

Press Release

Annecy (Haute-Savoie, France), 15 June 2015

NTN-SNR at the International Paris Air Show in Le Bourget from 15 to 21 June

NTN-SNR announces a capacity investment of 27 million euros in a new plant to support its participation several programmes for next generation engines

NTN-SNR has announced its "Take off" project with an investment plan of 27 million euros for the construction of a new of the "plant of the future" in France (Argonay, Haute-Savoie). This new production facility will be operational in 4Q 2016 and will require new skills to be developed. It complements an initial plant extension which was inaugurated at the end of 2012. This major investment plan in France demonstrates NTN-SNR's strong desire to grow its market share in the aviation arena. Being a partner with some of the biggest engine manufacturers for over fifty years, NTN-SNR participates in major programs for next generation engines used civil aviation as a bearings manufacturer, developer and supplier with CFMI, Pratt & Whitney and Rolls Royce. It is also involved in programmes for new helicopters and landing gear bearings. With its design and engineering department it is at the cutting edge of design for lighter bearings that rotate faster, are more economical and extremely reliable. NTN-SNR aims to double its sales on the aeronautics market by 2020.

27 million euros for the "Take off" project

A major industrial investment programme for aeronautics in France

On a high-growth aeronautics market, NTN-SNR reveals "Take off", its new strategic development project. This is materialised by a 27-million-euro investment programme for a 4,000 m² extension to its French production unit in Argonay (Haute-Savoie) dedicated to aeronautics bearings. The construction work, following on from an initial 2,000 m² extension in 2012, has just started and the buildings should be completed by the first quarter of 2016 and reach operational capacity by the



end of 2016. This plant of the future will feature state-of-the-art equipment: precision grinding and superfinishing of parts, robotised production lines with improved ergonomics, new non-destructive inspection systems, in-line 3D measuring devices and state-of-the-art heat treatment equipment. This new investment will enable NTN-SNR to keep pace with its growing order book and pursue its goal of boosting its sales by 2020. This new plant will require new skills to be developed.

Innovation, the key to success for NTN-SNR

To support this development strategy and be involved in major programmes for the aeronautics engines of tomorrow, NTN-SNR has proved its expertise and capacity to innovate in order to address specific problems. With its design and engineering department in Argonay and the support of the R&D centre in Annecy (Haute-Savoie) and the entire NTN Corporation group, it has developed very high-speed tapered roller bearings with innovative surface treatments to reduce friction. It has also implemented several solutions to reduce the weight of bearings, thanks largely to optimised designs and a newly developed high-temperature and very hard-wearing thermoplastic "Peek" rolling bearing cage. Finally, it is developing bearings with innovative and more efficient steels and raceways in ceramic, which considerably reduce their weight to meet the new demands of engine manufacturers. So it is now involved in all the major programmes for next generation engines.

NTN-SNR bearings at the heart of the aeronautics of tomorrow

NTN-SNR, developer for CFMI's LEAP

NTN-SNR is a bearings manufacturer and developer for the LEAP engine versions designed by CFMI (joint venture between General Electric and Safran Group company Snecma) that will equip the new single-aisle A320neo and B737 MAX aircraft and the C919 of Chinese aircraft constructor COMAC. For this engine, which makes fuel savings or nearly 15%, NTN-SNR and Snecma are developing large diameter bearings for the main line shafting. In partnership with Hispano-Suiza, NTN-SNR designs and develops smaller bearings for transmission units in larger numbers, for which weight reduction is a key criterion.



NTN-SNR supplier on the GTF of Pratt & Whitney

NTN-SNR continues to work with Pratt & Whitney, which has started on the GP7000 engine equipping the A380. Today NTN-SNR is involved in the GTF (geared turbofan) programme that will equip the A320neo, Mitsubishi's MRJ, the C-Series of Bombardier, the Embraer E-jet and the Irkut MC21. To meet demand, NTN-SNR has among other things designed very high-speed tapered roller bearings. It should be noted that NTN-SNR validates these bearings on its own test benches in Annecy.

NTN-SNR selected for Rolls Royce's Trent XWB

In synergy with the NTN Corporation Group, NTN-SNR has been selected to supply bearings for the Trent XWB engine that will be fitted on the A350 XWB. As well as the quality and reliability of its products, NTN-SNR's capacity to adapt to the customer's special requirements was the determining factor in Rolls Royce's choice.

NTN-SNR always at the cutting edge on helicopters

NTN-SNR is a player of long standing and a leader in Europe on the helicopter transmissions and rotors market. It constantly forms new partnerships, among others with Airbus Helicopters and Agusta-Westland. With Airbus Helicopters, it works on the transmissions for the new models, including the H160 programme. NTN-SNR has developed and supplies bearings for the H175 of Airbus Helicopters and the AW189 of Agusta-Westland (Finmeccanica), which are more particularly designed for the offshore oil market. There again, the challenge is maximum optimisation of the weight of bearings for aircraft that require a longer operating range.

NTN-SNR, preferred partner

NTN-SNR's growth strategy relies on the availability, proximity and responsiveness of its teams, making NTN-SNR a preferred partner of manufacturers. They are fully satisfied with the projects they develop with NTN-SNR. NTN-SNR has set up a dedicated project team for each of the programmes, including an applications engineer, a customer quality liaison officer, a sales engineer, which relies on internal correspondents at the R&D centre in Annecy and the design and engineering department in Argonay. Furthermore, NTN-SNR partners engine manufacturers



throughout the useful life of the bearings with its extremely efficient MRO service, which reconditions the bearings as new to give them an optimal service life.

NTN-SNR ROULEMENTS is part of the NTN Corporation, the 3rd largest manufacturer of bearings in the world, and manages and develops all NTN's activities in Europe, South America, Africa and the Middle East. Specialized in the manufacture of automotive, industrial and aviation bearings, NTN-SNR ROULEMENTS also develops maintenance services and solutions and thus proposes a comprehensive offering. NTN-SNR ROULEMENTS employs 4113 people and has 9 production sites in Europe and Brazil and 23 sales offices worldwide.

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