

Booktopia



Optimising Efficiency and Cost with Robotics and Data

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Today's agenda

- 1 Introduction to Booktopia
- 2 Building a new CFC
- 3 Robotics as a Service (RaaS)
- 4 Using data to find efficiency
- 5 Recap



Booktopia is was Australia's local bookstore, servicing over 1 million customers each year



Australia's Local Bookstore

with access to **millions of titles** and 20 years of operations



Customer Obsessed

Our customers are at the **heart of everything we do**, which shows in our **4.8 star rating from over 32k customer reviews**



We are a part of an important industry

Literacy is important, and we want a health reading focus in Australia and are proud to be a part of that ecosystem **delivering 6 million books** per annum to **over 1 million customers**



Significant Player

Selling 1 in 8 books in Australia, our scale enables us to access all major books suppliers in Australia, UK and USA driving the depth of our range



Data and Insight Rich

We know what customers want across Australia and have the expertise to tailor products to customer preferences



Here For The Long-Term

Investing in a sustainable future with our **state-of-the-art fulfilment centre** housing up to 1.4 million books



Big On Community

We do what we can to ensure children have access to literacy and entertainment, **no matter their location or community.**



take what
you need

leave what you don't



Building a new CFC

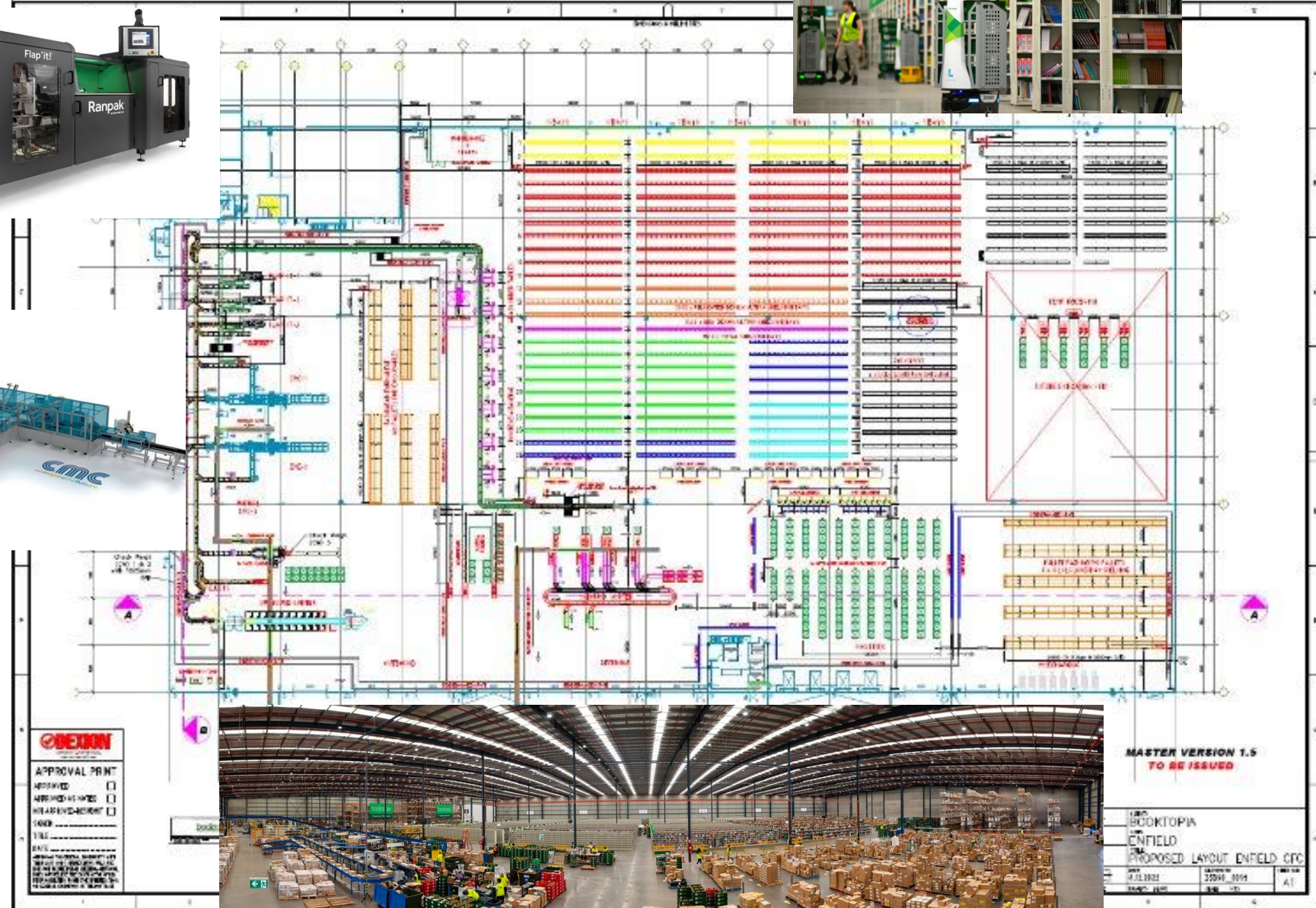


**And an eight
month build ...**

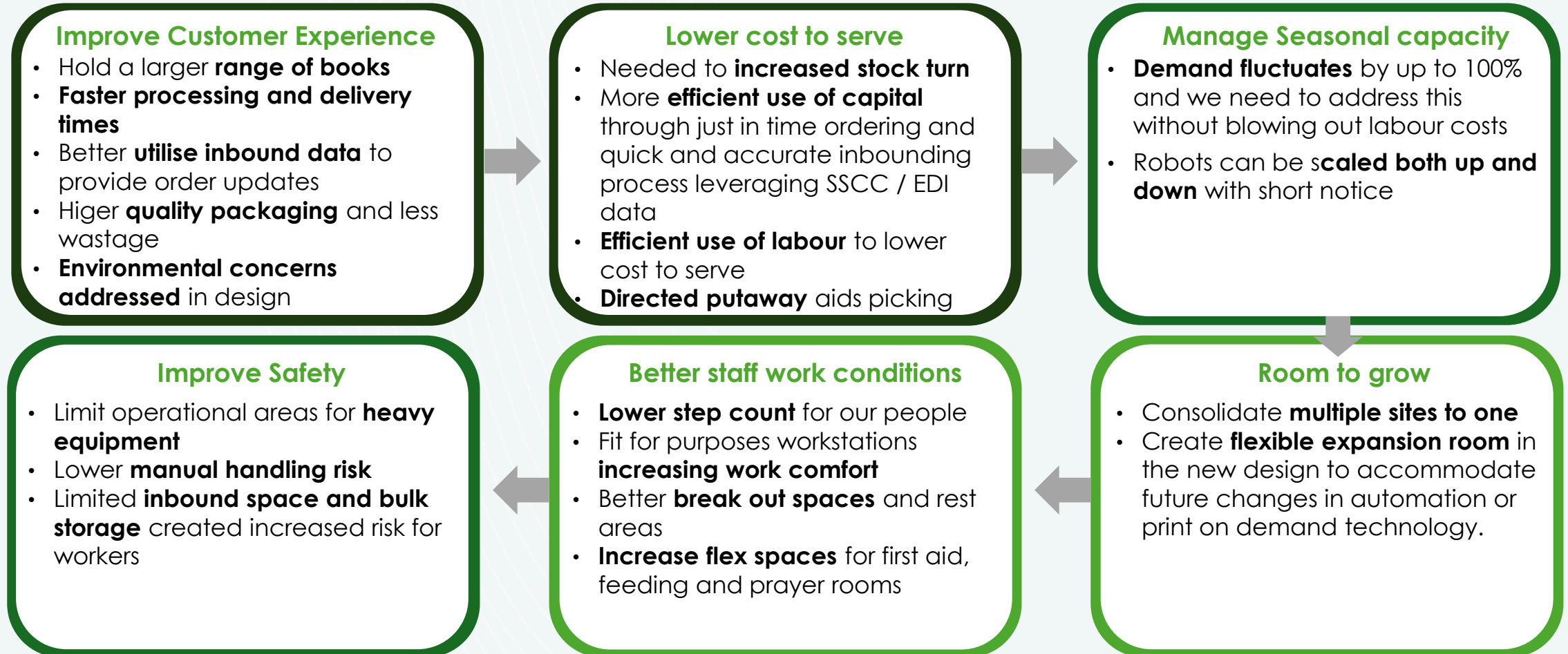


Handover of an empty shed March 2023

Operational
October
2023



Booktopia had outgrown its current site and needed a more efficient space in which to operate safely...



Challenges...



There will be many challenges be prepared to pivot and react

- Building a CFC and operating at the same time is difficult and requires multiple Occupations Certificates
- We hit infrastructure issues such as available power and lighting regulations
- Operating during transition across multiple sites pushes up operating costs
- Track your inbound equipment – one of our packing machines was heading to the wrong continent ...
- The Budget became a hard number, so we had to be frugal and smart

Outcomes... *The project delivered value ahead of plan*



- Halved the cost per unit out the door
- More engaged staff
- Faster deliveries – over 94% of in stocked books shipped next day
- Inbound speed increased – faster stock turn supporting just in time delivery

What did we learn

Pick a **good partner** to augment the capability gaps in your team

A **good team** can overcome nearly any obstacle

You need a **quick and efficient decision-making process**, or you will miss your timelines

You cannot start **change engagement** too early

You need to **simulate the actual working conditions**, a design doc will not do it justice

A good **Warehouse Management System (WMS)** is critical to achieve integrated automation





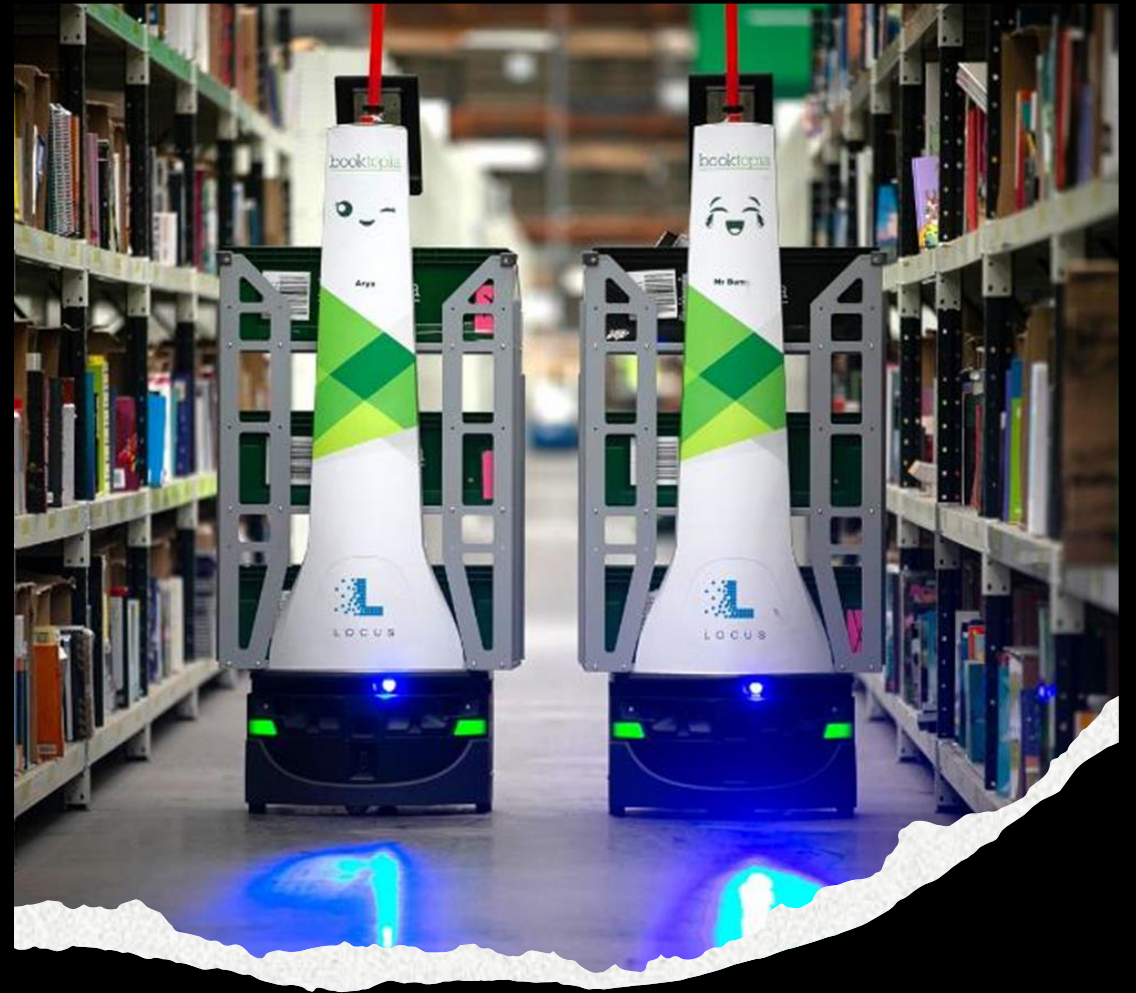
Robotics as a Service



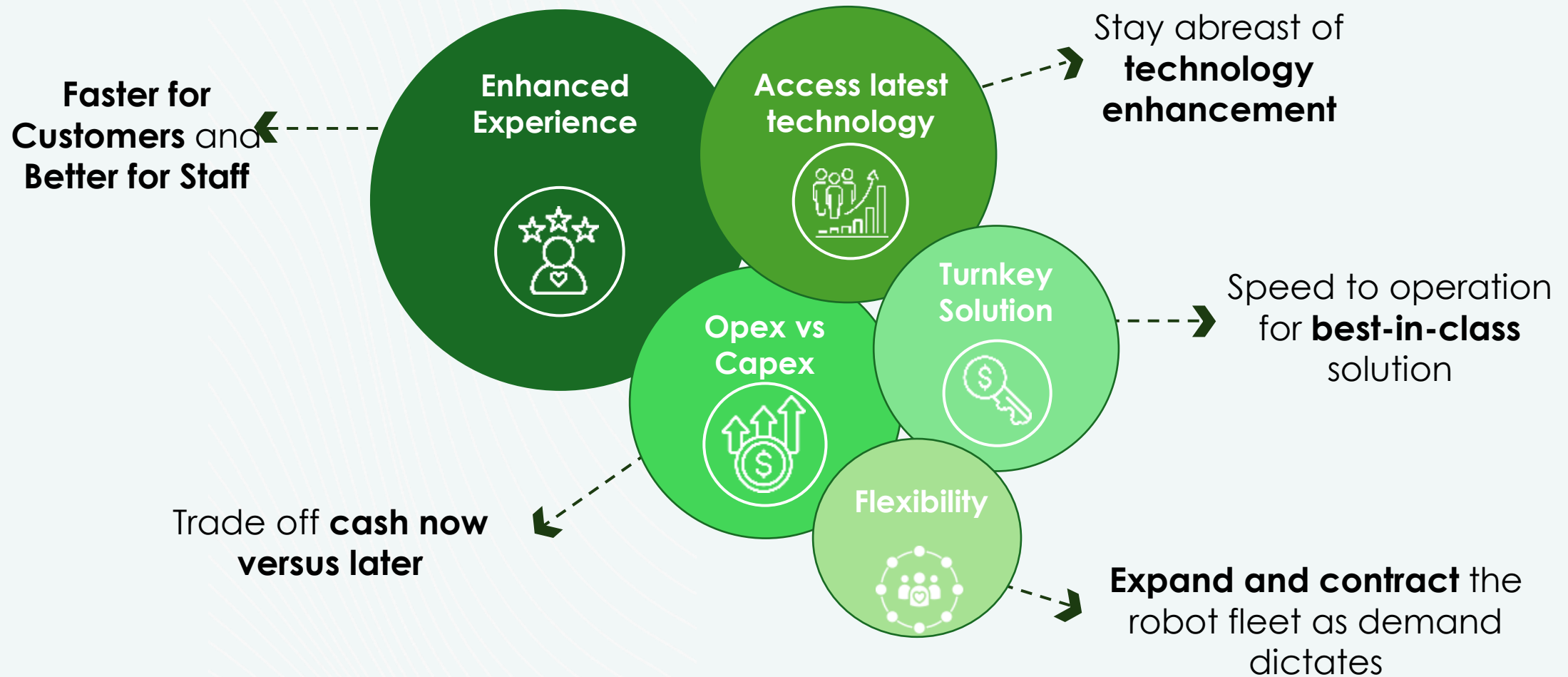
These are not
the droids we
are talking
about ...



These are

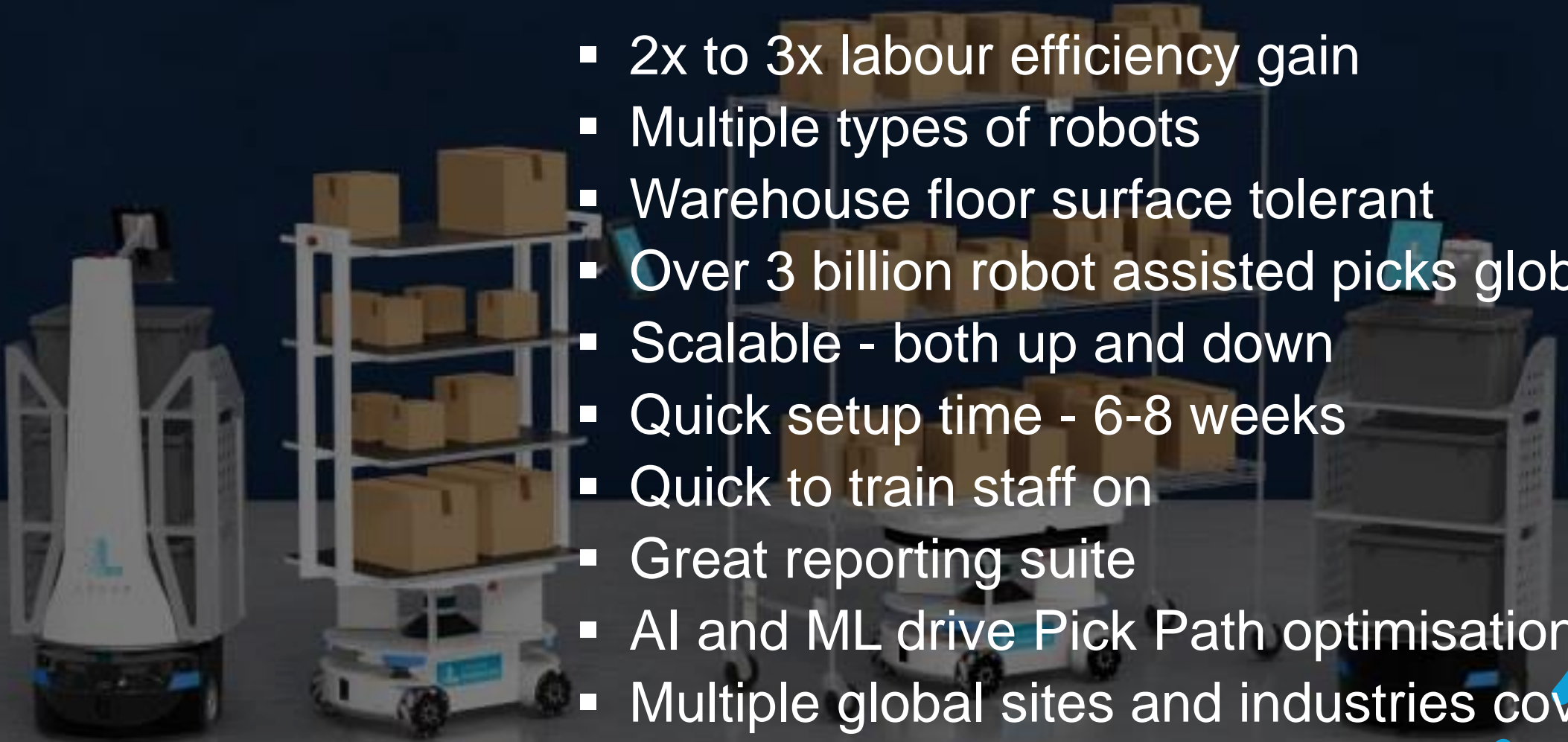


Robotics as a service



Why the Locus solution

- 2x to 3x labour efficiency gain
- Multiple types of robots
- Warehouse floor surface tolerant
- Over 3 billion robot assisted picks globally
- Scalable - both up and down
- Quick setup time - 6-8 weeks
- Quick to train staff on
- Great reporting suite
- AI and ML drive Pick Path optimisation
- Multiple global sites and industries covered



RaaS Challenges



- Early adopter in a remote location made support a little harder
- Had to negotiate hard to offset robot freight costs
- Uplift maintenance staff skills on robot maintenance
- Remote Mapping of CFC took overnight support from Europe and so slow to resolve issues
- Fixing the lighting for people caused glare and navigation issues for the robots
- Training people to not avoid the robots – they are better at avoiding you if you stay still
- Putaway was a harder process to crack than picking

RaaS Learnings

- Having an expert onsite from the vendor is a massive help
- Align robot recharging strategy to operating cadence
- Don't underestimate your teams ability to game the robots
- Measure and understand choke points and define queues accordingly
- Engage staff - put naming and customised branding on the robots
- Leverage Robots as a social engagement topic – they are cool and photograph well
- Enable directions to next robot post pick to make people more efficient





Using Data to find efficiency



Using data to get to business case efficiency...

- Ensured each human touchpoint in the CFC was measurable
- We captured and classified transactional level data
- Assigned cost to each resource and calculated top level cost efficiency metric such as Cost per Unit, Units shipped per hour worked and Overall work rate.
- Built trade off models to look at the cost of automation vs the cost of people to optimise decisions on process change
- Be willing to retest assumptions and once measurable apply test and learn techniques
- Be willing to change KPIs if your people start to game them



Recapping today....

1

Start with the end in mind - you should be able to see your customer there

2

Consider flexibility into design

3

Consider future technology change, especially in large capex projects

4

Agility is a delivery methodology, but an even better state of mind

5

Merge data, people and experience

6

Perfection is the enemy of progress

Thank you