

20 March 2023

## **TWO-YEAR EXTENSION OF COLLABORATION AGREEMENT WITH MULTINATIONAL FIBRE PRODUCTION COMPANY**

### **Highlights:**

- **Nanollose has extended its Collaboration Agreement with Birla Cellulose for an additional two years**
- **The agreement stipulates R&D objectives for the conversion of microbial cellulose into fibre, where Nanollose and Grasim will jointly own any new IP generated in the project**
- **Birla Cellulose is a business unit of Grasim Industries – a division of multinational Indian conglomerate Aditya Birla Group**
- **Extension validates the existing IP generated and industry feedback received to-date, with the next round of pilot production scheduled in the coming weeks**
- **Nanollose and Birla's innovative Nullarbor project also recently recognised following receipt of the prestigious Cellulose Fibre Innovation of the Year award**

Leading bio-materials company Nanollose Limited (ASX: NC6) ("Nanollose" or the "Company") is pleased to confirm that its Collaboration Agreement with multinational textiles manufacturing conglomerate Grasim Industries Limited has been renewed for an additional two years.

The renewal marks a validation of the commercial potential from work carried out to-date, with mutual agreement from both parties that an extension to the research program is warranted given the exciting results already achieved.

Since the collaboration began in January 2020, Nanollose and Birla Cellulose (the business unit of Grasim Industries responsible for fibres) have worked together closely to develop a high-tenacity lyocell fibre from microbial cellulose, a Tree-Free form of cellulose made by a natural fermentation process on a range of wastes and by-products from the food and agricultural industries.

Following a number of early research breakthroughs, the two companies developed a lyocell fibre that was significantly stronger than conventional lyocell made from wood pulp, and which could also be spun into a fibre finer than silk. Moreover, even when blended with wood pulp, the microbial cellulose conferred increased strength to the resulting fibre. This provides an important technical advantage to Nullarbor, over and above its environmental benefits.

In January 2021, the partners filed a joint patent application for the invention in India (*refer ASX Announcement 13 January 2021*) which was followed by an international patent application via the PCT (Patent Cooperation Treaty) in January 2022.

Nanollose and Birla Cellulose then undertook the first pilot production of fibre containing microbial cellulose. The pilot batch produced 260kg of Nullarbor-20 - a blend of 20% microbial cellulose with 80% wood pulp.

The initial 260kg of fibre was converted into a variety of yarns and fabrics, which enabled samples to be sent to several fashion brands for appraisal. The inaugural production run also demonstrated the ability of the technology to produce high quality materials using Nullarbor fibre with existing industry equipment – an important barometer for future commercial applications.

Feedback from textile and fashion professionals who received samples to-date has been very positive, and comprehensive product testing has confirmed the high quality of the fabrics.

Birla Cellulose and Nanollose also made a small batch of Nullarbor fibre from 100% microbial cellulose and converted it to yarn, which was then used to create a 3D-knitted garment designed by Lee Mathews that was launched at the Global Fashion Summit in Copenhagen in June 2022 (refer ASX Announcement 6 June 2022).

More recently, further improvements to the specifications of the microbial cellulose have been made and the next round of pilot fibre spin is scheduled in coming weeks.

#### **Receipt of the Nova Institute's Cellulose Fibre Innovation of the Year Award:**

Nanollose and Birla Cellulose's Nullarbor™ fibre has also been recognised following the receipt of the prestigious Cellulose Fibre Innovation of the Year Award 2023, which was awarded by leading private and independent research group, nova-institut GmbH (nova-institute.eu) (<https://renewable-carbon.eu/news/bacteria-based-cellulose-fibre-nullarbortm-no-trees-wins-cellulose-fibre-innovation-of-the-year-2023-award-against-strong-competition/>).

The Company was awarded the honour at the 2023 Cellulose Fibres Conference, held in Cologne, Germany. Nanollose's innovative Nullarbor fibre in collaboration with Birla Cellulose was shortlisted from a large number of entries and was voted by a poll of conference delegates to be the winner, following a presentation from Executive Chairman, Dr Wayne Best.

#### **Management commentary:**

**Executive Chairman Dr Wayne Best said:** *"We are pleased to confirm the extension of our product development partnership with Birla Cellulose, continuing an already successful collaboration which has resulted in several exciting results, particularly the higher tenacity of our Nullarbor fibres. The positive feedback from the industry on the quality and feel of the fabrics has also been very encouraging."*

*"More broadly, the extension marks continued interest of Birla Cellulose to pursue ongoing commercial opportunities for the technology based on work carried out and industry feedback received to-date. For Nanollose, it also provides a clear product development runway, to accelerate the development efforts towards commercialisation of this novel technology."*

*"The Company's recent presentation at the 2023 Cellulose Fibres Conference in Germany further highlights the ongoing recognition of our important work with Birla Cellulose. We are confident this will lead to additional industry recognition and other opportunities in the near term. Our technology was very well received, and I'm delighted to report that it was awarded first prize."*

*"We look forward to providing more updates on the next pilot fibre spin soon."*

[ENDS]

## AUTHORITY AND CONTACT DETAILS

This announcement has been authorised by the Board of Directors of Nanollose.

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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 strategic partner, Birla Cellulose, for a high tenacity, Tree-Free lyocell made from microbial cellulose. In February 2022, Nanollose and Birla Cellulose completed the first pilot production of such a lyocell fibre when Birla Cellulose spun 260kg of forest-friendly Nullarbor-20™ fibre for Nanollose at their facilities in India. This fibre has since been sent to several collaborators and has been converted into yarns, fabrics, and garments for testing and evaluation, prior to potential uptake by partners.

### About Birla Cellulose

Birla Cellulose, the Pulp and Fibre business of Aditya Birla Group (ABG), is a leading sustainability focused man made cellulosic fibre producer. Its nature based fibres come from natural renewable sources from responsibly managed forestry. Grasim Industries Limited, a flagship company of ABG, ranks amongst the top publicly listed companies in India and operates Indian facilities of Birla Cellulose. Birla Cellulose operates 12 pulp and fibre sites globally that apply closed-loop processes and environmentally efficient technologies that recycle raw materials and conserve natural resources. It's five global advanced research centers are equipped with state of the art facilities and pilot plants. It's new generation innovative products like Livaeco by Birla Cellulose, Liva Reviva, Birla Excel and Birla Spunshades are designed with superior sustainable credentials. With an aim to create bigger and broader impact, Birla Cellulose collaborates actively with its value chain partners and works closely with organizations like, 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.

[www.birlacellulose.com](http://www.birlacellulose.com) [www.grasim.com](http://www.grasim.com)