Western Australia Iron Ore Port & Rail update

Presentation & Speech

5 October 2022

Cindy Dunham, General Manager Port

Hi everyone, and welcome to Port Hedland.

I'm Cindy Dunham, General Manager Port.

I'm here today with Warren Wellbeloved, General Manager Rail, to take you through some of the exciting things we are doing at our Port and Rail operations.

For those of you who don't know me, I've been in charge of our Port operations for a year now, and prior to this have had a long and varied career with companies such as Orica, Rio Tinto, Newmont and Fortescue in leading roles with a strong commercial and supply chain focus.

Warren, who will also be speaking to you today, has been in charge of Rail for over three years, as part of a 17-plus year career at BHP, including roles on the Port and well as Rail side.

That Warren has worked in both areas is not at all surprising. Our two operations, and roles, are interlinked.

Between Port and Rail, we provide a world-class, safe, reliable and highly efficient service that takes ore from our Pilbara mines and delivers it through an integrated supply chain to vessels that deliver it to customers around the globe.

As you have seen over the last couple of days, we have some of the world's largest, most efficient and most technologically advanced iron ore mines.

Our focus at Port and Rail is to remove potential bottlenecks across our supply chain to allow us to get more of our iron ore onto more ships, and to do so in a safe, reliable, efficient and cost-effective way.

In FY22, we delivered record sales volumes of 284 million tonnes of iron ore and, following the recent Pilbara Port Authority (PPA) reviews, we now have the capacity to lift this volume to 300 million plus tonnes per year in the medium term, and potentially up to 330.

Port capacity restrictions are no longer a constraint for us here.

Warren and I would like to take you through how we intend to – or in the case of 330, could – achieve this.

Disclaimer

Forward-looking statements

This presentation contains forward-looking statements, including: statements regarding our strategy, our values and how we define success; our expectations of a competitive advantage for our business or certain products; our commitment to generating social value; our commitments under sustainability frameworks, standards and initiatives; our intention to achieve certain sustainability-related targets, goals, milestones and metrics; statements regarding trends in economic outlook; commodity prices and currency exchange rates; demand for commodities; medium-term guidance; production forecasts; operational performance; expectations, plans, strategies and objectives of management; climate scenarios; assumed long-term scenarios; potential global responses to climate change; the potential effect of possible future events on the value of the BHP portfolio; closure or divestment of certain assets, operations or facilities (including associated costs); anticipated production or construction commencement dates; capital expenditure or costs and scheduling; operating costs, including unit cost guidance; and shortages of materials and skilled employees; anticipated productive lives of projects, mines and facilities; provisions and contingent liabilities; and tax and regulatory developments.

Forward-looking statements may be identified by the use of terminology, including, but not limited to, 'guidance', 'outlook', 'prospect', 'target', 'intend', 'aim', 'ambition', 'aspiration', 'goal', 'project', 'anticipate', 'estimate', 'plan', 'believe', 'expect', 'commit', 'may', 'should', 'must', 'will', 'would', 'continue', 'forecast', 'trend', 'annualised' or similar words. These statements discuss future expectations concerning the results of assets or financial conditions, or provide other forward-looking information.

The forward-looking statements are based on the information available as at the date of this presentation and/or the date of the Group's planning processes or scenario analysis processes. There are inherent limitations with scenario analysis and it is difficult to predict which, if any, of the scenarios might eventuate. Scenarios do not constitute definitive outcomes for us. Scenario analysis relies on assumptions that may or may not be, or prove to be, correct and may or may not eventuate, and scenarios may be impacted by additional factors to the assumptions disclosed.

Additionally, forward-looking statements in this presentation are not guarantees or predictions of future performance, and involve known and unknown risks, uncertainties and other factors, many of which are beyond our control, and which may cause actual results to differ materially from those expressed in the statements contained in this release. BHP cautions against reliance on any forward-looking statements or guidance, particularly in light of the current economic climate and the significant volatility, uncertainty and disruption arising in connection with the Ukraine conflict and COVID-19.

For example, our future revenues from our assets, projects or mines described in this release will be based, in part, upon the market price of the minerals, or metals produced, which may vary significantly from current levels. These variations, if materially adverse, may affect the timing or the feasibility of the development of a particular project, the expansion of certain facilities or mines, or the continuation of existing assets.

Other factors that may affect the actual construction or production commencement dates, costs or production output and anticipated lives of assets, mines or facilities include our ability to profitably produce and transport the minerals and/or metals extracted to applicable markets; the impact of foreign currency exchange rates on the market prices of the minerals or metals we produce; activities of government authorities in the countries where we sell our products and in the countries where we are exploring or developing projects, facilities or mines, including increases in taxes; changes in environmental and other regulations; the duration and severity of the Ukraine conflict and the COVID-19 pandemic and their impact on our business; political uncertainty; labour unrest; and other factors identified in the risk factors discussed in section 9.1 of the Operating and Financial Review in the Appendix 4E and BHP's filings with the U.S. Securities and Exchange Commission (the 'SEC') (including in Annual Reports on Form 20-F) which are available on the SEC's website at www.sec.gov.

Except as required by applicable regulations or by law, BHP does not undertake to publicly update or review any forward-looking statements, whether as a result of new information or future events. Past performance cannot be relied on as a guide to future performance.

Presentation of data

Unless specified otherwise: operations includes operated assets and non-operated assets; total operations refers to the combination of continuing and discontinued operations; continuing operations refers to data presented excluding the impacts of Onshore US from the 2017 financial year onwards and excluding Petroleum from the 2021 financial year onwards; references to Underlying EBITDA margin exclude third party trading activities; data from subsidiaries are shown on a 100 per cent basis and data from equity accounted investments and other operations is presented, with the exception of net operating assets, reflecting BHP's share; medium term refers to our five year plan. Numbers presented may not add up precisely to the totals provided due to rounding. All footnote content (except in the Annexures) is contained on slide 18.

Non-IFRS information

We use various Non-IFRS information to reflect our underlying performance. For further information please refer to Non-IFRS financial information set out in section 11 of the Operating and Financial Review in the Appendix 4E for the year ended 30 June 2022.

No offer of securities

Nothing in this presentation should be construed as either an offer or a solicitation of an offer to buy or sell any securities, or a solicitation of any vote or approval, in any jurisdiction, or be treated or relied upon as a recommendation or advice by BHP. No offer of securities shall be made in the United States absent registration under the U.S. Securities Act of 1933, as amended, or pursuant to an exemption from, or in a transaction not subject to, such registration requirements.

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In this release, the terms 'BHP', the 'Company, the 'Group', 'BHP Group', 'our business', 'organisation', 'we', 'us', 'our' and ourselves' refer to BHP Group Limited and, except where the context otherwise requires, our subsidiaries. Refer to note 28 'Subsidiaries' of the Financial Statements in the Appendix 4E for a list of our significant subsidiaries. Those terms do not include non-operated assets. This release covers BHP's functions and assets (including those under exploration, projects in development or execution phases, sites and closed operations) that have been wholly owned and/or operated by BHP or that have been owned as a joint venture[1] operated by BHP (referred to in this release as 'operated assets' or 'operations') during the period from 1 July 2021 to 30 June 2022.

BHP also holds interests in assets that are owned as a joint venture[1] but not operated by BHP (referred to in this release as 'non-operated joint ventures' or 'non-operated assets'). Notwithstanding that this release may include production, financial and other information from non-operated assets, non-operated assets are not included in the BHP Group and, as a result, statements regarding our operations, assets and values apply only to our operated assets unless stated otherwise.

1. References in this release to a 'joint venture' are used for convenience to collectively describe assets that are not wholly owned by BHP. Such references are not intended to characterise the legal relationship between the owners of the asset..

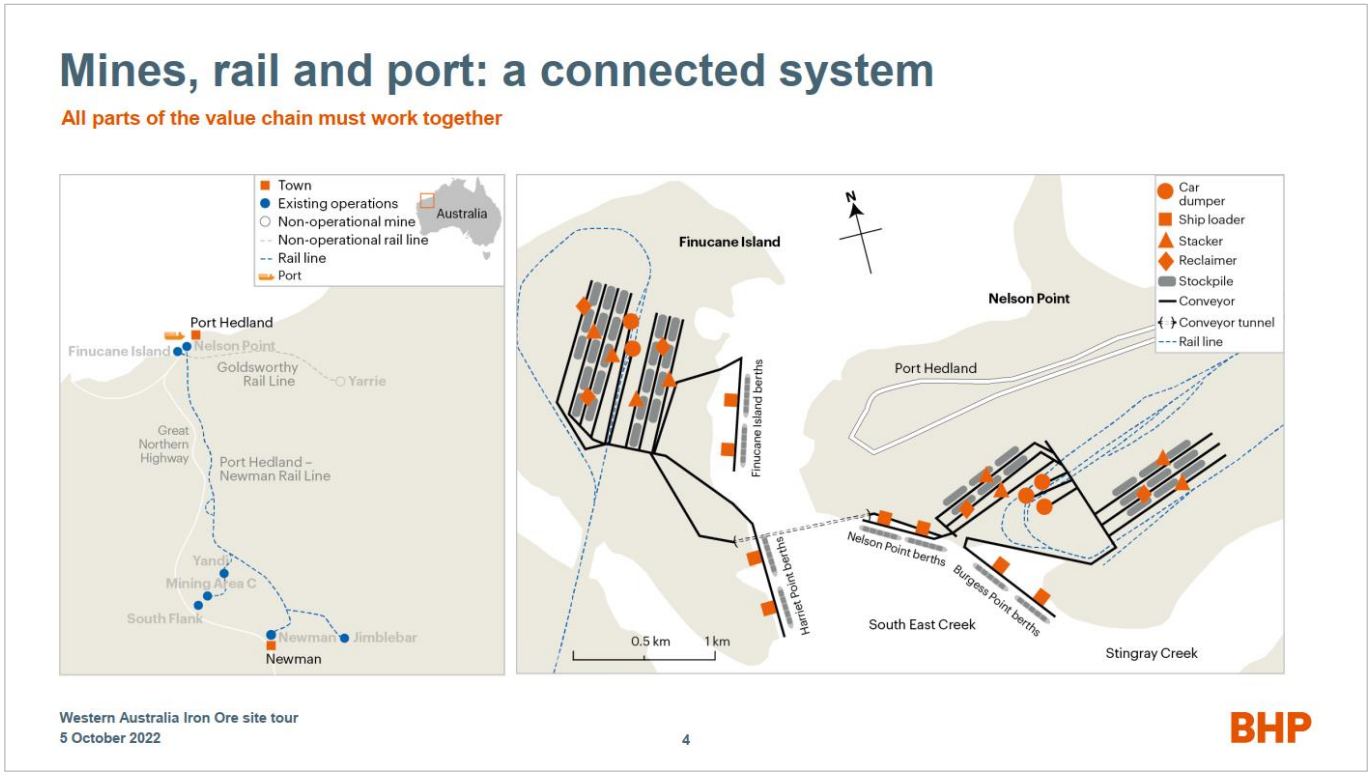
Warren Wellbeloved, General Manager Rail

Good morning, everyone. I think the most important work is starting today by acknowledging the Traditional Owners of the land on which we meet today, the Kariyarra people here in Port Hedland.

It's equally important to acknowledge the Traditional Owners of the lands on which our other operations are situated, specifically the Whadjuk and Noongar, Nyiyaparli, Banjima, Palyku and Njamal people, which were in the region a long time before BHP.

I'm pleased to say our relationship with the Traditional Owners, here in Port Hedland and across our operations, have improved significantly over the last few years. And really is a testament to the work that both communities here in Port Hedland and across Pilbara, as well as our people at BHP, have put into establishing a strong and sustainable relationship.

Cindy and I will talk later about what that means to our community.



Warren Wellbeloved, General Manager Rail

It's important that we get across a number of aspects of both the Port and the Rail so please feel free to ask any questions at the end.

Here's a graphic of both our Rail network and our Port operations at Port Hedland.

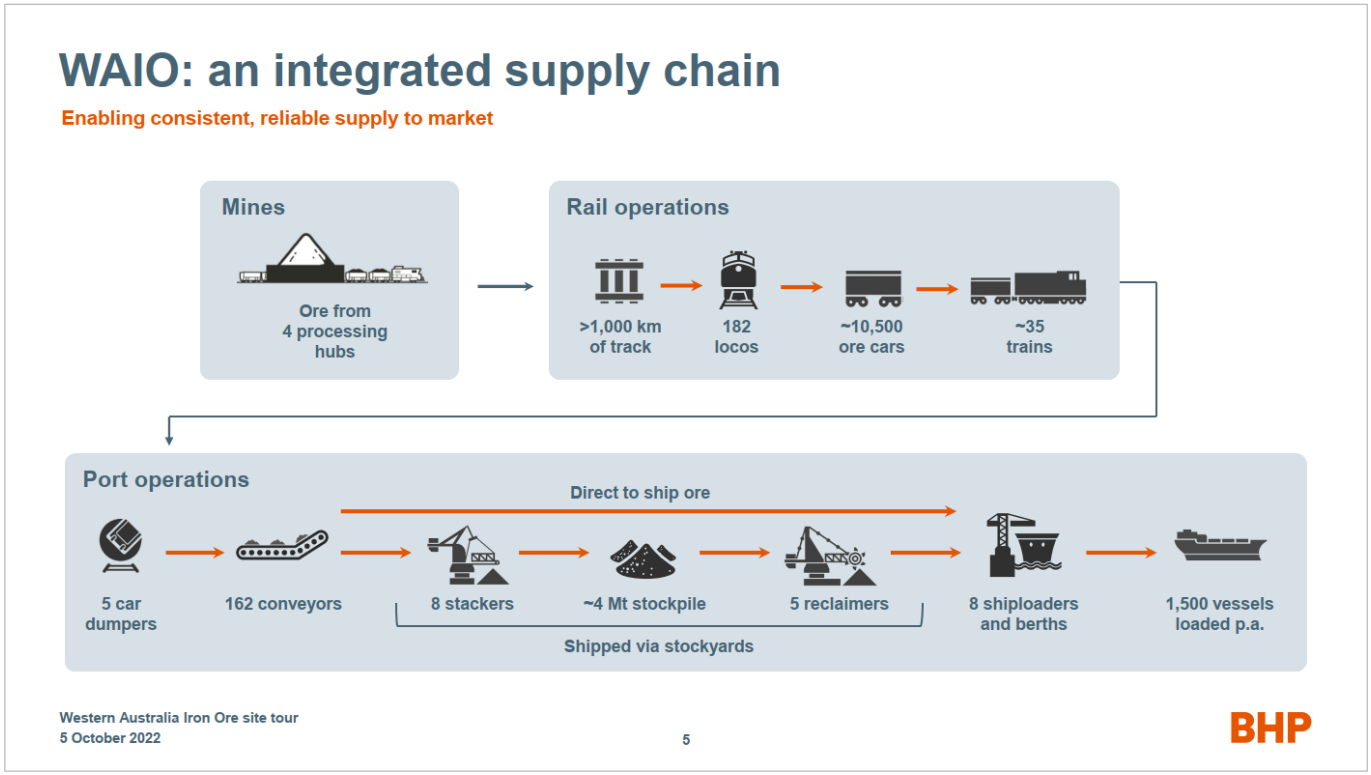
Port and Rail are an integral part of our supply chain. Our supply chain is heavily integrated all the way from the pit to the Port. And it relies heavily on our hub strategy, delivering value to our customers on time. Together, Cindy and my teams are responsible for delivering ore to our customers that takes up to a 400 km run from Newman to Port Hedland. And spans about 1,300 km of track across the Pilbara.

You can see in the graphic on the left-hand side where you visited yesterday at South Flank, it is closely situated with the Yandi and the MAC mines. To the east we have the Jimblebar and Newman hubs as well.

The cycle time to our oldest mine on the main track round trip is around 20 hours, and we run a dual main line from Yandi junction where the two lines meet just north of Yandi, then go all the way into Port Hedland.

It's a supply chain that's been built over 50 years. Mining kept evolving here in Port Hedland and Newman over 50 years. As we've grown over that time, it does come with a bit of complexity in a supply chain. However, we believe that the way we've leveraged this infrastructure gives us a competitive advantage.

The Nelson Point and Finucane Island operations are split across two sides of the harbour. You'll get an opportunity to visit both sides of it today, and you'll see that we've got a number of stock yards situated on both the western side of Finucane Island and on the eastern side of Nelson Point.



Warren Wellbeloved, General Manager Rail

We run a highly integrated supply chain here in Hedland, to the point that it enables up to 50% of our product to go directly from the mine and into the cargo hold of the vessel. This maximises efficiency through our supply chain.

Our product strategy, coupled with the great work from the Port and the Rail teams and supported by our Integrated Production and Rail Operations team in Perth, ensures that happens on a 24/7 basis.

There are a lot of assets involved, starting with our four hubs and leading all the way through to our eight ship loaders. We have over 1,300 km of track and we run over 180 locomotives, and over 10,000 ore cars. Those split up over 35 trains across the network. The trains are over 2.5 km long and, fully loaded, are over 40,000 tons.

At the Port, we've got five car dumpers aging from 50 years old to 10 years old, and you'll get a great opportunity to see some of those today. Over 160 conveyors, incrementally growing with the operation over time. They then feed eight stackers, five reclaimers, and then the eight ship loaders and eight berths all spread across the length of the Port.

We believe we have a competitive advantage from the supply chain, but what does that actually mean in creating wealth?

This is a map of our capacity infrastructure of 240 Mt, and we're currently running at over 280 Mt. How have we done that, you may ask? At a high level it's through our focus on operational excellence. Our culture, our systems, and our technology are the backbone and we've taken targeted decisions to invest in lowering costs and debottlenecking across the supply chain.

Importantly, because of this systematic approach, we believe this forms a strong foundation for us to grow capacity further across the supply chain.

We're recognised by our customers for reliably delivering our product on time. Our product goes directly from the mine to a cargo hold. And coupled with our great quality, we are realising a superior price for our products.

Warren Wellbeloved, General Manager Rail

We're going to take a step away from the technical production side and talk about something close to our hearts here at Port Hedland.

Social value is often talked about across different businesses. The examples on this slide show what that means in a community like Port Hedland.

You may have heard Caroline Cox talk about our social value framework back in June, but we've picked some examples of what that means for our group. I'm particularly proud of having lived in the Port Hedland community with my family for over 10 years. Some of these social value projects and initiatives have made a difference directly to my own family and our employees, but also, and more importantly, to the broader community and the health of the region.

I'll start with the decarbonisation side of things. We've recently signed a Power Purchase Agreement for South Flank and Port Hedland, which will cut our emissions ~50% by 2025. That's a big step for a town that relies primarily on gas turbine power generation and is a first step on our pathway to decarbonisation.

I'm particularly excited about the battery-electric motors for the newer train sets, and we met with some of our OEMs here in Port Hedland yesterday, who came to check out the network. We'll see our first battery-electric locomotive from both Wabtec and Progress Rail, two major international manufacturers, being delivered within the next 18 months.

Today, you'll also see the investment that we're making in the environment at Port Hedland to manage dust at a world class level. We'll be installing, the first of its kind in Australia, wind fences to manage any blow off and other wind blowing factors in terms of dust in the town and the surrounding areas.

We'll also see examples of the green campaign that we're undertaking in the West End, and an opportunity to talk to some of our operators in the Port around the approach that we take to managing dust within the operation all the way through the supply chain.

Pathways into employment are an area where we've made quite a significant change in the last few years, and that delivers a safe, inclusive, and diverse workforce for us. This is particularly important in the current social climate, but also in the current labour market where labour is at a premium and not always at the quality that we need.

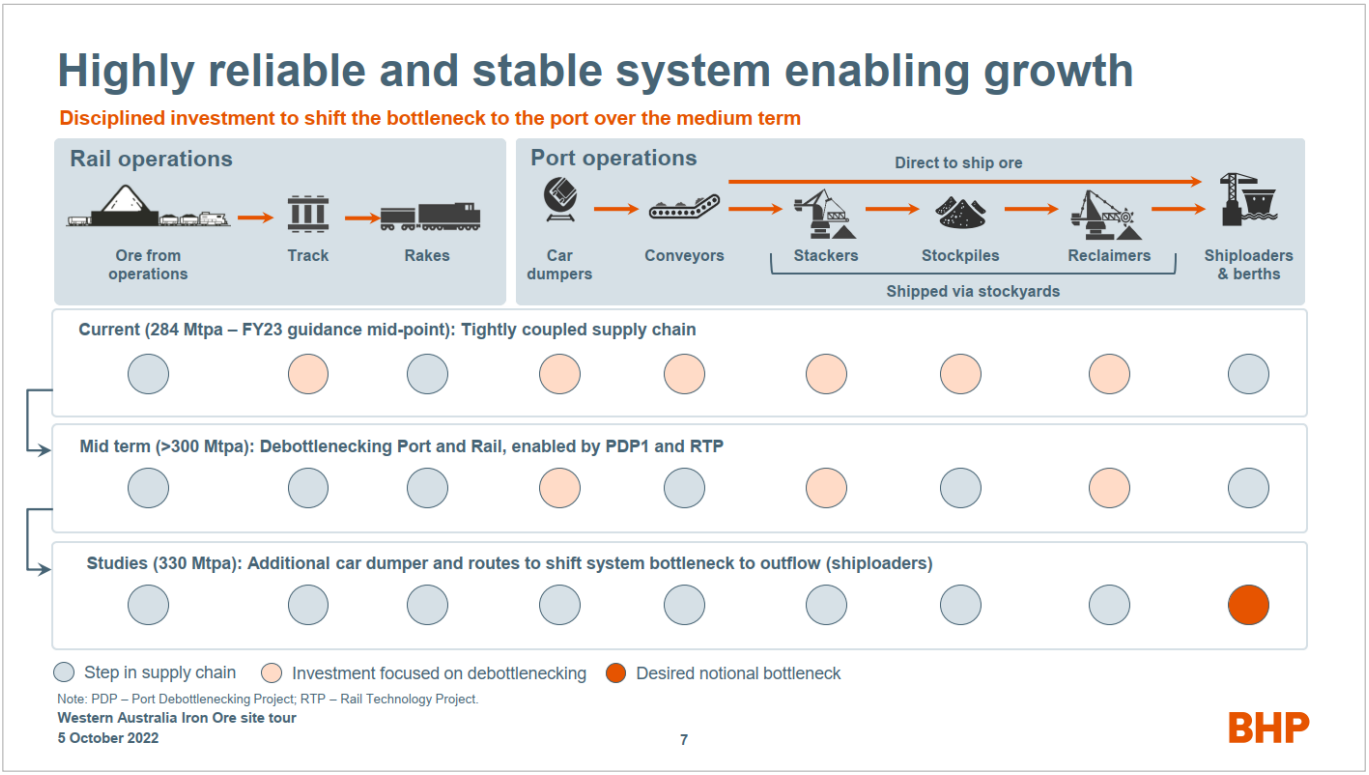
This is our opportunity to make a difference in the communities in which we operate. You may have heard about the Future Fit Academy that we're running in Perth. However, one of the examples that we have in Rail is the Train Driver Academy, which is the first of its kind in the mining industry. We set up the Academy last year and had the first driver graduate earlier this year.

Creating social value (continued)

Of the 60 graduates that came out in the community and industry, about 70% of those graduates were women and over 20% were Indigenous. When you talk to them about how these jobs changed their lives, and the opportunity it presents for them to take a completely different trajectory in life, their pride extends onto that. That pride really comes through in our people and it changes the culture for the better, for everyone that they touch.

Our responsible supply chain connects us to our customers, but one of the things I wanted to spend time on and the reason I'm ending with one of the middle columns is the Indigenous partnerships across our Traditional Owners. This relationship continues to improve and we've put a lot of effort into it.

Cindy and I are in the middle of negotiating a land use agreement with the Kariyarra Aboriginal Corporation. More importantly, that translates into both economic and social benefits for the Kariyarra people here in Port Hedland. With our targets we've set around economic empowerment, we've put a lot of effort into structuring those relationships for the sustainable future so we can create an environment where we have a thriving community to support a thriving business. That virtuous cycle is very important to us here at Port Hedland.



Cindy Dunham, General Manager Port

This slide drills down on the one Brandon showed a couple of days ago. It shows the notional bottlenecks within Port and Rail as we look to increase our production to over 300 Mt a year in the medium term.

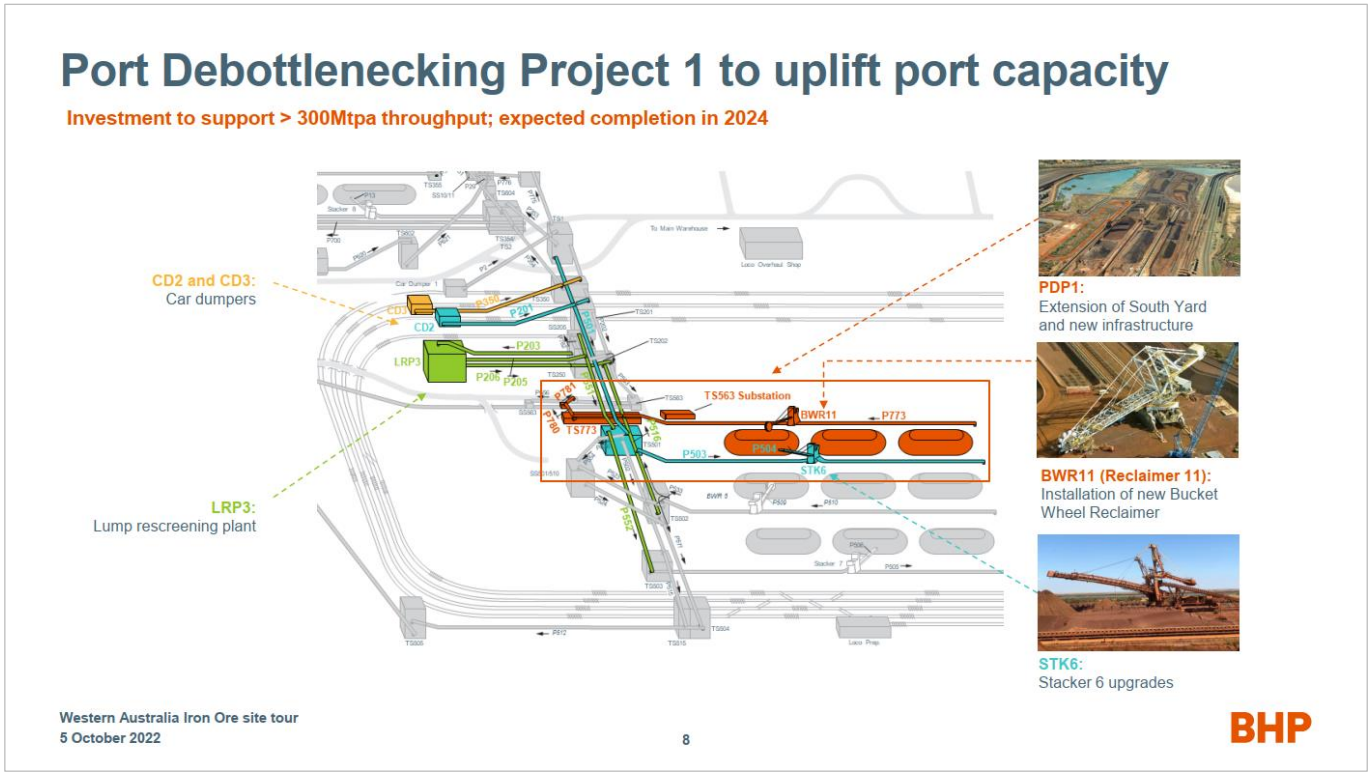
We have delivered exceptional results in increasing system capacity so far and this gives us confidence that in the medium term we can increase production to over 300 Mtpa.

As Brandon mentioned a couple of days ago, this will require some low-cost investments at our Port and Rail operations, in addition to our continued focus on productivity.

In order to achieve this, we will need to address the Port bottleneck and this will require capital investments across most key areas at Port, which you can see in the 300 Mtpa run rate case in orange.

We are also studying options to increase production to 330 Mtpa, which will most likely require an additional car dumper, as well as additional balanced machines.

First, let's have a closer look at our Port Debottlenecking Project 1 (PDP1), a key initiative to enable us to increase capacity.



Cindy Dunham, General Manager Port

We announced PDP1 in October 2021.

This is a low capital project that will focus on the South Yard, a stockyard, which is where we will need increased capacity to stock our lump material.

This project includes a new bucket wheel reclaimer, an upgrade to our stacker, and upgrades to inflow and outflow conveyors.

South Yard is built on reclaimed land, so approximately 7,000 stone columns, each 6 metres deep and 1 meter in diameter have been installed to stabilise the stockyard founding layer.

At its peak in October 2022 and February/March 2023 the project will have over 600 construction workers onsite.

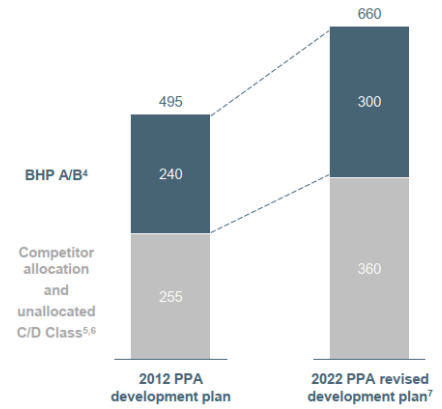
The project is progressing to plan, with tie-in works expected to occur over the next one to two years, which, while having some impact to volumes during this time, is essential to allow further growth.

Port Hedland channel capacity supports 330 Mtpa option

Port capacity secured to enable growth plans

- Pilbara Ports Authority (PPA) review enables growth of iron ore exports to 660 Mtpa through Port Hedland
  - represents a 33% increase to modelled capacity since last port plan review in 2012
  - the amended port development plan facilitates increased capacity allocations of ~25% for existing port proponents, including BHP
  - the additional priority capacity allocation provides further certainty for BHP's 330 Mtpa growth plans through unallocated contestable capacity (class D)
- Studying options for growth to 330 Mtpa[3]
  - studies expected to be completed in FY25
  - will likely require an additional car dumper, routes and yard expansion

Port Hedland channel capacity
(Port capacity allocation by class, Mtpa)



Western Australia Iron Ore site tour
5 October 2022

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BHP

Cindy Dunham, General Manager Port

Following the Pilbara Ports Authority (or PPA) review, total Port capacity has been increased by 33% to a total 660 Mtpa, with allocated capacity for each producer increased by 25%.

Of the 660 Mtpa, our A and B class allocation increases to 300 Mtpa, up from 240 in the PPA's 2012 development plan. We also have access to unallocated, D-class contestable capacity, enabling us to ship more, up to 330 Mtpa, in line with our environmental approval.

We now have access to sufficient Port allocation capacity in the Inner Harbour to achieve our plans and no longer need to consider developing the Outer Harbour, as we were looking at previously.

How these Port allocations work are a little complex and involve four categories, based on tides.

The most favourable allocation is A and B class, which allows the larger vessels which are tidally restricted cape size vessels to pass through the Port on the higher tides.

C-class capacity is non-tidally constrained, but reserved for general purpose and public access berths.

D-class capacity is available to load any excess iron ore beyond a users' allocated capacity.

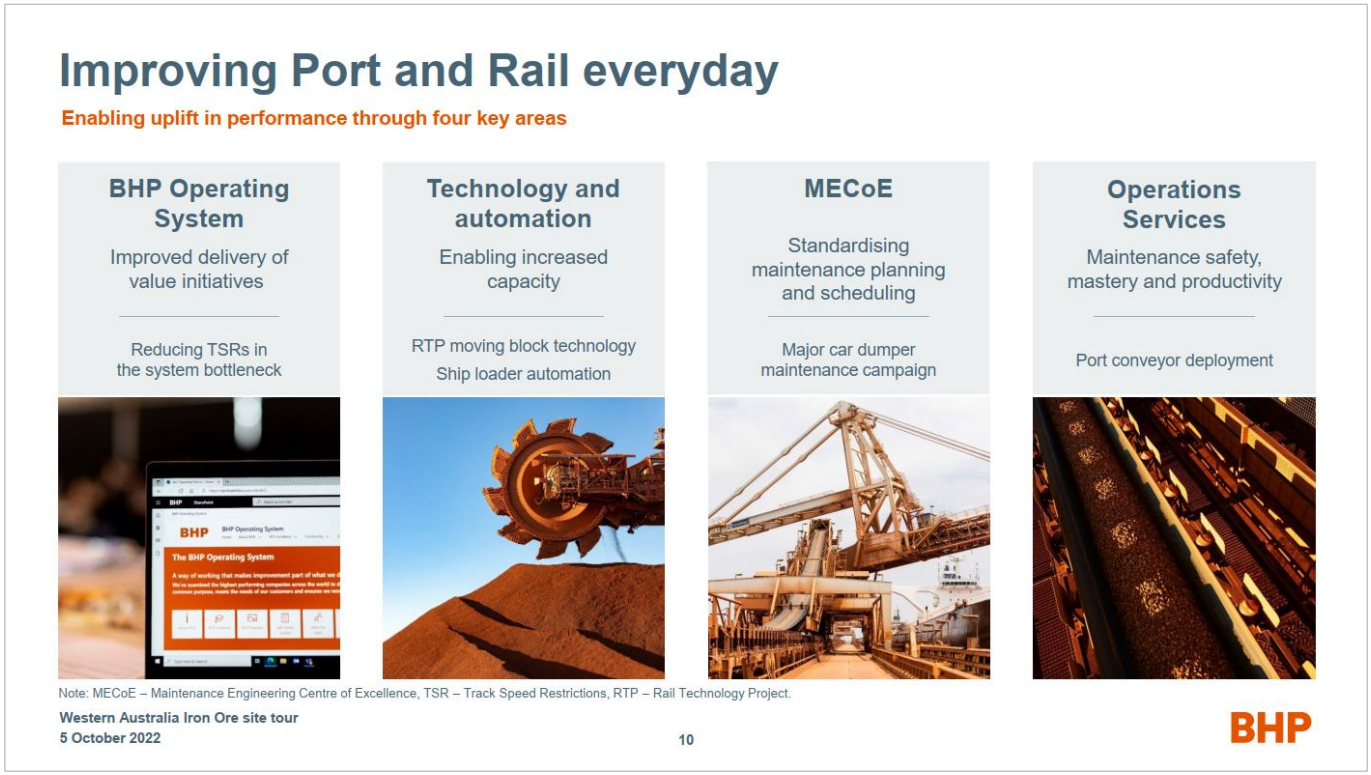
These vessels have the lowest priority sailing rights of the four classes and are accessed on a competitive basis. D-class vessels are the same size vessels as A and B Class, but they don't receive a priority booking for departure like the higher classes do.

In 2022, BHP's allocation of A and B class was lifted to 300 Mtpa, supporting our medium-term growth plans.

We are confident any further capacity we may need over time could be accessed through the D-class capacity, which has historically been sufficient for us.

So, we now have the Port capacity to support our growth.

Central to our success in delivering this growth, though, are our culture, systems, and tools. I will now hand to Warren, who will take you through how these are being leveraged to enable us to do this.



Warren Wellbeloved, General Manager Rail

We want to continue on the track of giving you tangible examples for today. You'll see some of these in action out on the field, but it's important to understand what the jump from 240 Mt to 284 and beyond means and how we get there. There are a few things we're particularly proud of at BHP, and I wanted to cover some different themes and then we'll jump into a couple of examples as well.

Here at Port and Rail, we talk about improving every day as a mechanism to focus our teams on how we work. The system we use to support that is the BHP Operating System (BOS). BOS is our way of working and we believe it sets us apart from our competitors. It's a mechanism that enables our people, but also locks in value through teams, standardised practices, and the ways of working. Today, we're going to give you an example of the TSR or the Temporary Speed Restriction improvement work that's been done by our frontline teams who are focused on improving velocity of the trains and improving the quality.

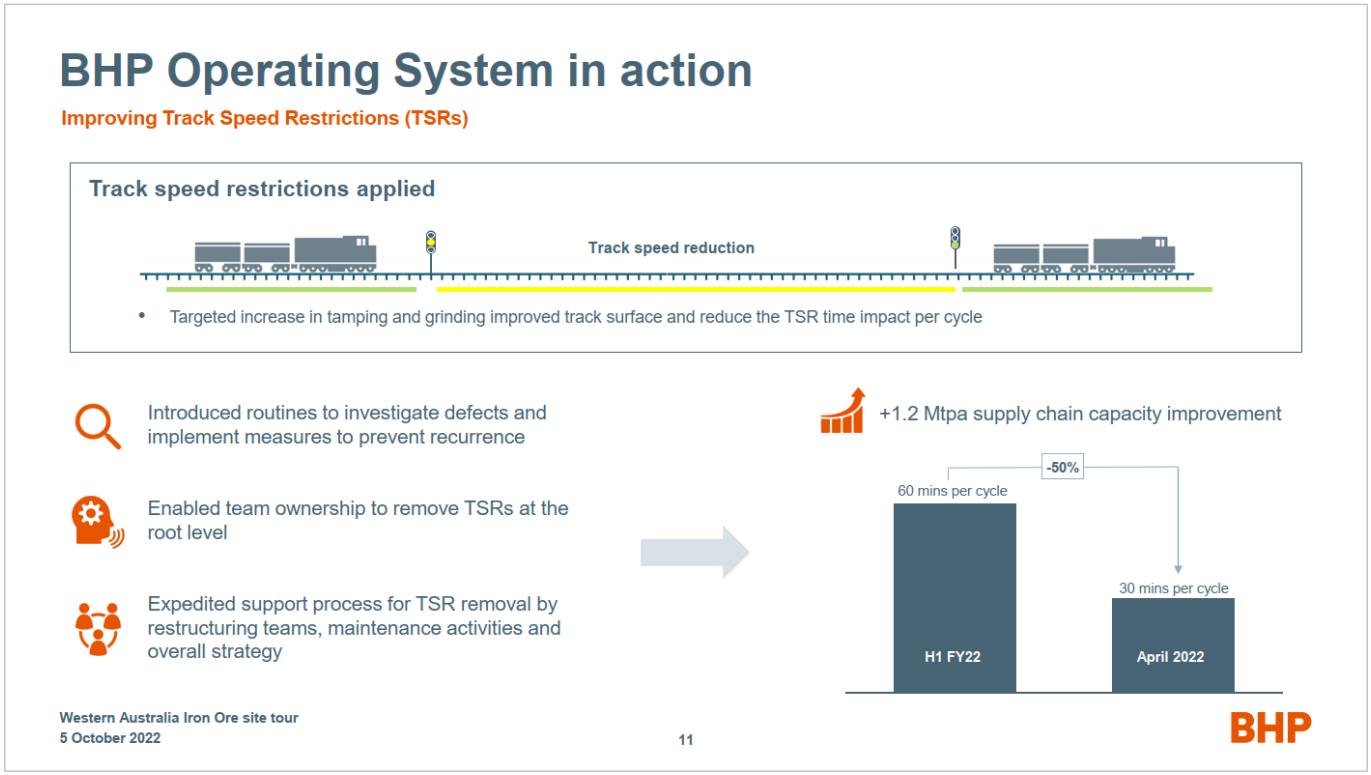
You'll see some examples today of how we've deliberately deployed technology and automation across the Port and Rail assets, and you would've seen some of those at South Flank yesterday.

We've been deliberate in our approach to improve both safety and productivity with targeted deployments of technology and automation. The examples we'll give today are around our RTP signalling system that we're currently testing, as well the ship loader automation project which is particularly exciting and the first of its kind here in Port Hedland and Australia.

Being a global company, we would be remiss not to leverage off that global knowledge, and the Maintenance and Engineering Centre of Excellence is a mechanism by which we do that. It enables us to benchmark best practices in maintenance planning, scheduling, and strategies, and we've already talked about the ability to drive real bottom line impact through machine availability and reliability. Cindy will talk you through the car dumper maintenance strategy, and you'll get an opportunity to see Car Dumper 3 (CD3) in action with some of the work that we've done there.

Finally, Operations Services, which is a broader approach to creating our own labour force. Through in-sourcing a range of service contractors, we've had the opportunity to effectively ensure that 80% or more of our workforce across our entire supply chain works for BHP. That means we guarantee reliability of supply, but we also guarantee the quality of that service.

We talk about mastery in terms of being able to focus those teams on mastering the skills and capabilities that are applied to very specific roles, and Cindy will talk to you about what we've seen in the conveyor maintenance deployment.



Warren Wellbeloved, General Manager Rail

The BHP Operating System in action, we call it BOS. We used the Rail specific example of temporary speed restriction management.

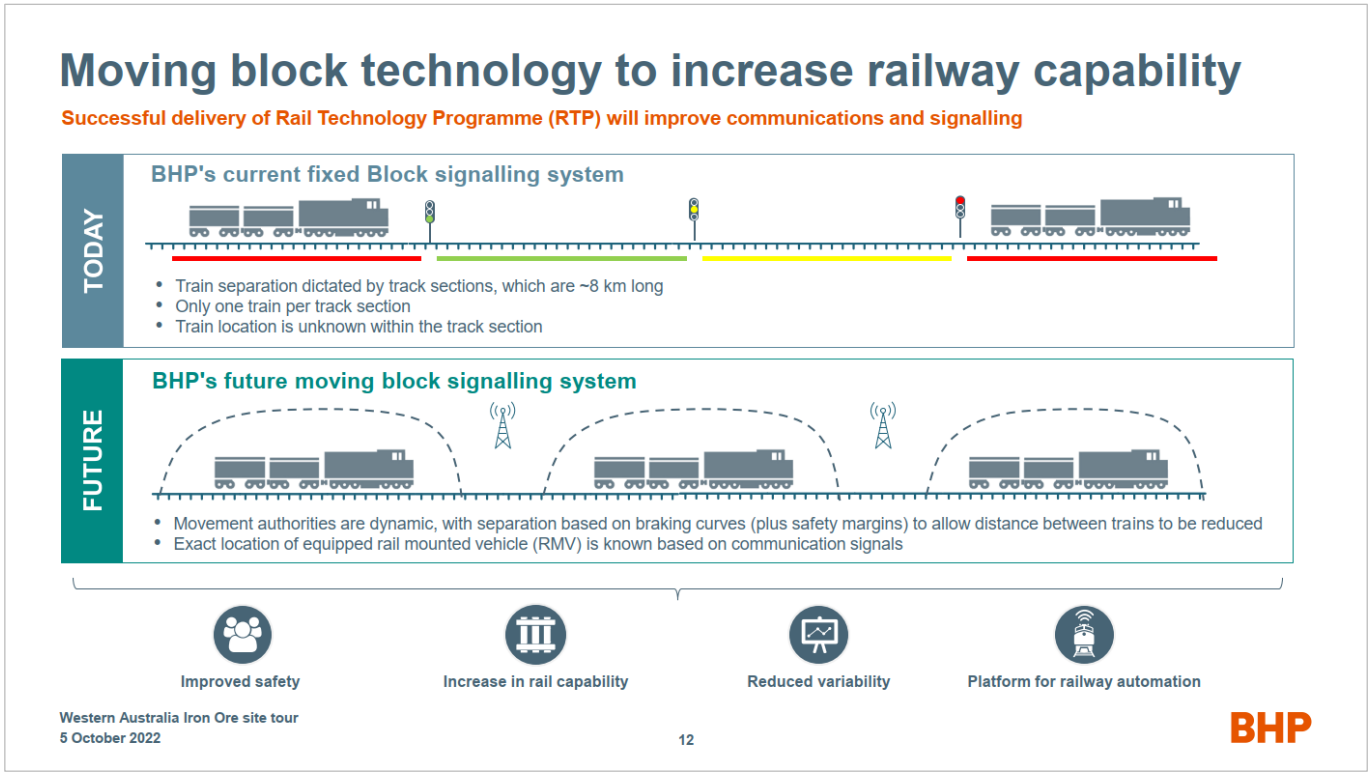
When I use the term temporary speed restrictions to people that don't have a Rail background, they ask "Is there a problem with your Rail? Is it breaking down?" But these are effectively a tool that are used across every railway in the world, from when the defect is identified in part of the asset, to the point in which it can be planned to be fixed safely and effectively. One of the tools that does get utilised is to allow them to view the trains, which gives us a more defined and more manageable period of time that we can commit to doing maintenance in.

The exciting thing about this initiative is that over the years, we've seen a degree of variability in the appointing of TSRs across the network. And this initiative relied on us really enabling our frontline to understand the impact that the temporary speed restrictions had on the network, firstly. Secondly, it empowered them to work through every defect we identified. We have their capability and their support to both solve the root cause as well as plan the most effective way to remove that defect from the network.

We set up teams to support this and visualisations in order to make sure that everyone on the team was on the common goal. That ultimately lead to a phenomenon where we were working more effectively without changing anything technically, empowering the teams who were closest to the work to more effectively deal with these examples, engineer them up with the right support. And try and look at their ways of working to more effectively achieve results

We expedited that support because the people who are actually doing the work were the ones telling us what support they need. And we've used standardised routines and practices.

What does that mean in reality? Over the course of FY22, we were able to reduce our TSRs in the network by 50%, and generate over a million tonnes of capability through the cycle supply chain on an annual basis. We apply a similar methodology to all our teams, and one of the things we focus each team on is how they impact the bottom line and enabling them to make a difference in their day-to-day work. That results in improved production, but it also results in improved culture, with people feeling more enabled to make a difference.



Warren Wellbeloved, General Manager Rail

On Monday, Brandon talked about the Rail Technology Project and the signalling system we're currently testing to replace the end of life signalling system that we have in the network.

We currently run the fixed block signalling system, which relies on the track circuit to protect trains from one another on the main line. That results in a fixed distance between the trains, and therefore you get to a point at which your network becomes saturated. You've got a number of trains in a close set together.

With the opportunity that's been presented by our current signalling system coming up to the end of its life, we're investing in a project, which is subject to further approvals before it's finalised, to move to a moving block signalling system.

Each train effectively has a hand glove around it, and the system enables us to run the trains closer together on a steady state basis. Also, and quite important from a production perspective, it improves the way in which we can bring trains to a stand when there's a disruption. It also improves the speed at which we can start them up again, thus making the system more resilient.

First, the system is safety level four rated, which means that it'll be a lot safer for our trains on the network, and a lot safer for our track workers who maintain the network across the board.

We'll see an increase in Rail capacity, and reduced variability in terms of being able to recover from any minor disruptions that were on the line. Across the 1,300 km of track there's lots of opportunity for things to get a little bit off track, and this gives us that fantastic opportunity to push things along.

Finally, assuming the approvals go through and the system is successfully tested over the forthcoming period, it does provide a platform for automation, should we choose to pursue that across the network.

Automated ship loader technology

Building autonomy into the way we work

3D laser technology
Provides real time collision information and generates a precise 3D ship model

June 2022
Testing of 2 new ship loaders

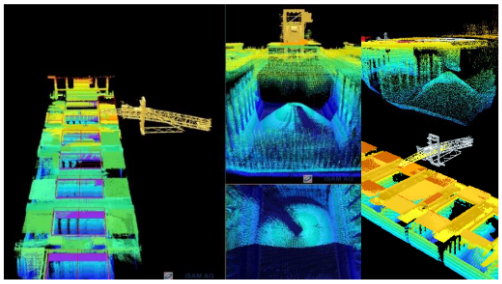
8 automated ship loaders
To be implemented by end CY23

A$50m invested
Targeted investments at our bottlenecks

1 Mt production uplift
Enables production increase

Integrated Remote Operations Centre (IROC)
Once transitioned to fully automated, they will be operated by the IROC in Perth

Safety improvement
Removing people from the line of fire



3D laser scan
Visualisation of cargo distribution

Western Australia Iron Ore site tour
5 October 2022

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BHP

Cindy Dunham, General Manager Port

We are also applying technology at our Port operations.

We have begun testing two new automated ship loaders and will take you to see one of them today.

In what is a world first, 3D laser scan technology has been used in the A$50 million project.

If successful, we will look to fully automate eight ship loaders by 2023.

The project is expected to enable an increase in production of more than 1 Mtpa through the combination of greater precision, reduced spillage, faster load times, and equipment optimisation.

MECoE and BOS in action

Realising value through the major car dumper maintenance campaign

Enabled by:

Standardised maintenance practices

- Improved preventative maintenance strategies
- Larger shuts reduce failure modes and unscheduled equipment downtime
- Condition monitoring embedded in equipment strategies

Ways of working

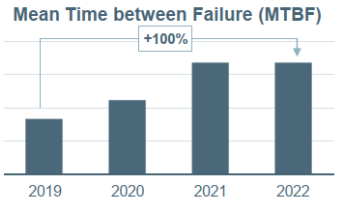
- Updated maintenance and operating philosophy
- BOS routines with a focus on embedding improvement

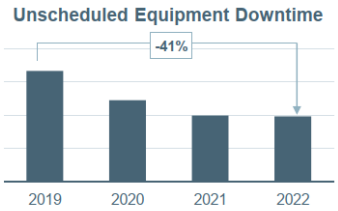
Improvement in action:

Port car dumper 1 apron feeder

- Change from tail to head driven feeder
- Improvement embedded during major shut
- 1.6Mt local capacity uplift

With visible results…





Western Australia Iron Ore site tour
5 October 2022

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BHP

Cindy Dunham, General Manager Port

Moving to an example that showcases both our Maintenance and Engineering Centre of Excellence and the application of BOS.

Our supply chain currently has five car dumpers and we will take you to see one of these today, too.

When all car dumpers are operating and optimised, we have a capacity to achieve a 320 Mtpa run rate. So they're not the bottleneck.

We operate our car dumpers to maximum efficiency and utilisation, and each car dumper has planned maintenance occurring on a 20-week strategy. During these maintenance windows we operate at 4 car dumper mode, reducing inflow capacity by around 20 per cent. The car dumpers then become the system bottleneck.

To maximise car dumper availability and reliability we implemented a Total Equipment Strategy (TES) in 2018, deploying optimised maintenance packages aligned to equipment availability and supply chain requirements.

Using BOS techniques and under the guidance of our Maintenance and Engineering Centre of Excellence, we have seen improved performance in mean time between failure increasing by 30 per cent, reductions of unplanned downtime by 40 per cent, as well as a 5 per cent increase in availability since FY19. This means more time running in five-car dumper, full capacity mode.

Additional initiatives for FY23 include a comprehensive integrated maintenance schedule – incorporating Fixed Plant, Port and Rail major maintenance events across the supply chain – which will optimise total system downtime.

Operations Services in action

Port Hedland conveyor deployment – safe, consistent delivery the key to reliable performance

BHP Operations Services (OS)

- Production and maintenance workforce
- Personnel deployed across minerals Australia
- Shift to a more permanent workforce
- Deployed across our five mines and port operations
- ~1,300 FTEs to be deployed across WAIO

Lightweight drop bottom bins

Lightweight rollers

What do these improvements enable?

- Reducing manual handling on conveyor roller change outs by **~25%** through continuous improvement
- Improving safety performance – recordable injury reduction of **25%**[8]
- Enabling diversity by making tasks more accessible for all employees and contractors

Lightweight chute backing plate

Wharf roller trolley

Western Australia Iron Ore site tour
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BHP

Cindy Dunham, General Manager Port

Our Operations Services (OS) function essentially in-sources labour for our business – reducing the requirement for labour hire.

This provides multiple benefits. It helps ensure BHP's resourcing requirements are met (and we're all aware of the challenges with labour availability at the moment). It also allows us to leverage a workforce that has mastery of BHP systems, tasks and ways of working. For the workforce, it provides long term job security along with the ability to learn BHP's Safe System of work and continuous improvement methodologies. This helps OS and our employees accelerate and replicate the implementation of improvements across Port and the Inland WAIO Assets.

As Operations Services is an internal BHP workforce, they use BOS methodologies, and bring a continuous improvement mindset with improvements for safety and productivity identified and implemented.

For example, our OS team identified an opportunity to use Lightweight Drop Bottom Bins (top left). These reduce crane lift requirements, lowering exposure to suspended loads and have removed 25% of the manual handling by reducing the number of times an employee is required to pick up a conveyor roller.

The OS team has also identified an opportunity to change our conveyer rollers to lightweight rollers (top right).

Not only are these lighter weight (on average 35 per cent lighter than a conventional steel rollers – 18 kgs versus 29 kgs) compared with the previous steel rollers we used, but they are also more durable, lower noise and require less power.

We are now using these across our conveyor systems, apart from in impact and high-tension areas.

These are but a couple of examples of some of the improvements our OS team has identified, which demonstrate their positive impact to team culture and their approach to continuous improvement.