

An aerial photograph of a long iron ore train winding through a dry, hilly landscape. The train consists of several locomotives at the front, followed by a long line of white and yellow railcars. The terrain is arid with sparse green and yellow vegetation. In the background, a large, prominent hill rises under a blue sky with scattered clouds. A semi-transparent white box is overlaid on the left side of the image, containing text.

RioTinto

Iron Ore – Delivering value from flexibility and optionality

Chris Salisbury

Iron Ore chief executive

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Supporting statements

Mineral Resources and Ore Reserves

The Mineral Resource and Ore Reserve estimates which appear on slide 36 are reported on a 100% basis. Mineral Resources are reported as additional to Ore Reserves. These Mineral Resource and Ore Reserve estimates, together with the ownership percentages for each joint venture were set out in the Mineral Resource and Ore Reserve statements in the 2013 to 2017 Rio Tinto annual reports to shareholders released to the market on 14 March 2014, 6 March 2015, 3 March 2016, 2 March 2017 and 2 March 2018 respectively. The Competent Persons responsible for reporting of those Mineral Resources and Ore Reserves were B Sommerville (Resources 2013-2017), P Savory (Resources 2013 - 2017) and A Bertram (2017), L Fouche (Reserves 2013-2014), A Do (Reserves 2015), C Tabb (Reserve 2013 - 2017) and R Verma (Reserves 2017).

Rio Tinto is not aware of any new information or data that materially affects the above estimates for 2017 as reported in the 2017 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.

Our value over volume strategy maximises free cash flow

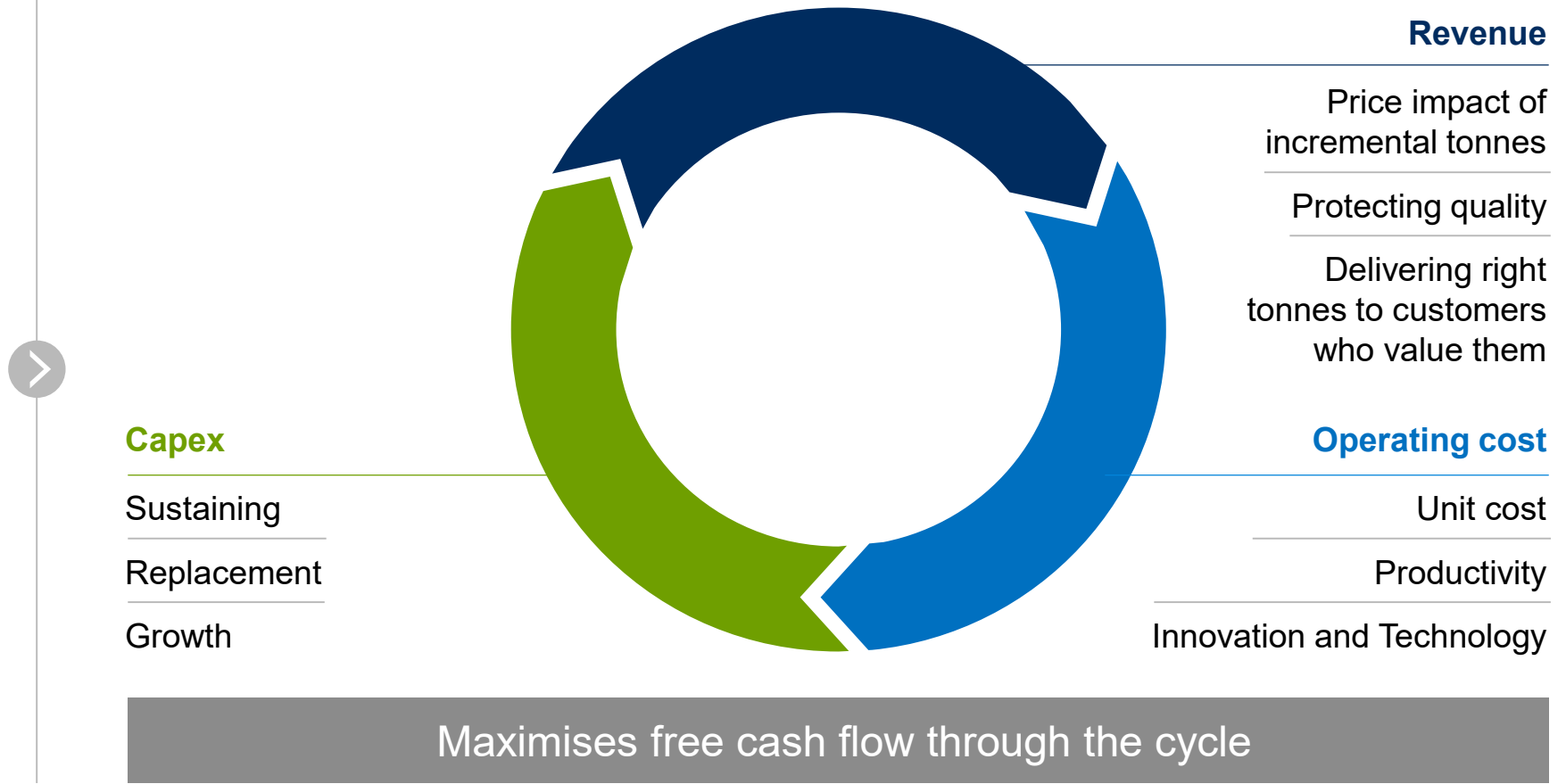
Foundations

Exclusive fully integrated system

Highly valued product suite and significant resources

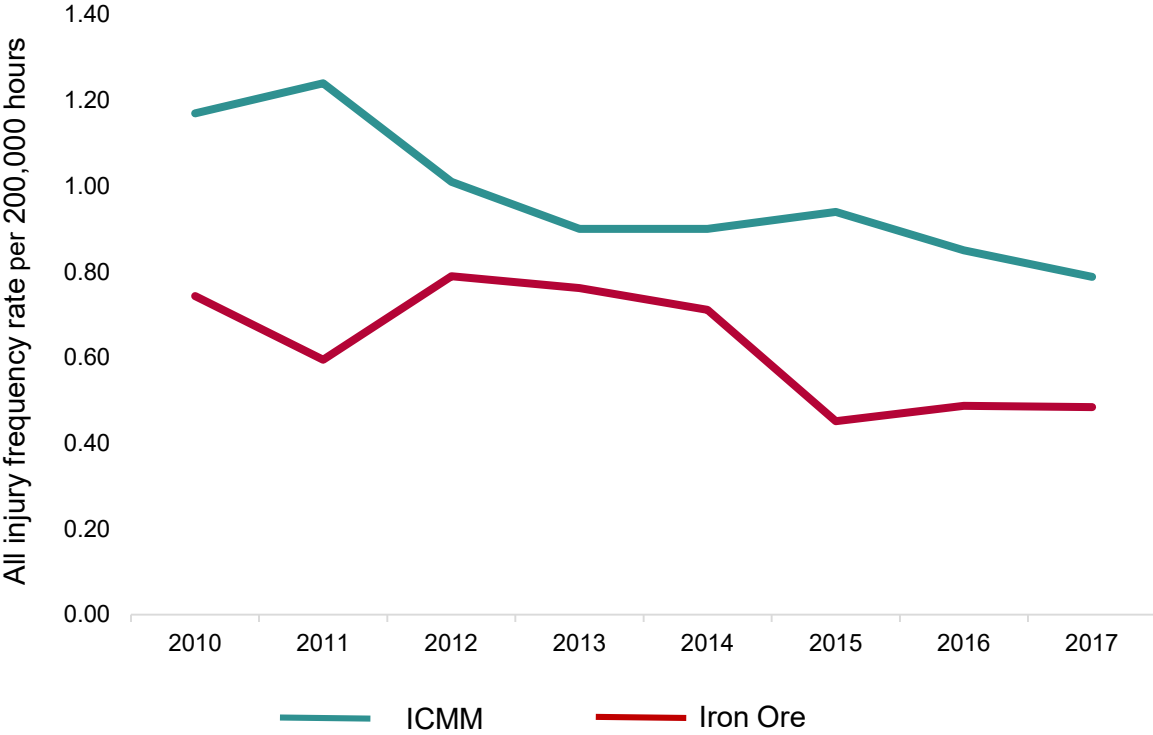
Quality people and partners driving innovation

Value over Volume Strategy



Health and safety come first

Strong safety performance



Focusing on fatality elimination – 265,000 CRM verifications completed in Iron Ore in 2017

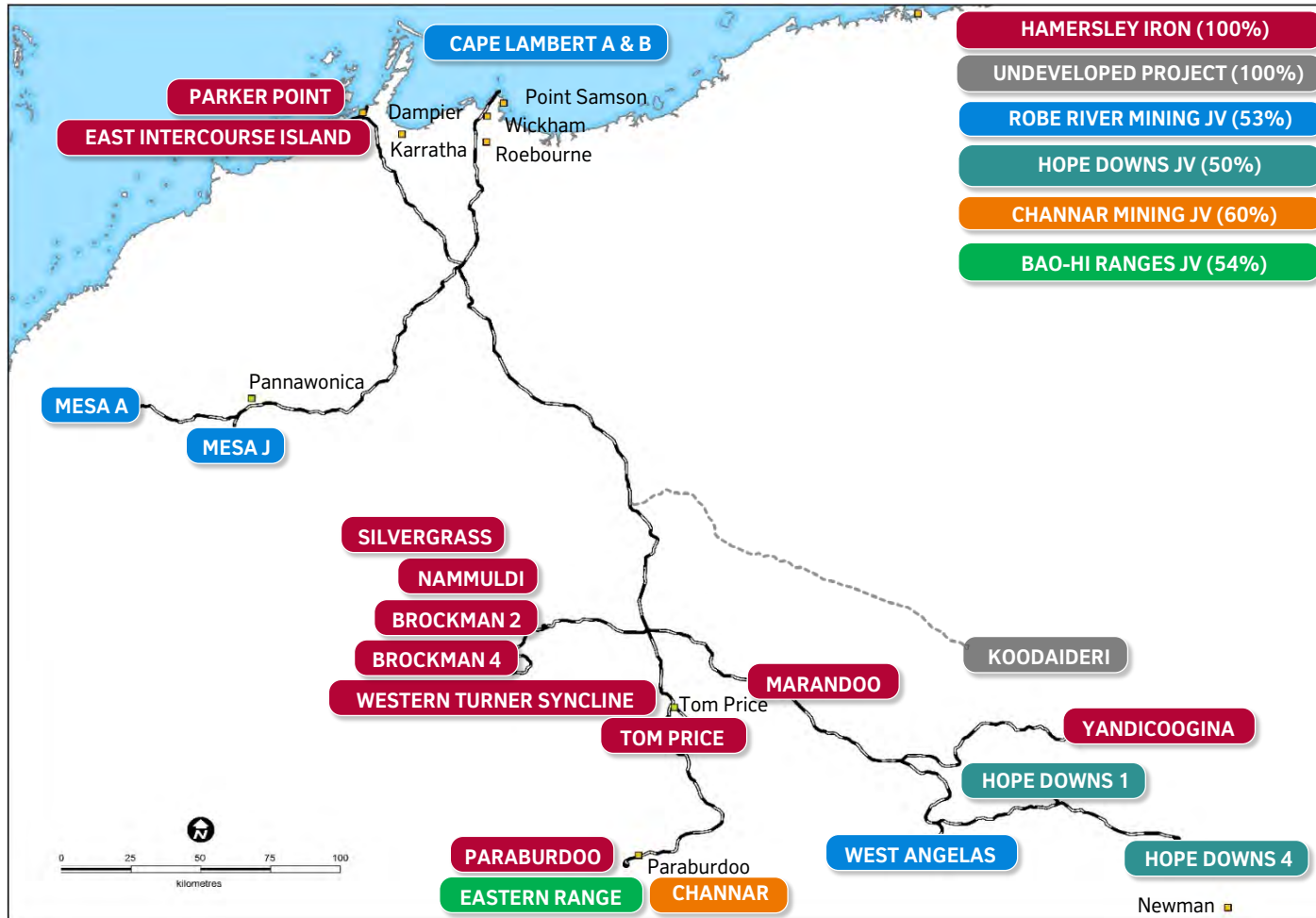
Reducing injuries – targeted hazard elimination

Catastrophic event prevention through control of major hazards

Mental health, well being and fatigue management

Underpinned by engagement, leadership and productivity initiatives

World class assets, fully integrated and agile network



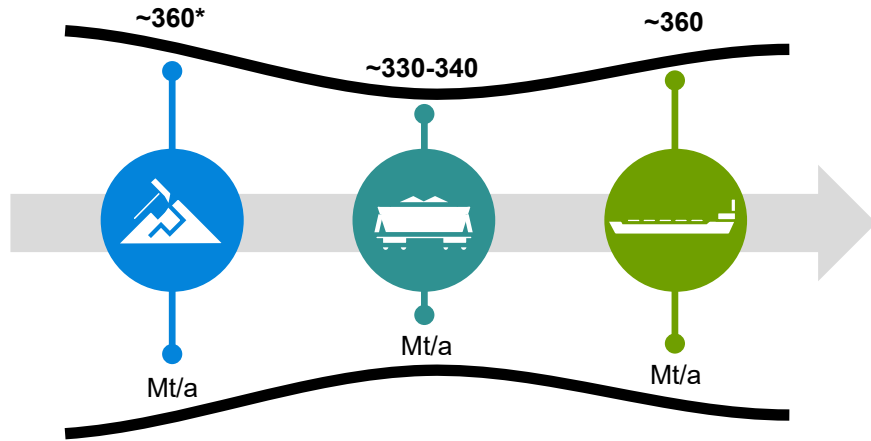
- HAMERSLEY IRON (100%)
- UNDEVELOPED PROJECT (100%)
- ROBE RIVER MINING JV (53%)
- HOPE DOWNS JV (50%)
- CHANNAR MINING JV (60%)
- BAO-HI RANGES JV (54%)

16	Mines
1,700	Rail (km)
4	Port terminals
4	Power stations
>370	Haul trucks
95	Autonomous haul trucks
55	Production drills
11	Autonomous drills
>200	Locomotives
> 100	Global customers



Priority remains to optimise infrastructure capacity and build flexibility

Current system capacity

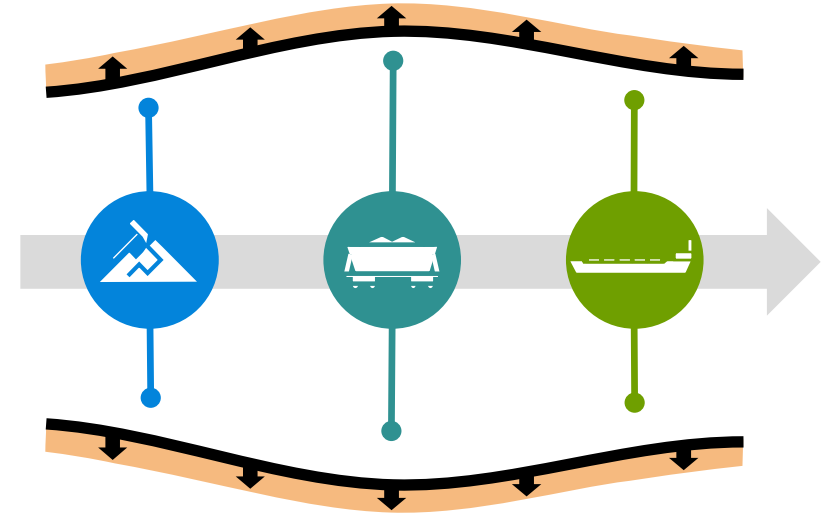


Building rail capacity to provide dynamic flexibility

Mine capacity of ~360Mtpa, with Silvergrass fully ramped up and productivity gains

2018 shipments guidance is in a range of 330 – 340Mt

Future system capacity



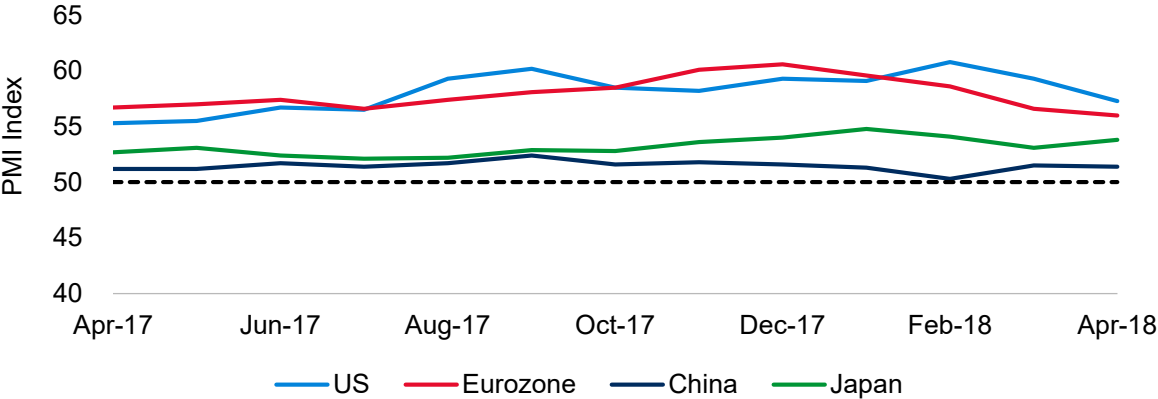
Rail and mine capacity expected to match nameplate port capacity by the end of 2019

Market driven to meet customer demand

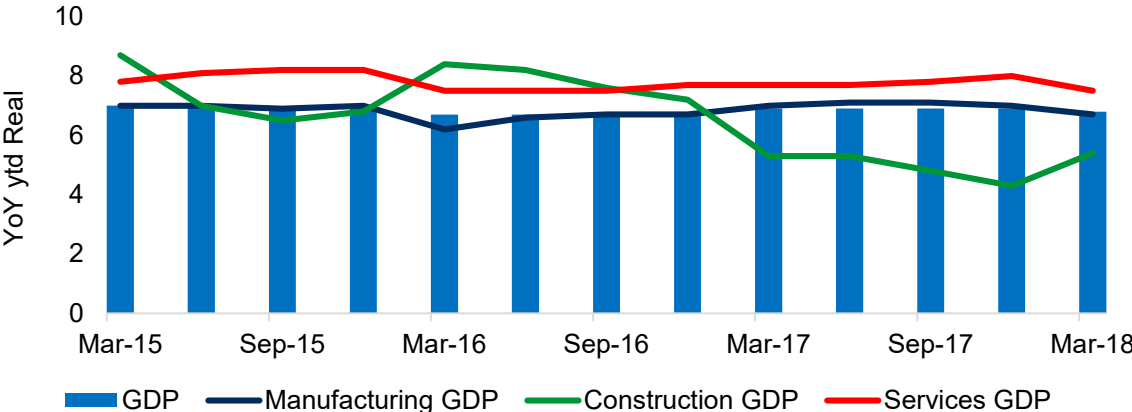
Optimise and test port capacity

Global macro indicators remain supportive

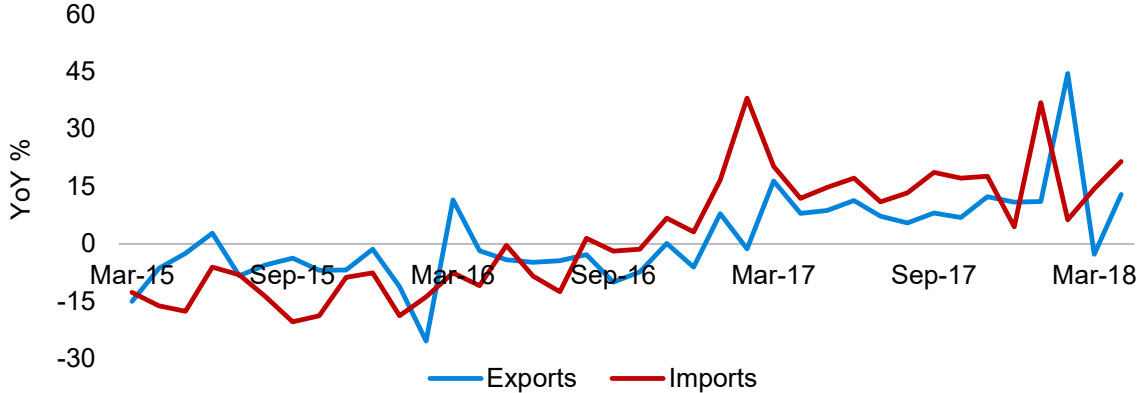
Global PMIs have eased but remain in expansion



Chinese growth slowing very gradually



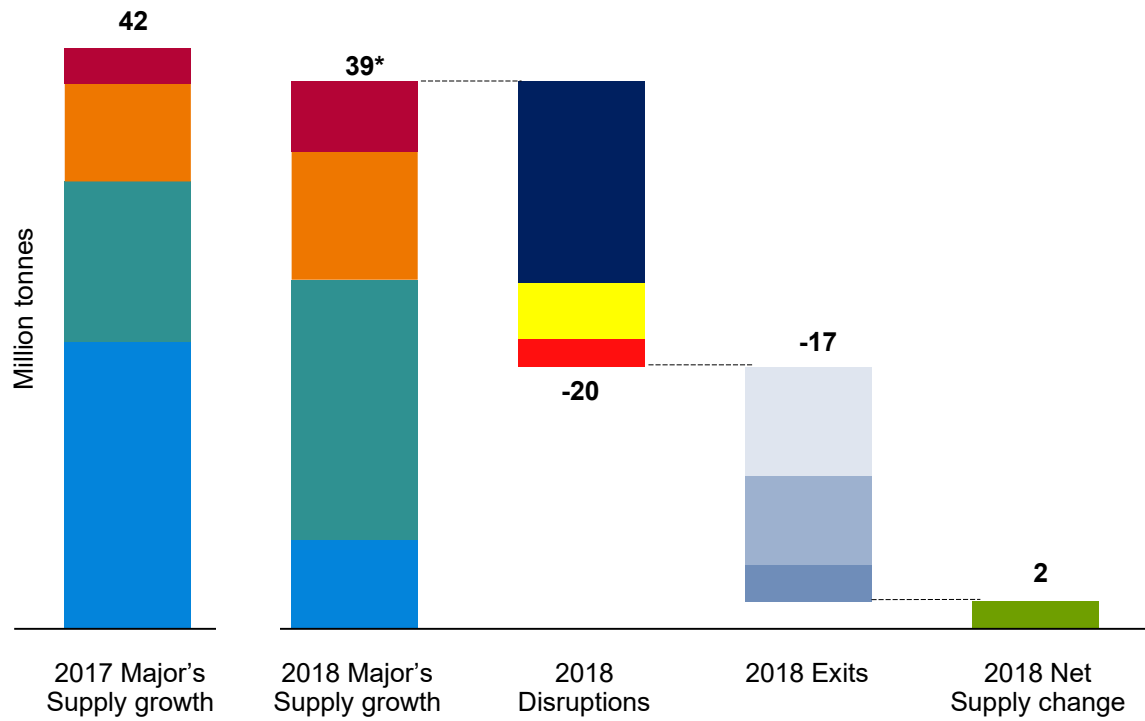
Recovery in global demand positive for China's exports



- Trade tensions unlikely to materially affect steel demand
- Controlled deceleration in Chinese growth from high rates in 2017
- Chinese environmental policies and productivity measures supporting demand for higher grade iron ore
- Strong external demand for Chinese exports despite increase in trade tensions

Seaborne supply response remains muted...

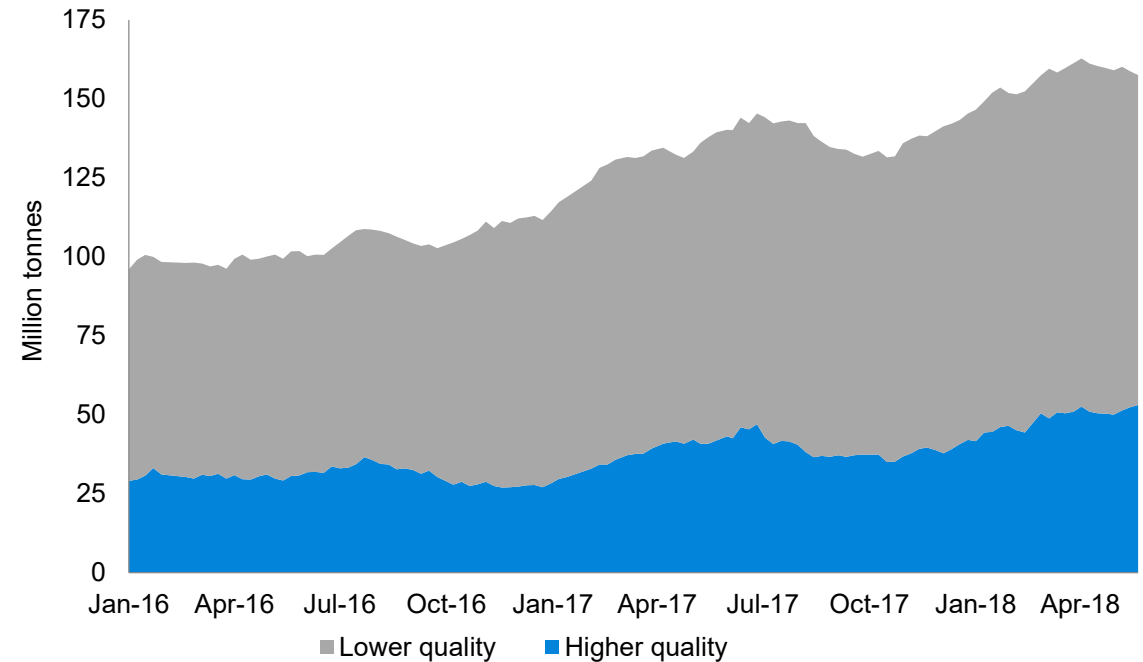
2018 seaborne supply additions offset by disruptions and exits



* Rio Tinto 2018 additions assumes midpoint of full year guidance at 335 Mt

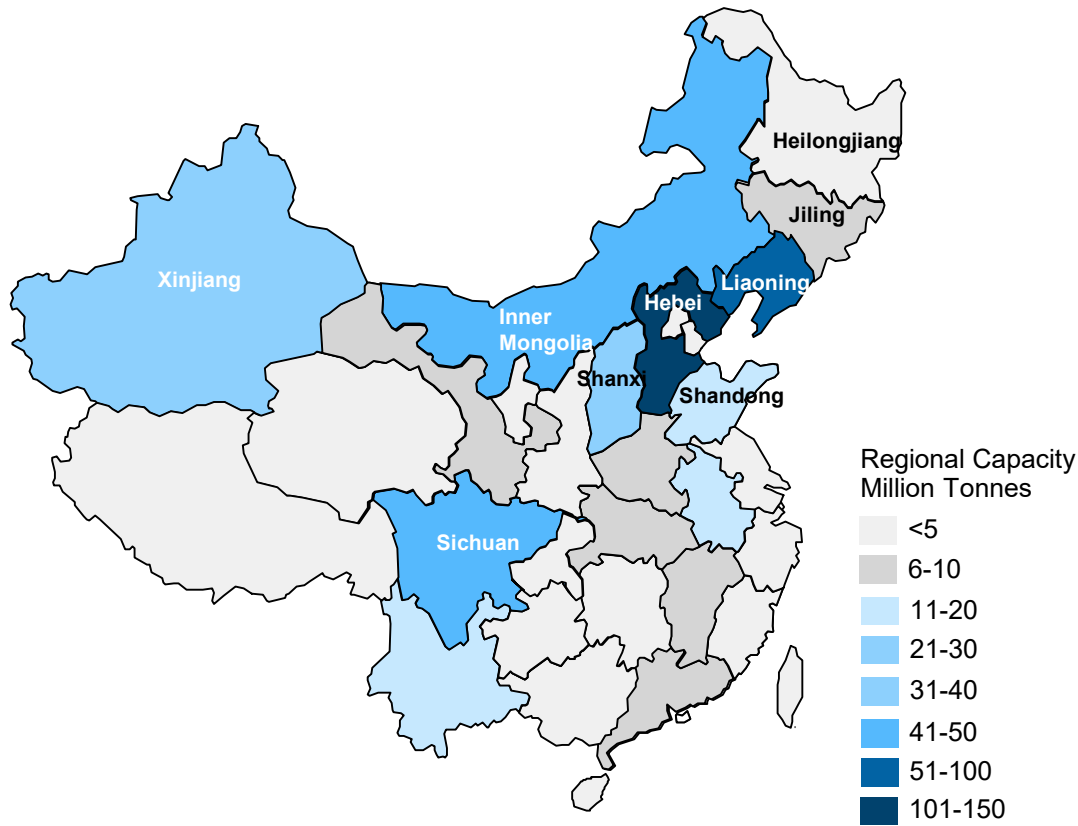
- Rio Tinto
- BHP
- Minas Rio
- Cliffs
- Atlas
- IOC
- Vale
- Roy Hill
- Tonkolili
- India

Rise in inventories driven by lower quality iron ore

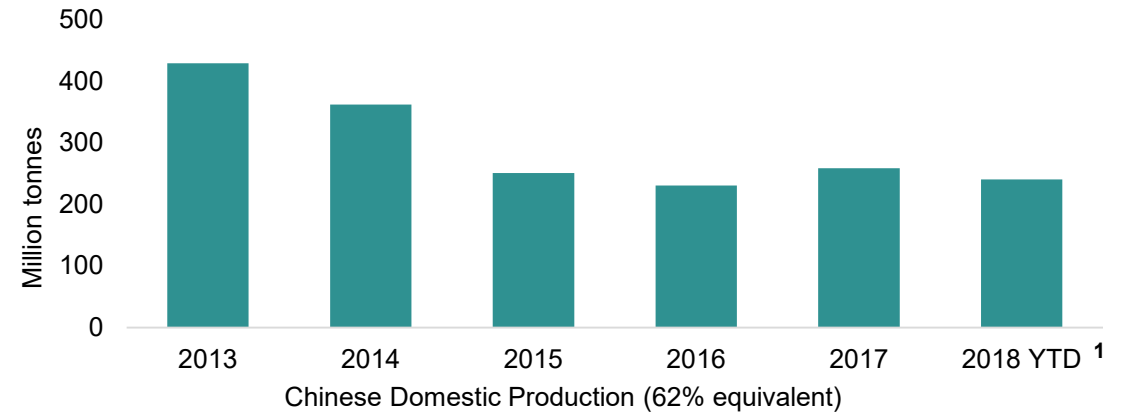


...and Chinese domestic production remains steady

Most Chinese domestic capacity is geographically removed from the steel mills...

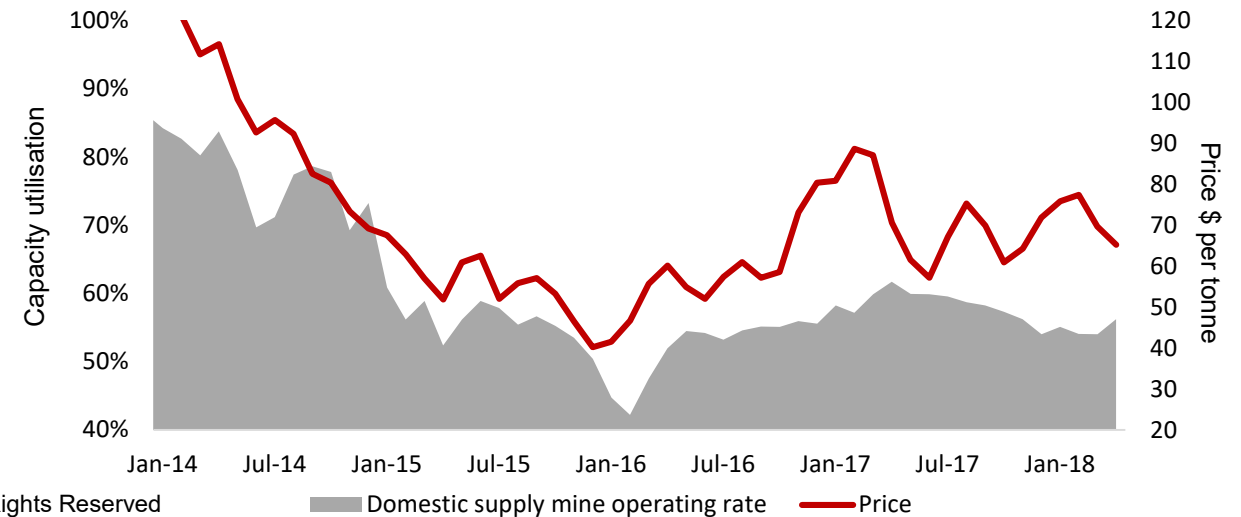


...Chinese domestic production has remained steady...



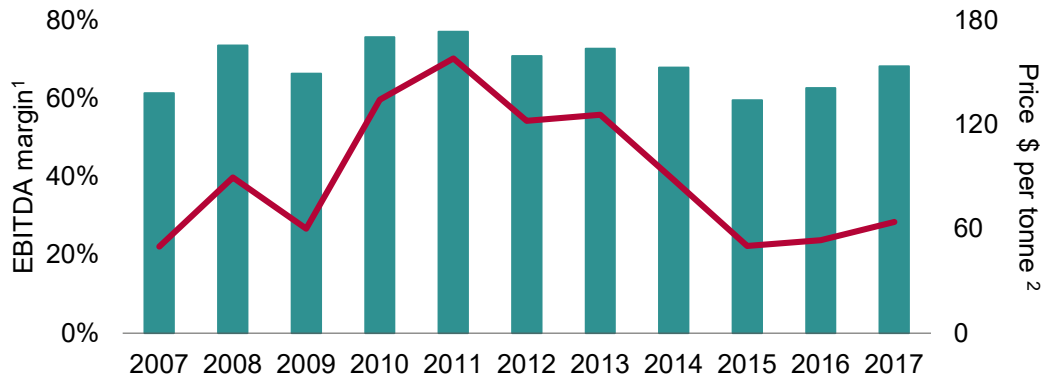
¹ YTD annualised January – April 2018

...and its elasticity to price is reducing

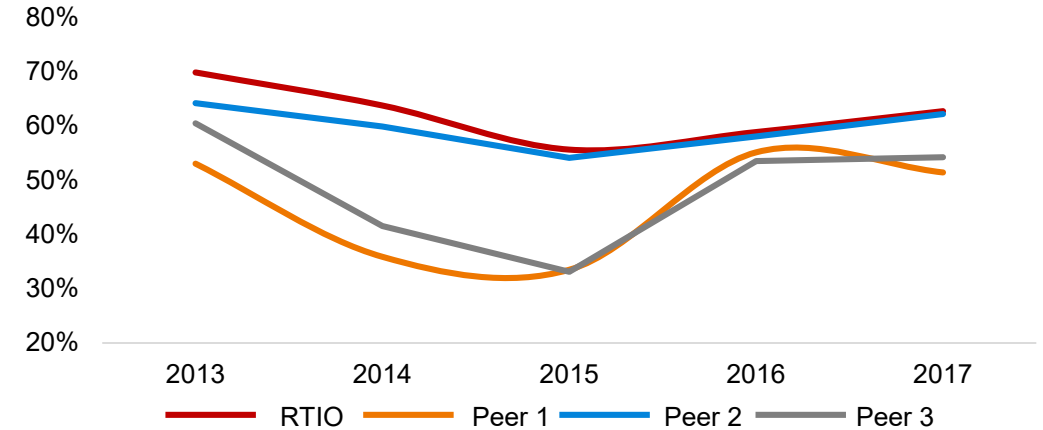


Our Iron Ore business consistently generates superior margins

Rio Tinto Iron Ore EBITDA performance

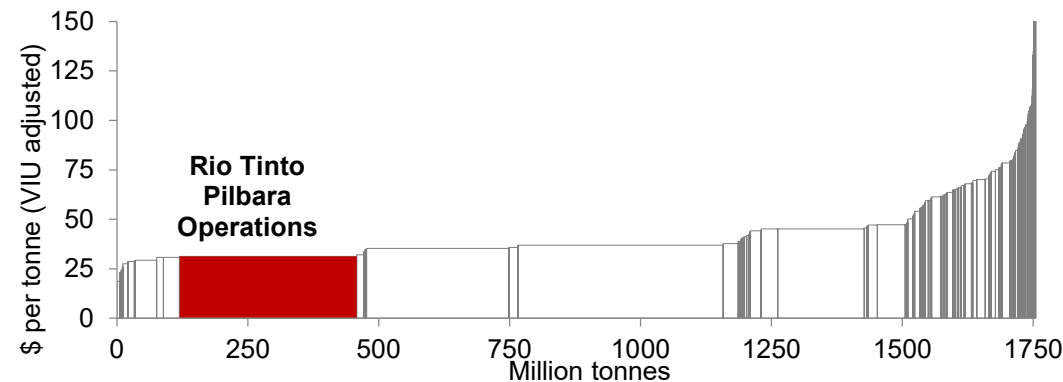


EBITDA Margin v Peers



2018 Seaborne iron ore cash costs by operator

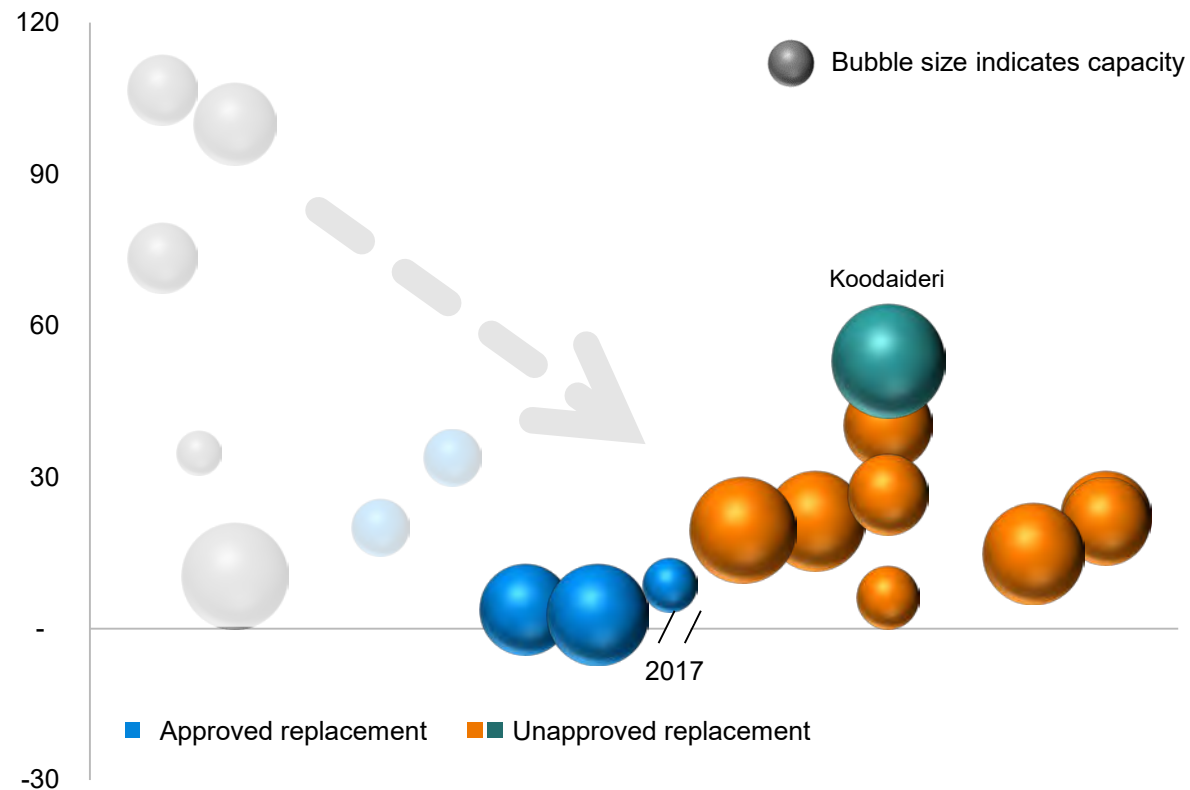
CFR China, 62% Fe fines equivalent



Multiple low cost, value accretive capital options

Pilbara development options

\$ per tonne installed capital intensity



Sustaining capex of ~\$1 billion per year for the next three years

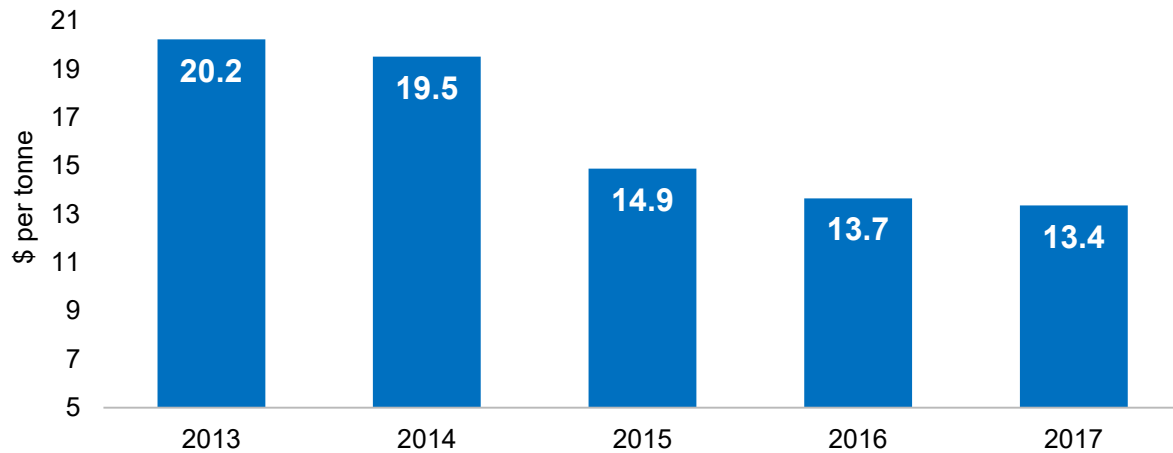
Pilbara replacement mines capital 2018 – 2020 of ~\$2.2 billion includes West Angelas, Robe Valley and Koodaideri development from 2019

Koodaideri underpins Pilbara Blend, low cost operations and capacity optionality

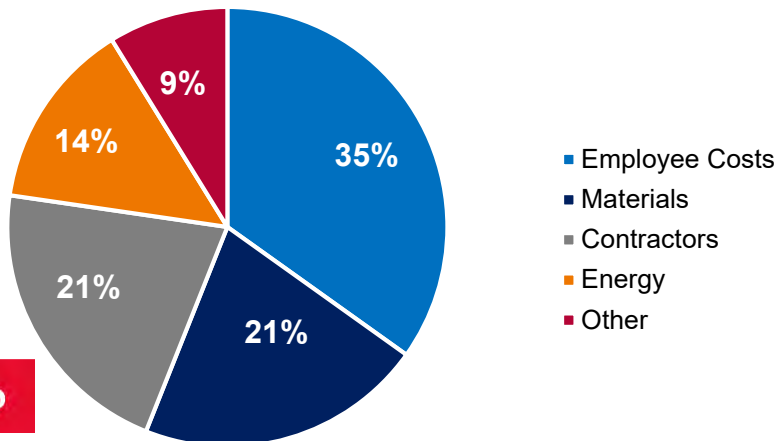
Post-Koodaideri replacement options are expected to be lower capital intensity and will leverage off existing infrastructure

Sustainable long term, low cost position underpinned by our world class assets

Pilbara cash unit cost



Breakdown of 2017 Pilbara costs



Headwinds in 2018:

- Haul distance
- Bulk materials
- Labour costs
- Contractor costs
- Cyclical maintenance costs

Cyclical maintenance costs, partly offset by new tactics

>4,500 productivity improvement initiatives

Productivity options to continue to deliver cash benefits



Best Practice



Partnering with Suppliers



Data & Technology



Automation



Effective equipment utilisation and maintenance optimisation	Mine planning optimisation	Payload optimisation	
	Explosives charging improvements		
Autonomous trucks (including retro-fit)			
Autonomous drills			
Yard improvements and scheduling		Next generation train control	
Dumping improvements	Track maintenance strategy		
Track maintenance		Brake car elimination	
Consist reliability	AutoHaul®		
	Roll by rail detection		
	Operations Centre optimisation		
	Inter-machine control loops	Automated inspections	
	Productivity monitoring apps		
Asset health monitoring		Ore sensitive dumper settings	
Debottlenecking opportunities			



Iron Ore to deliver additional free cash flow of ~\$0.5 billion per year from 2021

Supported by our people and partners

Valued customer relationships
built on technical knowledge
and product quality



11,500 employees driving
sustainable productivity and
cost improvements



Local procurement
Over 1,000 WA suppliers
provided with business



Rio Tinto paid \$1.3 billion
of royalties in Western Australia in
2017



Strong community,
joint venture partners and
technology partners

Iron Ore is consistently generating superior shareholder returns

Market led strategy

Clear strategy of value over volume - focused on delivering value for decades to come

Productivity and value focused

Disciplined embedded process for delivery of improvement in volume and productivity

Low capital developments

Attractive low capital intensity for sustaining mine developments

Sector leading returns

A world class asset base generating sector leading returns

RioTinto

Sales and Marketing

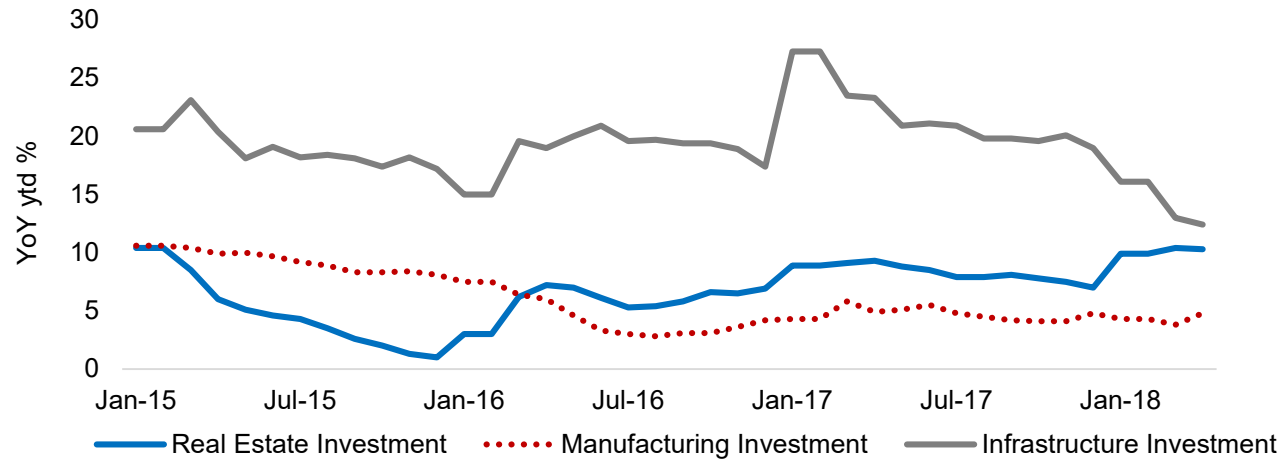
Simon Farry

Vice President, Sales and Marketing

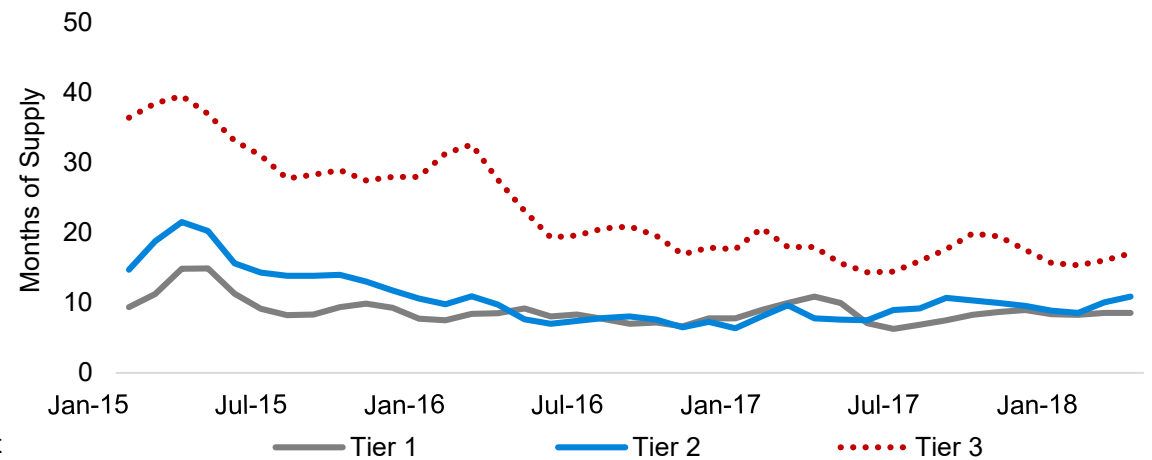


Controlled deceleration in Chinese growth

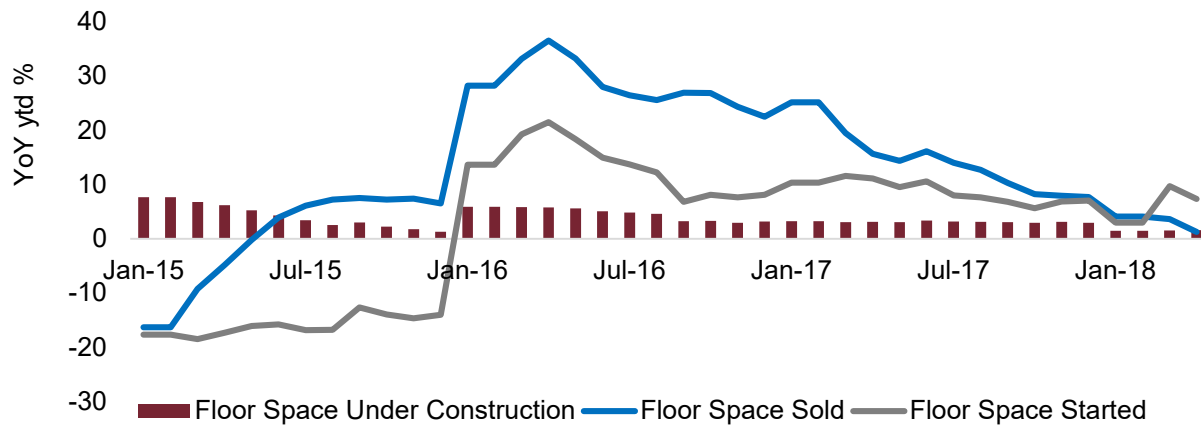
Infrastructure investment slowing but remains robust



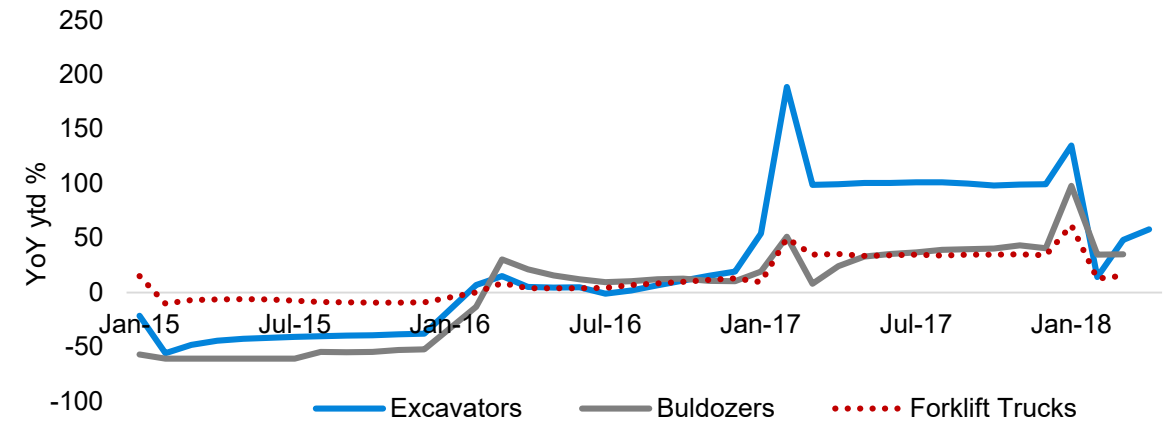
Housing inventories are very low...



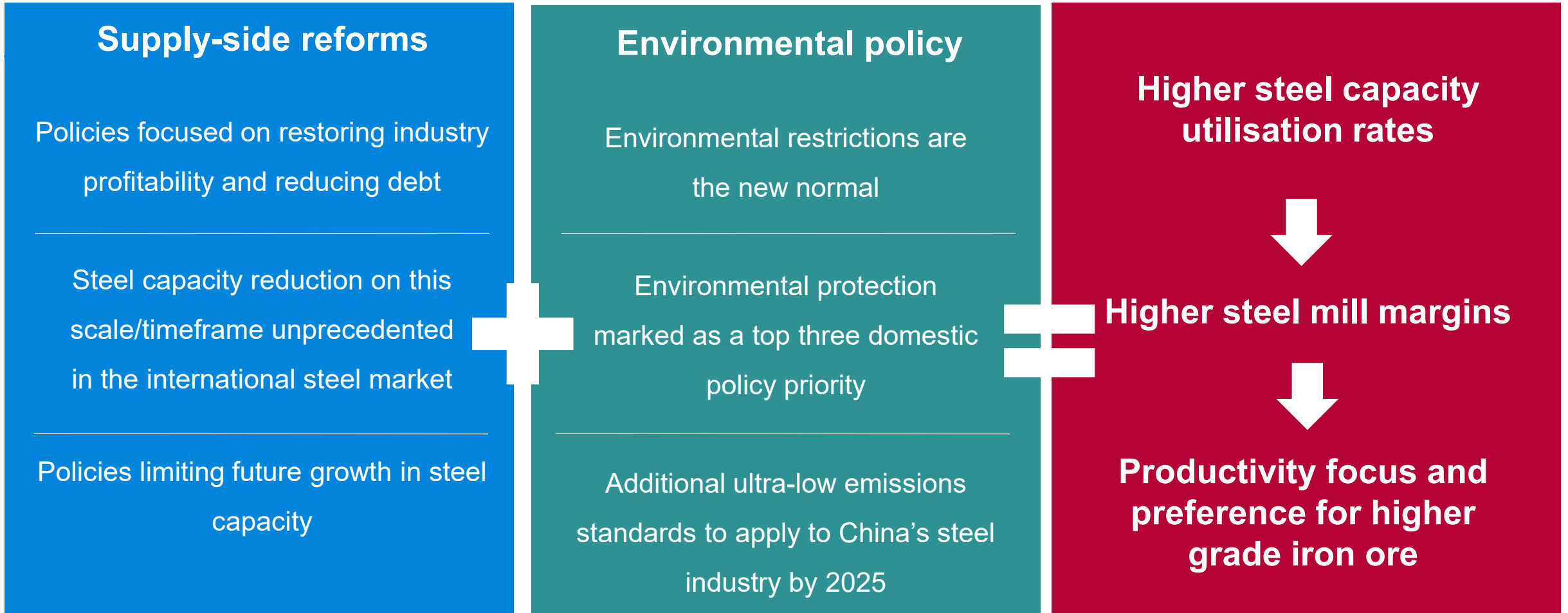
...leading to strong growth in housing starts



Heavy machinery sales remain strong

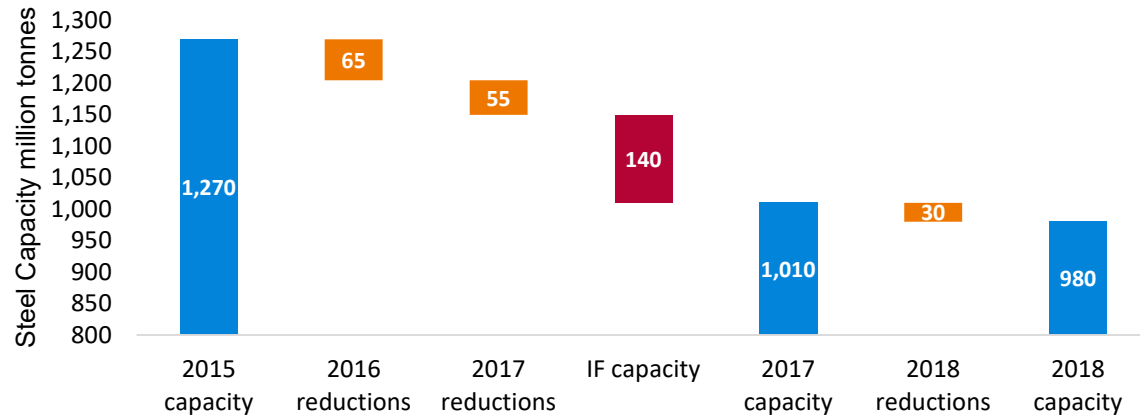


Supply-side reform and tightening environmental policy have driven structural changes

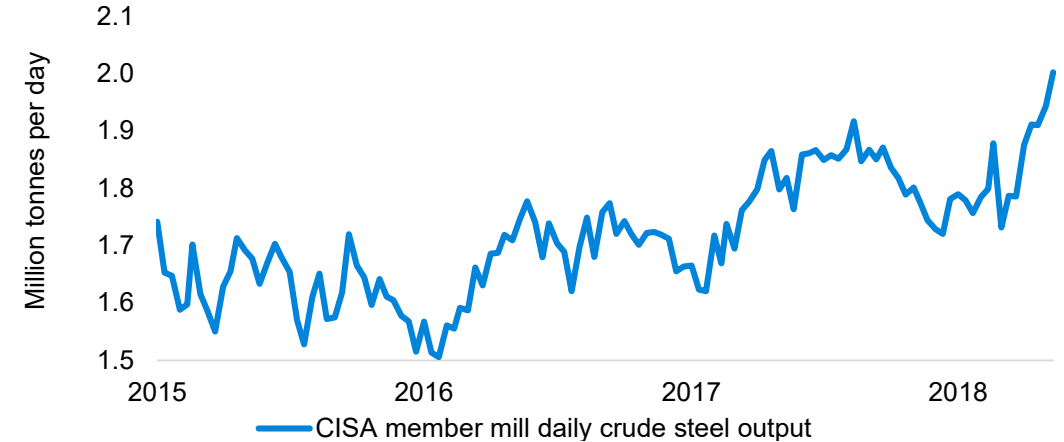


China's supply-side reform and environmental policies have created a more efficient industry...

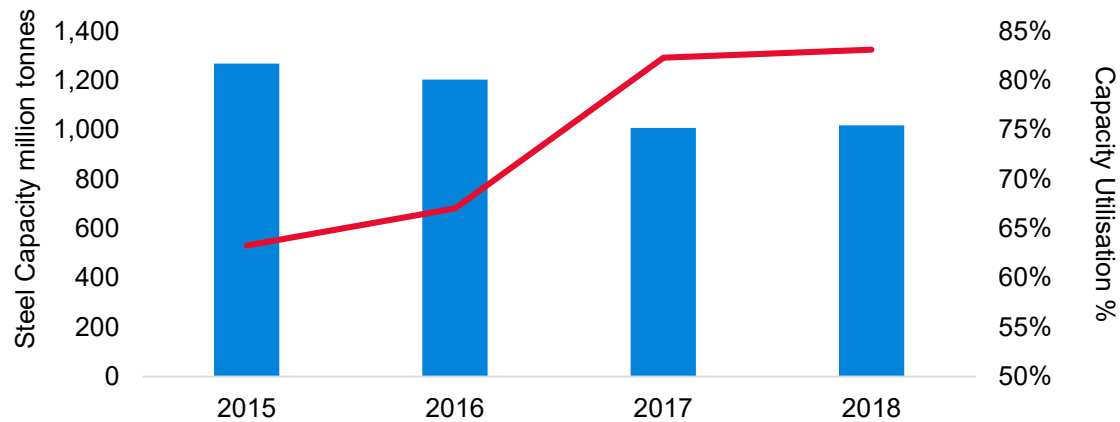
Steel mill rationalisation programme has removed significant capacity...



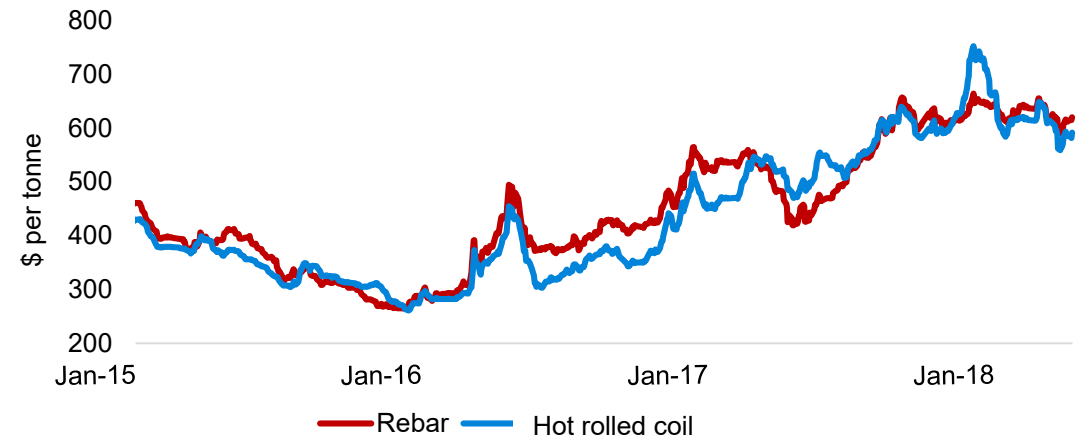
...while steel production has remained robust...



...driving record steel mill utilisation rates...

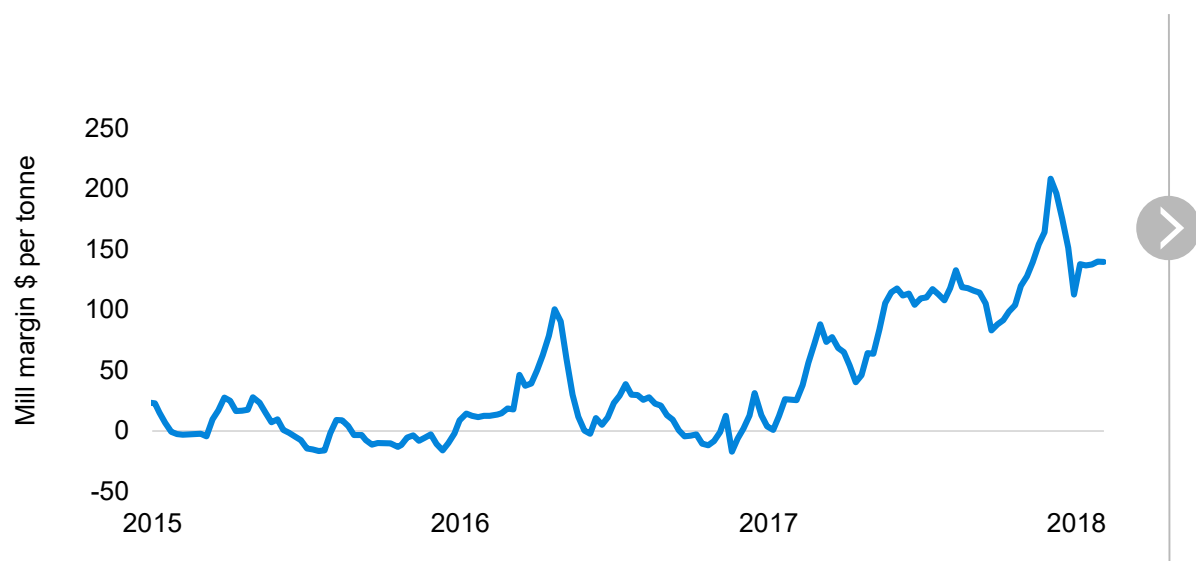


...and higher steel prices

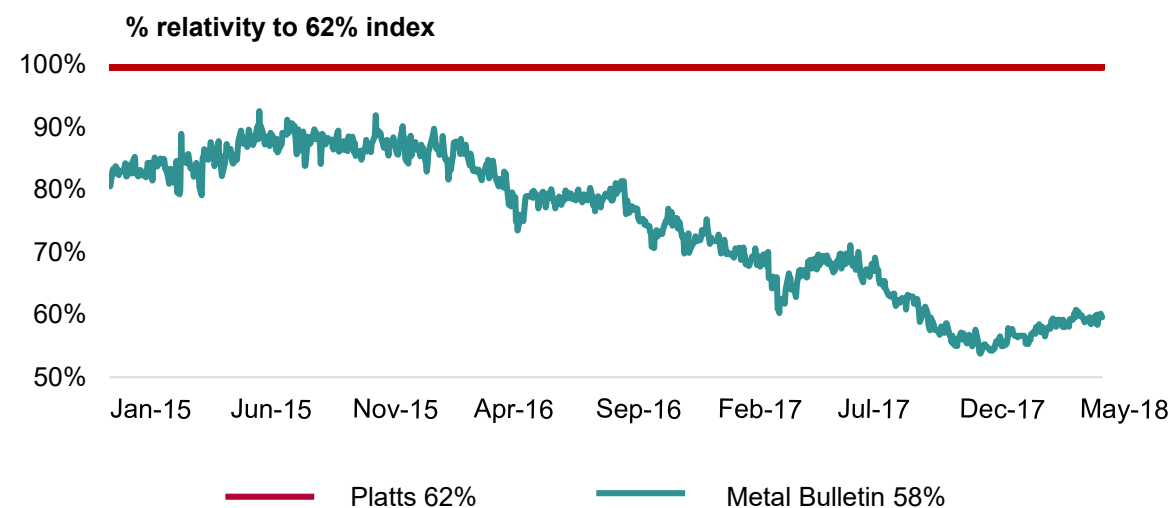


...causing a structural shift towards productivity

Improvement in Chinese steel industry profitability...



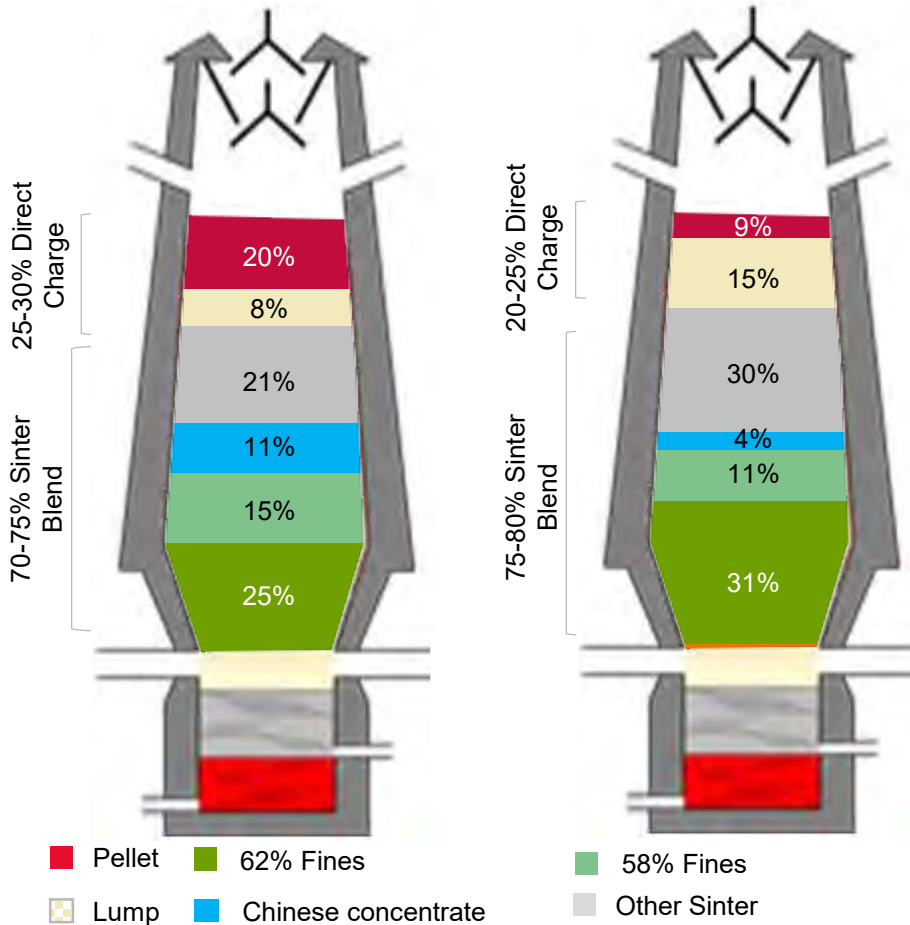
... and the focus on productivity has caused structural widening in iron ore premiums



Northern China is driving structural change to iron ore pricing

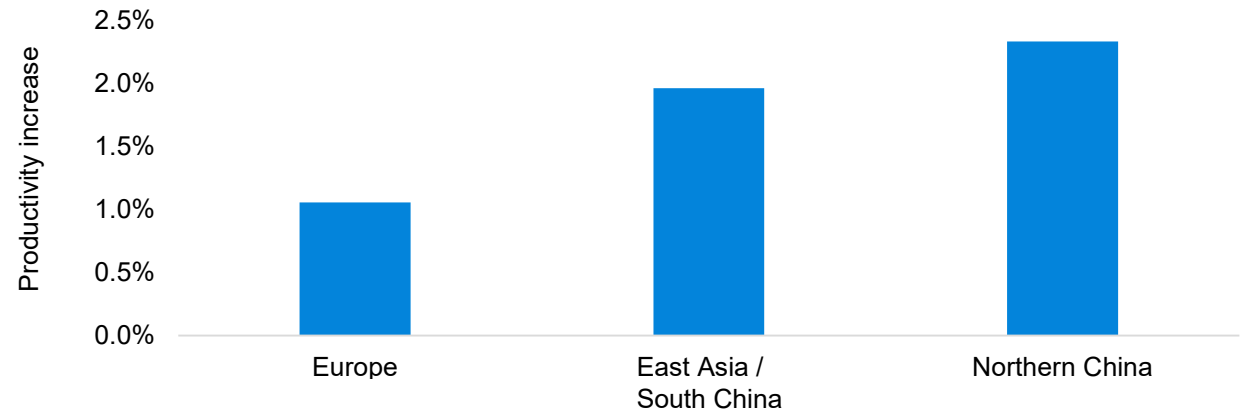
Typical North China

Typical South China



Northern Chinese mills are most sensitive to changes in Fe grade

Blast furnace productivity increase for a 1% increase in iron burden



~2/3 of Chinese capacity is in the north and is key for price formation

Access to higher quality domestic concentrates and pellets allows North China mills to consume more lower grade seaborne iron ore

Recent environmental restrictions have reduced North China sinter capacity and enhanced the value of higher grade iron ore

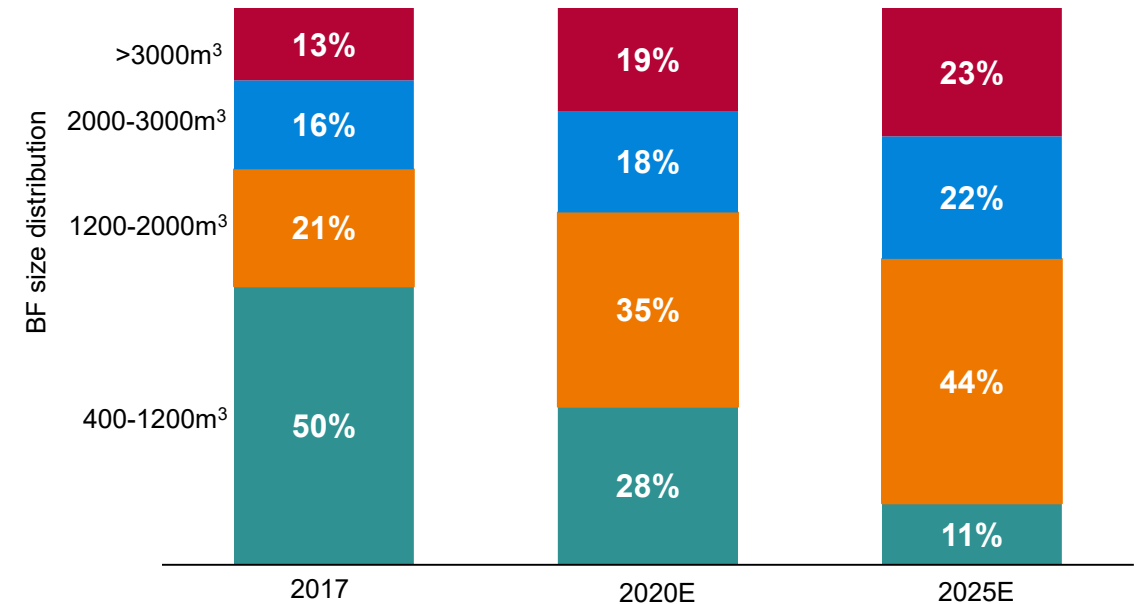
China's supply-side reforms are here to stay and will continue to be driven by tightening environmental policy

Southern and Coastal regions destination for replacement steel capacity – well located for seaborne iron ore ...



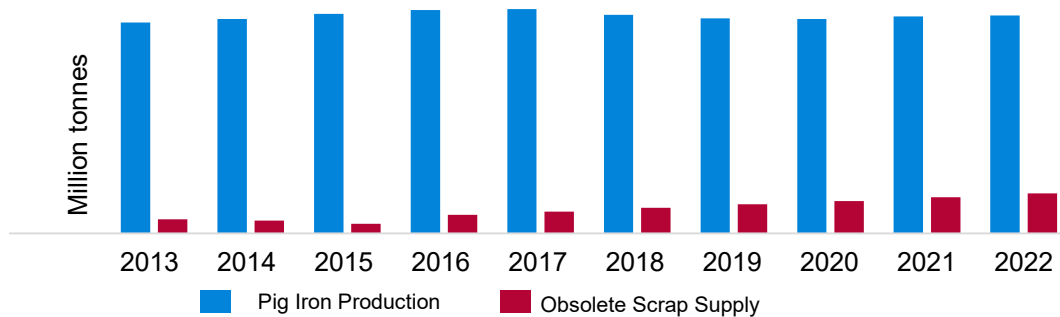
- Environmentally sensitive areas (ESA), where steel capacity required to decline
- Capacity new and replacement area
- Provincial BF capacity > 30Mt
- 15Mt < Provincial BF capacity < 30Mt
- Provincial BF capacity < 15Mt
- Share of small BF capacity (<1200M³) >50%

... and replacement capacity will be larger and cleaner blast furnaces

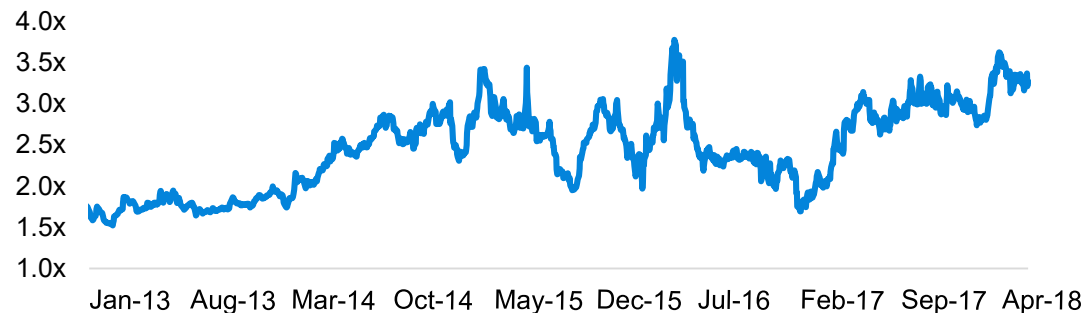


Scrap usage in China gradually increasing from a low base, but will face headwinds

China's scrap supply growing slowly from a low base



Increased scrap usage in BOF has increased scrap to iron ore price ratio



Headwinds limiting scrap consumption:

Scrap to iron ore price ratio has risen to historic highs

Scrap quality is low

Scrap handling and transport bottlenecks

Higher electricity costs

Rio Tinto Commercial bridges our customers and our assets



Rio Tinto's commercial hub now established in Singapore, combining sales and marketing, procurement, and marine and logistics

Iron Ore Sales & Marketing team strategically located to provide deep customer and market insights:

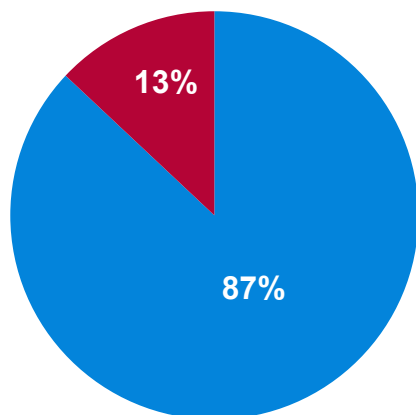
- Headquarters in Singapore
- Customer-facing teams in our regional offices in China, Japan, Korea and Europe
- Technical marketing teams located close to our customers (regional offices) and close to our assets (Perth)

We have a Tier 1 customer base

2017 shipments by country/region



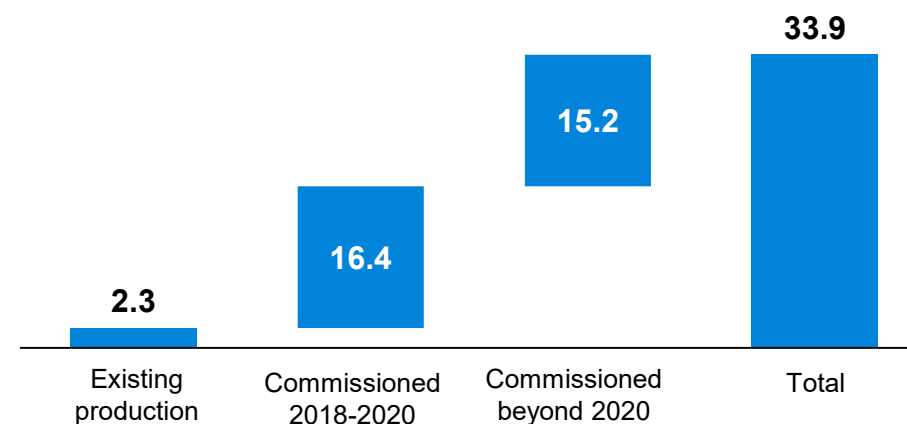
30 largest steel mills in Asia



■ Rio Tinto supplied
 ■ Non-Rio Tinto supplied

Well positioned to supply emerging iron ore demand in South East Asia

Upcoming Blast Furnace capacity in ASEAN (Million tonnes)



We understand every customer is different

Technical



Operations and technical constraints and process efficiency

Stockyard and screening capacity

Sinter and pellet capacity

Coke production and quality

PCI and operating practices

Geographical



Logistics and supply chain

Proximity to deep water ports

Costs and quality of fluxes

Seasonal factors

Regulatory



Environmental exposure and restrictions

Energy caps / limitations

By-products value, recycle or disposal costs

Strategic



Steel market sector

Production flexibility

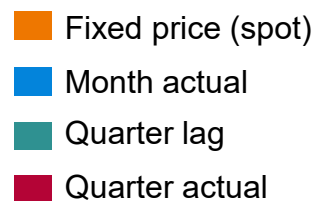
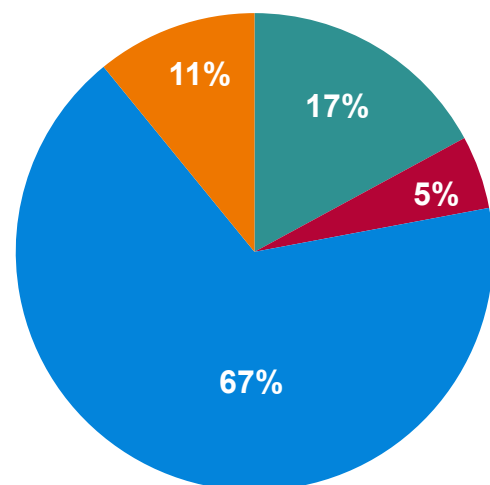
Commercial approach

Supply integration

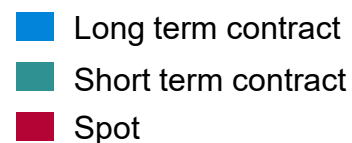
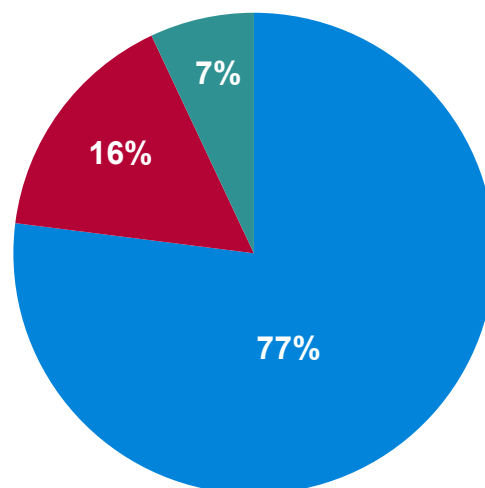
Pricing and contract periods

And we sell our product on different contracts ...

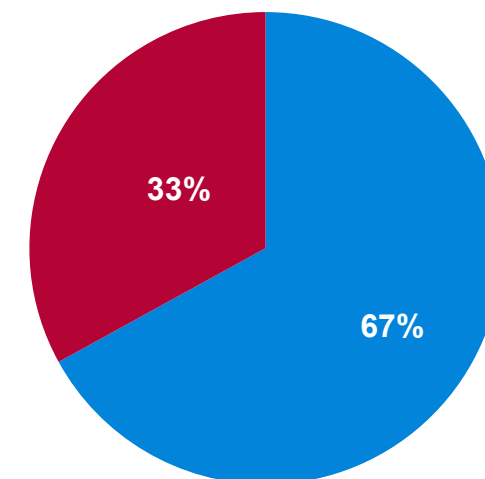
2017 sales by pricing type



2017 sales by contract type



2017 sales by delivery type



... we produce five products in the Pilbara to meet their needs



Pilbara Blend Fines



Pilbara Blend Lump



Yandicoogina Fines



Robe Valley Fines



Robe Valley Lump



2017 shipments by product



■ Pilbara Blend Fines
 ■ Pilbara Blend Lump
 ■ Yandicoogina Fines
 ■ Robe Valley Fines
 ■ Robe Valley Lump

Pilbara Blend is the world's most recognised brand of iron ore



Pilbara Blend Fines

Pricing

Reference product for the 62% indices

Most traded physical iron ore product

Strengths

Valued for its liquidity, reliability

Market position

Base load sinter blend in China

Pilbara Blend Lump

Pricing

Aligned to 62% fines index plus lump premium

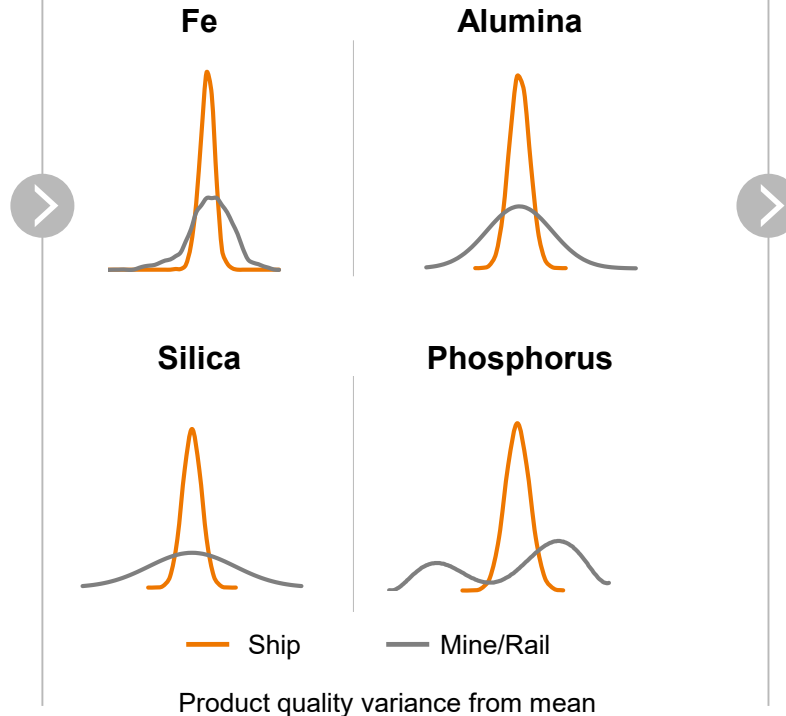
Strengths

Avoids the costs of sintering which will increase with emissions legislation

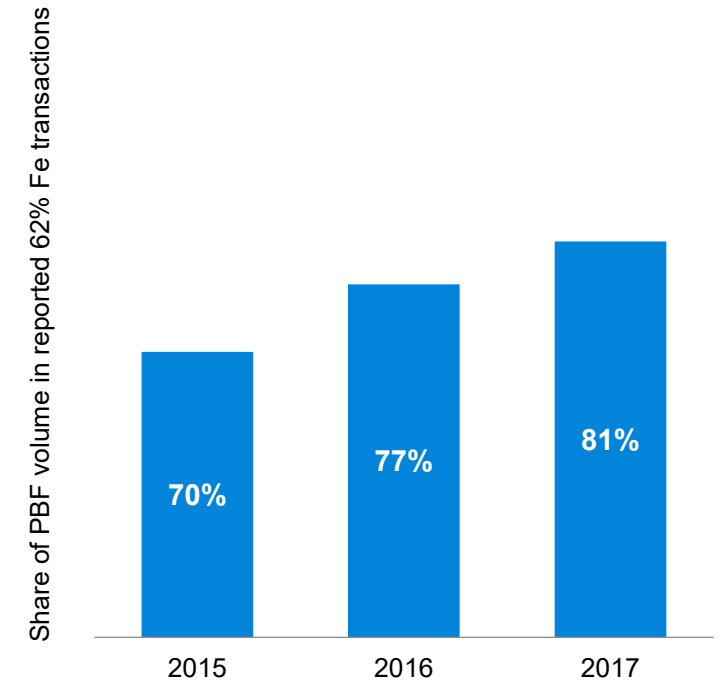
Market position

Most widely available lump product
In demand across most markets and emerging South East Asia

We remove variability for our customers through our blending process



Pilbara Blend Fines is main reference product for the 62% indices



Yandicoogina, Robe Valley products are placed with customers who value them most



Yandicoogina Fines

Pricing
Priced very closely to the 62% index

Strengths
58% Fe but calcines to high Fe Sinter

Low in phosphorus and alumina

Market position
Base load in blends in East Asia and Southern China

Robe Valley Fines

Pricing
Priced against 62% index based on negotiated relativities

Strengths
Coarse sizing aids sinter granulation
Low phosphorus

Market position
Coastal China mills and producers of niche steel in North China

Suitable for steel mills whose basic oxygen furnace (BOF) is the bottleneck

Robe Valley Lump

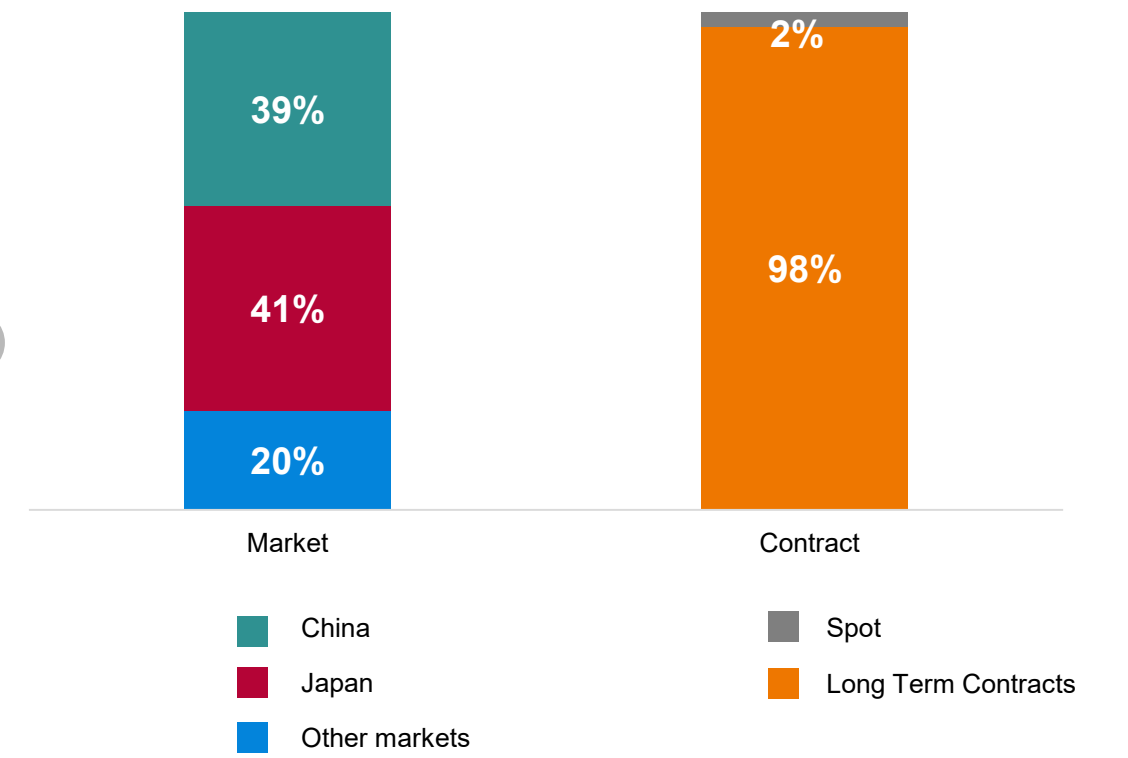
Pricing
Priced against 62% index based on negotiated relativities

Strengths
Low phosphorus

Market position
Producers of niche steel in Japan and Coastal China

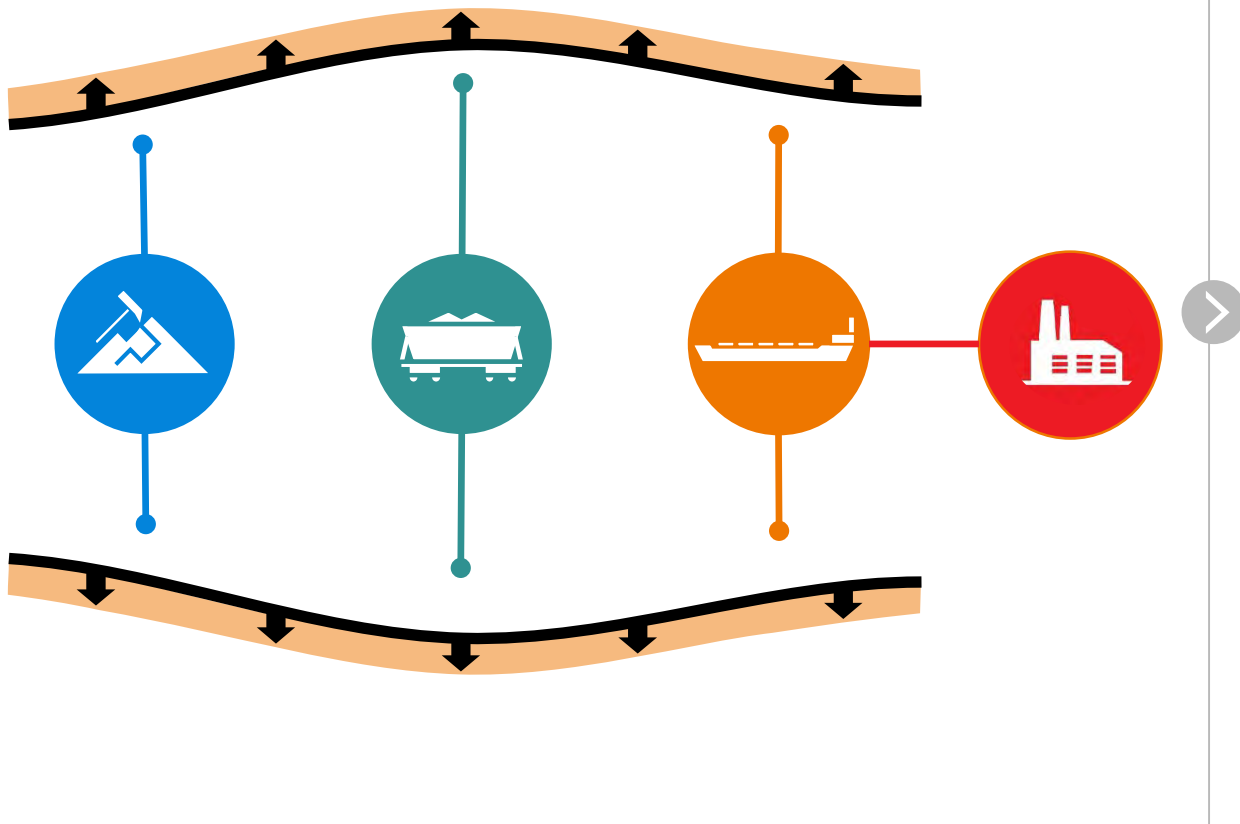
Suitable for steel mills whose BOF is the bottleneck

Total tonnes of Yandicoogina Fines, Robe Valley Fines and Robe Valley lump



Creating a flexible supply chain allows agility to respond to customer needs and market conditions ³²

Future system capacity



Flexing Pilbara Blend Lump shipments in line with market demand and premium cycle

Aligning Yandicoogina fines shipments in line with customer demand

Flexing volume and product mix in line with seasonal demand

Technology will improve the customer experience and generate market insights



Live visual interface between Sales & Marketing in Singapore and the Operations Centre enabling a customer-led supply chain



Robotic technologies to eliminate manual tasks and enhance customer experience



Artificial intelligence and predictive analytics to generate market insights and drive better decisions

Our commercial approach maximises the value of our products

Customer centric organisation

Focused on growing value for all through deep understanding of our customers and the industry

Product portfolio

A suite of highly valued, consistent products

Supply chain optimisation

Right customer, right product, right time

Commercial acumen

Value over volume underpinned by strategic product placement

An aerial photograph of a large-scale open-pit mine. The mine is characterized by numerous terraced levels, or benches, that descend into the earth. A prominent, winding road or conveyor system cuts through the center of the mine, connecting different levels. The surrounding landscape is arid and hilly, with some sparse vegetation. The sky is clear and blue.

RioTinto

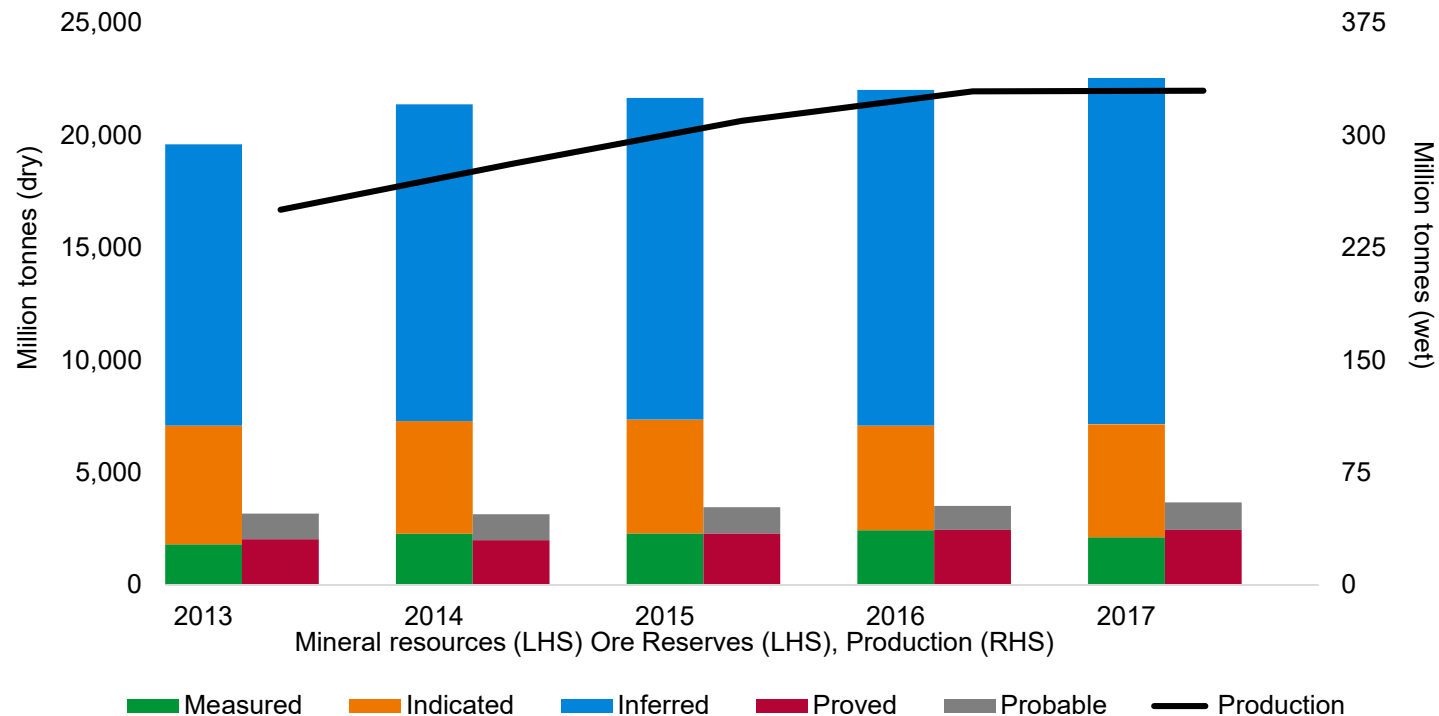
Planning, integration and assets

Kellie Parker

Managing Director, Planning, Integration and Assets

Highly valued product suite, sustained by significant resources

Pilbara resources, reserves¹ and production

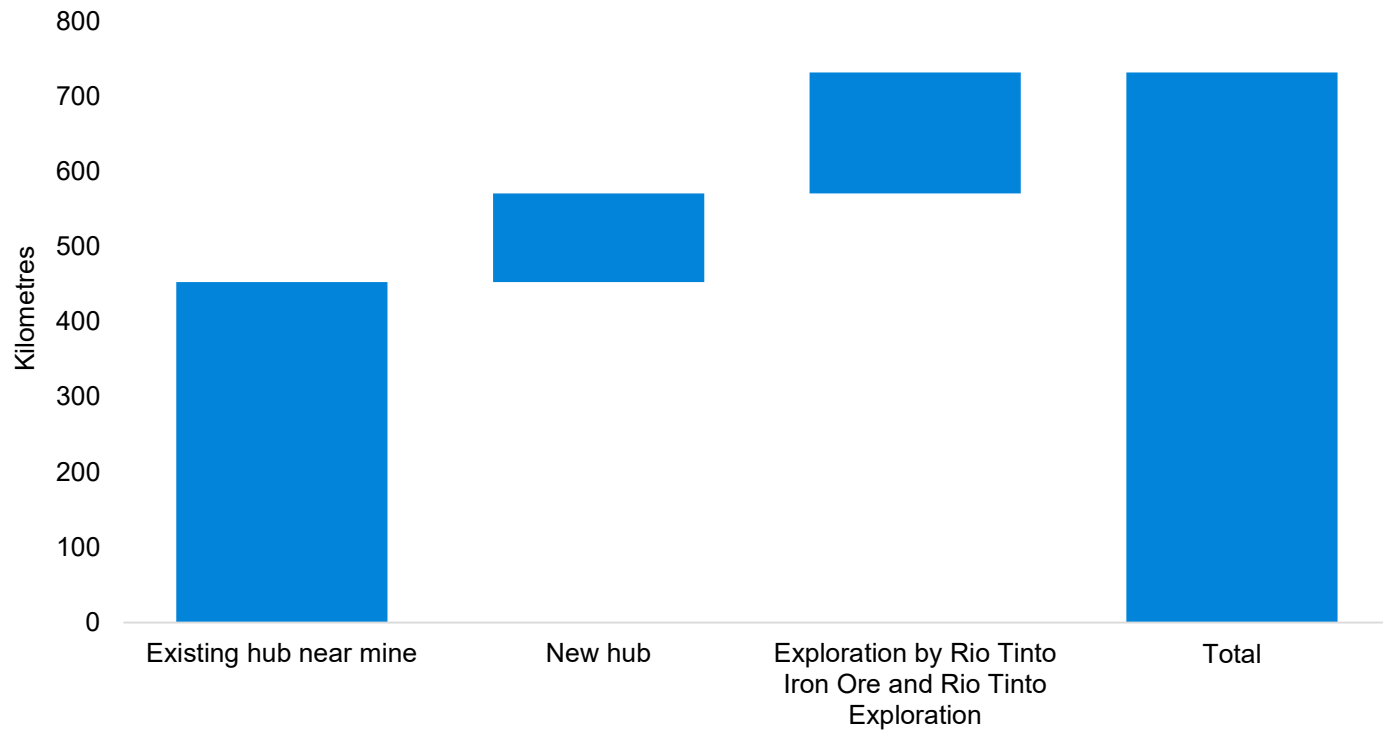


- Large mineral resources support system optionality
- Ore reserves maintained in line with depletion
- Maintaining evaluation drilling and resource development programmes

¹ Refer to the statements supporting these resource and reserve estimates set out on Slide 3

Continuing to grow the pipeline of future resources and exploration options

2018 drilling plan by hub regions



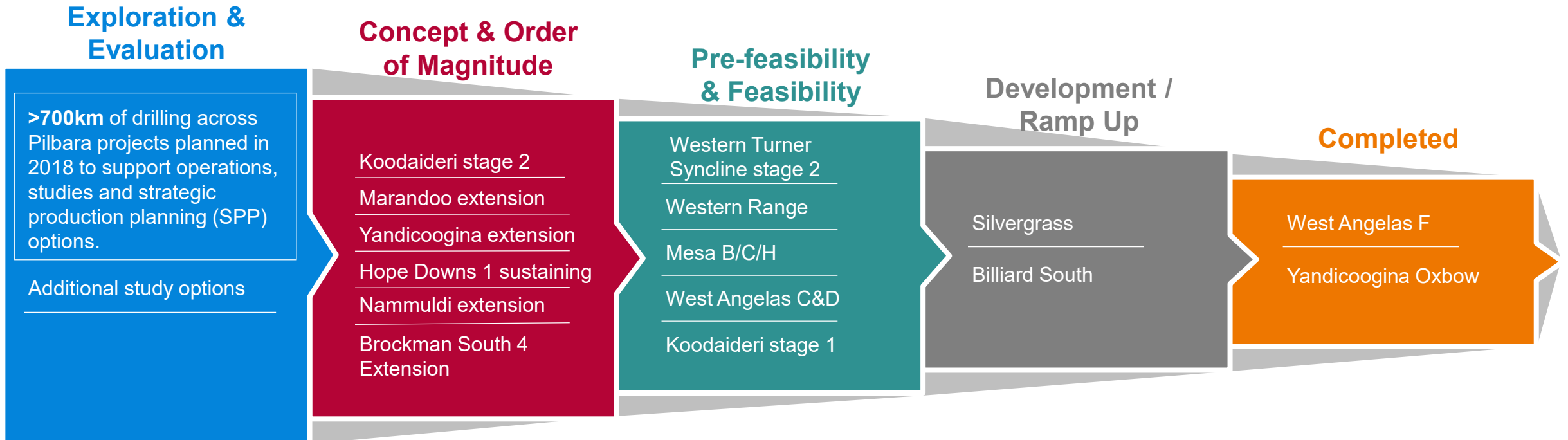
Extensive existing resource base

Drilling focused on evaluating mineralised inventory or conversion to resource

Extensive tenures beyond existing mines

Active exploration to provide future optionality

Extensive pipeline of options



Strategic Production Planning underpins the pipeline:

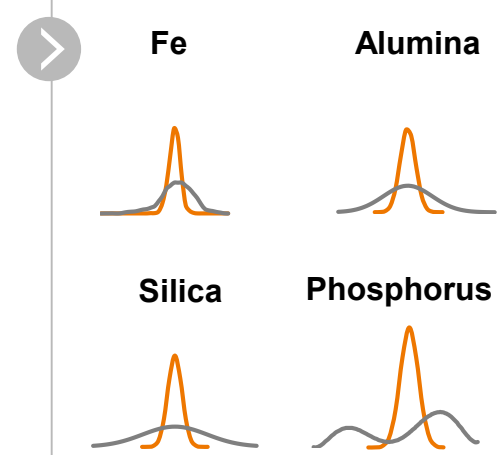
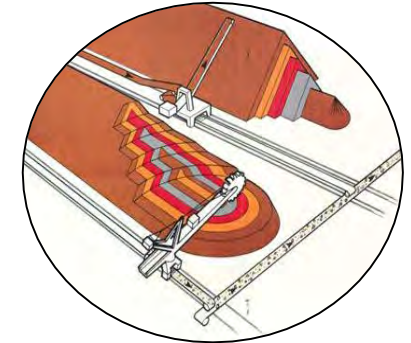
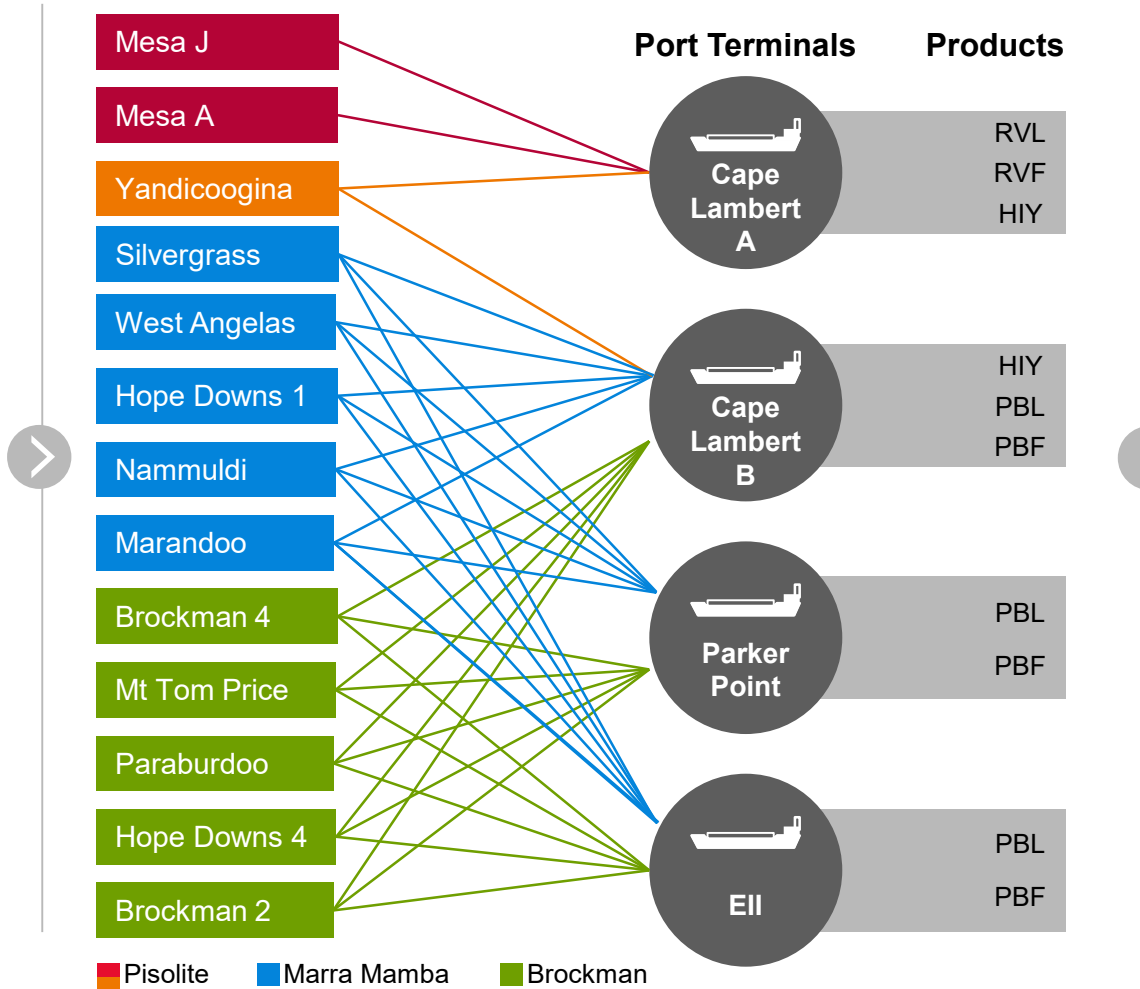
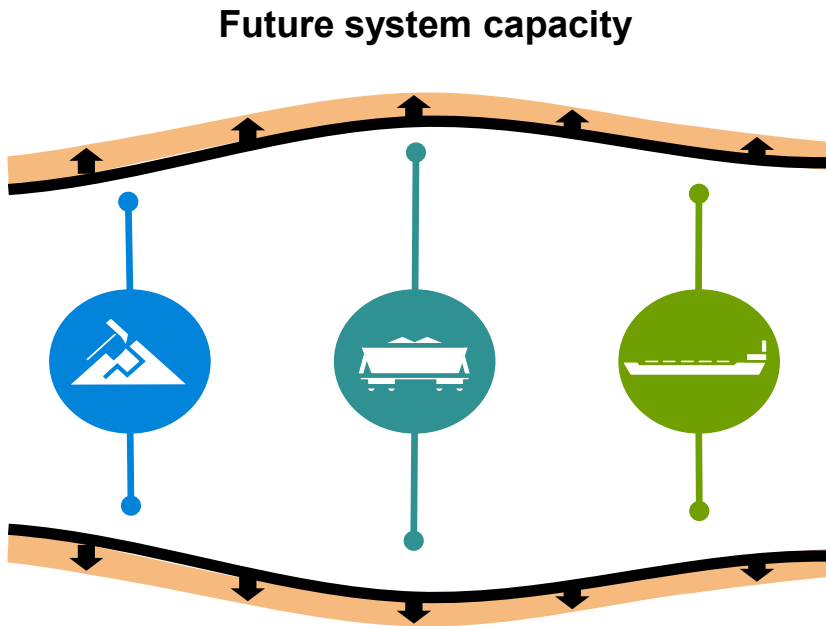
Full resource optimisation

Assess product strategy

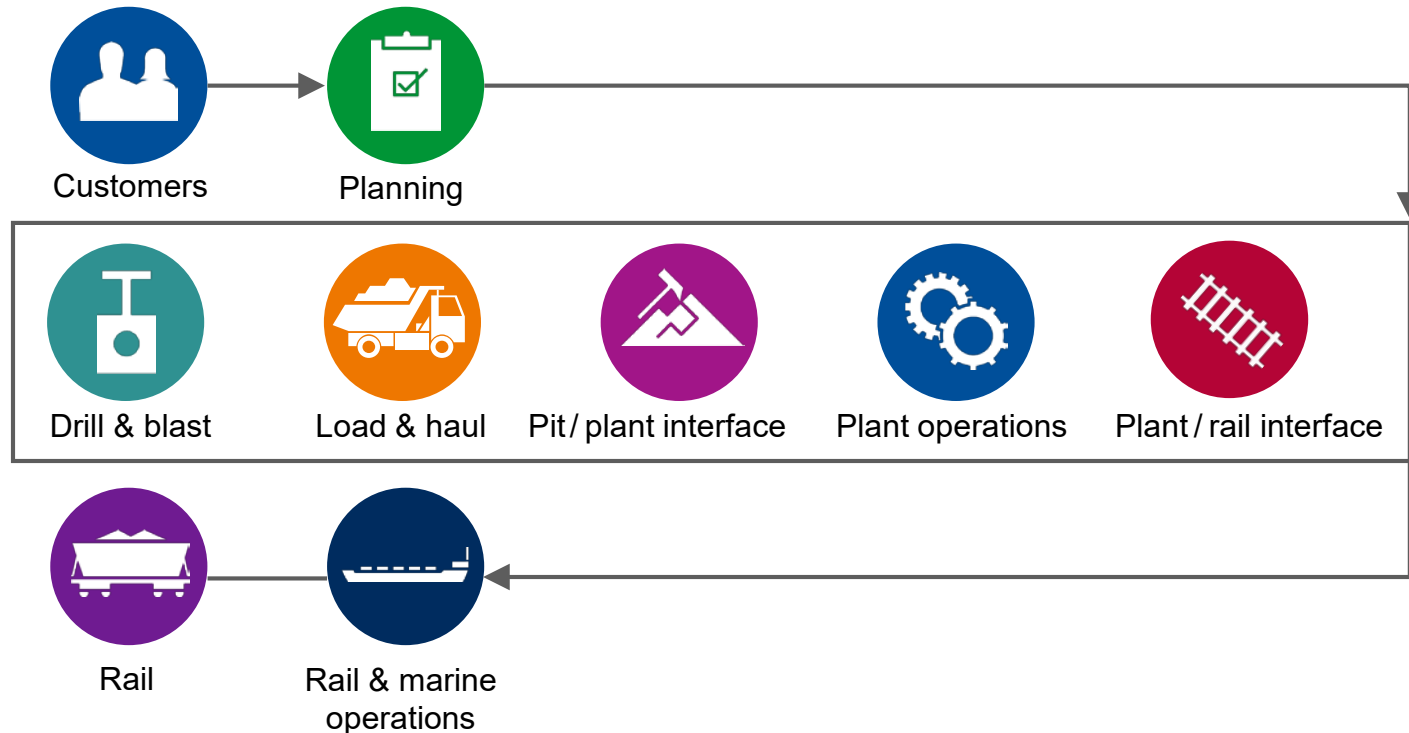
Inform study options

Sequence optimisation

Best in class quality delivered through system blending



Dynamic market driven integrated planning system...



The system optimises reserves and fixed mobile assets for right quality and value

Right quality, at the right time, delivered through system

Whole of system optimisation through integrated planning:

- Short, medium and long term planning
- Integrated rail and port schedule

Operating management system

Reliability of systems

System optimisation

Technology and automation

...supported by three improvement streams

People



Connected teams

Skills requirement for
job of the future

Process



Ore body to customer –
an integrated decision system

Augmented asset health

Technology



Integrated automation

Big data infrastructure

Industry leading technology driving productivity...

Machine / Asset Automation

Improved safety and productivity

Autonomous drills (ADS)

Explosives charging improvements

Autonomous haulage system (AHS)

AutoHaul®

Networked machines

Control systems connected at all interfaces

Mine Automation System (MAS)

Visualisation tools (RTVIS™)

Control Loops

Customer to ore body knowledge

End-to-end value optimisation

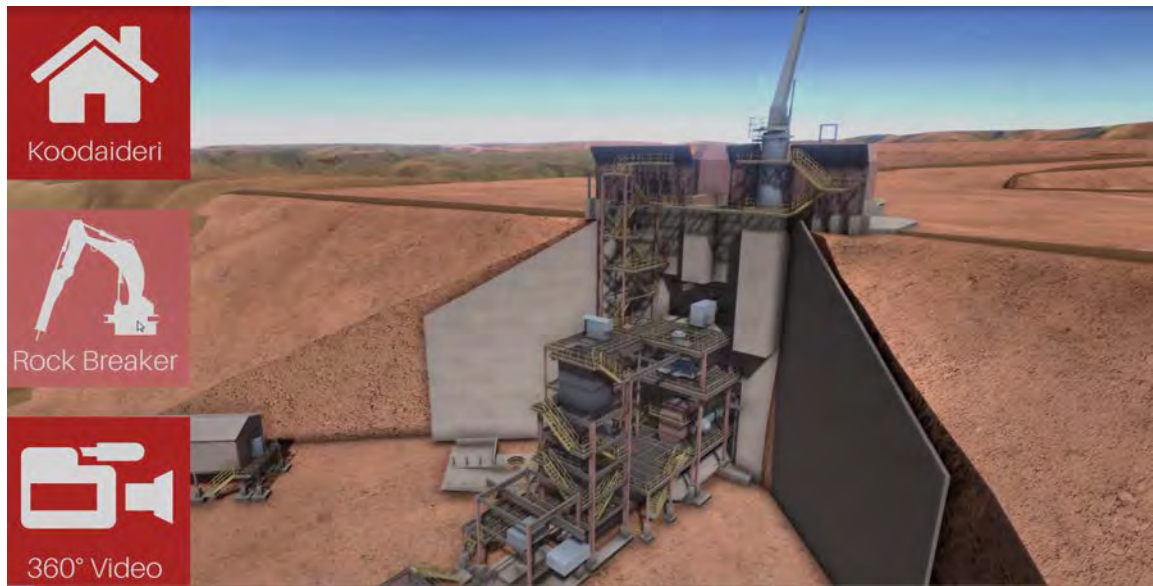
Artificial Intelligence across the entire system

Dynamic system optimisation



A fully automated system, mine to customer, integrated system delivering maximum value

... with Koodaideri being our first intelligent mine



Sustaining Pilbara Blend - 40Mtpa throughput coarse ore capacity plant

>170 kilometres of new AutoHaul® rail

World class project delivery - utilising data centric and advanced digital engineering to produce a digital twin of the asset

Over 100 innovation opportunities within the feasibility study

Enabling technologies - combining best practice technologies with new process and production loops

Optimised system maximising value

Resource optionality

Highly valued product suite, significant resources, development optionality

Scheduling agility

Dynamic scheduling system putting customers at the core

Automation

Increasing use of technology to drive value across the system

Integrated system optimisation

An exclusive fully integrated system, managed to optimise value

RioTinto

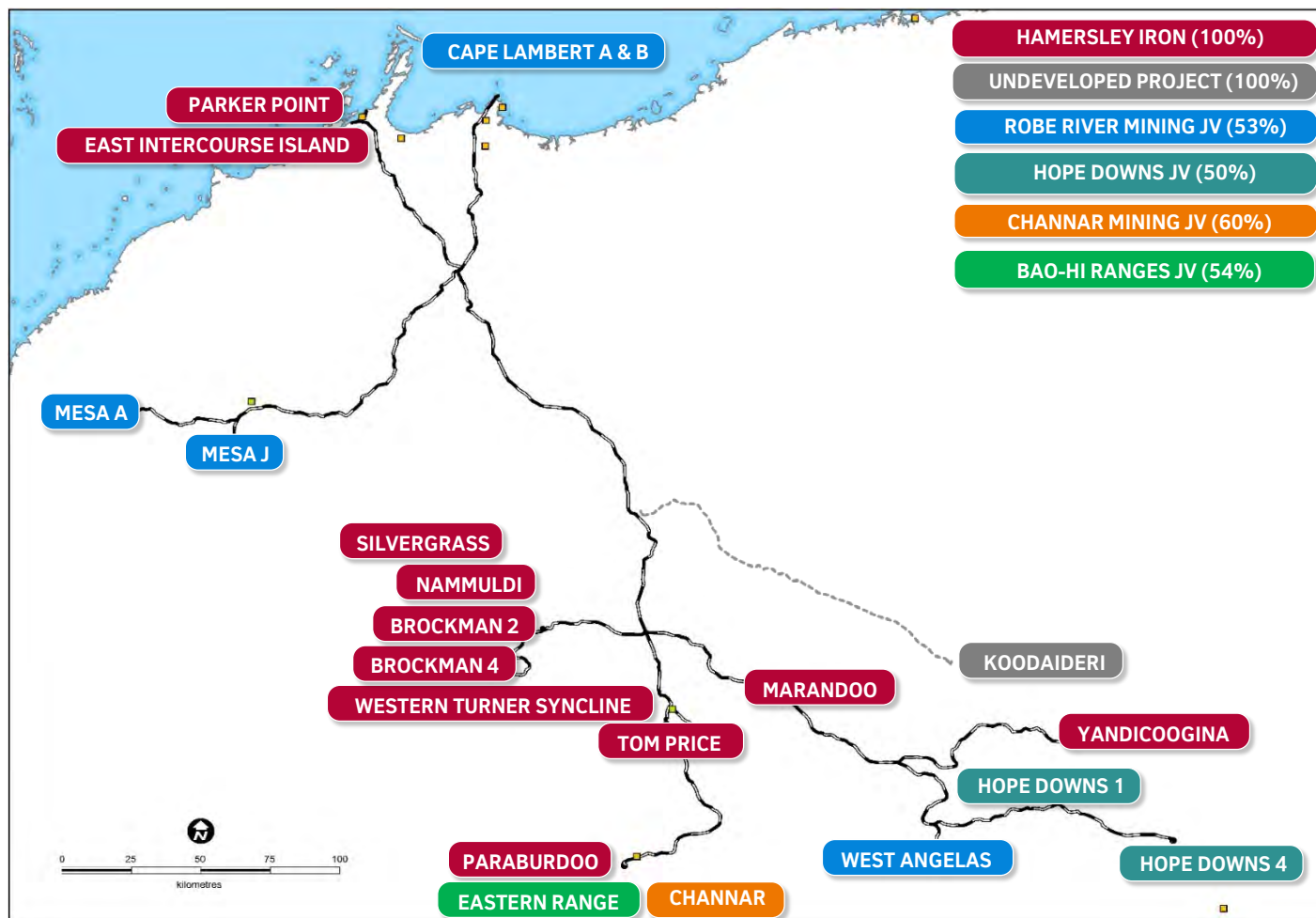
Pilbara Mine Operations

Matthew Holcz

Acting Managing Director, Pilbara Mines



World class assets, fully integrated and agile network



16	Mines
15	Train load outs
17	Plants (including ports CLA, B and Dampier)
11	Dry processing plants
6	Wet processing plants
>370	Haul trucks
95	Autonomous haul trucks
55	Production drills
11	Autonomous drills

2014 Nammuldi BWT



2013 Hope Downs 4



2010 Brockman 4



1990 Channar



1966 Mt Tom Price



Further opportunity exists to optimise mines

Mines



Equipment Reliability

(Mean time between failure, availability)

Equipment Productivity

(Effective utilisation, payload, truck speed)

Technology and automation

(AHS, ADS, MAS)

Plant



Asset Reliability

(Scheduled loss, unscheduled loss)

Asset Productivity

(Effective utilisation, rates, yield)

Technology and automation

(Process control loops)

Train Load Out



Tonnes per car

(Dynamic tuning for mass and volume)

Train load time

(Reclaimer efficiency, stockpile management, control system improvements)

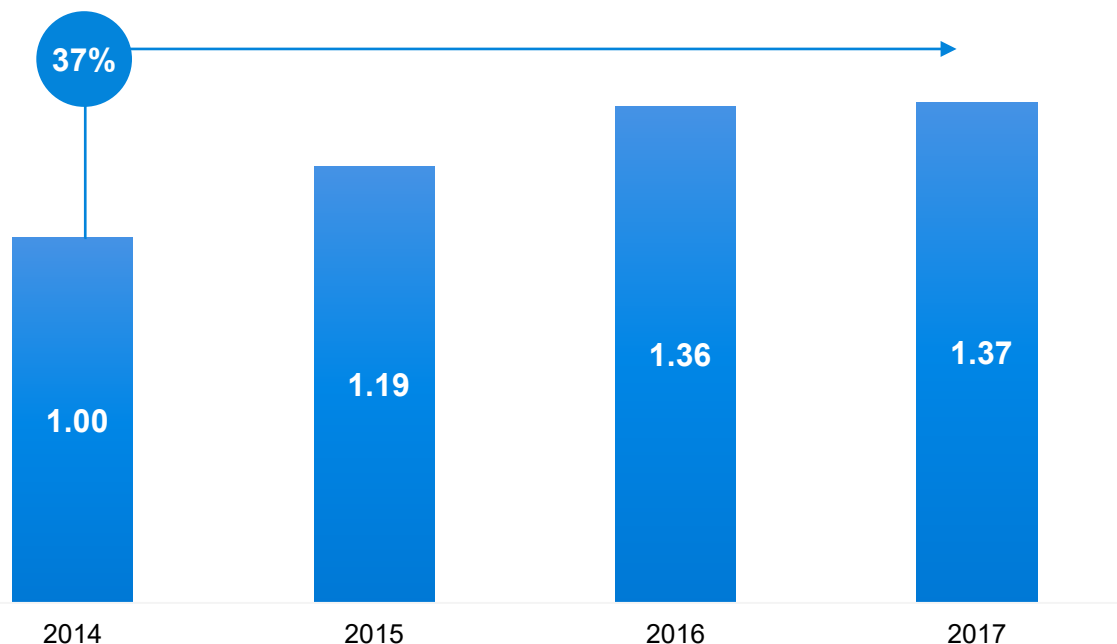
Technology and automation

(Automated train loading, expert control systems)

More productive and engaged workforce

Increasing gains in workforce productivity

SOP¹ per employee²
(kt / person, Index: 2014 = 1.00)



Productivity improvements in fixed and mobile equipment

Mutually beneficial partnerships with key local suppliers

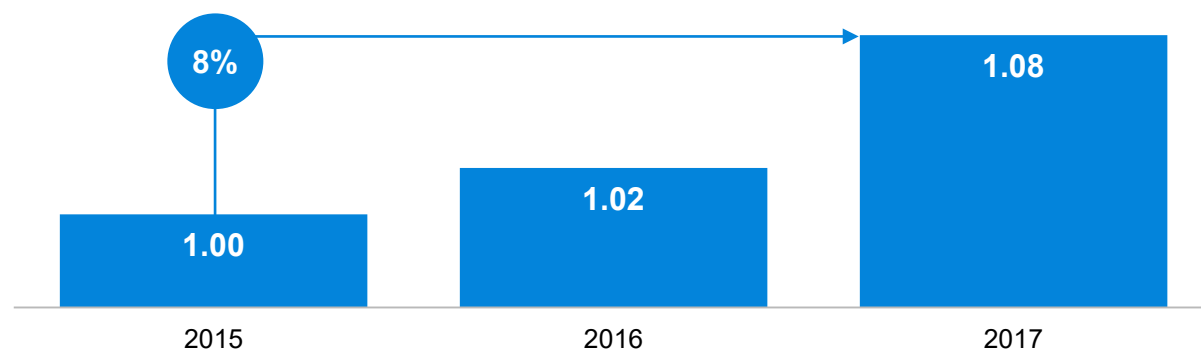
Sustained focus on continuous improvement

Continued deployment of autonomous technology

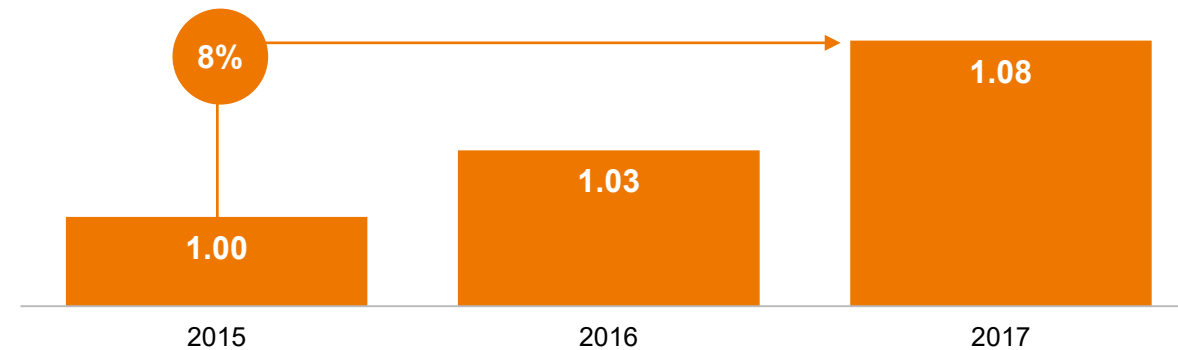
Significant improvement achieved across our mines...

Productivity increases are supporting our volume growth . . .

Haul truck effective utilisation
(%, Index: 2015 = 1.00)

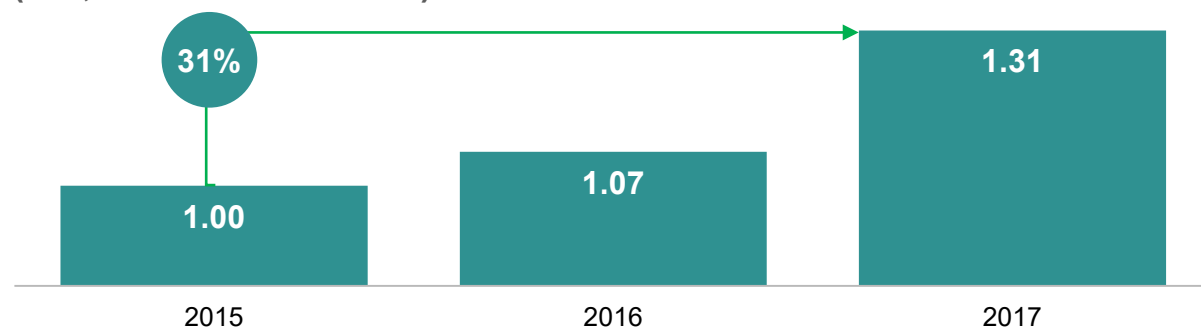


Haul truck payload
(kt, Index: 2015 = 1.00)

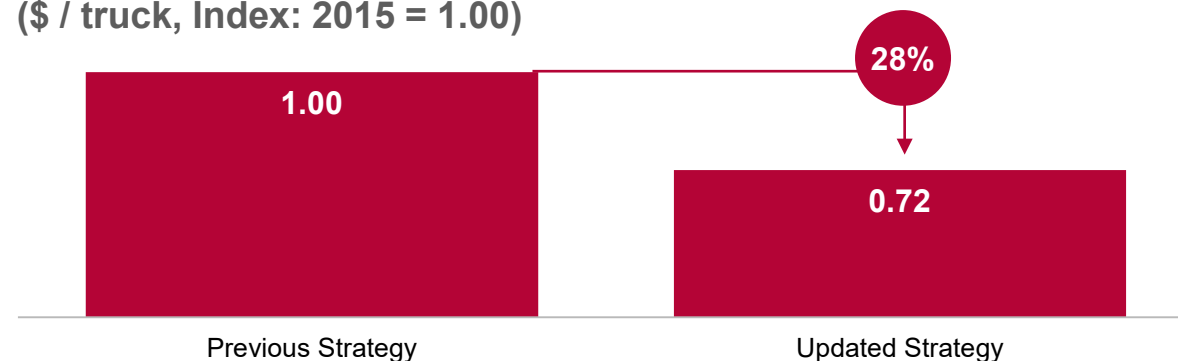


. . . while improving reliability will drive efficiency on maintenance costs

Haul truck mean time between failure
(hrs, Index: 2015 = 1.00)



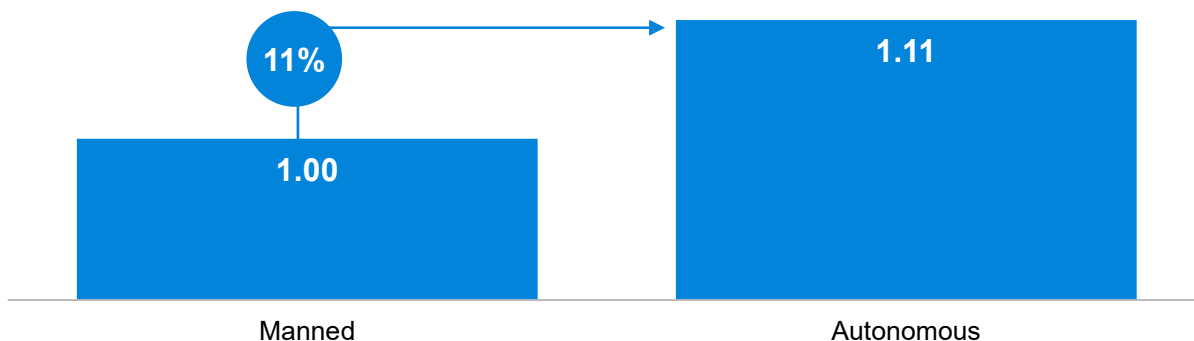
793F truck engine replacements
(\$ / truck, Index: 2015 = 1.00)



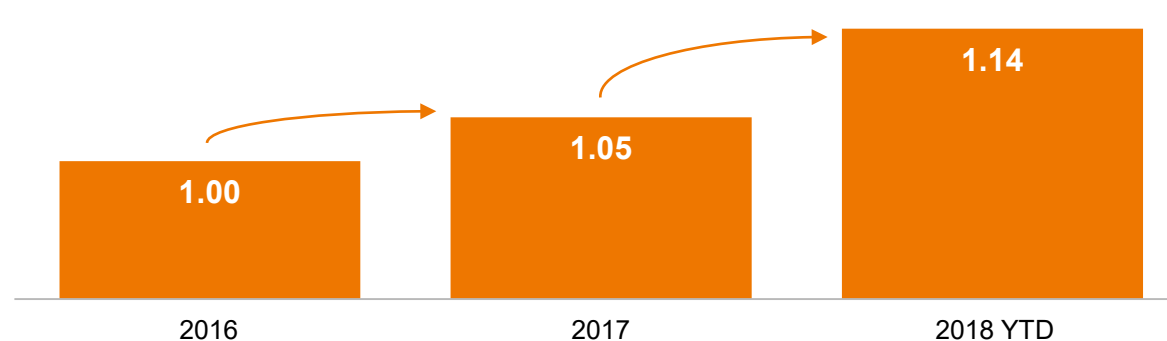
...with automation delivering significant advantages

Haul truck automation is delivering clear benefits with further upside to be realised as the technology matures

2017 haul truck effective utilisation
(%, Index: Manned = 1.00)

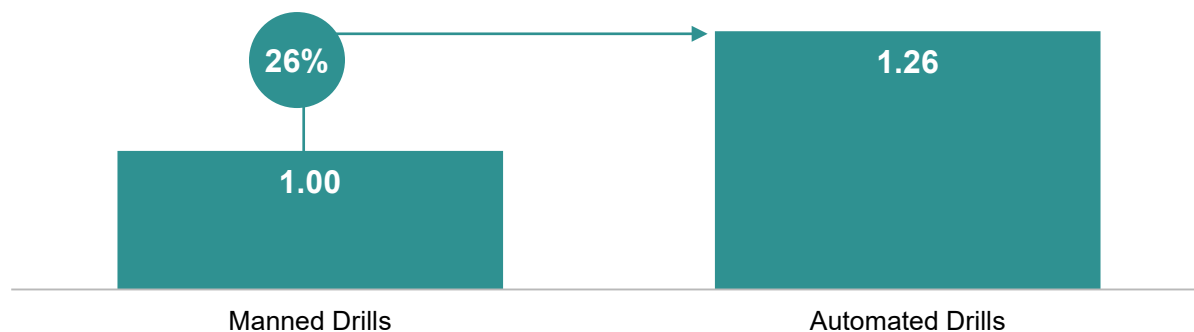


Yandicoogina AHS effective utilisation¹
(%, Index: 2016 = 1.00)

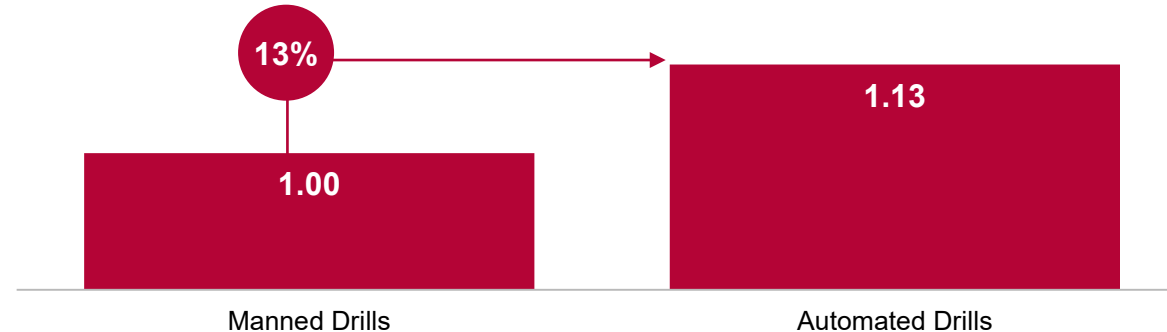


Our automated drills are running for longer and achieving more metres per hour

2017 drill fleet effective utilisation
(%, Index: Manned = 1.00)



2017 drill fleet penetration rate
(m / hr, Index: Manned = 1.00)

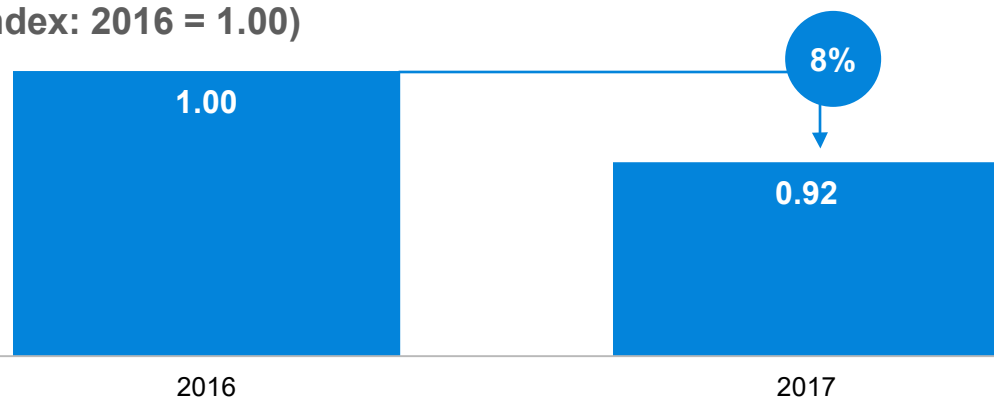


Fixed plant reliability and productivity

Focus on maintenance efficiency and asset reliability is driving up availability

Scheduled loss

(%, Index: 2016 = 1.00)



Unscheduled loss

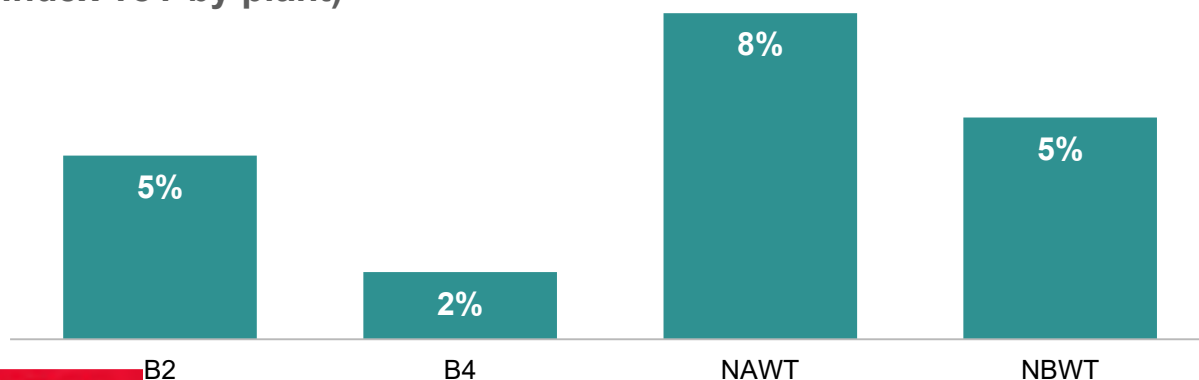
(%, Index: 2016 = 1.00)



Plant performance supporting growth at Greater Brockman: our largest operation

2017 Improvement in Asset Utilisation Ratio

(%, Index YoY by plant)



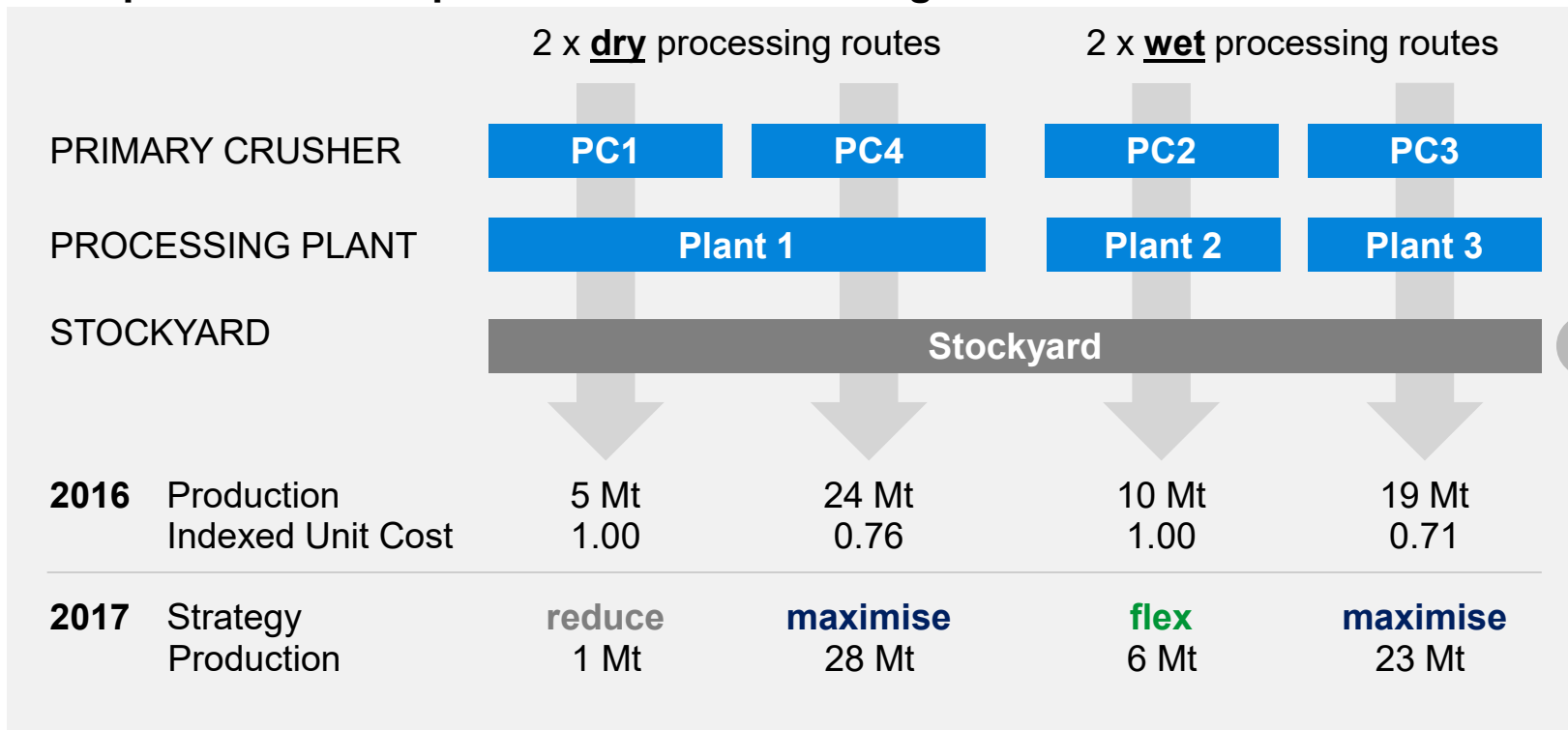
Targeting both operating time and rates

Improvements across all four plants

Supported increased production from Greater Brockman of 5.1 million tonnes in 2017

Creating a flexible value driven mine production system

Plant performance improvements at Yandicoogina



2017 Outcome

- Total production maintained at ~ 58 Mt
- 6% reduction in site unit costs
- 4 Mt additional flexible capacity created

Improved baseload

Productivity

Reliability

Leverage flexibility

Rail capacity

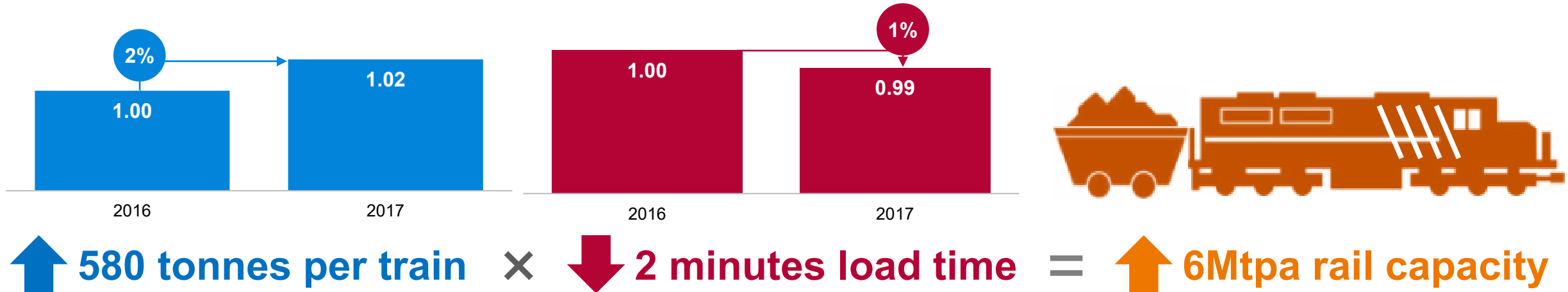
Market demand

Mines supporting rail to unlock capacity

Incremental improvements at significant scale can deliver substantial benefits

Tonnes per car
(kt, Index: 2016 = 1.00)

Train load time
(min, Index: 2016 = 1.00)



The progressive rollout of automation in train loading delivers improvements in payload

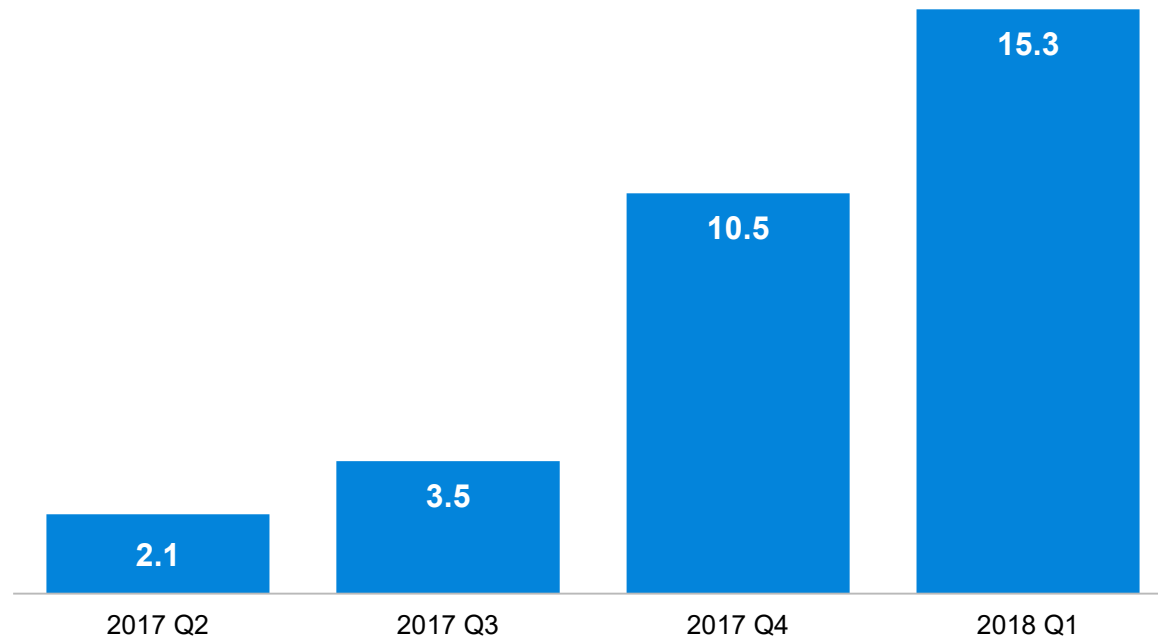
Expert control systems enable dynamic tuning for mass or volume constrained sites

Improvements to rolling stock capacity at mines allow full system utilisation

Silvergrass delivered on time and on budget

Silvergrass ramp up commenced in Q2 2017

Silvergrass and Nammuldi incremental production tonnes (Annualised million tonnes)



Increased production capacity up to 21Mtpa

High grade Marra Mamba ore supporting Pilbara Blend

All construction contracts awarded to Western Australian companies

Pilbara mines continuing to deliver productivity improvements

Flexing the integrated system

Agile network of mines gives superior product options

Project delivery and commissioning capability

Demonstrated project delivery and commissioning providing growth and replacement tonnes

Skilled and capable employees

Adapting and leveraging new ways to improve productivity

Productivity of the integrated system

Continuing to improve our assets with technology, innovation and replication

The Rio Tinto logo, consisting of the words "Rio Tinto" in white, bold, sans-serif font, set against a solid red rectangular background.

RioTinto

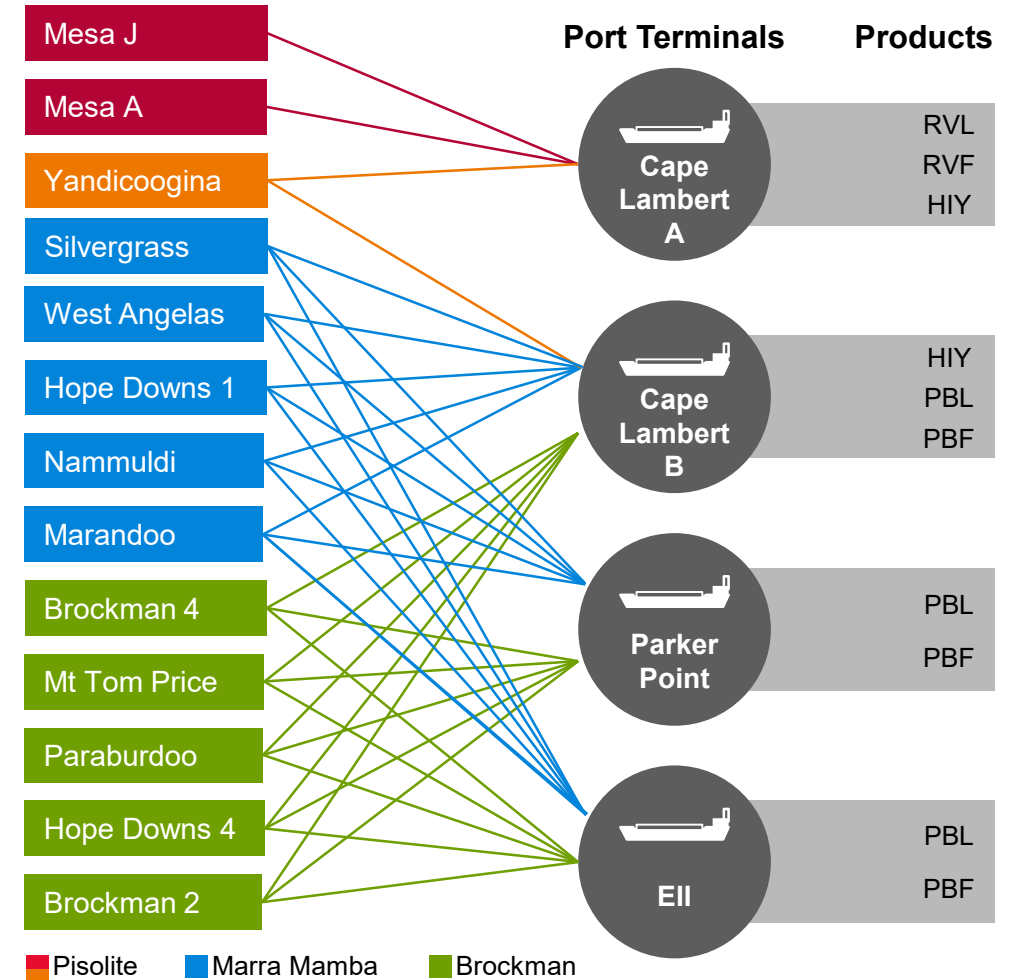
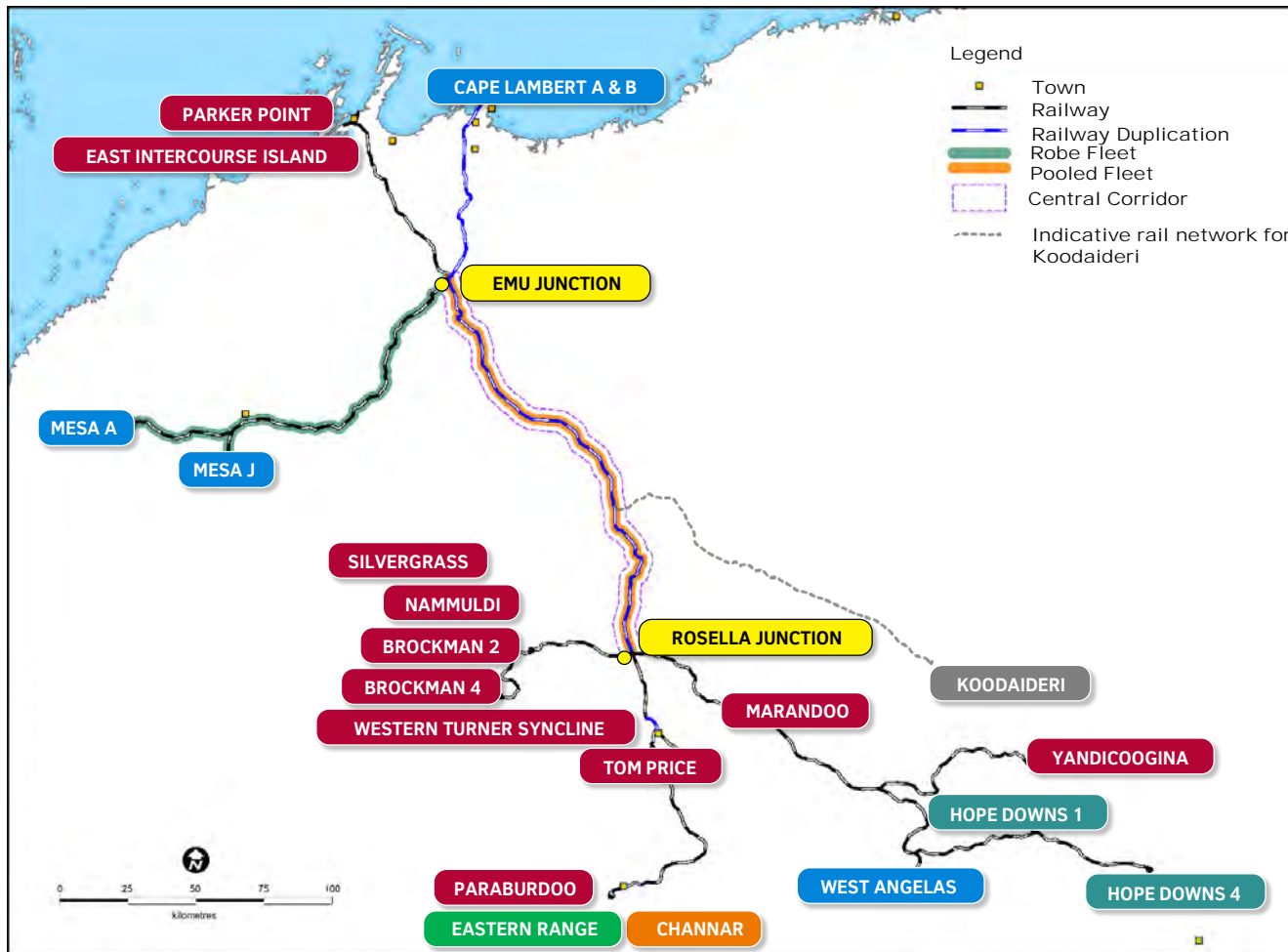
Rail & Port Operations

Ivan Vella

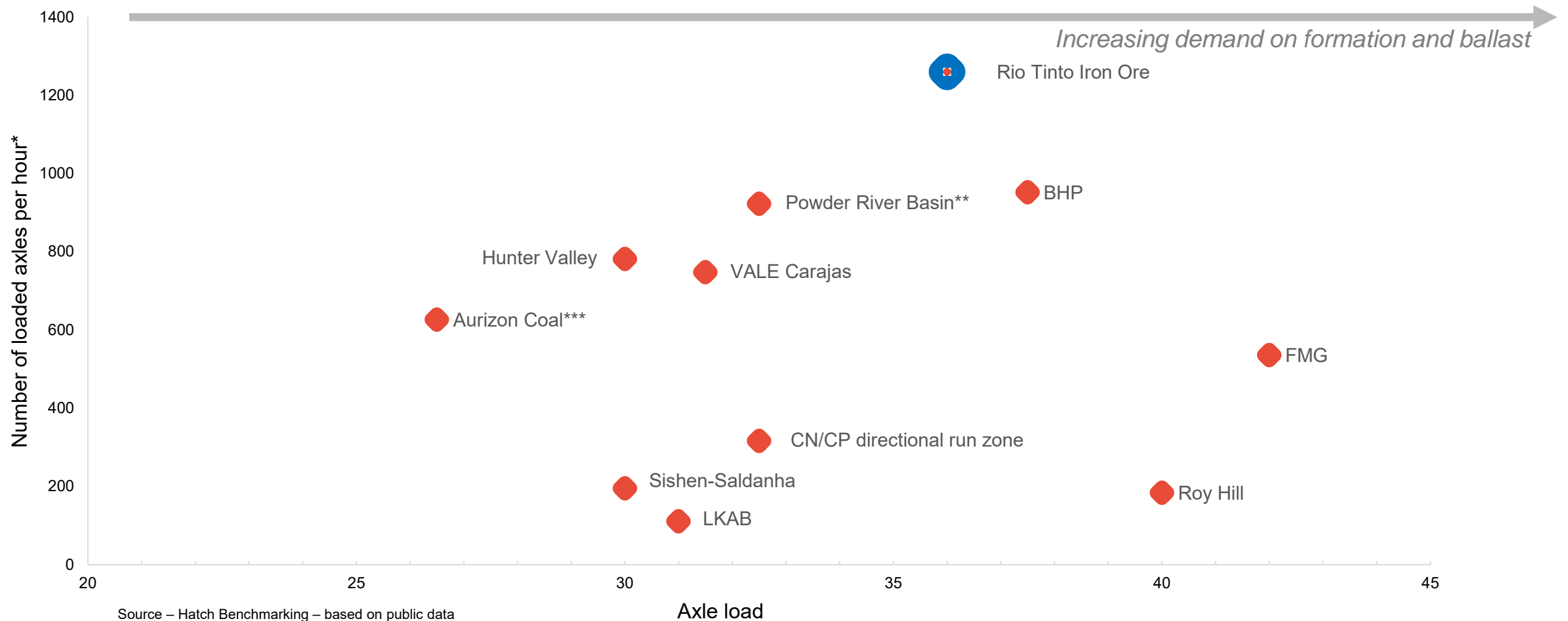
Managing Director Rail, Port & Core Services



World class assets, fully integrated and agile network



Our integrated system allows us to achieve unparalleled levels of utilisation⁵⁸



Source – Hatch Benchmarking – based on public data

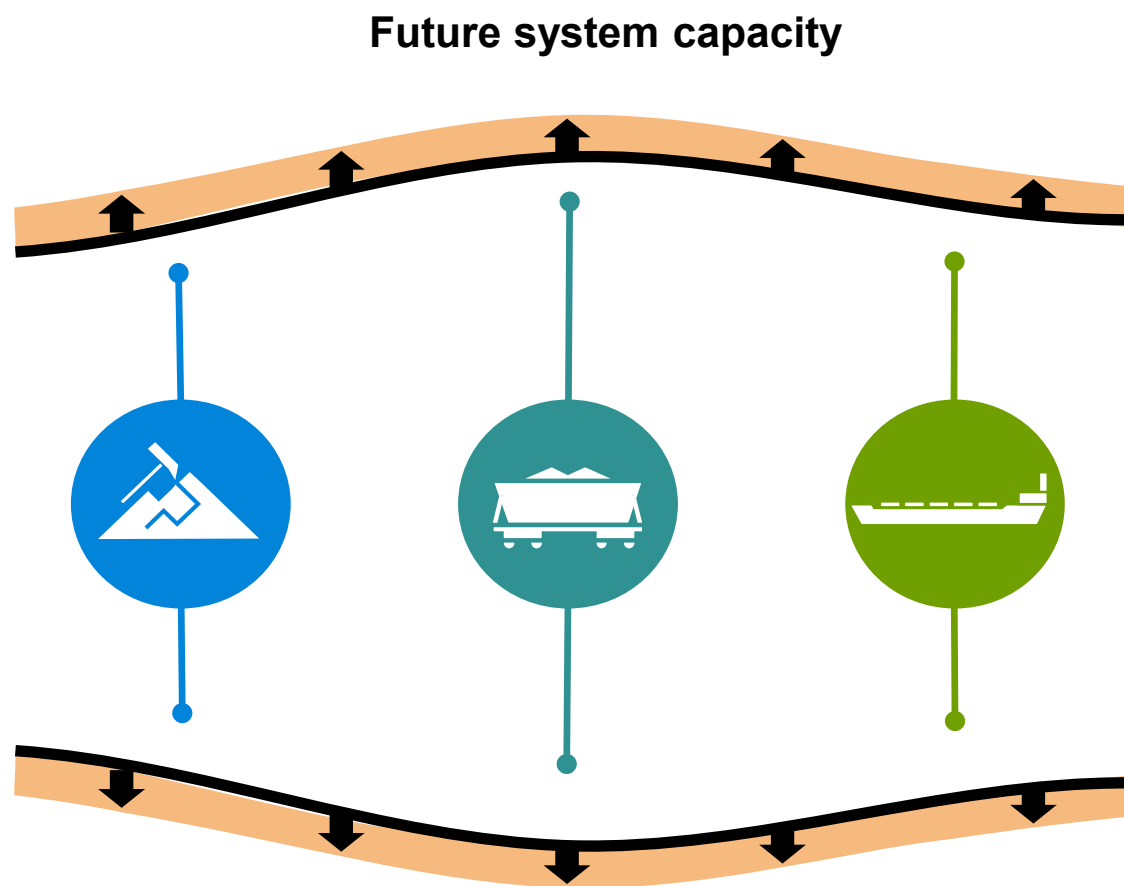
(*) Number of loaded axles refers to main spine of networks, excludes RTIO Robe River and BHP Goldsworthy

(**) Powder River Basin factored from triple track to double track

(***) Aurizon Goonyella tonnages are "below rail", including all operators

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Increased flexibility in our supply chain creates additional competitive advantage



Delivering rail capacity provides dynamic flexibility to respond to customer demands

System designed to ensure rail does not limit the full potential of the port and mine assets

Continue to optimise and challenge overall port capacity

Q4 2017 shipments of 90Mt and December shipping rates of ~390Mtpa shows port potential

Optimising rail capacity and improving flexibility

Train Load Out

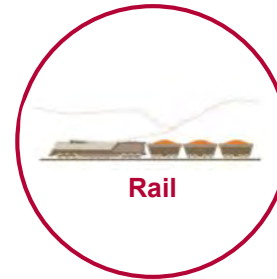


Tonnes per car
(Dynamic tuning for mass and volume)

Train load time
(Reclaimer efficiency, stockpile management, control system improvements)

Technology and automation
(Automated train loading, expert control systems)

Mainline



Mainline network operating strategy
(Network operation, common tactics, reduced delays and stoppages)

Rail track maintenance
(Optimum speed, productivity and reliability)

Autohaul®
(Optimised speed, advanced signalling, reducing variability)

Yard and Port (Dumper)



Yard operations
(Optimised scheduling, mobility solution, RFID for rolling stock management)

Train maintenance
(Automated condition monitoring, further automation in workshops)

Reduced dump cycle times
(Control system machine learning and analytics, interface management)

Range of investment options being studied

(Eliminating brake cars, electronic braking to dumper, closer train spacing, LTE /4G network – real time monitoring and control across the network)

Building future system flexibility with AutoHaul®



Improved productivity, efficiency and safety

Greater flexibility in scheduling


Removal of driver changeover times
~3x stoppages for each round trip

Improved cycle time performance


Removing the need to transport drivers 1.5 million kilometres each year to and from trains

AutoHaul® to complete in 2018


World's first fully autonomous heavy haul mainline run completed in September 2017



~65%
production kilometres
currently completed in
autonomous mode¹



>1 million
kilometres
completed in autonomous
mode¹ this year

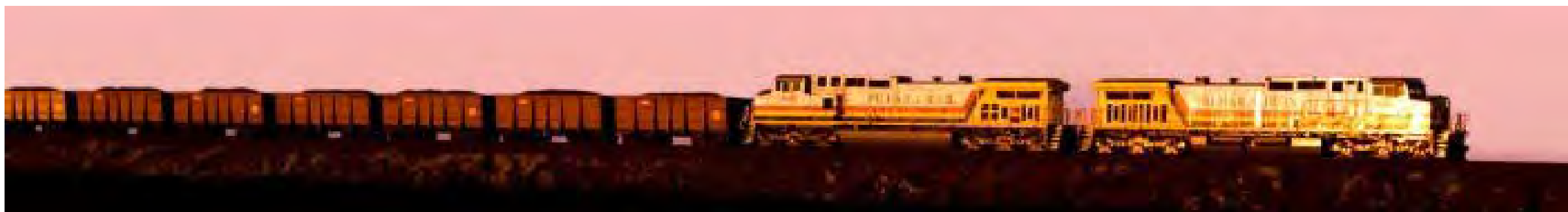


~6%
Speed improvement
in autonomous
mode¹

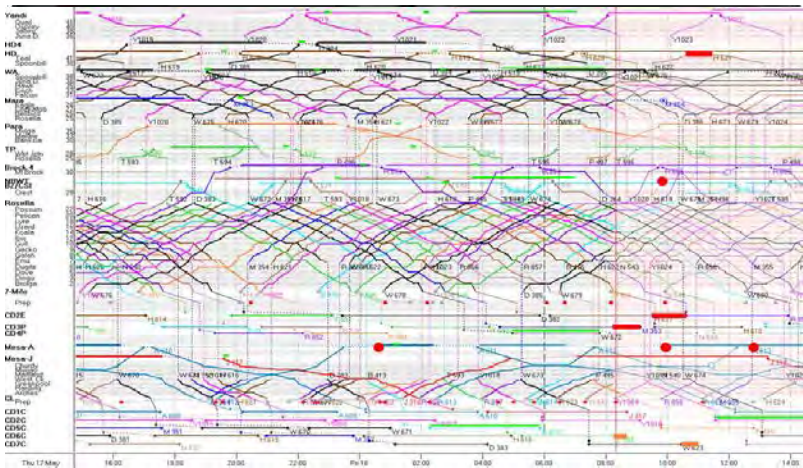
AutoHaul® usage continues to be
expanded

Regulator approval received in May

Full implementation of autonomous
programme by **end of 2018**



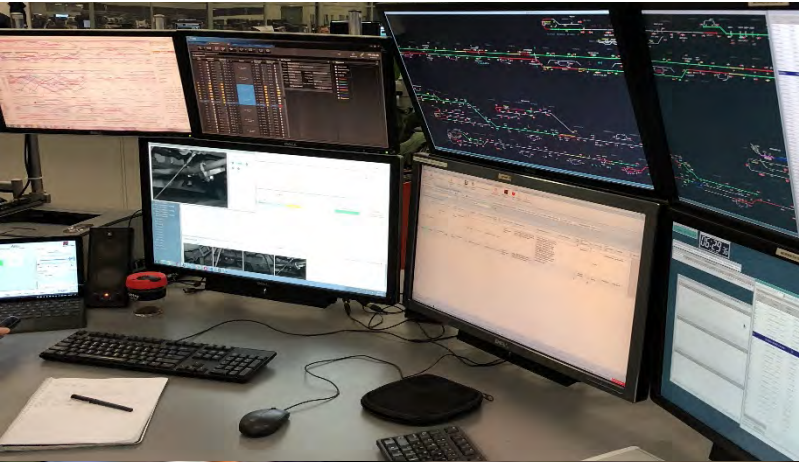
Advancements in technology are crucial to the network operating strategy



Technology-enabled best practice tactics covering the yard interface, mainline and mine interface



Analytics, decision support and automation tools for train control team



Real time visibility and optimisation of our network with predictive capabilities and scenario testing to illustrate implications of different tactics

Yard improvements and digital transformation

Automated roll-by (ARB)

Optical solution providing insight into the health of our fleet

Improved paperless information on the wagon and its history

Closing the feedback loop when faults are rectified

RFID tracking of assets

All locos and wagons tracked using RFID technology

Location available to yard optimisation engine and mobility solution

Improved utilisation of assets

Yard optimisation engine

Dynamically optimised yard movement plan

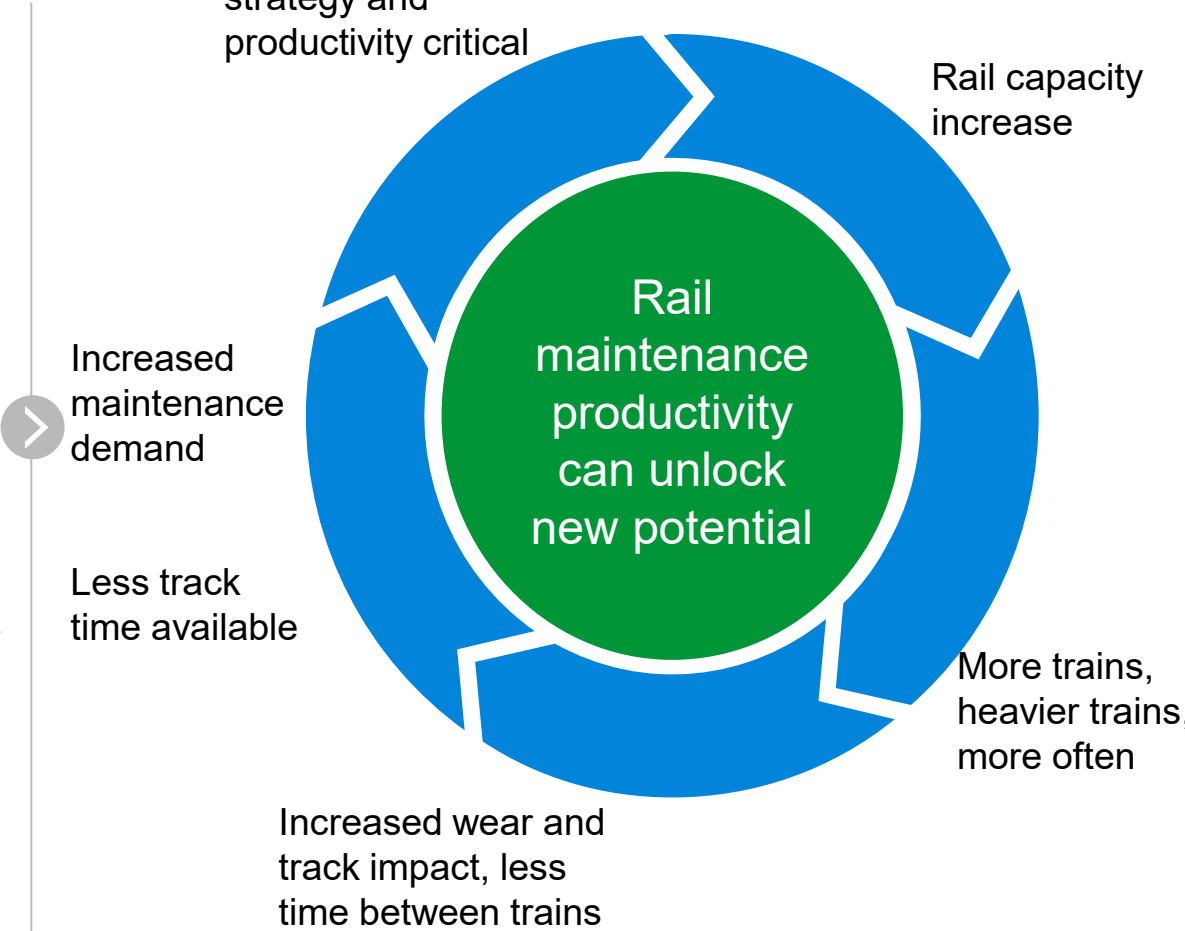
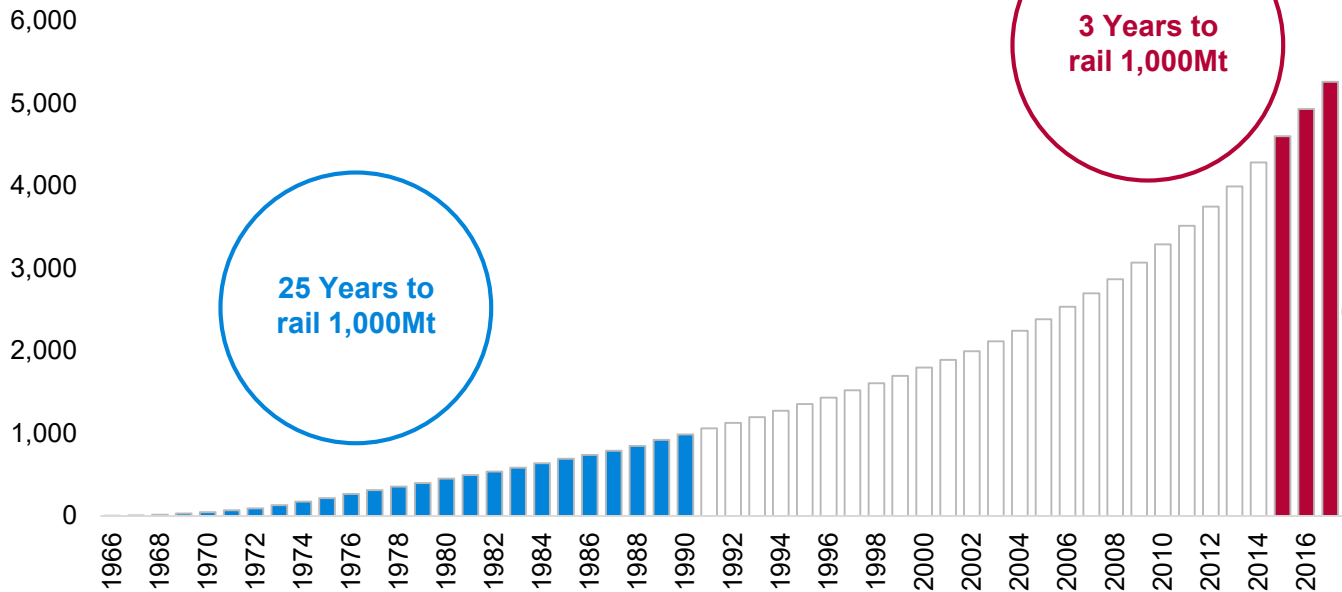
Closed loop feedback to yard operators and drivers

Comprehensive mobility solution to support operations and maintenance teams

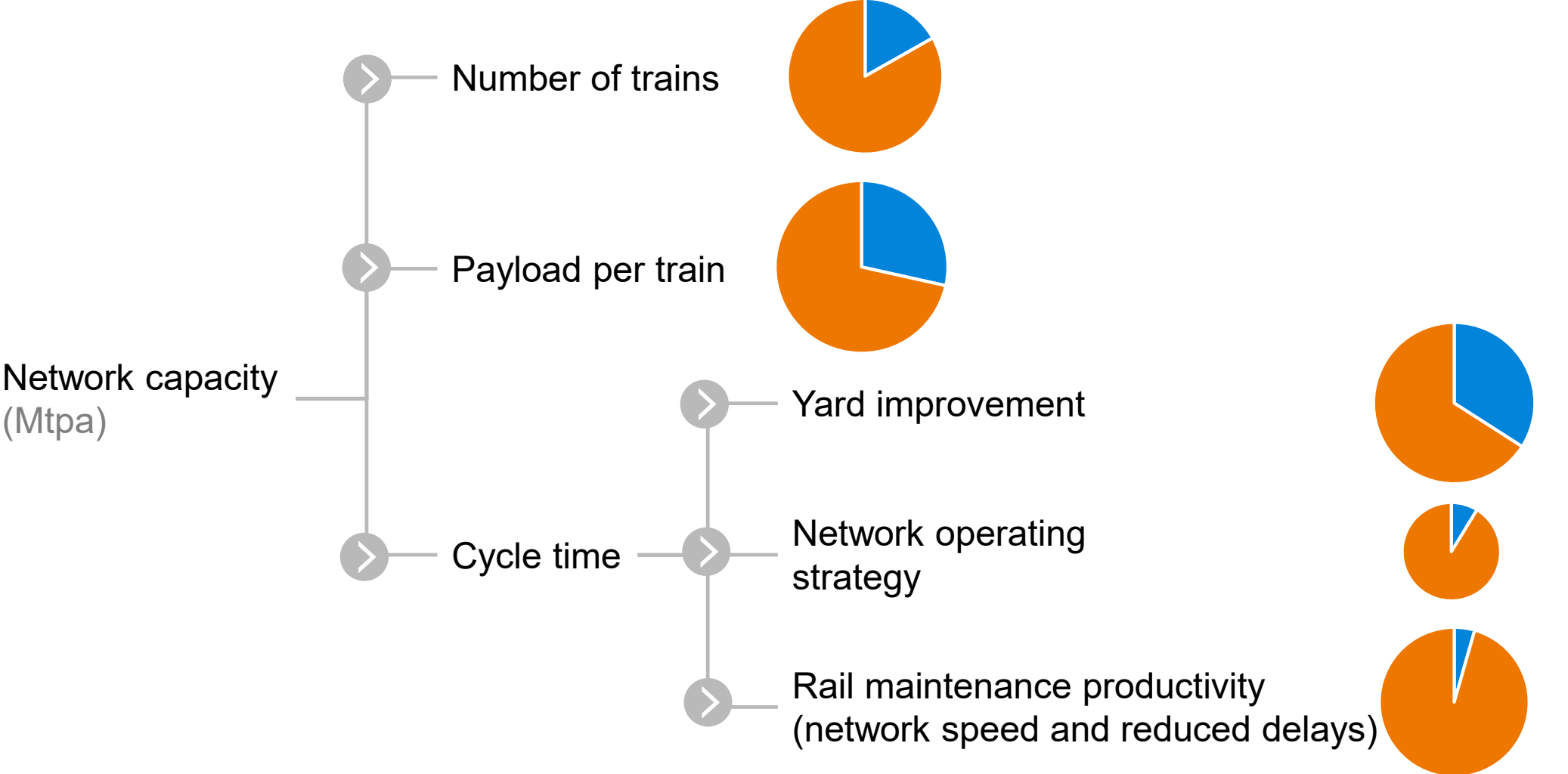
Rail maintenance productivity can unlock new potential

RTIO cumulative tonnes railed

Million tonnes



Our plan for rail productivity is strong and balanced



In progress and future potential
 Completed by end 2017

AutoHaul® platform enables further improvement

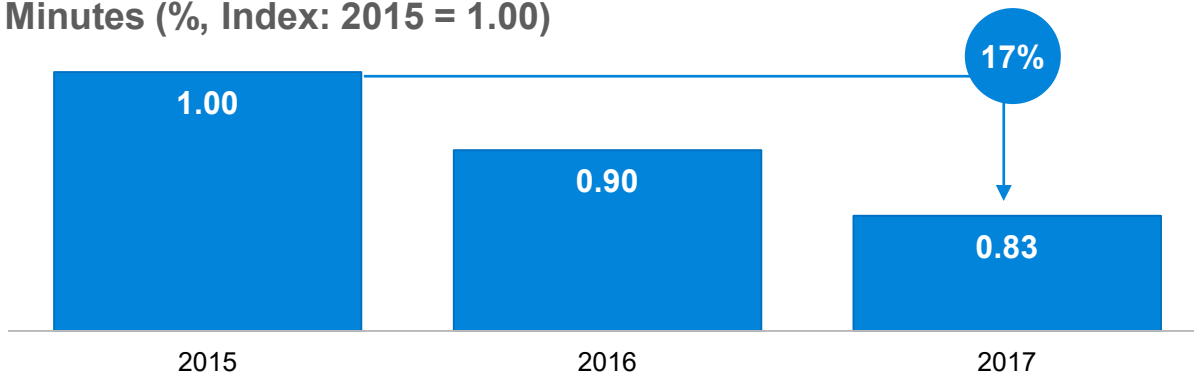


Productivity is key to unlocking further value

Yard and Dumping productivity benefits continue...

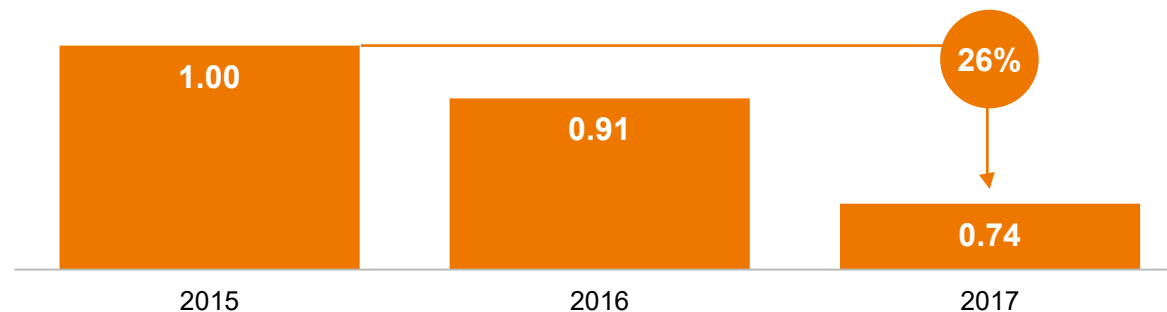
Yard-in improvements

Minutes (% Index: 2015 = 1.00)



Dumping – placing train improvements

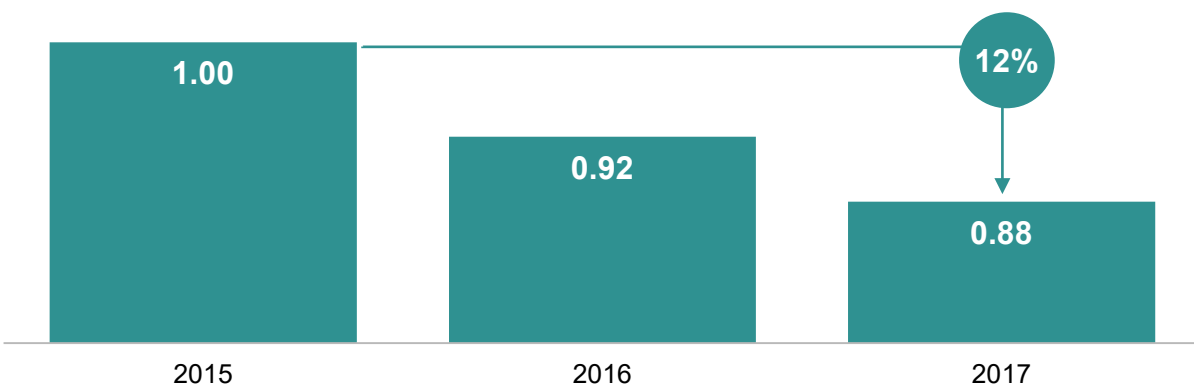
Minutes (% Index: 2015 = 1.00)



...with demonstrated volume upside for cycle time and payload

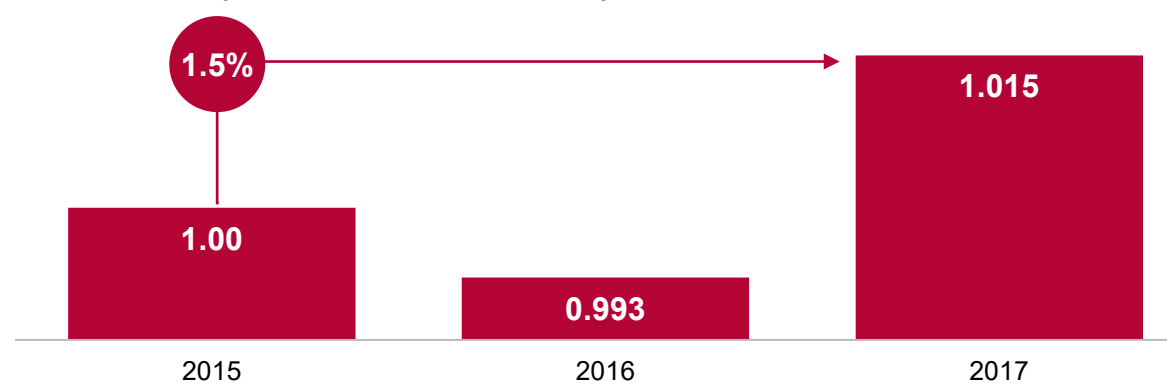
Yard-out improvements

Minutes (% Index: 2015 = 1.00)



Payload – Tonnes per train

kt / Train (% Index: 2015 = 1.00)



Unencumbered port facilities with built in optionality



Continued improvement in productivity and safety, with considerable potential for capacity uplift

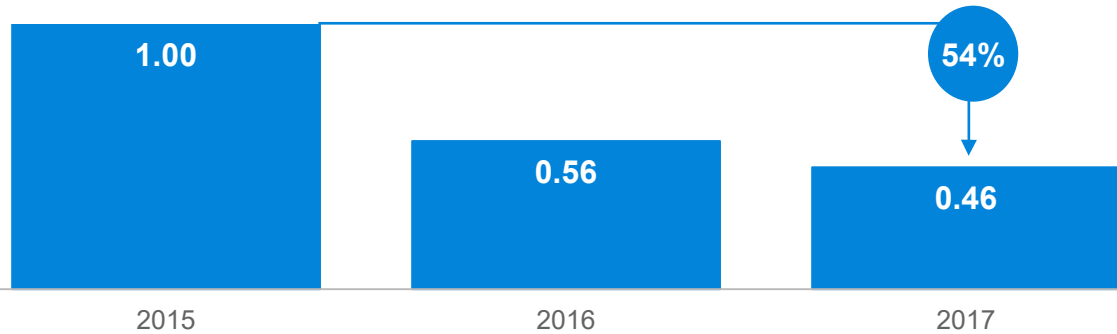
Unparalleled flexibility for blending and customer centric operation

Four independent terminals that provide optionality and full utilisation of our ship loaders

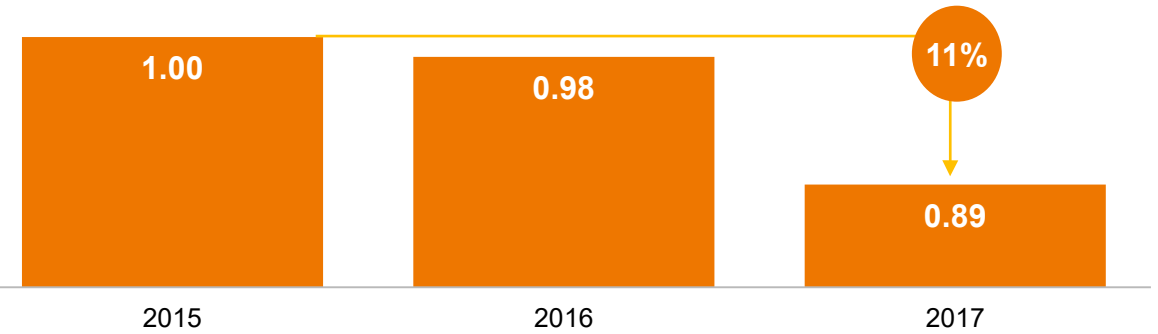
Improving the capability of our port assets

Port reliability continues....

Unscheduled downtime hours per million tonnes
Pooled fleet dumping circuits (% , Index: 2015 = 1.00)

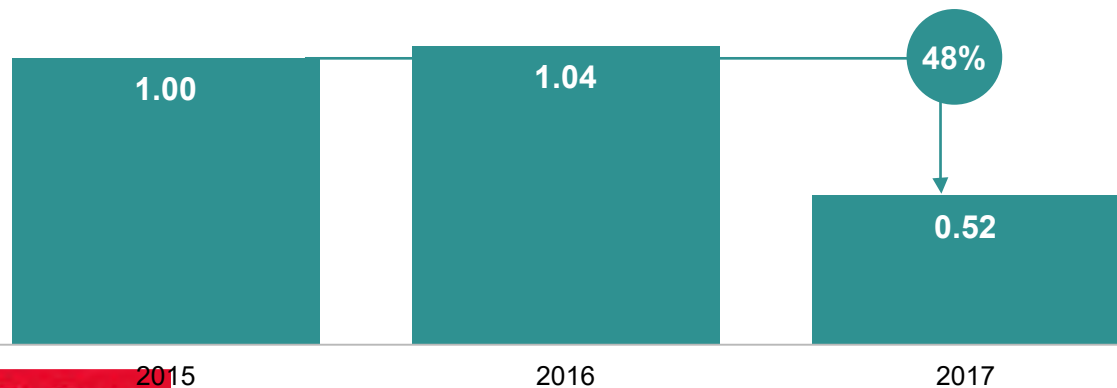


Dumper capacity - time between queuing trains
Cape Lambert yard / dumper interface (% , Index: 2015 = 1.00)

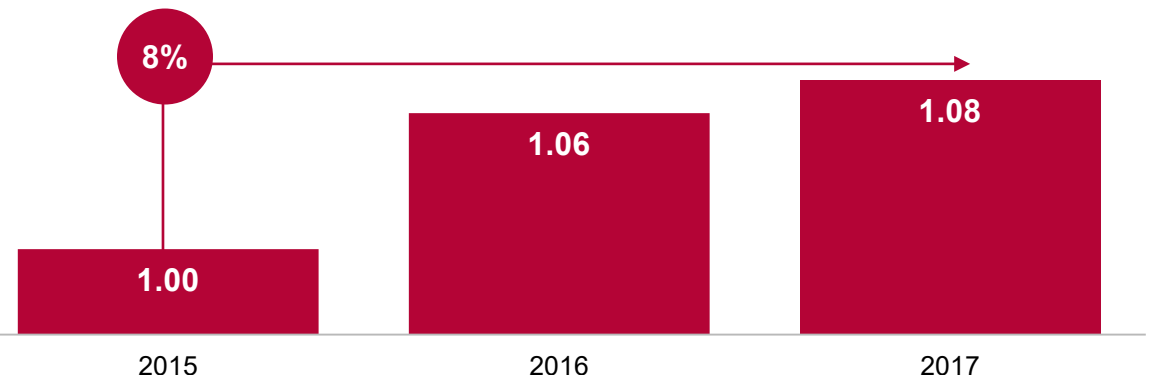


With demonstrated volume improvements in loading capacity

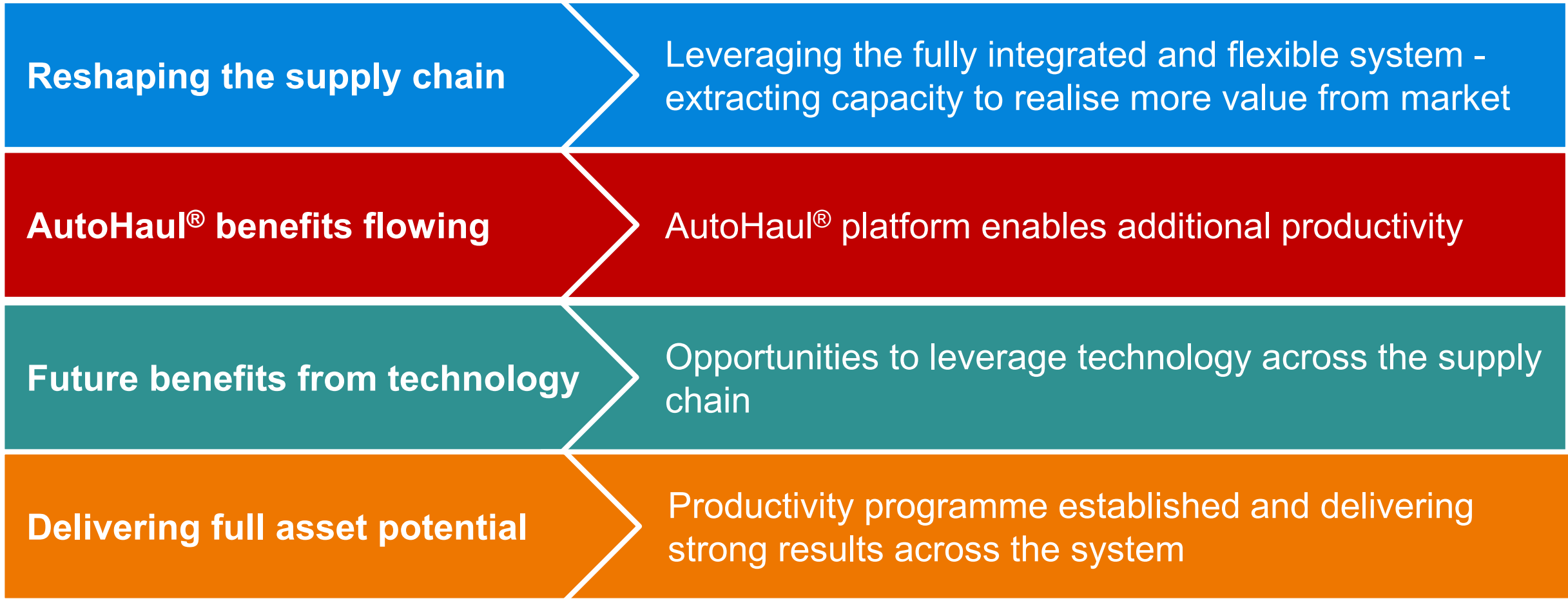
Time lost from shutdown over-runs
All ports circuits (% , Index: 2015 = 1.00)



Ship loading capacity Cape Lambert
CLB performance (% , Index: 2015 = 1.00)



Exclusive, fully integrated infrastructure delivers value for shareholders





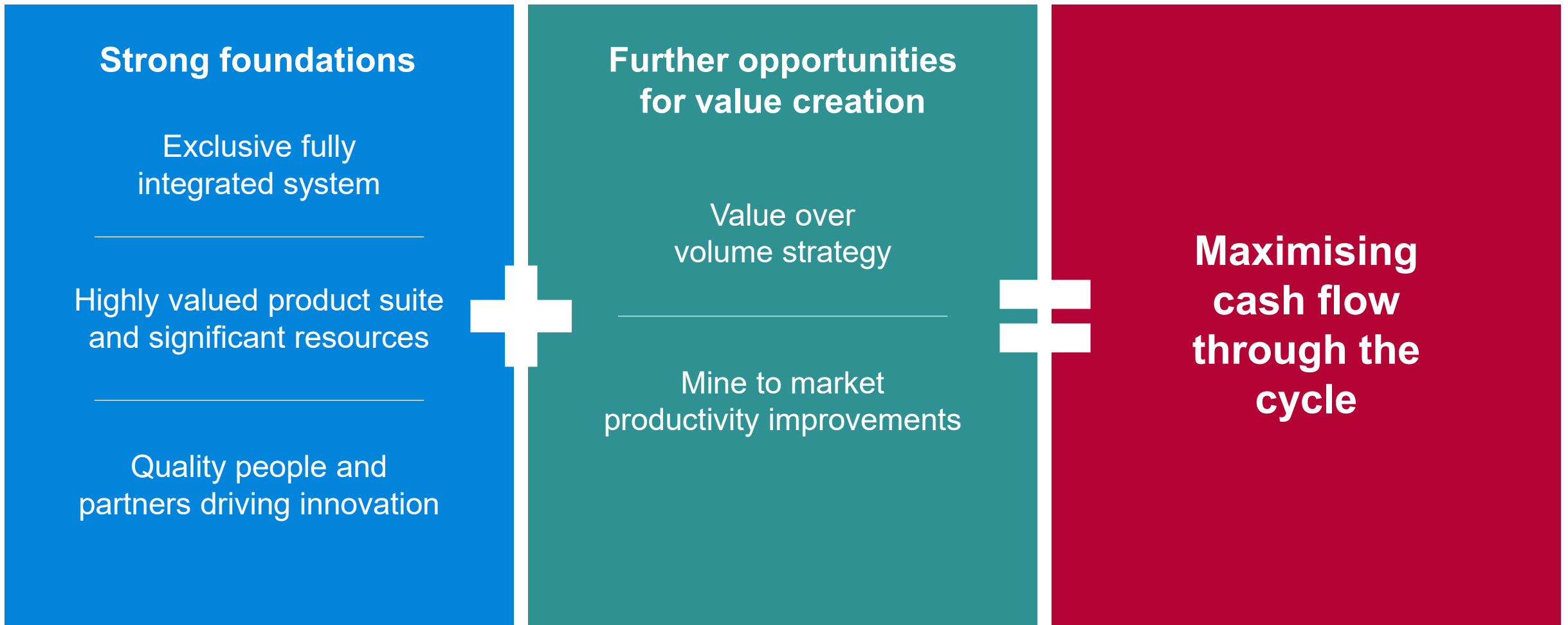
RioTinto

Summary

Chris Salisbury

Iron Ore chief executive

Iron Ore continues to deliver optimal value



RioTinto

Q&A



RioTinto

Appendix



Iron and steelmaking process flow



- Inputs**
- Ore Fines and Concentrate
 - Pilbara Blend Fines
 - Robe Valley Fines
 - Yandicoogina Fines
 - Fluxes + Fine Coke
 - Recycled Slag/Dust/Scale



Sinter Plant

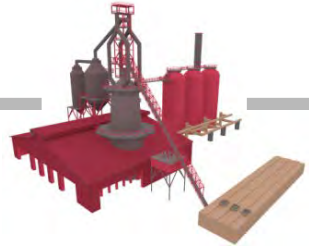
- Inputs**
- Coking Coal



Coke Plant

- Outputs**
- Fine Coke
 - By Products
 - Coke Oven Gas

- Inputs**
- Coke, Sinter
 - Lump, Pellets
 - Pilbara Blend Lump
 - Robe Valley Lump
 - Coal for injection
 - Fluxes



Blast Furnace (BF)

- Outputs**
- Slag
 - BF Gas

- Inputs**
- Alloys
 - Scrap metal
 - Fluxes



Blast Oxygen Furnace (BOF)

- Outputs**
- Slag
 - BOF Gas



Steel refining and Steel Casting

- Outputs**
- Mill Scale

RioTinto

Greater Brockman Operations (GBO)

Scott Wilkinson; General Manager GBO



Safety Share

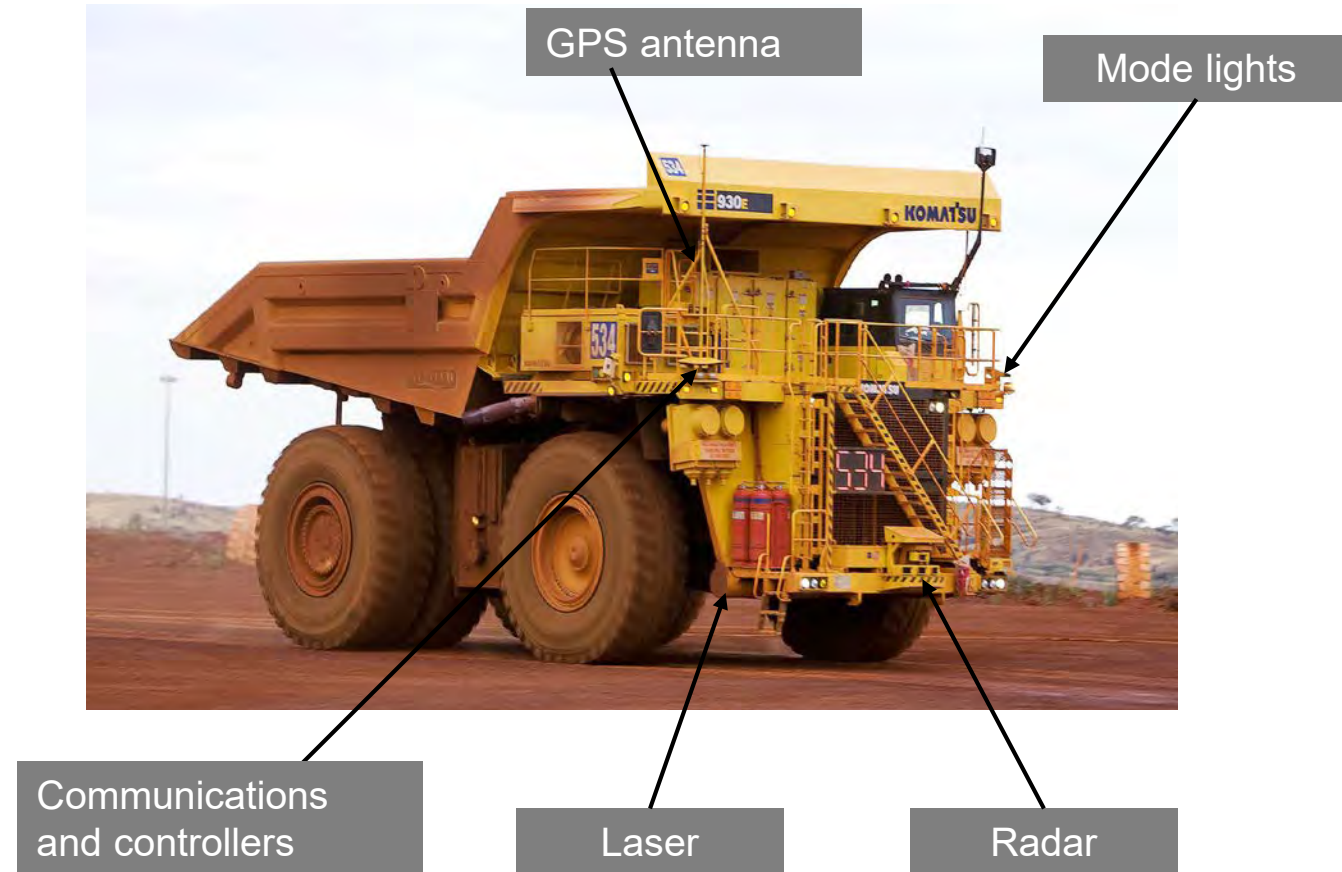
Automation introduces additional safety controls

Benefits;

- Reduces number of people exposed to hazards
- Reduces number of critical risk scenarios
- Improves level of control effectiveness (engineering controls)



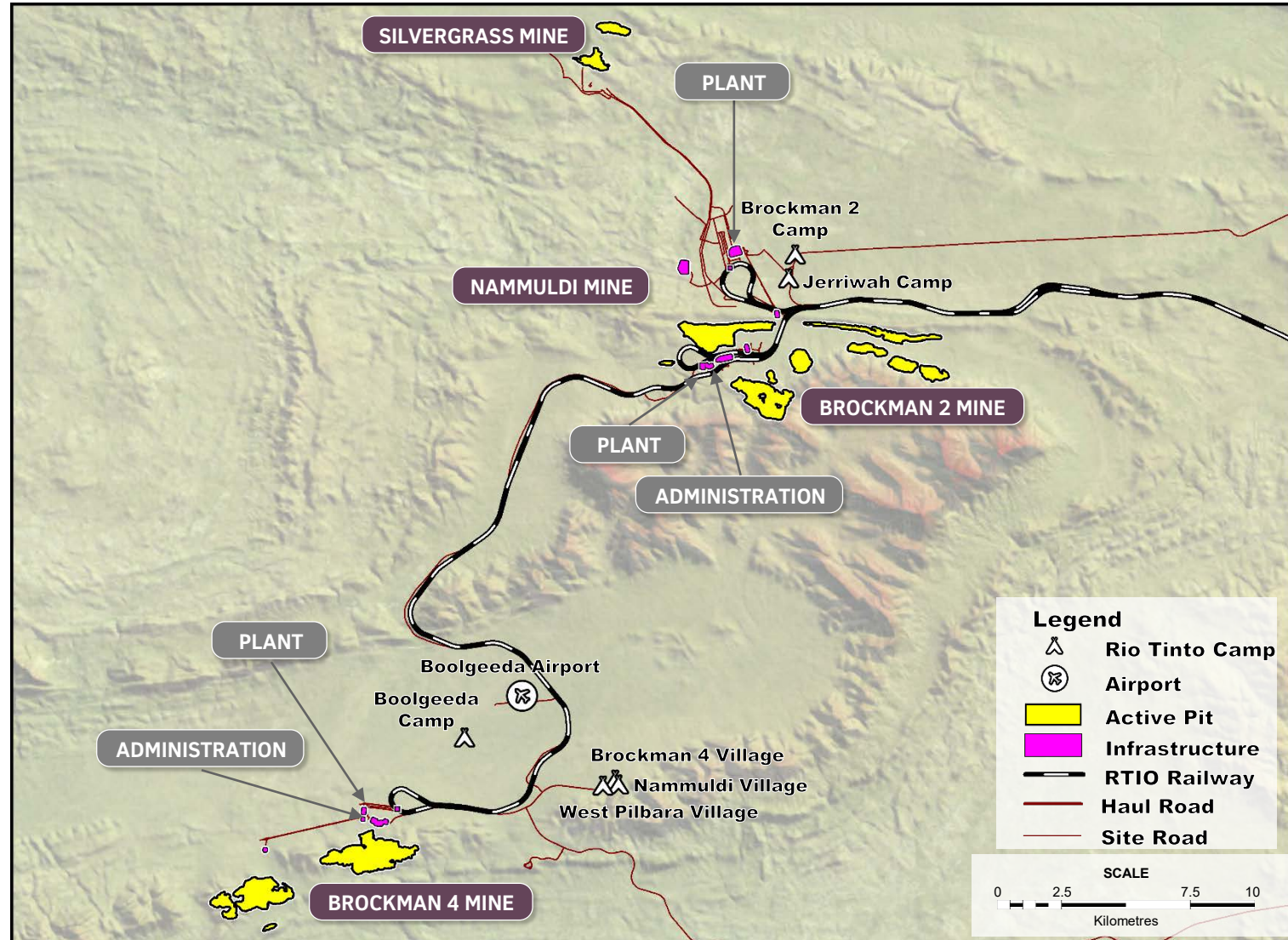
Autonomous haulage system (AHS) setup



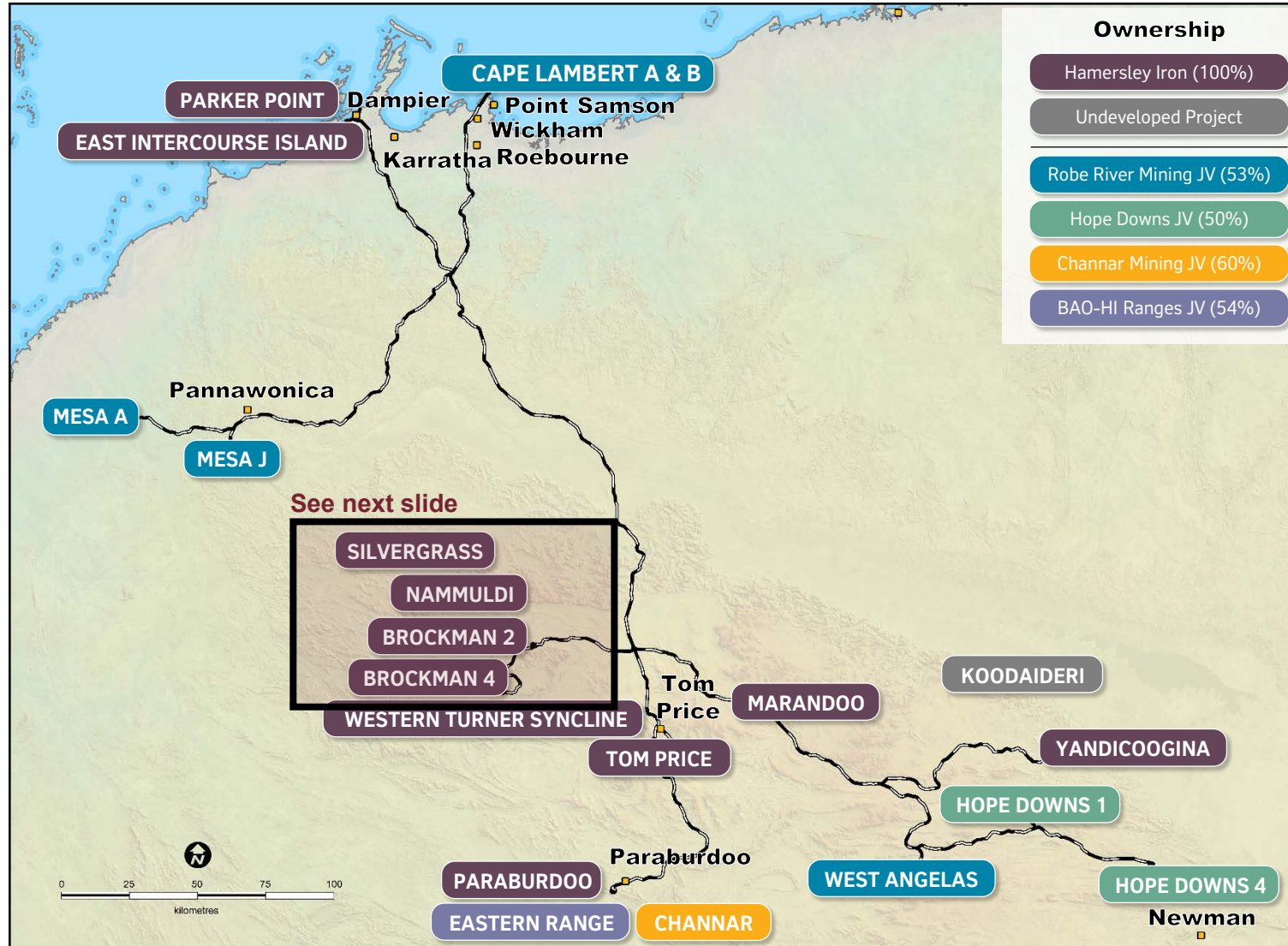
Mines and Infrastructure of GBO

Greater Brockman Summary

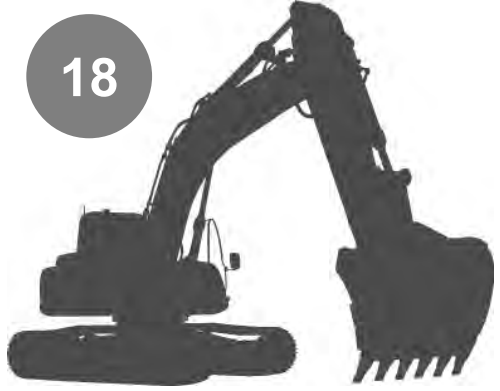
- Traditional owners of the land are the Puutu Kunti Kurrama and Pinikura and the Eastern Guruma people.
- Open Pit ore commencement;
 - Brockman 2/Nammuldi – 1992
 - Brockman 4 – 2010
 - Silvergrass - 2017
- Approximately 1400 employees.
- FIFO workforce; regional WA and Perth.
- Marra Mamba and Brockman Ore types.
- 6 villages in operations.



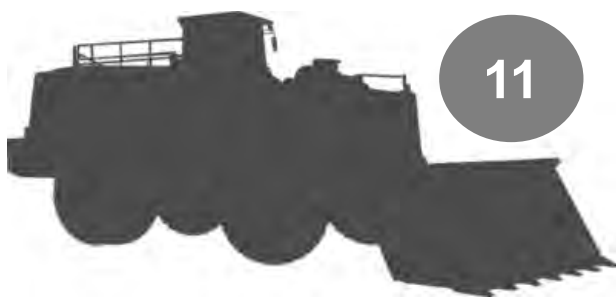
Four world class mines connected to an integrated system



An extensive mining fleet of autonomous and manned equipment

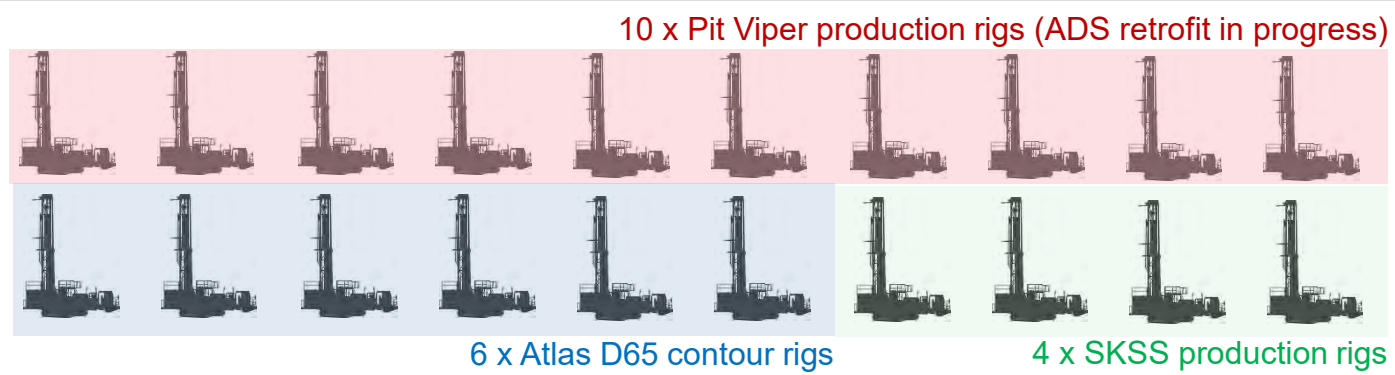


Shovel configuration: 3 x Hitachi EX8000, 1 x Hitachi EX5600, 3 x Hitachi EX5500. Backhoe configuration: 4 x Hitachi EX5600, 5 x Hitachi EX3600 and 2 x Hitachi EX2500.

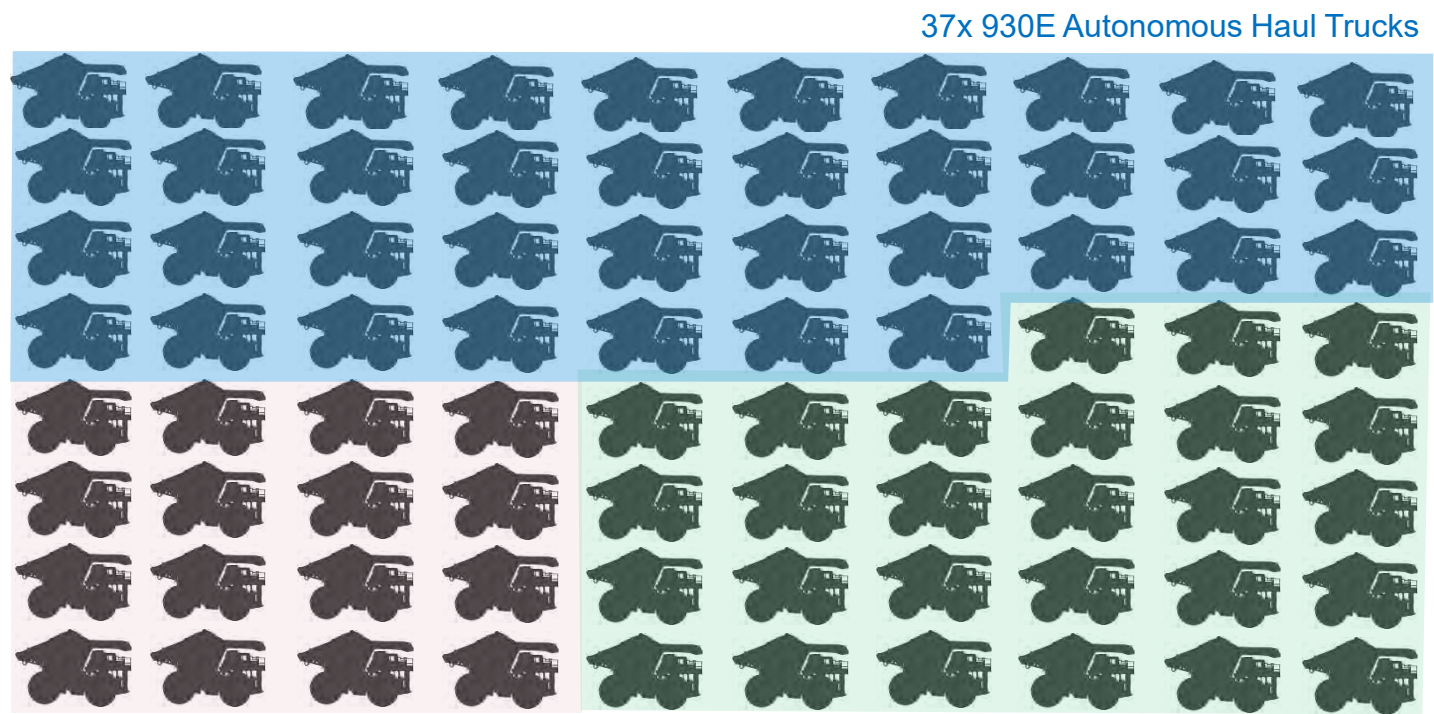


Loaders - 2 x Letourneau L-2350, 2 x Letourneau L-1850, 2 x Komatsu WA1200 and 5 x CAT993.

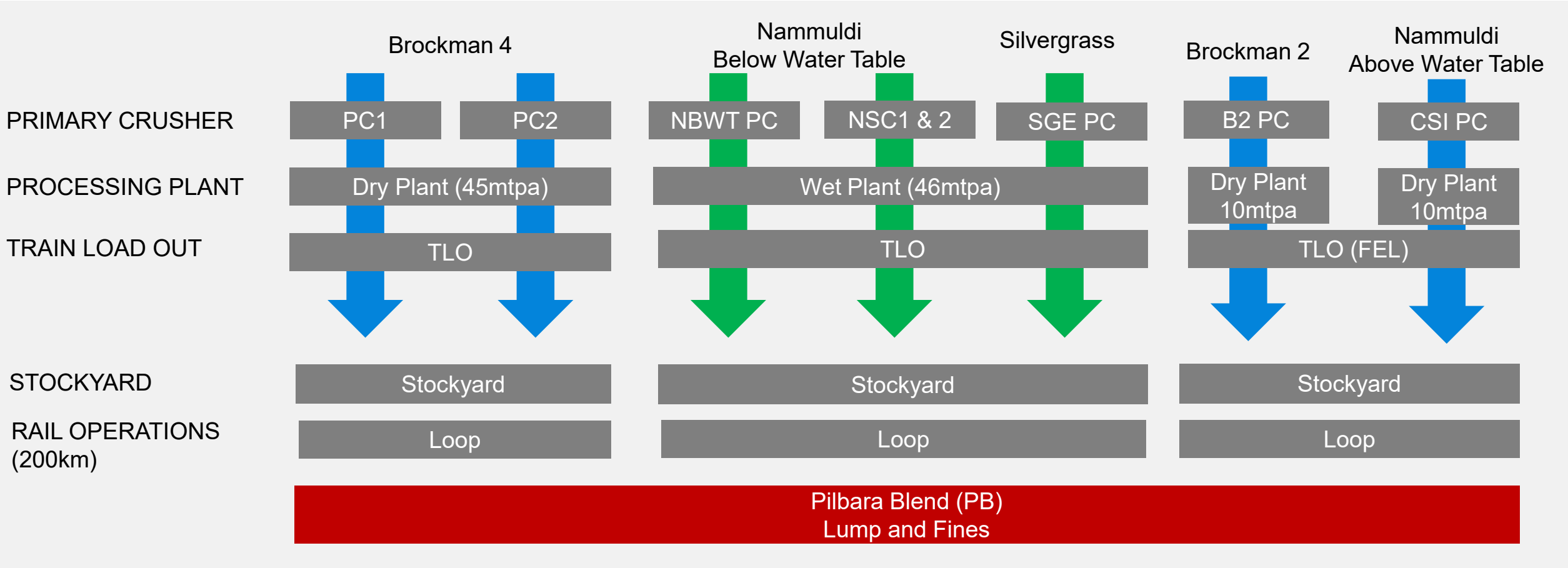
20



80



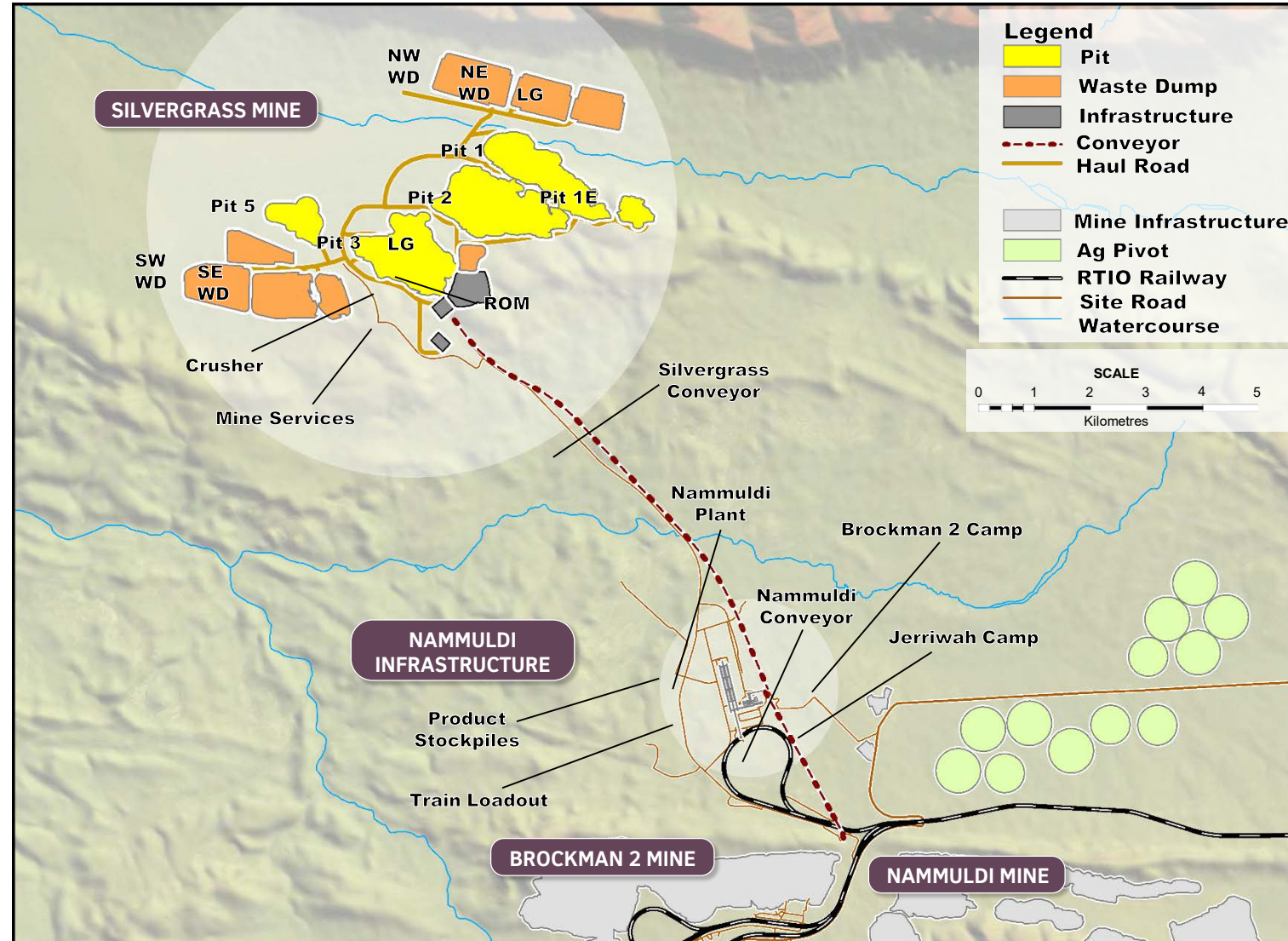
GBO is instrumental in delivering our Pilbara Blend through our integrated production system



Ore Types: Brockman Marra Mamba

Silvergrass our newest mine

- First low-phosphorus ore 5 Nov 2017.
- Primary crusher with 9km conveyor connecting existing infrastructure at NBWT Plant.
- Extension of Nammuldi workshop (4 bays, tyre change and storage facility and light vehicle workshop, fuel facility and wash bay).
- Other infrastructure - office and crib facilities, emergency services.
- Upgrade of Jerriwah Village.



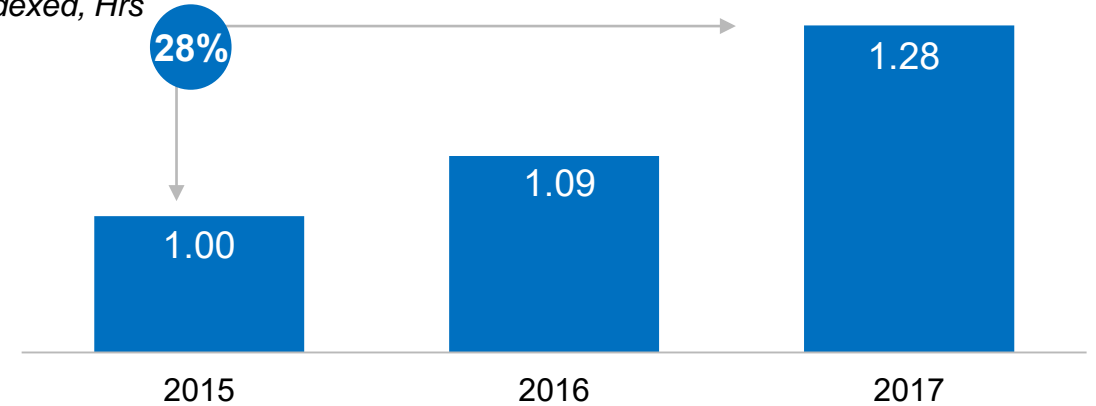
GBO are demonstrating cost and productivity wins....

Focused on;

- Delivering the tonnes and grade of ore to meet system requirements.
- Increasing plant performance and asset reliability.
- Continuous improvement of manned and autonomous fleet optimisation.
- Retrofitting drills to support autonomous drill technology.
- Improving train loading times to support debottlenecking rail.

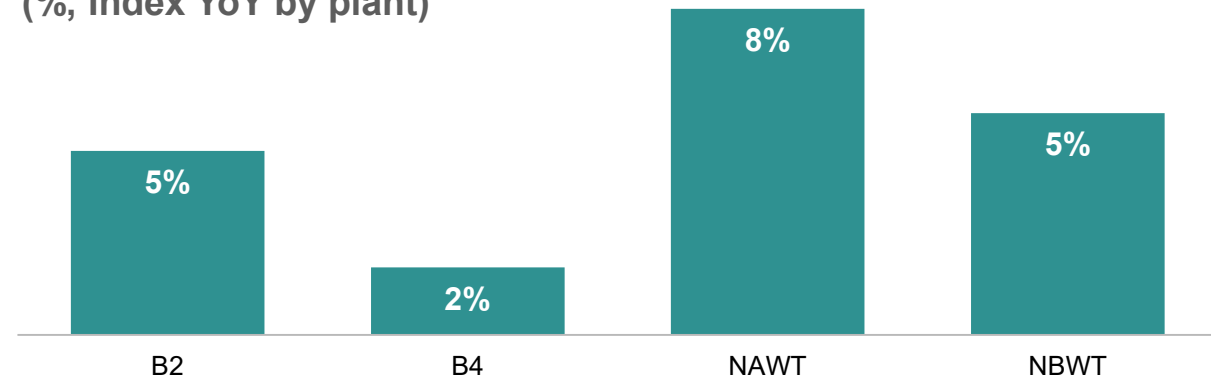
Brockman 2 Plant Operating Time

Indexed, Hrs



2017 Improvement in Asset Utilisation Rate

(%, Index YoY by plant)



And today you will see our progress

AHS in operation - Silvergrass



The Rio Tinto logo, consisting of the word "RioTinto" in white serif font on a red rectangular background.

RioTinto

The Operations Centre (OC)

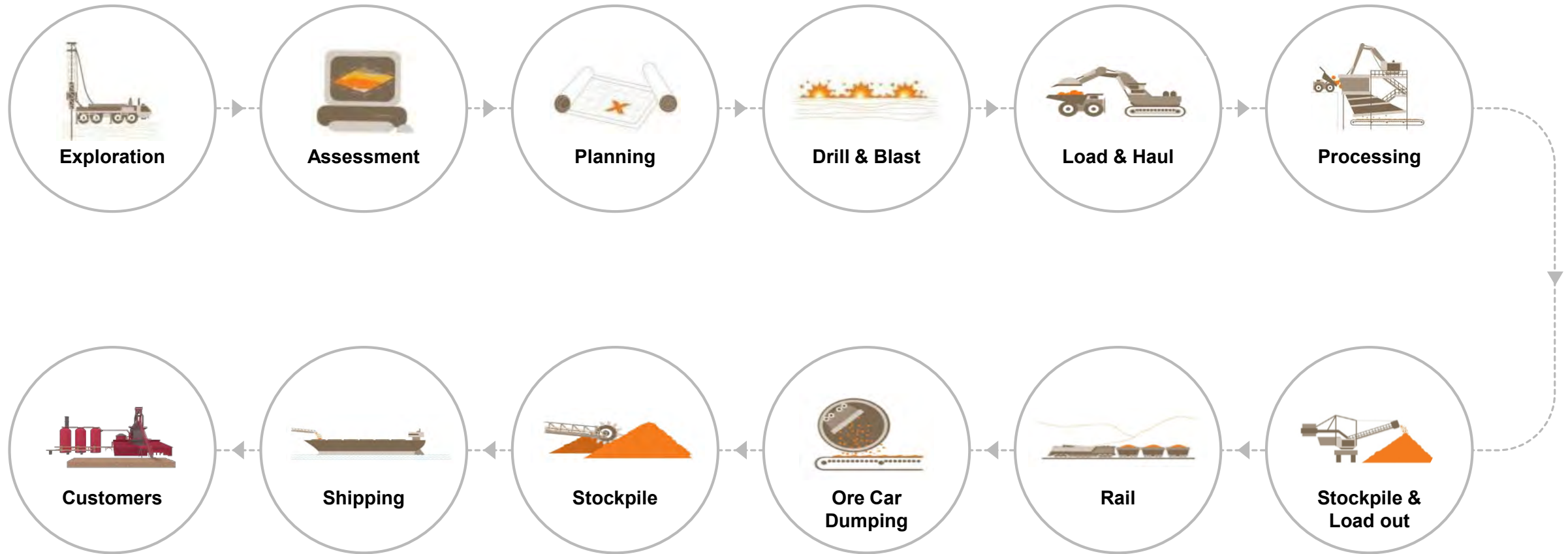
The nerve centre of the integrated network

Kellie Parker

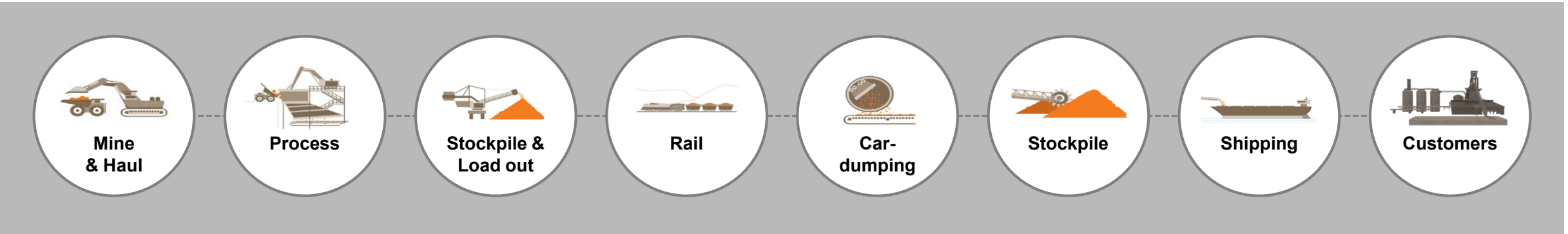
Managing Director, Planning, Integration and Assets



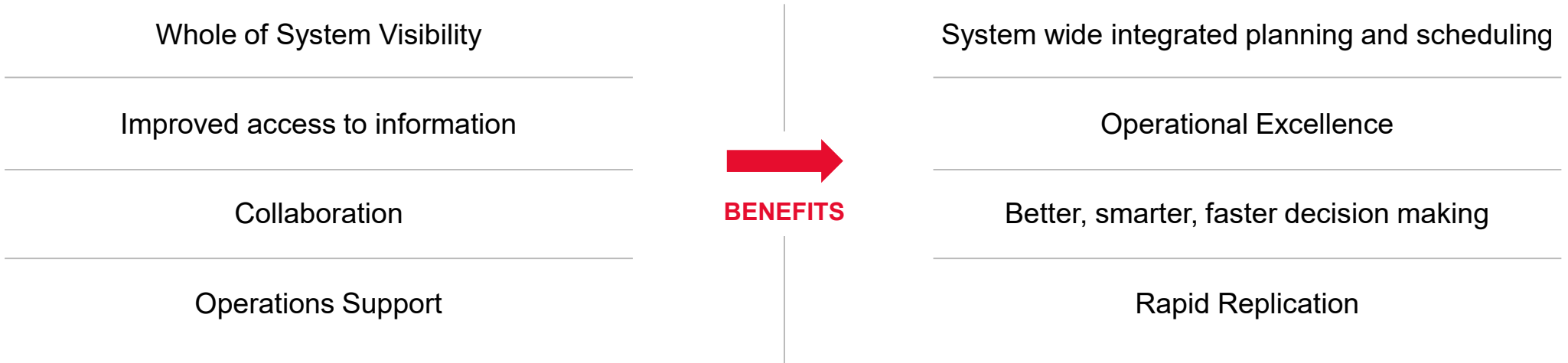
Seamless integrated operations.....



...optimising schedule and performance of the system



Operations Centre



Managing an integrated system of

Operations Centre

Control, Monitor and Optimise the integrated system

Mine



16 Mines

>370 Trucks Manned & AHS

Autonomous Haulage

95 Trucks

3 sites - HD4, NAM, YAN

Autonomous Drills

11 drills currently

WAN (7) & YAN (4)

Plant



10 sites with 12 Fixed Plants
(Wet & Dry)

Remote TLO - B4,
NBWT, Mesa A

Rail



1700 Km of rail network

>200 locomotives

>12,000 wagons

Ports



Operation **4 Ports:**
CLA, CLB, PPT, EII

Dumping & Stacking /
Stockyard Management

Reclaiming & Ship Loading

Asset health

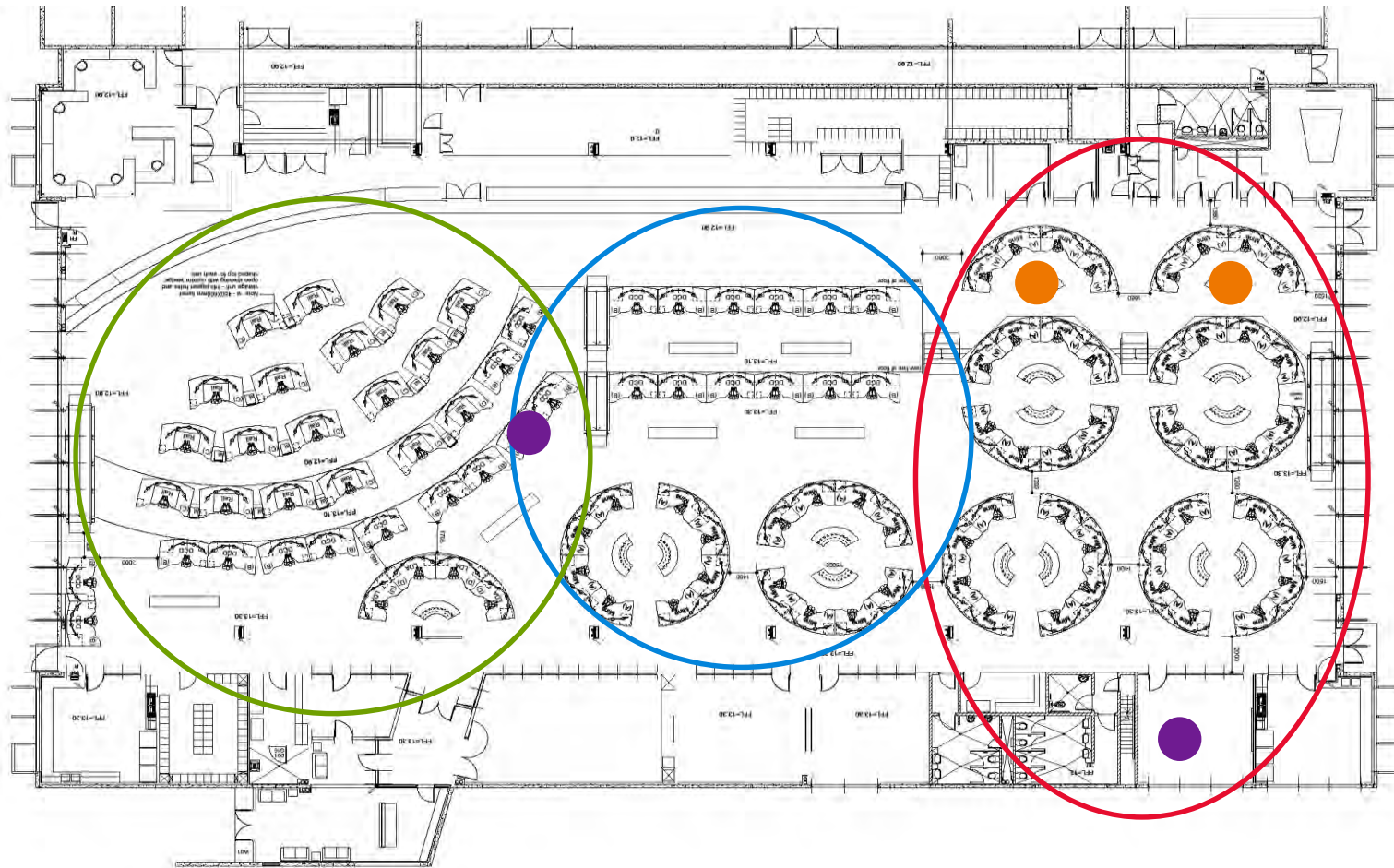


Real-time monitoring of
fixed and mobile assets

AutoHaul® Locomotive
Monitoring & Signals
& Networks

Condition Monitoring
& Oil Analysis

The OC of today is very different to the OC of 2007



- Rail
- Asset Health, Ports & Dynamic Scheduling
- Mining & Plants
- Increased AHS presence
- Newest- Autonomous Drills

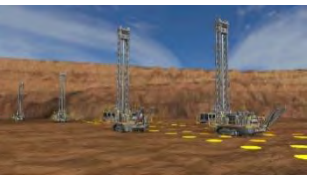
We have been busy building our integrated system; underpinned by pioneering advancements in technology...



2007
Operations Centre and automated truck trials (AHS)



2009/10
Automated trucks Pilbara 'A Pit' trial



2010/11
Autonomous Drilling System (ADS) trial



2014
Deployment of ADS and RTVis™



2016
Mobile-device production reporting



2017/18
First Autonomous Drill deployment / retrofit commences



2008
Automated train trial (manned)



2010
Operations Centre commissioned



2012
Automated truck deployments



2015
Transition automated truck control to the Operations Centre



2017
First unmanned rail journey First AHS retrofit ADS to OC



2018
Regulator Approval AutoHaul® VET Skills Launch

... and we are the pioneers of autonomous technology

Autonomous haul trucks - AHS

Improved safety, productivity & operating costs

95 autonomous haul trucks

Av. 1,000 more hours

15% lower load and haul cost in 2016 than conventional haul trucks



Autonomous drills - ADS

11 autonomous drills across two sites –
West Angelas & Yandicoogina

1,000 drill hours > conventional drills in 2017

Being deployed at Silvergrass



AutoHaul®

Full implementation –
end 2018, regulator approval completed

6% speed improvement in autonomous mode

Step change in safety and productivity



Supporting the journey.....

Pioneering technology

Advanced Decision Support
Integrated Automation
Big Data Infrastructure
Enhanced Data Capability



Innovative projects

AutoHaul®
Machine to machine control loops
Productivity monitoring apps



Skills of the future

Connected Teams
Skills for jobs of the future



Industry leading technology driving productivity...

Machine / Asset Automation

Improved safety and productivity

Autonomous drills (ADS)

Explosive charging improvements

Autonomous haulage system (AHS)

AutoHaul®

Networked machines

Control systems connected at all interfaces

Mine Automation System (MAS)

Visualisation tools (RTVIS™)

Control Loops

Customer to ore body knowledge

End-to-end value optimisation

Artificial Intelligence across the entire system

Dynamic System Optimisation



A fully automated system, mine to customer, integrated system delivering maximum value.

The operations centre will continue to extend our competitive advantage by.....

Integrating and managing the fully integrated system.

Maximising value from our operations, with value underpinning decision making.

Right quality at the right time delivered through the dynamic system.

Leading in technology and automation.

