



# World Leading Industrial Yeast Biotech

MicroBioGen. Sustainable biological solutions for a finite world.

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# MicroBioGen Overview

Founded in

**2001**

In partnership with  
**Novozymes**  
since 2014

**8 products**  
commercialised

Team of 30



**1 Partner**  
**8 Collaborators**

**A\$8m**  
Federal funding

Revenue  
**~A\$10m**  
(FY23E)

**65%**  
Revenue Growth  
(4-year CAGR)

Record  
Operating Margin  
**48%**  
(H2 FY23E)

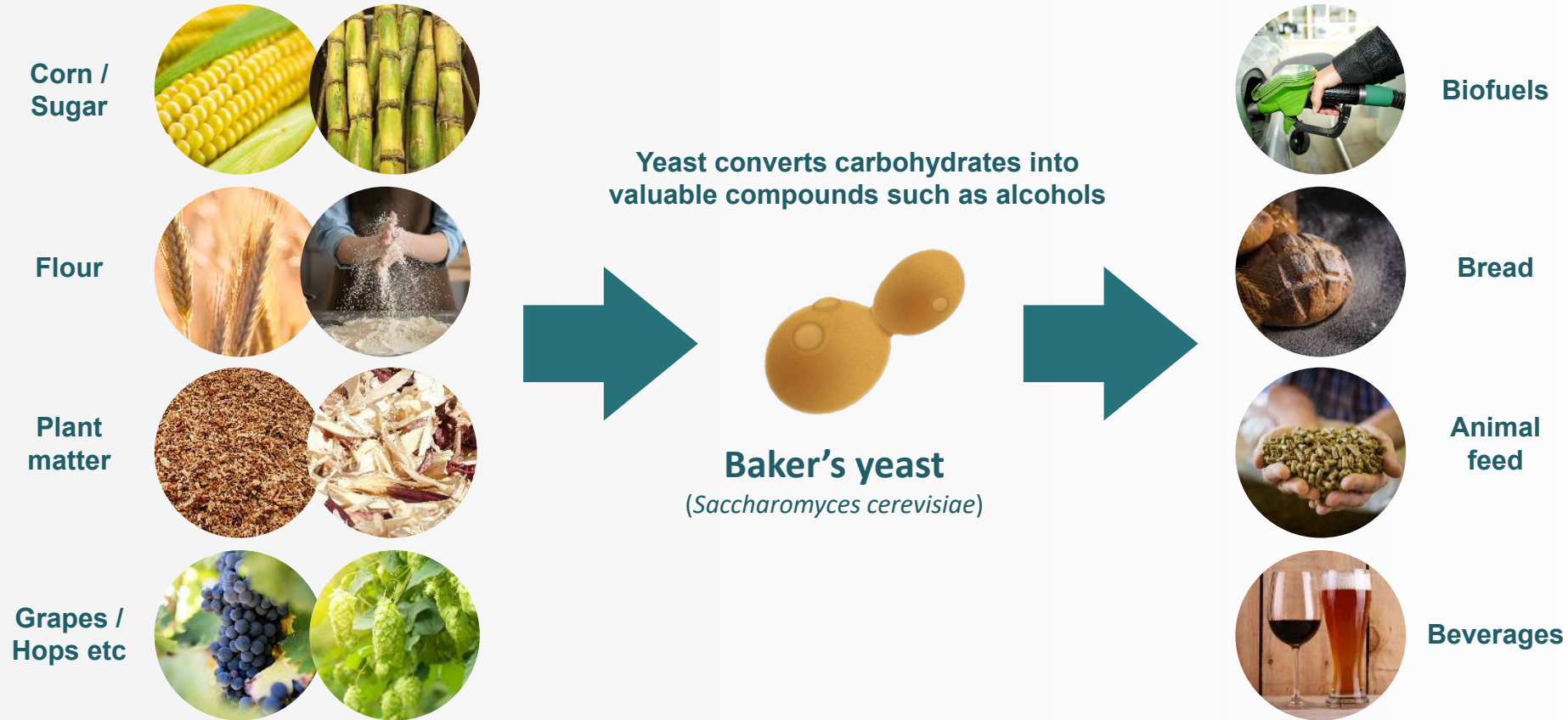


# Investment Highlights

- 1 World leading 'yeast innovation as a service'
- 2 Unparalleled library of elite genetics
- 3 Multi-industry platform technology
- 4 Delivering ESG focused solutions
- 5 Bioethanol royalty revenue from Novozymes
- 6 Expanding in existing and emerging industries

# MicroBioGen Leverages World's Most Widely Used Microorganism




Yeast underpins ~US\$2 trillion in products globally



# Platform Technology Delivers Unmatched Industrial Performance

**Step 1:** Elite Genetics are developed and continuously improved over time

**Step 2:** Stacking enables characteristics to be selected and combined based on a customer's specific requirements

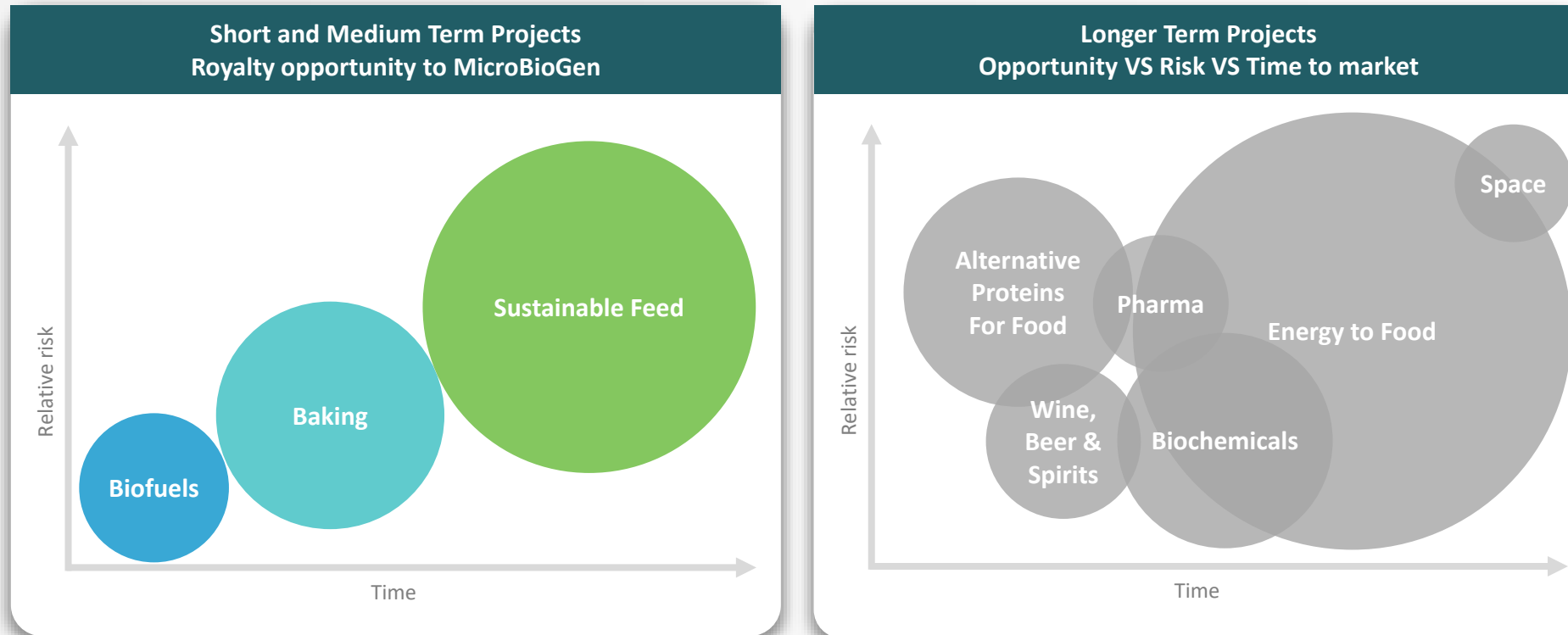
| MicroBioGen's elite yeast genetic library - examples |  |                       |                 |  |                         |                        |  |                       |              |                  |
|--|--|-----------------------|-----------------|--|-------------------------|------------------------|--|-----------------------|--------------|------------------|
| Application  | Ethanol tolerance  | Temperature tolerance | Acid resistance | Osmotic stress resistant   | Low glycerol by-product | Produce enzymes non-GM | Grow on galactose  | Grow on organic acids | High protein | Grow on glycerol |
| 1G bioethanol <sup>1</sup>                           | ✓  | ✓                     | ✓               |  | ✓                       |                        |  |                       |              |                  |
| 2G bioethanol <sup>2</sup>                           | ✓  | ✓                     | ✓               | ✓  | ✓                       |                        |  | ✓                     | ✓            | ✓                |
| Baking yeast   |  |                       | ✓               | ✓  |                         | ✓                      |  | ✓                     |              | ✓                |
| Feed yeast   |  |                       |                 |  |                         | ✓                      | ✓  | ✓                     | ✓            | ✓                |
| Industrial Benefits                                  | <br>Robustness |                       |                 | <br>Optimisation |                         |                        | <br>Innovation / Agility |                       |              |                  |

1. First-generation (1G) biofuels: Biofuels produced from food crops, e.g. corn or sugarcane

2. Second-generation (2G) biofuels: Biofuels produced from agricultural waste products, e.g. timber offcuts, crop residues or waste sugarcane pulp (bagasse)

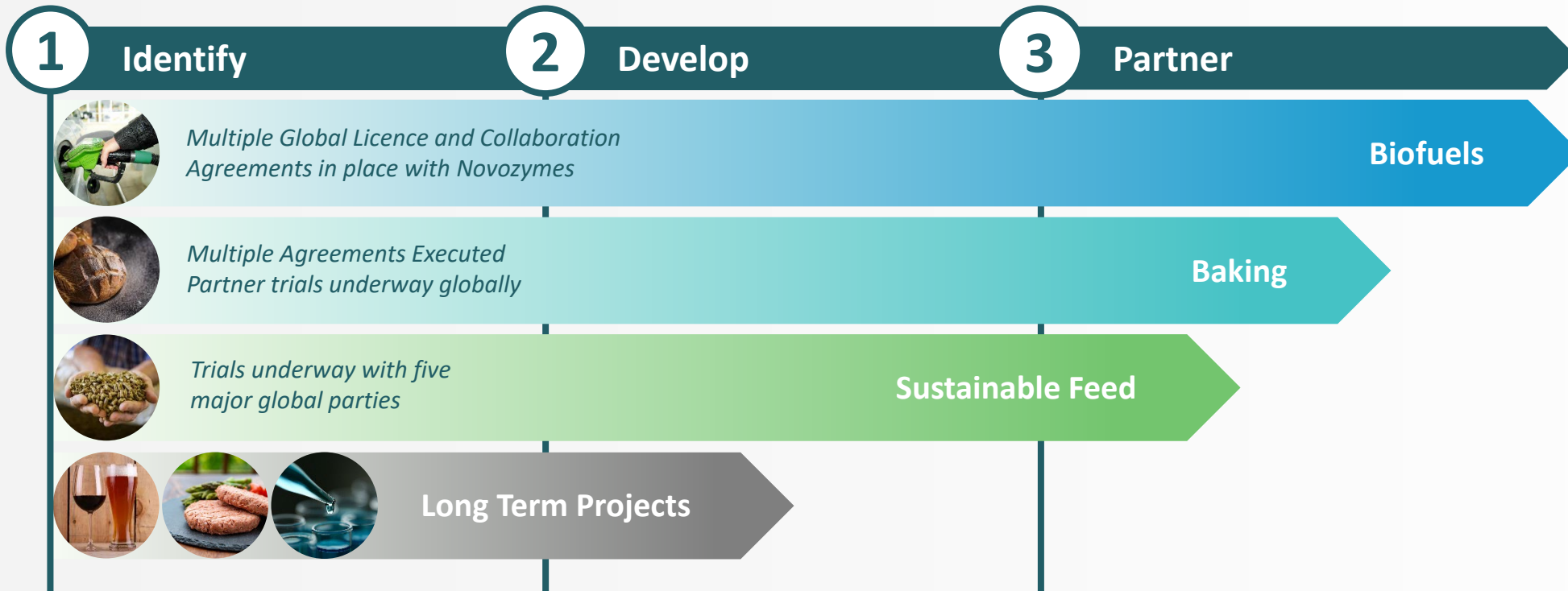
# MicroBioGen Platform Technology Markets

**Short and Medium Term Projects** are advanced and present significant ongoing Royalty Opportunities  
**Long Term Projects** have sizeable and growing global addressable markets



# Strong Development Pipeline

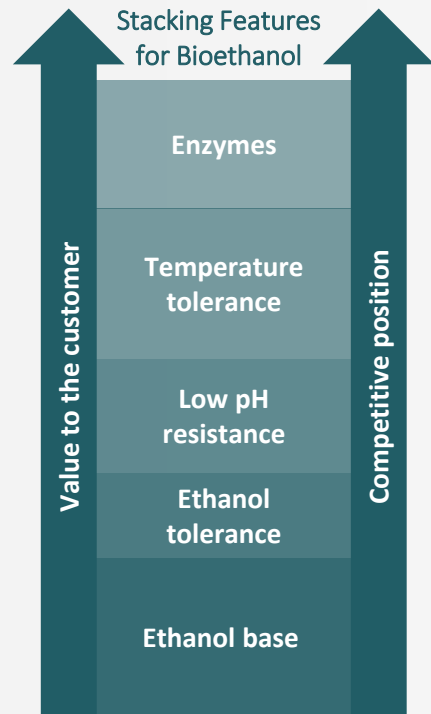
MicroBioGen has a diverse and catalyst-rich pipeline of growth projects spanning the entire commercialisation spectrum





# Bioethanol: Product Differentiation through Value Stacking

Through the incorporation of multiple unmatched improvements into bioethanol strains, the value of yeast has increased significantly



**MicroBioGen/Novozymes developed yeast (Innova®) is the leading bioethanol producer in North America - the world's largest bioethanol market**

With **Innova yeasts** your plant can overcome operational barriers to profitability, efficiency and yield

- Exceptional ethanol yield improvement, lower glycerol
- Thrives in high solids fermentations
- Fermentation reliability on-par with the industry's most trusted yeast
- Flexible, broad operational application reduces organizational and fermentation stress
- Opportunity for urea cost savings

Up to 3% more ethanol ✓

Reduces stress and inputs ✓

Breaks profitability hurdles ✓

Eases operational demands ✓

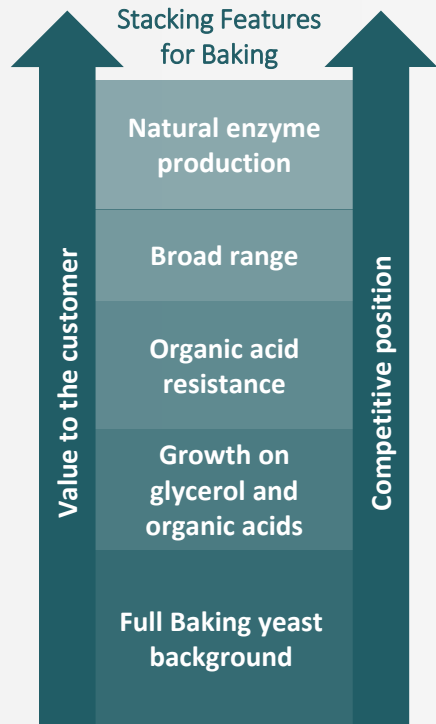
Increases conversion efficiency ✓



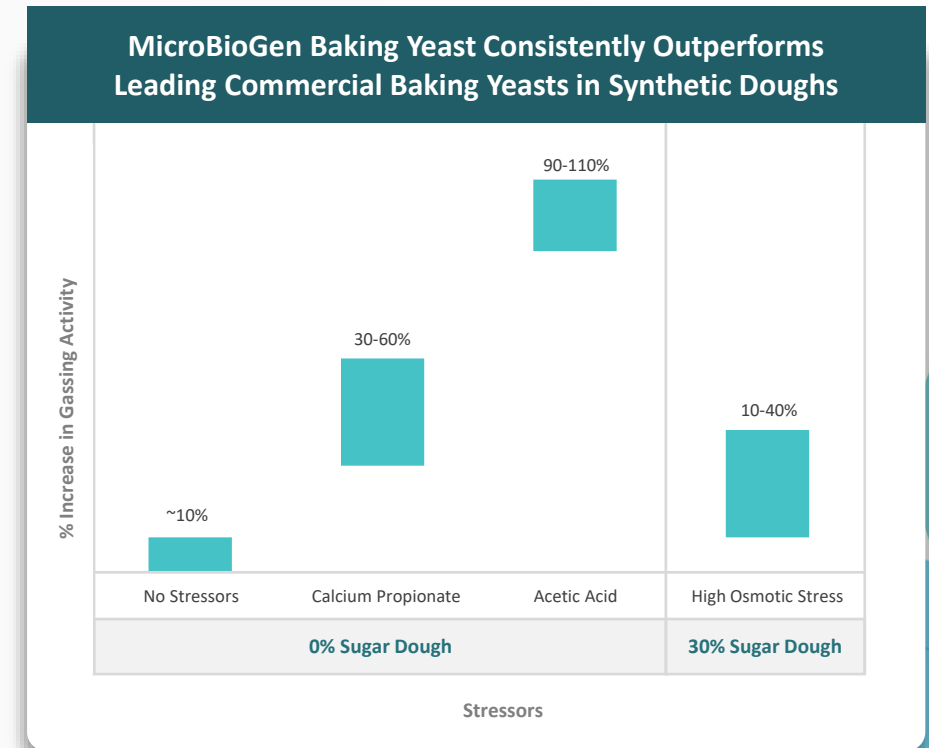
From Novozymes presentation at Fuel Ethanol Workshop (FEW), June 2022, Minneapolis

# Baking: A Global Industry Ripe for Disruption

No major innovation in yeast strains for baking over last 40 years due to inability of major producers to successfully innovate

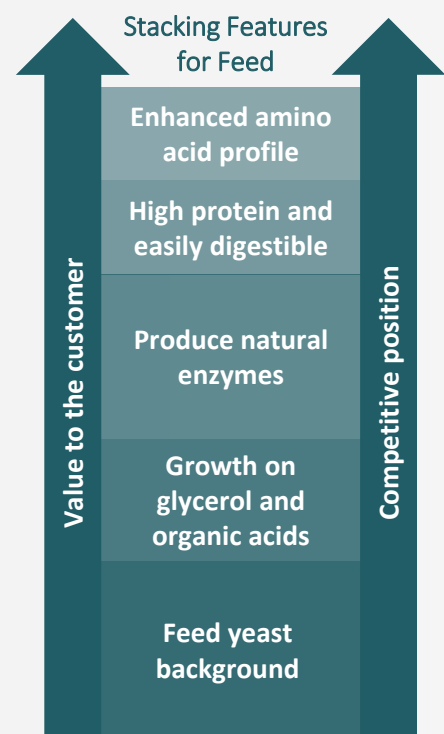


- Baking yeast market is 50x larger than the bioethanol market
- Baking yeast is sold on gassing activity
- MicroBioGen developed yeast are ~30-110% more resistant to baking preservatives
- Multiple agreements in place with global market leaders



# Sustainable High Value Feed: World Wide Opportunities

Growing global population and changing diets require more sustainable solutions



- Total global feed sales are >US\$500 billion per year
- World looking for sustainable feed solutions
- MicroBioGen yeast can be grown on low and negative value side streams and are significantly more valuable than protein alone
- Multiple collaborations in place with large feed manufacturers seeking waste stream solutions

## Enzymes breakthrough

MicroBioGen developed yeast currently produce >400x more critical enzymes than other yeast

MicroBioGen progress on developing phytase yeast



# Collaboration and Royalty Model

MicroBioGen's licensing and collaboration model delivers long term royalties



MicroBioGen has enabled Novozymes to go from launch in 2017 to the market leader in the US in just 4 years

Market Segmentation: The Innova® Series of Yeasts

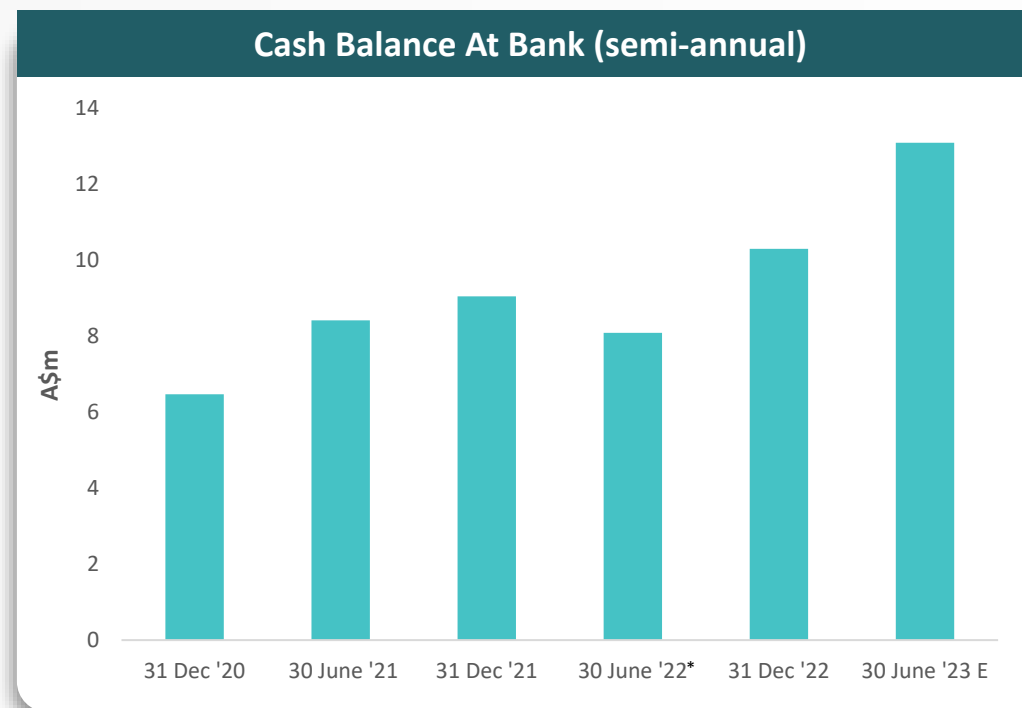
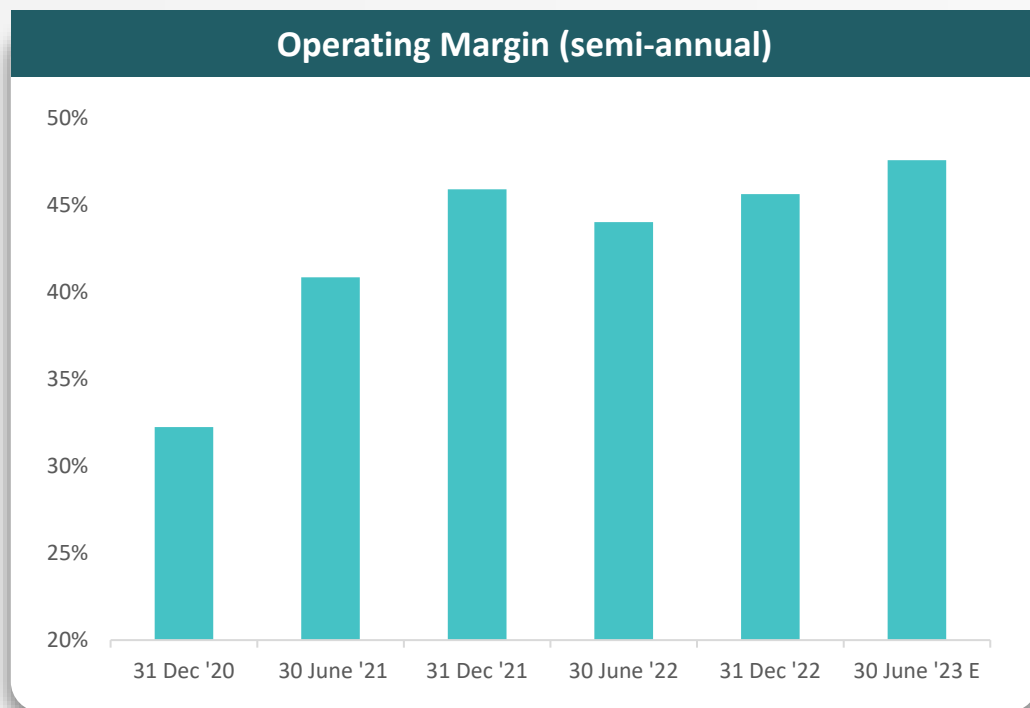
| Product         | Launch date | High acid tolerance | Enzyme expressing | Non-GM | Faster | Higher yield | More Robust |
|-----------------|-------------|---------------------|-------------------|--------|--------|--------------|-------------|
| Innova® Drive   | Feb-18      | ✓                   | ✓                 |        | ✓      |              | ✓           |
| Innova® Lift    | Oct-18      | ✓                   | ✓                 |        |        | ✓            | ✓           |
| Innova® Force   | Jun-19      | ✓                   | ✓                 |        | ✓      | ✓            | ✓           |
| Innova® Fit     | Feb-20      |                     |                   | ✓      | ✓      | ✓            | ✓           |
| Innova® Element | Jul-21      | ✓                   | ✓                 |        | ✓      | ✓            | ✓           |
| Innova® Quantum | Oct-21      | ✓                   | ✓                 |        |        | ✓            | ✓           |
| Innova® Apex    | Jul-22      | ✓                   | ✓                 |        | ✓      | ✓            | ✓           |
| Innova® Turbo   | Jul-22      | ✓                   | ✓                 |        | ✓      | ✓            | ✓           |

“Developed in collaboration with MicroBioGen, each of the Innova yeasts deliver never before seen exceptional robustness to operational challenges and demands.”

- Novozymes








# Strong Historical Financial Performance

FY23 record year: Revenue, Margin and Cash



# Senior Management

Core leadership team in place for over 10 years covering all aspects of commercialisation, R&D, IP and strategy

|   |  |  |  |
|---|--|--|--|
|  <p><b>Geoff Bell</b><br/>CEO and Managing Director</p> <ul style="list-style-type: none"><li>- Co-founder and CEO since 2006 and has facilitated MicroBioGen's transformation from a research group into an international commercial success</li><li>- Member of MicroBioGen's Innovation Committee</li><li>- Prior experience includes over 15 years at two global investment banks in equity research and top rated research analyst</li></ul> <p>17 years</p> |  <p><b>Jenny Hart</b><br/>CFO</p> <ul style="list-style-type: none"><li>- Jenny controls and manages all aspects of finance, HR and contracts at MicroBioGen</li><li>- Responsible for external stakeholder management</li><li>- Prior experience includes 23 years of commercial management at AGL Energy</li></ul> <p>11 years</p>                        |  <p><b>Dr Philip Bell</b><br/>Head of Research, Principal Scientist and Director</p> <ul style="list-style-type: none"><li>- Co-founder and member of MicroBioGen's Innovation Committee</li><li>- Leads the R&amp;D team of 20 scientists on activities day-to-day, one of the principal scientists since MicroBioGen's founding in 2001</li><li>- Focused on driving innovation in the company through the highly trained research team</li></ul> <p>22 years</p> |  <p><b>Dr Paul Attfield</b><br/>Principal Scientist and Director</p> <ul style="list-style-type: none"><li>- Co-founder and member of MicroBioGen's Innovation Committee, with world-leading expertise in fermentation and biochemistry</li><li>- One of MicroBioGen's original principal scientists, focused on commercialisation activities</li></ul> <p>22 years</p> |
|  <p><b>Dr Ivan Rajkovic</b><br/>Head of IP</p> <ul style="list-style-type: none"><li>- Ex-Partner at Shelston IP</li><li>- Significant IP expertise to ensure the breakthroughs achieved are protected through an expanding patent portfolio</li><li>- Member of MicroBioGen's Innovation Committee</li></ul> <p>8 years</p>  |  <p><b>Andrew Fay</b><br/>Corporate Development</p> <ul style="list-style-type: none"><li>- Andy has been a key driver in the corporate development team for nearly a decade</li><li>- High-level board experience across start-ups to large listed corporations has helped MicroBioGen negotiate several high-quality agreements</li></ul> <p>15 years</p> |  <p><b>David Paton</b><br/>Business Development</p> <ul style="list-style-type: none"><li>- Over 18 years of corporate advisory experience at Citibank, Macquarie Capital, Morgan Stanley and Shaw and Partners</li><li>- Extensive experience across M&amp;A, ECM, DCM and business development / strategy execution</li></ul> <p>&lt;1 year</p>   |  |



# Outlook and FY24-26 Priorities

Currently assessing growth capital options

Next transformative stage is:

- Commercialising baking yeast
- Developing feed yeast opportunity
- Expanding R&D activities

Accelerating MicroBioGen's platform technology for organic growth requires:

- Additional scientists
- New equipment and larger laboratories

Business is self-funding, growing its cash balance and sustainability focused

The Assistant Minister for Climate Change and Energy, Senator the Hon Jenny McAllister, officially opened MicroBioGen's state-of-the-art new facilities in 2022





# Thank You

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