

nanollose

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# SUSTAINABLE FABRICS FROM LIQUID WASTE

AGM - 24 October 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-NYLON-ACRYLIC

Non-biodegradable and made from non-renewable petroleum resources, that is energy intensive, toxic in processing and is difficult to recycle

Global market share 66%



## COTTON

Requires large amounts of pesticides, water and land to grow. It is also a season crop

Global market share 27%



## RAYON

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

Rayon is a high growth market valued at US\$16.3B in 2019,

**Global market share 6% growing by 10% pa**

- ◇ Future opportunities exist to take market share from cotton and synthetics



# THE NANOLLOSE SOLUTION...

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





# OUR **BREAKTHROUGH** RAYON PRODUCTS

- ◇ Rayon is a well established fibre currently derived from trees
- ◇ It is a versatile fibre used in many applications including textiles, wipes, personal hygiene, tyres and teabags
- ◇ Nanollose has developed revolutionary TREE-FREE Rayon products trademarked nullarbor fibre.
- ◇ All nullarbor fibre products are 100% biodegradable
- ◇ Proven ability to withstand current industrial manufacturing
- ◇ Easily retrofitted into today's textile and clothing production processes





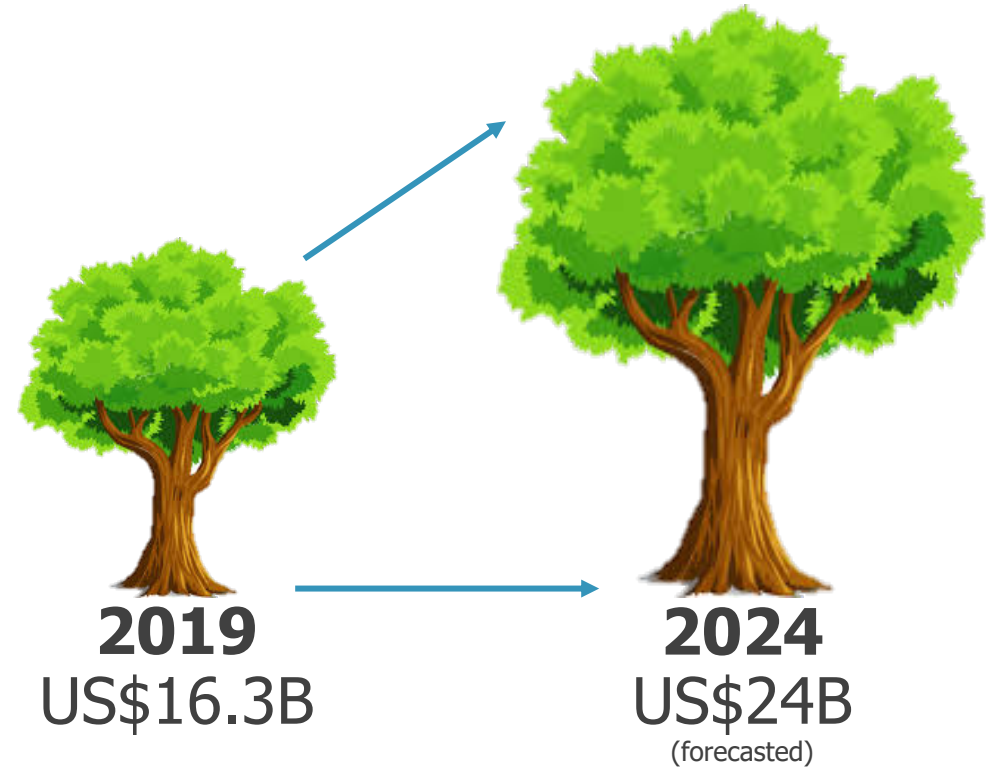
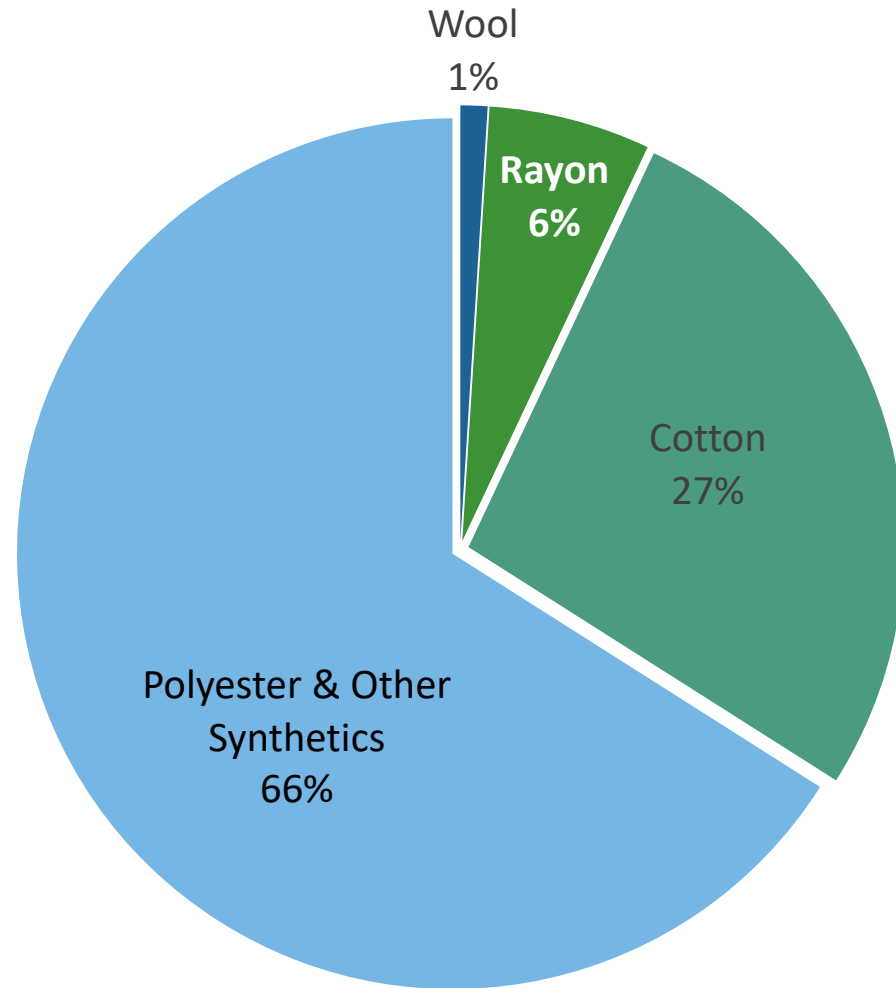
# TREE-FREE **NONWOVEN** RAYON FIBRE & FABRIC



**nu**folium

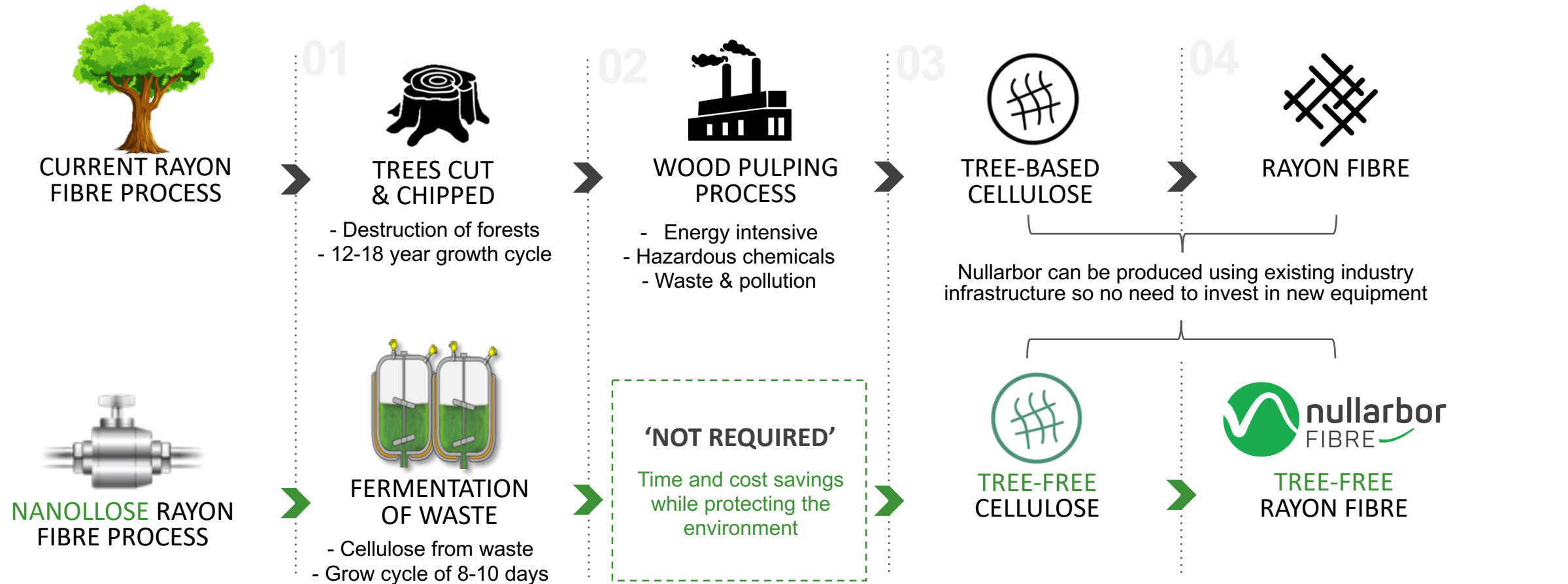


# RAYON MARKET GROWING BY 10% PA





# ADVANTAGES OF OUR **TREE-FREE** RAYON



**WASTE  
REMEDICATION**

**NO** DEFORESTATION  
PULPING PROCESS  
PESTICIDES

**LOW** USE OF ENERGY  
USE OF WATER  
USE OF LAND

**HIGH  
TRACEABILITY**





FERMENTATION OF  
ORGANIC WASTE



TREE-FREE  
CELLULOSE



FIBRE & YARN



CLOTHING



# TECHNOLOGY AND PROCESS **VALIDATED**

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



# STRONG INTERNATIONAL INTEREST

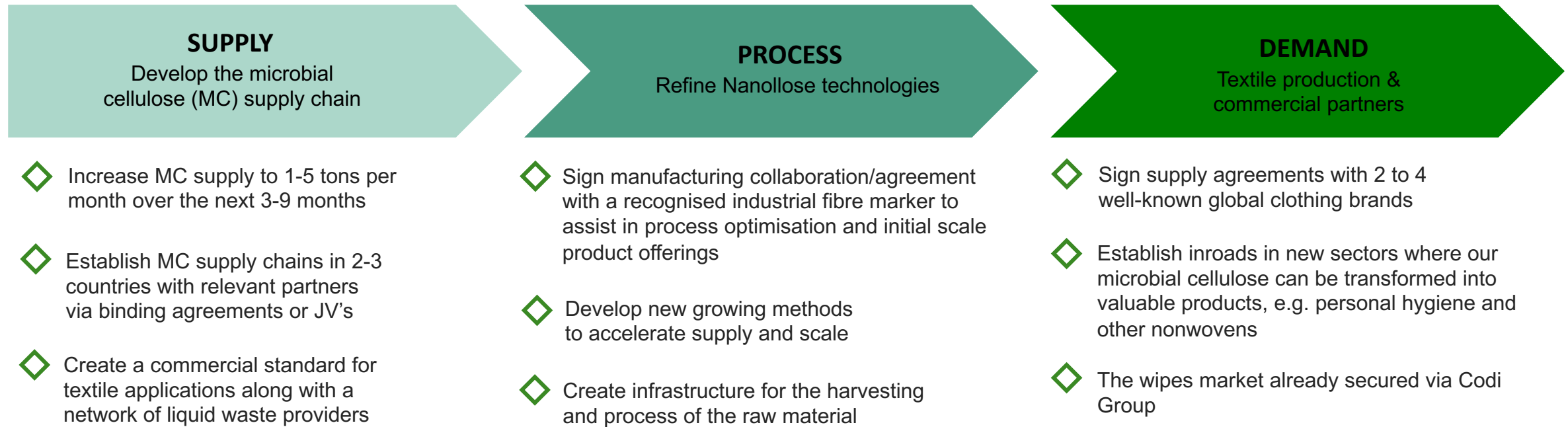
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- ◇ Brands, retailers and manufactures are urgently seeking sustainable alternatives to rayon and cotton
- ◇ Nanollose has had significant interest from major international clothing brands and super users of cellulose based fibres
- ◇ The company is currently in discussions with a number of these groups and is working towards manufacturing / collaboration agreements
- ◇ Cooperation Agreement signed with Codi Group for Nanollose's Tree-Free Rayon the wipes market





# PATHWAY TO MARKET & DELIVERABLES IN 2019/20



# FIBRE PRODUCTION SCALE-UP UNDERWAY

## ✓ DEVELOPMENTAL SUPPLY

- ½ Tonne of microbial cellulose currently in stock for development and pilot production
- Fibres used for research, validating waste-to-clothing process and samples

## ✓ SMALL COMMERCIAL SUPPLY

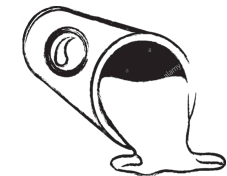
- Advancing towards 1-5 tons of microbial cellulose per month from coconut waste in the near term
- Supply to be used in securing future manufacturing partners and high-end clothing brands

## ⚙️ 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







# OUR NAME BRANDS.



## **nanollose**

Short translation for **nano cellulose**.



## **nullarbor** Latin words **nullus arbor**

Translation **No Trees**.

Market: **Textile industry**



## **nufolium** Latin word **folium**

Translation is **leaf**.

We aspire to assist the turning over of a new leaf for our industry

Market: **Nonwoven industry**



## **newforest** is vision towards the future.

The old forests have trees. Many are endangered.

The newforest has no trees.

Market: **Brand for Supply Chain development**



## **Tree-Free**

Cellulose fibres currently come from trees.

Nanollose fibres **do not come from trees**.



# 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 commercialization and textile supply chains





