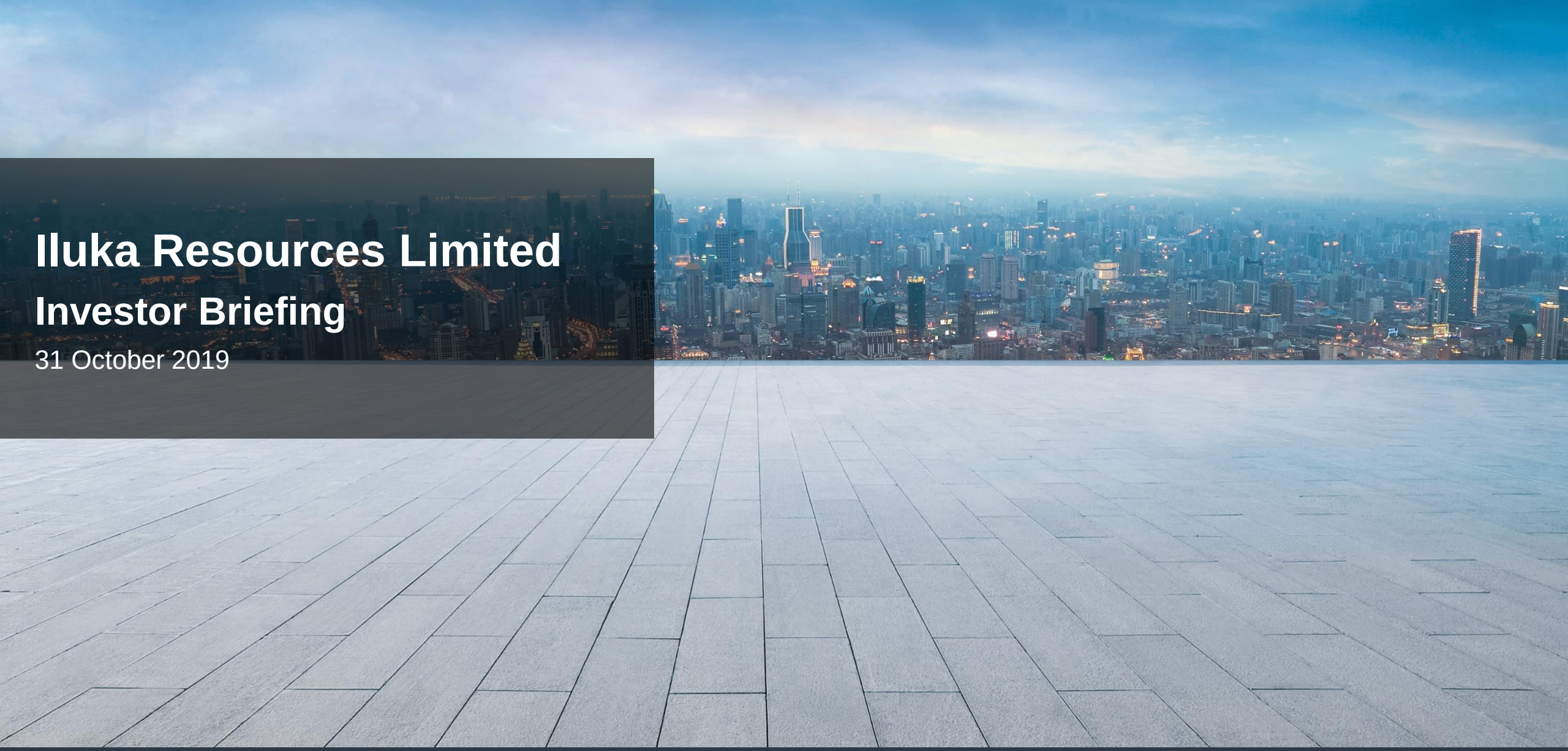

# Iluka Resources Limited

## Investor Briefing

31 October 2019

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This document provides an indicative outlook for the Iluka business in the 2019 financial year. The information is provided to assist sophisticated investors with the modelling of the company, but should not be relied upon as a predictor of future performance. The current outlook parameters supersede all previous key physical and financial parameters.

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This document contains non-IFRS financial measures including cash production costs, non production costs, Mineral Sands EBITDA, Underlying Group EBITDA, EBIT, free cash flow, and net debt amongst others. Iluka management considers these to be key financial performance indicators of the business and they are defined and/or reconciled in Iluka's annual results materials and/or Annual report. Non-IFRS measures have not been subject to audit or review.

All figures are expressed in Australian dollars unless stated otherwise.

**Mineral Resources and Ore Reserves Estimates**

As an Australian company with securities listed on the Australian Securities Exchange (ASX), Iluka is subject to Australian disclosure requirements and standards, including the requirements of the Corporations Act and the ASX. Investors should note that it is a requirement of the ASX listing rules that the reporting of ore reserves and mineral resources in Australia comply with the 2012 edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the "JORC Code") and that the Ore Reserve and Mineral Resource estimates underpinning the production targets in this presentation have been prepared by a Competent Person in accordance with the JORC Code 2012.

Information that relates to Mineral Resources estimates has been previously announced to ASX on 24 July 2019 in *Eneabba Mineral Sands Recovery Project Updated Mineral Resource Estimate,* on 20 February 2017 in *Updated Mineral Resource and Ore Reserve Statement,* on 21 February 2019 in *2018 Annual Report* and on 27 February 2018 in *2017 Annual Report,* all available at www.iluka.com/investors-media/asx-disclosures. Iluka confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement and that all material assumptions and technical parameters underpinning the estimates continue to apply and have not materially changed. Iluka confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcements.

**Production outlook**

Production outlook and the basis thereof are noted within the relevant disclosure. The outlook included in this presentation is indicative only and should not be construed as guidance. The information is subject to changes in market and operating conditions; political risk; and any significant unplanned operational issues.

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# Investor Briefing – Thursday 31 October



| | |
|---|---|
| **1. Introduction** | Tom O'Leary |
| **2. Zircon Market** | Christian Barbier |
| **3. Titanium Market** | Christian Barbier |
| **4. Mineral Sands Operations** | Adele Stratton |
| **5. Sierra Rutile Operations** | Rob Hattingh |
| **6. Projects** | Matthew Blackwell |
| **7. Environment, Social, Governance** | Sarah Hodgson |
| **8. Capital Management** | Tom O'Leary |
| **9. Mining Area C** | Tom O'Leary |
| **10. Closing Remarks** | Tom O'Leary |

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# Speakers



**Tom O'Leary**
Managing Director and CEO

**Adele Stratton**
CFO

**Matthew Blackwell**
Head of Major Projects, Engineering & Innovation

**Rob Hattingh**
CEO, Sierra Rutile

**Christian Barbier**
Head of Marketing

**Sarah Hodgson**
General Manager, People & Sustainability

**Melissa Roberts**
General Manager, Investor Relations & Commercial Operations

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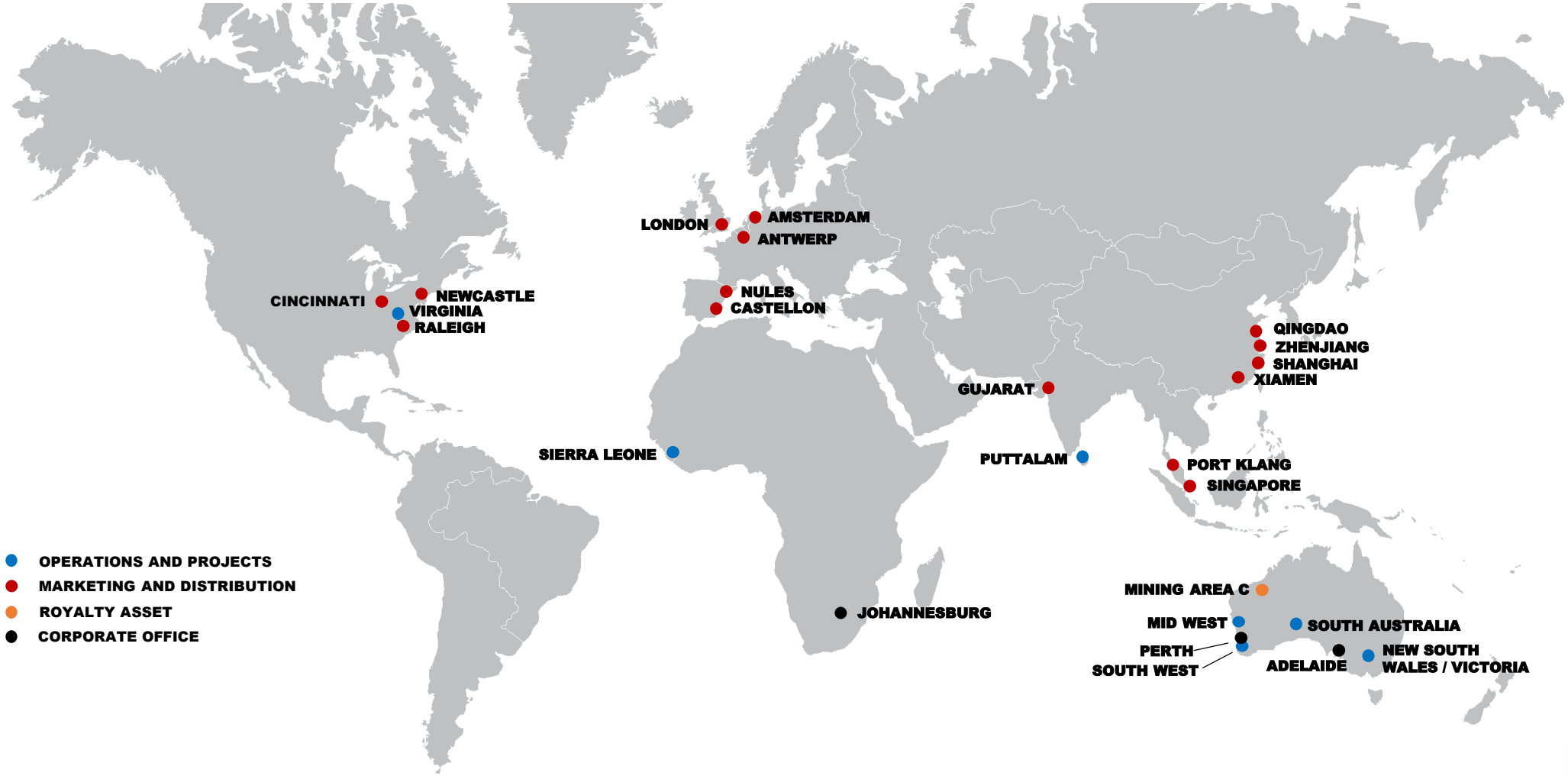
# Global Assets and Portfolio



## 60 years experience in mineral sands exploration, project development, mining, processing and marketing




## World class royalty over iron ore produced from BHP's Mining Area C (MAC) province

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# Deliver Sustainable Value



## Strong Market Fundamentals

Mineral sands demand linked to urbanisation, rising living standards, increasing array of applications

## Quality Mineral Sands Assets

Australia and Sierra Leone operations

Product mix weighted to premium zircon and high grade titanium dioxide

## Project Pipeline

Sustaining and growth projects in Australia and Sierra Leone

## Value Driven Marketing Model

Direct customer relationships

Price driven by value in use

Focussed on sustainable pricing

## Capital Discipline Framework

Strong balance sheet, disciplined capital allocation

Focus on shareholder returns via dividend framework

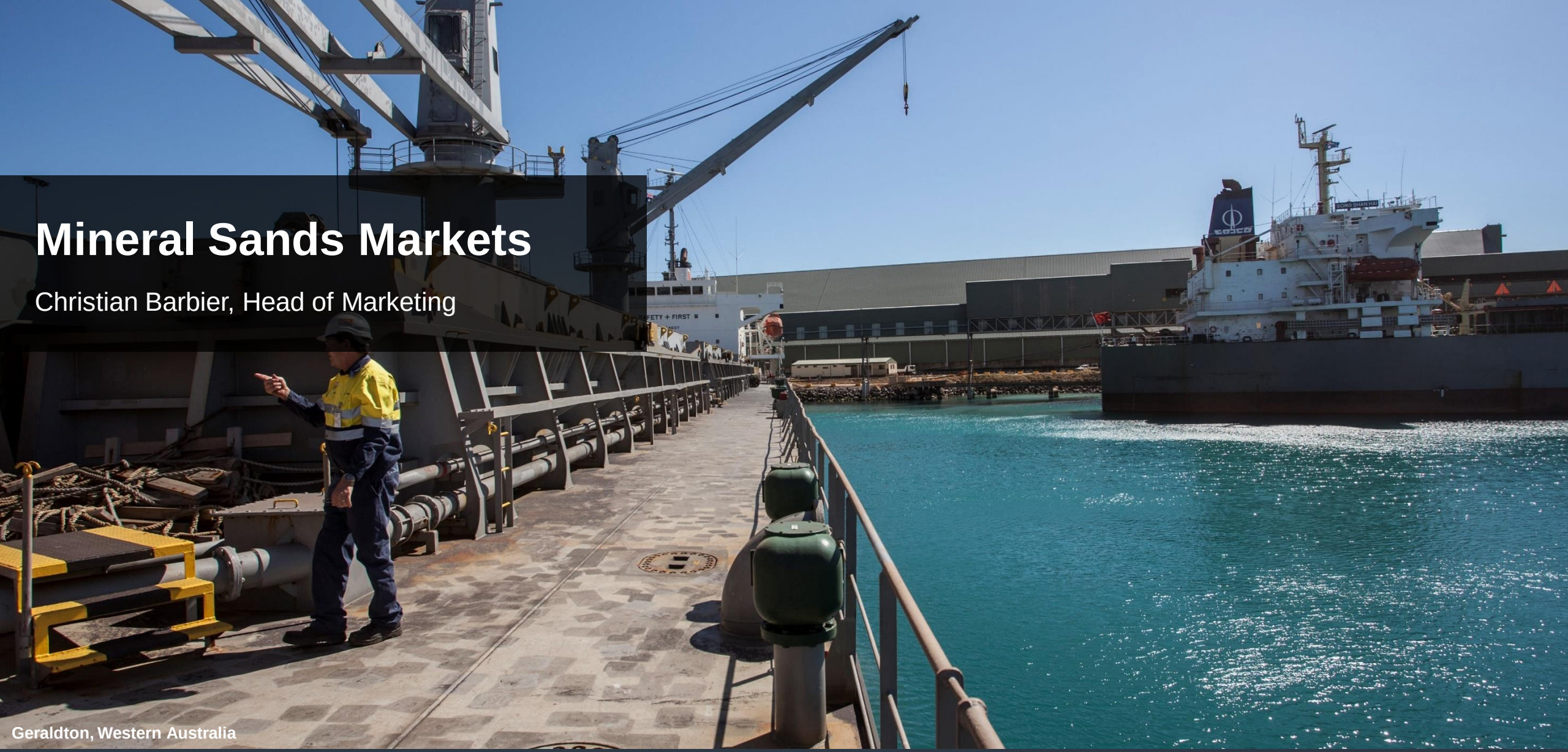
## World-class Iron Ore Royalty

Royalty stream from BHP's Mining Area C hub in Western Australia

Growth from BHP's South Flank development

# Mineral Sands Markets

Christian Barbier, Head of Marketing



Geraldton, Western Australia

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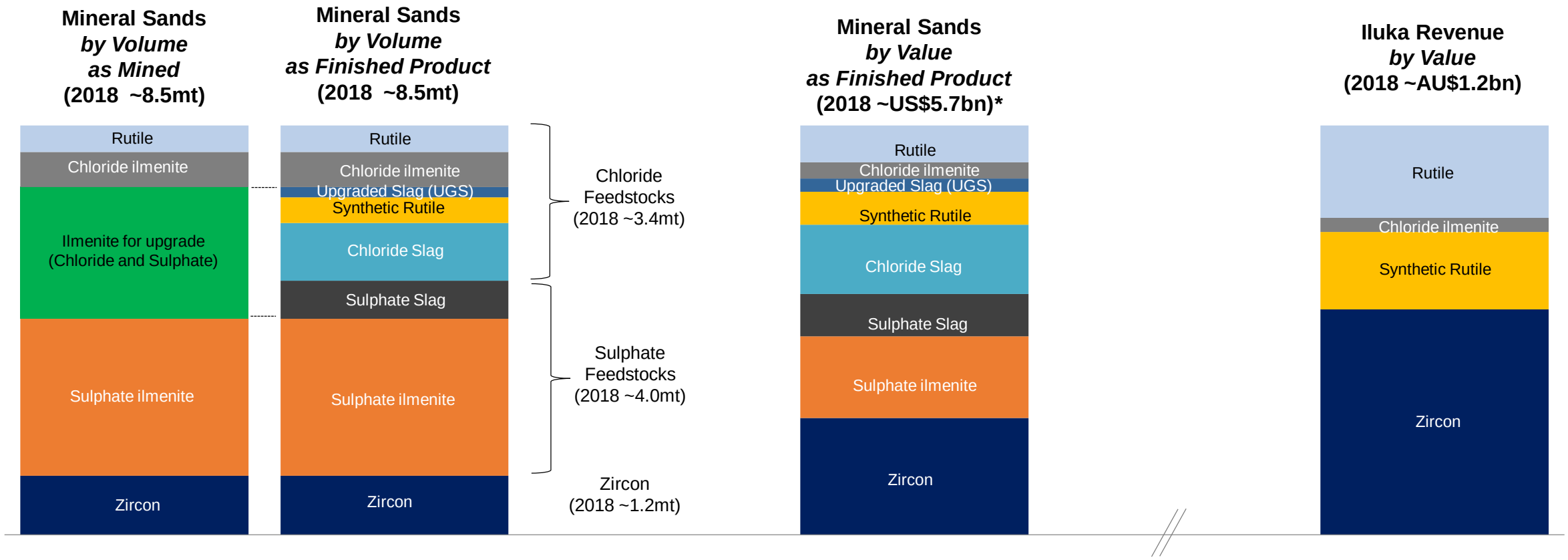
# Global Mineral Sands Industry Production






All titanium feedstock volumes in TiO2 units
Source: Iluka and TZMI

* Indicative only based on 2018 product volumes and 2018 industry average prices

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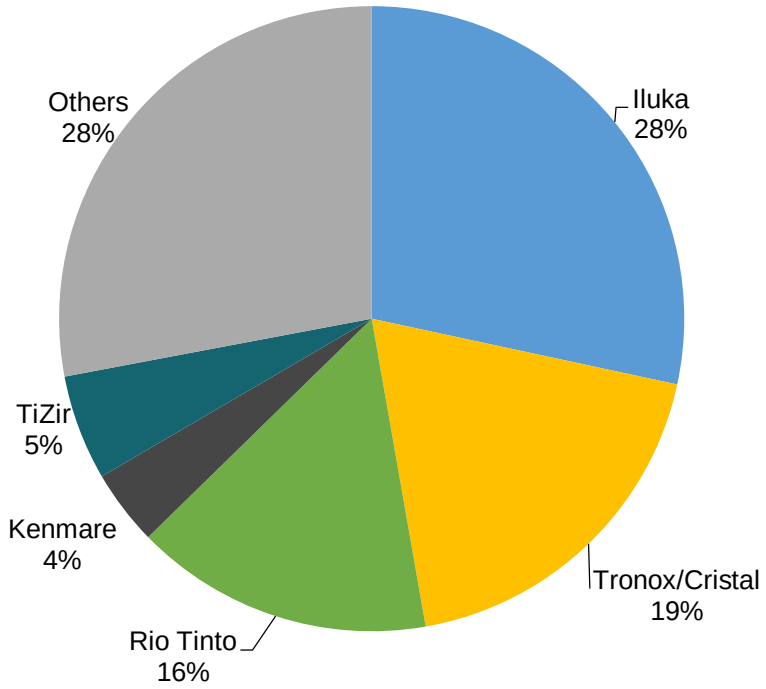
# Zircon Market

# Global Zircon Producers



## Global Zircon Producers

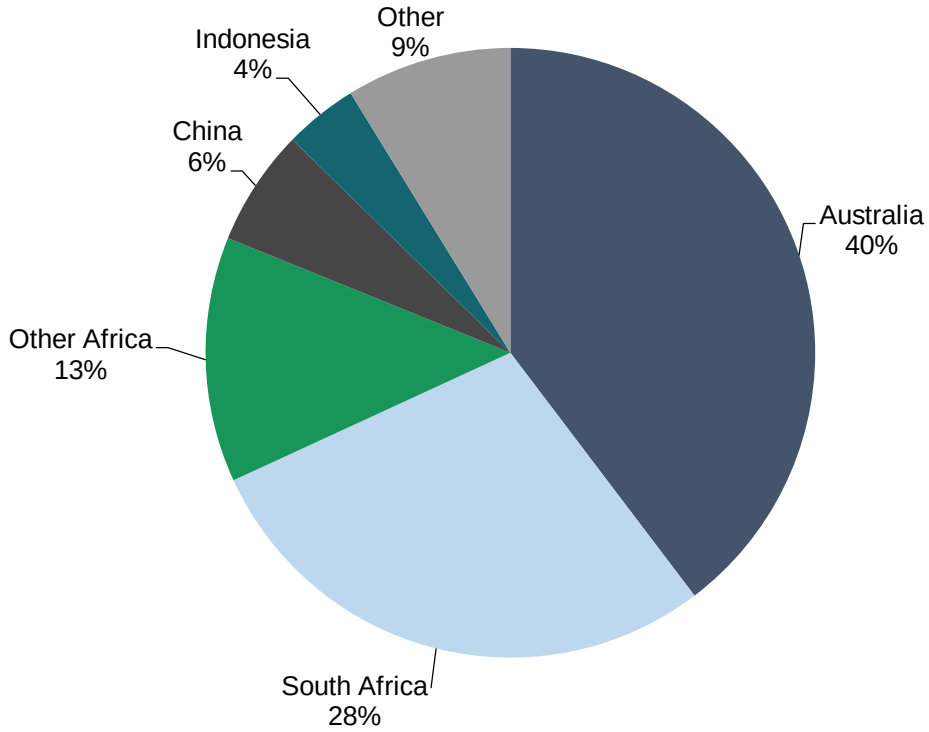
## (2018 Total Production ~1.2mt)




Source: Iluka and TZMI

## Global Zircon Production by Region

## (2018 Total Production ~1.2mt)




Source: Iluka and TZMI

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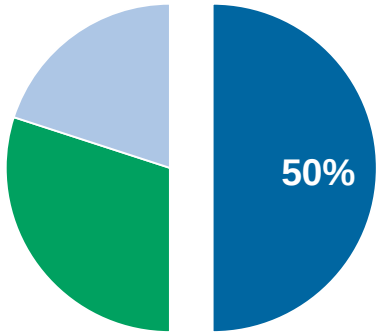
# Zircon Applications



**Zircon is opaque (white) and water, chemical, heat and abrasion resistant**

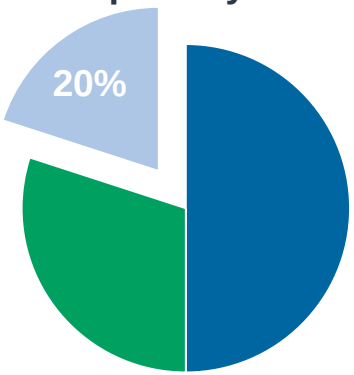
**2018 global demand**

## Ceramics



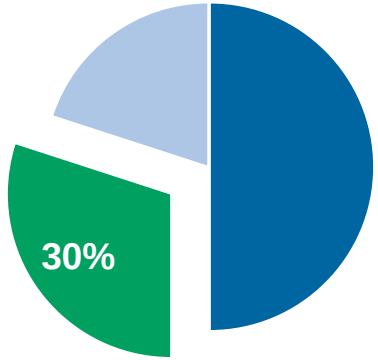

**Tiles, sanitary ware, table ware**

## Chemicals, Fused Zirconia and Specialty Uses




**Electronics, catalytic converters, fibre optics, nuclear fuel rods**

## Refractory and Foundry



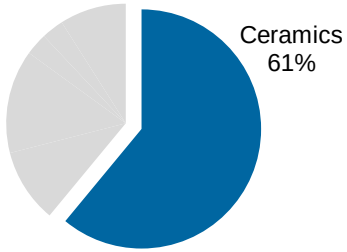

**Investment casting, glass, steel and cement industries**

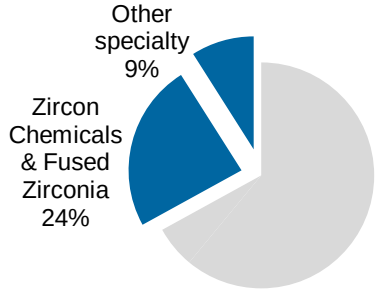
**Key drivers of demand**

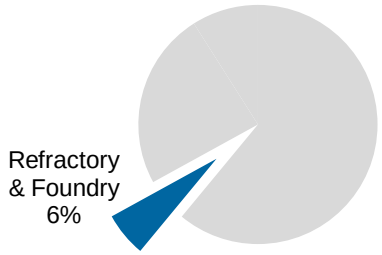
Short term
- Construction industry
- Industrial activity

Medium to long term
- GDP per capita
- Urbanisation
- Flooring trends
- Innovation and increased applications

**2018 Iluka sales**




Demand source: TZMI
Sales source: Iluka

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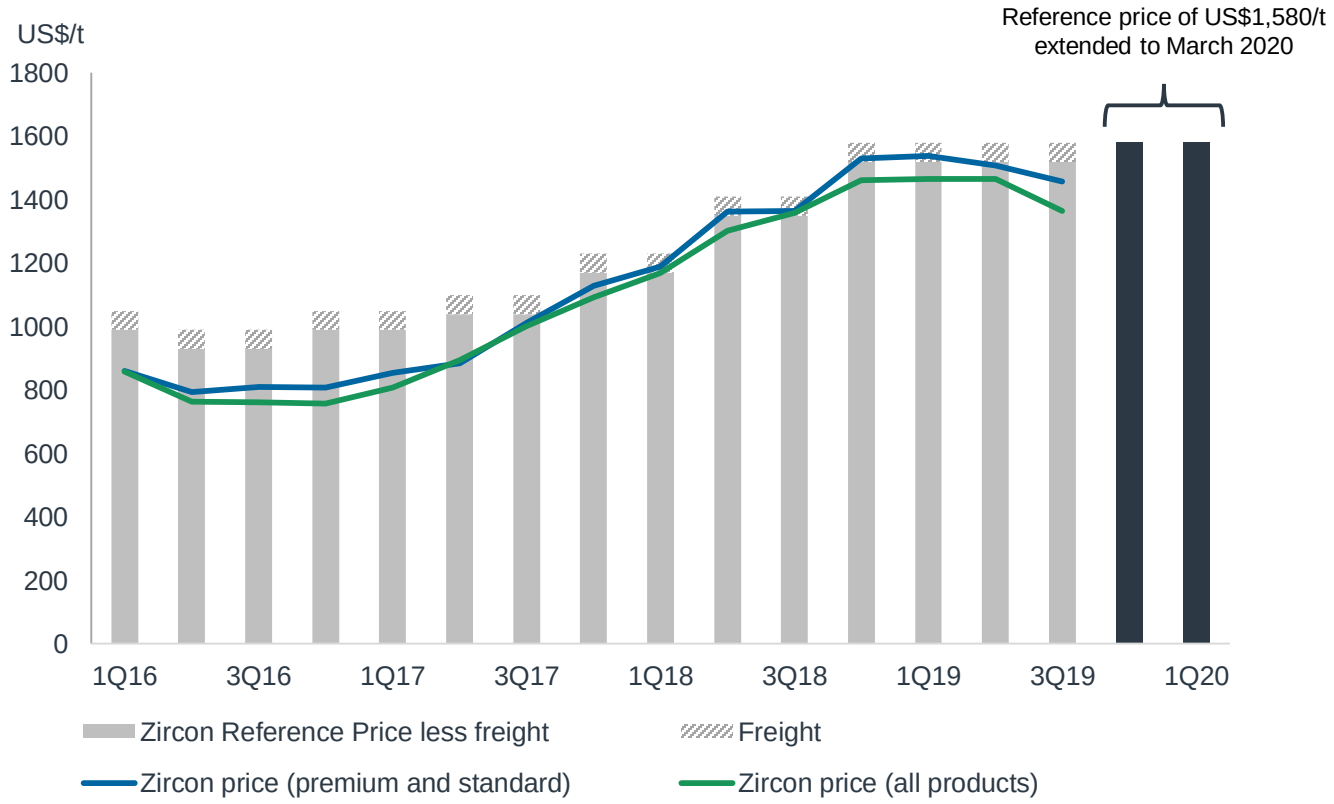
# Sustainable Pricing Model



**Iluka's Zircon Reference Price and Received Price**




Notes: Price differential between Zircon (Premium and Standard) and Zircon (all products) varies based on the price of each product and the mix of products sold in each period.
Source: Iluka

## Zircon Reference Price

Iluka introduced Zircon Reference Price in 2015

- Zircon Reference Price is based on a 2 tonne bag of Zircon Premium, DAT, ex-China warehouse
- Provides transparency for customers
- Actual price paid a function of location, quantity, quality, purchase history etc

### Rewards scheme for customers

- Objective is fair pricing among customers, strengthening loyalty, valuing reliability and quality of supply
- Reward based on volumes of offtake, commitment to take allotted quantities and other factors
- Works with the reference price to provide pricing transparency instrument for customers

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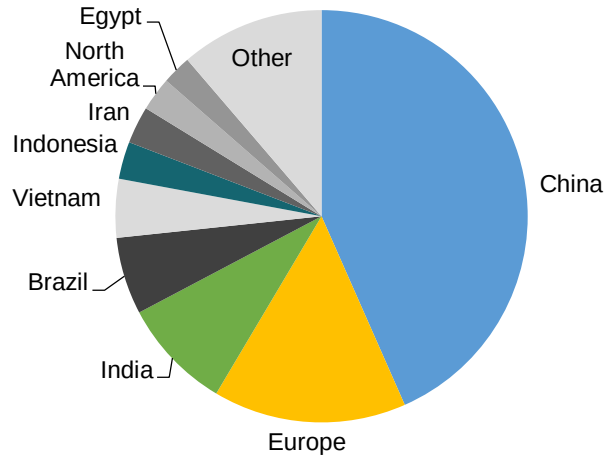
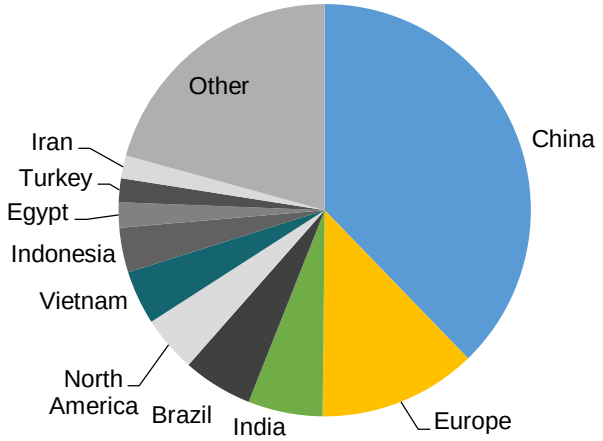
# Tile Market Overview



## Major Tile Manufacturing Countries, 2018




## Major Tile Consumption Countries, 2018




Data in square metres
Source: Ceramic World Review

## Major Tile Categories

### Polished Porcelain (Unglazed) (~20% of tiles)

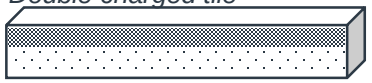
A high density, wear resistant and water impervious (vitreous) tile body typically polished for aesthetic quality.

Produced with either single composition across the tile depth (full-body) or with two layers of different compositions (either produced with double-charging using a single press or with double-pressing using two subsequent presses).

*Full body unglazed tile*

*Zircon contained in main body ~5% of total weight.*

*Double charged tile*



*Double charged tiles generally only have zircon in top layer.*

### Glazed Porcelain (~40% of tiles)

Glaze to enhances the aesthetic appeal and allow cheaper materials to be used in the body. Glaze also imparts durability and non-porous surface.

Typically, a white engobe layer between body and glaze needed to ensure bonding of the glaze layer, prevent cracking of glazes, to fully mask the colour of the body and serve as a white basis for decoration. Glaze and engobe combined in some compositions.

Typically digitally printed and used as flooring.

*Glaze*
*Engobe*
*Porcelian or ceramic body*
*Glazed tile*

*Zircon contained mainly in engobe (~6-12% zircon) and glaze (~8-16% zircon).*

*These components are ~3-10% of tile body thickness.*

### Glazed Ceramic (~40% of tiles)

Glaze applied to porous ceramic tile for hard wearing, non-porous surface. Have less strength than porcelain. Decorative effects can be applied.

White engobe required to mask tile body colour and provide base for decorative pigments.

Typically applied to walls.

Source: Iluka and Ruidow

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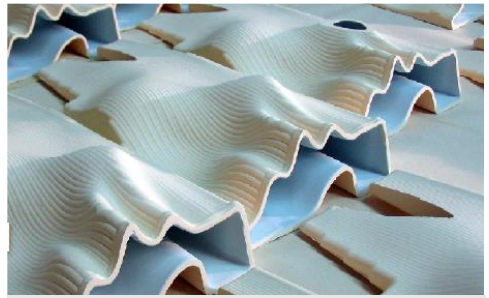
# Emerging Tile Trends and Zircon Content Implications



## Innovation in ceramics form and design is leading expansion in applications

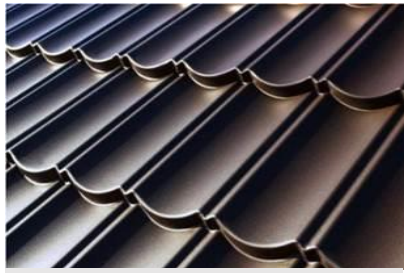
Digitally printed tile effects include wood and marble look, often require white base

Large, thin, slab tiles can be 6mm thick



3D printed tiles offer unique shapes and texture

Design and durability increasing use as building exterior



Zircon in roof tiles increase solar reflection and reduce heat

## New tile trends have broadly positive implications for zircon content

- → All plants globally transitioned to digital printing and use zircon in engobe and glaze enforcing minimum zircon loadings (ensures white base for printing)
- ↓ Cost reduction focus leading to thrifting zircon thereby compromising whiteness i.e less white tiles (technical limits before visible)
- ↑ Higher loading in large format and exterior tiles for strength and durability
- ↑ Range of other new applications, including 3D printing and exterior applications
- ↑ Increasing focus on environmental impacts and standards favour tile use and zircon content

Source: ADDP Architects, Iluka

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# Thrifting and Substitution



## 2012 vs 2019:

## Differing market dynamics

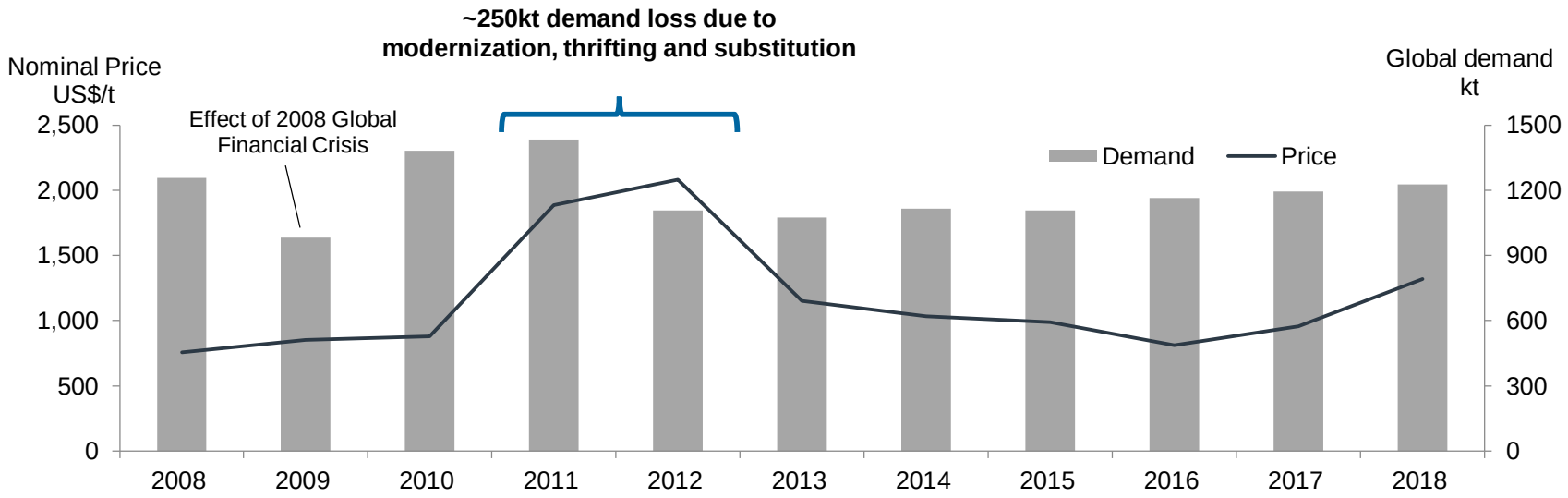
Iluka believes the dynamics are different from the previous cycle:

- Progressive price increase
- 2/3rds of demand loss in 2011-14 was in China where technology improvements were implemented from outdated processes
- Double-charging now common in China and limited opportunities for further change

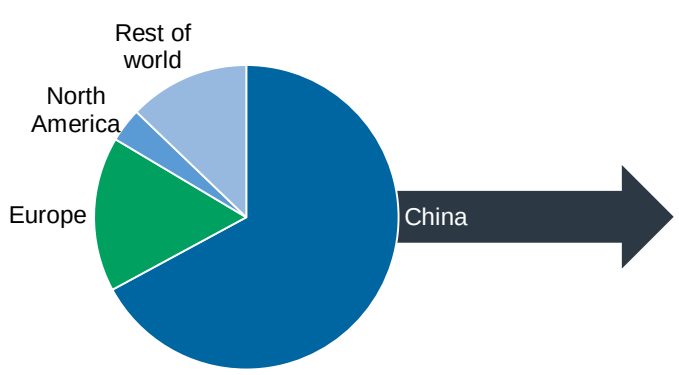
Double charging and substitution/thrifting largely already played out in 2011-14.

Thinner tile, upgrading and grinding impacting 2019.

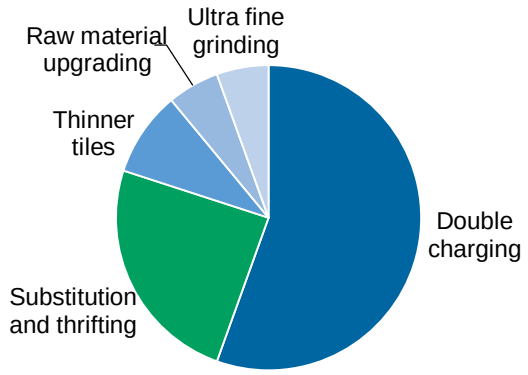
### Zircon Consumption and Price Recent History




### 2011-14 Zircon demand loss by region




### 2011-14 Causes of demand loss in Chinese porcelain tiles

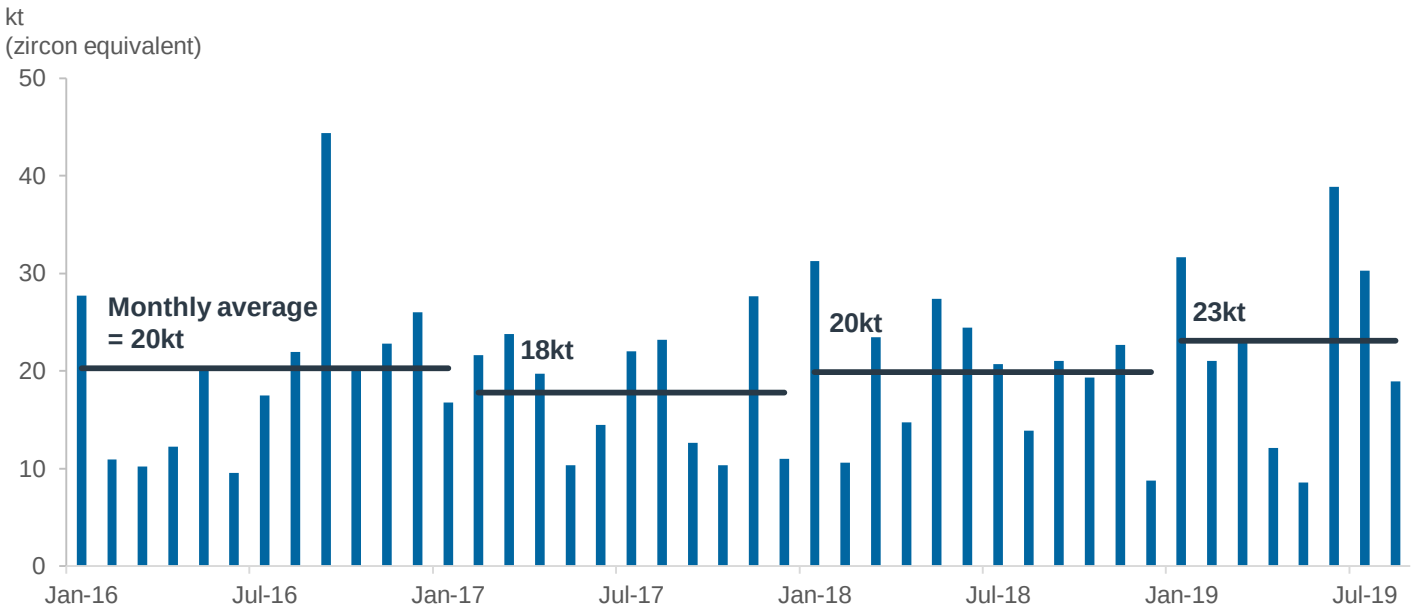



Source: Iluka, TZMI

# Global Zircon Concentrate Supply

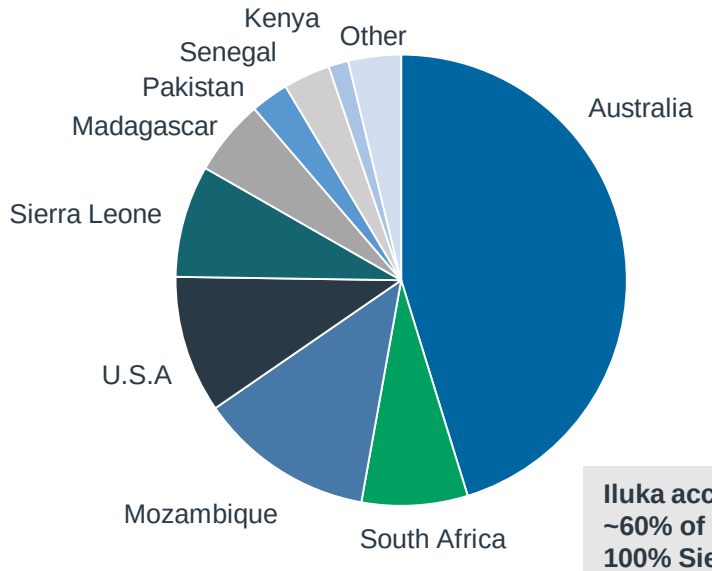


## China zircon concentrate imports




Source: Iluka, customs data

## China zircon concentrate imports by source, 2019 year to date August




**Iluka accounts for ~60% of Australia + 100% Sierra Leone**

Source: TZMI

- ~15% increase in monthly zircon concentrate imports in 2019 ytd
- Concentrate sourced from Australian, African and US producers
- Outside Iluka, many producers are small and short life operations
- Iluka maintains ample capacity to provide supply of ZIC for years to come and at higher volumes[1]

1. See slide 10-11 Jacinth Ambrosia site visit presentation, 31 October 2018

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# Kalimantan Zircon Sand Industry Overview



- Zircon sand production is generally premium grade
- Concentrate sourced from artisanal Dayak miners using basic mining technique
- Miners sell zircon-gold concentrate to brokers/traders or direct to processors
- In situ ore grades 0.2-0.3% zircon, 0.02g/t Au
- Miners produce ~0.1t zircon concentrate / day and 2g gold / day
- Processors use small scale traditional mineral sands separation equipment (shaker tables, magnetic separation etc)
- ~35 mineral separation plants, total capacity ~300ktpa zircon
- ~50% of plants currently idle / closed

**Dayak miners**

**Mineral separation plant**

**Indonesian Regulatory Setting**

2005: Alluvial gold tailings mining began, zircon not of significance and largely unregulated

2009: Revised mining framework

2012: Concentrate exports banned, later revoked but subject to 20% export tax

2014: Raw ore export ban (concentrate exports illegal), finished sand exports allowed with permit

2015: New export tax of 1.5%

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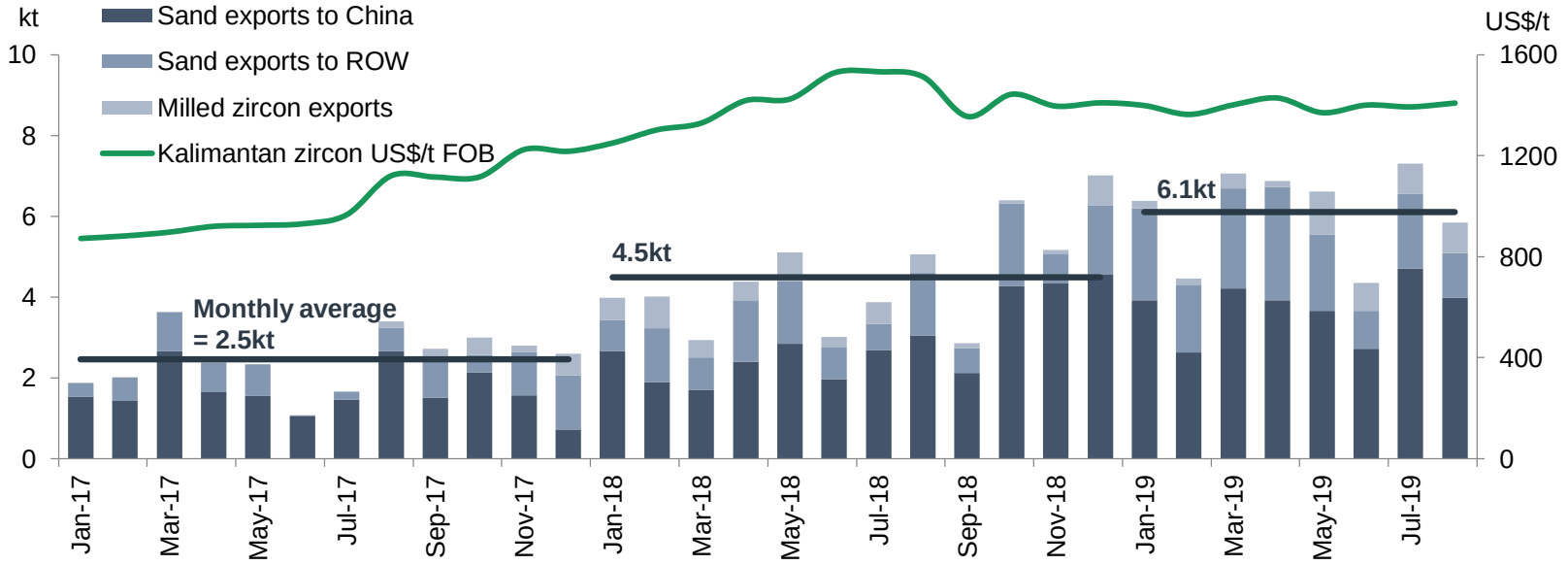
# Indonesian Zircon Exports



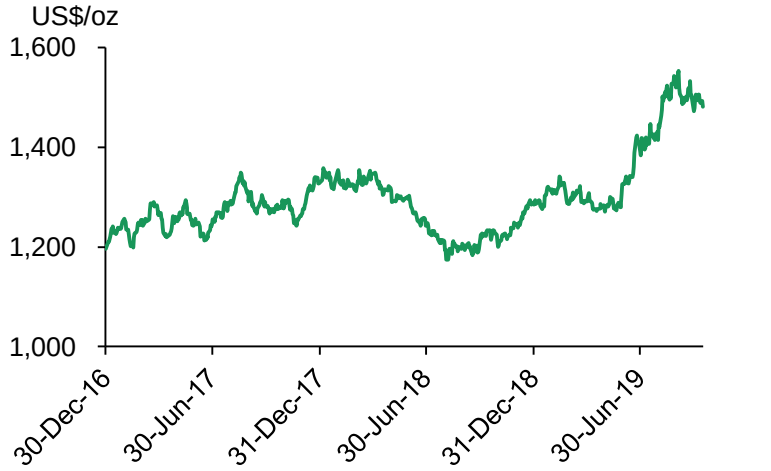
- Current monthly export ~70ktpa annualised (plus ~20ktpa used in domestic tile industry)
- Factors influencing inducement price:
  - zircon and gold prices and rupiah exchange rate
  - palm oil plantation wages
  - cost of production
- Anecdotal evidence of other influences including:
  - increasing number of processing plants has increased negotiating power of miners
  - movement of families to region

## Indonesia zircon exports and price

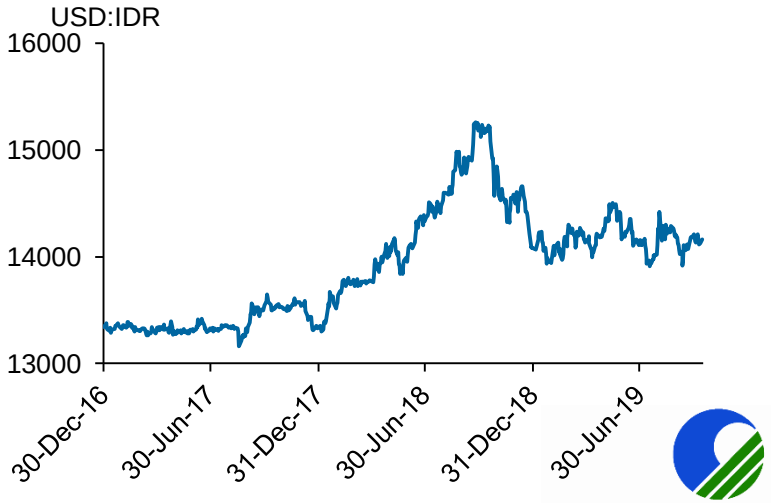



Source: Iluka, Export Genius

## Gold price




## US Dollar to Rupiah Exchange Rate




Source: Bloomberg

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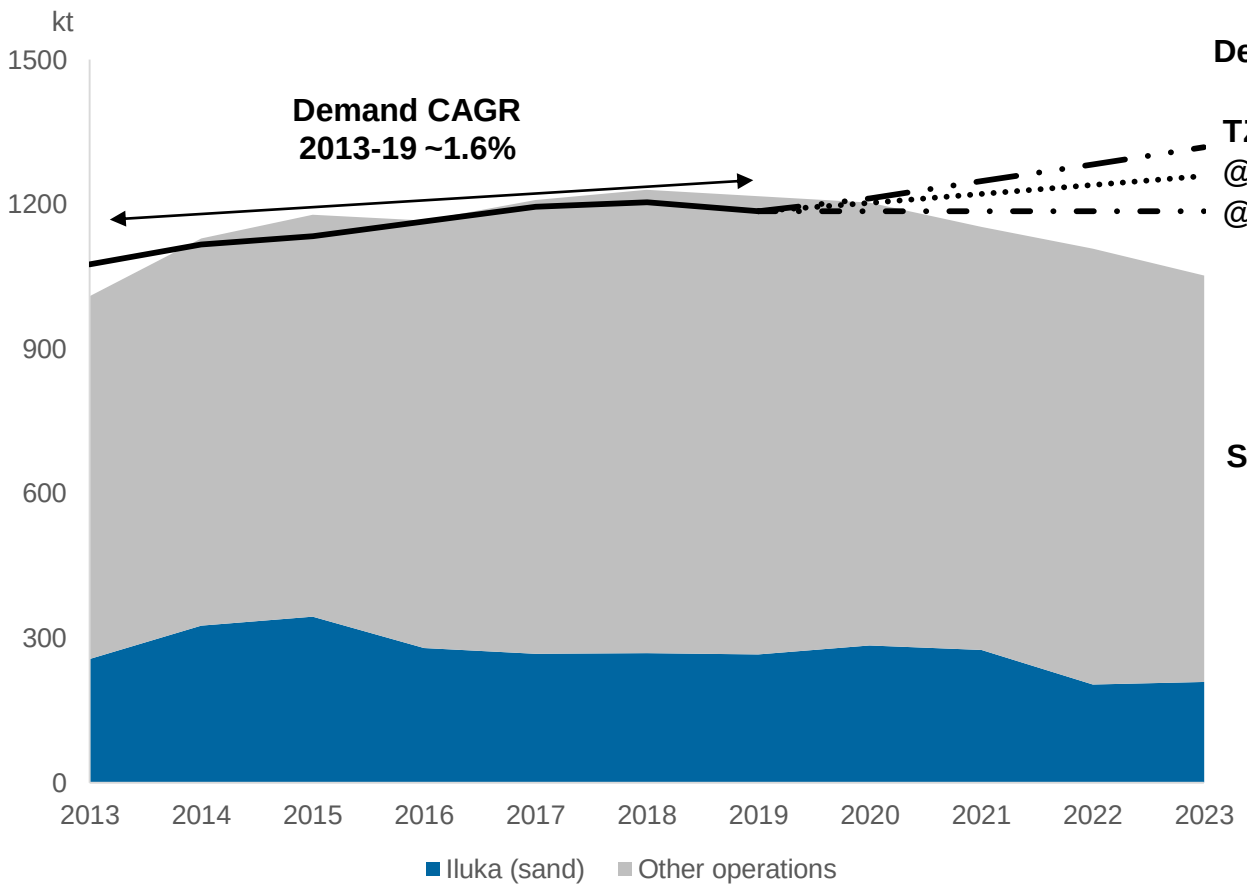
# Zircon Market Outlook



**Global Zircon Supply and Demand Outlook – Existing Operations[1]**




## Short term demand softness …

- Business confidence affected by trade tensions and global economic uncertainty
- Destocking of zircon in downstream supply chain

## … solid long term fundamentals

- Urbanisation and growing middle class in Africa and Asia over next ten years
- Caution on quantum of demand growth
- Zircon will sell based on value in use with new technical specifications
- Declining supply from existing producers
- Iluka has project pipeline to maintain supply

1. Illustrative demand CAGRs (2019-23) are indicative only and not Iluka forecasts. 2019 demand forecast of 1.2mt is from TZMI (August 2019). Demand is underlying (net of inventories). Iluka (sand) production forecast is sourced from TZMI and does not represent Iluka's production forecast. In addition to zircon sand, Iluka also produces ZIC which is processed elsewhere and included in 'Other operations'.
Source: TZMI August 2019

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# Titanium Market

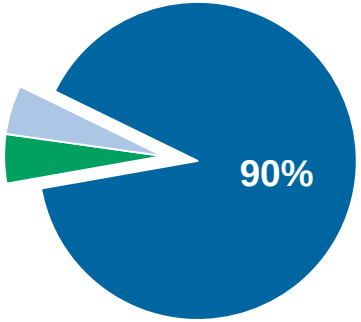
# Titanium Dioxide Applications



**Titanium pigment is opaque (white), UV resistant and inert.**
**Titanium metal has high strength to weight ratio and is corrosion resistant.**

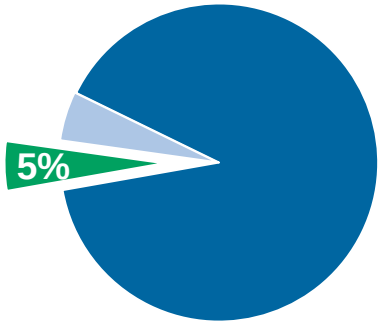
**2018 global demand**

## Titanium Pigment



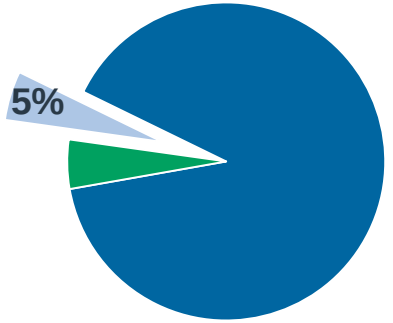

**Paint, plastics, inks, specialty coatings**

## Titanium Metal

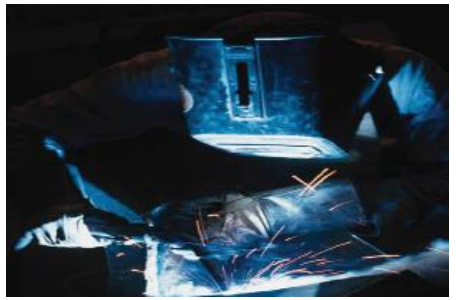



**Aircraft frames and engines, medical items, sporting goods**

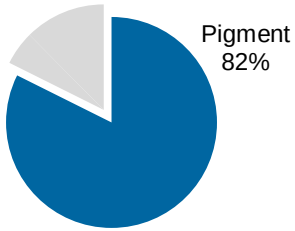
## Welding (flux)

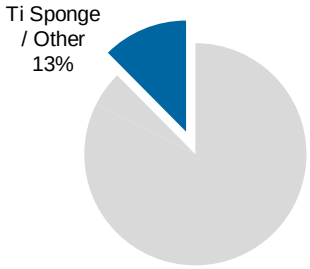


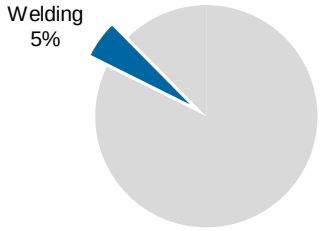

**Steel fabrication, ship building**



**2018 Iluka sales**




**Key drivers of demand**

Short Term
- Construction industry
- Consumer spending
- Renovation spending
- Steel industry
- Ship build orders
- Aircraft build orders

Medium to long term
- GDP per capita
- Urbanisation
- Innovation and increased applications

Demand source: TZMI
Sales source: Iluka

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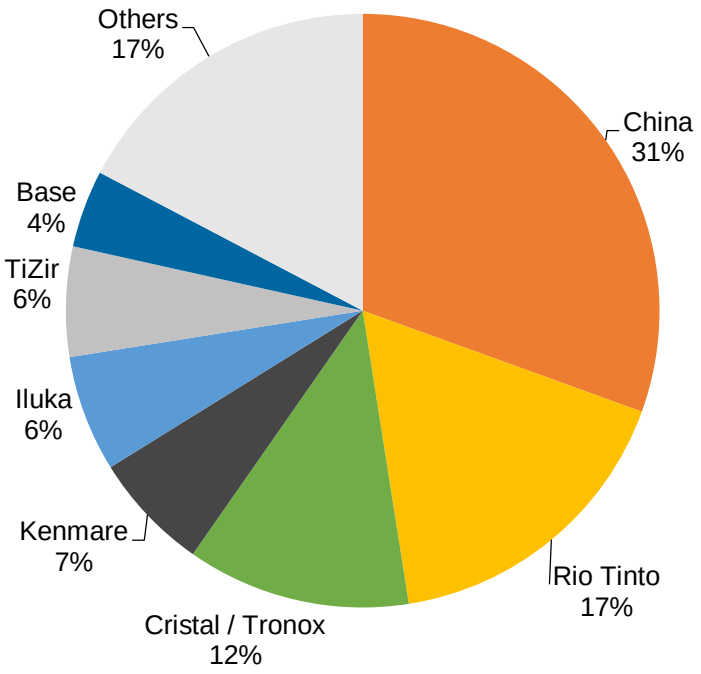
# Global Titanium Dioxide Producers



## Global Titanium Feedstock By Major Producers

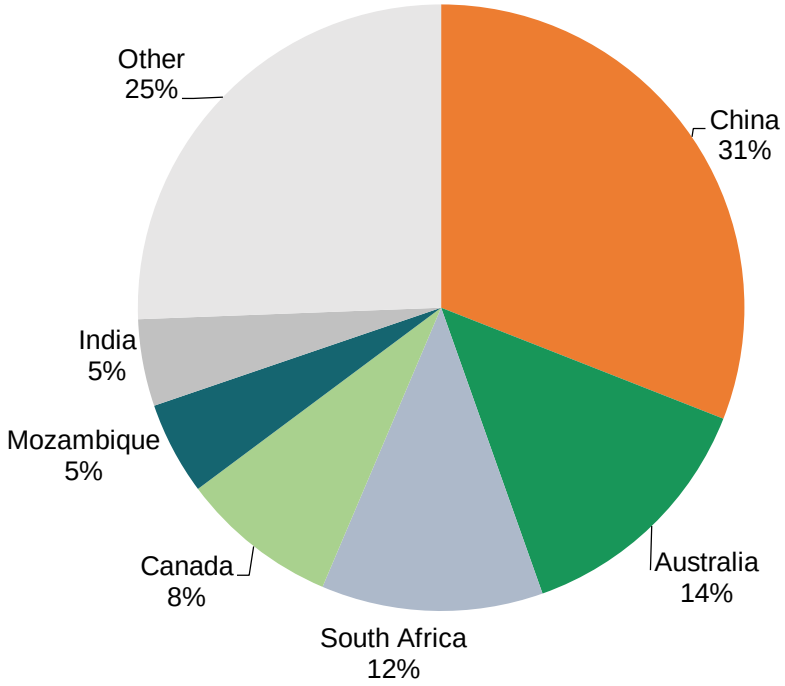
## (2018 Total Production ~7.4mt)




Source: TZMI

## Global Titanium Feedstock By Country

## (2018 Total Production ~7.4mt)




Source: TZMI

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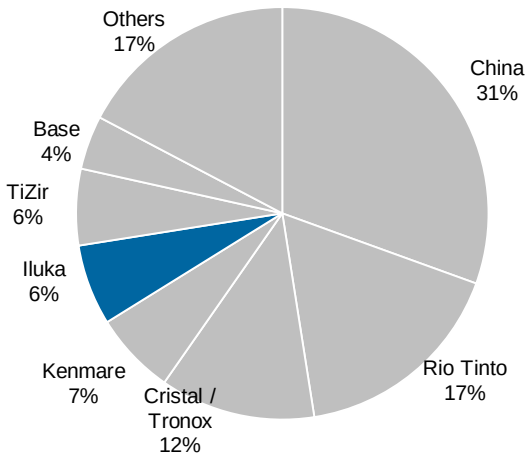
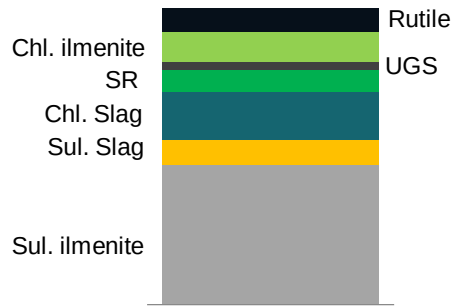
# Market Position Strongest in Very High Grade



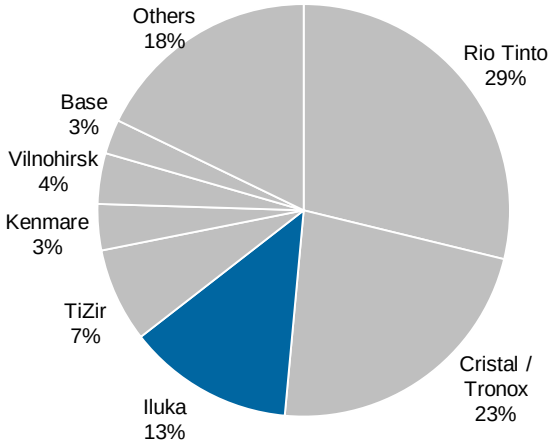
## Total $TiO_2$ Feedstock Chloride & Sulphate (2018 ~7.4 mt)



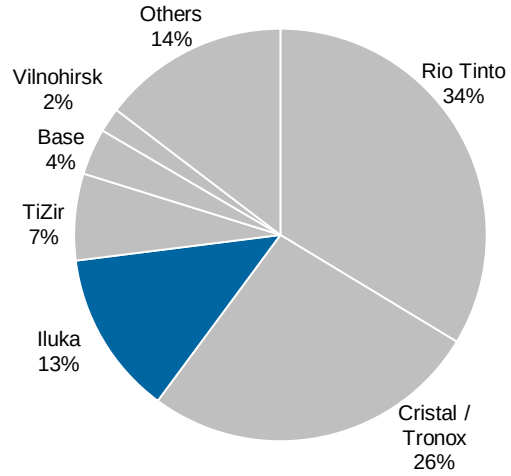

## Chloride Feedstock

(2018 ~3.4 mt)



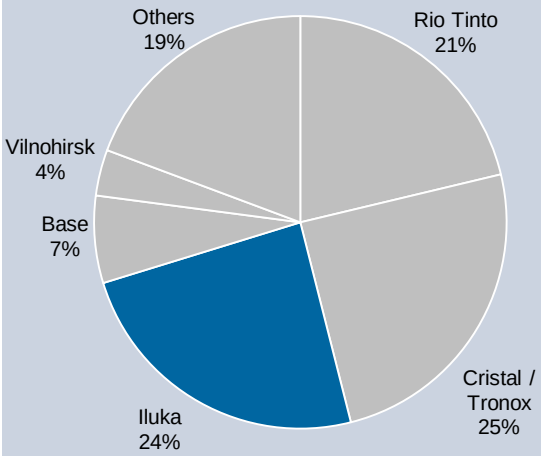


## High Grade Chloride (80%+ TiO2) Feedstocks (2018 ~2.5 mt)





## Very High Grade Chloride (90%+ TiO2) Feedstocks (2018 ~1.3 mt)





Note all data on TiO2 unit basis
Source: TZMI, Company reports, Iluka

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# High Grade Titanium Feedstock Advantage

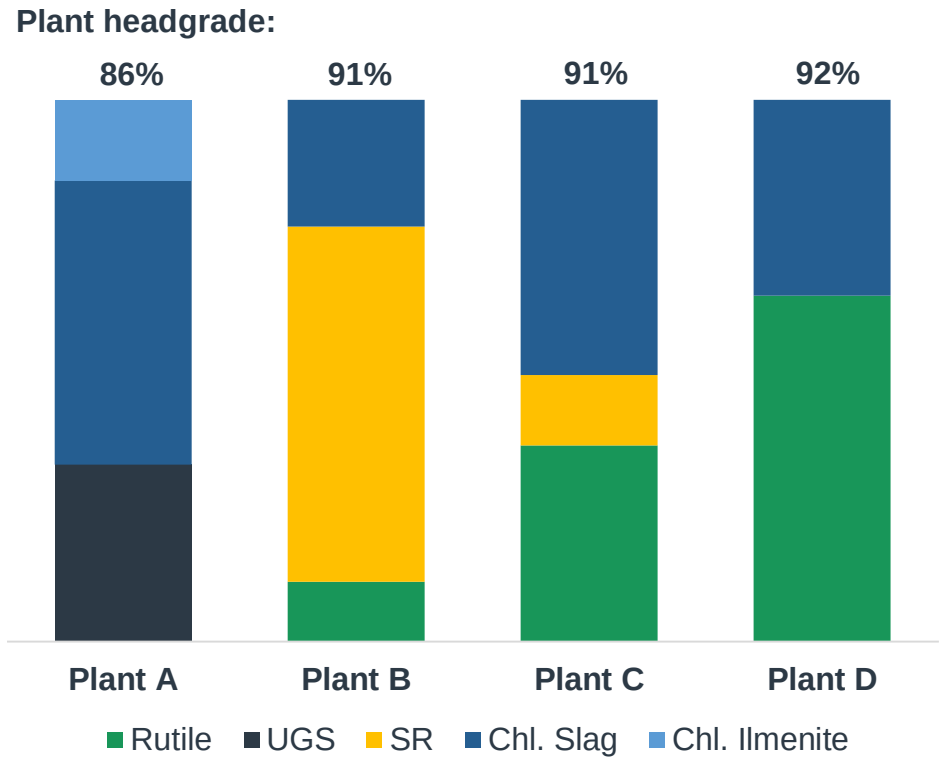


## Iluka's high grade titanium products have high 'value in use'

- Chloride pigment plants typically run on blends
- Very high grade feedstocks raise yield, utilisation

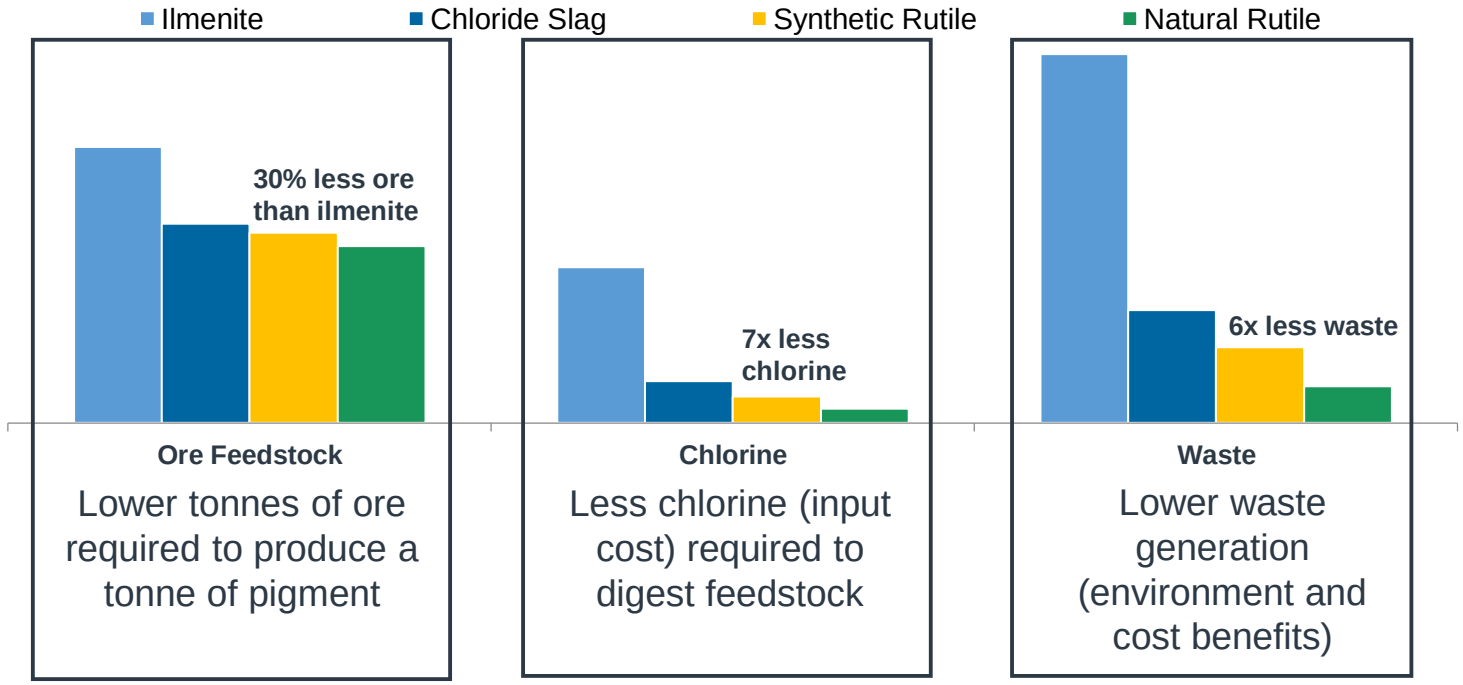
- Natural rutile and synthetic rutile advantages in feedstock blend

**Indicative Pigment Plant Feedstock Blends**




Note indicative 2018 only based on trade data, tonnes of product
Source: TZMI, Iluka

**Feedstock and Chlorine Input and Waste Output for various feedstocks, per tonne of pigment**




Source: Iluka

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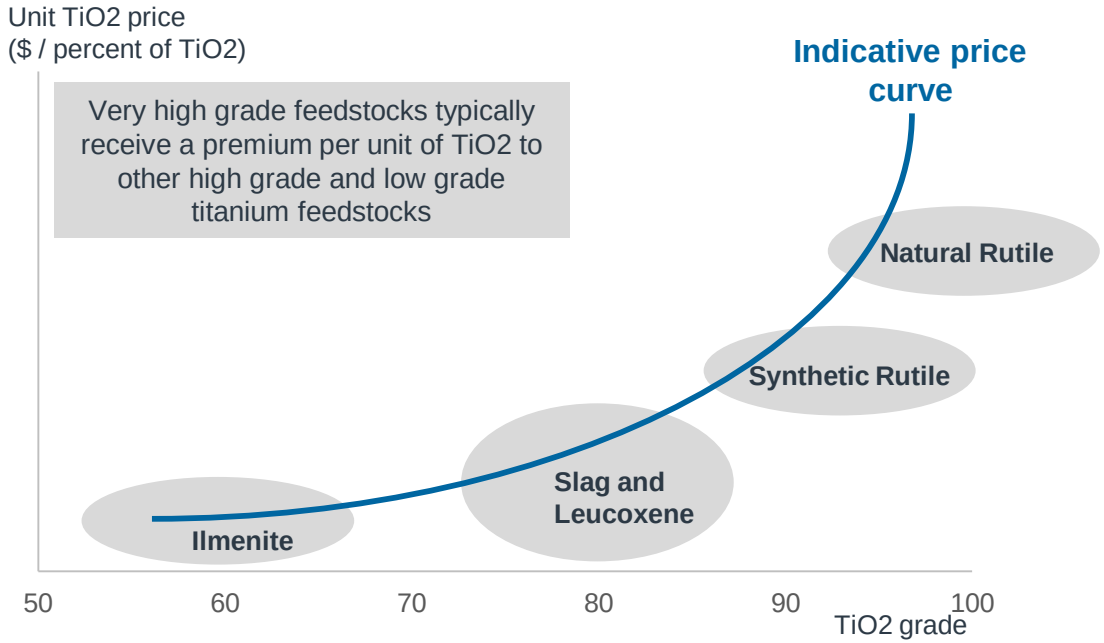
# High Grade Feedstock Pricing Based on Value in Use



## Titanium feedstocks by titanium grade

| Feedstock | $TiO_2$ % | Origin | Used in Chloride or Sulfate pigment process |
|---|---|---|---|
| Ilmenite | **48% - 62%** | Naturally occurring | Both |
| Leucoxene | **65% - 90%** | Naturally occurring | Chloride |
| Titanium Slag | **88% - 94%** | Upgraded | Both |
| Synthetic Rutile | **88% - 94%** | Upgraded | Chloride |
| Natural Rutile | **92% - 96%** | Naturally occurring | Chloride |

## Titanium feedstocks pricing by titanium grade




### Iluka's Pricing Approach

- Iluka uses an extensive data base and relative economic value (REV) modelling to analyse the value Iluka's feedstock provides to a customer's plant operations and pigment production
- Feedstock price linked to value in use and market dynamics

### Current Pricing Dynamics

- Tight supply of natural rutile and ability to increase pigment yield play favourably on rutile price
- Synthetic rutile kept pace with rutile as contracts linked to high grade pricing dynamics

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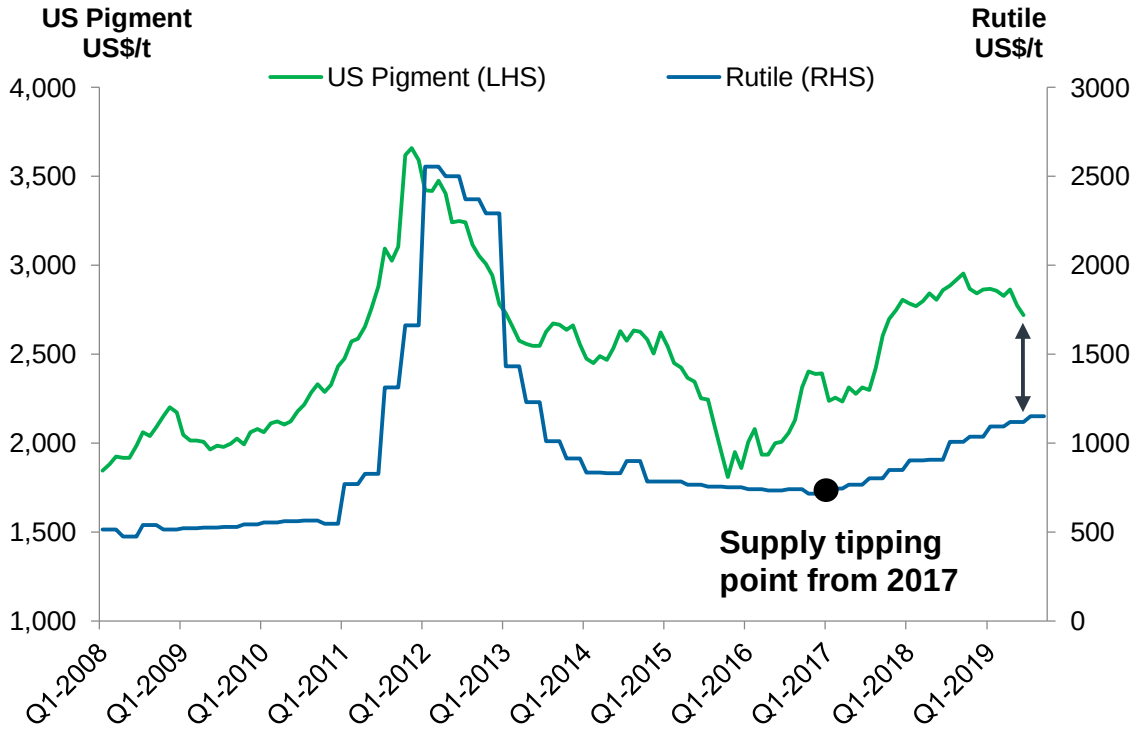
# High Grade Titanium Pricing Dynamics



## Positive short and longer term dynamics for high grade titanium prices

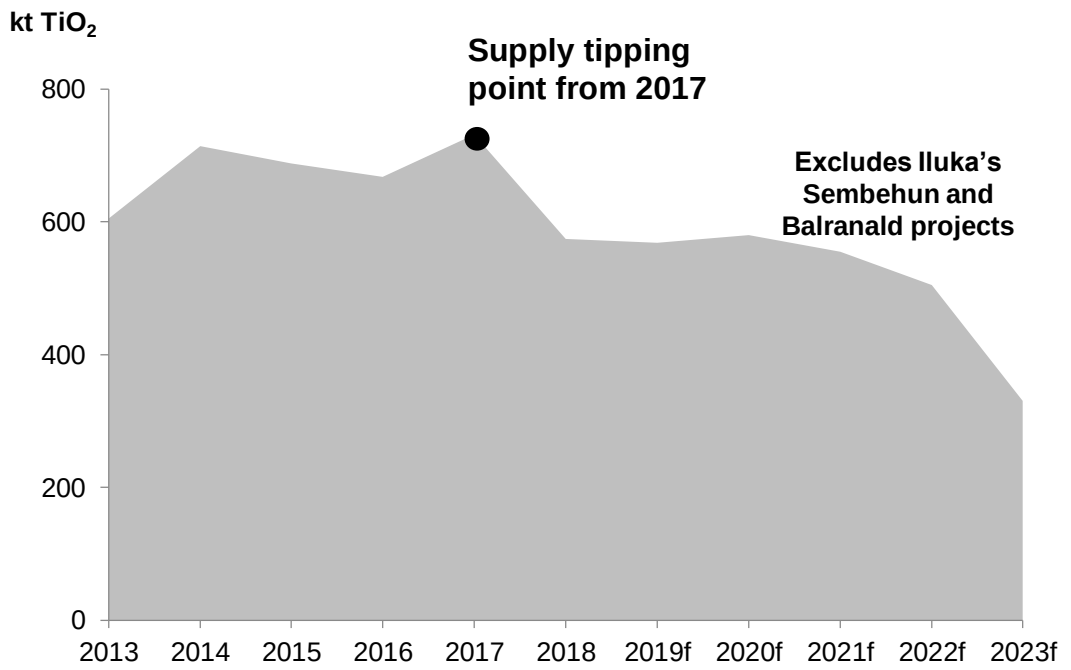
- Value stabilisation strategy implemented by some pigment producers
- Pigment versus rutile relative price still supports rutile price level
- Longer term high grade feedstock supply tightness

### Rutile and US Pigment Prices




Source: TZMI and Iluka

### Global Rutile Supply Outlook




Source: Iluka and TZMI

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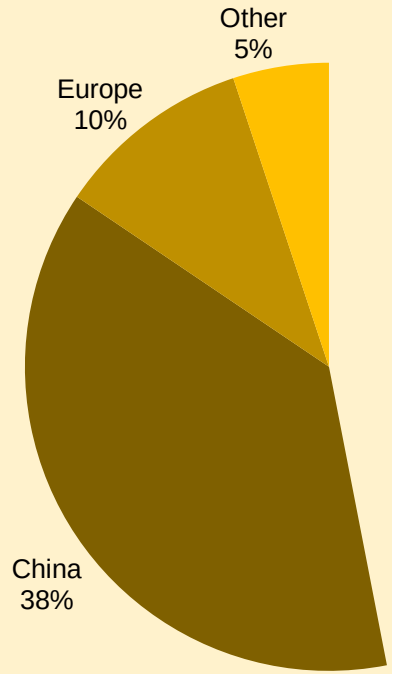
# Titanium Pigment Industry Summary



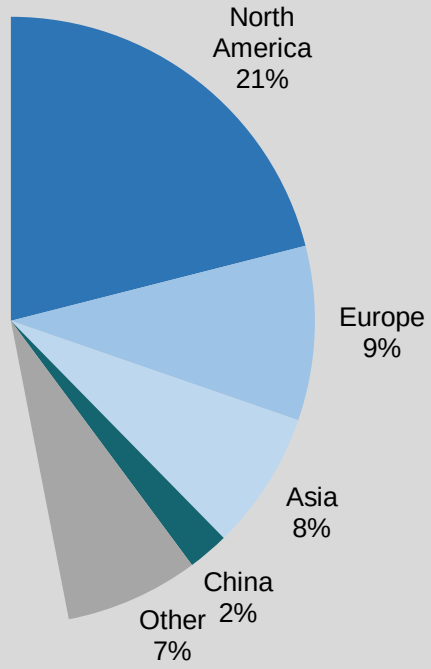
## Two production technologies

### 2018 global production = 6.3mt

**Sulfate pigment 3.3mt**



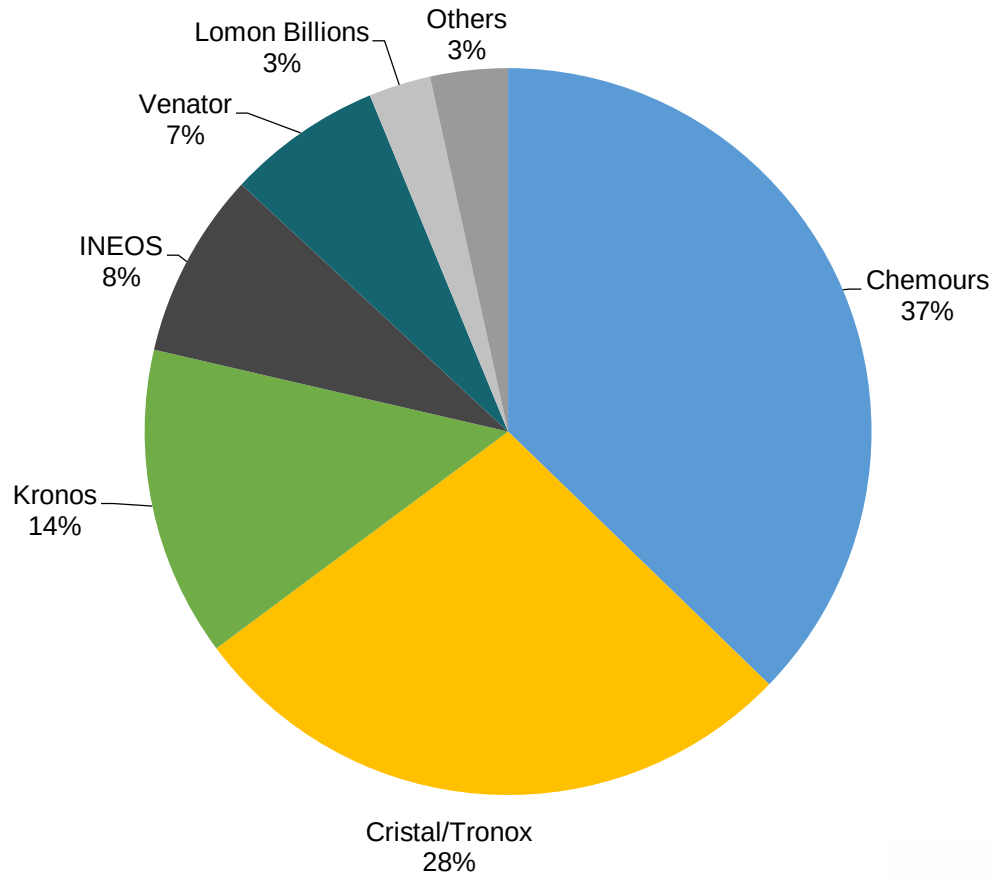

**Chloride pigment 3.0mt**




Source: TZMI

## Major chloride pigment producers

### 2018 global chloride production = 3.0mt




Source: TZMI

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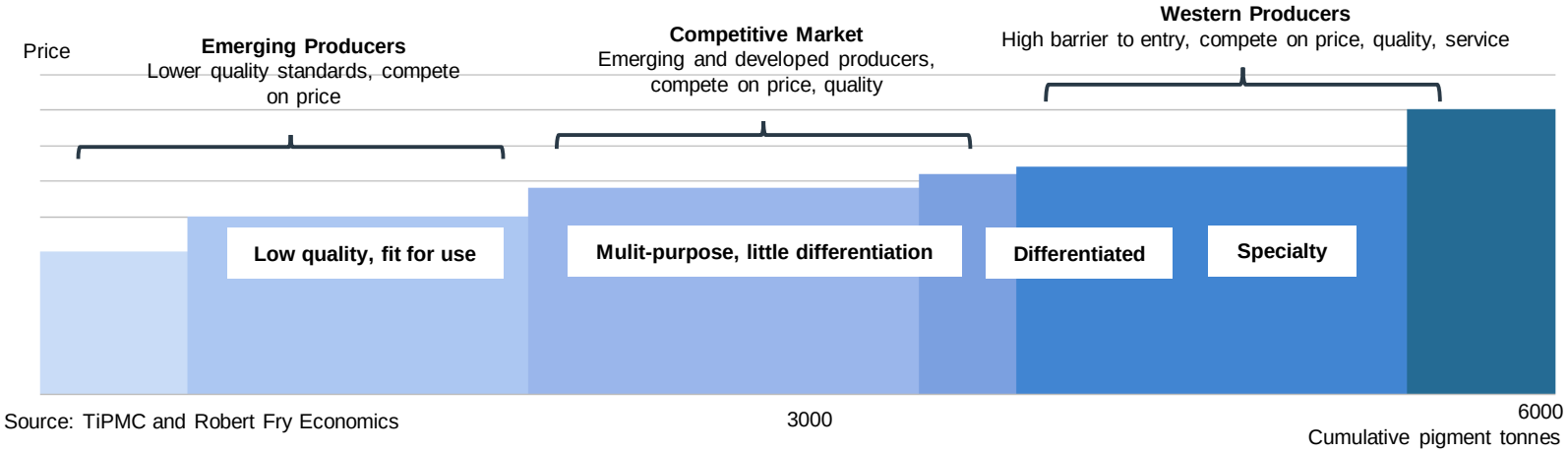
# China Pigment Market Outlook



## 1. China's pigment increasingly competes with western producers

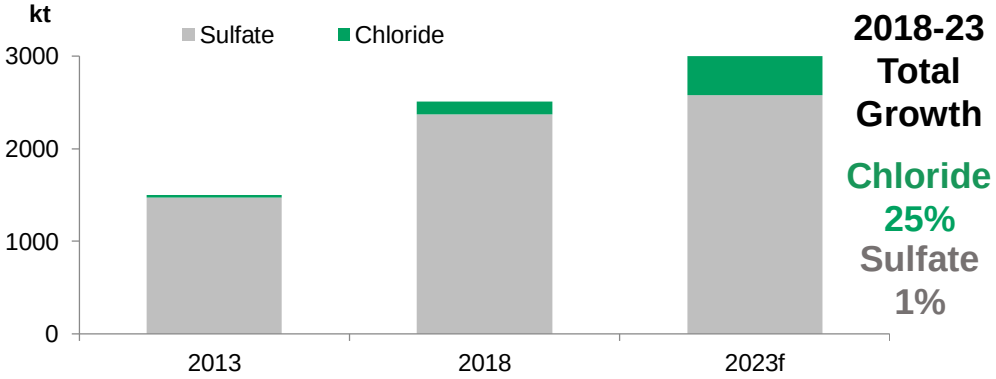
**Global Pigment Production Segmentation**




Source: TiPMC and Robert Fry Economics

## 2. China's chloride capacity forecast to grow strongly

**TZMI Chinese Pigment Capacity Forecast**




**2018-23 Total Growth**

**Chloride 25%**

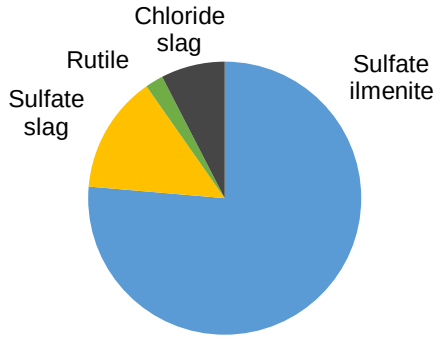
**Sulfate 1%**

Higher environmental standards favour relatively cleaner chloride pigment plants

Source: TZMI

## 3. China needs chloride feedstocks

**China feedstocks production, 2018**




Source: TZMI

China largely self sufficient in sulfate feedstocks but will require imported chloride feedstocks to partly feed its chloride pigment plants.

Iluka's synthetic rutile and natural rutile has been tested and approved at China's largest chloride plants.

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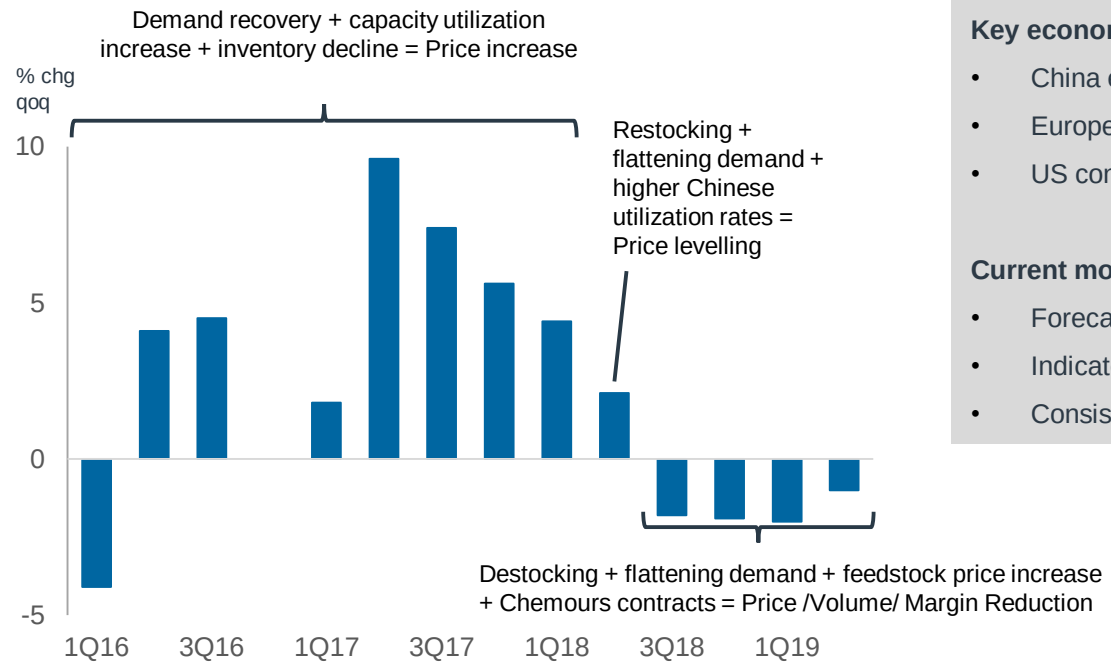
# Pigment Market Outlook



## Recent Global Pigment Price Cycles Analysis




Source: TiPMC and Robert Fry Economics

## Iluka's Pigment Demand Model

**Key economic indicators input**

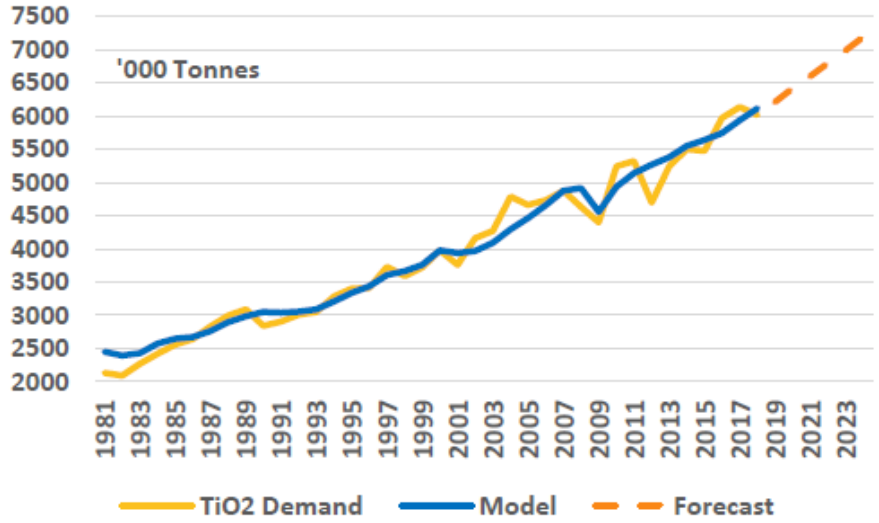
- China electricity generation and PMI
- Europe construction, retail and capacity utilisation
- US consumer goods imports, home sales, PMI

**Current model output**

- Forecasts 12 month outlook
- Indicates pigment demand upturn by mid 2020
- Consistent with industry forecasts

## Long Term Pigment Demand Linked to Industrial Production

Industry consultant TiPMC shows link of pigment demand to industrial production, with some volatility of stocking and destocking cycles.




Source: TiPMC and Robery Fry Economics

# Mineral Sands Operations

Adele Stratton, CFO

Cataby, Western Australia

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# Operating Configuration



**SIERRA LEONE**
Acquired in 2016
Major rutile mine
4 mining units
Mineral separation plant capacity ~175ktpa rutile

**JACINTH AMBROSIA**
1 mining unit
Major zircon mine
1,300tph ore mining unit capacity

**NARNGULU**
Mineral separation plant
Processes Jacinth-Ambrosia and Cataby material

**CATABY**
Commissioned 2019
2 mining units
Ilmenite source feed for synthetic rutile
Significant zircon and rutile production
Production ~440ktpa ilmenite 2019-22

**CAPEL**
2 synthetic rutile kilns (1 currently idle)
Ilmenite feed from Cataby
SR2 capacity ~220ktpa synthetic rutile

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# Cataby Path to Development



- 1970s deposit discovered
- 2003-2012 many scenarios considered for development
- 2013 Board approved feasibility study
- December 2017 Board approved development
- January 2019 commissioning begun
- April 2019 first product trucked to Capel
- Project delivered on schedule and on budget

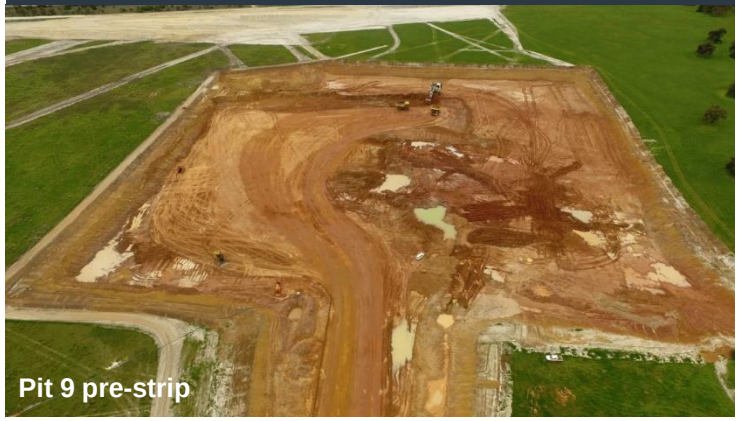
**Development highlights**

- 12 months to develop from greenfields site
- Reuse of equipment from previous Iluka operations, including concentrator from Eneabba, reduced capital cost by ~$100m
- Two new accommodation camps
- Road upgrades to Brand Highway
- New substation and power supply
- Upgrades to Narngulu and North Capel plants
- Designed and commissioned two new in pit mining units

**January 2018**

Initial earthworks

**July 2018**



Pit 9 pre-strip

**September 2018**

Concentrator construction

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# Cataby Commissioning and Ramp Up



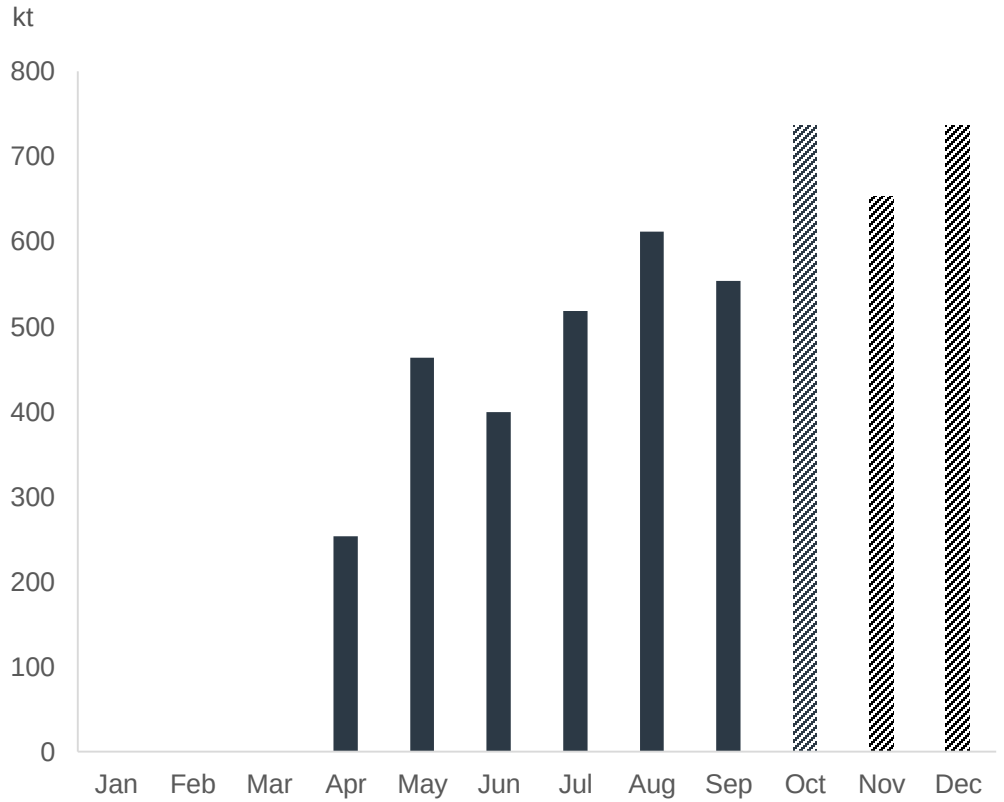
**Performance to Date**

- Factors impacting commissioning and ramp up:
  - condition and re-use of refurbished equipment
  - some re-configuration needed
  - training 80+ mostly new staff
- Existing ilmenite stocks consumed to sustain synthetic rutile
- Non-mag (rutile and zircon concentrate) production in line with plan
- Reliability of all plant trending up

**Current Focus Areas**

- Building throughput capacity beyond current nameplate
- Optimising cost base in stable operations

**Cataby 2019 Rougher Head Feed production – Actual to September and forecast Q4**



# Cataby



### Operations Summary

- Large chloride ilmenite rich deposit, 150km north of Perth
- Ilmenite feeds synthetic rutile kiln at Capel, Western Australia
- Synthetic rutile offtake contracts underpin financial returns
- Significant zircon and rutile production processed at Narngulu, Western Australia
- 8.5 year mine life, with potential 4 year extension

### Recent Developments

- Mining commenced and fully operational
- 4 pits open
- ~110kt of ilmenite transported to Capel
- ~50kt of non-magnetic material transported to Geraldton

**Cataby Ore Reserves, as at December 2018**

| | | | | | HM Assemblage | | |
|---|---|---|---|---|---|---|---|
| Deposit | Ore Reserve Category | Ore Mt | In Situ HM Mt | HM Grade (%) | Ilmenite (%) | Zircon (%) | Rutile (%) |
| Cataby | Proved | 87.8 | 5.5 | 6.3 | 59.7 | 9.3 | 4.1 |
| | Probable | 32.6 | 1.3 | 4.1 | 62.3 | 9.4 | 4.3 |
| **Total** | | **120.4** | **6.9** | **5.7** | **60.2** | **9.3** | **4.1** |
| **Development plan** | | **80** | **5.3** | **6.6** | **60.0** | **9.6** | **4.1** |

This slide should be read in conjunction with disclaimers and compliance statement on slide 2.
Source: *ASX Release Updated Mineral Resource and Ore Reserve Statement,* 20 February 2017, with minor adjustments reported in Iluka's 2018 Annual Report

Cataby, Western Australia

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# SR2 Major Maintenance Outage



SR 2, Capel, Western Australia

- $35 million expenditure
- Works included:
  - full kiln refractory reline
  - new rotary cooler shell
  - new quench tower
  - other maintenance tasks only able to be undertaken when plant offline
- 600+ individual tasks and 400+ people on site
- Completed on budget and ahead of schedule

Corporate Video

# Jacinth - Ambrosia



### Operations Summary

- Discovered in 2004, mining commenced 2010
- Iluka's major source of zircon production
- 1,300tph ore mobile mining unit
- 1,000tph rougher head feed concentrator
- Heavy mineral concentrate trucked to Port of Thevenard for further processing at Narngulu mineral separation plant, Western Australia

### Recent Developments

- Mining unit moved to Ambrosia deposit in August
- Ambrosia mine fully commissioned and ramped up

**Eucla Basin Ore Reserves, as at December 2018**

| | | | | | HM Assemblage | | |
|---|---|---|---|---|---|---|---|
| Deposit | Ore Reserve Category | Ore mt | In situ HM mt | HM Grade % | Ilmenite % | Zircon % | Rutile % |
| Ambrosia | Proved | 53.9 | 1.9 | 3.5 | 23.7 | 52.7 | 4.8 |
| | Probable | 2.6 | 0.1 | 2.3 | 20.9 | 48.9 | 4.7 |
| Jacinth | Proved | 34.5 | 1.2 | 3.6 | 36.5 | 40.2 | 4.8 |
| | Probable | 1.4 | 0.0 | 1.8 | 19.1 | 59.2 | 3.4 |
| **Total** | | **92.4** | **3.2** | **3.5** | **28.5** | **47.9** | **4.8** |

This slide should be read in conjunction with disclaimers and compliance statement on slide 2.
Source: *ASX Release Updated Mineral Resource and Ore Reserve Statement,* 20 February 2017, with minor adjustments reported in Iluka's 2017 and 2018 Annual Report


Jacinth-Ambrosia, South Australia

# Ambrosia



- Mine move previously planned for 2022
- Accelerated to 2019 to smooth zircon production
- Expect to sustain similar production levels in early years of Ambrosia
  - Ambrosia mining supplemented with concentrate stockpile from Jacinth
- Capital expenditure under budget of ~$35m
  - plus deferred capital of ~$20m over 2020-21 for tailings management
  - integrated into existing infrastructure
- Major works included
  - earthworks and site establishment
  - additional electrical, piping and pumps

**Ambrosia site works, June 2019**

**Mining unit leaving Jacinth North**

**Jacinth (LHS) and Ambrosia (RHS) Heavy Mineral Concentrate**

**Ambrosia Mine Move Project Highlights**

## Delivered ahead of schedule and under budget

**First HMC produced 2 months ahead of schedule**

## No reportable safety or environmental incidents

**During move and commissioning**

## 3 day outage

**Mining unit relocated and production commenced within 3 days of outage, planned for 7 days**

## Local employment

**High percentage of local employment during construction**

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# Sierra Rutile Operations

Rob Hattingh, Sierra Rutile CEO

Sierra Rutile, Sierra Leone

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# Sierra Rutile Overview



**Operations**

- Began operations 1967 and acquired by Iluka December 2016
- World's largest rutile mine
- Large, long life operations (up to 5 years remaining at current mining area, 15-20 years at Sembehun)
- Two dry mining operations at Lanti and Gangama
- Heavy mineral concentrate trucked to mineral separation plant (~175ktpa capacity)
- Bulk shipment via Nitti Port, ~15km from mineral separation plant

**Infrastructure**

- Port facilities include marine fuel oil and diesel storage, 2x 15kt dome sheds for bulk dry product and 3x 1,700t dumb barges, container barge and 2x push-boats
- 4x 7MW capacity generators run on marine fuel oil
  - site consumption 13-14MW, availability exceeds 99%
- On-site accommodation for 470 people

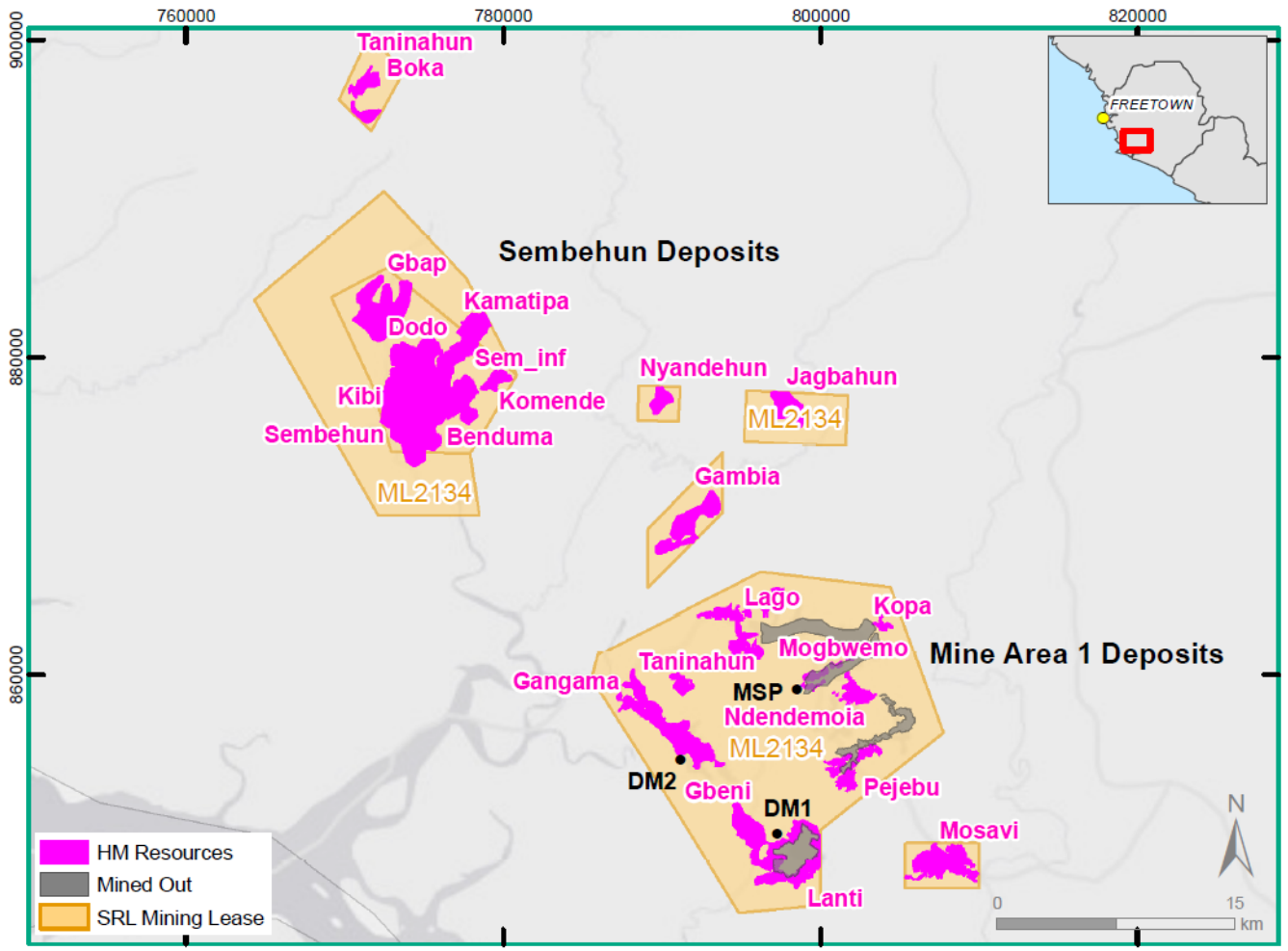
**Employs ~2,600 people**
98% of whom are Sierra Leonean

**~3% of Sierra Leone GDP**

**13% of Domestic Exports**

# Sierra Rutile Operations






- Applied for three exploration leases with similar geology to Areas 1 and 5

## Overlooking discharge ramp at Gangama

## Mine Area 1 Reserves, as at December 2018

| | | | Assemblage[1] | | |
|---|---|---|---|---|---|
| Deposit | Ore Reserve Category | Ore Tonnes mt | Ilmenite % | Zircon % | Rutile % |
| **Gangama** | Proved | 5.5 | 0.8 | 0.3 | 1.9 |
| | Probable | 20.7 | 0.9 | 0.2 | 1.4 |
| **Lanti** | Proved | 2.2 | - | - | 1.3 |
| | Probable | 0.9 | - | - | 1.7 |
| **Gbeni North** | Proved | 18 | - | 0.2 | 1.7 |
| | Probable | 11.3 | - | 0.2 | 1.3 |

1. Mineral assemblage reported as a percentage of ore

Source: *ASX Release Updated Mineral Resource and Ore Reserve Statement*, 20 February 2017, 2017 Annual Report, 2018 Annual Report

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# Sierra Rutile Operations – Lanti & Gangama



In-pit mining unit at Lanti (DM1)

Repurposed concentrator (DM4)

DM2:1 and DM2:2 Concentrators at Gangama

| | Lanti | | Gangama | |
|---|---|---|---|---|
| | **DM1** | **DM4** | **DM2:1** | **DM2:2** |
| **Dry mining method** | Previously truck and shovel, converted to in-pit mining | In-pit mining | Truck and shovel | Truck and shovel |
| **Concentrating** | Commissioned 2013 | Repurposed concentrator from dredge operations Commissioned Sept 2019, currently in ramp up | Commissioned 2016 | Replication of DM2:1 circuit Commissioned 2019, reached full production capacity June 2019 |

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# Sierra Rutile Operations – Operational Challenges



## Lanti In Pit Mining Unit Improvements

**Background**

- At time of Sierra Rutile acquisition, conversion of Lanti from truck and shovel operation to in-pit mining was identified as improvement opportunity to raise throughput and reduce costs
- Late 2017 Iluka commissioned in-pit mining unit with ex-pit scrubbing and oversize reject

**Results**

- In-pit mining unit has performed below expectations with lower run time and throughput
- Main causes of poor performance:
  - dedicated focus and effort required to maintain the mining unit and scrubber; and
  - complexity of integration with the wet concentrator plant.

**Improvement Initiatives Underway**

- Improvement initiatives identified with priority given to those with greatest impact and ease of implementation, including:
  - outsourced, expert maintenance team managed at project level, also implementing system and plant design initiatives
  - trialling mineral sizer fed by belt feeder to provide steady ore feed, reducing sizer teeth wear rates, blockages and spillages
  - alternate mining configurations accommodating ore body features
  - simplifying complex layout and decoupling the flowsheet
  - standardising equipment to allow common spares
  - additional screening in-pit to minimise pipe wear and double handling of oversize

Broad operational challenges encountered since acquisition of Sierra Rutile in December 2016 include:

- Lack of technical skills to operate within constantly changing operating conditions
- Time taken to recruit skilled operators
- Reluctance of skilled personnel to work in Sierra Leone
- Increasing government interaction distracting key personnel from operational priorities
- Community disruptions of operations

Given operational performance to date, further work initiated to assess carrying value of Sierra Rutile.

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# Sierra Rutile – Health, Education, Rehabilitation



**Mobimbi Clinic**

- Clinic treats ~2,800 cases per month with access provided to employees and their dependents
- Provision of new ultrasound and ECG equipment and upgrades to clinic infrastructure
- Further enable the delivery of high quality health care to employees and their families
- Average wait times at the clinic reduced by 90 minutes through improvement of patient flow
- Internationally trained Advanced Life Support paramedics are deployed 24/7

**Education**

- 56 scholarships awarded to students within the five chiefdoms that Sierra Rutile operates in, with a further 45 to be awarded to dependents of employees
- Sierra Rutile has launched a school bus service to provide free transport for students to attend school
- The Sierra Rutile Donations Committee has contributed to new classrooms and school maintenance projects
- Entered into a Joint Venture with GIZ from Germany to upgrade vocational training facilities in the region

**Raffia Palm Rehabilitation**

- Raffia palm is highly valued for its contribution to the community and is used in areas such as thatched roofing, baskets and fishing nets
- The rehabilitation team at Sierra Rutile has added the Raffia palm to the collection of species in its rehabilitation program following a successful project to overcome difficulties in seed germination
- Leveraged significant experience of the rehabilitation team from Iluka's Eneabba site

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# Sierra Leone – Fiscal Regime



**US$31m tax paid in 2018**

6% of government domestic revenue; 22% of corporate tax; 23% of mining royalties and licensing fees

**Support local suppliers**

US$59m spent on suppliers and companies in Sierra Leone

**Actively participating in Sierra Leone Extractive Industries Transparency Initiative (EITI)**

**Sierra Rutile Agreement (Ratification) Act 2002**

- Act of Parliament setting out agreed regulatory and fiscal regime applicable to Sierra Rutile Limited
- Contains clauses aimed at providing a stable fiscal regime
- Agreement lasts for term of mining lease of 33 years (to 2039 expiry) plus 15 year option to extend

**Sierra Rutile Fiscal Regime**

- Sierra Rutile Limited subject to domestic tax legislation but stabilised by terms of the Sierra Rutile Act (“the Act”)
- Royalty rate 4% on export sales (higher than domestic royalty rate of 3%)
- Corporate income tax rate 30% (any increases capped at 37.5% by the Act)
  - subject to minimum of 3.5% of turnover after utilisation of tax losses
- No restrictions to the carry forward / utilisation of tax losses but tax losses cannot shelter minimum tax payable

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# Sierra Leone – Partnership with IFC



**IFC Partnership**

- Partnership with Sierra Rutile commenced June 2019
- IFC have invested US$20 million for 3.57% stake in Sierra Rutile

**IFC Capability**

- Unparalleled expertise in community and stakeholder relations
- Proactive and practical support provided, including
  - improving local supplier practice and spend;
  - supporting small enterprise and agricultural development; and
  - increasing transparency on the fate of taxes, royalties and other mandatory payments.

**International Finance Corporation (IFC)**

- IFC is a sister organisation of the World Bank
- IFC mobilises funding for private enterprises in developing countries as part of World Bank's aim to aid economic development and reduce poverty
- The World Bank and IFC are active in Sierra Leone
- IFC partners with companies that demonstrate strong corporate governance and sustainability credentials

Gangama, Sierra Leone

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# Projects

Matthew Blackwell, Head of Major Projects, Engineering & Innovation

Ambrosia, South Australia

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# 2019 Projects Delivered



**2019 project spend across the group has been less than planned**

## Cataby, Western Australia

- $270m capex budgeted
- Construction of new mine and infrastructure
- Highway upgrade
- Processing plant upgrades
- Utilises existing processing and kiln assets

## Gangama Expansion, Sierra Leone



- Doubling of capacity
- Duplication of existing design
- Delivered on schedule
- Reached design rates end H1

## Lanti Expansion, Sierra Leone

- Doubling of capacity
- Second mining unit and doubling of concentrator capacity
- Delivered on schedule
- Reached design rates late Q3

## Ambrosia Mine Move, South Australia

- ~$35m capex in 2019 budgeted
- Commissioning complete – delivered ahead of schedule and under budget
- Smooths zircon production

## SR2 Kiln Major Maintenance Outage, Western Australia

- ~$35m capex budgeted
- SR2 kiln reline
- New rotary cooler shell and quench tower
- Ramp up rate exceeded expectations

**Total 2019 Capital Expenditure of ~$215 million**

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# Pipeline of Growth Projects



## Zr

### Atacama, South Australia

Satellite deposit to existing J-A operation

Pre-feasibility study progressing

Potential to add material zircon production

### Wimmera, Victoria

Zircon and rare earth project

Pre-feasibility study progressing

Test pit completed product samples with customers

## Other

### Eneabba Mineral Sands Recovery, Western Australia

Monazite-rich stockpile from historic mining

Offtake secured, execute phase

Simple process proposed with low capital expenditure

## Ti

### Sembehun, Sierra Leone

Expansion to new deposits

Development of next phase at SRL

Re-scoping development options – focus on optimising risk/ return

### SR1 restart, Western Australia

Scoping study progressing

Detailed execution planning underway and long lead time items ordered.

Potential for 110 - 120ktpa of synthetic rutile

Subject to appropriate commercial arrangements

### Balranald, New South Wales

Rutile and zircon rich deposits

Development of innovative underground mining method via directional drilling

Pre-mobilisation activities underway to prepare for 3rd trial

Sand dunes, Eucla Basin

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# Eneabba Mineral Sands Recovery Project



**Project Overview**

- Extraction, processing and sale of monazite rich stockpile

**Phase 1**

- ~98% recoveries expected,  monazite and zircon concentrate product in line with assemblage
- Construction commenced, commissioning and first sales expected H1 2020
- Offtake agreement for 50ktpa for 2 years
- Pricing recognises monazite and zircon value
- Low capex <$10m, low opex
- Key approvals in place – others progressing inline with schedule

**Phase 2**

- Pre-feasibility study and marketing work underway
- Upgrade monazite to high value 85% product
- Standard Zircon product to be produced
- Potentially operational by 2022

## Mineral Resource Summary

| | Resource[1] | In situ HM | HM | Mineral Assemblage in HM[2] | | | |
|---|---|---|---|---|---|---|---|
| | | | | Zircon | Monazite | Xenotime | Ilmenite |
| | mt | mt | % | % | % | % | % |
| **Measured** | 0.84 | 0.70 | 83.7 | 26 | 20 | 1.2 | 33 |
| **Indicated** | 0.16 | 0.12 | 77.5 | 28 | 15 | 1.2 | 37 |
| **Total** | 1.0 | 0.83 | 82.7 | 26 | 20 | 1.2 | 34 |

Source: *ASX Release Eneabba Mineral Sands Recovery Project Updated Mineral Resource Estimate,* 24 July 2019

1. In site (dry) metric tonnage reported
2. Mineral assemblage is reported as percentage of HM

This slide should be read in conjunction with the Disclaimer and Compliance Statement on slide 2.

Eneabba, Western Australia

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# Wimmera Project



**Project Overview**

- Conventional open pit mine, focus on WIM100 deposit
- Mine life of WIM100 ~20 years
- Innovative mineral recovery process for fine grained deposit
- New mineral refinery for purification and value add
- Zircon and rare earth product streams

**Work Program**

- Pre-feasibility study commenced August 2018, results due H1 2020
- Rare earth element pilot plant test work has produced sample product
- Zircon pilot plant test work continues
- Environmental Effects Statement required and activities commenced

## Rare Earth Elements

WIM100 contains high value elements, including neodymium, dysprosium, praseodymium and terbium.

Key end use applications of these elements is in permanent magnets, as used in electric cars, wind turbines and consumer electronics.

## Value Additive Processing

Current project parameters incorporate refining of zircon for market eligibility and rare earth products beyond that which currently occurs in Australia on industrial scale.

Wimmera, Victoria, test pit

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# Balranald Field Trial



### Project Overview

- Large, deep, high grade rutile-rich deposit with significant zircon and ilmenite

### T3 Field Trial

- To prove underground mining and backfilling technology as a system
- Approved by Board in August 2019, trial costs of ~$40m
- Previous site and infrastructure to be utilised
- Engineering, procurement, site mobilisation and early works underway
- Mining component of the trial to commence mid 2020

### Balranald Development Path

| Date | Phase |
|---|---|
| **2013 – 2015** | T1 - Proof of concept underground mining trial |
| **2015 – 2016** | T2 - Commercial scale underground mining trial |
| **2017 – 2018** | Full scale wear test at surface for key mining equipment |
| **2018 – 2019** | Sonic drilling program to provide more detailed understanding of deposit mineralisation |
| **2020** | T3 – Continuous underground mining and backfilling |

### Mineral Resource Summary

| | | | Assemblage | | |
|---|---|---|---|---|---|
| | Material mt | HM Grade % | Ilmenite % | Zircon % | Rutile % |
| **Nepean** | | | | | |
| Indicated | 8.4 | 27.5 | 59.8 | 14.4 | 14.5 |
| Inferred | 0.8 | 11.2 | 57.3 | 14.6 | 14.0 |
| **West Balranald** | | | | | |
| Measured | 11.9 | 31.9 | 64.1 | 10.8 | 12.2 |
| Indicated | 19.9 | 35.1 | 64.3 | 11.3 | 12.2 |
| Inferred | 4.5 | 26.5 | 62.4 | 8.3 | 9.4 |
| **Total Balranald** | **45.5** | **31.6** | **63.1** | **11.5** | **12.4** |

Source: *ASX Release Updated Mineral Resource and Ore Reserve Statement*, 20 February 2017

This slide should be read in conjunction with the Disclaimer and Compliance Statement on slide 2.

Balranald, NSW, previous trial site

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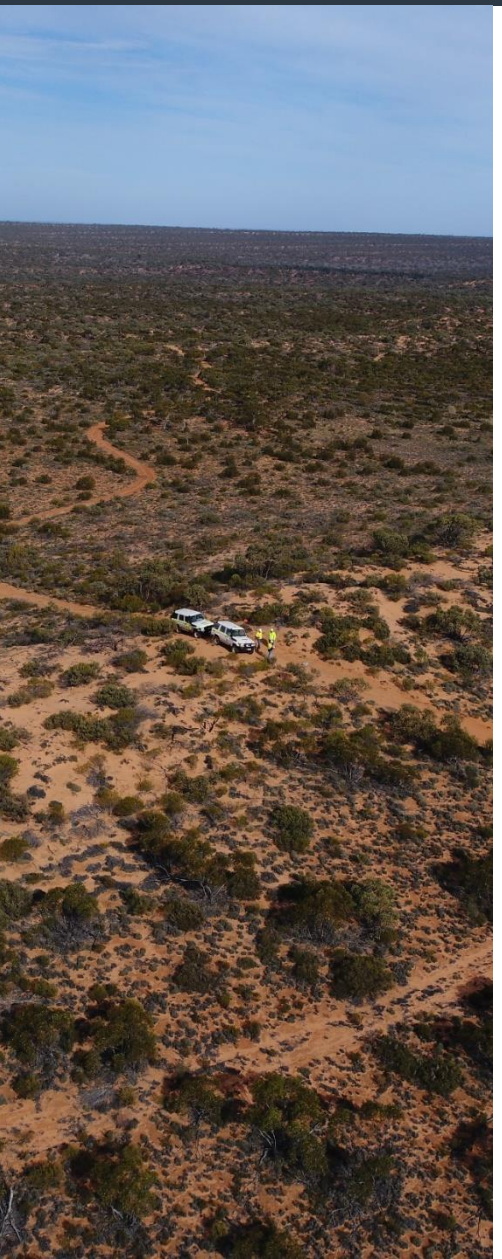
# Atacama Project





## Project Overview

- Satellite deposit adjacent to Iluka's existing operation at Jacinth-Ambrosia
- Approximately 5km from the Ambrosia deposit
- Potential to add material zircon production from 2022 and utilise existing infrastructure

## Work Program

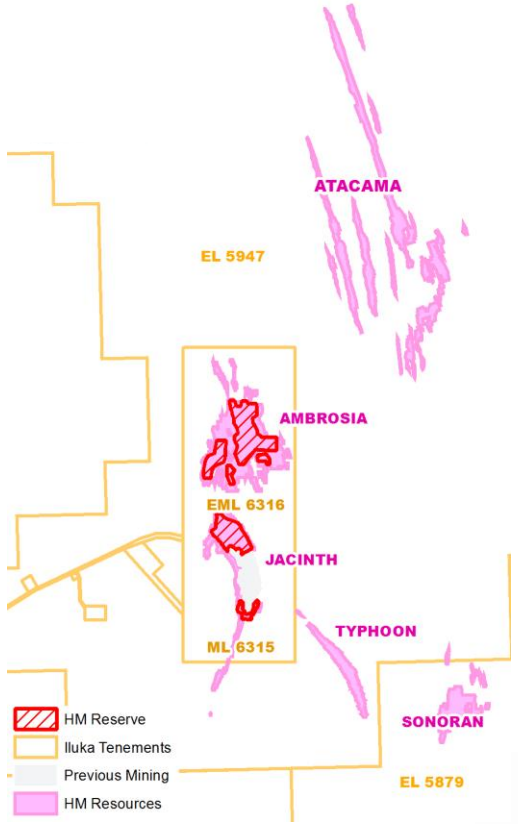
- Pre-feasibility study commenced in Q4 2018, targeted completion Q1 2020
- Stakeholder consultation commenced
- Native title agreement to be negotiated

## Mineral Resource Summary

| | Material | HM Grade | Assemblage | | |
|---|---|---|---|---|---|
| | | | Ilmenite | Zircon | Rutile |
| | mt | % | % | % | % |
| Indicated | 35.6 | 16.1 | 67.1 | 18.2 | 2.1 |
| Inferred | 36.9 | 8.1 | 68.4 | 13.3 | 1.8 |
| **Total Atacama** | **72.6** | **12.0** | **67.5** | **16.5** | **2.0** |

Source: *ASX Release Updated Mineral Resource and Ore Reserve Statement,* 20 February 2017
This slide should be read in conjunction with Disclaimer and Compliance Statement on slide 2.

## Mineral Resources, Eucla Basin

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# Sembehun Project Update



- Re-scoping development options underway
- Options considered both fit for purpose and optimises risk-return relationship
- Five work packages, to be completed before year-end to advance the study
- MSP and port facilities infrastructure assessment incorporated into studies
- Targeting a decision on the preferred development pathway in 2020

**Sembehun Study Focus Areas**

**Mining Method:** engaging vendors and consultants to test alternative mining techniques used elsewhere in Africa

**Concentrating:** revisiting where and how the concentrating of the ROM ore will occur

**Logistics:** with assistance from external specialists, considering a broader range of product transport and materials handling models

**Infrastructure**: seeking proposals from 3rd party service providers to lower upfront capital through alternative ownership and operating models

# Environment, Social, Governance

Sarah Hodgson, General Manager People and Sustainability

ILUKA

# Sustainability is central to everything we do



### Key Pillars

- Health and Safety
- People
- Social Performance
- Environmental Stewardship
- Economic Responsibility and Governance

### Approach

- Continued progression towards alignment with ICMM Sustainable Development Principles
- Accountability and transparency through setting of targets and performance linked to incentive plans
- Earning trust of communities by delivering on our commitments
- Sierra Rutile to operate in accordance with the IFC's Environmental and Social Performance Standards

**3.7 TRIFR**
**No fatalities or permanent disabling injuries**

**$980K**
**Social investment 2018**

**490**
**Hectares rehabilitated H1 2019**

**⬇50%**
**Malaria and typhoid cases in 2019**

**⬇60%**
**Level 3+ enviro. incidents**

Member of
Dow Jones Sustainability Indices
In Collaboration with RobecoSAM

FTSE4Good

# Diversity and Inclusion




**Attract and retain the best people to build and maintain a diverse and high achieving workforce that reflects the local communities in which the company operates**

- Australia: 24% female and 7% Aboriginal workforce participation
- Sierra Leone: 8% female workforce participation

**Female Representation**
Board 38%
Executive 31%

**Aboriginal participation**
Jacinth Ambrosia 23%
Narngulu 12%
Cataby 7%

**Partnerships**
Clontarf to support employment pathways for Aboriginal youth

**Mid-West Chamber of Commerce and Industry Business Excellence Award for Aboriginal Engagement**

**Top 100 in Refinitiv's 2019 Diversity and Inclusion Index**

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# Positive Rehabilitation and Closure Outcomes



**Land management and rehabilitation are a major focus and significant part of operational activities. Iluka has a strong track record over several decades of leading environmental and socially responsible practices.**

Focus on progressive rehabilitation during operations to:

- minimise the final closure footprint;
- assist with understanding and evaluating closure risks;
- identify knowledge gaps and inform research and development programs; and
- refine closure provision estimates

**100%**
Sites have Closure Plans

**490 hectares rehabilitated**
H1 2019

**~$60 million**
Expenditure on rehabilitation and closure of mined lands in 2019

**Research partnerships with universities Australia and the US and WA Botanic Gardens and Parks Authority**

**Sponsor of International Mine Closure Conference and site visit to Tutunup South**

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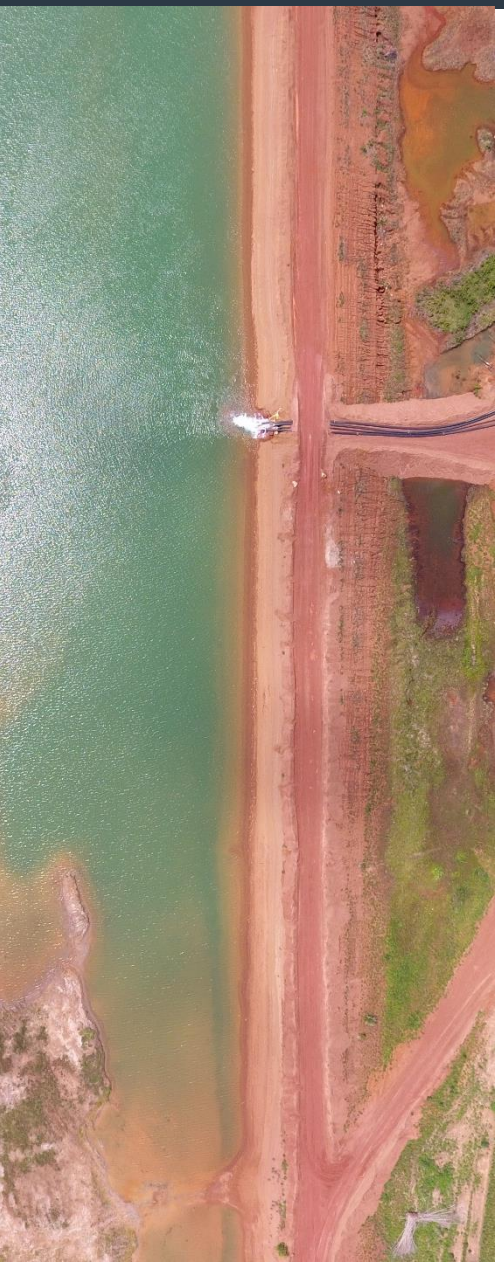
# Responsible Tailings Management





Iluka operates active Tailings Storage Facilities at Jacinth and Cataby (Australia) and Sierra Leone.

- All facilities are constructed to final embankment height or using downstream method.

Leading practice in Tailings Management are:

- Australian National Committee on Large Dams (ANCOLD) guidelines for design, operational and surveillance guidance;
- independent external geotechnical audits, with recommended actions incorporated into work plans;
- surveillance systems established including monitoring and routine inspections; and
- regular reporting on tailings management at both site and Board level.

**Transparency**

Full details on all Iluka Tailings Storage Facilities available at iluka.com

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# Climate Change Approach



**Iluka supports the Paris Agreement objectives and IPCC assessment of climate change science, and is committed to align with the Task Force on Climate-related Financial Disclosures (TFCD) recommendations over a 3 year period.**

### Key Focus Areas

- Climate Resilience: scenario analysis to assess and understand our most material physical risks and opportunities from climate change
- Climate Opportunity: identification of carbon abatement opportunities
- Emission Reduction: evaluation of renewable energy sources and energy efficiency initiatives

**Core elements of TCFD Recommendations**


Source: TCFD

# Capital Management

Tom O’Leary, Managing Director

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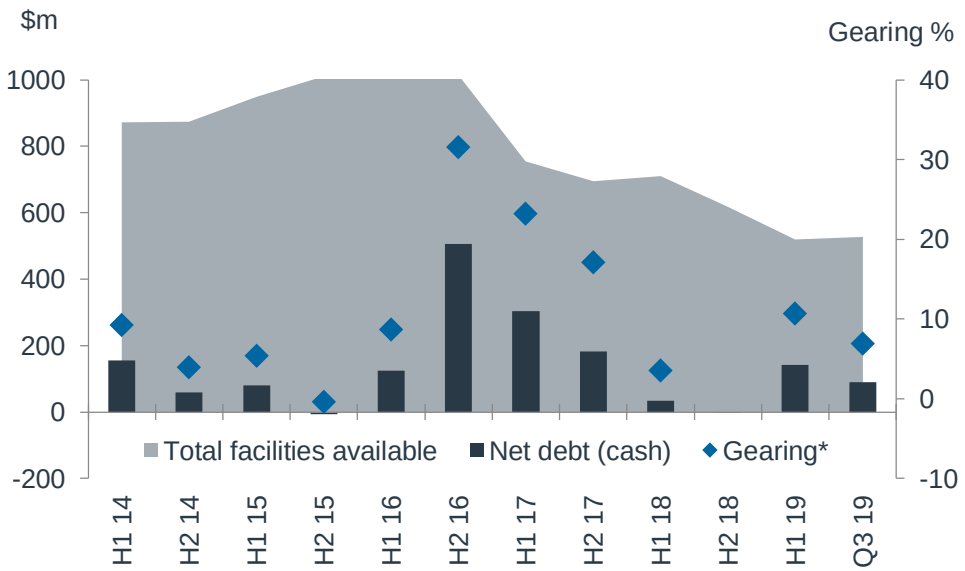
# Balance Sheet



**Net Debt, Gearing and Funding Headroom**

- Net debt as at September 2019 $89 million
  - 6.9% gearing ratio*
- Significant funding headroom remains
  - completed refinancing in July




* Net debt / net debt + equity

**Multi Option Facility Agreement (MOFA)**

- Completed refinancing of MOFA in July
- Total facilities reduced to $519 million
  - reflecting medium term liquidity requirements
- Reset 5 year tenor with maturity July 2024

**Balance Sheet Framework**

Target credit metrics broadly consistent with investment grade credit profile including:

- net debt to EBITDA ratio of 1.0-1.5 times;
- whilst balancing impacts of commodity pricing; and
- investment factors through the cycle.

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# Dividend Framework

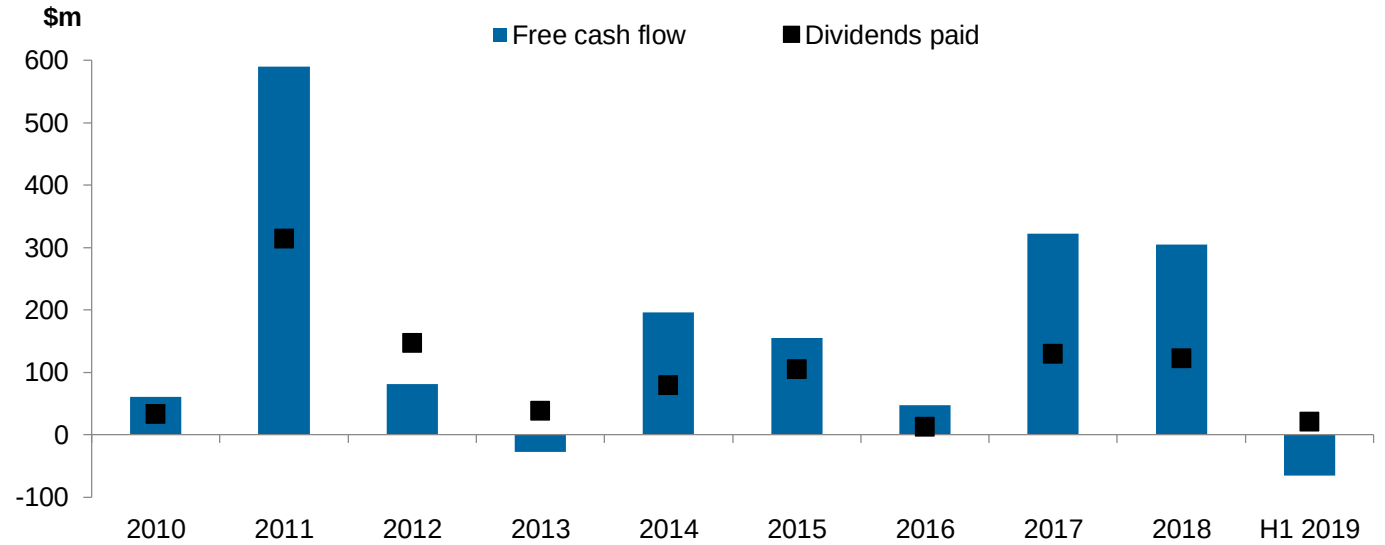


- Dividend framework remains unchanged
- Strong track record of distributing returns to shareholders
- Framework retains flexibility to deliver on projects needed to deliver sustainable value

**Dividend Framework:**

- pay a minimum 40% of free cash flow not required for investing or balance sheet activity
- distribute maximum practicable available franking credits

**Free Cash Flow and Dividends Paid**




| | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | H1 2019 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Dividend payout ratio (% of free cash flow)** | **55%** | **53%** | **180%** | **n/a** | **41%** | **68%** | **27%** | **40%** | **40%** | **n/a** |

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# Mining Area C

Tom O’Leary, Managing Director

# Corporate and Capital Structure Review



- Formal review commenced to determine most appropriate corporate and capital structure of two principal businesses – Mineral Sands and Mining Area C royalty
- Work commenced in September 2019
- Review to consider:
  - Iluka's corporate and capital structure
  - capital requirements, business plans, management structures, and cost and tax implications
- A number of significant issues to be considered as part of the review and no certainty that it will result in change
- Expect to provide an update on the review no later than the announcement of full year results in February 2020

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# Mining Area C Royalty



## The Royalty Terms

- Royalty over "*all ore mined from time to to time from M(ining) A(rea) C"*
- Royalty terms:
  - 1.232% of Australian denominated revenue from royalty area; and
  - one-off payment of A$1 million per million tonne increase in annual capacity

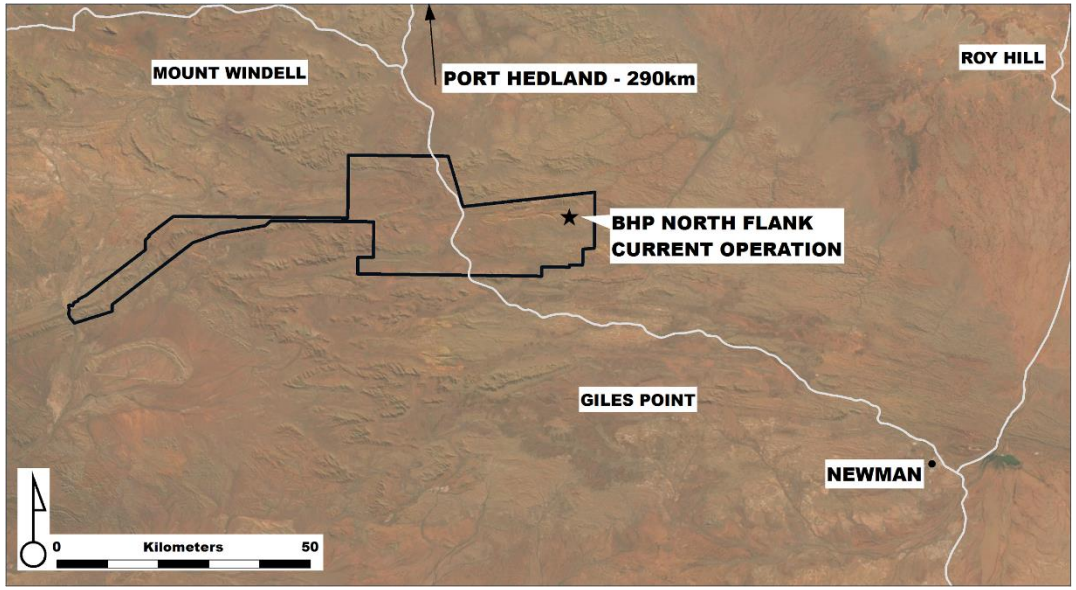
**360km²**
**Combined North and South Flank Development Envelope[1]**

**1,024km²**
**Total Royalty Area[2]**

**2 mining operations**
**North Flank and soon South Flank**

**The MAC Royalty provides an uncapped option on future discoveries and developments made within the MAC area**

## MAC Royalty Area




Source: Satellite map with overlay of MAC Royalty.
Note: Location and mineralisation outline digitised from small scale A4 map and should be used for illustrative purposes only.

Source:
1. BHP, Mining Area C Southern Flank Public Environmental Review, May 2017.
2. Area of Temporary Reserve 3156H (Area "C").

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# MAC Royalty Area – Current Operations



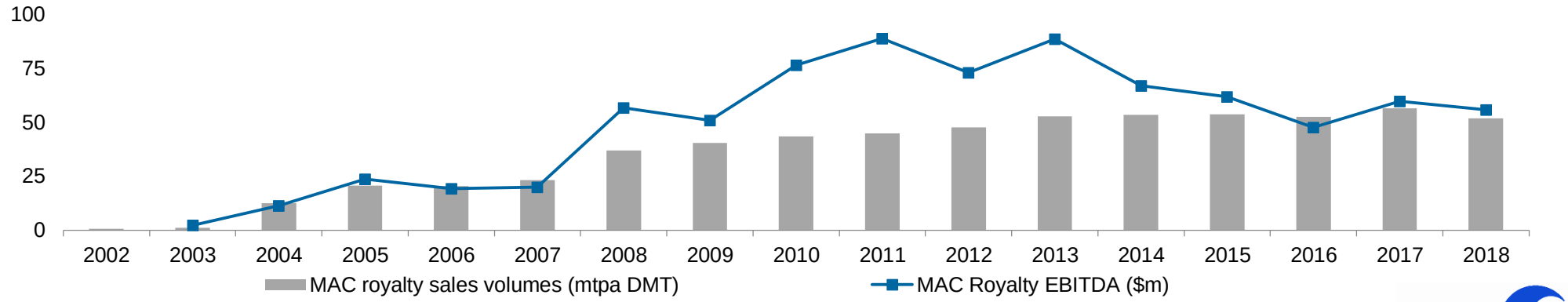
| | | H1 2019 | H1 2018 | % change |
|---|---|---|---|---|
| Sales volumes | MDMT | 27.8 | 27.3 | 1.8 |
| Implied price | A$/t | 120.2 | 83.9 | 43.2 |
| Net Royalty income | $m | 41.2 | 28.2 | 42.6 |
| Annual capacity payments | $m | - | 1.0 | n/a |
| Iluka EBITDA | $m | 41.2 | 29.2 | 41.1 |

(mdmt = million dry metric tonnes)

**~$850m**
**EBITDA**
**Since North Flank commenced operations in October 2003**

**$41m**
**EBITDA**
**H1 2019**

**Iluka Royalty EBITDA and Mining Area C Sales Volumes (DMT)**

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# MAC Royalty Area – New Operations Under Development

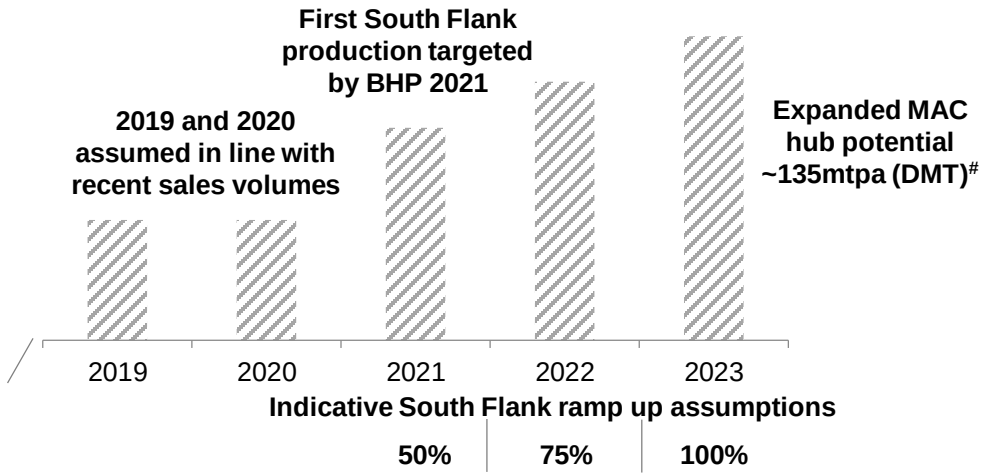


## South Flank Development

- Approved by BHP Board June 2018
- ~145mtpa (WMT) from combined MAC hub
- Quality ore – contributing to increase in BHP's Western Australian average iron grade from 61% to 62%, and overall proportion of lump from 25% to ~35%
- Project 50% complete (as at September 2019)
- Initial production target 2021
- BHP have guided 25+ year life

Source: BHP

## Indicative Royalty Sales Volumes with South Flank Development




## Royalty revenue set to grow with South Flank development

Earnings contribution will be dependent on the rate of ramp up, iron ore pricing, the ratio of lump to fines, the premium lump attracts over fines and the USD:AUD exchange rate.

- If 145mtpa (WMT) production is achieved by 2023 (135mtpa DMT), the lump ratio from South Flank is 35% and the premium attracted by lump is 20%, then EBITDA contribution in that year could be as shown.
- In addition to annual royalty earnings, one-off capacity payments will be approximately A$80 million, payable as annual tonnages increase over the course of the ramp up of South Flank.
- Iluka Board remains focused on optimising returns to shareholders from MAC royalty.

| Royalty revenue (A$) | | Iron Ore Fines: US$/DMT, 62% Fe (FOB) | | |
|---|---|---|---|---|
| | | 50 | 55 | 90* |
| AUD:USD | 0.75 | $118m | $129m | $212m |
| | 0.70 | $126m | $139m | $227m |
| | 0.65 | $136m | $149m | $244m |

*** Based on spot pricing as at October 2019**

#145mtpa (WMT) expanded MAC hub potential assumption in line with BHP disclosures, noting BHP's May 2017 EPA approval has nominal combined processing rate of 150mpta (WMT) of blended ore.

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# MAC Royalty Area – Future Potential



**BHP's current operations at North Flank and South Flank are expected to continue until ~2050:**

> *"First ore from South Flank is targeted in the 2021 calendar year, with the project expected to produce ore for **more than 25 years.**"*
>
> *ASX Announcement, BHP approves South Flank project, 14 June 2018*

> *"It is expected that the life of the Mining Area C mining operation, inclusive of Northern and Southern Flanks, will be **approximately 30 years**, commencing in approximately 2020."*
>
> *Mining Area C Southern Flank Public Environmental Review, May 2017.*

**… with potential for future development to extend operations well beyond that date:**

> *"The long-term strategy for Mining Area C is to continue operations **to 2073**."*
>
> *Mining Area C Mine Closure Plan AML7000281 Rev 3.1 October 2017*

**Two potential future operations identified by BHP in its long-term plan, Tandanya and Mudlark, are likely to fall at least partially within the Royalty Area**

## Future Mines - BHP's 50-100 Year Plan

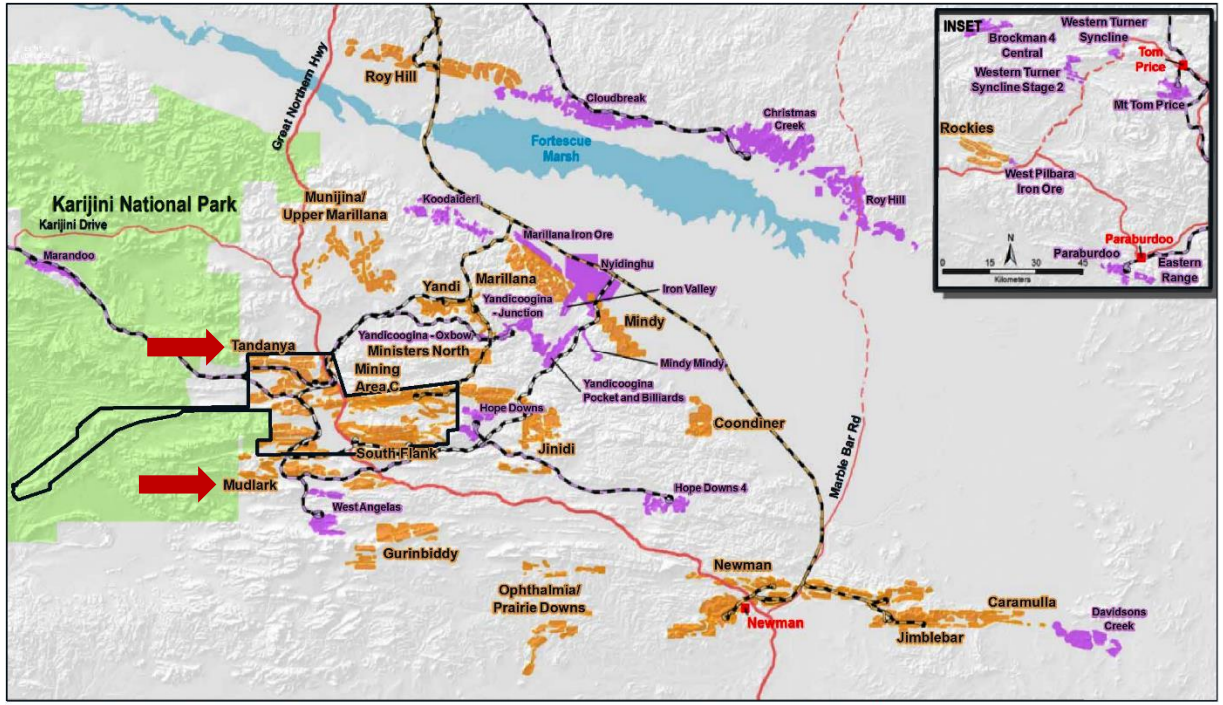


**Figure 1: Current and future proposed iron ore mining operations in the Pilbara**

Source: BHP Billiton Iron Ore Pilbara Strategic Proposal - Flora and Vertebrate Fauna Screening Assessment, 2016, overlay of MAC Royalty area added.

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# Concluding Remarks

Tom O’Leary, Managing Director

Move to Ambrosia, South Australia

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# Operational Configuration to Deliver Sustainable Value



## Projects Executed in 2019 to Sustain Value

**Cataby, Western Australia**

**SR2 Kiln Major Maintenance Outage, Western Australia**

**Ambrosia Mine Move, South Australia**

**Gangama Expansion, Sierra Leone**

**Lanti Expansion, Sierra Leone**

## Operations Configured to Deliver Value

**CATABY**
8.5 year mine life with returns underpinned by synthetic rutile offtake agreements, also contributes significant zircon and rutile production

**CAPEL**
Maintaining supply of high grade feedstock in tight market with returns underpinned by offtake agreements

**JACINTH AMBROSIA**
Mine move completed and zircon production maintained

**NARNGULU**
One of world's largest mineral separation plants, optimised to process Cataby and Jacinth-Ambrosia production

**SIERRA LEONE**
Lanti and Gangama operational expansion completed to maximise value of assets

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# Deliver Sustainable Value



## Strong Market Fundamentals

Mineral sands demand linked to urbanisation, rising living standards, increasing array of applications

## Quality Mineral Sands Assets

Australia and Sierra Leone operations

Product mix weighted to premium zircon and high grade titanium dioxide

## Project Pipeline

Sustaining and growth projects in Australia and Sierra Leone

## Value Driven Marketing Model

Direct customer relationships

Price driven by value in use

Focussed on sustainable pricing

## Capital Discipline Framework

Strong balance sheet, disciplined capital allocation

Focus on shareholder returns via dividend framework

## World-class Iron Ore Royalty

Royalty stream from BHP's Mining Area C hub in Western Australia

Growth from BHP's South Flank development

# Q and A session

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