

## KEY MILESTONE REACHED WITH PILOT SPIN SUCCESSFULLY COMPLETED

### Highlights:

- First pilot spin of Nanollose's Nullarbor-20™ eco-friendly lyocell fibre completed
- Nullarbor™ Tree-Free lyocell fibres are both forest-friendly, sustainable, and considerably stronger than conventional lyocell
- Pilot production undertaken with strategic partner and leading global rayon manufacturer, Birla Cellulose
- Fibre spinning process undertaken at Birla Cellulose's pilot plant demonstrates capacity for Nanollose's technology to be integrated with existing industrial equipment for making lyocell fibre
- Provides proof of concept that commercial scale production is achievable
- Discussions with potential partners are well progressed – Nanollose now well positioned to supply multiple, renowned fashion and textile companies with samples

**Nanollose Limited (ASX:NC6)** (“Nanollose” or the “Company”) is pleased to advise that it has achieved a significant milestone in its technology commercialisation strategy, following the successful completion of its first pilot scale spin of a Nullarbor lyocell fibre, and produced 250kg of forest-friendly Nullarbor-20™.

The pilot spin was undertaken by the Company's strategic partner, Birla Cellulose, a global leader in man-made cellulosic fibre manufacturing and part of the Aditya Birla group, using their existing industrial equipment. Pilot spin completion demonstrated the capacity for Nanollose's technology to be easily integrated into existing factory settings to spin the fibre at scale.

### Comment

**Executive Chairman, Dr Wayne Best**, said: *“The completion of our first pilot spin is a significant milestone in the Company's development and provides clear proof of concept of our offering at scale. This milestone provides Nanollose with a strong growth foundation for the next 12 months.*

*“In the lead up to completion, we have been approached by a number of notable potential partners, and are pleased to now be in a position to enter into formal negotiations for the supply of sample fibre, yarns, and/or fabric for testing purposes and due diligence for future offtake agreements.*

*“We are fortunate to partner with Birla Cellulose for this process, as their commitment to sustainability and involvement in the process has significantly fast-tracked the progress of our innovative technology. We look forward to keeping the market updated on progress.”*

## **Background to pilot scale spin process and progress with prospective partners**

As part of the staged scale up to 100% Tree-Free fibres, Nanollose's initial pilot spin targeted a blend of 20% microbial cellulose and 80% conventional wood pulp to produce 250kg of Nullarbor-20™.

Nanollose will aim to increase the scale and/or percentage of microbial cellulose in subsequent pilot spins. This will allow the Company to produce quantities of several Nullarbor fibres consisting of varied percentages of Tree-Free microbial cellulose, mixed with other cellulosic materials.

The production of blended fibres is a common strategy in the fibre and textile industries, and an expanded product range of blended and 100% Tree-Free fibres will enable Nanollose to appeal to customers at different price points, broadening the Company's addressable market.

A staged increase in the percentage of microbial cellulose in the fibre is both technically prudent and commercially advantageous, with interest in blended fibres having already been received from a number of parties.

This presents a significant opportunity for Nanollose. In 2021, the lyocell fibre market was valued at US\$1.13 billion, and is projected to be valued at US\$1.71 billion by 2027, growing with a CAGR of approximately 7%<sup>1</sup>, significantly faster than the overall fibre industry (natural and manmade fibre) growth rate of 3%. Overall, the manmade cellulosic fibre rayon market is expected to continue to grow at a healthy rate of 6.5% - also a higher rate than the overall fibre industry growth rate.

Completion of the first pilot scale spin process follows months of extensive work and highlights the capabilities of Nanollose's and Birla's technical teams to overcome the challenges associated with scaling production from laboratory to industrial grade processing across multiple continents. This also included the procurement of microbial cellulose at carefully defined specifications, establishment of quality control and optimisation procedures, experimentation of drying and purification methods, and the exchange of technical information between Nanollose, its contract researchers and Birla's technical team in relation to the fibre spinning process.

This milestone provides a proof of concept that commercial scale fibre production is achievable, and also delivers initial quantities of Nanollose's revolutionary fibre to allow the Company to respond to very encouraging inbound demand that it has received from world renowned fashions brands and textile partners requesting sample fibres and fabrics.

Nanollose has been working diligently with its fashion consultant, Carla Woidt, to advance discussions with prospective partners, and negotiations with short-listed parties are very well advanced. The Company expects to formalise these discussions in the coming months and provide additional updates as selected partners receive initial samples from the pilot spin.

<sup>1</sup> <https://www.imarcgroup.com/lyocell-fiber-market>

**[ENDS]**

## AUTHORITY AND CONTACT DETAILS

This announcement has been authorised for release by the Board of Directors.

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## ABOUT NANOLLOSE

Nanollose Limited (ASX: NC6) is a leading biotechnology Company commercialising scalable technology to create fibres with minimal environmental impact. Nanollose uses an eco-friendly fermentation process to grow fibres that could become a sustainable alternative to conventional plant-derived cellulose fibres.

The Company's process, which uses streams from various large-scale industries, including food and agriculture, has the ability to produce 'Tree-Free' Cellulose. Cellulose is the hidden polymer building block most consumers know nothing about, but forms a huge part of items used in their everyday life such as clothing, paper and hygiene products.

In January 2021, Nanollose filed a joint patent application with Birla Cellulose, for a high tenacity, Tree-Free lyocell made from microbial cellulose (*High Tenacity Lyocell Fibres From Bacterial Cellulose and Method of Preparation Thereof*). Using the lyocell process, a team of fibre experts at Grasim's Pulp and Fibre Innovation Centre produced Nullarbor fibre that is finer than silk and significantly stronger than conventional lyocell that is traditionally produced from wood pulp. Nanollose's primary focus is on commercialising this fibre technology.

## ABOUT BIRLA CELLULOSE AND GRASIM INDUSTRIES LIMITED

Birla Cellulose, a business unit of Grasim Industries Limited, part of Aditya Birla Group (ABG), is a leading sustainability focused man made cellulosic fibre producer, with its nature based fibres being produced from renewable wood sourced from sustainably managed forests. Grasim Industries Limited, a flagship company of the ABG, ranks amongst the top publicly listed companies in India and operates pulp and fibre business in India.

Grasim Industries operates its pulp and fibre business, which applies closed loop processes and environmentally efficient technologies, that recycle raw materials and conserve natural resources. Grasim's five global advanced research centres are equipped with state of the art facilities and pilot plants, with new generation innovative products including Livaeco™, Liva Reviva, Birla Excel (lyocell), in addition to Liva Antimicrobial and Birla Spunshades, which are designed with superior sustainable credentials.

With an aim to create bigger and broader impact, Grasim collaborates actively with its value chain partners and works closely with organizations including, Canopy Planet, Sustainable Apparel Coalition (SAC), Zero Discharge of Hazardous Chemicals (ZDHC), Changing Markets Foundation, Textile Exchange, WBSCD, Fashion for Good amongst others to continually learn and apply the best practices within its global operations and across its value chain.