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Supporting statements

Ore Reserves (slide 10)

Reserve grade for Oyu Tolgoi Underground – Hugo Dummett North and Hugo Dummett North Extension. Probable Ore Reserves for Hugo Dummett North and Hugo Dummett North Extension (499 Mt at 1.66% Cu, 0.35g/t Au) were released to the market in the 2016 Rio Tinto Annual Report on 2 March 2017 and can be found on p224 of that report. The Competent Person responsible for reporting of those Ore Reserves was J Dudley.

Reserve grade for Amrun (formerly South of Embley). Proved and Probable Ore Reserves (1409Mt at 52.4% Al₂O₃) for Amrun (South of Embley) were released to the market in the 2016 Rio Tinto Annual Report on 2 March 2017 and can be found on p223 of that report. The Competent Person responsible for reporting of those Ore Reserves was L McAndrew.

Rio Tinto is not aware of any new information or data that materially affects the above reserve grade estimates as reported in the 2016 Annual Report, and confirms that all material assumptions and technical parameters underpinning these estimates continue to apply and have not materially changed. The form and context in which each Competent Person’s findings are presented have not been materially modified.

Production Targets

The production target for Amrun shown on slide 10 was disclosed in a release to the market dated 27 November 2015 (“Rio Tinto approves US$1.9 billion Amrun (South of Embley) bauxite project”). The production target for Oyu Tolgoi shown on slide 10 is the average production 2025-2030, including open pit production. This production target was disclosed in a release to the market on 6 May 2016 (“Rio Tinto approves development of Oyu Tolgoi underground mine”). All material assumptions underpinning these production targets continue to apply and have not materially changed.
Safety and health come first

Continuing history of improvement

Balanced safety strategy
Focusing on fatality elimination – 1.2 million CRM verifications

Reducing injuries – Targeted hazard elimination campaigns

Catastrophic event prevention through elimination of process safety risks

Fatality at Kennecott in October

Connecting safety with health
Mental health and wellbeing

Fatigue management technology
Connection with productivity initiatives

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Cash focus with capital discipline delivers strong shareholder returns

<table>
<thead>
<tr>
<th>Long-term strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td>World-class assets</td>
</tr>
<tr>
<td>Delivering &gt;2% CAGR(^1) CuEq growth</td>
</tr>
<tr>
<td>Licence to Operate</td>
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<table>
<thead>
<tr>
<th>Cash focus</th>
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</thead>
<tbody>
<tr>
<td>Value over volume</td>
</tr>
<tr>
<td>$5 billion free cash flow from mine to market productivity by 2021</td>
</tr>
<tr>
<td>Free cash flow yield</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Capital discipline and shareholder returns</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strong balance sheet</td>
</tr>
<tr>
<td>$8.2 billion of cash returns announced in 2017</td>
</tr>
<tr>
<td>Portfolio shaping</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Team and performance culture</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safety first</td>
</tr>
<tr>
<td>Assets at the heart of our business</td>
</tr>
<tr>
<td>Commercial and operational excellence</td>
</tr>
</tbody>
</table>

\(^1\) Copper equivalent CAGR, 2015-2025
Global macro indicators remain supportive

PMIs remain elevated

Global growth momentum remains healthy

US growth supported by record high consumer confidence and healthy manufacturing and investment

EU performing better than expectations on stronger manufacturing and consumer confidence

China may slow modestly over the next six months but outlook remains positive in the medium to long-term

Chinese environmental policy measures are increasing demand for higher grade iron ore and reducing new aluminium capacity

China housing sales and starts slowing modestly

Positive GDP momentum

Source: CEIC, Rio Tinto
Our product quality delivers strategic competitive advantage in significant markets

<table>
<thead>
<tr>
<th>Our premium products</th>
<th>Our 62% iron ore benefits from structural change following Chinese reforms</th>
<th>High-quality, expandable bauxite assets in low sovereign risk jurisdictions</th>
<th>Strong global aluminium demand: Chinese curtailments could provide growth options</th>
<th>Our copper growth profile is well positioned to benefit from EV evolution</th>
</tr>
</thead>
</table>

...have a strategic competitive advantage

...in commodities playing a key role in urbanisation

<table>
<thead>
<tr>
<th></th>
<th>~$100 billion</th>
<th>~$135 billion</th>
<th>~$140 billion</th>
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</table>

...in significant markets¹

¹ 2017 estimated market size based on YTD pricing
World-class high-margin assets with attractive growth options

<table>
<thead>
<tr>
<th>Main businesses</th>
<th>Iron Ore</th>
<th>Bauxite</th>
<th>Aluminium</th>
<th>Copper</th>
<th>Specialty products</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pilbara</td>
<td>Weipa, Gove, CBG</td>
<td>Canadian smelters</td>
<td>Oyu Tolgoi, Escondida</td>
<td>TiO₂ Borates</td>
</tr>
</tbody>
</table>

**Competitive advantages**

- **Iron Ore**
  - Low-cost assets, significant resources
  - Integrated single user infrastructure
  - Benchmark 62% product
  - Technical marketing leadership

- **Bauxite**
  - Large, low-cost, expandable bauxite assets
  - Proximity to market
  - High alumina content
  - Technical marketing leadership

- **Aluminium**
  - Expandable first quartile hydro-powered smelters
  - Low-cost, long-life renewable power
  - Green, value-add product

- **Copper**
  - Large, long-life, high-grade, low-cost
  - Attractive growth options
  - Block caving expertise

- **Specialty products**
  - High-grade, first quartile assets
  - Latent capacity with expansion options
  - R&D driven marketing

**H1 2017 margins**

- **Iron Ore**
  - 69% FOB EBITDA margin

- **Bauxite**
  - 45%¹ FOB EBITDA margin

- **Aluminium**
  - 28%¹ Operating EBITDA margin

- **Copper**
  - 42%¹ Operating EBITDA margin

- **Specialty products**
  - 32%¹ Operating EBITDA margin

¹ Margins relate to main businesses only, exclude product group overheads

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We returned 40% of cash generated\(^1\) to shareholders

Most disciplined and balanced allocation of capital in H1 2017

\(^1\) Cash generated = net cash generated from operating activities, sales of PP&E and disposals
Peer group comprises Anglo American, BHP, Glencore and Vale
## Amrun
Creating seaborne bauxite market, high-grade, expandable

- >20% IRR
- $1.9 billion capex, first quartile opex
- 22.8 Mt/a<sup>1</sup>, project ~60% complete, commissioning H1 2019
- 52.4% alumina content<sup>1</sup>

## Oyu Tolgoi
Largest and highest quality copper development in the world

- >20% IRR
- $5.3 billion capex, first quartile opex
- First drawbell production: 2020
- Full production ~560 kt/a<sup>1</sup> (2025-2030)
- 1.66% Cu, 0.35g/t Au<sup>1</sup>

## Significant brownfield opportunities
Pilbara iron ore, Queensland bauxite, Canadian aluminium

- >15% IRR hurdle rate requirement
- Pilbara iron ore: significant resource optionality and productivity opportunities
- Brownfield aluminium options: Alma, AP60, subject to market conditions
- Bauxite expansion options

## Longer-term growth opportunities
Jadar (lithium/borates), Resolution (copper), exploration

- >15% IRR hurdle rate requirement
- Jadar: world-class lithium/borates deposit with potential first production by 2023
- Resolution: pre-feasibility completion by 2020, advancement of permitting process continuing

---

<sup>1</sup> Refer to the statements supporting these reserve grades and production targets set out on slide 3 of this presentation
Productivity will further enhance our ROCE and TSR

Rio Tinto has achieved the highest ROCE every year since 2013…

Average ROCE since 2013¹

![Graph showing Rio Tinto and average diversified peers ROCE comparison.]

Additional $1.5 billion free cash flow in 2021 from productivity will drive the next phase of outperformance

TSR since 2013

![Graph showing Rio Tinto and average diversified peers TSR comparison.]

¹ Based on average of each company’s ROCE between 2013 and 1H2017, with 1H17 given 50% weighting compared to full year results | ² Additional $1.5bn of increased free cash flow from productivity in 2021.

Source: FactSet as of 1 November 2017 and company financials for Rio Tinto and diversified peers | Note: Diversified peers: Anglo American, BHP, Glencore, Vale

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Delivering $5 billion of additional free cash flow from productivity

Mine to market productivity…

…with a focus on four levers…

…delivering $5 billion of additional free cash flow

Best practice
Partnering with our suppliers
Automation
Data and technology

Productivity Opportunity (5 years)

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Investor Seminar
Sydney, 4 December 2017
Chris Lynch | chief financial officer
Disciplined capital allocation

1. Essential sustaining capex
2. Ordinary dividends
3. Iterative cycle of

Further cash returns to shareholders
Compelling growth
Debt management

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Strong balance sheet enables high cash returns to shareholders

Strongest balance sheet in the sector

$7.6bn

Net debt at 30 June 2017

0.4x

Net debt : EBITDA ratio

$6.3 billion of cash returns in 2017

$ billion

- 2016 final dividend
- 2017 interim dividend
- 2017 plc on-market buy-back
- 2017 Ltd off-market buy-back

An additional $1.9 billion share buy-back of Rio Tinto plc shares to be completed by end-2018
Sustaining capital and compelling growth

Maintained sustaining capital guidance of $2.0 to $2.5 billion per year, including

- Iron Ore sustaining capex of ~$1 billion per year

Pilbara replacement capital includes Koodaideri development from 2019

Other replacement capital includes
- South wall pushback at Kennecott
- Amrun replacement tonnes
- Zulti South

Development capital includes
- Oyu Tolgoi
- Amrun
On track to deliver additional cash in 2017 and 2018

$0.3bn of headwinds from raw material inputs

Volume: 0.6
Cost headwinds: 0.3
Cost: 0.6
2017 & 2018 cumulative total: 0.9

Approximately equal contribution across product groups

No volume productivity benefit in Iron Ore until AutoHaul™ is completed

Cost headwinds primarily impact Aluminium – caustic, pitch and coke

* Based on consensus prices and exchange rates
Rigorous measurement of productivity gains

<table>
<thead>
<tr>
<th>Accounting basis</th>
<th>– Free cash flow basis, Rio Tinto share, post-tax</th>
</tr>
</thead>
<tbody>
<tr>
<td>Price</td>
<td>– Actual price achieved each year – not a constant or rebased price</td>
</tr>
<tr>
<td>Commercial excellence</td>
<td>– Variation of product mix included</td>
</tr>
<tr>
<td>Volumes</td>
<td>– Tonnes from growth capex excluded</td>
</tr>
<tr>
<td>Costs</td>
<td>– Adjustments for energy, inflation and exchange impacts</td>
</tr>
<tr>
<td></td>
<td>– All other changes in input costs are included</td>
</tr>
<tr>
<td>Grades</td>
<td>– No adjustment or rebasing for grade</td>
</tr>
<tr>
<td>Capital savings</td>
<td>– Capital savings are excluded</td>
</tr>
<tr>
<td>Guidance</td>
<td>– Consensus pricing used</td>
</tr>
<tr>
<td>Assets</td>
<td>– Assets scheduled for closure in the next 5 years are excluded</td>
</tr>
<tr>
<td></td>
<td>– Target may be rebased should any assets be divested in the 5 year period</td>
</tr>
</tbody>
</table>
Delivering $1.5bn additional free cash flow each year from 2021

**Productivity levers**

- Best practice
- Partnering with our suppliers
- Data & technology
- Automation

**$1.5bn productivity opportunity in 2021 ($5bn cumulative, 2017-2021)**

**Our focus across the value chain**

- Optimised mine planning and scheduling
- Mining efficiency
- Processing recovery
- Optimised infrastructure
- Optimised capacity

- Iron Ore
- Aluminium
- Energy & Minerals
- Copper & Diamonds

* includes step up in Pilbara rail throughput

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Growth & Innovation enabling value generation across asset lifecycle

Find
Study
Develop
Optimise
Close

Technical Excellence
geosciences, mining, processing, infrastructure, asset management, integrated operations

Information Systems & Technology
enterprise services, platforms, digital workplace

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Our focus builds on leadership in data, technology & automation
Driving Rio Tinto mine to market productivity

- Refocus on the basics
  - Best practice
  - Partnering with our suppliers

- Redesign our future
  - Automation
  - Data & technology

- Leverage workforce capability
  - Technical excellence
  - Commercial excellence

- Additional $5bn mine to market in 5 years
  - Operating assets & projects
  - Customers
  - Deliver operations of the future
  - Performance culture

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Delivering $1.5bn additional free cash flow each year from 2021

$1.5bn productivity opportunity in 2021 ($5bn cumulative, 2017-2021)

Productivity levers

- Best practice
- Partnering with our suppliers
- Data & technology
- Automation

Optimised mine planning and scheduling
- Iron Ore
- Aluminium
- Energy & Minerals
- Copper & Diamonds

Mining efficiency
- Speed*
- Payload*
- Hours operating *

Processing recovery

Optimised infrastructure

Optimised capacity

Commercial excellence and customer focus

* includes step up in Pilbara rail throughput

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# Truck and dig unit payload increases: moving more with the same

## Assets

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>686</td>
<td>118</td>
</tr>
</tbody>
</table>

## Scope

- 5 suppliers

## Results

<p>| |</p>
<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>+6% payload¹</td>
</tr>
</tbody>
</table>

(2017 improvement over 2016)

Payload of trucks increased by 15-20t

Collaborated with truck, loading equipment and tyre suppliers across 18 months of field trials

Dig unit payload monitoring system trialled, being installed and replicated across Group

Targeting further 10% increase in payload

---

¹Payload is the weight of ore or waste loaded into the tray (bed) of a truck

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## Truck change over to increase operating hours: using our trucks more efficiently

<table>
<thead>
<tr>
<th>Assets</th>
<th>Scope</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>686 trucks</td>
<td>Operating time</td>
<td>+7% EU¹ (2017 improvement over 2016)</td>
</tr>
</tbody>
</table>

### Scope
- Targeting trucks to work over 75% of calendar hours
- Targeting improvement across whole of mining cycle
- Truck operator change over facility and hot seating:
  - Reduced time loss and improved safety
  - Real-time feedback to in-field leadership
- Improved maintenance practices to lift mean time between failure

---

1: Truck Effective Utilisation (EU) defined as: % of calendar time that the truck was performing its function (highlights impact of all time based losses)
## Processing plant throughput: increasing rates

<table>
<thead>
<tr>
<th>Assets</th>
<th>Scope</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>46 plants</td>
<td>Feed rate</td>
<td>+7% tonnes per hour&lt;br&gt; Weipa, Oyu Tolgoi&lt;br&gt; (2017 improvement over 2016)</td>
</tr>
</tbody>
</table>

- **Andoom producing at 2x nameplate with practices being replicated at East Weipa**
- **Gove** – conveying system reliability improvements and new chute designs delivering record performance in 2017
- **Oyu Tolgoi** - process control innovations and blasting optimisation have increased milled ore +3 million tonnes in 2017
- **Run hard and stop** - higher processing rates being used to reduce maintenance and operating costs
Video – MAS
Innovating for productive growth options

Innovation in ore body knowledge

Designing for the future

Lean in construction

Oyu Tolgoi Isometric Looking North: Feasibility Study Footprint
>2.5% CuEq Blocks and Cave Shape for Lift #1

Jadar – Illustration of proposed processing plant

Amrun – Chith export facility
Video – Amrun development
Leading data platform to enable productivity journey

Rio Tinto data platform

- Bots & machine learning
- Optimisation
- 3rd party platform
- 21st century digital
- Fusion database
- Visualisation & user interfaces
Leveraging technical excellence to drive value

Technical Excellence
geosciences, mining, processing, infrastructure, asset management, integrated operations

Critical roles & career paths
Talent development & mentoring
Centres of excellence & connected working groups
Driving Rio Tinto mine to market productivity

Refocus on the basics
- Best practice
- Partnering with our suppliers

Redesign our future
- Automation
- Data & technology

Leverage workforce capability
- Technical excellence
- Commercial excellence

Additional $5bn mine to market in 5 years
- Operating assets & projects
- Deliver operations of the future
- Performance culture

Customers
Sydney, 4 December 2017
Chris Salisbury | chief executive, Iron Ore
Strong business foundations and clear strategy

Foundations

- Exclusive fully integrated system
- Highly valued product suite and significant resources
- Quality people and partners driving innovation

Value over Volume Strategy

- Revenue
  - Price impact of incremental tonnes
  - Protecting quality
  - Delivering right tonnes to customers who value them

- Capex
  - Sustaining
  - Replacement
  - Growth

- Operating cost
  - Unit cost
  - Impact on cost base
  - Innovation and Technology

Maximises free cash flow through the cycle

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Attractive margins and pollution controls supporting a sustained focus on productivity

Steel demand and prices in China supported by growth across key end-use sectors

Low steel stocks, attractive mill margins and winter controls underpin demand for higher quality iron ore

Lower quality iron ore accounts for around 70% of port inventories in China
Demand for quality iron ore remains strong, with the high / low spread continuing

Iron ore prices
$ per tonne

Iron ore low grade relativity
% relativity to Platts 62% index

Iron ore futures market no longer characterised by the structural backwardation of recent years

The wide spread between high and low quality ores sustained

Steelmakers targeting high-grade / low-impurity iron ore products

Source: Bloomberg, Metal Bulletin, Platts.

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Our Pilbara Blend remains the product of choice

Blending reduces product variability
Product quality variance from mean

Consistency of our Pilbara Blend (PB) products gives our customers predictability in managing their blast furnace burden

PB lump is a good source of iron units as mills seek productivity in the face of sinter capacity restrictions

Customers seek our stable, blended PB fines as the base load for their sintering operations

Yandicoogina fines has low impurities and is highly valued
Capital for high-quality asset options to maintain Pilbara Blend and the broader portfolio

Multiple low-cost, value-accretive options leveraging existing infrastructure

Koodaideri replacement (~$2.2bn) underpins Pilbara Blend and low-cost operations – includes innovation in design

Replacement post-Koodaideri expected to continue the trend of highly value-accretive, lower capital intensity production
Focused on sustaining our competitive advantage

69% FOB EBITDA margin in 1H 2017

1H 2017 cash unit cost of $13.8/t

Cost driver trend

<table>
<thead>
<tr>
<th>Cost driver</th>
<th>2017 ➤ 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strip ratio</td>
<td>➤</td>
</tr>
<tr>
<td>Haul distance</td>
<td>➤</td>
</tr>
<tr>
<td>Bulk materials</td>
<td>➤</td>
</tr>
<tr>
<td>Labour costs</td>
<td>➤</td>
</tr>
<tr>
<td>Cyclic maintenance costs</td>
<td>➤</td>
</tr>
</tbody>
</table>

~10% increase in haul distance for 2018; strip ratio flat

Cyclic maintenance costs being partly offset by new tactics

>3,500 productivity improvement initiatives
## Productivity options to continue to deliver cash benefits

<table>
<thead>
<tr>
<th>Best Practice</th>
<th>Partnering with Suppliers</th>
<th>Data &amp; Technology</th>
<th>Automation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effective equipment utilisation and maintenance optimisation</td>
<td>Yard improvements and scheduling</td>
<td>Payload optimisation</td>
<td>Mine planning optimisation</td>
</tr>
<tr>
<td>Mine improvements</td>
<td>Track maintenance strategy</td>
<td></td>
<td>Autonomous trucks (including retro-fit)</td>
</tr>
<tr>
<td>Dumping improvements</td>
<td>Operations centre optimisation</td>
<td></td>
<td>Autonomous drills</td>
</tr>
<tr>
<td>Track maintenance</td>
<td>Inter-machine control loops</td>
<td></td>
<td>Smart explosives charging</td>
</tr>
<tr>
<td>Consist reliability</td>
<td>Productivity monitoring apps</td>
<td></td>
<td>Debottlenecking opportunities</td>
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<tr>
<td>Asset health monitoring</td>
<td>Ore sensitive dumper settings</td>
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Iron Ore to deliver additional free cash flow of ~$0.5 billion per year from 2021
Priority is to optimise infrastructure capacity and flexibility

Current system capacity

Mine capacity of ~360Mt/a, with full Silvergrass ramp-up and productivity creep

Building excess rail capacity to provide for flexibility and sprint options

Future system capacity

Optimise and test overall port capacity

2018 guidance is in a range of 330 – 340Mt

*Once Silvergrass fully ramped up
Significant improvements achieved across our mines.

Truck effective utilisation and payload improvements have delivered cost savings and capital deferrals.

20 extra tonnes per load for 240t trucks provides 35 million annual tonnes of additional mining capacity.

Better maintenance strategies driving longer component lives and cost savings.

Yield, feed rate and cost improvements.

Less rehandle while maintaining production rates.
...with other productivity improvements continuing to deliver results

Drill Effective Utilisation
Time %, Oct YTD, site comparison

Run the production drills for more hours...

Drill Penetration Rate
Metres / Operating hour, Oct YTD, site comparison

...and on average, drill more metres per hour

Balancing quality and value from our mines

Integrated mine planning ensures Pilbara Blend quality and maximises value

>30Mt total material moved (TMM) reduction 2H17 through 2018
Along with AutoHaul™, there are many levers to optimise rail circuit capacity and improve flexibility.
AutoHaul™ making strong progress…

World’s first fully autonomous heavy haul mainline run completed in Sept 2017

~60% production kilometres currently completed in autonomous mode¹

>1 million kilometres completed in autonomous mode¹ this year

~6% Speed improvement in autonomous mode¹

AutoHaul™ usage continues to be expanded and preparing for final Regulator approval. Anticipate full implementation of driverless trains by end of 2018

¹ Autonomous mode(s) currently in operation with drivers on-board

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…with rail productivity and improved track condition the keys to unlocking value

Yard improvement (minutes)

Yard scheduling automation and optimisation
Further technology to be implemented

Dumping - placing train improvement (minutes)
Continued improvements in cycle time
Brake cars to be eliminated in 2019

Mainline travel times (hours)
Track maintenance improvement – 2017 and into 2018
Reductions to continue:
- Maintenance schedule optimised
- Additional track maintenance equipment

Consist reliability – unscheduled loss improvements (hrs/Mt)
Strategic partnership with suppliers
Reduce number of unplanned locomotive and ore car failures
Result is improved rail cycle time

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Improving the capability of our port assets

Leveraging technology to gain capacity

Real-time asset health monitoring supporting condition-based maintenance

Proactive dumper system adjustments optimising throughputs of differing ore types

Operational excellence in maintenance

Increasing uptime of the asset whilst ensuring reliability and asset health

Reducing waste and frustration in work planning and execution, increasing labour efficiency
Technology, innovation and people enabling an agile, market-driven organisation

**Step-change technology**
- Operations Centre optimisation
- AutoHaul™
- Retrofit of autonomous trucks
- Expansion of Automated Drilling System
- Koodaideri – the intelligent mine

**Innovation projects**
- Drone monitoring
- Remote isolation
- Roll by rail detection
- Machine-to-machine control loops
- Productivity monitoring apps

**Skills and development**
- Recognising employee innovation
- Data analytics
- Collaborative and replication culture
- Digitally upskilled workforce
- Further robotics
Strong foundations, clear strategy and key initiatives will continue to realise optimal value

~$0.5 billion additional free cash flow per year from 2021

Rail system optimisation
- AutoHaul™
- Productivity improvement
- System maintenance

Automation
- Trucks, including retrofit
- Drills

Scheduling and planning optimisation
Best practice replication

High-value product suite

Strong customer relationships

Fully integrated and flexible system

Productivity-driven optionality

Disciplined allocation of resources
Aluminium

Sydney, 4 December 2017
Alf Barrios | chief executive, Aluminium
Strong global aluminium demand with Chinese production at a turning point

Primary aluminium production and stocks

Aluminium demand growth ~4% p.a. next 5 years

Strict enforcement of Chinese capacity control and winter cut regulations in smelting and alumina:
- Illegal capacity cuts: aluminium ~1.4-3.6Mt, bauxite ~10Mt
- Winter cuts: aluminium ~0.1-0.6Mt, alumina ~0.7-2.4Mt

China expected to be broadly balanced in aluminium in medium to long-term

Seaborne bauxite demand driven mainly by China import requirements:
- Aluminium/ alumina demand
- Domestic bauxite quality deteriorating

Source: Rio Tinto, CRU Group

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We will maintain our low-cost position

Commodity Index (base 2016)

Aluminium cost curve ($/t)

Raw materials & energy lifting cost curve by 10% vs 2016

Costs are expected to stay elevated in 2018

Rio Tinto well placed
- Balanced alumina
- Self-generated hydro power
- 90% own anode production
- 55% own calcination capacity for Canadian assets
- Advantaged bauxite position: proximity to China, supply reliability, high alumina, expandable resource

Source: CRU and internal analysis. Aluminium costs include hot metal and cold metal costs net of market and product premiums. Commodity price increases calculated between 1 January 2016 and November 2017
We continue to widen the gap over our competitors

Margin gap: portfolio quality and performance delivery

EBITDA margin increase to 35%

Cash cost improvements $1.7bn since 2012

Rio Tinto internal analysis which includes adjustments to externally reported EBITDA margins, trading, procurement and marine revenues to report performance on a comparable basis. Competitors included in the analysis are Rusal, Hydro and Alcoa.
Productivity options to continue to deliver cash benefits

<table>
<thead>
<tr>
<th>Bauxite</th>
<th>Creep</th>
<th>Rail debottlenecking &amp; payload optimisation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mine planning optimisation</td>
<td></td>
<td>Shipping optimisation</td>
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<tr>
<td>Equipment utilisation</td>
<td></td>
<td>Predictive analytics &amp; optimisation in real-time</td>
</tr>
<tr>
<td>Bauxite grade optimisation</td>
<td></td>
<td>Bauxite integrated operations centre</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Alumina</th>
<th>Creep &amp; asset utilisation</th>
<th>Energy optimisation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bauxite mix optimisation</td>
<td>Flocculation &amp; additives technology</td>
<td></td>
</tr>
<tr>
<td>Sweetening</td>
<td>Predictive analytics &amp; optimisation in real time</td>
<td></td>
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<tr>
<td>Fixed cost compression</td>
<td>Advanced process control</td>
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</table>

<table>
<thead>
<tr>
<th>Aluminium</th>
<th>Creep</th>
<th>Automated anode change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fixed cost compression</td>
<td>Advanced process control</td>
<td></td>
</tr>
<tr>
<td>Casthouse utilisation</td>
<td>Autonomous metal / anode transport</td>
<td></td>
</tr>
<tr>
<td>Aluminium Operations Centre - predictive analytics &amp; optimisation in real-time</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Aluminium to deliver additional free cash flow of ~$0.5 billion per year from 2021
Increasing returns on bauxite and alumina

Managed bauxite production
Million tonnes

Maximising value from our existing bauxite operations
- Production track record: Weipa 6% p.a. / Gove 8% p.a.
- Maximising value-in-use by customer
- Value over volume, optionality post-Amrun

Alumina productivity: maximising use of installed capacity
- Production track record: 10% p.a. since 2011
- Labour reduction > 20%
- Advanced process control

2018 production guidance
- 49 to 51Mt bauxite as East Weipa transitions to Amrun
- 8.0 to 8.2Mt alumina
Asset performance drives next phase of productivity

Leveraging Rio Tinto
- Weipa: rail expertise to unlock system capacity (higher speeds and wagon loads)
- Gove: asset management expertise to unlock throughput (plant reliability)
- Integrated Operations Centre: systems and expertise to give overall bauxite system view to unlock full potential

Applying advanced analytics through systems enhancements
- Improved data coverage, software and connectivity enabling real-time decision making
- Dynamic asset health assessment focused on debottlenecking entire supply chain
Smelters creeping at 1% per annum, double industry average

Amperage creeping history

<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>2007</td>
<td>2017</td>
<td>+14%</td>
<td>2007</td>
<td>2017</td>
<td>+10%</td>
<td></td>
</tr>
<tr>
<td>2007</td>
<td>2017</td>
<td>+10%</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>2007</td>
<td>2017</td>
<td>+7%</td>
<td></td>
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</tbody>
</table>

Long history of cutting-edge smelter productivity
- Industry-leading technology, expertise and innovation
- Creep innovation the engine of technology productivity

Low capital intensity, high-return investments
- Productivity growth on installed asset base
- Deep pipeline of next wave improvement levers

Canadian brownfield growth options
- Alma, AP60 … value over volume

2018 production guidance
- 3.5 to 3.7Mt aluminium
Technology, process intelligence and expertise underpin our competitive advantage

**Industry-leading technology**
- AP Technology
- APxe low energy consumption
- Spent potlining valorisation

**Process intelligence**
- Advanced control systems
- Anode resistivity measurement
- Integrated casthouse management system

**Skills & expertise**
- Technology and product development
- Academic and industry collaboration
- Customer technical partnership

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Analytics and integrated operations drive the next wave of productivity

Data analytics
- Anode traceability
- Anode spike predictive detection
- Asset health monitoring

Automation
- Anode change
- Automated Guided Vehicle logistics
- Casting process optimisation

Integrated Operations
- Real-time process optimisation & integration
- Hydropower Control Centre
- Aluminium Operations Centre

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Enhancing margins through VAP

Value added product (VAP) enhances margins
- VAP 57% of portfolio, targeting >70%
- Additional revenue $217 per tonne
- Cumulative free cash flow improvement of $0.3bn by 2021

Further scope to grow margins through commercial excellence
- Customer partnerships: North American automotive light-weighting
- Market differentiation
  - RenewAl™ low CO₂ aluminium
  - Proximity and reliability
  - Technology and product development

Rio Tinto VAP product mix

<table>
<thead>
<tr>
<th>Product</th>
<th>Premium ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Slab</td>
<td>199</td>
</tr>
<tr>
<td>Billet</td>
<td>250</td>
</tr>
<tr>
<td>Foundry</td>
<td>180</td>
</tr>
<tr>
<td>High Purity</td>
<td>159</td>
</tr>
<tr>
<td>Rod &amp; Others</td>
<td>341</td>
</tr>
</tbody>
</table>

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Strong outlook, value delivery through productivity and growth options

Strong demand outlook

China supply-side turning point

World-class first quartile assets

Near-term growth from productivity and commercial

Option-ready growth in bauxite and aluminium

~$0.5 billion additional free cash flow per year from 2021 ...

- Hot metal and bauxite creep
- VAP volume & mix
- Integrated operations
- Value chain optimisation
- Value-in-use optimisation
- Asset productivity

... offsetting raw material headwinds
Rio Tinto

Investor Seminar

Sydney, 4 December 2017

J-S Jacques | chief executive
Achieving $1.5bn of productivity improvements a year from 2021 ($5bn cumulative)

<table>
<thead>
<tr>
<th>Indicative exit rate</th>
<th>Iron Ore</th>
<th>Aluminium</th>
<th>Copper &amp; Diamonds</th>
<th>Energy &amp; Minerals</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$0.5 billion</td>
<td>$0.5 billion</td>
<td>$0.15 billion</td>
<td>$0.35 billion</td>
</tr>
</tbody>
</table>

**Outlining the key initiatives**

**Iron Ore**
- **Rail system optimisation**
  - AutoHaul™
  - Productivity improvement
  - System maintenance
- **Automation**
  - Trucks, including retrofit
  - Drills
- **Scheduling and planning optimisation**
- **Best practice replication**

**Aluminium**
- Hot metal and bauxite creep
- VAP volume & mix
- Integrated operations
- Value chain optimisation
- Value-in-use optimisation
- Asset productivity

**Copper & Diamonds**
- **Mining**
  - Rio Tinto Kennecott south wall pushback
  - Diavik A21 development
- **Processing Focus Areas**
  - Kennecott concentrator and smelter
  - Argyle ore handling system
  - Diavik diamond recovery
- **Maintenance tactics**
  - Lightweight beds
  - Shorter haul cycle times
- **Integrated Operations**
  - Roll out of mobile platform

**Energy & Minerals**
- **Coal**
  - Underground development and open pit productivity improvements
- **Borates**
  - Refinery reliability improvement
- **RTIT**
  - Restoring smelter capacity, increasing smelter utilisation
- **IOC**
  - Concentrator and pellet plant reliability improvement

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A track record of sector-leading delivery

Reduced costs
Operating, exploration and evaluation cost reductions achieved by 30 June 2017 vs 2012

$8.2bn

Reduced net debt
Since net debt peaked at 30 June 2013

$14.5bn

Recycling capital via divestments
Divestments\(^1\) completed since January 2013

$7.9bn

Materially increased cash returns
Dividends and buy-backs in 2017\(^2\) compared to 2012

by 40%
Maintaining a disciplined and consistent strategy

World-class assets
Portfolio

Operating excellence
Performance

Capabilities
People & Partners

Superior cash generation

Disciplined capital allocation

Balance sheet strength
Superior shareholder returns
Compelling growth

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2018 guidance

**Iron Ore:** Pilbara shipments 330-340 Mt (100% basis)

**Aluminium:** 49-51 Mt bauxite, 8.0-8.2 Mt alumina, 3.5-3.7 Mt aluminium

**Copper & Diamonds:** 510-610 kt mined copper, 225-265 kt refined copper, 17-20 Mcts diamonds

**Coal:** 7.5-8.5 Mt hard coking, 3.8-4.5 Mt thermal

**IOC:** 11.5-12.5 Mt iron ore pellets and concentrate

**TiO₂, borates, uranium:** 1.2-1.4 Mt TiO₂ slag, 0.5 Mt boric acid equivalent, 6.2-7.2 Mlbs uranium
### Volumes relevant for productivity

<table>
<thead>
<tr>
<th>Project</th>
<th>Capex type</th>
<th>In</th>
<th>Out</th>
</tr>
</thead>
<tbody>
<tr>
<td>OT underground</td>
<td>Growth</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>OT open pit</td>
<td>N/A</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Amrun</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Weipa replacement</td>
<td>Replacement</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>- Incremental up to design capacity</td>
<td>Growth</td>
<td>✓</td>
<td>X</td>
</tr>
<tr>
<td>- Incremental in excess of design capacity</td>
<td></td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Pilbara</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Growth pre-AutoHaul™ completion</td>
<td>Growth</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>- Incremental post completion of AutoHaul™</td>
<td></td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Kennecott</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- South wall pushback</td>
<td>Replacement</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Escondida</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- All volumes excluded</td>
<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
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