



NTN Europe, a proactive, innovation-driven R&D policy

In an increasingly technical world moving towards the electrification of vehicles, NTN Europe, world leader in precision mechanics, has always been able to develop and adapt by drawing on a strong partnership and financing strategy in order to expand its intellectual and financial resources. Through its favoured relationships with players in the various ecosystems, NTN Europe forges new ties, shares its knowledge, and pools its resources with the aim of accelerating its innovation to better meet the needs of tomorrow's market.

"When a market is undergoing a transformation, the respective human, intellectual, financial know-how, and resources of each company may no longer adequately support this transformation. Partnerships and the pursuit of joint funding become a necessity. They enable companies to pool their expertise, spread costs, and accelerate innovation in order to become, for example, tangible players in new types of mobility, in the energy transition, and in the industries of the future", explains Christophe NICOT, Director of Research, Innovation, and Development at NTN Europe. Supported by the European Commission and private or public organisations such as clusters, competitiveness hubs, technical centres, and technological platforms, often backed by public laboratories, research and innovation consortiums enable the State and local authorities to ensure the growth and competitiveness of French companies vis-à-vis those of other countries.

Well aware of the technological, intellectual, and financial benefits that can be realised, NTN Europe, where innovation is an integral part of its DNA, is guite familiar with the various collaborative research and financing approaches. "Above all, it is crucial to keep a watchful eye on all the national and European funding and calls for proposals likely to correspond to the programmes and projects developed by the company", confides Bernard LIATARD, Head of Research & Network at NTN Europe. "Ecosystems are being created via business clubs, competitiveness clusters, and regional government departments such as DIRECCTE that represents the DGE, along with the BPI and ADEME. In addition, it represents the services of the Auvergne Rhône Alpes Region and the regional agency AURA Entreprises. NTN Europe also takes part in networks for the transfer of knowledge, innovation, and the financing of collaborative projects, (IRT, clusters and competitiveness pole such as CARA, CIMES), as well as technical centres such as CETIM and CEATech. In addition, NTN Europe contributes to the work of FIM's

member trade associations, such as ARTEMA."

By maintaining close ties with these ecosystems, the company ensures it remains aware of the objectives of public funding schemes in order to be more reactive during calls for projects. "As well as building a coherent and acceptable project proposal, because each file requires a significant investment of time and energy on the part of the teams. This also creates an opportunity for us internally to have our projects evaluated by assessing them from an external point of view. To obtain feedback concerning their viability, to confirm their relevance to the market, and to test their model", concludes Bernard LIATARD.

A wide range of funding schemes

At present, there are many international, national, and regional funding schemes, with widely differing eligibility criteria, areas of interest, and conditions of award. Some are accessible to large groups such as NTN Europe whilst most are reserved for VSEs, SMEs, and start-ups, for which it is essential to work in partnership.

R&D facilities:

- The Research Tax Credit (CIR): A fundamental tool for financing R&I in France, it is suitable for all size companies. The CIR allows a tax reduction based on the level of R&D investment. Eligible projects must enable the "breaking of technological barriers". Regularly implemented at NTN Europe, a dedicated person is responsible for identifying eligible projects and then recording the hours, expenses, and writing a report justifying the activity carried out on the project.
- The industrial agreement for training through research (CIFRE): A funding tool managed by the National Association for Research and Technology (ANRT), this enables a contribution to the costs of a research project conducted by a

doctoral student (PhD) working alternately in a laboratory and in a company. The CIFRE thesis aims at reconciling the scientific aspect and the application framework to respond to a problematic raised by the company. In 2021, NTN Europe was working with three PhD holders. This approach also enables it to support the ecosystem through the laboratories.

Measures for innovation:

- At the European level: Various funding facilities are proposed by the European Commission. Based on the call for projects principle on specific topics, the H2020 scheme is highly sought after, despite its low success rate, because the funding amounts are potentially high. Close links with the ecosystem and submitting high-level projects with an international scope are essential if they are to be selected. NTN Europe mainly submits its "aeronautics and space" projects.
- At the national level:
 - Technological Research Institutes (IRT), technical centres, and technological platforms (ex CETIM): These organisations enable producing and transferring knowledge to companies within a sector. They operate through calls for applications to create a consortium around issues common to several companies. During these collaborative projects, each company selected brings its contribution and knowledge towards achieving the desired results. In this way, they are able to advance the science that will be used for other projects in the future. At the same time, the State and local authorities fund 50% of the necessary resources and the equipments that can be shared for the research programmes.
 - CORAC and CORAM and the measures of the Future Investment Programme (PIA): The Orientation Committee for Automobile and Mobility Research (CORAM) and the Council for Civil Aeronautics Research (CORAC) administer, together with the State, the deployment of PIA funds to finance innovation projects in the automobile and aeronautics sectors. Among the financing tools available, the Structuring Research and Development Project for Competitiveness (PSPC) is accessible to large groups associated with at least one public laboratory to enable the State to favour scientific and technological transfer. The objective of these collaborative projects is to make evolve a level of technology applied to a product in order to drive change in the sector,

as is currently the case for electric vehicles. The financial envelopes of the projects are highly substantial, with funding of 25-30% of the costs, spread over 3 to 5 years.

 R&D booster: Innovation financing tool made available by the Auvergne Rhône Alpes Regional Council. This organisation puts a large group in the region such as NTN Europe in contact with at least one VSE or SME. The large group ensures market access for the technology developed with an SME, thus acting as an accelerator of innovation towards the marketplace. It also enables the large group to attract partnerships and provide partial funding for a project.

"France Relance" plan

The automotive and aeronautics industries represent the true pillars of the French economy, which have been strongly impacted by the health crisis. Aware of their vast significance, the French government announced in the spring of 2020, as part of the vast "France Relance" plan, that it would set up a €23 billion support fund for these sectors. Its main objective is to enable these companies to uphold their capacity to design and develop the next generation of "clean" vehicles to bring about an ecological transformation of the industry. By stimulating the diversification and modernisation of existing industrial processes, these investments will enable French companies to boost their competitiveness.

In July 2020 and again in February 2021, NTN Europe submitted three projects to the AMI that were approved within the framework of the modernisation and diversification fund for the automotive and aeronautical industries.

The first involves modernising the production lines at the Alès plant in order to improve performance by producing faster with lower costs.

The second one falls within the framework of the automotive vehicle of the future and industry 4.0. Its objective is to develop a series of eco-sustainable "corner roue" solutions, both in terms of their design and manufacturing methods and their use to meet the major technical, economic, and eco-industrial challenges of tomorrow's combustion and electric vehicles. This includes bearings resistant to high leakage currents, low torque bearings, and the use of recycled plastics or recyclable materials such as aluminium instead of plastic. This CORFU "corner roue of the future" project,





initiated at the end of 2020, fully corresponding to the objectives of the "France Relance" Plan was considerably accelerated and should be completed within the next three years.

The third project validated by the State in March 2021 covers the aeronautics sector and the NTN site based in Argonay. This project, called RACER (Competitive and Environmentally Responsible Aeronautical Bearings), is an ambitious industrial investment programme supported by the "France Relance" plan, in line with the growth strategy of the Aeronautical Department.

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