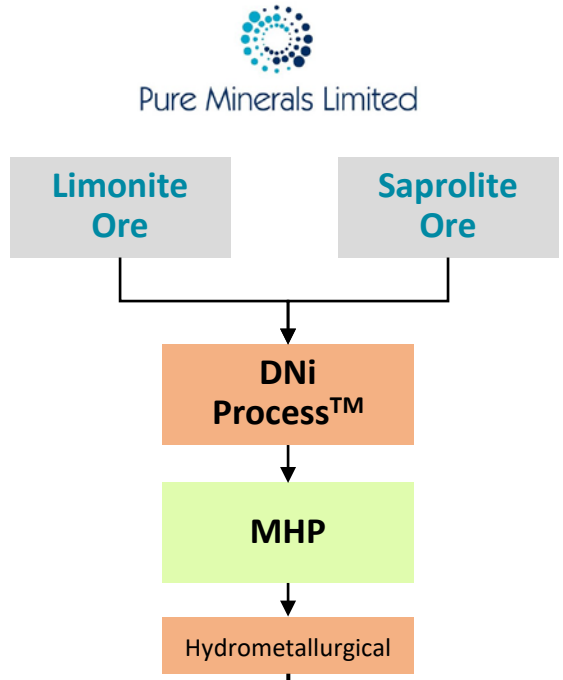
Current Nickel Industry





Source: Science Direct 2016