

Summary

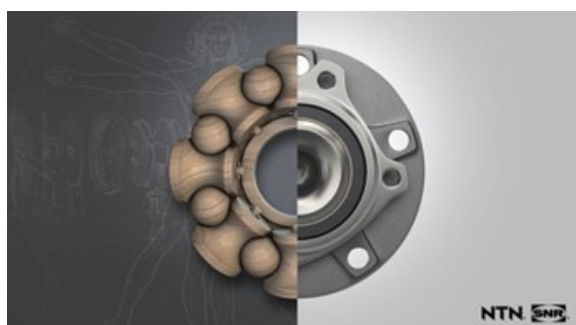
- The history of rolling bearings goes back to 2500BC
- Da Vinci was already sketching bearing concepts at the end of the 15th century
- Invention of the Pedal Cycle (now known as the Bicycle) led to increased demand for industrially manufactured ball bearings in the 19th century
- The first fully automatic ball milling machine appeared in the second half of the 19th century

The origins of rolling bearings

Did you know that the precursors of rolling bearings already played an important role very early on? For example, at around 2500BC, heavy loads were already transported from A to B on skids in ancient Egypt. Later, rollers were placed between the transport surface and the skids. With this strategy, the gliding motion was thus replaced by a rolling motion, which is still used today. A pivotal event in history was the invention of the Wheel. First made of stone, then later of wood. A challenge, however, was the friction within the wheel hub, which led to severe wear and tear. Even Leonardo da Vinci (1452-1519) was already thinking about how bearings could function with minimal friction. Powerful, isn't it?

Da Vinci and the rolling bearing

Da Vinci's ideas were generally very progressive. As early as 1500, he made some sketches, drawings and designs on the



Old but gold: The idea da Vinci had of a ball bearing definitely bears similarities to rolling bearings in use today.

subject of [ball bearings](#), which interested him in the context of his development of the Helical Air Screw (a kind of helicopter). In this way, da Vinci was able to gain his first insights into a low-friction bearing.

The importance of rolling bearings during industrialisation

The bicycle had a decisive impact on the development of the rolling bearing. After the invention of the Draisine in 1817, which already vaguely resembled a bicycle, both the treadwheel and the rear-wheel chain drive were developed in the second half of 19th century. Since people had to propel the bicycle themselves, the desire for low-friction movement finally increased. This created a high demand for industrially manufactured ball bearings. Finally, Friedrich Fischer designed the first fully automatic ball milling machine with which steel balls could be produced instead of stone balls. From 1886, Fischer even manufactured entire ball bearings. A short time later, NTN began producing ball bearings in 1918 and has since become one of the largest manufacturers worldwide.



The first Treadwheel Pedal Cycle was built in 1853 by Philipp Moritz Fischer, the father of Friedrich Fischer.

Enough history lessons: Since Fischer's invention in the 19th century, ball bearings are probably the best-known rolling bearing type, but not the *only* one. You can find out more in our article on [rolling bearing types](#).

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