

EDAG BIKE



360° BICYCLE FRAME DEVELOPMENT – FROM THE IDEA TO THE VALIDATED PROTOTYPE

Bicycles and pedelecs are becoming increasingly popular – not just since the Corona crisis. They stand for healthy and sustainable travel, and are becoming an increasingly important element of modern mobility concepts.

EDAG Bike: a competent partner

As a specialized division of the EDAG Group, EDAG Bike covers the complete spectrum of bicycle and pedelec development.

- In addition to developing components and modules, EDAG Bike also offers the production of prototypes, which then undergo extensive testing on the test benches or in operation.
- EDAG Bike stands for speed in development. Special manufacturing processes developed by EDAG make it possible for the first prototype frames to be presented just two months after the start of development. In order to save resources, as much work as possible is done digitally.
- EDAG Bike develops individual solutions. From exclusive high-end carbon bikes to CNC-milled aluminum frames or bicycle frames made of fiber-reinforced thermoplastics, the manufacturing concept can be adapted to meet the customer's needs. The end result is a prototype that has already been through all the relevant approval procedures and meets the relevant DIN standards (ISO 4210/DIN EN 15194).

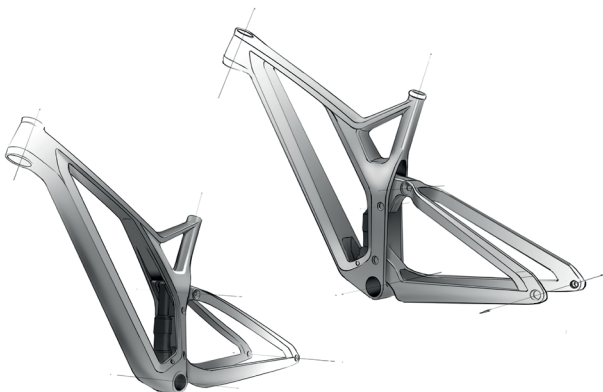


EDAG Bike is your partner for integrated bicycle & pedelec engineering – by bikers for bikers.

360-DEGREE COMPETENCE

Whether working virtually or in reality, EDAG Bike has integrated 360-degree competence from the idea to the finished product. The range of services offered by EDAG Bike covers the following areas:

- **Concept:** Target definition, benchmarking, sketches and initial designs all help to lay the foundations for the development of an exclusive product. The next step is the development of the geometry and kinematics. Attention is already paid at this stage to the design parameters important for the application (e.g. anti-squat and anti-rise). Where pedelecs are concerned, the conceptual integration of the e-drive & battery system is carried out in this phase.
- **Design:** This is where the functional concept is translated into the appropriate design language and desired style by EDAG Bike's designers or the customer's own specialists.
- **eDrive & Battery:** Taking the relevant requirements (e.g. thermal, noise and vibrations) into account, the EDAG Bike experts develop the drive system, customize the optimum hardware and software, and produce the first prototypes in-house.
- **Digital Business:** EDAG Bike's digital specialists take care of front-end and back-end app development, in combination with UX/UI design.
- **Series development:** Taking into account styling, weight, cost and material, components and systems are modeled and optimized in line with load path requirements in a virtual environment using computer-aided design (CAD) and the finite element method.



EDAG BIKE TESTING & PROTOTYPING

EDAG Bike stands for the detailed testing of customized prototype development. The range is extremely varied:

- **Hardware tests:** Chassis, brakes, or spring and damper elements: EDAG Bike tests all relevant components to the failure limit on its test equipment, carries out quality checks and optimizes both the cost and weight of new developments. Frame stiffness is checked on a special stiffness test stand. Vibration and battery tests plus environmental simulations round off component testing. All frame prototypes leave EDAG Bike with design approval in accordance with ISO 4210/ DIN EN 15194 if required by the customer.
- **Test equipment development & construction:** At the customer's request, EDAG Bike develops and constructs test equipment tailored to the application in a specialized department. The spectrum ranges from a frame stiffness test stand to a drive unit test bench.
- **Prototype construction and low-volume production:** One of EDAG Bike's key areas of focus is prototype and small series construction. Bicycle components, frames in a wide range of manufacturing processes, batteries – the experts develop high-tech products tailored to customers' requirements.

At EDAG Bike, you will find passionate experts for all-round mobility solutions involving all aspects of bicycles and pedelecs. Should you have any questions for EDAG Bike, please contact Niko Lehtonen. He can be contacted by e-mail at bike@edag.com.