



nanollose

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# SUSTAINABLE FABRICS FROM LIQUID WASTE

Investor Presentation - January 2019





# THE TEXTILE INDUSTRY'S BEST KEPT SECRET

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150 million trees are chopped down annually to make cellulose based fibres for textiles and that number is **set to double in the next decade.**

It's unsustainable;

- ◇ Commercially
- ◇ Environmentally
- ◇ Socially



# CURRENT FIBRES ARE FACING ENVIRONMENTAL & COMMERCIAL PRESSURES



POLYESTER

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Non-biodegradable and made from non-renewable petroleum resources



NYLON

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Nylon is created via an energy intensive toxic process and is difficult to recycle



COTTON

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Requires large amounts of pesticides, water and land to grow



RAYON

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Wood-pulping process is energy intensive, polluting and results in deforestation



# THE NANOLLOSE SOLUTION...

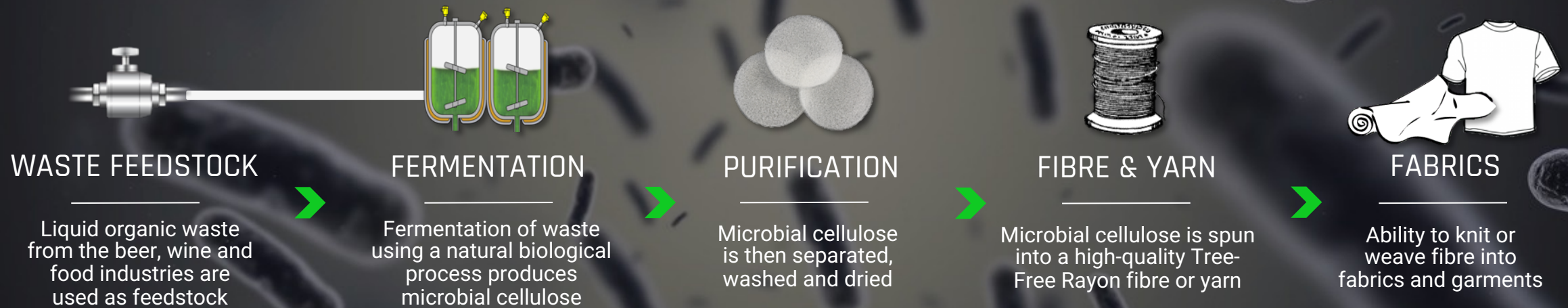
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A WORLD FIRST TECHNOLOGY THAT TURNS  
LIQUID WASTE INTO RAYON FIBRES WITH  
MINIMAL ENVIRONMENTAL IMPACT





# COST-EFFECTIVE, SCALABLE & **ECO-FRIENDLY** PROCESS





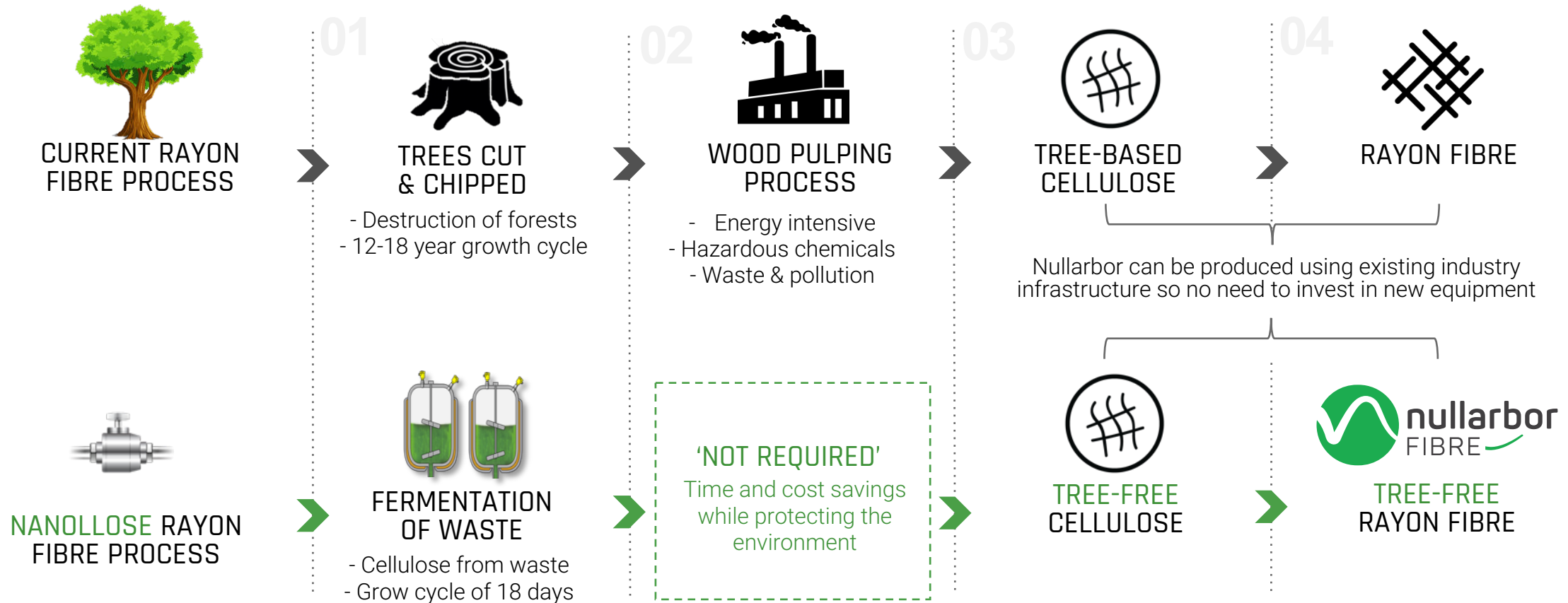
# OUR **BREAKTHROUGH** RAYON PRODUCTS

- ◇ Rayon is a well established fibre currently derived from trees
- ◇ Nanollose has developed three revolutionary **TREE-FREE Rayon products**
- ◇ All Nullarbor™ products are **100% biodegradable**
- ◇ Proven ability to withstand current industrial manufacturing
- ◇ Easily retrofitted into today's textile and clothing production processes





# ADVANTAGES OF OUR TREE-FREE RAYON



**NO DEFORESTATION - NO PULPING PROCESS - LOW ENERGY USE - NO PESTICIDES - LOW WATER USE - LOW USE OF LAND**





FERMENTATION OF  
ORGANIC WASTE



TREE-FREE  
CELLULOSE



FIBRE & YARN



CLOTHING

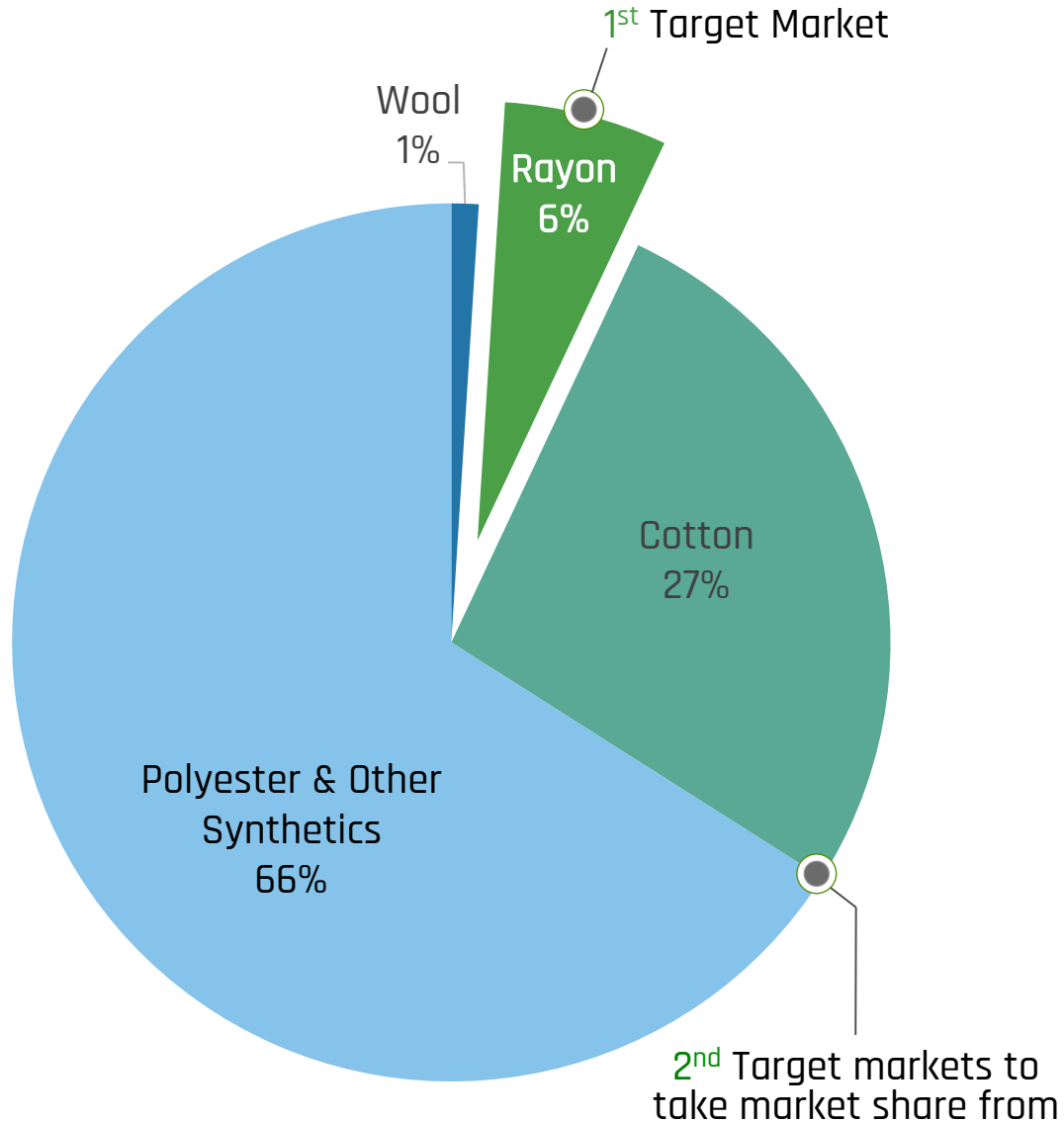


# TECHNOLOGY AND PROCESS **VALIDATED**

The first wearable garment using Nullarbor Tree-Free Rayon was manufactured using standard industrial equipment, **validating Nanollose's waste-to-clothing technology.**



# FIRST MOVER ADVANTAGE IN RAYON MARKET



- ◇ Rayon is used to make everything from home textiles and personal hygiene products to tyres
- ◇ Rayon is a high growth market valued at **US\$16.3B in 2019 and growing at over 10%**
- ◇ Nanollose has the only eco-friendly Tree-Free Rayon fibre alternative available
- ◇ Future opportunities exist to take market share from cotton and synthetics



# STRONG INTERNATIONAL INTEREST

- ◇ Brands, retailers and manufactures are urgently seeking sustainable alternatives to rayon and cotton
- ◇ Nanollose has had **significant interest** from major international clothing brands and super users of cellulose based fibres
- ◇ The company is currently in discussions with a number of these groups and plans to work towards manufacturing / collaboration agreements in 2019





Current Facility



Next Gen Facility Example



# INDONESIAN DEVELOPMENT FACILITY

- ◇ **Development Facility Agreement** executed with PT SNU Sukabumi
- ◇ PT SNU are one of **Indonesia's largest producers** of coconut food products
- ◇ Partnership benefits for Nanollose include;
  - Access to coconut waste left over from food production
  - Equipment to convert the waste into microbial cellulose and fibre
  - Research of various methods to refine and accelerate production
  - Options to secure additional waste as fibre production increases
  - Data capture and learnings for potential next generation production facility



# FIBRE PRODUCTION SCALE-UP UNDERWAY

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## DEVELOPMENTAL SUPPLY

- 250kg of coconut waste currently being transformed into fibre
- Fibres used for research, validating waste-to-clothing process and samples



## SMALL COMMERCIAL SUPPLY

- Advancing towards 1-5 tons of coconut waste per month in the near term
- Supply to be used in securing future manufacturing partners and high-end clothing brands

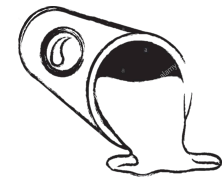


## LARGE SCALE INDUSTRIAL SUPPLY

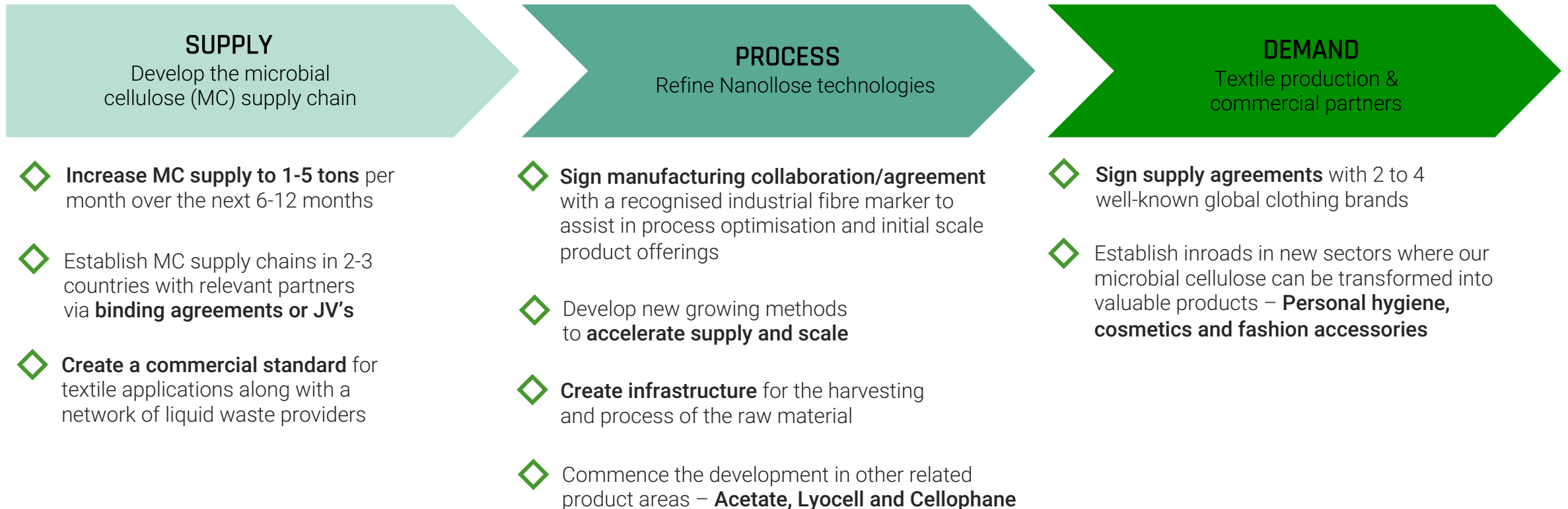
- Exploring other sources of liquid waste from food and beverages for large scale production
- Expected quantities suitable for engaging super users is 10+ tons per month



AS PRODUCTION  
INCREASES ADDITIONAL  
SOURCES OF SUPPLY  
WILL BE REQUIRED



# PATHWAY TO MARKET & DELIVERABLES IN 2019







# REVENUE STREAMS

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## PARTNERSHIPS

Percentage stake in the raw material supply chain



## LICENCING

Licencing the technology to fibre, yarn or fabric makers



## ROYALTIES

Royalties from global brands, manufacturers and super users

# INVESTMENT SUMMARY

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## PROVEN TECHNOLOGY

Waste-to-Garment process successfully validated

## FIRST MOVER ADVANTAGE

World first TREE-FREE Rayon set to become an alternative to rayon and cotton

## LARGE ADDRESSABLE MARKETS

US\$16 billion rayon market with potential to take share from cotton and synthetics

## STRONG GLOBAL DRIVERS

Brands, retailers and manufactures are urgently seeking sustainable alternatives

## EXPERIENCED EXECUTIVE TEAM

Significant experience in R&D commercialisation, textiles, organic chemistry & cellulose





# CAPITAL STRUCTURE

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- ◇ Incorporated in September 2014
- ◇ Listed on ASX via IPO in October 2017 – ASX: NC6
- ◇ 75m shares on issue (40m escrowed to 18 October 2019)
- ◇ 42.5m options (\$0.30, 31 December 2020) (23.3m escrowed to 18 October 2019)
- ◇ 5 founders hold 37% of shares
- ◇ Share price of \$0.105 and market capitalisation of \$7.8m (January 2019)

# CONTACT DETAILS

## **WAYNE BEST**

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# MANAGEMENT & BOARD



Founder

**DR WAYNE BEST**  
EXEC CHAIRMAN

- ▶ 35 Years experience in organic chemistry & biotechnology sector
- ▶ 10 years at the Chemistry Centre (WA) and was responsible for the formation and running the Medical & Biological Chemistry section
- ▶ Founded Epichem Pty Ltd in 2003, an award winning contract research company, where he remains Chairman



**ALFIE GERMANO**  
MANAGING DIRECTOR

- ▶ 30 years in the global textile industry sector
- ▶ 24 years in the Hong Kong garment industry as a leader of a large scale global product development, sourcing and retail operations
- ▶ Held VP and Director positions at GAP Inc, VF Corporation, Liz Claiborne Inc, Fila Inc and Carter's Inc



Founder

**GARY CASS**  
NON-EXEC DIRECTOR

- ▶ Made the world's first garment from the bacterial fermentation of wine in 2006
- ▶ 25 years of experience across a wide range of biological sciences
- ▶ Published in numerous international arts and science projects

**TERRY WALSH**  
NON-EXEC DIRECTOR

**WINTON WILLESEE**  
NON-EXEC DIRECTOR