



**NTN**

Make the world **NAMERAKA**

PRESS FILE

**EUROBIKE 2023:**

**NTN EUROPE SHOWCASES ITS RANGE OF CYCLE PRODUCTS**

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## Introduction

NTN Europe will be taking part in Eurobike, the leading international trade fair for the bicycle and soft mobility industry, which will be held in Frankfurt from 21 to 25 June 2023. The teams will be present throughout the week in Hall 9.1 stand D09 to present the wide range of NTN and SNR brand bearings adapted to all types of cycles, and to detail the sealing, lubrication and measurement solutions, as well as the latest innovations developed for the sector.

NTN Europe, a leader in the bearings sector, offers high quality, technically advanced products developed for markets with very demanding requirements. In the cycle industry, the company has been a long-standing partner of many equipment manufacturers since the 1970s, when it designed its first bearings for wheel hubs. Since then, it has developed numerous products and solutions in line with developments in the cycle industry, always to a very high level of quality. For a number of years now, the company has been supporting the growth in motorised bicycles, a major asset for soft mobility.

This thirty-first edition of the Eurobike show is therefore an opportunity for NTN Europe to showcase its expertise and range of solutions dedicated to two-wheelers to all the players in the industry.



## Contents

A wide range of high-quality, technically advanced bearings and sensors	p. 4
Sealing and lubrication solutions	p. 6
Innovations for the cycle industry	p. 7
Focus on...	p. 9

## A wide range of high-quality, technically advanced bearings and sensors

NTN Europe offers a wide range of solutions with unrivalled reliability and longevity for classic and electric-assist bicycles. Electrically-assisted bicycles are being used more and more for daily urban and suburban travel, particularly for commuting. By 2021, almost one in four bicycles sold in Europe will be an EAB. Bikes are being used more intensively, with more frequent use and a greater number of kilometres travelled per year.

Since the boom in soft mobility, NTN Europe's engineers have been working on new developments to make the mechanisms more robust and respond to this more intensive use, with mechanical parts subject to greater stress and a higher load on the wheel hubs.

### For classic applications

NTN Europe offers all the types of bearings needed to keep bicycles running smoothly, reliably and precisely.

*Did you know? On average, a conventional bicycle has around twenty bearings.*



- Thin-section deep groove ball bearings for wheel hubs
- Single-row angular contact ball bearings for the headset
- Thin-section rigid ball bearings for bottom brackets
- Rigid ball bearings and needle roller cages for the pedals
- Plain bearings for front derailleur and electric shifters, and washers for rear derailleur

All these products meet the stringent technical requirements demanded by these applications, such as high resistance to water and pollution, oscillation and vibration, and the need for low torque, light weight, compactness and long life, ...



For engine applications



NTN Europe has developed thin-section rigid ball bearings, needle roller and cage assemblies, needle roller freewheels and high-resolution sensors for the central motor and its axles (crankset, motor, gearbox).

Product range



**Thin-section single-row deep groove ball bearings** are particularly appreciated for their greater load capacity, compactness, low noise level and low torque. For applications most exposed to mud, dust and water jets, they also benefit from an effective sealing system that guarantees a long service life without affecting their fluidity.

The NTN **needle roller cage** is lightweight, rigid, welded and has an ultra-compact design. It is renowned for its ability to withstand high radial loads as well as high acceleration and starting torque. Its optimised design, combined with superior steel quality, gives it exceptional longevity.



The range also includes **magnetic sensors** to measure cadence, detect crankset movement and measure rotor position to control electric motors (wheel or central).

## Sealing and lubrication solutions

The excellent performance and exceptional reliability of NTN bearings are the result of a combination of features adapted to each application and use:

- A wide range of [seals](#), from simple deflectors to high-tech gaskets, offering the best compromise between sealing and friction torque in the cycle industry.
- A wide choice of [greases](#), selected according to their properties and applications: resistant to oxidation and water, ultra-quiet, with very low coefficients of friction, effective over wide temperature ranges or stable at high temperatures...

LUBSOLIDTM technology, made up of an oil-saturated polymer combined with stainless steel balls, is particularly well suited to steering sets. Resistant to washing and corrosion, it guarantees long bearing life and protects against the ingress of contaminants. With a larger number of balls than a conventional bearing, the bearing is made more rigid to prevent track marking.

NTN Europe customers can also rely on the intrinsic design and manufacturing qualities of the parts:

- Optimisation of internal geometry and contact surfaces.
- High-quality precision balls.
- High level of steel cleanliness.
- Exact dimensions and tolerances.

Olivier Musy, Marketing Manager for the Mobile Equipment markets within the Industry Business Unit at NTN Europe:



“ NTN Europe is a long-standing partner of the cycle industry, as demonstrated by our Alpine hubs developed in the 1970s. As a company that adapts to changing markets and the resulting challenges, it is only natural that we should support the growth of motorisation in the cycle industry. To do this, our R&D teams design innovative solutions that meet our customers' requirements and problems, without compromising on performance or reliability. At the same time, we make our expertise, resources and network available to start-ups and young innovative companies through our innovative company accelerator programme. This enables us to innovate and offer new products and services. ”

## Innovations for the cycle industry

Innovation is in NTN Europe's DNA. The advent of VAEs is therefore an opportunity for the company to develop new products and demonstrate its expertise. In addition to standard bearings, the Group is working on developing specific bearings to optimise architectures, and position, speed and torque sensors to improve steering strategies.

### Torque, cadence and temperature sensors :

The new sensor developed by the R&D teams measures pedalling cadence, the torque transmitted by the cyclist, the position of the crank and the temperature. It is based on magnetic technology that the company has mastered for many years, with extensive experience in the automotive industry. Its compact design makes it easy to integrate into mid-drive units. This innovative product, which meets market expectations in terms of ease of integration and robustness, will be on display on the NTN Europe stand at Eurobike.

### Haptic pedals and intermediate electric vehicle projects

In line with its "Make the world Nameraka" philosophy, NTN Europe launched its innovative company accelerator programme 3 years ago, with the aim of opening up market/product/strategy discussions and collaborations, and multiplying opportunities in evolving markets such as mobility. The project of the young French company Cixi is one of the subjects selected for the competition organised at the end of 2022 around active mobility, and focuses on two developments:

- Pers, an electric pedal-generator technology with haptic feedback,
- Vigoz, an intermediate electric vehicle for the city, capable of driving in the city centre as well as on the ring road.



The different versions of vehicles on which the Pers pedals can be mounted

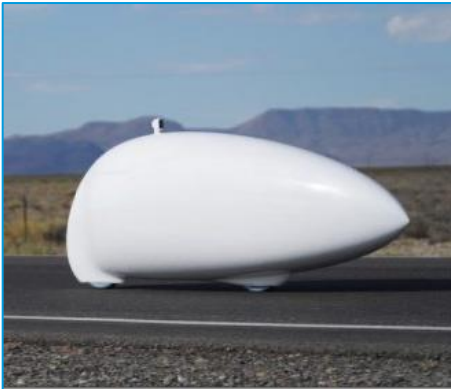
The NTN Europe teams support the CIXI teams in industrialising their innovations and selecting the most suitable bearings. NTN Europe and Cixi will be pleased to present their solutions at the show. It will also be an opportunity for NTN Europe to show that it is still possible to bring innovative components, such as sensors, bearings, lubrication solutions, etc., to the world of cycling in a quick and accessible way. To this end, its teams will be at the disposal of two-wheeler professionals in Hall 9.1 - D09.

### **SSV project: the Bicycle Service Station by NTN Europe**

The company is also participating in the development of a 100% energy self-sufficient, mobile bicycle service station. The station will offer a host of services for users, some of which will be accessible via an app: secure bike storage, battery recharging, light maintenance tools (tyre inflation), changing rooms, sale of parts and accessories (inner tubes, anti-theft devices, light rain gear), storage lockers (for helmets, baskets). The centre will be 100% renewable energy, powered by solar energy. One of the other advantages of this station is its mobility: it is transportable and can change location with the seasons - in the mountains or in town, as required. Following the development of the first prototype this year, the final version and certifications are scheduled for early 2024, with marketing scheduled for late 2024.



Focus on...



Altair Recumbent careened bike,  
Battle Mountain - 09/2022

NTN Europe partner of Annecy IUT

A team of 10 students from the Mechanical and Production Engineering department at Annecy IUT will be taking part again this year in the World Human Powered Speed Challenge, to be held from 10 to 16 September at Battle Mountain in Nevada (USA).

They will be riding alongside François Pervis, seven-time world track cycling champion, who will be attempting to beat the world speed record (144 km/h) on the Altair 6 recumbent bike designed and built by the students.

NTN Europe is providing financial support for this project, as well as technical assistance to the team.

The Altair bike will also be equipped with NTN bearings.



Laurent Guiot - VP HR NTN Europe, Guillaume de France - Altair Project Manager  
Annecy IUT, Martin & Matéo - Annecy IUT students around the new Altair,  
Annecy - 06/2023

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