# **REALISING THE TIZIR VISION**



### **STATEMENTS**

### **MDL OVERVIEW**

• MDL's primary asset is a 50% interest in the TiZir joint venture ('TiZir'), which owns the Grande Côte mineral sands operation ('GCO') in Senegal, West Africa and the TiZir Titanium & Iron ilmenite upgrading facility ('TTI') in Tyssedal, Norway. ERAMET of France is MDL's 50% joint venture partner in TiZir.

### FORWARD LOOKING STATEMENTS

- Certain information contained in this report, including any information on MDL's plans or future financial or operating performance and other statements that express management's expectations or estimates of future performance, constitute forward-looking statements. Such statements are based on a number of estimates and assumptions that, while considered reasonable by management at the time, are subject to significant business, economic and competitive uncertainties. MDL cautions that such statements involve known and unknown risks, uncertainties and other factors that may cause the actual financial results, performance or achievements of MDL to be materially different from the company's estimated future results, performance or achievements expressed or implied by those forward-looking statements. These factors include the inherent risks involved in mining, operation of mineral processing facilities, exploration and development of mineral properties, changes in economic conditions, changes in the worldwide price of zircon, ilmenite and other key inputs, changes in the regulatory environment and other government actions, changes in mine plans and other factors, such as business and operational risk management, many of which are beyond the control of MDL. Except as required by applicable regulations or by law, MDL does not undertake any obligation to publicly update, review or release any revisions to any forward looking statements to reflect new information, future events or circumstances after the date of this report.
- Nothing in this report should be construed as either an offer to sell or a solicitation to buy or sell MDL securities.

# **OVERVIEW**



MINE > INTEGRATE > TRANSFORM



# 2015 HIGHLIGHTS – REALISATION OF THE TIZIR VISION

### MDL HAS DELIVERED IN A TOUGH MARKET

# Successful integration of GCO and TTI

Benefits of integration being realised in 2016

# Significant improvement in operating results at GCO

- Dredge achieving design throughput rates
- Wet Concentrator Plant availability at 90% in December
- Mineral Separation Plant wet plant performing to expectations

# Successful restart of upgraded TTI operations

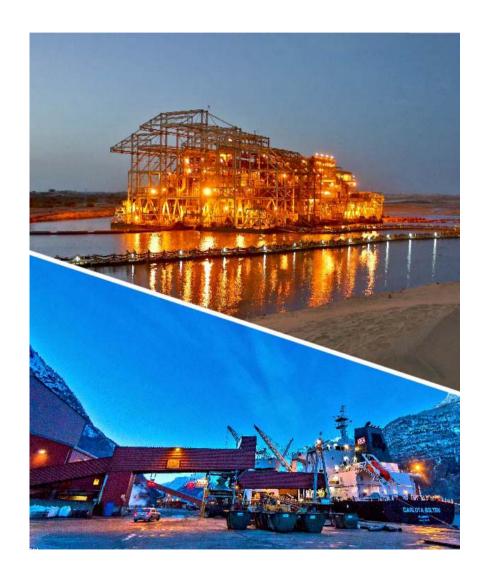
- Project completed on budget
- Success of new technology (water-cooled copper-ceramic roof)
- 2016 ramp up meeting expectations

### EBITDA positive

- GCO: six months to January 2016
- TTI: FY2015 a strong result given reline and capacity expansion project shutdown

## New management team

Taking a hands-on approach



# **BENEFITS OF INTEGRATION**

### TIZIR VISION REALISED THROUGH INTEGRATION OF GCO & TTI

# Production flexibility

- Ability to produce either a chloride or sulphate titanium slag to maximise returns as market conditions dictate

# Strategy focused on chloride slag production

- Higher margin product
- GCO ilmenite compatible with chloride slag production
- Prior history of chloride slag production at TTI
- Logistical advantages for access to chloride slag customers in North America and Europe
- Environmental benefits

# GCO offtake security

Limits exposure to lower value, more volatile ilmenite markets

### TTI supply security

Mitigates exposure to price risk

# Improved margins

- Cost efficiencies
- Maximise value on sale
- Targeted production capacity expansion of approximately 15%

# SUBDUED MARKET ENVIRONMENT

### IT HAS BEEN A TOUGH YEAR FOR THE MDL SHARE PRICE ...

Share Price (as at 19 May 2016)	A\$0.25
Shares on Issue	103.7m
Market Capitalisation	A\$25.9m
12 month high	A\$1.00
12 month low	A\$0.18



- Commodity price cycle has eroded investor confidence and undermined the performance of resource stocks
- Mineral sands is further disadvantaged given opaque and complex market dominated by a few major producers
- Investor uncertainties generated by:
  - operations in ramp up / optimisation phase
  - MDL and joint venture funding concerns
- Selling by major institutional shareholders exacerbated by:
  - trading illiquidity
  - level of market capitalisation

# SIGNIFICANT LEVERAGE FOR SHAREHOLDERS & NEW INVESTORS

### ... BUT THE OUTLOOK IS POSITIVE

### Significant value leverage

- Present market value not reflective of current industry fundamentals
  - Improving sector outlook presents opportunity for value creation
- Substantial five year capital program complete
  - Quality assets largely de-risked focus now on optimisation and cost efficiency
- Realisation of benefits from implementation of recent corporate strategy
  - Integrated operation to maximise margin and minimise risk
- ✓ Improving financial performance at TiZir even in the current commodity price environment
- √ 50/50 Partnership with ERAMET, a major global player in manganese and nickel mining & smelting

### MINERAL SANDS MARKET UPDATE

### INDUSTRY STRUCTURE CONTRIBUTES TO IMPROVING MARKET DYNAMICS



### **INDUSTRY CHARACTERISTICS**

- Supply-chain for TiO<sub>2</sub> pigment is long and highly consolidated
- Demand and global GDP strongly correlated
- Opaque product pricing
- Emergence of China in 2010

### **RECENT DEVELOPMENTS**

- · Pricing currently at historic lows
- Industry response by major producers
  - Closures/idled capacity
  - Inventory destocking
- Greenfield & brownfield investment cancelled or deferred
- Increasing rationalisation in China
- Excess capacity and some inventory overhang prevail

### **OUTLOOK**

- Fundamentals in place for recovery
- Increasing global pigment demand
  - Two price increases for producers since December 2015
- Downstream pigment users enjoying healthy margins
- Financial pressures encouraging consolidation and rationalisation

# **OPERATIONS REVIEW**

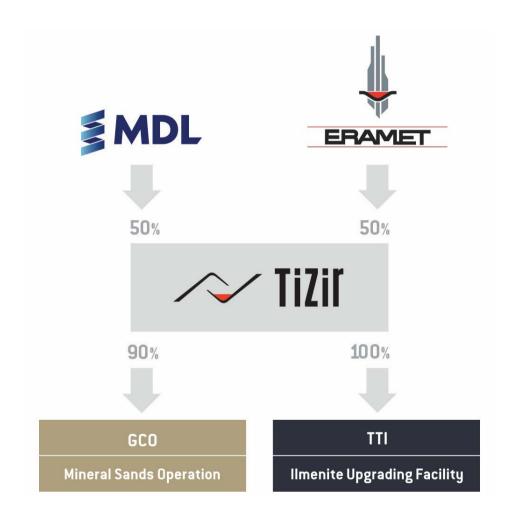


MINE > INTEGRATE > TRANSFORM



# **TIZIR JOINT VENTURE**

# MDL OWNS 50% OF TIZIR, AN INTEGRATED PRODUCER OF HIGH GRADE ZIRCON AND TITANIUM MINERALS





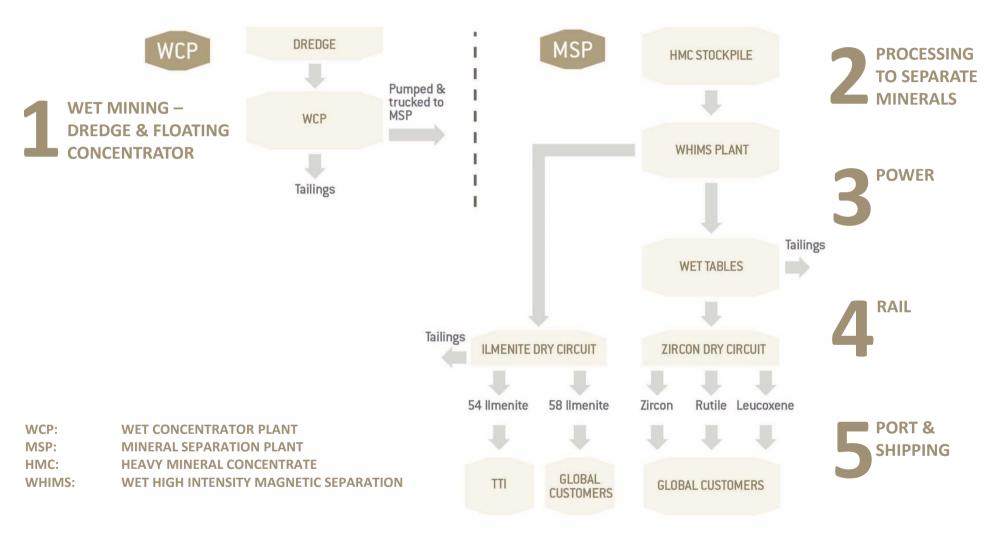
# THE VALUE OF VERTICAL INTEGRATION



**VIDEO** 

# GCO – A LARGE-SCALE, COST COMPETITIVE MINERAL SANDS OPERATION

### CONVENTIONAL MINING AND PROCESSING THAT IS INTEGRATED FROM MINE TO SHIP



# GCO – A HIGHLY COMPETITIVE MINERAL SANDS MINE

### **KEY ATTRIBUTES DRIVING PERFORMANCE**

Large-scale, cost efficient operation

Substantial
Mineral
Resource

Mineral assemblage

**Established** infrastructure

Integrated logistics

- · High throughput
- · Low cost dredging
- Consistent orebody
- Largely free-flowing sands
- No overburden
- Minor vegetation
- Minimal (<1%) slimes

- Long mine life (25+ years)
- Resource Estimate of 27.9Mt of heavy minerals<sup>1</sup>
- 25 year mining concession
- Project area of 445.7km<sup>2</sup>

- · High quality zircon
- Two grades of ilmenite (54% & 58% TiO₂)
- High grade co-products
  - rutile
  - leucoxene

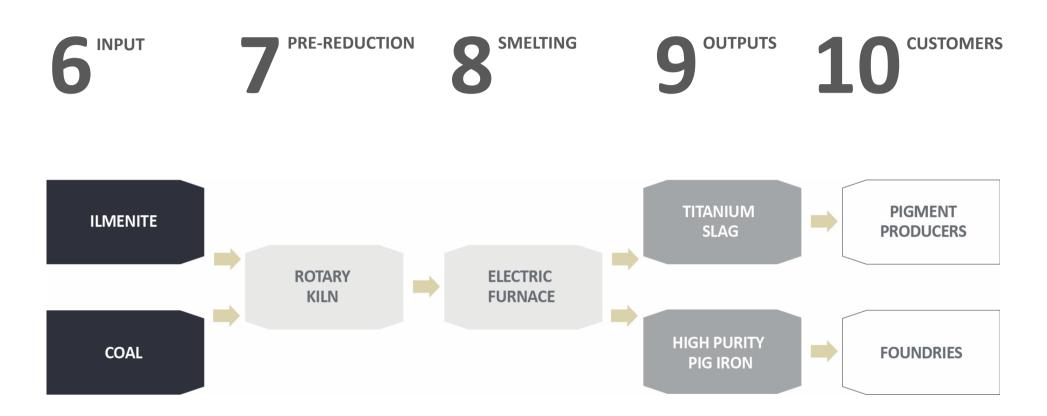
- Reliable power generated by GCO owned 36MW power station
- Established bore field water (shallow water table and deep water aquifer)
- Ownership or control of key rail and port infrastructure

- Integrated logistics from mine to ship
- Well located to service TTI and key customer base in Europe and North America

<sup>1:</sup> ASX release – 19 February 2015 (2015 GCO Updated Grande Côte Mineral Resource and Ore Reserves) and 18 February 2016 (Annual Statement of Mineral Resources and Ore Reserves as at 31 December 2015). The combined measured and indicated and inferred resource estimate of 27.9Mt is comprised of a measured resource estimate of 23.5Mt, an indicated resource estimate of 3.1Mt and an inferred resource estimate of 1.3Mt. MDL confirms that it is not aware of any new information or data that materially affects the information included in the ASX releases of 19 February 2015 and 18 February 2016 and that all material assumptions and technical parameters underpinning the estimates in the release continue to apply and have not materially changed.

# TTI – PRODUCING UPGRADED SLAG FOR OVER 20 YEARS

### FURNACE RELINE AND CAPACITY EXPANSION PROJECT FACILITATES CHLORIDE STRATEGY AND PRODUCTION FLEXIBILITY



# TTI – A HIGH QUALITY UPGRADING FACILITY

### FURNACE RELINE AND CAPACITY EXPANSION PROJECT COMPLETE

# Well established operation

# Intellectual property

# Cheap, clean power

-

# Excellent logistics

# Future developments

- Operating since
   1986
- Longstanding, skilled workforce
- Significant upgrade successfully completed
  - 15% expansion
  - improved monitoring systems
  - chloride slag capability
  - production flexibility

- Operational knowhow is a significant barrier to entry
- One of five facilities operating with global commercial sales
  - Rio Tinto owns two (South Africa & Canada)
  - Tronox owns two (South Africa)

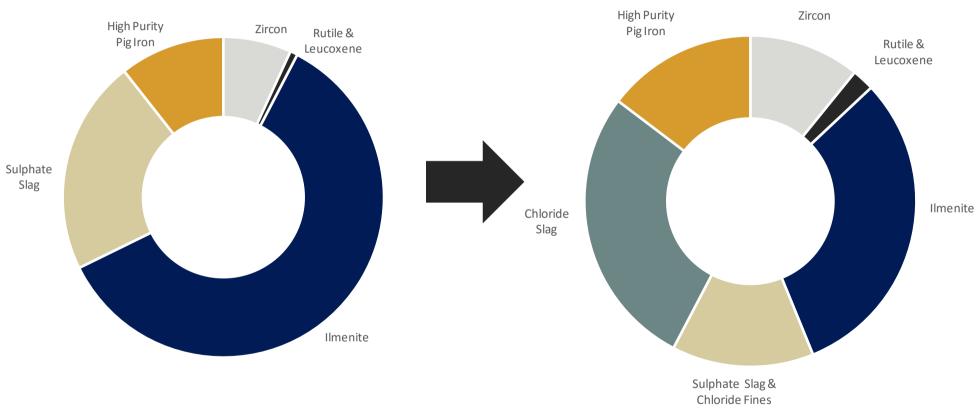
- Abundant, hydrosourced electric power
- Favourable longterm contract providing two-thirds of electricity requirement
- Deep water shipping facilities
- Well located to receive GCO ilmenite and service key customer base in Europe and North America
- Expansion potential
- Norwegian agency (ENOVA) support for development of environmentally friendly process technology

# **IMPACT OF THE TRANSITION ON TIZIR**

### SIGNIFICANTLY ENHANCED PRODUCT MIX

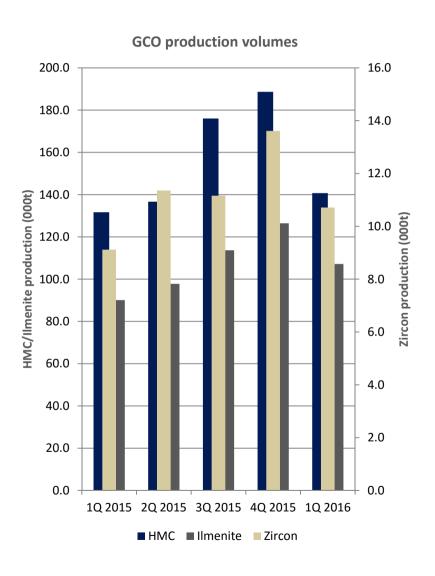
# 2015 Sales volume mix<sup>1</sup>





# **GCO STATUS UPDATE 1Q 2016**

### **KEY FOCUS IS OPERATIONAL OPTIMISATION**



# Mining operations

- Optimisation projects well underway on all aspects of the operation
- 1Q impacted by mine path turnaround and major scheduled maintenance shutdown

# Dredge

- Dredge has shown the ability to operate consistently at rates above 7,000tph
- Key initiative to maximise availability and throughput
- Award winning automation system



# **GCO STATUS UPDATE 1Q 2016**

### **KEY FOCUS IS OPERATIONAL OPTIMISATION**





### WCP

- Numerous HMC production records
- Significant periods where the plant operated at or above design capacity
- Optimisation projects include:
  - > land bridge movement efficiencies
  - > tailings optimisation
  - > HMC transport options

### MSP

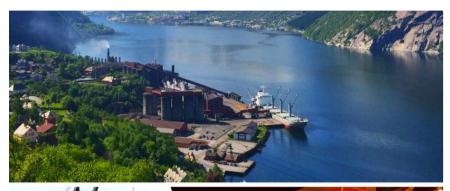
- Wet plant and ilmenite circuit of the dry plant operating at design rates
- Significant focus on improving zircon production volumes
- High quality zircon production on-spec with ready acceptance by the market

# EBITDA positive

Six successive months of positive EBITDA from August
 2015 through January 2016 – a significant achievement in the current commodity price environment

# TTI STATUS UPDATE 1Q 2016

### RELINE AND EXPANSION PROJECT COMPLETED SUCCESSFULLY





## Ramp up of operation on schedule

- Strong performance by project team
  - > effectively a complete rebuild of kiln and furnace
  - > March production equivalent to 90% of full production capacity prior to project shutdown
- TTI water-cooled copper-ceramic roof technology proving successful
- Crushing plant commissioned
- Monitoring system upgraded
- Both chloride slag and iron specifications are consistent with expectations

### Logistics

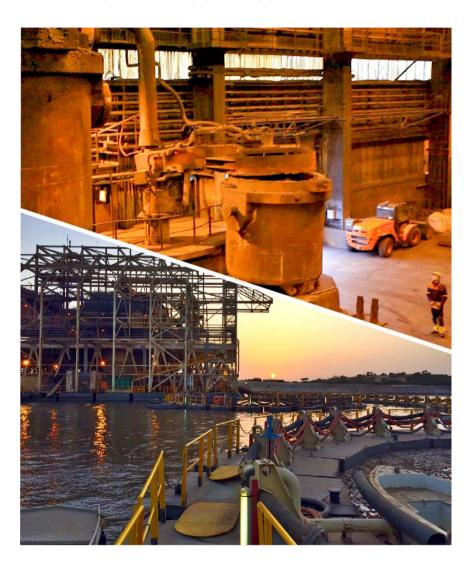
Commenced chloride slag shipments

# ENOVA funding

 Recognition of TTI programs to improve energy efficiency and the utilisation of environmentally friendly energy technology

# **STRATEGIC OUTLOOK**

### **FIVE YEAR CAPITAL PROGRAM COMPLETE**



### Tier 1 asset

 Short-term focus on TTI ramp up and operational optimisation to deliver free cash flow even at bottom of the cycle

### • GCO

- Continue to build on operational successes of 2015
- Key focus on optimisation projects to deliver:
  - > better utilisation and sustainable throughput rates
  - > increasing efficiencies
- Major cost saving initiative underway

### • TTI

- Focus on delivering project outcomes:
  - high-quality product mix
  - > 15% expansion of production capacity
- Optimisation of pre-reduction process
- Major cost saving initiative underway

# **GCO SUSTAINABILITY FUNDAMENTALS**

### STRONG RELATIONSHIP WITH THE SENEGALESE GOVERNMENT



### **FINANCIAL & EMPLOYMENT**

- Government owns 10% of GCO
- 5% gross production royalty
- Support of local suppliers and contractors
- Focus on employment of Senegalese citizens – 93% of total workforce
- Training & skills building programs in partnership with Ministry of Vocational Training & Apprenticeships

### **ENVIRONMENT & SAFETY**

- Progressive rehabilitation
- On-site nursery, supplemented by a local community cultivation initiative
- 'Zero incident' ethos
- On-site, high-tech & well-equipped medical clinic and Emergency Response Team
- Multilingual health & safety training program

### **SOCIAL & COMMUNITY**

- Stakeholder approved social development programs
  - health, water, education, transport and waste management
  - agricultural improvement
  - small business development & entrepreneurship for women & young people
- Resettlement eco-village in final stages

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