



ILUKA

Iluka's Approach in a Changing Industry

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Bank of America Merrill Lynch Global Metals, Mining and Steel Conference
Florida, May 2014

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Industry Themes

- Demand robust medium/long term
- Short term volatility (economies, inventory effects)
- Pigment – ownership, geography, technology shifts
- Feedstock – quality diminishing, pipeline emptying, risk increasing
- Zircon – assemblage decline, tile manufacturing transformations
- Technology to play a bigger role

Robust Demand Long Term

Urbanisation



Consumption based growth



Array of applications



ZIRCON

TITANIUM DIOXIDE

MINERAL SANDS

➔ ceramics, range of chemical and consumer applications

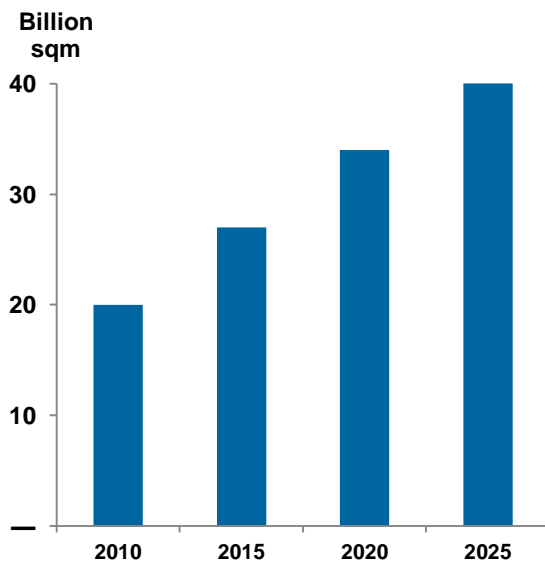
➔ pigment ➔ paint, plastics ➔ coatings

➔ Mid-to-late cycle demand characteristics; consumption/GDP related



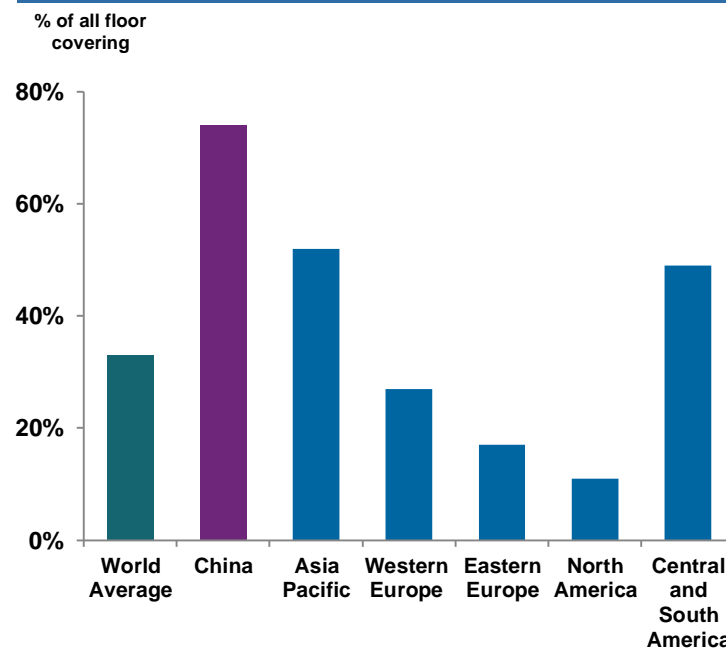
- Largest demographic movement in history
- Massive increases in built floor space – equivalent to 85% of today’s building stocks by 2025¹

CHINA URBAN RESIDENTIAL FLOOR SPACE



Source: Global Insight (2011), BHP (2011), RBS (2012)

TILE USE AS FLOOR COVERING

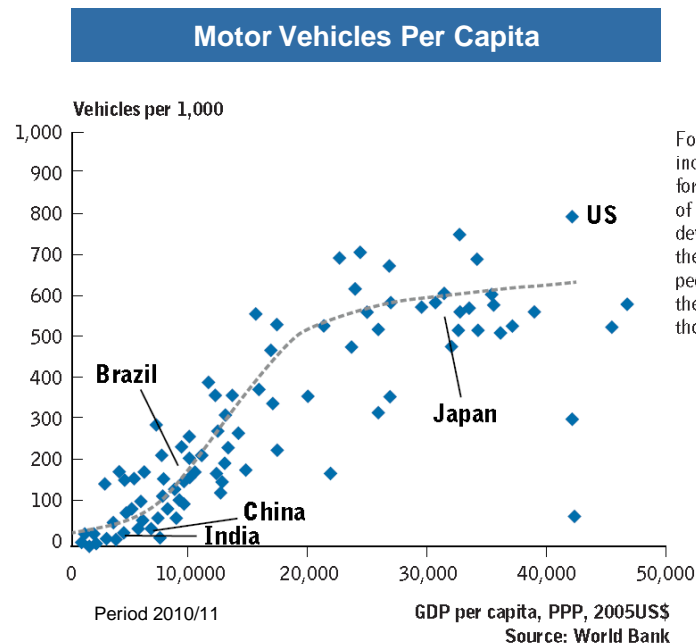
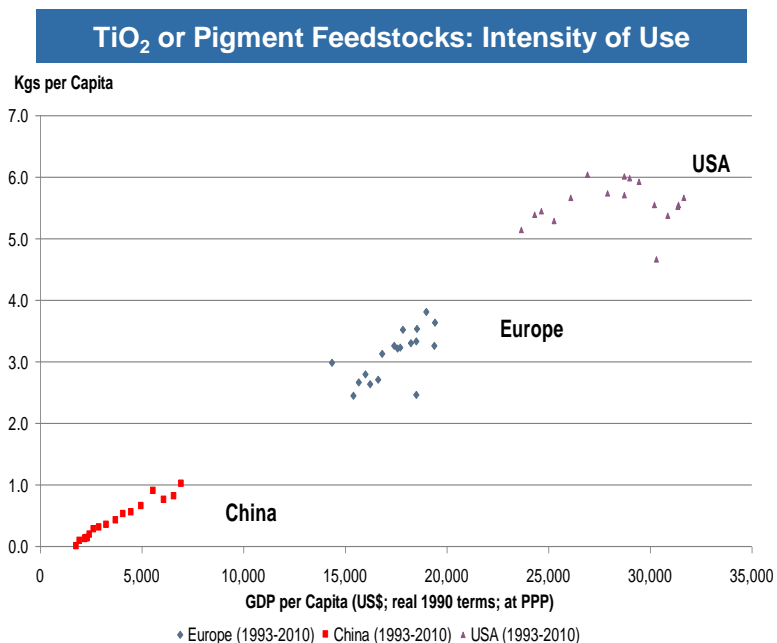


Source: Ceramic World Review (2000-11)

¹Source: McKinsey Global Institute June 2012

Consumption Led Growth

- Developing economies - from investment to consumption based growth
- Rising incomes and living standards create an S-curve demand trend
- “The next billion consumers” – influential for mineral sands



Increasing Array of Applications

Zircon Applications

- Catalytic converters
- Nuclear fuel rods
- Oxygen and pressure sensors
- Fibre optics
- Electrical motherboards and capacitors

Titanium Dioxide Applications

- 3D printing applications
- Desalination plants
- Offshore oil and gas components
- Power plant cooling systems
- Aerospace / defence
- Nanotechnologies

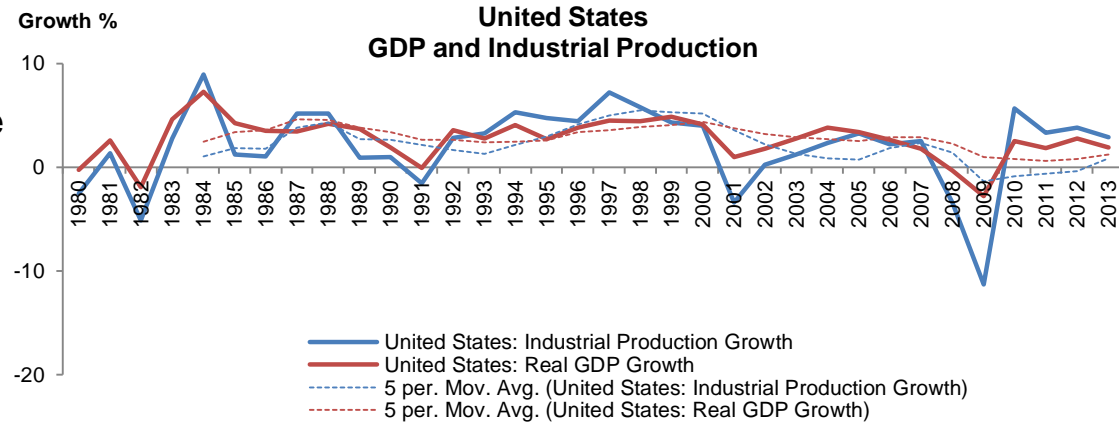


A Volatile World

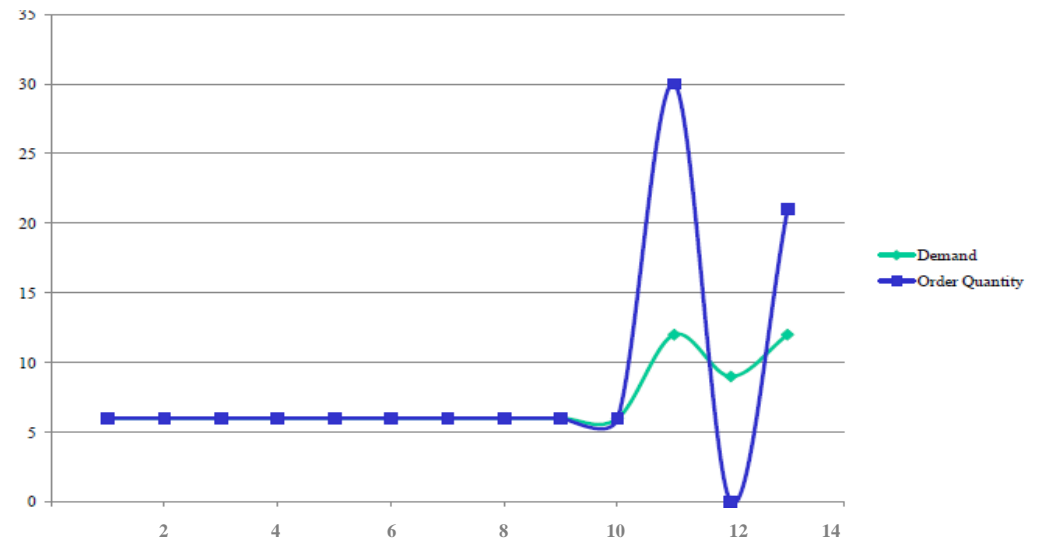
- Most radical restructuring of global economy since Industrial Revolution
- 1 billion Chinese and Indian middle class consumers by 2020
 - Equals +\$10 trillion GDP
- Global turbulence increasing over past 30 years:
 - >50% of most turbulent quarters in past decade
 - Intensity > 2X
 - Duration 4X

Volatile Growth

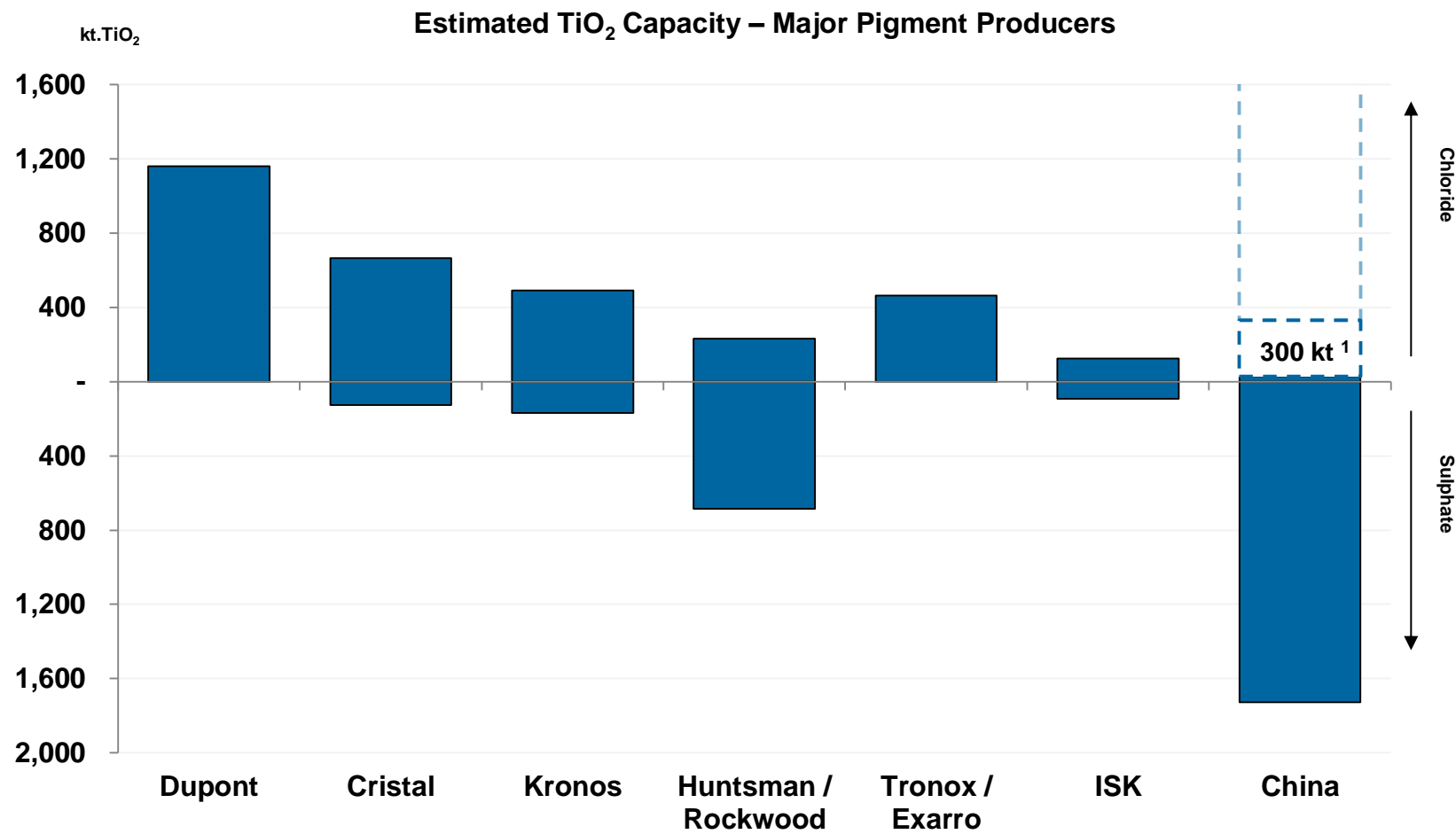
- Economic cycles are 'normal'
 - last few years particularly volatile



- Inventory Bullwhip:
 - multiple decision/transfer points
 - information shortage/asymmetry
 - competitive tactics, psychology



Pigment Industry – Major Producers

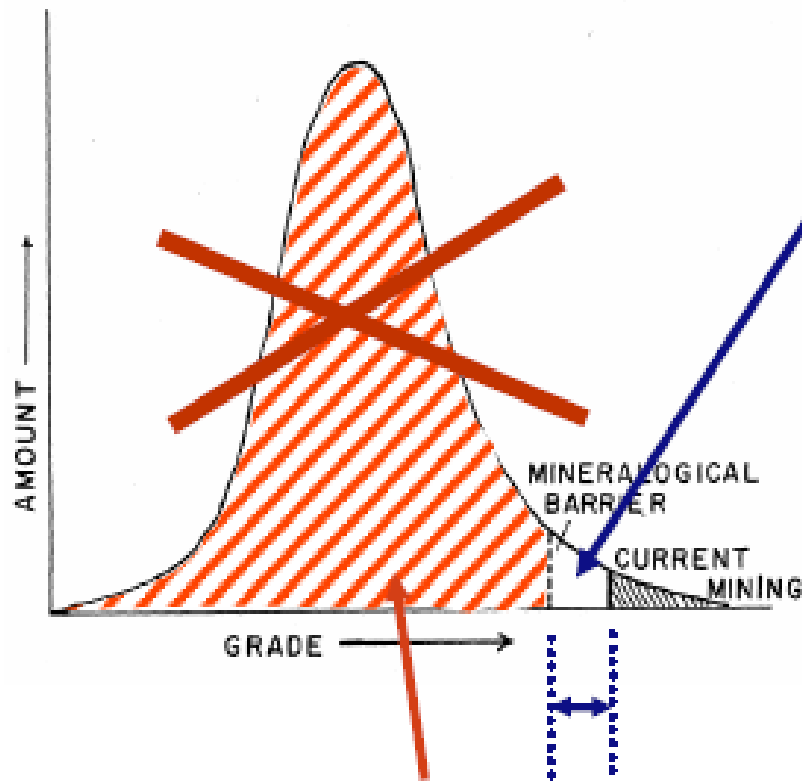


Notes:
¹ Refer slide 29 for China Government statements re chloride pigment production capacity potential.

Mineralogical and Energy Intensity Barriers

Energy scarcity means materials scarcity

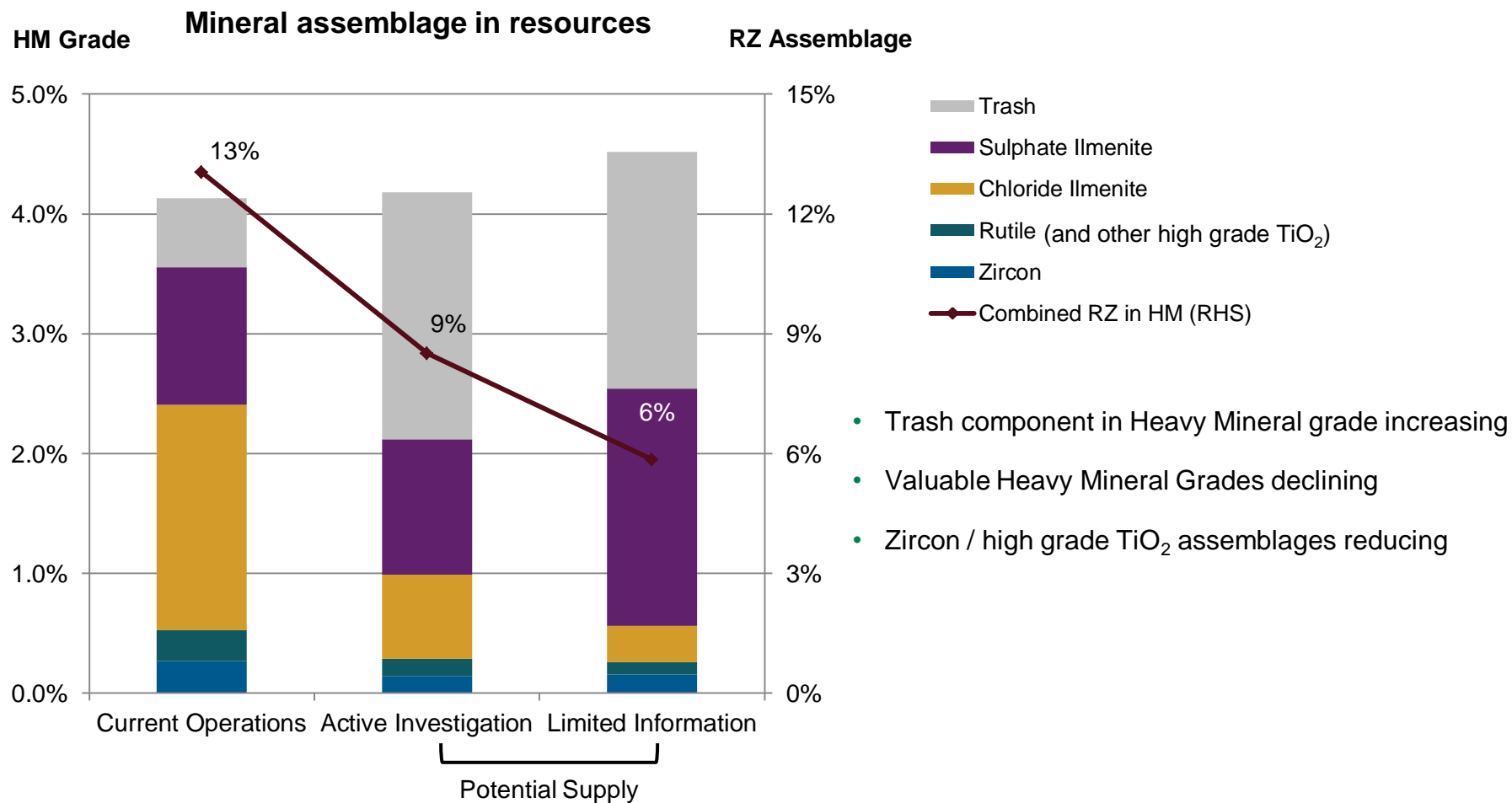
Mineralogical barrier for elements $\geq 0.1\%$ (mass) earth's crust



Remaining relevant resources of
**aluminum, iron, silicon,
magnesium, titanium,**

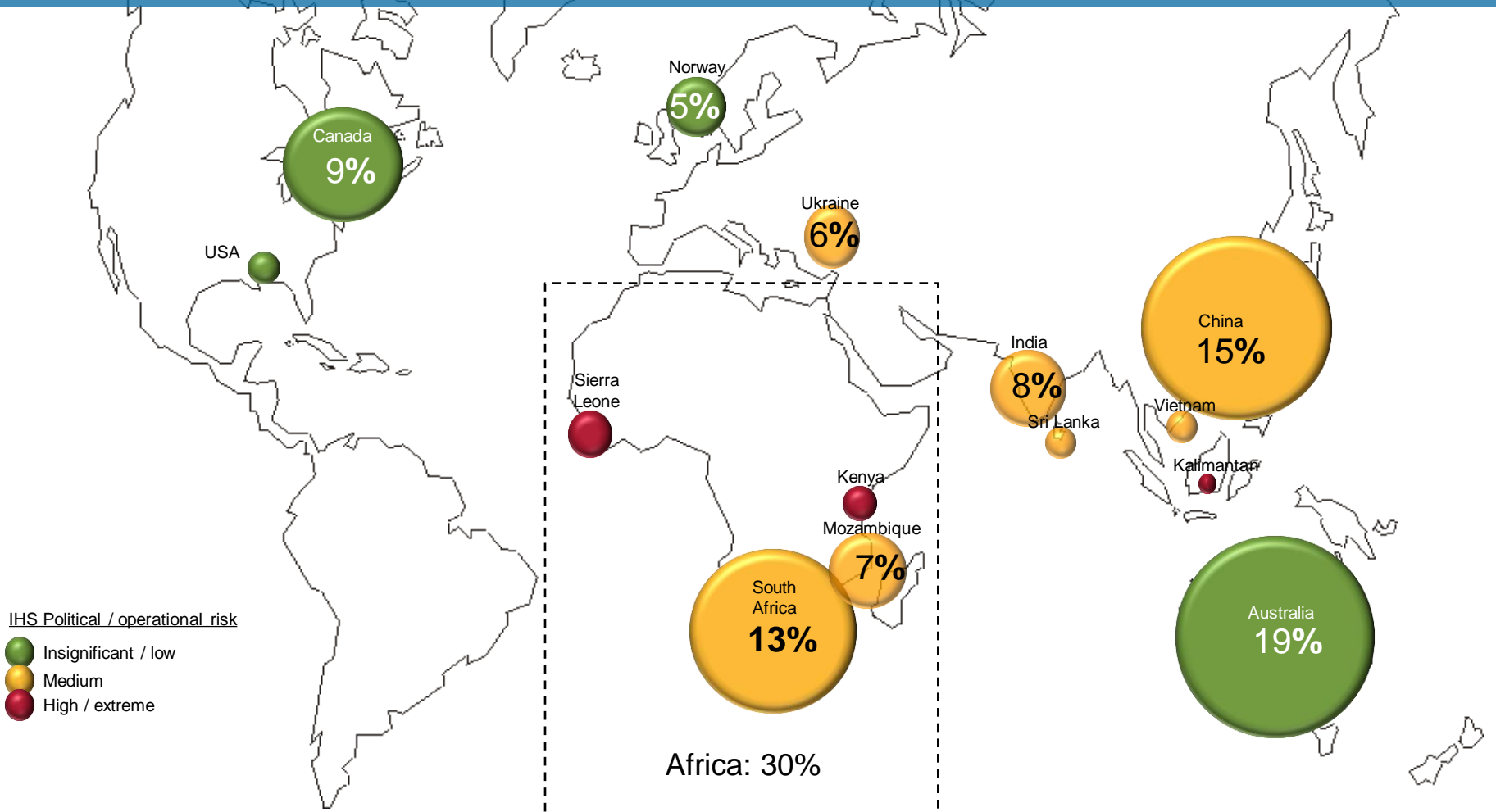
Extremely energy-intensive to extract

Grade and Assemblage Challenges Ahead






Increasing Supply Chain Risk and Cost

TiO₂ units produced (2020 Forecast)



IHS Political / operational risk

-  Insignificant / low
-  Medium
-  High / extreme

Iluka's Approach

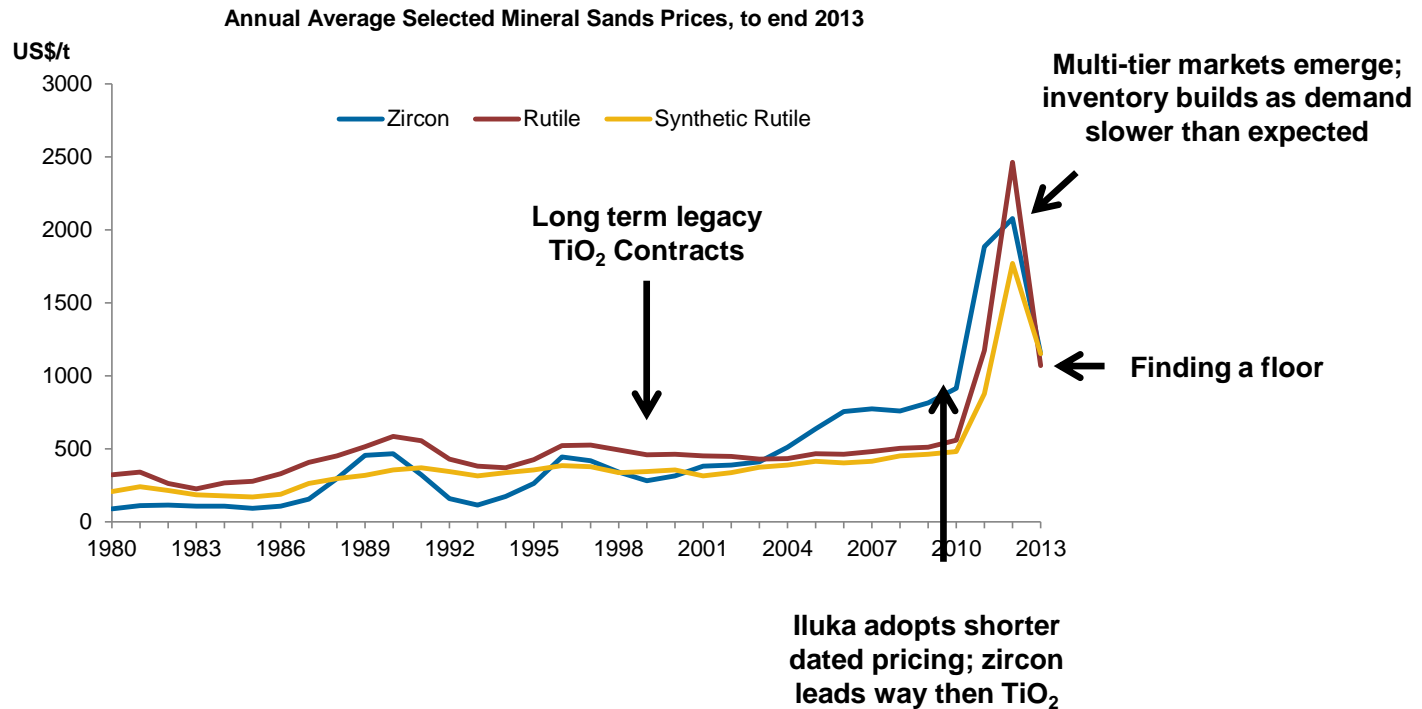
- Focus on shareholder returns through the cycle
- Flex asset operation in line with market demand
- Continue market development through the cycle
- Maintain strong balance sheet
- Preserve/advance mineral sands growth opportunities
- Continue to evaluate/pursue corporate growth opportunities
- Act counter-cyclically where appropriate

Iluka's Approach – Managing the Cycle

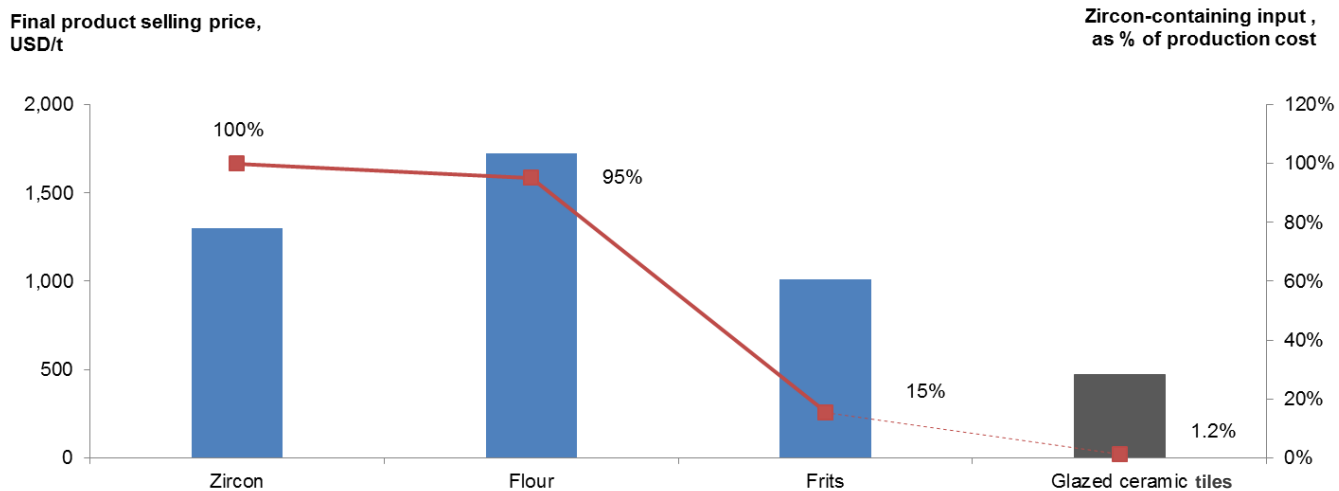
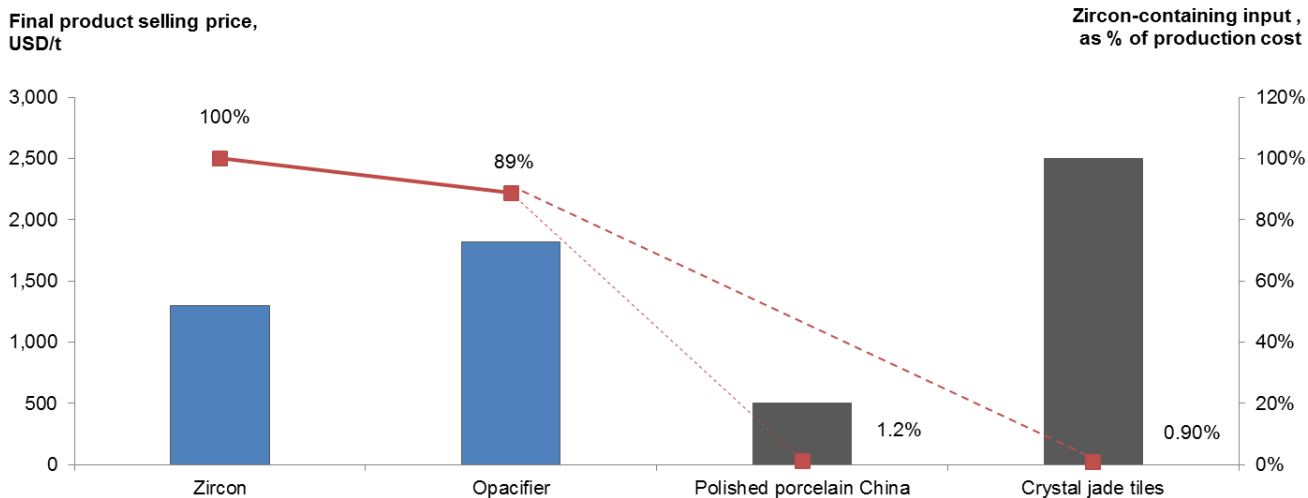
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Managing the Cycle

The recent cycle extreme....but an industry in transformation

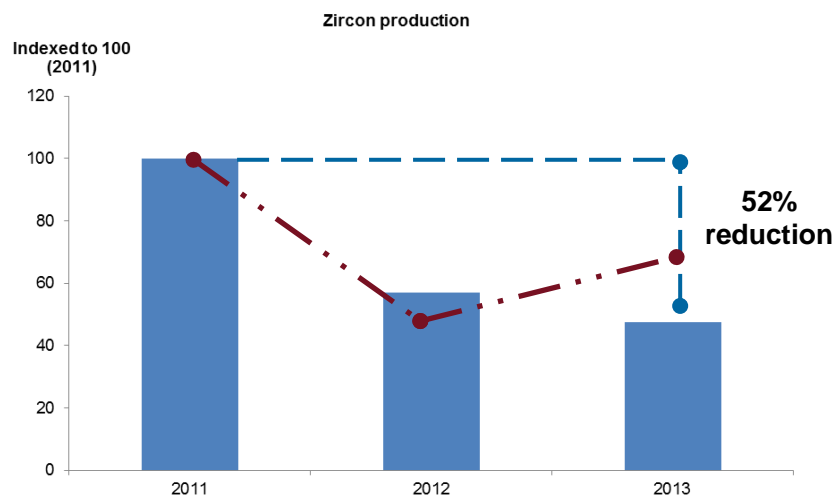


Minimal Raw Material Costs in End Products

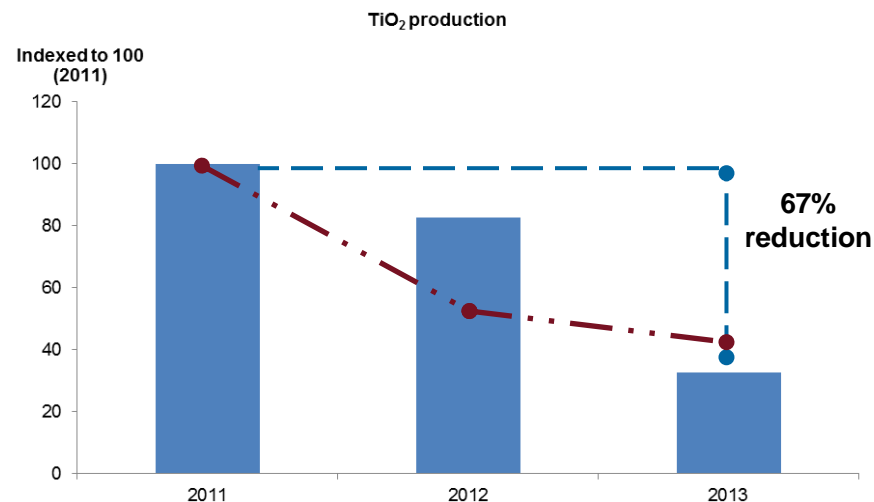


Flex Production in Light of Market Demand

- Supply flexibility, not chasing the marginal tonne
- Significant production reduction – Iluka and some other industry participants
- Iluka maintains rapid reactivation capability



● — — ● Sales profile - zircon

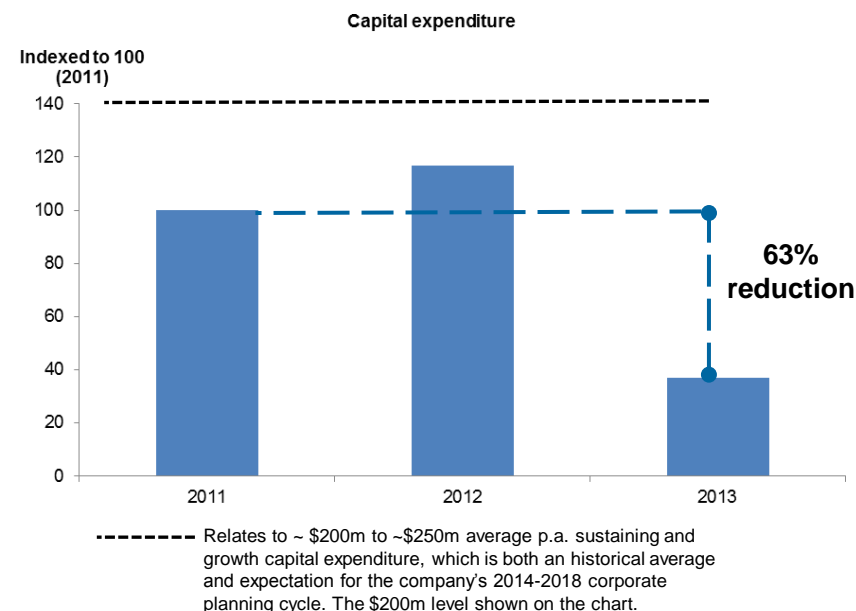
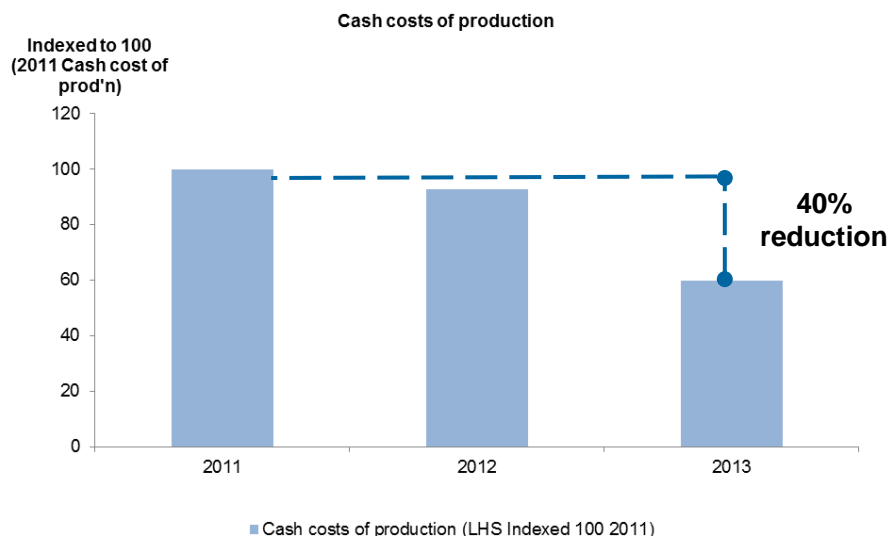


● - - - ● Sales profile (rutile and synthetic rutile)

Cash Conservation Focus

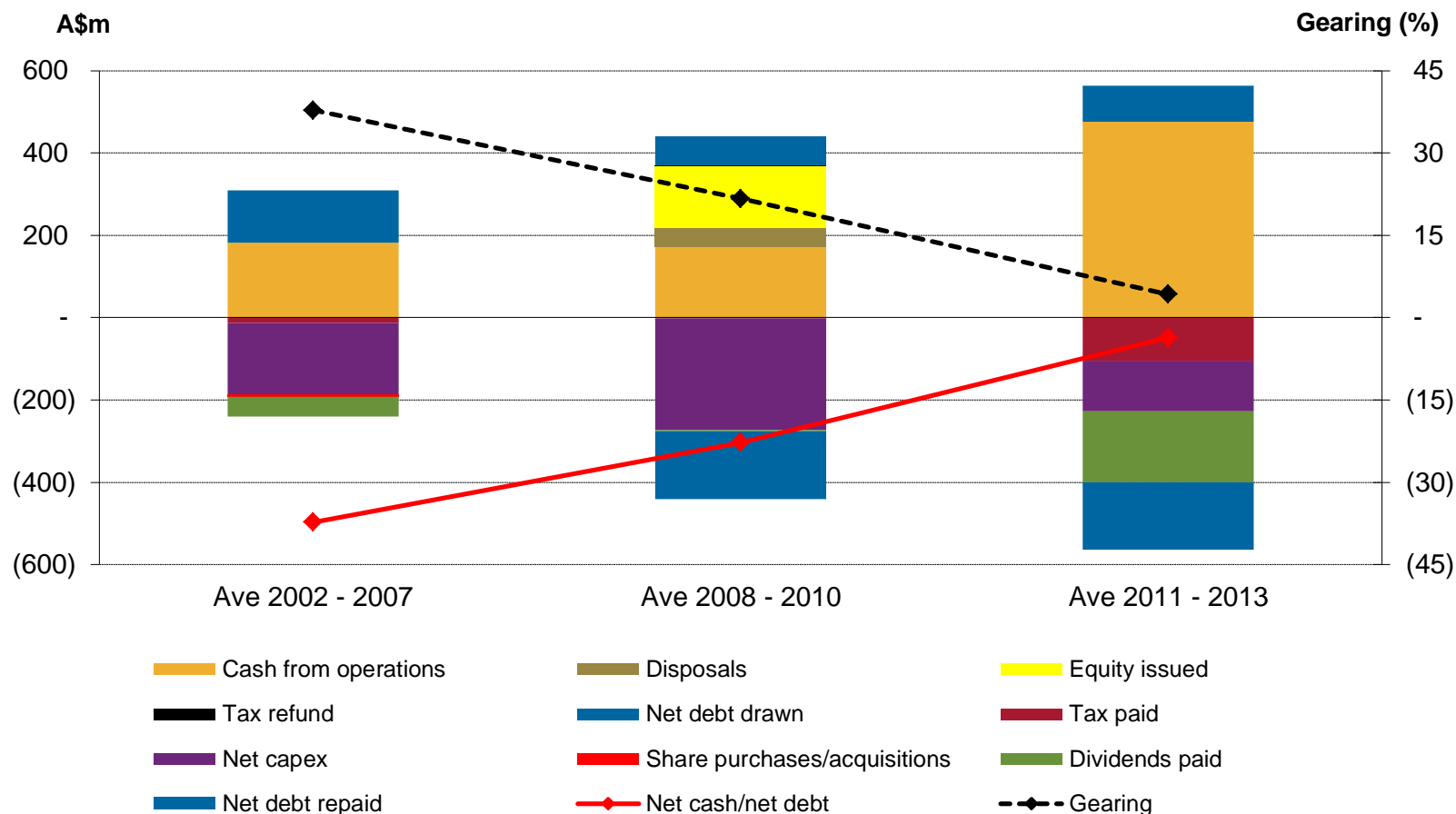
While preserving growth objectives

- Balance unit cash cost efficiencies with inventory objectives
- Preserve cash – keep growth options on track



Creating a Strong Balance Sheet

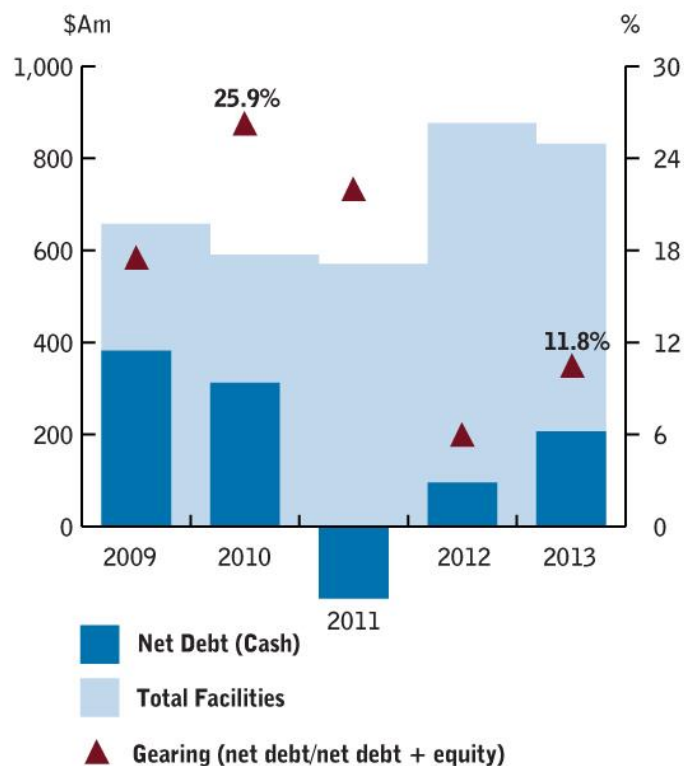
Sources and Use of Funds



Balance Sheet and Capital Management

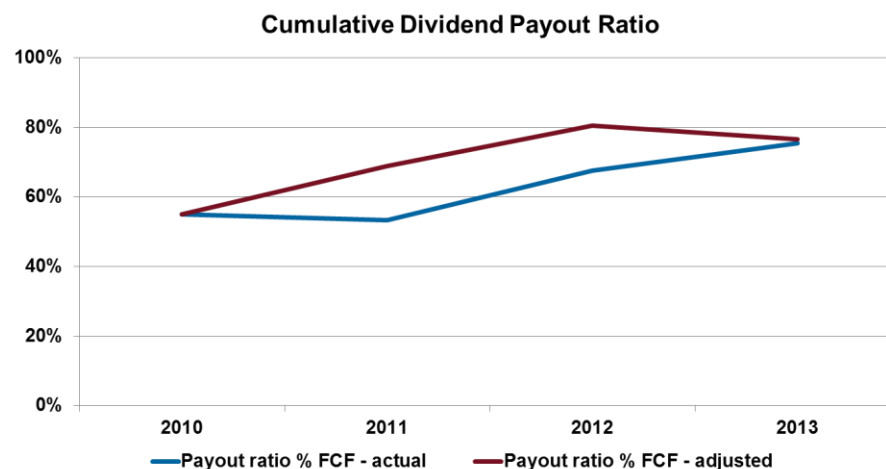


Debt Profile



Capital Management

Cumulative 76% of Free Cash Returned since 2010



Distribution Metrics	FCF	NPAT
Cumulative dividend payout ratio (2010 -2013) (%)	76	55
Cumulative retained free cash flow (2010 -2013)(\$m)	172	N/A

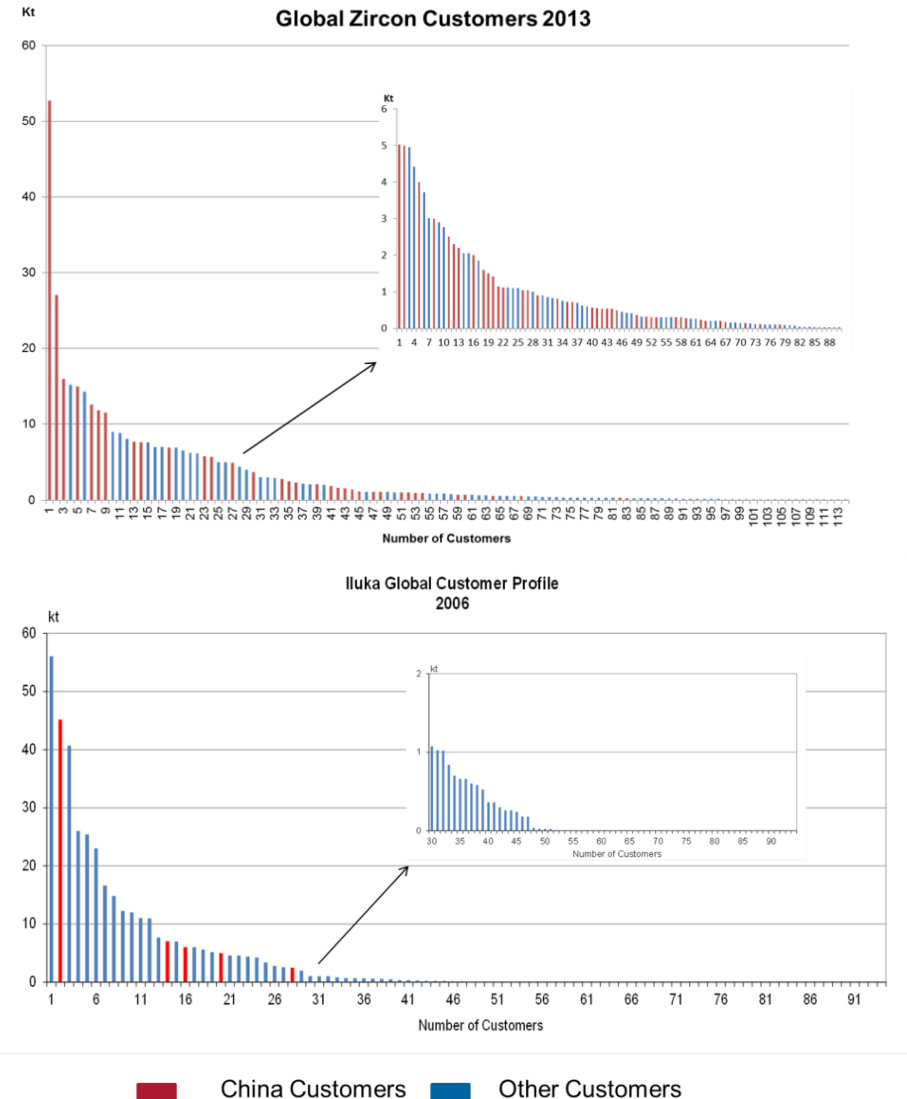
Iluka Approach – Eyes on the Horizon



- Focus on shareholder returns through the cycle
- Flex asset operation in line with market demand
- **Continue market development through the cycle**
- Maintain strong balance sheet
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- **Act counter-cyclically where appropriate**

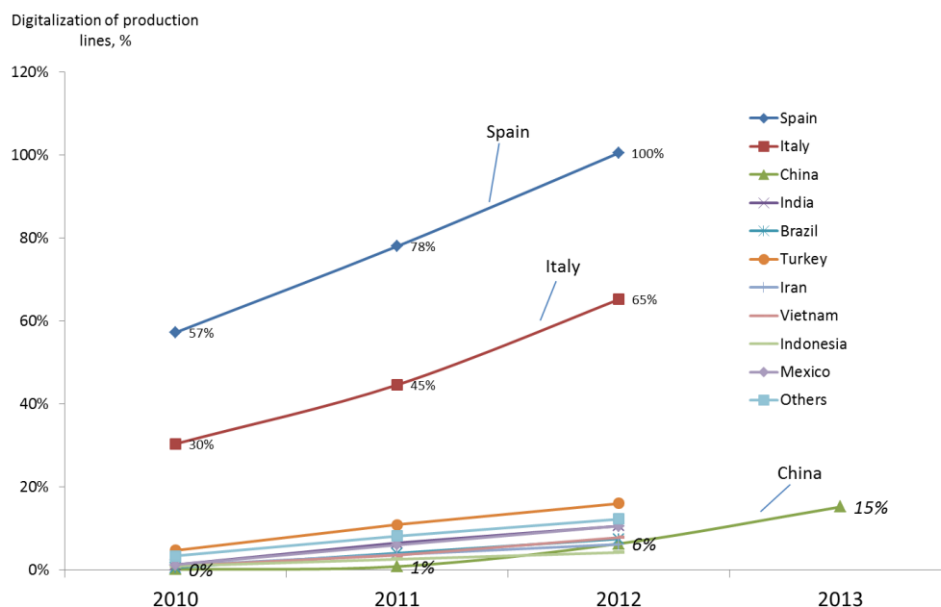
Market Development

- Expansion of global offices / logistics
 - 13 warehouses
 - 6 marketing offices
- Dedicated zircon and TiO₂ sales teams
- Improving market analysis
- Expanded customer base
- ‘Long tail’ capability



Digital Printing of Ceramics

GLOBAL ADOPTION OF DIGITAL PRINTING



Source: CWR, Asian Ceramics, Ceramic Town Weekly

Note: Simplified assumption of 2.5 M sqm per annum output per production line and average of 3 digital printers per production line (per obtained industry intelligence)

CHARACTERISTICS

- **Global shift**
 - strong growth rate since 2010
 - highest penetration in Spain and Italy
 - but by end-2012, global application only at ~12%
 - rapid China adoption expected from current low level
- **Positive for zircon demand** in ceramics and higher demand for opaque frits (for engobe and glazes)
 - higher zircon loading in body or engobe of tiles
 - materially higher zircon loadings than conventional printing techniques
 - zircon used in printer inks
 - flexibility in design & manufacture, plus quality, may see shift from lower zircon intensity tiles (e.g. from low-zircon soluble salts & unglazed tiles)

Digital Printing of Ceramics

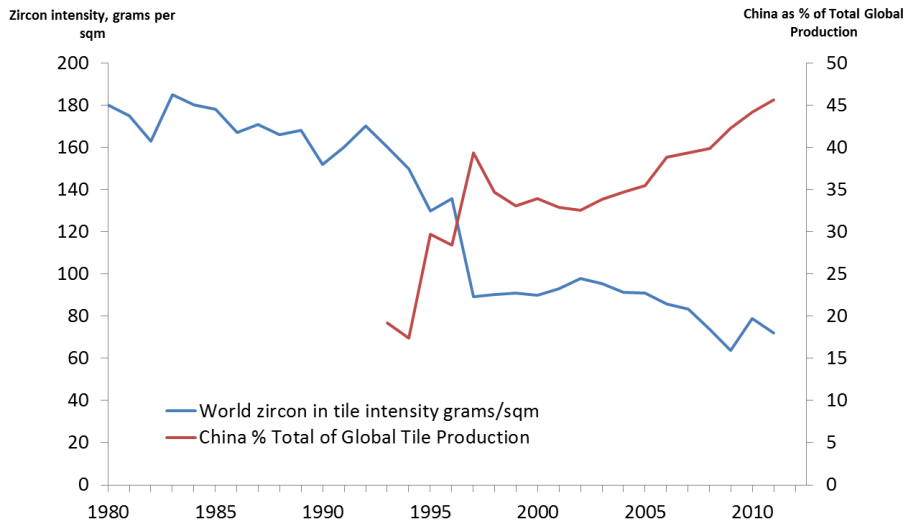


ILUKA



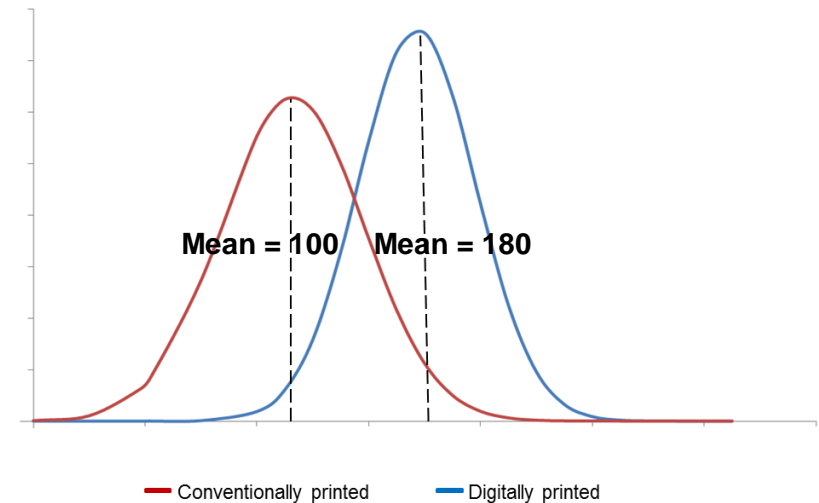
Zircon Loading in Tiles

Zircon Intensity in Ceramic Tiles



Source: TZMI and Ceramic World Review

Zircon content of digitally printed and non-digitally printed tiles^{1,2}



Zircon Loadings (Indexed to 100)

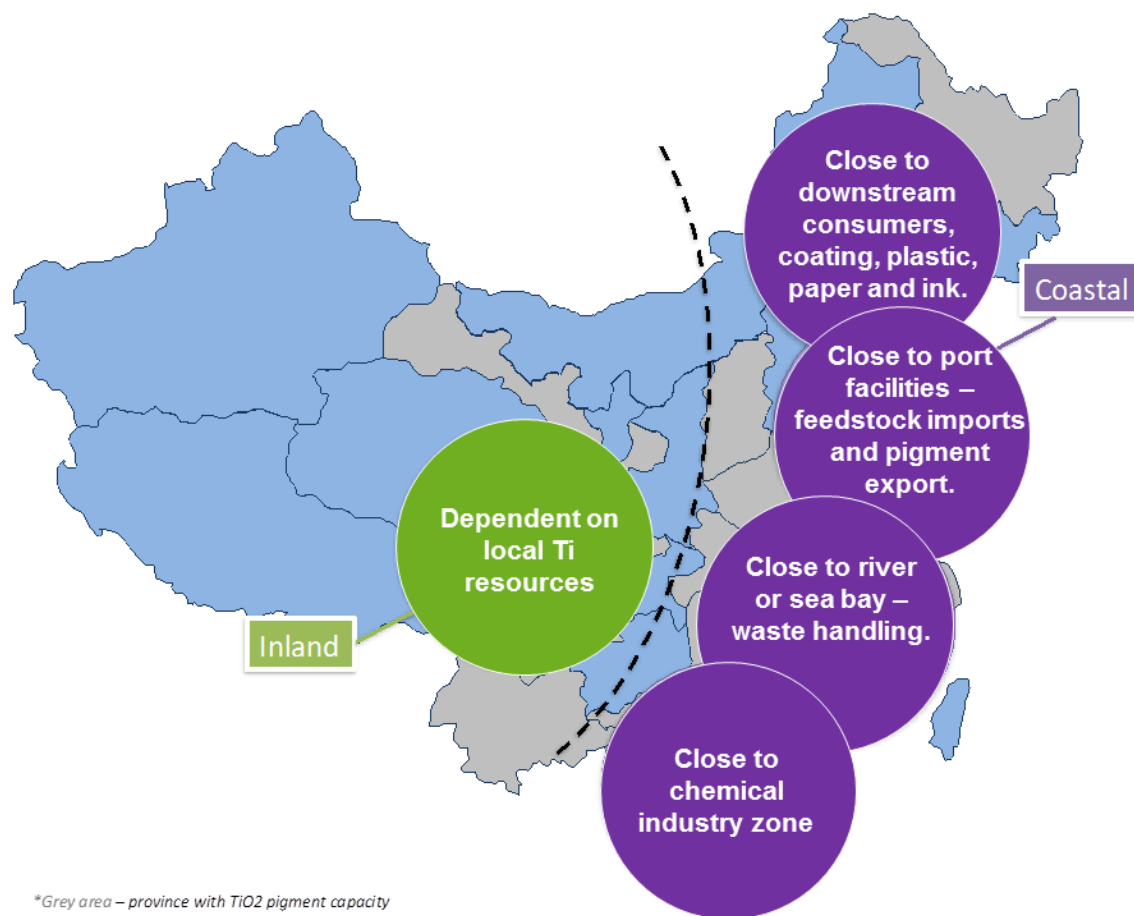
	Low	Mean	High
Conventionally Printed	65	100	135
Digitally Printed	140	180	210

Notes:

- 1 This slide charts the distribution of zircon loadings for conventionally printed and digitally printed tiles, from Iluka's 2013 ceramics tile survey. The zircon distribution is shown as grams/sqm (data excluded for proprietary reasons).
- 2 The mean of conventionally printed tile zircon loadings is shown as 100. Digitally printed mean zircon loading is shown as 180, hence 80% higher than the mean of conventionally printed tiles. The low and high zircon loadings for both types of tiles are shown in the table at 5% and 95% confidence intervals.

Source: Iluka

Market Development – China Pigment



*Grey area – province with TiO₂ pigment capacity

- Sichuan is largest pigment producer due to proximity to largest reserves, although high sulfuric acid cost.
- Coastal producers (Shandong, Jiangsu, Zhejiang, Shanghai, Guangdong & Liaoning) benefit from lower logistics and access to feedstock imports.

Sulphate Pigment Large Installed Base

SITUATION

- Largest pigment producer globally - sulphate
- Reliant on imported feed stocks ~1/3rd of requirements

INFLUENCES

- Installed sulphate base will be retained in the main
- Less efficient component rationalised
- Need for high quality ilmenite / upgraded feed stocks

ELEMENTS OF ILUKA'S APPROACH

- Sulphate ilmenite sales
- Acid Soluble Synthetic Rutile (ASSR)
- Sri Lanka – sulphate resource

Emergent Chloride Pigment Industry

SITUATION

- Minimal existing in-country chloride production
- China dependent almost exclusively on imports
- World's largest car manufacturers use chloride
- MIIT* anticipates 300ktpa chloride capacity by 2014

INFLUENCES

- Acquisition of best technology
- China Government imperative
- Need for high grade imported feedstocks

ELEMENTS OF ILUKA'S APPROACH

- Detailed analysis
- Develop relationships
- Focus on current and potential new producers
- Rutile and synthetic rutile trial supply

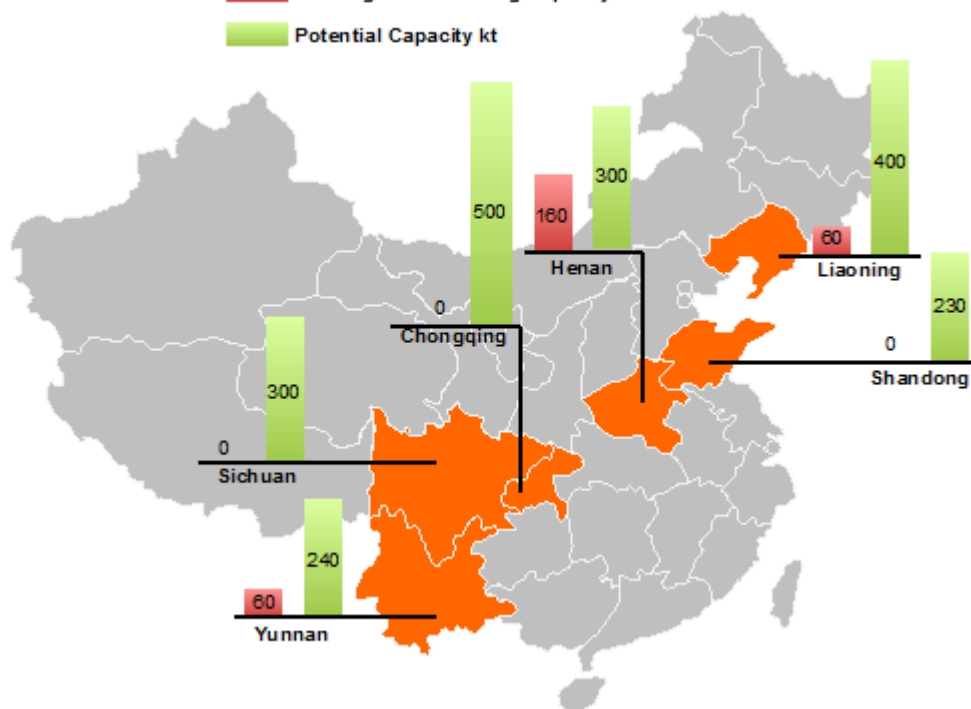
*MIIT: Ministry of Industry and Information Technology

China Pigment - Chloride Growth Directive

Chloride Process Projects in China

Existing / Constructing Capacity kt

Potential Capacity kt



2.2 mtpa Chloride pigment capacity possible by 2020

- Jan 2011, MIIT published “Cleaner Production Technology Implementation Scheme for Five Industries Including Titanium Dioxide”, stating:
by 2014, it is anticipated that TiO_2 production capacity using the chloride process will reach 300 kt/year...
- March 2011, NDRC published the “Directory Catalogue on Readjustment of Industrial Structure, (2011 version No. 9)”, stating:
Encouraging the production line of TiO_2 with the chloride process, having over 30 kt/year capacity for each production line and using Ti-rich materials with minimum 90% TiO_2 content, such as synthetic rutile, natural rutile and titanium-rich slag. Restricting newly constructed facilities for production of sulphate Ti pigment.

Advance Mineral Sands Growth Opportunities



Exploration

- International and Australian programme
- 50 explorationists, funding available for consistent search
- 50 thousand square kilometres of tenements in Australia
- International reconnaissance / exploration – 11 countries
- Sri Lanka tenement acquisition
- New commodities team

Advance Mineral Sands Growth Opportunities

Internal Mineral Sands Projects – 5 at advanced evaluation



**VIRGINIA
UNITED STATES**

Chloride ilmenite and associated zircon production.

2 in USA
Utilisation of existing infrastructure

USA

Virginia
Concord
Brink
Stony Creek



**PERTH BASIN
WESTERN AUSTRALIA**

Ilmenite mining, mineral processing and ilmenite upgrading (synthetic rutile).



**EUCLA BASIN
SOUTH AUSTRALIA**

Highest global zircon assemblage deposit.



**MURRAY BASIN
VICTORIA/NEW SOUTH WALES**

Major rutile production, significant associated zircon stream.

3 in AUSTRALIA
Utilisation of existing infrastructure

WESTERN AUSTRALIA

Narngulu
Eneabba
Perth Basin
Perth

Eucla Basin

Jacinth-Ambrosia

SOUTH AUSTRALIA

North Capel
Tutunup South

Murray Basin









NEW SOUTH WALES

Woonack, Rowneck & Pirro

Hamilton

VICTORIA
Melbourne

LEGEND

-  Mine
-  Mineral separation plant
-  Synthetic rutile kiln
-  Tutunup South non-magnetics
-  Jacinth-Ambrosia HMC
-  Virginia ilmenite
-  Hamilton ilmenite
-  Woonack Rowneck & Pirro ilmenite

Innovation and Technology

- Industry Level
 - Zircon Industry Association
 - Ceramics zircon intensity surveys
- Company Level
 - New processing technologies/capabilities (e.g. ASSR)
 - New production technologies
 - Downstream opportunities (such as Metalysis)



Evaluate and Pursue Growth Opportunities



Transforming the world of metals

The Metalysis Process

Cleantech - Cost-effective - Transformational

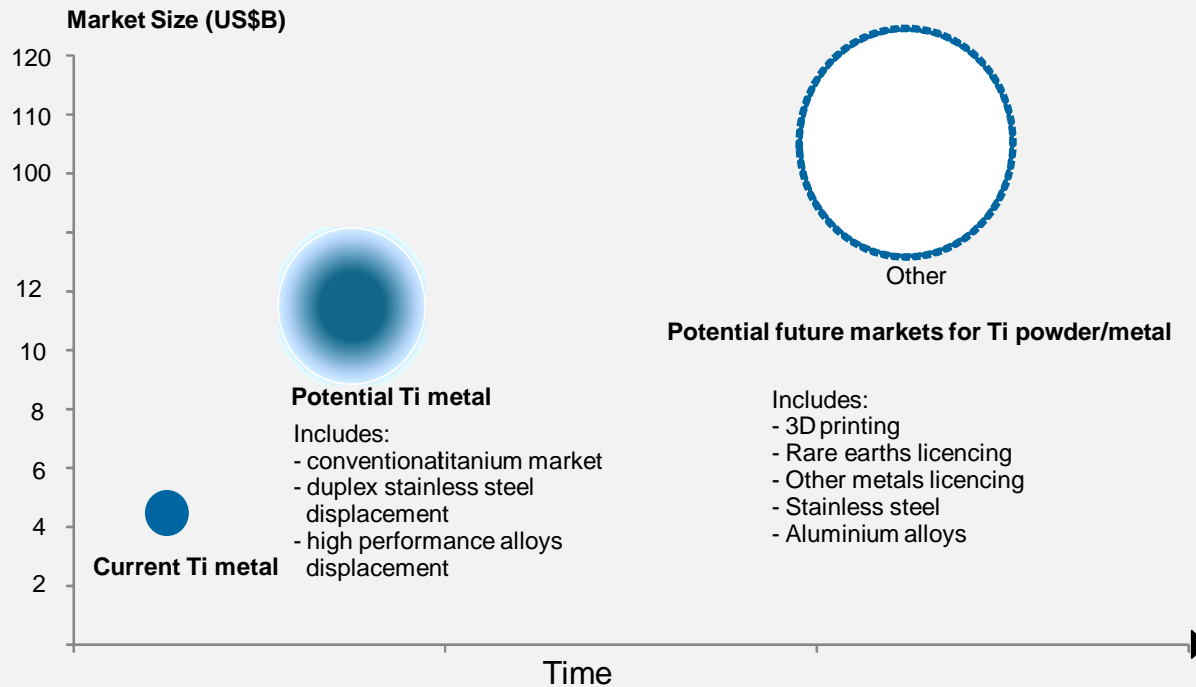


The Traditional Process



Final Product

KEY MARKETS – GLOBAL SIGNIFICANCE



ILUKA STRATEGIC FIT & BENEFITS

- 18.3% equity interest – A\$22.5m
- Mineral sands adjacencies
- “Right” stage of development
- Titanium powder directly from rutile
- Potentially disruptive technology
- Potential new demand for R/SR
- Iluka can contribute more than cash
 - supply of high grade feedstocks
 - process engineering
 - project management
 - product development
 - global marketing

* McKinsey Global Institute, Disruptive Technologies, May 2013

Industry is Changing

- Demand robust medium/long term
 - urbanisation, consumerism, application diversity
- Short term volatility (economies, inventory effects)
 - ‘down’ cycle ending
- Pigment – ownership, geography, technology shifts
 - China factor
- Feedstock – quality diminishing, pipeline emptying, risk increasing
 - supply cost and availability challenge
- Zircon – assemblage decline, tile manufacturing transformations
 - intensity of use additive to demand, leaner resources to supply
- Technology to play a bigger role

Iluka's Approach

- Focus on shareholder returns through the cycle
- Flex asset operation in line with market demand
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ILUKA INVESTOR RELATIONS GUIDE (APP)

The Iluka Investor Relations Guide (App) for Apple iPad and other tablet devices provides online and offline access to company information, including the latest news and events.

The App can be downloaded from the Apple App Store or Google Play Store by searching "Iluka Investor Relations Guide".

The Iluka Investor Relations Guide is designed for those wishing to gain an understanding of the main elements of the company, its assets, industry context and basis for shareholder value generation.

Information available on the App includes:

- Iluka's investment proposition, company and shareholder alignment and capital management framework;
- company outline, resource base and operations;
- mineral sands industry overview;
- Iluka's sales and marketing strategy and customer base;
- historical financials and company presentations;
- latest ASX releases; and
- calendar of events.



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