

Aug. 14, 2020

Nikkiso partners with Airbus on “Propulsion of Tomorrow” new technology for “UltraFan®” demonstrator project

Nikkiso CO., Ltd. (“NIKKISO”) was selected as a joint development partner from Airbus for their “Propulsion of Tomorrow” project, to provide nacelle components for the next-generation engine “UltraFan®” demonstrator, which enables lower fuel consumption and noise reduction.

■ Summary of “UltraFan®”

UltraFan® is Rolls-Royce’s next generation engine applicable for both narrow-body and wide-body aircrafts (single-aisle and twin-aisle aircrafts). Significantly reducing weight using composite fan blades and fan cases, a large UltraFan® will be 25% more efficient compared to Rolls-Royce’s first Trent engine which came into service 25 years ago.

Airbus will provide the nacelle with innovative architecture and associated technology, and Nikkiso has been selected by Airbus as the joint development partner for the Outer ring, a component of the nacelle.

Nikkiso Aerospace has recently reorganized their division to have better focus on the R&D activities. The Project came at the perfect timing, which will be the best opportunity to demonstrate Nikkiso’s R&D capability, and be led to further enhancing their future activities.



Carbon titanium fan blade
for UltraFan® engine
Source: Rolls-Royce

■ NIKKISO’s role in the “Propulsion of Tomorrow”

New Technology: Reduced manufacturing costs by a new out of autoclave curing method.

The new curing method enables efficient resin curing in a shorter period of time, reducing the cure cycle time by approximately 40% and improving operating efficiency by approximately 20%.

New Material: Fast curing resin shortens the production time.

The curing time of this new fast curing resin after pressurization is 80% faster than the conventional resin, and along with the new curing method, shortens the overall manufacturing time. Nikkiso has been working on joint development with material suppliers.

■ Future of “UltraFan®”

A prototype of the Outer ring is expected to be delivered to Airbus by 1Q of 2021 and will be used for ground tests in 2021 and flight tests thereafter in preparation for future production application.

■ Relationship between Airbus and NIKKISO

NIKKISO succeeded in developing CFRP Cascades and began delivery to their direct customer Collins (then Rohr) for the engine nacelles installed in the Airbus A300 in 1984. The composite Cascades were then used in a series of new aircrafts that were developed and installed in other

programs, and now chosen for all of Airbus's commercial aircraft.

In addition to the Cascades, NIKKISO also manufactures components for wing , nacelle , and engine for the A320, A330, and A350, and has history for more than 30 years.

The "Outer ring" is the company's first direct joint development and delivery to Airbus, and is an extremely important milestone to further develop our relationship with Airbus in the future.

■ NIKKISO's dedication in Aviation Industry

NIKKISO succeeded in developing the world's first CFRP Cascades in 1983, and now we hold more than 90% of the global market share for large and regional aircrafts. Since the establishment of our Vietnam plant, which offers competitive costs and the same high quality and delivery control as Japan, we have also been manufacturing wing and nacelle components in addition to Cascades and have built relationships with Tier-1 manufacturers around the world over the long period.

In 2018, NIKKISO established Miyazaki Nikkiso as a production base that also serves as a manufacturing technology development base, and in 2019 began shipping Cascades for A320 aircraft.

NIKKISO will continue to contribute to the development of the aviation industry as a supplier of aircraft components and aim for further growth by promoting the development of new technologies and developing new markets.

About Nikkiso Co., Ltd. Aerospace Division

Nikkiso consisted with three different business divisions - Aerospace, Industrial Pumps, and Medical Equipment. Aerospace division's current share within Nikkiso is approx. 10%, with big expectation for future growth. Aerospace division's major product is composite cascades for commercial aircrafts, achieving over 90% of the global market. More information is available at www.nikkiso.com, or email us at nikkiso-pr@nikkiso.co.jp