

COMMERCIAL CARGO BIKES REQUIRE PROVEN AND ROBUST VEHICLE TECHNOLOGY

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Overcrowded inner cities, poor air quality, and climate change – urban traffic must become more sustainable. Heavy-duty cargo bikes in particular have the potential to take on a major role as sustainable urban-logistics vehicles, with bicycles, tricycles, or quadricycles replacing automobiles in many scenarios: Compact, maneuverable, and emission-free, they can move more easily through inner-city traffic and circumnavigate gridlock using bike paths. Growth in this sector requires that urban cycling-related infrastructure grows with it, and that heavy-duty cargo bike components such as drivetrains, brakes, and chassis are built to withstand the stresses of long-term commercial use and heavy transport. Classic bicycle components would not stand a chance under these strenuous conditions.

As a manufacturer of high-quality bicycle gear-shifting systems modeled on automotive technology, Pinion has been a reliable bicycle industry supplier for years. With a gearbox that is robust, maintenance-free, and designed for use under heavy loads, Pinion is already making a significant contribution to the cargo bike sector. Our technology is helping cargo bikes establish themselves as reliable and environmentally friendly alternatives to automobiles for "last mile" delivery of small parcels, and in commercial and rental fleets.

STATUS QUO

It is the goal of the European Union to reduce greenhouse gas emissions by 40 percent below 1990 levels by the year 2030. Germany is taking this one step further, targeting a reduction of 55 percent. Motorized transport is the third-largest source of CO₂ emissions in Germany, and the continued increase in the number of vehicles on roads is particularly problematic. According to a survey by Martin Randelhoff, publicist for the online platform Zukunft Mobilität, "The volume of shipments transported by courier, express, and parcel services within Germany doubled between 2000 and 2017. Continued growth is expected in the coming years with more than 4 billion shipments estimated to be delivered annually."

There are currently many topics of debate surrounding bicycle and automobile traffic in Europe. The consensus is that urban mobility should be universally accessible, and that quality of life in cities should be increased. "This can be achieved by promoting micromobility, and cycling in particular," says Prof. Stefan Gössling, a transportation expert and Professor of Sustainable Tourism and Transportation at Linnaeus University in Lund, Sweden. "If you create the conditions for cycling within cities, people will cycle!" Cities like Copenhagen, Utrecht, Amsterdam, and London are excellent examples.

In Germany it has become easier to access subsidies which support the financing of E-Cargo bikes. New policies were put in place on March 1st 2021 making funding more readily available for commercial-use E-cargo bikes. Among the policy updates was a reduction in the required payload capacity (= permissible total weight – tare weight of the vehicle) which was reduced from 150 kg to 120 kg. BAFA will subsidize 25% of the acquisition costs, up to a maximum of €2,500 per bike.

POTENTIAL IN LOGISTICS

The National Cycling Logistics Conference is one of many groups that sees the huge potential for cargo bikes in urban logistics and affirms that modern heavy-duty cargo bikes, with a high load-capacity, can make an important contribution to last mile delivery services. Heavy-duty cargo bikes can have payload capacities exceeding 200 kg, enabling emission-free, efficient, and city-friendly deliveries.

According to a survey by the European "City Changer Cargo Bike" project, in 2019 the growth of the European cargo bike sector was approximately 60 percent among 38 cargo bike manufacturers. Further growth of 53 percent has been forecast for 2020. In the Netherlands, there were approximately 100 000 cargo bikes in use in the commercial sector at the time of publication. According to the latest estimates, this number is expected to quadruple to 400 000 in the next 3-4 years. The sharp rise in demand is attracting new players to the market, bringing with them fresh ideas and innovative products. Established cargo bike manufacturers are also constantly fine-tuning their offerings to stay ahead of the curve. Companies like Tricargo and Velofactor are leading the way with innovative heavy-duty cargo bike concepts.

In the long term, logistics companies and fleet operators will need to see clear financial and operational benefits in order to transition away from delivery vans and trucks and toward heavy-duty cargo bikes. The success of this transition will be heavily dependant on how E-Cargo bikes perform in continuous operation, and how reliably the bikes (and their components) function. In the heavy-duty cargo bike sector, frames and components must withstand greater stresses and higher duty cycles. Safety, user-friendliness, reliability, and cost control will come under intense scrutiny. Fortunately, these are precisely the attributes that have been driving Pinion's success for years. Initial feedback from real-world testing of Pinion gearboxes in heavy-duty cargo bikes has been universally positive:

"The reliability of our vehicles is paramount. Our pilot-vehicles have already delivered over 60 000 kg of payload to their destination on time. The drivetrain with Pinion gearbox technology has been running for over 10 000 km without any problems. We count on Pinion gearboxes in our series. Pinion delivers peace of mind."

Björn Fischer, Board Member of tricarGo eG

PINION OFFERS UNIQUE AUTOMOTIVE-GRADE GEARBOXES

Pinion is well-known within the bicycle industry as a manufacturer of high-quality gearbox shifting systems. Pinion's founders came from the automotive sector and have taken full advantage of their knowledge and experience. From the beginning, Michael Schmitz' and Christoph Lermen's goal was to develop a bicycle gear shifting system that would perform its job unobtrusively and be robust, durable, low-maintenance, and wear-free. This goal has been achieved. Pinion gearboxes have received numerous awards including the Innovation Award of the State of Baden-Württemberg in 2016. Further accolades, positive reviews, and "best-in-test" wins underpin the medium-sized company's reputation as a leader in the field of modern drivetrain technology for bicycles and E-Bikes. Today, the Pinion gearbox is a core component of bicycles and E-Bikes from over 100 well-known manufacturers. It has been field-tested for years and under the most extreme conditions.

Pinion gearboxes are an off-the-shelf solution with the features and qualities required for heavy-duty cargo bike applications. The company also works closely with industry partners to help integrate gearboxes into their unique design concepts. Pinion is committed to providing service, support, and accessories for heavy-duty cargo applications. Ultimately, the goal is to ensure that cargo bikes establish themselves as a reliable and environmentally friendly alternative to delivery vans and trucks in the urban environment.

"Heavy-duty cargo bikes differ significantly from cargo bikes in the private sector and must withstand much higher stresses. These bikes can no longer be classified as a "bicycle" in the traditional sense. In the commercial sector, strenuous duty cycles and the need for cost-effective operation create exceptionally high expectations for equipment. A heavy-duty cargo bike must perform with the same day-to-day and long-term reliability as that of an automobile performing the same job. To accomplish this requires appropriately robust componentry." - Dirk Stölting, Head of Marketing & Design Pinion GmbH

CONCLUSION

For Pinion, as a manufacturer a robust, reliable, and low-maintenance gearbox, the growth of the cargo bike market and the development of the micromobility sector have enormous potential. It is our expertise in the development of automotive transmissions that gives us unique a standing in, and perspective into the cargo bicycle segment. Our technology has been tried and tested for years, but at Pinion the proverbial gears keep turning. We are developing products specifically intended for use in cargo applications. Pinion is currently testing heavy-duty cargo bikes with virtually all the major manufacturers in this segment. We are also working with various E-Bike motor manufacturers to continue the development of efficient, robust drive systems. It is an exciting time for all of us, as Pinion will continue to play a central role in growing market of commercial cargo solutions.

FURTHER INFORMATION

Web-Link: <https://pinion-industrial.eu/>

Download Media Kit: <http://pinion.eu/press/2021/Media-Kit-Pinion-Industrial.zip>

References:

- [Radlogistik Verband Deutschland](#), Press release on the National Bike Logistics Conference: Cargobikes Have Great Potential in Urban Logistics
- [Zukunft Mobilität](#), Study "Factors Influencing the Development of Inner-city Delivery Vehicles".
- Veloplan Magazin 02/2020, Interview with Prof. Stefan Gössling
- [Bundesamt für Wirtschaft und Ausfuhrkontrolle](#), Funding Program for E-Cargo bikes
- [Cyclelogistics / City Changer Cargo Bike](#), Market Development Study

ABOUT PINION

Pinion was founded in 2008 by two former Porsche engineers, Christoph Lermen and Michael Schmitz. Their vision was to build „a bicycle gearshift with the heart of a sports car.“

The fully-sealed gearbox combines the best of automotive and bicycle technologies to bring you unrivaled drivetrain performance and reliability. Pinion gearboxes are extremely robust, virtually wear- and adjustment-free, and field-tested in the harshest conditions on earth.

As pioneers in gearbox development, Pinion has received numerous product and design awards for their innovative application of automotive engineering technology in the cycling industry. Every Pinion gearbox is Made in Germany, with development, design, construction, serial production, sales and service taking place at their modern Denkendorf headquarters just outside of Stuttgart.

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