



# SHOW DAILY

## THURSDAY

### INSIDE:

Latest news  
Show highlights  
What's on today



**E-BIKE OVERVIEWS:**  
Next-level eMTBs  
Shop tools for e-bikes  
Electric gravel bikes  
Tires

**PRODUCT ROUNDUPS:**

Lighting  
Sunglasses  
Off-road apparel  
Sustainable apparel  
Seatposts: droppers and suspension  
Carbon MTB wheels  
Smart clothing  
Footwear

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## TODAY

September 5  
FRIEDRICHSHAFEN

16°C (73°F)

Showers



TONIGHT

9°C (50°F)

Showers



TOMORROW

17°C (62°F)

Mostly Cloudy



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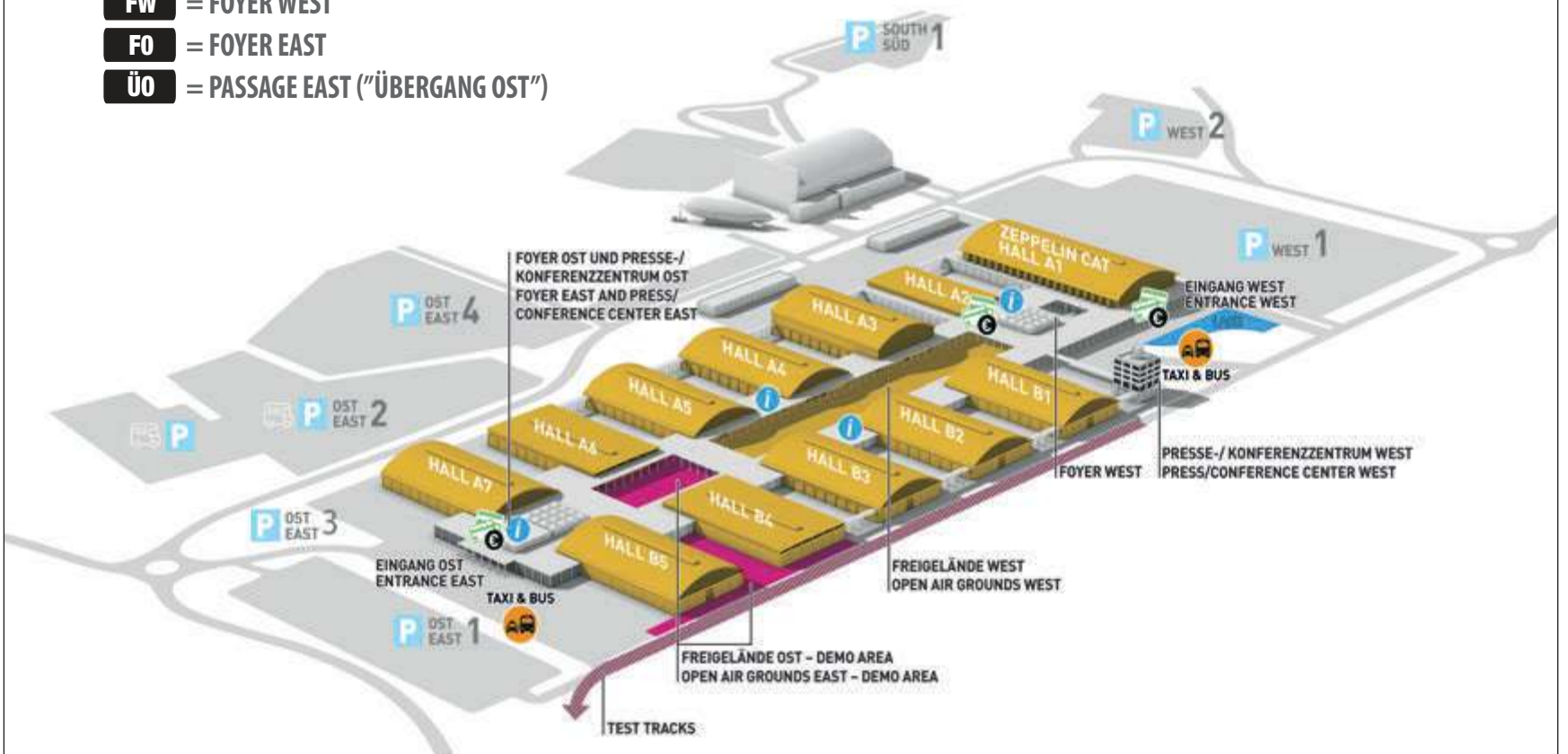
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## A GUIDE TO EUROBIKE STAND NUMBERS

- A & B** = MAIN INDOOR HALLS
- DA** = DEMO AREA EXHIBITORS COURTS
- FG** = OUTDOOR AREA WEST ("FREIGELÄNDE WEST")
- FG-O** = OUTDOOR AREA EAST ("FREIGELÄNDE OST") INCLUDING DA
- FW** = FOYER WEST
- FO** = FOYER EAST
- ÜO** = PASSAGE EAST ("ÜBERGANG OST")



# VOX POP

How have the current trade conflicts impacted your business?



**Frank Huang**  
**Kogee Industrial**  
Taiwan

Because it's between China and the U.S., it might be a little bit good for Taiwan.

We have a factory in China, but our factory in China only supplies the China market. Because of the trade war, some of the buyers will go to Taiwan to buy parts, because if you buy the

parts in China maybe it will be a little expensive. I think right now it's not very clear, but it's the trend.



**Jae Mann Park**  
**Hauteworks**  
South Korea

We don't have enough trading going on to actually feel it. We make bike accessories like these smart lights. For example, when you brake, it will light up just like a car light does. We do have buyers from the States and we're currently talking with buyers from Australia.

We used to manufacture in South Korea, but we recently moved to China, so we'll have to see. People are talking about it but we're not actually feeling the pressure right now. Except for the States I see no problem yet.



**Torsten Link**  
**Bike-discount.de**  
Germany

We sell all over Europe and worldwide. Of course we sell to England, but the rate is very low — I would say in the low single-digit range. I think it could make things easier for us, because it could get more difficult for English companies to sell over here.



**Lucas Toledo**  
**Bignay (GiFly)**  
Argentina.

We develop our product in Argentina but we produce in China, so the trade war will affect our market for sure, the cost will go up. We're importing from China into Europe and the U.S so for that reason the taxes will affect our business.

But we're really flexible and we're thinking to move our assembly line or part of our production to [other] markets. One of them could be Europe for sure, because there we have 35 percent of our sales.



**Ken Bloomer**  
**Enve Composites**  
German Office

We do business in Europe as well, and one of our important trade partners is in England. We work with Saddleback, which is a top-end distributor, and they're out of Bristol, so all of these discussions are relevant to us.

It's going to ultimately drive up pricing for us, regarding the Chinese imports and stuff, because we can't absorb those tariffs. We're looking at different ways of how can we change the supply chain, where either we're manufacturing somewhere else, or that we are warehousing in Europe. We're looking at different logistics opportunities there as well, which also play into Brexit.

We have a Plan B, but we're hoping we don't have to use it right now. I don't think anybody knows what's going to happen, but we're not sitting around waiting to see what happens. Plan B is that we service the business that Saddleback takes care of [in Germany and Austria] through the warehouse that we're setting up in Rotterdam.

■ BS

## WHAT'S ON TODAY THURSDAY, SEPT. 5

### Show Dates:

Business Days: Wednesday, Sept. 4 - Friday, Sept. 6  
Festival Day: Saturday, Sept. 7

### Show Hours

9 a.m. - 6 p.m.

### All Day / Every Day Events

Foyer East

#### 15th Eurobike Award

Exhibition of the award-winning products

Open Air Grounds East/  
Behind Halls B4 and B5

#### Demo Area

Choose from approximately 1,000 test bikes to ride on more than 10km (6 miles) of test tracks.

Foyer East

#### Recumbent Bikes and Velomobile exhibition

Hall A1

#### Cargo Area/E-Mobility Area

See how cargo and e-cargo bikes offer new solutions for urban logistics, along with trends and new micromobility vehicles such as e-scooters. Hall A1 is also home to the increasing number of suppliers to the e-bike industry, including established and new e-bike drive makers.

Foyer East

#### Blogger Base/The Writers' Club

The Blogger Base, supported by the Writers' Club, gives international bloggers from the bike and travel industries a place from which they can engage with exhibitors and visitors, track down trends, and post live on social media. The Eurobike Social Wall provides an overview of posts published with the hashtag #EurobikeShow. Workspaces, available for accredited bloggers, have free WiFi, coffee and catering.

Foyer West

#### Service Area

The Service Area, started in 2017, pools products and services to improve the marketability of bicycle products for retail and industry. Exhibitors can help in such areas as merchandise management, logistics concepts and digital sales platforms, along with insurance, anti-theft security and ergonomics consulting. The Service Area includes a lounge for discussions. New this year will be short presentations given during the day by Service Area exhibitors.

Passage East

#### Start-Up Area

Some 50 start-up companies have small booths to show their inventions throughout the show, while a bar and lounge area encourages networking.

Foyer West

#### Job Fair

Whether you're looking for a job in the bike industry, or you're looking to hire, the Job Fair is the place to go. Individuals and exhibitors can submit job postings for free, and Eurobike will post them online and on the big bulletin boards in the West Foyer.

FO-106

#### Velomobile Show

Vehicles that close the gap between bicycles and cars

A1-105

#### Greenstorm

Enter a lottery for a chance to drive a Tesla Model 3 for eight months, and many other prizes.

A7-400

#### Thule

Buy a Thule Vital hydration pack for 30 euros. All proceeds go to the Apa Sherpa Foundation of Nepal.

A4-303

#### Ortlieb

Jonas Deichmann prepares for the Cape to Cape Challenge of 18,000km (11,185 miles).

### Thursday, Sept. 5

#### 8 - 10 a.m.

Conference Center East/Rooms Berlin and Paris  
**Cycling Industry Leaders' Breakfast**

#### 8:30 - 9:45 a.m.

Foyer East/Blogger Base  
**Writers' Club Supporter breakfast**

#### 10 - 10:45 a.m.

Conference Center East/Room London  
**Eurobike Academy: Environmental compliance 2019 — WEEE Open Scope, German packaging law and further challenges for the bike industry**  
Sascha Heinz and Lukas Ebbert, Go4Recycling (In German and English)

#### 10 - 11 a.m.

Foyer East/Eurobike Stage  
**Blogger Base: Blogger and Industry — How does a successful collaboration work for both sides?**  
Alina Jäger, Jan Deichmann, Mirjam Reisch

#### 10 - 11 a.m.

Conference Center East/Room Rom  
**Press conference: A glimpse into the future of South Tyrol, from the art of trail building to the challenges of the bike hotel industry**

### CORRECTION

A story in Wednesday's issue of the Eurobike Show Daily said the patents for the DT Swiss Star Ratchet system had expired. According to DT Swiss, only some of the patents have expired, while others that protect key parts of the star ratchet technology are still valid. We regret the error, which was made in editing.

**10 – 11 a.m.**

Woom/A3-102

**Press conference with founders Christian Bezdeka and Marcus Ihlenfeld****11 a.m.**

Yuba Bicycles/A1-715

**Guided tour of Cargo Area for visitors and journalists****11 – 11:45 a.m.**

Foyer East/Eurobike Stage

**Eurobike Academy: Creating innovation through knowledge transfer partnerships**

Geraint Florida-James, Edinburgh Napier Univ. and Mountain Bike Centre of Scotland (In English)

**11 – 11:45 a.m.**

Conference Center East/Room London

**Eurobike Academy: GDPR for bicycle retailers**

Ulf Blume, LBU-Beratung (In German)

**11 – 11:45 a.m.**

Conference Center East/Room Rom

**Eurobike Academy: 3D printing carbon fiber frames for production**

Bill Stephens, StudioWest (In English)

**11 a.m. – 12 p.m.**

Foyer West

**It's My Bike press conference****12 – 12:45 p.m.**

Foyer East/Eurobike Stage

**ASEAN Bike Market – Trends, opportunities and outlook**

Panel discussion about the ASEAN bicycle market (In English)

**12 – 12:45 p.m.**

Conference Center East/Room Paris

**LEVs @ Eurobike**

ExtraEnergy

**12 – 12:45 p.m.**

Conference Center East/Room Rom

**Eurobike Academy: Engineering speed – How to build an accessible virtual wind tunnel and make bikes and riders more aero**

Raman Garimella, Voxdale (In English)

**12 – 12:45 p.m.**

Conference Center East/Room London

**Eurobike Academy: Local online marketing for bicycle retailers**

Steffen Vierrether and Patrick Majerle, Bitzilla Agentur (In German)

**12 – 2:30 p.m.**

LEVA-EU/FW-OG101

**Meeting on new EU EPAC Standard (EN15194:2017) and American trade war**

LEVA-EU and LEVA. Advance registration required; contact annick@leva-eu.com for information.

**1 – 1:45 p.m.**

Conference Center East/Room London

**Eurobike Academy: Digitalization as an opportunity and existential challenge for brick-and-mortar retail**

Stefan Wolpert, Fraunhofer Institut (In German)

**1 – 1:45 p.m.**

Foyer East/Eurobike stage

**Eurobike Academy: Recognizing customer needs – reaching out to customers in their milieu**

Heiko Johannisson, eBay (In English)

*Martin Mai and his amphibious electric recumbent bike, the Aqua Quad. He's in the Start-Up Area.***1 – 1:45 p.m.**

Conference Center East/Room Rom

**Eurobike Academy: Success story e-bikes! Where are we going?**

Ursula Kloë, JU-Know (In English)

**2 – 2:45 p.m.**

Conference Center East/Room Rom

**Cargo Bikes @ Eurobike Academy: What use is the DIN standard for cargo bikes? When is the EN standard coming?**

Marcus Schröder, EFBE German Bicycle Testing Institute; Erik Driessen, Urban Arrow. Moderators: Arne Behrensen, cargobike.jetzt; Kevin Mayne, CIE (In English with German translation)

**2 – 2:45 p.m.**

Foyer East/Eurobike Stage

**Eurobike Academy: 5G vs. ITS-G5 – the impact of advanced connectivity on cycling**

Louis-P. Huard, Boréal Bikes (In English)

**2 – 2:45 p.m.**

Conference Center East/Room London

**Eurobike Academy: The connected store – omnichannel made easy**

Udo Latino, Brodos (In German)

**2 – 5 p.m.**

Enervit/B5-207

**Athlete appearance: Miguel Indurain**  
5-time Tour de France winner**3 – 3:20 p.m.**

Hase Bikes/FG-B7-1

**The Hase Bikes Beast Show****3 – 3:45 p.m.**

Conference Center East/Room Rom

**Cargo Bikes @ Eurobike Academy: Challenge components – heavy loads need new solutions**

Tommy Abel, Cargo Velo Services; Jochen Coconcelli, Magura; Kolja Opper, ZEG. Moderators: Arne Behrensen, cargobike.jetzt; Kevin Mayne, CIE (In English with German translation)

**3 – 3:45 p.m.**

Foyer East/Eurobike Stage

**Eurobike Academy: When tactics killed the strategy star**

Anne Guethoff, n'fuse.solutions (In English)

**3 – 3:45 p.m.**

Conference Center East/Room London

**Eurobike Academy: Online. Offline. Between the line**

Philipp Beck and Marian Homburger, Atelier 522 (In German)

**3 – 4:30 p.m.**

Abus/A5-500

**Athlete appearance: Richie Schley and Cedric Gracia****4 – 4:45 p.m.**

Conference Center East/Room Rom

**Cargo Bikes @ Eurobike Academy: Urban logistics with cargo bikes – presenting the Radlogistik Verband Deutschland (RLVD)**

Luise Braun, ONO; Benjamin Georg, Velove. Moderators: Arne Behrensen, cargobike.jetzt; Kevin Mayne, CIE (In English with German translation)

**4 – 4:45 p.m.**

Conference Center East/Room London

**Eurobike Academy: Quality management, production process and testing – examples from frame and fork manufacturing**

Marcus Schröder, EFBE Prüftechnik (In English)

**4 – 5 p.m.**

Yuba Bicycles/A1-715

**Happy Hour****4 – 5 p.m.**

Paona/A4-410

**Press conference on “surf-inspired kids' mobility”****4 – 6 p.m.**

Foyer East/Blogger Base

**Blogger Base: Blogger Walk & Meet****4 – 8 p.m.**

Johnny Loco/A1-718

**Booth party; new e-cargo bike introduction****5 p.m. – on**

Look/B3-102

**Cocktail party with CEO Federico Musi****5 – 5:45 p.m.****Cargo Bikes @ Eurobike Academy: Daily life loads – Women as mobility managers in the scope of the cargo bike industry**

Cora Geissler, Velogut; Sonia Quirder, Kvirder (In German)

**5 – 5:45 p.m.**

Conference Center East/Room London

**Eurobike Academy: Tackling the bicycle industry's shortage of qualified staff with good training**

Jürgen Lutz, MuV Lutz (In German)

**5 – 6 p.m.**

APM Marketing-Rayvolt/FG-O/105

**Press conference on Rayvolt e-bikes from Barcelona****5:45 – 7:30 p.m.**

Foyer East/Blogger Base

**Blogger Ride. Must register in advance****6 – 8 p.m.**Restaurant Zeppelin Hangar  
LEVA/LEVA-EU networking dinner**Advance registration and payment required. Contact annick@leva-eu.com for information.***Hosting a party, an athlete appearance or another special event at Eurobike? Send us your information no later than 3 p.m. for the next day's Show Daily at EurobikeShowDaily@gmail.com. Please include your stand number and a contact name, phone number and email.*

## EUROBIKE AWARDS

# NINE PRODUCTS TAKE HOME EUROBIKE GOLD

A self-inflating bicycle tire, an electric rickshaw, an e-cargo bike, a full-suspension e-bike, a smart e-bike lock, and a suspension fork that measures variations in the terrain 1,000 times per second were among the nine top winners at the 15th edition of the Eurobike Awards.



**Chat Rickshaw Bike**

Eurobike announced the Gold Award recipients at a ceremony Wednesday evening. This year's Eurobike Awards attracted 400 entries, from which 43 were selected as finalists for demonstrating the best and most interesting innovations.

Nine of them received the coveted Gold Award — and one, Swiss start-up Asphalt, even managed to score a Start-Up Award as well for its minimalist LR urban e-bike.



**Fox Live Valve**

The Eurobike Awards are the reference for new trends and thinking in the bike industry. This year's winners inspired the six international judges with their unique character and thorough project development. Winning products are on display throughout the show in Foyer East.

The 2019 Eurobike Gold Award winners are:

**The AirWinder Self-Inflating Bicycle Tire.** This self-inflating tire system uses some of the mechanical energy

from riding to push air into the tire. "I'm super excited about this award because ours is a brand new innovation, it has broad application and this award provides validation," AirWinder founder Benjamin Krempel said in an interview after receiving the award.

**Chat Rickshaw Bike,** an electric rickshaw meant for recreational use or for users with limited mobility. What stood out for the judges was the bike's impressive quality of detail and its wide range of safety features, particularly the good visibility through the rickshaw canopy. "I think that



**Superdelite GT from Riese & Müller**

the design and comfort were the key features to winning this award," said Hans Danielson of parent company Van Raam.

**Superdelite GT Rohloff HS with GX option.** From **Riese & Müller, [A6-300]** it's the only full-suspension e-bike with integrated dual battery technology and intelligent integration of the motor into the frame on the market.



**SRAM and RockShox AXS**

"I think it's unique in its features," said Markus Riese, co-founder of the company. "I've even been walking around the show and there are no other bikes with these features; it's a concept we've been working on for a long time. I'm happy that the jury has recognized this because there are some technical details that you don't see at the first glance but if you're doing long trips, you appreciate them."

**Fox Live Valve. Fox Factory [B1-500]** created an electronically controlled "live valve" that uses ultra-fast-reacting sensors to adjust the fork and shock independently as the terrain changes. "I think the media has been generating coverage to get people to accept electronics in mountain biking – to give the impression that it's OK to have electronics on a mountain bike," said Chris Trojer, marketing manager for Fox.

**I Lock It e-bike lock,** an integrated lock system that uses an adapter for Bosch e-bike displays to set a new standard for e-bike security. "I feel that the product was selected for its simplicity and convenience," said Markus Weintraut, co-founder of **I Lock It [FW-217]**. "It was recognized because it's useful and simple to use."

**SRAM & RockShox AXS,** wireless electronic drivetrain components and system from **SRAM [A3-300]** that feature unprecedented options

to personalize and control functions via a smartphone app. While the AXS concept has been available since February, the jury cited the system's potential to revolutionize bike design as its most compelling feature. Judges also highlighted the recent seat post integration into the system.

**Asphalt LR urban e-bike.** Winner of both a Gold and a Start-Up Award, the Asphalt LR is a lean-looking urban e-bike, with integrated features like two batteries and rear light. "From the idea to today, it took us three years to develop the Asphalt," said David Oreiro, co-founder of **Asphalt. [ÜO-100]** "I think it's the minimalist look that was a defining characteristic for the judges. On the other hand, there are a lot of functionalities that are hidden – it's a mix of both."

**Cero One,** Cero Bikes' compact electric cargo bike for commuters, families, and businesses. The Cero One drew attention for its carrying capacity, modular accessories that can be fitted to the front and rear carriers, and for its low center of gravity.



**AirWinder**

**E-muli Steps,** a compact electric cargo bike. It pulls double duty as an agile everyday bike that can be taken on the metro or stored in bike parking zone, or as a workhorse cargo bike. The new e-muli cargo bike impressed judges with its plain design yet clever integration of the new Shimano mid-drive motor. ■ **WB**



**The winners of the 2019 Eurobike Awards on the Eurobike stage after Wednesday evening's ceremony**



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# SEE THE NEXT BIG THING AT THE START-UP AREA

If you're heading out for a short ride, the battery in the downtube of the slick, silver-gray Asphalt LR has you covered. But if you're envisaging a longer ride, just slide a second battery into the seat tube.

That's one of the unique features of the bike created by the Swiss start-up **Asphalt, [ÜO-100]** which walked away with a Eurobike Gold Award on Wednesday as well as a Start-Up award.

Asphalt is one of 51 companies exhibiting in the lively Start-Up Area in Passage East, which even has its own lounge and bar.

Twenty finalists selected from 60 entrants made three-minute pitches on the Eurobike stage yesterday afternoon. The event was part of the Start-Up Day. This was the second year Eurobike has focused on start-ups, and built a whole program including discussions, workshops and networking.

"We saw a lot of young brands who started their career here at the show, who were kind of newcomers — small companies — that only had a little booth here, and today they are major players in the industry," Stefan Reisinger, head of Eurobike, said during an introduction to Start-Up Day. "So I think there is a big opportunity for brands to start their career here at Eurobike with their innovative products."

Asphalt co-founder David Oreiro said his company began in Solothurn two years ago. Asphalt has already sold several hundred bicycles, which gave it the ability to finance development. He is hoping the exposure at Eurobike will help it grow further.

"We started in Switzerland last year, and now we will make the next step in Europe, in Germany, and find some retail partners," he said. Oreiro is a designer who previously worked with Tesla.

Several other start-ups focused on micromobility products, including the sturdy electric scooter with large wheels and a wooden platform from **AER Electric Scooters. [ÜO-302]** John Irving changed careers from the real estate business to found the British company. He teamed up with German engineers to create the safe and cool e-scooter.

Production should start early next year in a German factory, using high-end bicycle parts including Schwalbe tires, Magura brakes and an SPlab handlebar. "We wanted it to be fully serviceable," said Nige Speake, AER's sales director.

AER bagged a start-up award



Timo Wörner, a friend of Praep founder Christian Jaeger, demonstrates the ProPilot.

yesterday, along with Tatze's ultra-flat pedal, the environmentally friendly DiOx DWR C Zero coating, and the Bike Box from South Africa.

**Praep [ÜO-303]** came up with a creative training product for enduro riders. The ProPilot is a quirky device that trains just the right muscles to help enduro riders steer down treacherous slopes. It attaches to the center of a regular set of handlebars, either supplied by the rider or by Praep.

Its triangular base offers three training positions. One is straight-forward, but the other two create different types of instability that make

training sessions more challenging, said Christian Jaeger, the entrepreneur behind the ProPilot. The ProPilot comes with an app to make sessions more entertaining.

And if you're living in a floating house, the Aqua Quad from **Aquacon [ÜO-217]** could come in handy when you have to come ashore. Martin Mai, an Austrian architect, not only will design the house — or "nest," as he calls it — but the floating bike that gets you ashore. It's a four-wheeled recumbent that's fitted with flotation wheels. Once you've pedaled ashore, just remove the flotation wheels and go on your way. ■ **BS**

## BULLS IS BULLISH ON BEEFY NEW HEADSET, STEERER TUBE STANDARDS

Beefier electric drive systems and their components require burlier frames. To make sure forks are up to the task, Bulls has teamed up with RockShox and SR Suntour on new standards for headsets and steerer tubes.

The new standards require that steerer tubes taper from 1.8 to 1.125 inches, with headsets to match.

"In the last couple of years it has become obvious that e-bikes cannot and should not be treated like conventional bicycles. From the loads that occur to the weights of the bicycles, the distances covered, and the aesthetics, the demands are very different," Hendrik Gehring, head of product development for **Bulls, [B1-200]** said Wednesday.

"Increasing the diameters of the uppers and lowers of the forks would not do, so we approached fork manufacturers with the idea of increasing the diameter of the steerer tube," Gehring continued. "Another advantage in doing so is that the headtube grows in size, offering plenty of real estate to weld a large downtube to it for in-tube batteries."

Bikemakers have another reason to welcome more headtube space: Not only are they seeking a seamless integration of battery and motor, but they'd like to route as many cables

and brake lines as possible within the frame.

"For 2020, this only goes for the electric cables of the drive system, but we are already thinking ahead for years to come," Gehring said.

For the 2020 model year, the Bulls lineup features no less than 28 top-of-the-line Sonic e-mountain bike models that are built to the new standard, using headsets from German parts maker Acros.

For the forks, Bulls contacted **RockShox [A3-300]** and **SR Suntour. [A6-401]**

"When Bulls asked if we could produce a matching product, we sat down with them to analyze the exact requirements. By increasing the diameter of both the steerer tube and the crown, we kill two birds with one stone," said Christoph Bösl, sales and marketing manager for SR Suntour.

He added, "First, the larger interface between the headtube and the downtube makes a lot of sense from an engineering point of view, facilitating the welder's job as well. And second,

it looks more appealing."

Suntour will offer three forks using the new steerer tube size with uppers measuring 34, 35 and 36 mm in diameter. For 2021, Suntour is developing a long-travel single-crown option.

Alex Rafferty, SRAM's global PR and marketing manager for mountain bikes, said in-house lab tests show a larger diameter steerer tube does not significantly increase overall fork stiffness.

"Stiffness is not the only thing that matters, however, and as a component manufacturer we want to be flexible," Rafferty said. "We see this new standard mainly as an improvement in terms of aesthetics, as a larger headtube nicely matches the dimensions of tubes with in-tube batteries."

Aesthetics aside, Rafferty said, there are good engineering and structural reasons to boost the diameters.



Hendrik Gehring of Bulls with a bike that uses one of the beefy new headtubes made under a new standard developed with RockShox and SR Suntour.

Because Bulls has not patented the design, it is an open standard available for use by other brands. Bulls' sister ZEG brand **Kettler [A6-302]** is also using the larger headtube in its 2020 line, on as many as half a dozen models that pack dual batteries into the downtube. ■ **LvR**



Das neue Delite.



Delite GT variob mit optionaler Ausstattung

**RIESE & MÜLLER**

# TITANIUM MADE EASY WITH TITOMIC'S RADICAL NEW PROCESS

Metal bicycle frames have historically been made from tubes that are welded together.

An Australian company, **Titomic**, [A5-502] says it has a radically different method for making frames. It uses metal powder, not tubes. And it's not just any metal, but titanium — a material that is fiendishly difficult and expensive to work with in the traditional way.

Titomic's patented process uses a method known as additive manufacturing. The concept is simple, but applying it on an industrial scale isn't.

"With our additive manufacturing, metal powder is applied to a precisely shaped core at high pressure using a six-axis robot arm, building up the work piece layer by layer. Once completed, the core is melted out," said James Beresford, who handles Titomic's cycling division.

Beresford is well familiar with the challenges of building titanium frames in the traditional way; he has built bespoke frames under the Vaaru Cycles brand for years. Titomic has acquired Vaaru as it moves into the bicycle field.

Bicycle frames made of titanium are a rare luxury, and for good reason: The tubing is expensive, and all

welding needs to be done by expert craftsmen in an artificial atmosphere without any oxygen. The material is also notoriously hard on tools.

And while titanium tubes can be formed by various methods, no butted titanium tubes are available. The additive process provides an end run around these problems

"Since we are putting layers on a core, we can shape that core to our liking. By giving it a tapered cylindrical shape, we end up with titanium tubes that are internally butted," Beresford said.

For pieces produced from titanium, Titomic uses alloy cores because the melting point of aluminum is significantly lower than that of titanium.

Titomic could build titanium tubing around hydroformed aluminum tubing to create shapes that would be impossible to create using traditional methods.

He cited other manufacturing advantages. "For example, bottle bosses do not need to be cut or drilled into the frame, but we can build up the material around them instead. At a throughput of more than 40 kilograms

per hour, our process is also pretty fast and can be done with very little manual labor."

The machine that does this magic is not for sale, however. The TKF 9000 has been dubbed the world's biggest 3D printer. It's as big as a basketball court and, at 120 decibels, is as loud as a thunderclap, so the entire machine has to be enclosed in a housing.

For smaller pieces, Titomic has developed a smaller version, the TKF 1000.

However, Beresford said manufacturing can be decentralized by putting a machine close to a target market to cut transportation and logistics costs.

Titomic showed a rudimentary example of a tube-to-tube bike frame at an inconspicuous booth at the 2018 Taichung Bike Show, but it was enough to turn the heads of several seasoned industry pros.

According to Beresford, Titomic currently is in discussions with big



Ben Andrews (left) and James Beresford of Titomic pose with some of the company's unconventionally produced bicycle frames.

U.S. bike brands about the technology.

The Titomic process grew out of academic research done at the Canberra-based Commonwealth Scientific and Industrial Research Organisation.

Australia has large titanium resources and is looking to add value to the material instead of exporting the precious metal as a commodity.

Titomic works with companies in aerospace, defense contracting and even the fashion industry. ■ LVR

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## WANT A CARBON E-MTB? AREVO SAYS IT WILL BE ABLE TO PRINT YOU ONE

What if a carbon fiber mountain bike could be printed with 3D printing technology? That's the pitch of a Silicon Valley company that is showing a pre-production prototype of a printed bike at Eurobike.



*The prototype of the EVE9, at the Pinion booth, was made from a plastic composite. Arevo, its manufacturer, is preparing to produce a carbon fiber version for production that's made by a 3D printing process.*

The company, **Arevo [A1-508]** intends to manufacture the bike starting in the first quarter of 2020. Called the EVE9, the bike is a joint project of Arevo and Pilot Distribution, a design and production agency from the Netherlands. A prototype is on display at **Pinion, [A2-105]** which supplied its gearbox and cranks.

"Composite bike manufacturing is ripe for transformation as current manufacturing is not sustainable," Hemant Bheda, co-founder of Arevo, said Wednesday at the Arevo booth. "It is our belief that if Arevo is successful in transforming composite bike manufacturing, it opens up a large opportunity in industries from sporting goods to space."

For Pilot, the 3D-printed EVE9 checks all of the boxes on its wish list for an e-MTB that would be unique from anything else on the market. EVE stands for "Electric Vehicle Ecosystem," which reflects the company's desire to create an "ecosystem" of connected products and services.

"We wanted to be sustainable; we wanted to be consistent throughout all our brands; and we wanted to be able to produce in-house," said Arno

Pieterse of Pilot.

Arevo will print the frame of the EVE9 using its trademarked technology, which includes the software and hardware involved in the process.

Arevo transfers the digital frame design to a 3D printer. Unlike many 3D printers that build products from the bottom up, the Arevo process uses an aerial printing process, allowing it to "print" the frame from all sides.

Its "continuous carbon fiber technology" uses long, carbon fiber-reinforced filaments. A unibody frame can be printed in eight hours.

Pieterse says the carbon fiber filaments are 100 percent degradable.

The EVE9 is powered by a Neodrives rear hub motor with the battery integrated into the frame's top tube.

The prototype at the Pinion booth doesn't incorporate any carbon fiber but was printed

using a plastic composite. Arevo says the carbon fiber version is undergoing more structural analysis.

In addition to the Pinion gearbox, the prototype uses a belt drive from **Gates. [A2-201]**

The prototype EVE9 also features a Lauf fork to demonstrate that the frame can accommodate suspension. Pilot chose low-maintenance components because it wants the EVE9 to be a no-hassle bike for owners.

Pilot expects to sell the production version of the complete bike for between 8,000 and 9,000 euros (\$8,775 and \$9,875).

In the future, Pilot says it could print bikes in several locations to shorten the supply chains reduce transportation costs, and be closer to end consumers.

■ **WB**



*The EVE9 incorporates a Neodrives rear hub drive.*



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**M801**



**M802**

# CARGO BIKES – THE NEXT BIG BIKE BOOM?

The recent emissions scandals that have affected sales of diesel-fueled cars have had little effect on commercial van sales, even though 96 percent of them also are powered by diesel. Bike industry leaders believe this presents a huge opportunity for the burgeoning cargo bike sector.

In the European Union, some two million light commercial vehicles are sold a year — up 40 percent since 2012. Advocacy groups say cargo bikes could replace up to a million of these vehicles. “Our businesses provide an alternative that can save lives

through emission reductions, reduce congestion and allow city centers to flourish,” said Kevin Mayne, chief executive of Cycling Industries Europe. “Our vision is to see cargo bikes replace 50 percent of local van use, reaching about one million new units per year sold, leased or rented.”

Today, Eurobike highlights cargo bikes with four Eurobike Academy sessions, followed by the Cargo Bike Party. (See box for details.)

The CIE has created a strategic partnership with the European Cycle Logistics Federation (ECLF) to promote cargo bike adoption across the EU. The advocates plan to create an Expert Group for cargo bikes and cycle logistics to represent companies in the cargo bike space and draft policy positions.

The EU has taken steps to promote cargo bike sales and use through its 4-million-euro City Changer Cargo Bike project. But the cargo bike sector is immature compared to the commercial vehicle sector. The industry has not even settled on a basic agreement

about how to classify commercial cargo bikes by vehicle types and capabilities.

According to the CIE and ECLF, the industry is poised to benefit because it offers solutions to the world-wide crisis in city transportation.

■ Story courtesy of CIE



Commercial cargo bikes, like the compact Yokler U, could have a big future in European cities.

## CARGO BIKE EVENTS THURSDAY, SEPT. 5

**2 - 2:45 p.m.**

Conference Center East/ Room Rom

**Cargo Bikes @ Eurobike Academy: What use is the DIN standard for cargo bikes? When is the EN standard coming?**

Marcus Schröder, EFBE German Bicycle Testing Institute; Erik Driessen, Urban Arrow. Moderators: Arne Behrensen, cargobike. jetzt; Kevin Mayne, CIE (In English with German translation)

**3 - 3:45 p.m.**

Conference Center East/ Room Rom

**Cargo Bikes @ Eurobike**

**Academy: Challenge**

**components — heavy loads need new solutions**

Tommy Abel, Cargo Velo Services; Jochen Coconcelli, Magura; Kolja Opiel, ZEG. Moderators: Arne Behrensen, cargobike. jetzt; Kevin Mayne, CIE (In English with German translation)

**4 - 4:45 p.m.**

Conference Center East/ Room Rom

**Cargo Bikes @ Eurobike Academy: Urban logistics with cargo bikes — presenting the Radlogistik Verband Deutschland (RLVD)**

Luise Braun, ONO;

Benjamin Georg, Velove. Moderators: Arne Behrensen, cargobike. jetzt; Kevin Mayne, CIE (In English with German translation)

**5 - 5:45 p.m.**

Foyer East/ Eurobike Stage

**Cargo Bikes @ Eurobike Academy: Daily life loads - Women as mobility managers in the scope of the cargo bike industry**

Cora Geissler, Velogut; Sonia Quirder, Kvirder (In German)

**6 p.m. - on**

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# WIRELESS SHIFTING FOR THE REST OF US

Electronic shifting systems, like those from the likes of Shimano, SRAM and Campagnolo, are great – if riders can afford them, or if their bikes don't have incompatible components.



**Xshifter system**

Everybody else has been out of luck. Now, two Eurobike exhibitors are presenting systems that, they claim, bring the benefits of electronic shifting to a lot more cyclists. One system is made specifically for mountain bikes, while the other promises to work with just about any kind of derailleur systems or internal gear hubs.

The inventor of the Xshifter system, which is distributed by Huang's Smart Cycling, at **Krueger Outdoor, [FG-A6/8]** says it is almost universally adaptable.

"I developed the converter because

I wanted a wireless shifting system that was adaptable and accessible to all bicyclists, from experienced riders to weekend hobbyists, and from MTB to road bikes, gravel bikes, touring bikes, recumbent bikes, and hand bikes," Xshifter inventor Paul Gallagher said. Gallagher, an American, has spent more than a decade designing disc brake systems, and more than 30 years in manufacturing and engineering.

The heart of the Xshifter system is a small housing unit, called Link, that is installed near the derailleur or hub. A short steel wire connects to the hub or derailleur and replaces the bike's conventional gear shifting cables and levers.

Inside the Link unit is a highly accurate step motor, with each step accurate to within 10 microns, that is responsible for actuating gear changes.

The cyclist uses a wireless control, equipped with two simple buttons, to trigger a gear change through the motor. The control mounts anywhere on the handlebar or brake levers.

It doesn't matter what kind of external derailleur is on the bike, since

the associated Xshifter smartphone app lets the cyclist define the precise position of each sprocket on the rear cassette, whether there are 8 or 12.

And because cyclists can save settings for multiple wheels, they can swap out a rear wheel with one that has more or fewer gears, and the app switches to the appropriate saved setting for the new wheel.

Xshifter uses converters to minimize chain drop and rubbing, and installs quickly. The system costs under \$400 (360 euros), significantly less than the better-known electronic systems.

Jerry Huang of Huang's Smart Cycling, who oversees global marketing and sales, is seeking European distributors for Xshifter. At Eurobike, Huang is showing an updated version of Xshifter that is compatible with a wider range of internal hubs and derailleurs and has improved software.

The D1x from Archer Components, exhibiting at **Sunstar Engineering, [B5-220]** is designed for heavy-duty mountain bike use.

"We went through multiple different protocols and communication, motors and transmissions, and different ways of moving the derailleur. The system has been tested on the trails by a number of people to stand up to the brutality of

mountain biking," said Devin Carlson, co-founder of the Santa Cruz, California, company.

The entire system weighs about 270g (9.5 ounces), including a two-button handlebar controller and a servo that installs near the rear derailleur. The system is compatible with 1x drivetrains.

The associated smartphone app lets riders adjust several parameters. However, the D1x is not yet compatible with drop-bar bikes, including gravel bikes. And unlike the Xshifter system, the D1x can't remember settings for different wheels. But it can be quickly reprogrammed for a different cassette combination or wheel.

The D1x uses two 14500 li-ion batteries that have to be removed for recharging, although in testing they appear to last a long time on a charge.

■ **GE**



**Archer Link and control unit**

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## OVERVIEW: SHOP TOOLS FOR E-BIKES

# NEW WORKSTANDS HELP SHOP MECHANICS TAME THE E-BIKE BEASTS

Electric bikes continue to account for an ever-increasing share of retail sales. But because of their weight and special components, IBDs have to invest in special tools and mounting stands to service them.



**Park Tool PRS-33.2**

With a market share surpassing 30 percent in many European countries, e-bikes are vital to the bicycle business. Several studies have shown that e-bike owners ride their bikes farther and more often, which leads to more wear and more servicing needs compared to conventional bicycles.

While a conventional bike rarely weighs more than 15kg (33 pounds), an e-bike can easily weigh twice that, while an oversized electric cargo bike can weigh four or five times as much.

Shops need reinforced mounting stands that can handle these weights, and help mechanics lift them without throwing their backs

out of whack.

Once an e-bike is mounted on a stand, mechanics need special tools and skillsets to service the electric drive systems, controllers, batteries and other components unique to e-bikes.

Just about every drive system supplier offers diagnostic tools that help mechanics identify problems. But understanding an error code is just the beginning — actually fixing the problem requires sophisticated tools.

Retailers also need to invest in special equipment for batteries, which present serious fire risks.

The more e-bikes a retailer sells, the more important it is to invest in a proper mounting stand for the repair shop. With the PRS-33.2, **Park Tool [B3-101]** offers the largest, strongest, stiffest and most versatile repair stand it has ever made.

Oversized gussets at the base allow for secure mounting directly on the floor. Park also offers an optional mounting plate.

The stand has a built-in motor and chain drive that can lift up to 54kg (120 pounds), so it will accommodate some of the heavier cargo bikes.

The stand offers impressive height adjustability, with a range of 23 to 198cm (9 inches to 5 feet 6 inches).

The storage and lube tray includes integrated, powered USB ports.

**Unior Tools [B1-304]** relies on steel profiles that are bolted together to create a sturdy support column for its Electric Bike Stand 1693EL. Unior hides all cables inside this central column. The electrical cord connects to the top of the stand so it is out of harm's way.

A built-in electric motor can handle bicycles weighing up to 40kg and rapidly lift them from the ground to the desired height of up to 1.78 meters.

To save time, mechanics can set travel adjust limiters so the stand always stops at the height they've chosen for the most ergonomic working position.

The Unior Pro Shop Clamp 1693.1Q safely holds bicycles of various shapes without damaging the frame or finish.

The Speedlift 1800 from Bavarian manufacturer **Additive Sportartikel [FG-AK/8]** relies on gas pressure to make the lives of bicycle mechanics easier. With one push of a button, the stand generates 170N of force to help lift a bike over a range of 800mm — from the ground up to an optimal working height.

While this system works fine for bicycles weighing up to 35kg, the stand can handle up to 50kg with a little help from the mechanic.

For the clamp and the tool tray, Additive relies on parts from the Italian manufacturer Elite. Since the Speedlift 1800 does not use electricity or compressed air, it does not rely on any external connections, so it can be placed anywhere in a shop and requires minimal maintenance.

For its Vario-E mounting stand, **Vennefrohne [FG-A7/2]** relies on an electric motor and belt drive to effortlessly lift heavy e-bikes from the ground up to working height, with an exceptionally large 1.1m range.

The main column is made of aluminum, with grooves to mount tool trays and other accessories. With a steel base plate and a total weight of 44kg, the stand sits rock solid on the shop floor.

Vennefrohne offers four clamp options: a conventional clamp from **VAR Tools, [B5-500]** a French manufacturer; a manual clamp; a pneumatic expander; and a smart three-point mount that is particularly gentle on delicate paint jobs and thin-walled frames.

At Eurobike, Vennefrohne will also display the Vario-EE, a space-saving double workstation with all the features described above.



**Additive Speedlift 1800**

The most heavy-duty mounting stand on display at the show may well be the Worklift'r from **Cyclus Tools. [at Ra-Co B3-204]** Resembling an auto mechanic's hydraulic floor jack, the Worklift'r is a hydraulic stand on wheels. It's a stable and safe platform for bikes weighing up to 100kg.

A mechanic simply rolls the bike onto the stand using a foldaway ramp, and fixes it to the stand at the front axle. Another support fits beneath the bottom bracket shell.

Once the bike is mounted, the mechanic uses a foot pedal to raise the platform to the desired working height.

To safely accommodate various types of dropouts and axles with the front axle clamp, Cyclus Tools has developed an ingenious 3D adapter it calls the "Igel," the German word for "hedgehog." Several rows of spring-loaded metal pins ensure a secure fit.

**Rema Tip Top [A4-308]** is best known for its tire patches and repair kits, but the company has a comprehensive lineup of equipment for professional shops as well, including workbenches, compressors, pressure tubing, non-slip floor mats, and shoes with anti-static soles.

Rema Tip Top also has three



**Vennefrohne Vario-E with 3-point mount**



**Unior Electric Bike Stand**





**Cyclus Worklift'r**

workstand models that can handle heavy e-bikes.

Its Green & Clever stand uses a built-in pneumatic spring that can adjust the stand's height over an 800mm range without electricity.

While the Green & Clever has a weight limit of 30kg, the new Pneumatic XL uses air pressure to lift e-bikes weighing up to 35kg.

The Pneumatic model can accommodate similar weights, but its range is only 600mm.

All three stands include the company's patented three-point mounting system that is easy to operate and adjustable to allow mechanics access to

hard-to-reach spots. It holds a bike securely without damaging the frame or finish.

Rema Tip Top offers another line of products that protect a critical component shops often overlook: battery lockers.

Lithium-ion e-bike batteries are a known fire risk, and several bike shops have burnt down when a malfunctioning battery caught fire.

With its Protecto series, Rema Tip Top offers three sizes of industrial-grade battery lockers, all certified to contain a fire for up to 90 minutes.

Two of these lockers are stand-alone units, while the smallest size fits

underneath a workbench, so even a space-starved repair shop can find room for it. And if a fire does break out, Rema sells hand-held fire extinguishers specifically for li-ion batteries.

**Birzman [at Sports Nut, B4-200]** is known for an extensive line of consumer products, but it also makes professional tools.

For 2020, the Taiwanese manufacturer launches a selection of sockets that fit the chainring lock rings of several mid-drive motor systems. The sockets are precisely CNC machined



**Birzman lock ring sockets**

from alloy steel and include a coupling for a half-inch drive square.

Birzman offers a total of nine sockets: three for Bosch systems, two each for Shimano Steps and Yamaha PW motors; and one each for the Panasonic and Brose mid-drive motors.

Mounting these chainring lock rings requires pretty high torque; Shimano, for example, recommends 40Nm for the lock rings on its Steps system. That means removing them can also be problematic; if the socket slips, it can damage the lock rings.

To eliminate this problem, Cyclus Tools threads its socket to the bottom bracket axle so it stays safely in place. This lets the mechanic apply a lot of torque to the socket without the risk of damage from slipping. Cyclus makes the heavy-duty, precision-made sockets for Bosch, Shimano, Brose, Yamaha and Continental systems.

■ LVR



**Rema Tip Top workstand**



**Cyclus Igel adapter**

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## OVERVIEW: E-MTBS

# NOT JUST FOR NOVICES: NEW E-MTBS APPEAL TO THE MOST ADVANCED RIDERS

In less than 10 years, electric mountain bikes have gone from being a novelty to the heart of the bike market. And they just keep getting better. Better integrated motors and batteries enhance appearances, while more aggressive geometries appeal to advanced riders.



Bobby Root on a Spitzing EVO BR PED from M1 Sporttechnik

For further proof that e-MTBs are here to stay, the UCI hosted its first official e-MTB world championships last week, on the opening day of the mountain bike world championships at Mont-Sainte-Anne, Québec.

Early e-MTBs were made for less experienced riders who generally favored easier trails. These versions featured moderate geometries with comfort-oriented positions. Plus-sized tires were a welcome addition because they added traction and gave riders more confidence in terrain.

For experienced riders, however, these e-MTBs held little appeal. They didn't provide enough feedback in terrain, and riders didn't like muscling their bikes through tight and twisty sections.

Today's new breed of e-MTBs addresses these issues. With a new generation of more compact mid-drive motors, designers can tweak a bike's geometry — particularly chainstay lengths — so they better resemble those of conventional mountain bikes.

Many state-of-the-art e-MTBs now combine the advantages of the two

most popular wheel sizes, using slightly less bulky but more aggressively treaded tires mounted on 29-inch front wheels. In back are 27.5-inch wheels with slightly wider tires. The design is called a "reverse mullet": long up front, short in the back.

Another challenge for e-MTB designers is properly distributing the weight of heavy drive systems and batteries, and finding an optimal center of gravity.

To improve the handling of an e-MTB so it feels more like a conventional bike, manufacturers try to get the weight as low and as central as possible. This explains why mid-drives dominate the e-MTB segment.

Fully integrated batteries also help lower the center of gravity, while generous standover clearances combined with dropper posts help riders tackle tricky sections in terrain with more confidence. Today's e-MTBs are pushing the limits of what is deemed rideable on a mountain bike.

Many brands use carbon for the main frame, but not necessarily to reduce weight, as Reynaldo Ilagan, head of product management for Merida, explained.

"The in-tube battery needs a big recess in the downtube. This would reduce the stiffness of an alloy frame substantially," Ilagan said. "With carbon, we can reinforce the lay-up to compensate for the recess, keeping most of the stiffness without adding too much weight."

Because of the higher forces associated with riding an e-MTB in terrain, many

components are reinforced anyway, adding to the bike's overall weight.

The new RX 750 from **Rotwild [B1-100]** summarizes all of these trends. Its main frame is made of carbon, with a hollow-chamber design that creates plenty of space for a capacious 750Wh battery without ruining frame stiffness.

This large battery, made of advanced 21700 cells, feeds a powerful yet compact Brose Drive S-Mag mid-drive motor that has been neatly integrated into the frame. Ribbed alloy skid plates protect the frame and motor from impacts and help dissipate heat. An Eightpins dropper post uses the frame's seatpost as its outer tube, so the dropper offers more travel than comparable products.

With 150mm of travel on both axles, the RX 750 is ready for big mountain adventure. This bike comes with a wide-range drivetrain and powerful four-piston disc brakes. The swingarm is made of carbon as well. Rotwild has adopted the reverse mullet concept, with a slightly wider 2.6-inch tire on the smaller rear wheel.

A close look at the head-tube section shows that Rotwild has incorporated Monkeylink technology, so riders can easily add front and rear lights that are powered by the battery. Finally, the BMZ Connect C app adds connectivity and functions including turn-by-turn navigation.



Merida eOne-Sixty

The enduro-oriented eOne-Sixty is the best-selling e-MTB made by **Merida. [A3-200]** For 2020, Merida has reworked this model from scratch, with only the alloy swing arm unchanged from the previous version.

The main frame is now made of carbon and built around Shimano's new 500Wh in-tube battery. To dissipate heat build-up from the battery, Merida relies on a ribbed alloy cable entry port that acts like a chimney. The 29-inch front and 27.5-inch rear wheels come with aggressively treaded Maxxis tires. Add 160mm of travel tamed by high-quality shock dampers from Fox, a



Simplon Rapcon PMax

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## RAPCON PMAX

Caution - powerhouse! The Rapcon Pmax redefines the meaning of the word "E-MTB". With up to 1100Wh battery capacity, you can conquer the summits one after another. The high-quality carbon frame integrates the latest Bosch CX drive unit and gives the bike tons of oomph. Downhill, the Rapcon

impresses with its strong-grip 29" tyres, well-conceived geometry as well as an exceptionally plush suspension setup, which lets you manoeuvre even through difficult trails with ease.

[WWW.SIMPLON.COM](http://WWW.SIMPLON.COM)

**A3-100**



Rotwild RX 750



**Bulls Sonic EVO AM 6 Carbon**

dropper post, a wide-range drivetrain, and four-piston disc brakes, and the new eOne-Sixty should continue to be a best-seller.

With the Rapcon PMax, **Simplon [A3-100]** shifts into a new gear with its e-MTB line, while making good use of its carbon expertise. The newest Bosch Performance Line CX mid-drive motor delivers lots of support in a compact package. And if the integrated 625Wh battery isn't sufficient, riders can extend the range by mounting an external 500Wh PowerPack battery.

The Rapcon PMax offers 150mm of front and rear travel. While Simplon equips the bike with 29-inch wheels front and back, a flip chip on the rear axle gives lets riders pull a reverse mullet and install a 27.5-inch wheel instead, which lets it take a fork with up to 170mm of travel.

With plenty of experience in e-MTBs, **Bulls [B1-200]** offers the new Sonic series, with models for different types of riding.

Its most versatile model may be the Sonic EVO AM 6 Carbon, which combines a carbon frame, 150mm of front and rear travel, a Bosch Performance Line CX mid-drive motor, and a large in-tube battery. As on many other Bosch-equipped bikes, the Sonic EVO AM 6 Carbon accommodates an

should look like. The bike combines a carbon main frame built around a Bosch Performance Line CX mid-drive motor, a 625Wh integrated battery, and an alloy four-bar swingarm.

Moustache has redesigned its proprietary Magic Grip Control shock to become a metric Trunion design with a larger air volume. This improves sensitivity to small shocks while still offering plenty of progressivity through the shock's stroke to prevent harsh bottom-outs.

With 150mm of travel on both axles, the Samedi 27 Trail is ready for technical trails. For versatility, a flip chip lets riders fit a 29-inch wheel in front, or front and back.

Competition is deeply rooted in the DNA of Italian manufacturer **Thok, [B1-211]** which is affiliated with former downhill racer Stefano Migliorini. For its MIG series, Thok also cooperated with moto trials legend Toni Bou to get the geometry right. For more moto influence in its top-of-the-line MIG RR model, just look at the name on the downtube: Thok also partnered with Ducati.

As in other Thok models, the MIG RR uses an external 504Wh battery that sits beneath the downtube — helping to lower the center of gravity — where it is protected by a skeleton of fiber-reinforced plastic.

A Shimano Steps E-8000 mid-drive motor offers dynamic support. Thok did not skimp on the travel, with a generous 170mm up front and 160mm in back.

Following the reverse



**Husqvarna MCX**

mullet trend, the bike comes with a 29-inch front and 27.5-inch rear wheels. Other components are fully terrain-worthy. For a final special touch, the bike's livery comes courtesy of Aldo Drudi, head of the Ducati racing design department.

With its Skeleton Interface, **Husqvarna Bicycles [B2-400]** puts the Shimano Steps mid-drive system at center stage. Brand ambassador Guido Tschugg helped the Pexco brand optimize the bike's geometry.

The new, all-black HCX and MCX top-of-the-range models go all out on components — for an all-out price tag of 11,999 euros (\$13,480). The light and stiff six-spoke carbon wheels from German boutique brand Bike Ahead certainly contribute to the lofty price, as do Magura's powerful MT7 four-piston disc brakes. A SRAM wireless Eagle X01 AXS drivetrain helps to

*Continued on page 20...*



**Thok Ducati MIG RR**

external PowerPack battery.

An oversized 1.8-inch headtube increases frame stiffness and thus steering precision, while providing a large interface to the downtube. An Eightpins integrated dropper post enhances the bike's clean profile. Other rugged components make this bike ready for the toughest trails.

French e-bike specialist **Moustache [B2-300]** has already seen a lot of success in e-MTB racing, and its new Samedi 27 Trail 10 shows what a race-ready e-MTB



**Moustache Samedi 27 Trail 10**



**Scapin E-Bone M**

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## SPITZING EVOLUTION

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Nox Helium 7.1 Phantom Pro

... continued from page 19

further clean up the bikes' looks.

Both models have a 630Wh battery for plenty of range. While the HCX offers 180mm of travel on both axles, the MCX is more all-round oriented with 150mm of travel.

Most e-MTB brands stuff the biggest batteries they can on board for longer range. But **Scapin [B5-306]** takes the opposite approach with its two E-Bone models.

Instead of a Bosch or Shimano drive system, Scapin opts for the light, low-profile Evation system from Fazua. To make up for the stock 250Wh Fazua battery, Scapin incorporates an oversized bottle cage that fits a spare.

Both E-Bone models are based on the same, distinctive carbon frame with an asymmetrical construction around the seat tube and shock mount. Other characteristic details are an alloy insert on the headtube that serves as a cable entry port, and an ISA headset for an adjustable wheelbase.

To keep the fork's crown from hitting the downtube in a crash, Scapin adds a rubber protector. To reduce weight, the swingarm has no additional pivots but relies instead

on flattened seatstays.

A flip chip at the rear dropouts lets riders choose between 27.5- or 29-inch wheels. The E-Bone M is built for endurance racing, with 120mm of front and back travel and a weight of about 17kg (37.5 lbs.), while the

slightly heavier E-Bone T offers more travel at 140mm.

While **Nox Cycles [B1-103]** relies on Brose mid-drive systems for its Hybrid models, it has also turned to Fazua for its new Helium series, for riders who don't want an e-MTB that's as heavy as a tank.

The Fazua Evation system weighs just 4.3kg, so it's a logical choice for a light, sporty e-MTB. The Expert models in the Helium series come with alloy frames, but Nox slashes the weight further in its Pro line by using carbon main frames.

The bikes even look light, thanks to a minimalist, eye-catching design that relies on a lot of black with gold highlights.

Models include the Helium 5.9 all-mountain platform, with 160mm of travel up front and 150mm in the back, and the Helium 7.1 enduro platform with 180mm of travel.

Nox has also gone for the reverse mullet for the best mix of agility and capable handling. A 29-inch wheel goes up front, and a 27.5-inch wheel with a slightly wider tire sits in back.

With its flagship Macina Prowler Sonic, **KTM [A6-200]** keeps pushing the boundaries of e-MTBs. The carbon frame is built around the compact fourth-generation Bosch Performance Line CX mid-drive motor and large 625Wh in-tube battery. While this version still offers 170mm of rear travel, the frame weighs 700g less than its alloy predecessor. A RockShox Lyric fork has a full 180mm of travel.

KTM goes with top-line components, including DT Swiss' top-of-the-line HXC wheels with carbon rims (29 in front and 27.5 in back),

equipped with proven Minion DHF and DHR Maxxis tires.

For clean looks and a wide range, KTM includes a SRAM wireless XX1 Eagle AXS with 12 gears and matching Reverb dropper post. Powerful Shimano XTR four-piston brakes keep the speed in check.

Bavarian boutique brand **M1 Sporttechnik [A1-408]** has a reputation for flamboyant designs and non-mainstream drive systems. Its Spitzing EVO BR PED is no different.

Its oversized frame is made of carbon, as is the swingarm. Shock absorbers from Fox's top-of-the-line Factory series tame the 170mm of travel up front and the 160mm in the back, while four-piston Magura MT5 disc brakes and oversized 203mm rotors help riders keep

their speed in check.

In the Bobby Root special edition model, the paint job blends nicely with the color of the Kashima coating on the fork and dropper post.

At the heart of the bike is a powerful TQ Systems mid-drive motor that delivers up to 120Nm of torque. Even the battery is over the top: M1 Sporttechnik offers a choice of 880Wh or 1050Wh capacities. **■ LVR**



KTM Macina Prowler Sonic



M1 Sporttechnik Spitzing EVO BR PED

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**STERZING EVOLUTION**

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## OVERVIEW: E-GRAVEL BIKES

## GRAVEL BRANDS GET DOWN TO THE NITTY-GRITTY WITH ELECTRIC DRIVES

Conventional bike sales may not be booming, but electric bike sales most certainly are. Now, gravel enthusiasts are about to get a jolt as their discipline becomes the latest to embrace electric assist — with road bikes right behind.



Coboc Ten Torino

More brands are plugging into the idea of electric-assist bikes as a means of boosting sales. Wilier Triestina, Ridley, Corratec, Coboc, and Look are just a few of the brands that are displaying new e-gravel bikes at Eurobike.

**Wilier Triestina [B5-200]** first entered the electric hybrid category in 2018 with its Cento1 Hybrid road model. For 2020, Wilier debuts the Jena Hybrid gravel e-bike, which is based on its carbon fiber Jena gravel bike that debuted last year.

Wilier uses the “Hybrid” moniker because its e-bikes maintain the look and feel of contemporary conventional

bikes — slender carbon frame tubes, integrated cables, and disc brakes — but rely on a barely noticeable rear hub motor for electric assist.

The Jena Hybrid draws its power from the **Mahle [A1-500]** Ebikemotion X35 system, which also powers the Cento1 Hybrid. What’s different about the Jena Hybrid’s motor system is the location of the controls. They sit next to the handlebar stem so they are safer to operate. The X35 drive system has been tuned specifically for gravel riding.

Wilier’s target weight for the Jena Hybrid is 12.9kg (28 lbs., 7 oz.) for a complete bike. The frame has eyelets

for mountain mudguards and a rack, and there’s an option to mount a backup battery on the seat tube just above the bottom bracket.

The frame’s endurance geometry is intended for seasoned cyclists who want to escape the pavement and head off-road. Flatmount disc brakes and either 38mm or 50mm Wilier carbon wheels complete the basic build.

The hub motor is not only lean and light, but gives riders the option of using a drivetrain made specifically for gravel bikes, like the GRX from **Shimano, [B5-300]** with zero change to the Q factor. Wilier offers Shimano 1x11 GRX or 2x11 GRX Di2 drivetrains as options.

The standout features that make Shimano’s GRX a dedicated gravel system are gear ratios that make sense on terrain that’s characteristic of gravel



Ridley KanzoE

riding (steep, loose, uneven, etc.), and multiple handlebar positions for braking.

The Evation drive system from **Fazua [A1-205]** is also finding acceptance in the gravel community. Although the Evation requires a wider bottom bracket, **FSA [B3-400]** has

worked with the Munich company to develop cranks that won’t change a bike’s Q factor. The Evation is one of the most inconspicuous mid-drive systems on the market, and at 4.6kg, Fazua has set a weight target for competitors to match or beat. Ridley, Look Cycle, and Corratec all are partnering with Fazua for Evation-equipped gravel e-bikes.



Wilier Triestina Jena Hybrid

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## F-GR02

Flexy in every way, not only in the special shape of the top tube featuring P.A.T. technology absorbing vibrations from the ground. The F-GR02 frame is also designed to house two different types of wheel, depending on the route you want to travel. Assemble

the 700C carbon wheels with slick tyres and you will be astounded by its speed and lightness on the road. With 650B wheels and lugged tyres, single tracks through the forest are never a problem, in any weather.

B3-211

**Material:** Blend of high module carbon fibres  
**Construction method:** PBW (Progressive Bandage Workmanship)  
**Thru axle:** 12 x 142 mm  
**Bottom bracket:** Press Fit 92  
**Customization on request:** Mechanical, Di2, AXS  
**Fork:** TITICI GR



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## CINTURATO™ GRAVEL

Cinturato™ Gravel is Pirelli’s gravel specific new tyre, available in tubeless-ready (TLR) reinforced construction and in 2 specific tread pattern designs (Hard Terrain and Mixed Terrain).

The terrain-specific tread patterns are designed for surface characteristics rather than weather conditions. The H model is for paved, hard packed gravel roads; the M model features a more open spacing and aggressive knobs for more demanding terrains.

The new Pirelli compound SpeedGRIP is tailored for any weather condition, with top tear resistance and a great energy management that decreases the rolling resistance to a level

very close to RR tyres. Coupling a reinforced casing construction with a TLR Aramid Bead, the Cinturato™ Gravel offers top performance in terms of rolling and grip, as well as protection, which is what the “Cinturato” name stands for in Pirelli.

B3-207





**Corratec E-Allroad Expert**

**Ridley [B1-300]** forged its place in the gravel category before there was a name for it. Four years ago, Ridley launched its All-road range with the X-Trail, a bike designed to be ridden on-road or off.

But since the “all-road” designation never got traction, Ridley uncharacteristically decided to go with the flow and changed its category name to “gravel.” Ridley also abandoned the X-Trail name in favor of “Kanzo.” The name is a play on “canso,” a love song sung by Medieval troubadours, in hopes the electric version of the Kanzo will enchant modern-day cyclists.

Ridley calls the KanzoE an “active e-bike” and says it is at home on gravel or pavement and is equally suitable for



**Look e-765 Gravel**

the commute. Its frame is based on the Kanzo Alloy, which can accommodate a maximum tire clearance of up to 700x45mm tires, but will also accept 28mm tires.

Multiple eyelets for mounting racks and mudguards are an obvious hint at the bike’s multifunctional use as a touring rig. For commuters who need to haul their day-to-day gear everywhere they go, the boost from the Fazua motor lets them ... just faster.

**Corratec, [B1-400]** on the other hand, is fine putting “Allroad” in the name of its gravel bike line. At Eurobike, Corratec is showing its E-Allroad Expert and E-Allroad Fazua. Both feature SRAM Rival drivetrains and Corratec’s own seatpost, stem, handlebars, and wheels.

Differences emerge from there. The E-Allroad Fazua features a Fazua Evation motor, while the Expert is powered by a Bosch Performance CX mid-drive motor. The Fazua model uses Continental Contact Speed 37mm tires, while the Expert rolls on WTB Horizon 650x47mm tires. Both models

are priced similarly and come in sizes 46, 51, 56, and 61.

Without electric assistance, the difference between the Ten Torino pedelec from **Coboc [A6-306]** and a similarly sized human-powered bike is almost imperceptible at first. Activate the motor, however, and the ride sensation strikes a balance between a fast, sporty gravel bike and a powered-up commuter or adventure bike.

Coboc hides the battery and most cables inside the frame. The rear hub motor is placed discreetly between the rear cassette and the disc rotor. The company says the Ten Torino is “an e-bike that doesn’t look like an e-bike.”

Coboc developed a different frame geometry that allows for a more upright riding position than the compact position typical of a race bike.

Large-volume, 50mm Schwalbe G-One Speed tires give the first clues that the bike is destined for much more than just riding on pavement; the bike’s SRAM Apex 1x11-speed drivetrain and disc brakes assure a smooth ride whether pedaling with electric assist or not.

The 250-watt motor (500 watt peak

power) runs on a Li-Ion battery that charges in two hours, and allows for an average travel distance of up to 100km (62 miles). A smartphone app developed by **Comodule [A1-604]** connects the rider to the bike.

The Ten Torino weighs in at 14.5kg. Optional racks and fenders are available for all sizes.

For its first step into the gravel category, **Look Cycle [B3-102]**

borrowed several features from its e-765 electric road bike, including a full carbon fiber construction. But Look added a few features to the new model, the e-765 Gravel, that are decidedly gravel-y.

Slightly longer chainstays allow for nimbler cornering, there’s ample allowance for both 700c and 650b wheels, and the gravel-specific alloy bars with 12-degree flare all signify that this bike is comfortable well beyond roads.

A Fazua Evation motor with an integrated app provides the “e,” but at 13.6 kg, Look has worked hard to keep the complete weight of the e-765 Gravel close to that of the 765 road version. The e-765 Gravel is available with a SRAM Rival 1x drivetrain or Force 1x drivetrain.

The initial rush by many brands to capitalize on the gravel trend seemed more like a blind dash than a coordinated effort. Some manufacturers merely tweaked existing products and labeled them “gravel” without trying all that hard to understand what made gravel different from other categories.



**Pirelli Velo Cinturato**

But others, like **Pirelli Velo [B3-200]** and **DT Swiss [A3-400]**, have taken a more calculated approach to gravel product development by studying the market and examining early trends.

Pirelli has formulated a new compound it calls SpeedGRIP, which it says is chemically engineered for both on- and off-road rolling efficiency, and for better tear resistance on wet and dry terrain.

Pirelli uses SpeedGRIP for its new Cinturato gravel-specific tire. The Cinturato is available in two models: one designed for hard terrain (H), and the other for mixed terrain (M).

Instead of designating tread patterns for specific weather conditions, Pirelli has instead designated them for surface consistency.

While the H is meant for paved, hard-packed gravel roads, the M features a more open spacing and aggressive knobs for more demanding terrains. The Cinturato is tubeless ready (TLR) with reinforced casing coupled with a TLR Aramid Bead. Both the H and the M models come in 700x 35, 40, and 45, and 650b x 45 and 50.

DT Swiss found that gravel e-bike components demand a higher torque resistance for the rotating parts (axles, bearings, rotors, and hubs). The components need to be durable but as light as possible, and they need to be reliable enough so riders can perform routine maintenance in between professional maintenance intervals.

The resulting Hybrid Gravel (HG) aluminum wheels and Hybrid Gravel Carbon (HGC) wheels for gravel e-bikes feature reinforced hubs, steel rotors, stronger bearings, and a 3-cross spoke setup on all rear wheels

in order to withstand the increased weight and torque of an e-bike. Although DT Swiss is showing the new wheels at Eurobike for the first time, the company announced them as part of its new line of gravel components that it introduced in May.



**DT Swiss HGC 1400**

The StoneWeave Mattis gravel bike from **Coh&Co Copenhagen [A2-507]** isn’t electric, but it is distinctive. It’s made of a new carbon and basalt composite that Coh&Co says can be completely recycled at the end of its life.

The Mattis comes with a 1x11 derailleur and shifter package, hydraulic disc brakes, Gipiemme 650b wheels, and Schwalbe tires. **WB**



**Shimano GRX gravel drivetrain**

## OVERVIEW: IOT IN CYCLING

# WITH IOT, YOUR NEXT BIKE MAY BE SMARTER THAN YOU

The Internet of Things (IoT) is an offbeat name, but it refers to the extraordinary possibilities that come from connecting hardware — “things” — to users to services.



**SmartHalo 2**

IoT technology also lies at the heart of “smart cycling,” which connects a bike or its components (like an electric drive system) to the Internet, where they automatically share information without any input from the rider.

Bikes are just a tiny sliver of the emerging IoT universe. An Amazon Echo, a “smart” refrigerator or thermostat, or a semi-autonomous Tesla electric car all are part of the Internet of Things.

Smartphone apps are probably the most easily understood examples of IoT, and it's fairly safe to say that every IoT-connected vehicle and device in the cycling realm has an accompanying app.

If you use a smartphone app to unlock the motor on your e-bike, for example, you are using IoT. You'll find many IoT exhibitors with products for OEMs and for the aftermarket in Hall A1.

“When we first started talking about smart cycling a few years ago, nobody knew what we meant,” said Xavier Peich, cofounder of **SmartHalo Technologies, [A2-408]** which is exhibiting at Eurobike for the first time. “I think a lot of people are realizing how cycling is changing mobility and city transportation — and people see how big that opportunity is for cycling.”

At Eurobike, the Canadian company is debuting the SmartHalo E, an OEM product for e-bike brands, and showing its previously released SmartHalo 2 for consumers.

The SmartHalo 2 and SmartHalo E are like minimalist bike computers, except they go far beyond the typical computer or e-bike display.

The Smart-Halo 2 works on conventional bikes, while the SmartHalo E is

intended to be a replacement for an e-bike display.

Both feature navigation functions, intuitive lighting that turns on when needed (but can also be controlled manually), theft protection, GPS, fitness tracking, and a virtual assistant that notifies users of incoming calls and messages, and can even deliver a weather report.

All functions are controlled through the SmartHalo app, which communicates with the device via Bluetooth and LTE (the technology used by most mobile phone providers).

The SmartHalo E packs some of the same technology inside a custom stem, and aims to replace traditional e-bike displays. The design is a reminder of why minimalism plus smart technology equals commercial success.

The E starts with standard e-bike display features such as speed, remaining battery range, a light switch, and power assist settings.

But SmartHalo goes beyond the basics with a host of other features that it plans to offer with a monthly subscription.

Some of these enhanced features include GPX import, Strava integration, insurance, and advanced fitness metrics.

SmartHalo is new to Eurobike, but it's had significant success on the crowdfunding site Kickstarter. The company raised 500,000 Canadian dollars (\$375,500; 335,000 euros) for its first SmartHalo device — 10 times above its target.

When it returned to Kickstarter for the SmartHalo 2, the company raised CA\$1.7 million, far above its CA\$75,000 goal.

The founders of **IoT Venture [FW-218]** initially set out to help people track down a lost pet. But they realized that the technology behind their It's My Dog program could also work with e-bikes.

The company launched It's My Bike for consumers in April. Some bike brands are also using the tracking system.

It's My Bike provides theft protection through its app, which connects with the local police department and the owner's insurance carrier.

Cyclists use the app to set an alarm on the bike. If a thief moves the bike, the bike alerts the owner, who with a push of a button can report the bike stolen. Staffers at IoT Venture can then work with local police agencies to identify the bike's location.

At Eurobike, IoT Venture is debuting a new crash detection feature.

The It's My Bike hardware is installed inside the housing of the e-bike motor. It contains an antenna, GPS module and NB-IoT module. “NB” stands for narrowband, which is a communications protocol under the umbrella of Low Power Wide Area Network, or LPWAN.

In May 2017, IoT Venture became the first company in Germany to send and receive data using NB-IoT. “The main reason we chose NB-IoT is cost,” said Jürgen Veith, CEO of IoT Venture. “When we figured out how to do the pet tracking, it was always cost, battery

life, and how robust the signal is, and we needed a new technology to achieve all of those.”

Some OEM customers install It's My Bike as is, while other brands customize the system and integrate it into their own apps.

The consumer version of It's My Bike is available exclusively at IBDs. Users buy a three-year subscription for 199 euros (\$224) or five years for 249 euros. Future versions of It's My Bike will be available exclusively through members of the **ZEG [B1-200]** dealer network.

**CyBike [FW-216]** has created a different kind of anti-theft and bike-finder module. The CyLock, which also relies on NB-IoT mobile technology, is hidden inside the handlebars on a bike, e-bike or e-scooter.

CyLock notifies the owner of the bike or scooter when someone tries to steal it, and can assist in the vehicle's recovery using integrated GPS.

“In the near future within the NB-IoT network, the vehicle's position can be detected without GPS by triangulating the mobile signal. This has the great advantage of identifying the vehicle's position where no GPS signal is available,” said Thomas Bungartz, founder and CEO of CyBike.

He added, “If this feature is launched by mobile carriers, we'll also integrate it into CyLock — and then we'll need even less energy to power CyLock.” That's because GPS units consume relatively high amounts of power.

“In addition, we will be able to detect bike locations in areas where GPS currently fails, like inside buildings, vans, or deep underground garages,” Bungartz said.

Users control CyLock with a proprietary app. The unit is powered by a standard AA battery.

Two years ago, Kristjan Maruste, the co-founder of **Comodule [A1-604]** said that simply connecting



**The It's My Bike module is small**



**Installing the It's My Bike hardware in the electric drive housing**





Comodule supplies the communications system that links the bike with the user's smartphone app and an online data analytics platform. From there, an OEM customer is free to offer other products or services that their customers may find valuable.

Comodule is targeting vehicle and component manufacturers — mainly e-bike brands, but also some makers of other light electric vehicles — and fleet operators of e-bikes and e-scooters. It's currently working with OEM partners including **Accelerated Systems [A1-214], Ansmann [A1-409], Bafang [A1-304], BMZ [A1-404], Brose [A1-504], Fazua [A1-205], Maxon [A1-413], and Egret. [A1-303]**

**Sitael, [A1-204]** a leader in IoT solutions for e-mobility, exhibited at Velo-City 2019 for the first time this year, promoting itself as an ideal partner for cities looking to create share systems for electric vehicles such as e-bikes or e-scooters.

The Italian company designed a flexible platform that touches on several aspects of sharing technology: from vehicles to mobile app, operations, Artificial Intelligence implementation,

**CyLock**

a vehicle to a smartphone app was "primitive." What is more important, he reasoned, is offering services that



**Sitael's Magnetic Assisted Tap (MAT) system for e-bike and e-scooter share systems**

can be built into such systems and tailored to their users.

For example, Comodule offers full-coverage bike insurance through its OEM partners, which brand it and sell it to their bike buyers. From the cyclist's vantage point, he or she is buying a useful service from a trusted brand. Comodule shares the revenues from the sale of an insurance policy with the OEM customer.

Insurance is just one example; the Comodule ecosystem is open-ended.

and third-party integration.

At the Consumer Electronics Show in 2018, Sitael won an award for its Magnetic Assisted Tap (MAT) smartphone docking station, which can be used with free-floating bikeshare systems.

Among other possibilities, an entrepreneur could use MAT to build a bikeshare system that consists of privately owned bikes, instead of investing in a proprietary bike fleet.

■ **WB**



**The Comodule 'ecosystem'**

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## OVERVIEW: LIGHTS

# LITTLE BIKE LIGHTS GET BRIGHTER AND SMARTER

Just like other components, bike lights are getting smarter. Many know when it's time to turn on or off, or how much light is required based on ambient conditions. They know when a cyclist puts on the brakes, and some are so clever they don't even need external power — just a couple of magnets. For the ultimate in customization, one of the lights on our list can be controlled by a smartphone app.



Reelight CIO light

Two friend founded **The Beam [B5-411a]** to create products that make cyclists safer. The Lucia taillight is the latest product from this French-Korean start-up. It fixes securely and aerodynamically to the saddle rail. A triaxial accelerometer triggers the stoplight when the cyclist brakes, and an integrated light sensor automatically adjusts the light output based on ambient light levels. The Lucia is so smart it turns itself on when it senses movement.

Ultra-bright LEDs, as powerful as those used on cars or motorcycles, can be seen from up to a kilometer away, while a 180-degree field of view means there's plenty of side visibility as well.

The Lucia is waterproof to the IPX4 standard. A rechargeable li-ion battery runs for up to 24 hours in eco mode.

**Hauteworks [A3-506]** is also big on smart integration. Among its new models is the multi-sport Daze, a wearable light that's clever enough to sense whether you're riding or running. It adjusts the brightness and color to your movements.

With chip-on-board and red-green-blue LEDs, it provides color-coded



Lucia taillight from The Beam

illumination through 270 degrees. It charges fully in just three minutes, so users will rarely get caught out by a dead battery.

Also very bright in both respects is the Hauteworks Cliq taillight. Its "total internal reflection" (TIR) lenses direct and focus light emitted by three Osram LEDs, so side visibility promises to be excellent. Users can fine-tune the Cliq's blinking pattern, activate the smart brake feature, or group sync modes through a dedicated app that connects to the light via Bluetooth.

The newest lights from **Oxford Products [B3-312]** also feature several smart features. The Bright Stop Rear is an automatic stoplight that illuminates when the cyclist brakes. A single, high-powered LED shines continuously for rear visibility, while five additional LEDs combine for the brake light.

The Bright Stop Rear bucks the trend toward USB charging and instead runs on tried and true — and easy to find — AAA batteries. It attaches without tools

Up front, Oxford offers the Ultra-torch 850, a USB-rechargeable light that puts out 850 lumens. Its lithium battery lasts for 3.5 hours on its maximum setting, but more than 200 hours when used in flash mode.

**Sate-Lite [A6-219]** brings a truly stacked front light to Eurobike. The SPL-01 for e-bikes has 49(!) LEDs on board that crank out up to 2,000(!) lumens of light — enough to light up the block. In daylight, the ECE R113-compliant light can be tamed to just use its 40 peripheral LEDs.

To manage all of this power, Sate-Lite uses clever housing materials and

electronic components that dissipate heat, even at full power. A built-in light sensor intelligently regulates its operation, and the unit is waterproof to the IPX5 standard.

The Sate-Lite LF-12 unit is not as bright but has similar smart controls. This very compact rechargeable light uses a unique automatic light control system to adjust its intensity based on prevailing conditions.

Because e-bike lights draw power from the bike's main battery, they give product developers a lot of room to innovate. The Mini StVZO e-bike light from **Lezyne [A3-305]** uses an optimized lens with a German-standard flood and long-range beam. It puts out 210 lumens, while a CNC-machined aluminum top plate on the composite body keep the unit cool and efficient.

The light plugs into batteries from top drive suppliers including Bosch, Shimano, and Yamaha. It's bundled with a clean-looking fork mount that hides the included power cable.

The Lezyne Femto USB StVZO also meets the relevant German standard but gets its power via a USA cable and integrated battery. It's an updated version of the diminutive but popular

Femto light that's powered by CR2032 batteries. A clever lens provides up to 270 degrees of visibility. The Femto USB delivers five lumens



Oxford Bright Stop Rear



Hauteworks Daze

with a runtime of up to 4.5 hours. It mounts quickly and is IPX7 waterproof.

**Roxim Technologies [A5-212]** also caters to the e-bike market with a range of new lights.

The Z3EK Pro, a compact K-Mark-compliant pedelec front light, offers a high and low beam that's controlled by a handlebar remote. The ultra-wide beam puts out up to 700 lumens of light, but it's small enough to find a home on an electric scooter or skateboard.

Another pedelec product, the R3EK rear light, combines brake and running light functions in a compact unit that



Sate-Lite SPL-01

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Get ready for an enhanced riding experience with the most advanced and brightest taillight: Cliq. Cliq uses a set of exceptionally designed total internal reflection (TIR) lenses to direct and focus light emitted by LEDs.

The combination of three high-brightness Osram LEDs and two TIR lenses boost visibility from both the rear and the sides. It's literally an outstanding Light. Using Bluetooth, Cliq's mobile app allows you to configure Cliq's many features intuitively. Features include personalized blinking patterns, smart brakes, and group sync modes.

Cliq's universal mounting systems and rugged structure allow you to ride wherever and mount it in any

way you want it. Whether on a bag, belt, seat post, carabiner, etc

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**A3-506**



cliq



Herrmans Mr GO headlight

maker's name. This modern e-bike headlamp combines precision optics and neat construction to provide approximately 70 lux. It complies with German and most other European standards. The BL143 accepts an input voltage of between 6V and 15V, so it works with most e-bike systems. Made in Taiwan, the BL143 soon will be available to OEMs and the aftermarket.

A line of incredibly efficient lights from **Reelight [A2-328]** doesn't use batteries and never needs to be recharged. Instead, the lights use a rotating magnet, attached to the spokes of the wheel, to generate the power they need with almost zero resistance.

taps into the main bike battery. It's flexible enough to mount in several locations such as the rear rack, fenders, or under the saddle, it draws its power directly from the bike's battery.

And while it's important for cyclists to be seen, sometimes they need to be heard, too. Roxim offers the companion ZHRK-02 electric horn kit that draws less than one watt of power and works with most e-bike systems. Roxim has improved the horn's acoustics for a less aggressive sound. It's activated by an integrated brake lever button, making it a good fit for slick e-bikes. The ZHRK-02 adheres to the ECE R28 standard.

Low-key and stylish, the **Smart [B3-106]** BL143 light lives up to its



Noble Glory FL400

Reelight refreshes its current range with a couple of key new features. Its axle-mounted AMS lights gain a ReePower back-up function that allows them to keep flashing for up to two minutes after the bike has stopped moving, so they are a safer choice for commuters.

Reelight has revamped its even tinier CIO lights by adding a new lens that ensures better visibility from more angles. An updated ReePower backup system recharges faster and puts out a brighter beam.

The new X&O lights from **Spanninga [B4-404]** are simple and classy. They come in two versions: one powered by two AA batteries, and the other, for pedelecs, that ties into the main battery.

Throwing out 25 and 30 lux, respectively, both feature an optical system designed by Philips. They conform to

relevant German standards and have robust stainless steel brackets and a stylish black finish.

Spanninga looks after the back end of your city bike with its Pimento lights, which feature chip-on-board technology. The Pimento-Brake alerts traffic when you slow down. Pimento versions attach directly to the rear rack and put out enough light to be seen for up to a kilometer.

Known for its smart locks, **Crops [A5-104]** offers a growing range of lights, too. Its H800JDC model uses a 6-36V power supply, promises extremely high optical efficiency, and is bundled with a clever fixing mount. With the patent-pending ZP-HSB01 mount, the light attaches to a central position on the headtube. The light turns as you turn so it always points in the direction you're going. It works regardless of other fitments you may have on the bike.

Meet Mr GO, a new entry-level light from **Herrmans. [A6-403]** Using similar optics and electronics to the brand's popular H-Black MR4 front

light, Mr GO is StVZO compliant and produces between 80 and 100 lumens. It smoothly marries electronic and optical elements, and a cut-away housing provides a window for enhanced side visibility. Available for e-bikes and dynamos, Mr GO is compatible with Herrmans' mounting hardware and

includes an integrated mounting point for its optional reflector.

**Noble Glory [B4-212]** adds two new front lights to its RHEEA range. The compact lights are housed in a housing made of extruded, machined aluminum. The FL400mini front light is the smaller of the two, kicking out 400 lumens. It's IPX6 waterproof and has an enhanced optical lens for uniform brightness and wide visibility. It fits all bar types and attaches with a quick-release mount on a rugged, pliable strap. The FL800 doubles the lumen count while providing similar features to its smaller sibling. **JD**

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Roxim R3EK rear light

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Smart PL143

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Spanninga X&O light

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Crops H800JDC

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## SPANNINGA STANDS OUT WITH PIMENTO

Following the introduction last year of the PIMENTO carrier rearlight, two new versions have joined the family. The PIMENTO-GUARD, which provides stylish illumination on the rear fender via a bright vertical line. Featuring COB technology, the PIMENTO series offers an amazing brightness of ca. 5 candelas (17 lumens) in a streamlined design. Available for pedelecs and dynamo-operated bikes, PIMENTO lights also have a safe-stop function and are visible up to 400m. The second version is the PIMENTO-BRAKE which features a brake-light function giving a stronger signal (up to 40 candelas) to other road users when brakes are activated. Like the PIMENTO-CARRIER, it is available

for mounting on carriers with 50mm bolt distance and its brake-light function offers visibility up to 1000m.

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**B4-404**



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## X&O HEADLAMP SERIES

With a completely different design, trendy bikes might also be equipped with the new X&O headlamp series. Coming either in battery-operated versions (incl. 2 AA batteries and with optional automatic function) with sleek built-in reflector or for pedelecs in a much more compact format, the X&O headlamps provide a powerful beam of 25 Lux (battery) and 30 Lux (pedelec) thanks to their miniaturized optical system, developed by Philips®. The battery version has a runtime of more than 10h and is equipped with a battery load indicator. All versions are conform to German standards and feature a sturdy stainless steel bracket with black finish.

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**B4-404**



## OVERVIEW: SUNGLASSES

## ADVANCED SHADES THAT WILL HAVE YOU LOOKIN' GOOD, BABY

Hands up — Who chooses their shades based on how stylish they are? Yeah, so do we. Fortunately for us fashionistas, the newest sunglasses use image enhancing and protective technologies. At least the eyewear makers care about our eyes, even if we just care how we look.



TriEye 2.0

The retro-futuristic Fusion glasses from **Bliz [A7-309]** go as big on features as they do on styling. Using something called jawbone technology, they adapt to multiple sports and lighting situations. Their broad, uninterrupted lens provides excellent coverage, which can be bolstered by the addition of a jawbone subframe. Without the subframe, the weight drops to 34g (1 ounce).

With a Grilamid TR90 frame, unbreakable Bliz X-PC polycarbonate lenses, and a fit that adjusts around the nose and temple, there's little chance that these sizable sunnies will be dislodged.



Bollé Chronoshield

The Chronoshield, which debuted in 1986, was one of the most iconic shapes in the long history of **Bollé. [A7-203]** Loud (it was the 80s, after all) and versatile, the Chronoshield could be used for cycling and skiing.

Well, the Chronoshield is back, baby. The styling of the new version, reintroduced this year, is close to the original but with bang-up-to-date technology. It comes just in time to coincide with the resurgence of big sunnies in the peloton. Decades after its debut, the Chronoshield remains one of the wildest pair of sunglasses around.

The new incarnation is tricked out with Bollé's latest Phantom lenses. The



Bliz Fusion



Alpina Nacan 1

high-performance photochromic lenses adapt to prevailing light conditions. Developed in cooperation with Essilor Sun Solution, the lenses offer industry-leading optical clarity and high contrast filtering.

Carried over from the original is a removable brow bar for an adjusted fit, along with a nose pad that now uses Thermogrip rubber inserts for comfort and stability.

Still retro, but looking pleasingly low-key by modern standards, are the Nacan 1 and 2 glasses from **Alpina. [A7-301]** With a two-component design, they sit comfortably in place during athletic activities without having to rely on ostentatious features. Fitted with ceramic lenses, the Nacans are well-suited to everyday use because they're stylish and protect the eyes from UV light.

The Nacan 1 has a squarer shape and comes in matte black with a mirrored lens, indigo matte cherry with a red mirrored lens, or anthracite matte black with a yellow mirrored lens.

The more rounded Nacan 2 is available in a white or black frame that's twinned with rose gold, emerald, or purple mirrored lenses.

Except for moms, most humans don't have eyes in the backs of their heads. But **TriEye [A1-600]** offers the next best alternative. It puts a light, discrete mirror on the bottom edge of the lens so a cyclist can check what's behind her without having to turn her head.

TriEye won the start-up award at last year's Eurobike. This year it's debuting the updated TriEye 2.0, with a new mirror and housing that performs better but is as small as possible.

The glasses themselves don't skimp

on features. The frame is vented, and TriEye includes three lenses in the package.

The Karbon 9 from **Evolo [B4-311]** takes the trend for low-mass glasses to an extreme. The frames weigh just 19g, but are fully articulated and include an adjustable nose pad.

Evolo works its magic by taking carbon fiber — which is typically light but also brittle — and making it extremely flexible through some ingenious composite engineering.

The Karbon 9 fits a variety of head shapes and comes with several choices of lens, including a polarized option. All lenses are certified to the UV400 EN ISO 12312-1 absorption standard.

The accompanying 9T model accepts prescription inserts.



Evolo Karbon 9

**720 Armour [A5-412]** introduces two new models. The B369G Kamikaze Pro Hicolor is designed to enhance clarity, detail, and contrast. A unique self-fitting frame uses three-phase adjustable arms that are fitted to a wide, one-piece lens.

The Hicolor lens, which stays securely in place even in the worst conditions, protects the eyes by blocking HEV420 radiation, which is light emitted in the violet-blue band between 400-500 nanometers. Meanwhile, it renders sharper vision by improving vividness and providing more pleasing color tones.

The Analog B355GCRx Nupolar Infinite iPRO model is made for prescription users. 720 Armour offers prescription lenses from +2.00D to -6.50D. These aren't just to correct your vision, but are one-piece, polarized, photochromic lenses that adapt to light



**K4 CABRIO** STYLISH FITTING SPORTS BIKES E-BIKES E-SCOOTERS

Compatible with the Lion alarm system, K4-folding lock uses the innovative K4 head cylinder design, with heat-treated steel blades with folding links. Designed to be stored away neatly, the lock features a universal bracket which can be fixed on to the seat post or any round tubing (maximum diameter 50mm).



**Smart lock up!**  
Storage Innovation



**720 Armour B355G RX Nupolar Infinite iPro**

conditions. The lenses, housed in a TR90 Grilamid frame, offer tints of 60 percent to 91 percent. All provide 100 percent protection from UV rays.

The RG 5200 Reactive Flash is the newest member of the **SH+ [A7-304]** family. The one-piece lens is made for cycling but its capable for many other sports as well. The large lens sits in a minimalist frame, providing a field of vision that extends far along its sides.

The lenses use reactive NXT technology, and SH+ guarantees them from breakage over their life. The lenses switch in seconds from shaded in bright sun to almost clear in low-light situations, so riders can always see what's ahead.

SH+ says the lenses also enhance contrast and improve visual acuity



**SH+ RG 5200 Reactive Flash**

and depth perception. Compared to other polycarbonate lenses, SH+ says these do a better job of reducing chromatic dispersion and rainbowing.



**RH+ Change XTRM**

The Change XTRM and Nexus models from **RH+ [A7-212]** each come with three top-quality Zeiss lenses. The lenses, in mirrored, orange, and grey, can be changed out quickly and easily.

Both models weigh 30g. While the Change XTRM uses polarized lenses, the Nexus is equipped with photochromic ones.

The more aggressively styled Change features a one-piece lens with cutouts for better airflow and less misting, while the twin-lens Nexus accepts an optical clip-on for prescription lenses.

Each model sports adjustable nose pads and soft rubber temple pads and ship with a hard case and pouch that's ideal for cleaning. **JD**

## TUBELESS FOAM

## ALL TIRES FOAM

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**E-MAXX**

**E-BIKE 50**

**CHAORYANG**  
TIRES

BOOTH NO. **A3-103**  
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## OVERVIEW: OFF-ROAD APPAREL

# THEY WORRY ABOUT YOUR SHORTS SO YOU DON'T HAVE TO

When you're out riding the trails, you'd rather enjoy the fresh air, the sweeping view, and the thrill of the descent without worrying about your shorts. That's why bikewear makers are working to add the right mix of comfort, protection and other smart touches to your off-road gear so all you have to think about is the ride.



Alpinestars Drop Pro

The Resistance Ultra shorts from **POC [B3-402]** are suited for a day or multi-day trip. Built with durable stretch fabric, they can be worn as a standalone item or over bibshorts.

The shorts have a relatively straight cut, with a leg shape and articulation intended for gravel rides. It assumes that you're riding cross-country instead of something more gnarly, so you aren't wearing knee pads.

Robust fabric patches on the rear make the shorts more durable, and mesh inserts on the inner thighs add comfort.

Multiple zipped pockets are within easy reach so you can grab what you need on the go. "It's the MacGyver approach to cycling," said Damian Phillips, head of communications at POC. Two large pockets sit on the thighs and another small one on the waist.

The Resistance Ultra T-shirts take a similar approach, with or without

zip. Both use lightweight stretch fabric with sun protection, and with Cordura on the sleeves. The zipped version has three rear pockets and two extra small zipped pockets for valuables.

The plain T-shirt has two rear pockets



Alé Joshua jersey

for essentials, and a smaller zipped pocket for valuables.

**Alé [A7-206]** designed its Joshua jersey for riders who may be carrying backpacks or shoulder bags in the heat. The back of the jersey is constructed with Air Light Mesh, a very light material that resists peeling. An abrasion-resistant material protects the shoulders. Flat seams keep the jersey from irritating the skin, even under a backpack.

Like the POC shorts, Alé built an abundance of pockets into the Joshua. "The peculiarity of this garment is the construction of the back, fully equipped with five pockets suitable

for carrying the rain jacket, tools, snacks and everything you need for the trip," the company said. A zipped sixth pocket holds keys, change and other small items. Two capacious external pockets in back are made of Air Mesh Ultralight, a light, elastic and resistant material.

The Italian brand also prides itself on its fashionable touches. The breathable and comfortable fabrics, which incorporate sun protection, are "dyed and overprinted to obtain a fashionable and gritty mélange effect."

The accompanying Stones Cargo bibshorts are big on storage as well, with two large mesh pockets on the legs and two more on the back insert. The shorts are made from a high-density, compact material. The integrated pad has an eco-friendly outer fabric.

The Unlimited jersey from **Castelli [A7-323]** is aimed at the trending gravel segment, for cyclists who enjoy variety on their rides by mixing it up between tarmac and unpaved roads.

Not that Castelli is sold on the whole "gravel" trend. As the company says in its product announcement, "We've been riding on gravel since before it was a thing. Maybe that's why we don't really like the word 'gravel.' It's not a separate sport, and we think that in a few years we'll go back to just calling it cycling."

Castelli says the Unlimited jersey incorporates all of its tricks for moisture management and impeccable fit, but adds fabrics that resist snags from branches or vines.

The main body fabric is more durable than for typical road jerseys, and the company adds a particularly abrasion-resistant stretch woven fabric on the sleeves, shoulders and back panel.

The Unlimited women's bibshorts have extra features for all-surface riding. The durable fabric has higher abrasion and tear resistance, and double-layer side panels provide more protection in case you slide out on loose gravel. Castelli notes that this second layer doubles as convenient side pockets. A flap over the top prevent contents from spilling out.

The Flow jersey and shorts from **IXS [B4-201]**

are suited for mountain touring, day-long rides or evening sessions on the home trails. Claudio Nold, product manager for apparel at IXS, says the Flow includes casual touches such as a chest pocket in the men's version, so it's perfect for an après-ride beer.

The cut of the Flow jersey fits with its purpose of cycling on flowy

and "pedal-intense" terrain – the kind of riding that doesn't require elbow pads, which explains the short sleeves. For those who want to use them, the company offers Flow elbow guards.

The Carve line is more suited for the bike park. The jersey has a slightly longer cut, with three-quarter sleeves that don't leave skin exposed between the sleeve and elbow protectors. A mesh body provides extra airflow for hot days.

The short-sleeved Maryland jersey from **Nalini [B5-210]** is so light and thin you can almost see through it. Made of polyester and wool, it has a laid-back, almost vintage look.

"Many brands have been making



IXS Carve line

some vintage clothing, going back to wool, but this is wool with performance," said Alessandra Agostini, Nalini's sales manager. It's 41 percent wool for thermoregulation, while the polyester wicks sweat away and keeps the Maryland ventilated.

Other construction details add to the vintage touch, including a half-length front zipper, the button fastening on one of the rear pockets, and a relatively loose fit. Agostini said the Maryland is made for leisurely rides and social situations.



POC Resistance Ultra shorts



Castelli Unlimited line



**Nalini Maryland Jersey**

The Elevate shorts from **Pearl Izumi [B5-302]** have been well-thought-out for comfort during a day on the trails. A lightweight stretch Cordura nylon fabric is treated with PI Dry, which repels stains as well as water. A laser-perforated vent keeps things cool, and two zippered side pockets shift contents to the back of the leg so they don't interfere with pedaling. Inside the cargo liner short is a plush chamois.

An original touch is a Boa closure — something normally found on cycling shoes — at the back of the waist. "You can literally dial in your perfect fit," said Andrew Hammond, global marketing manager at Pearl Izumi.

Pearl Izumi also offers Elevate knee guards and elbow pads. The medium weight, breathable pads offer protection for enduro and trail riding.

The Free Short from **Sixs [A7-116]** is all the more versatile because it's tight-fitting, like a bibshort, but without the straps. That's handy for a summer mountain bike ride when you don't want to be bothered by straps clinging to your back.

A mix of fabrics and inserts keep the Free Short breathable and manage sweat. Sixs adds a carbon thread to the primary fabric that helps with climate regulation and keeps odors at bay.

**Alpinestars [A7-306]** puts a premium on comfort with its new Drop Pro outfit for enduro riders. The fabric in the jersey and shorts helps wick moisture away. Open mesh inserts on the jersey's back panel and laser-cut front air vents on the shorts help to keep riders fresh.

Alpinestars offers the Drop Pro in a short-sleeve version, but the long sleeve jersey provides more protection. The long sleeves have patches in the areas most susceptible



**Sixs bikewear, including the Free Short**

welded hems to make the shorts more durable. Other features add comfort, including a closure system for waist adjustment, and stretch material on the crotch and back yoke.

**Leatt [B4-203]** heeded the calls of female riders and debuts its first range of enduro and trail riding wear for women. The line includes shorts, jersey and jacket. Scott McFarlane, in charge of design, research and development at Leatt, said Martha Gill and other athletes clamored for a women's line after the brand entered the apparel market a few seasons ago.

Leatt's existing technology and materials were fine, but designers spent a lot of work on fit. The company owns all of its apparel patterns and works with riders around the world to extensively test prototypes.

Female riders preferred lighter shorts with more stretch, while Leatt wanted to ensure they would also be

to abrasion along with welded wrist hems. An elongated lower back hem provides more rear coverage.

Alpinestars uses the same protective patches and

durable. That required plenty of tests in the lab and on the trails.

Finally, the line had to look good. "This was tricky. The riders wanted to look feminine but not too 'girly.' The last thing we wanted to do was the classic 'shrink it and pink it.' That would have been insulting to our customers," McFarlane said.

When safety is a priority, the Armour B&S D30 from **Bluegrass [B4-102]** has inserts for full back protection for all-mountain, enduro, downhill and BMX enthusiasts. Shoulder shells provide another degree of security.

The armor is built with a light, stretchable open mesh for ventilation and fast drying. Soft body pads accommodate female and male riders and ensure they won't overheat.

Unlike some full protection systems, the Armour B&S can be used with a hydration pack, to keep riders topped-up throughout the ride.

■ **BS**



**Pearl Izumi Elevate Shorts**



**Bluegrass Armour B&S D30**

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## OVERVIEW: SUSTAINABLE APPAREL

# MORE BIKEWEAR BRANDS ARE TURNING GREEN WITH INVENTION

As consumers become more attentive to the environmental footprint of the products they buy, they are encouraging bikewear makers to move away from the petroleum-based products common in the apparel industry. It's becoming easier, as textile suppliers develop more fabrics that are sustainable as well as functional.



The Chrono Expert jersey is part of Giro's Renew Series.

**Pearl Izumi [B5-302]** is one of the few cycling apparel suppliers that has turned sustainable products and business practices into an integral part of its corporate mission. This commitment has led Pearl to make wide-ranging changes in its operations — some of them seemingly small but significant, such as the decision to do without printed catalogs, and to reduce the size of its hangtags.

Other changes are not so small. Pearl pledges to use recycled materials for 30 percent of its apparel range by 2020. Two years after that, it plans to assemble 90 percent of its products from materials that are recycled, renewable or organic.

The updated Attack range, which Pearl is launching at Eurobike, is one result of this new commitment. "We have worked to create more sustainable apparel and it's cool that we managed to do this with an affordable performance range, so that it will have a bigger impact," said Andrew Hammond, Pearl Izumi's global marketing manager.

Hammond said that the company is ahead of its target. About 40 percent of apparel products for Spring 2020 will be made of more sustainable materials.

This required plenty of research to find suitable fabrics that wouldn't increase manufacturing costs. "Some of the people in our testing department were probably a little stressed out," Hammond said. "We normally carry out



Pearl Izumi Attack jersey and short

about 30 tests on materials, to make sure that they deliver the performance and that they're durable. Due to the switch this year we had to test about 70 new materials."

The Attack jersey uses lightweight Select Transfer fabric made of fully recycled polyester, while the Attack short is made with recycled nylon.

**Giro [B3-300]** is investing in sustainability through a raft of initiatives, including its Renew Series of apparel that contains at least 50 percent recycled materials. After a small-scale launch last year, Giro says about 77 percent of its spring 2020 apparel line uses Renew Series materials.

Garments in the Renew Series integrate recycled nylon, polyester and elastane. The company also points to its use of Econyl Lycra, made from reclaimed fishing nets and other ocean debris. "It's great to be able to reduce our carbon footprint through the use of recycled materials, and even better if that helps to clean up our oceans," said Eric Richter, senior brand and business development manager at Giro.

Giro cites a Quantis report that attributes about 8 percent of all greenhouse gas emissions to the global apparel industry. Even worse, the company estimates that a majority of apparel is thrown away within 12 months of purchase.

The Renew Series is part of Giro's wider commitment to sustainable practices, such as using water-based inks and post-consumer materials in its packaging. The company is now investigating sustainable options for disposing of its products at the end of their lifetimes.

Apparel specialists suggest that bikewear brands have been less focused on sustainable production than their fashion and outdoor industry counterparts, perhaps because cyclists haven't demanded it.

But the dynamics are shifting as the climate crisis becomes harder to ignore, and as textile suppliers offer greener



iXS says 88 percent of its 2020 apparel collection is made from at least 88 percent recycled PET water bottles.

performance fabrics. Richter said they cost more, but Giro is willing to reduce margins to absorb the extra expense.

"While we hope that more brands will take steps toward sustainability, for now it's a relatively unique point of differentiation for us in the market, and hopefully it draws attention to Giro as an apparel brand since we're not yet top-of-mind in the apparel category for many buyers," he added.

**iXS, [B4-201]** the Swiss cycling brand, has gone out of its way to formulate clear brand statements on sustainability, from the raw materials it uses to the way it processes and distributes finished goods. The company pointedly does not use carbon fiber in its equipment, such as its helmets. Instead it seeks to use sustainable materials, including fabrics made from recycled materials.

It is especially keen on a material made from recycled PET, a type of



Nalini Pyeongchang jersey

plastic commonly used for water bottles. Used bottles are collected, cleaned, ground and processed into a granulate, which is then melted down and spun into yarn.

"With our iXS 2020 apparel collection we are proud to say that all adult jerseys, shorts and pants in our 2020 catalog are made from at least 88 percent recycled PET bottles," said Claudio Nold, designer and product manager at iXS.

Coffee bean waste is the basis for a sustainable material that **Nalini [B5-210]** uses in its Pyeongchang jersey. The fabric is knitted with Nilit Heat fiber, which uses "coffee charcoal" made from the residue of coffee bean shells. It regulates a rider's temperature and fights bacteria and odors.

Sales manager Alessandra Agostini said one of the trickiest aspects was finding the right combination of Nilit and elastic so the jersey would be sufficiently supple for cycling.

The yarn is naturally colored a brownish gray, which is not particularly popular for cycling wear but isn't easy to hide. Nalini applied a fluorescent yellow pattern around the collar and shoulders.

Agostini said Nalini's owner, Claudio Montovani, and his son Alessandro, are leading the move toward greener production by using more sustainable fibers and changing manufacturing practices. "We are making many other efforts to produce more sustainably,



Alé Cycling Green Road Jersey

by using this type of fabric for internal parts, making responsible use of inks and reducing the usage of fabric," she said. Unused scraps of Nilit Heat material can be returned and reused.

**Alé Cycling [A7-206]** says 90 percent of the fabrics, yarns, inserts and bib elastics in its Green Road range have a "low environmental impact." The Italian brand uses "eco-compatible materials" that are recycled at the source. Many of the fabrics are certified Global Recycle Standard (GRS).

This GRS standard, promoted by the Textile Exchange, focuses on recycling, improving the quality of recycled products and reducing the consumption of resources ranging from virgin materials to water and energy. Products must have at least 20 percent of pre- or post-consumer recycled content to be GRS-certified.

The Green Road range includes jerseys, shorts, cycling pads and socks made from recycled materials. The Italian company says the fabrics it uses are every bit as functional as conventional fabrics when it comes to ventilation, elasticity and quick-drying capabilities. Along with three regular pockets on the jersey is a fourth "eco pocket" where cyclists can stow empty wrappers, gel packages and other waste for proper disposal after the ride.

**Schoeller [A7-313]** has responded with increasingly green options for yarns, fabrics and membranes. Its 2021 offerings include fabrics made from Tencel Lyocell yarn. The biodegradable yarn is derived from cellulose fibers made from eucalyptus trees grown in sustainably-managed forests.

The company's Fluidified fabric uses the yarn with Ecorepel Bio, a water-repelling technology. Schoeller suggests Fluidified would be suitable for commuter cycling jackets, among other applications. ■ **BS**



Schoeller Fluidified fabric



## OVERVIEW: SMART CLOTHING THE FUTURE OF SMART BIKEWEAR IS TOUCH AND GO

The sense of touch and its extraordinary capacity to communicate has inspired technologies that connect us with our clothes. These touch-based, or “haptic,” technologies encompass such concepts as a smartphone that vibrates or a bikini that tells its wearer when to apply more sunblock.



Smart cycling pants from POC, developed with Neue Labs

Haptic vests for deaf and blind people provide feedback through vibration and other signals to give wearers more independence. Haptic baby booties can help doctors and nurses identify sleep irregularities, pneumonia, bronchiolitis, chronic lung disorders, heart defects and other health problems.

Haptic cycling wear and other types of smart cycling apparel are also on the way. POC [B3-402] has developed technologies that let cyclists control bike lights or turn signals by voice control. It's working on a haptic backpack and pants that would let cyclists turn on their lights or answer a phone call with a touch or swipe of the fingers.

“POC prides itself as a vanguard of new ideas and concepts to support its users,” said Damian Phillips, POC's director of communications. “Invariably as technology develops, so do opportunities to integrate new technologies into what we wear.”

POC is working on concepts with Neue Labs, a Swedish company that seeks to combine digital technology with fashion, along with the Fashion Institute of Technology and Swedish Fashion Council.

If companies like Neue are right, apparel will take on entirely new roles in the near future. “We see fashion as a content provider. The content could be functions, experiences or related traceability (history, counterfeit, origin, carbon footprints, etc.),” Neue's Kim Gustafsson said in an email.

“You might your own jacket but you can also rent, subscribe or buy several functions for your jacket. The lights might work as turn signals for one person and phone notifications for another,” he added. “This means there will be a

market for digital fashion content in the same way as there are apps for the phone. This gives brands new ways of making money on digital content.”

A jacket that incorporates such features as lights “printed” on the material, touch-sensitive fabrics, sensors, internet connectivity and haptic feedback could, for example, provide directions and activate turn signals based on a Google Maps route; let you control your phone or music; or serve as a tourist guide when you're riding a scooter or a bike

through an unfamiliar city.

As far-fetched as these examples sound, they could be closer than you think.

“Not every project succeeds. That's natural, but we learn a lot regardless. Plus, each time we are able to better refine a new iteration or idea,” Phillips said. “What is exceptional is the speed of change and the willingness to explore new materials and fabrics that will soon become the norm.”

Schoeller Textil [A7-313], the Swiss manufacturer of sophisticated textiles, says that while e-textiles “are the logical next step to an ever-connected society,” their development still has a ways to go. But it's exploring types of smart outerwear that could be commercially viable.

One is a Schoeller product called E-soft-shell, which is a light laminate with a heatable lining. The flexible material has a built-in conductive network, yet it still can be cut, dyed, heated and washed.

Schoeller says E-soft-shell is an example of apparel with an “active climate management” system that can help users stay comfortable. It's currently testing E-soft-shell with partners in the apparel industry. ■ **WB**



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## OVERVIEW: BIKE SHOES

## THESE KNITTED CYCLING SHOES WON'T LEAVE YOU IN STITCHES

Knitted uppers have finally found their way to cycling shoes, after they've become common in footwear for many other sports, from football to basketball to running. Apart from their performance benefits, knitted uppers create a snazzy new look for cyclists, whether they ride on or off pavement.

Shoe uppers are usually comprised of multiple components that have to be glued or stitched together, which creates the potential for friction, breakage and leakage. Knitted uppers incorporate several features in a single piece. They can be as comfortable as a good sock because the knit adjusts to the foot. And did we mention the look?

The knitted upper parts on the new Pro Road shoes from **Pearl Izumi [B5-302]** contribute to their striking appearance as well as their light weight. Pearl says the uppers make the shoes more sustainable, because the knit is treated so it is easier to clean. That means cyclists don't have to wash it as often.

Pearl has also shaved weight with a revamped sole construction. "We added a three-dimensional structure with high-end carbon fiber," said Andrew Hammond, global marketing manager at Pearl Izumi. "There's carbon only where it needs to be. It creates a sort of beam structure."

**FLR [B5-406a]** incorporates knitted uppers in its F-22, which the brand says will cost about a third as much as most other knit cycling shoes on the market. FLR incorporates high tensile strength yarns in the knit pattern, for a comfortable and breathable upper that won't distort over time. A carbon plate insert helps optimize power transfer.

While knitted styles are available from only a handful of bike shoe brands, their popularity in other sports suggests this is a trend to keep an eye on. Meanwhile, shoe brands are debuting other innovative types of upper constructions.



DMT SH1 with knitted upper

**DMT [B5-304]** claims the honor of launching the first cycling shoes with these uppers last year. At Eurobike, DMT returns with new models that are more supple and less expensive.

The Italian footwear company is intimately familiar with the technology, because it supplies knitted football boots for Nike from its factories in Italy and Bosnia. DMT borrowed some of the techniques it uses to make the football boots for its initial line of knitted cycling shoes.

This year, DMT is showing more affordable iterations that use a hybrid knit technology, meaning that only part of the upper is knitted. Others employ a simplified full-knit construction.

"It takes about one hour to make, compared with about three hours for the more elaborate knit shoe," explained Carlo Guardamagna, DMT's international sales area manager.



Pearl Izumi Pro Road



FLR F-22

**Northwave [A7-201]** continues to improve its distinctive upper construction for road shoes, called X Frame. The first X Frame shoes, which came out a few seasons ago, used a Boa dial, in conjunction with a diagonal zig-zag cut on the upper, to eliminate pressure points.

At Eurobike, Northwave is showing the upgraded Extreme GT2 shoe, which adds a second Boa dial. "There are now two dials for a much better individual closing. It differentiates the pressure between the top of the instep and the toe for even better adaptability," Sabrina Stadler, marketing manager for Germany and Austria, said in a statement. The shoe also includes a morph carbon sole and Northwave's arch support technology.

The Tempo Overcurve road shoe from **Fizik [A5-301]** derives its considerable elegance from the curved construction of its closure, which also uses a Boa dial. The asymmetrical, slightly diagonal and curved design is functional as well as esthetically pleasing because it provides a more ergonomic fit.

The Tempo is a light-weight shoe with an easy gait and a carbon-injected outsole. It's moderately stiff, so it's good for group rides, daily training sessions, or a full day out in the saddle.

Fizik uses another stylish closure



Giro Ventana

in its Terra Powerstrap gravel shoe, which gives the appearance of ribbons wrapping around the foot.

Unlike most Velcro closures that just pull together the two sides of the upper, the two straps on the Terra Powerstrap wrap around the top and sides for secure containment. The



Fizik Tempo Overcurve

instep and midfoot straps can be independently adjusted

As road shoes move away from clunky designs, so do off-road shoes. The Ventana from **Giro [B3-200]** is a case in point. With a textile upper, it looks more like an urban hiker than a bike shoe.

It's meant as an intermediary between a traditional mountain biking shoe with harder treads, and flat pedal shoes for downhill riding. "We felt we needed something for the more adventurous riders," said Peter Curran, category manager at Giro. "The



Northwave Extreme GT2

Ventana is inspired by trail running shoes, with a bit more grip."

The upper uses thermo-bonded textile parts, which reduces stitching and makes the shoe more breathable. Giro offers it in two versions, one of them with a Boa dial and a fast-lacing system. Giro tested several rubber compounds for the outsole, which is light but provides grip on the trail.

The CD1 off-road shoe from **Crono [A7-304]** achieves its unusual look



Crono CD1

through a combination of suede leather and a Lycra sock inside the shoe. The upper is water-resistant. The CD1 includes a Boa closure and a Vibram sole made of a rubber compound that will keep you on your feet when walking on terrain.

Several other shoemakers have combined the silhouette of a road shoe with the functional features of more rugged footwear. That's the case for the MX238 Super Cross from **Lake Cycling, [B4-308]** for cyclocross, cross-country and gravel racers.

Durable Helcor leather in the upper is supple and form-fitting, yet protects against rubbing, scrapes and scuffing.

Continued on page 36...

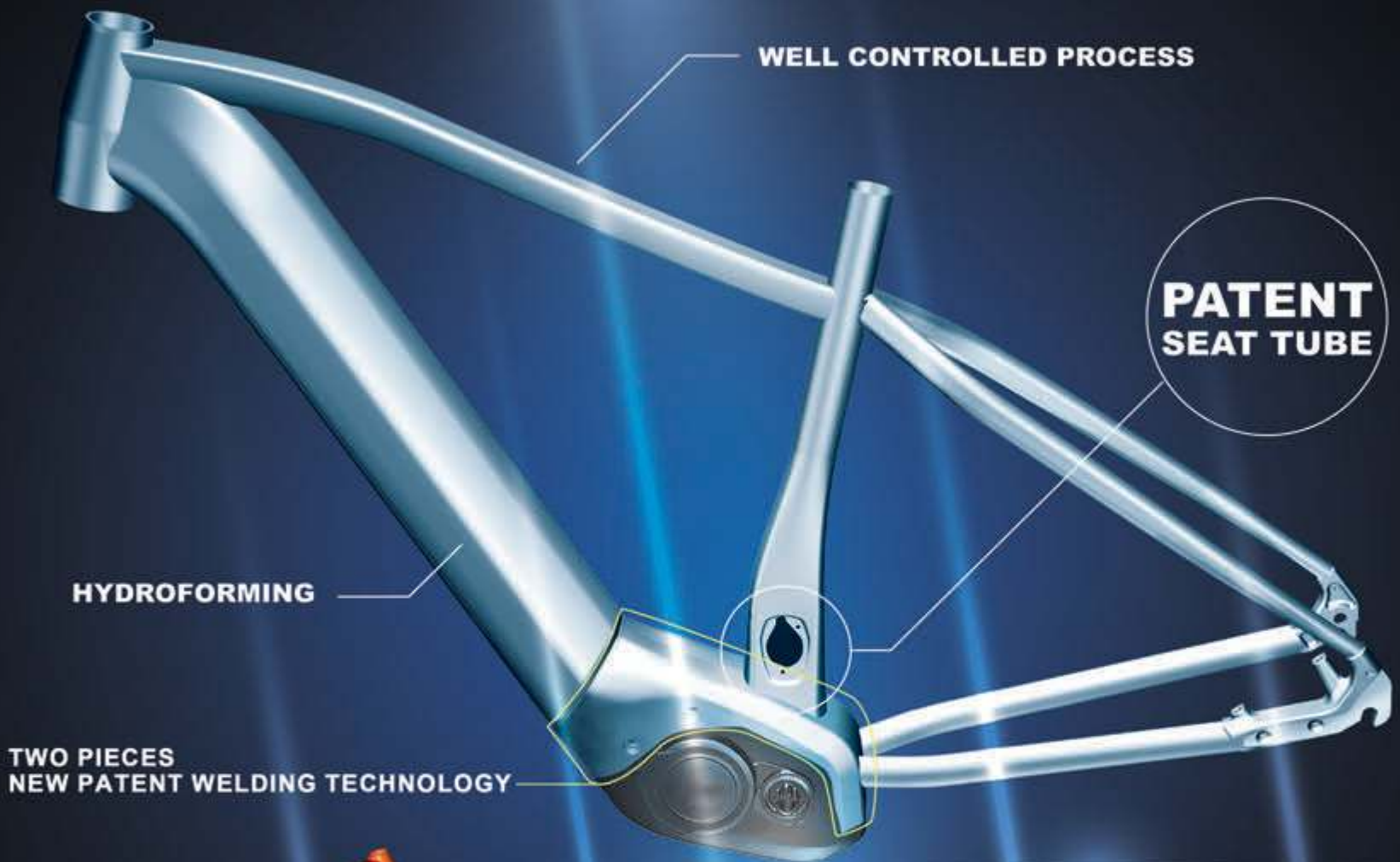


Lake MX238 Super Cross

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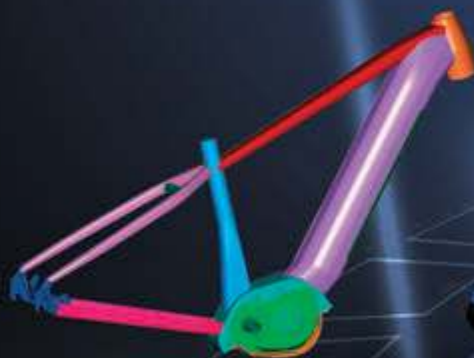


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Pearl Izumi X-Alp Gravel

...continued from page 34

Side-mounted dual Boa closures permit incremental adjustments. The Super Cross is made for pedaling, but maintains grip when the foot hits the ground.

A hook Lycra heel liner firmly grips the cycling sock on walking sections so the heel won't slip. The outsole has a carbon fiber sole, a claw spike, and extra traction for sloppy conditions.

Pearl Izumi goes for a similarly slick appearance with its X-Alp Gravel. "Mountain bike shoes often have more width, but this one has a road upper," Hammond said. "It was designed with a competitive mindset, to give a tight fit and high performance." The upper is a seamless, perforated construction and incorporates a Boa closure.

Another important factor is the nylon composite sole. "It flexes with the foot, just in front of the cleat, so instead of flopping around like a duck you have a walkable mountain bike shoe," Hammond said.

The G-Kobra from **Gaerne [A7-104]** is also easy on the eye as well as the feet. It incorporates plenty of mountain biking shoe technology, including a lightweight outsole developed with Michelin. The sole blends carbon fiber, for stiffness and strength, with a Michelin rubber tread for grip.

Two holes in the toe cup accept interchangeable cleats. The treads are spaced widely enough so the shoe sheds mud.

A microfiber upper with laser-



Gaerne G-Kobra

drilled ventilation holes gives the foot some breathing room, while a Boa closure with two micro-adjustable reels and a stainless-steel cable eases pressure points. Gaerne's Tarsal Support System adjusts the placement of the foot in the shoe for a rounded and more efficient pedal stroke.



Ride Concepts Powerline

The Powerline from **Ride Concepts [B4-202]** is an eye-catching flat pedal shoe for hard chargers who require all-day comfort. Features include a fully-welded but breathable microfiber upper, which resists weather and abrasion.

The rubber outsole has a recessed hiking section on the toe and heel for the walking parts. The medial high-rise midsole provides stability and shock absorption, and a fully gusseted tongue keeps out dirt and debris.

E-bikes permeate all other aspects of cycling, so it's no surprise to find e-bike footwear coming to market. Nor is it surprising to see a new line of e-bike shoes from **Shimano, [B5-300]** which in addition to its extensive

apparel and footwear line also makes one of the most popular mid-drive motor systems for e-bikes.

Shimano says regular athletic shoes eventually deform if they are used regularly on an e-bike, which could lead to muscle fatigue. Yet traditional cycling shoes don't typically offer enough traction off the bike.

Enter the ET5 e-bike touring shoe, which has a reinforced pedaling platform that performs on a range of surfaces.

Small lugs on the outsole help grip a flat pedal and provide traction off the bike, even in wet conditions. The sides of the shoe have extra protection from rocks and debris.

"It's a great enabler — you can go into different terrain," Shimano's Ben Hillsdon said. "It's designed like a trekking bike shoe, but it allows the rider to go further, faster and harder."

■ BS



Shimano ET5 e-bike shoe



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## OVERVIEW: DROPPER AND SUSPENSION POSTS

# NEW SEATPOSTS MAKE GRAVEL RIDING LESS OF A GRIND

They've already conquered the mountain bike world. Now, dropper posts are finding a second home in the emerging gravel segment. However, the unique requirements of drop-bar-riding gravel explorers mean that the most successful dropper products in this market are the ones that tailor their designs, not just recycle them.



USE Helix

For gravel, this can mean less travel at a lower weight, and remote levers that play well with the curve of a typical drop handlebar.

Suspension products and soft-ride seatposts are also currying favor among the growing cohort of gravel grinders. Formerly restricted to trekking riders and a few hardtail mountain bikers, their ability to add comfort to otherwise rigid machines has led to something of a revival, along with a host of new designs.

At Eurobike, British brand **USE** — **Ultimate Sports Engineering [A2-304]** is showing the Helix dropper. USE, with a history of innovation, took its time bringing the Helix to market. Using experience from its longstanding line of suspension posts, USE settled on a mechanical system because it wanted to avoid issues that can affect droppers that use air or oil pressure as the return mechanism.

Instead, the post uses a helix spindle that rotates as the post compresses or extends. A clutch lets it move freely, or lock it into position at any height. USE says the Helix should be very low-maintenance. The Helix is available with a 125mm or 165mm drop, in diameters of 30.9mm and 31.6mm. USE plans to soon launch a smaller 27.2mm version as well.

**Crankbrothers [B1-310]** updates its Highline range with a wide array of lengths and sizes covering two price points. Both the Highline 3 and Highline 7 now have linear actuators for fast return speed and easy installation. They come with high-spec Jagwire cabling as standard.

The Highline 3 caters to almost every segment and specification with six different drop lengths, from 60-170mm, and with diameters of 27.2, 30.9, 31.6, and 34.9mm. Backed by a two-year warranty, it lets IBDs cater to a huge range of consumers with a single product.

The more refined Highline 7 fits 30.9 and 31.6mm seat tubes. Its posher hydraulic IFP cartridge provides extremely smooth actuation. Crankbrothers underwrites the 7 with an industry-leading four-year warranty.

For riders on a budget, dropper pioneer **KS Kind Shock [B1-504]** offers a lot of

Crankbrothers Highline 7



KS Rage-I

KS offers it in four versions with lengths of 100-170mm, to fit diameters of 30.9 and 31.6mm.

Left-handed riders can pair the Rage-I with one of the brand's new Southpaw and Southpaw-C remotes, designed to work with KS modular clamps. The Southpaw uses either a direct handlebar mount clamp or MatchMaker, I-Spec-II, or I-Spec-EV fitments. Its new clamp interface still permits lateral reach adjustment.

Alternatively, drop-bar users can pair the Rage-I with the new Drop remote. Designed to complement the ergonomics of Shimano and SRAM levers, it's a dedicated drop bar remote that's compatible with all KS droppers, or indeed with any dropper that uses an 8-12mm cable pull. Its slim, hinged clamp is made to be wrapped under the bar tape for a clean look that will appeal to gravel riders.

Also catering to the ever-expanding gravel genre, **FSA [B3-400]** debuts a new version of its Flowtron AGX seatpost. FSA has tailored the post to the specific needs of gravel bikers, including its unique bar-end remote and its narrow minimum diameter of 27.2mm.

Even though the Flowtron AGX can



FSA Flowtron AGX

travel for not a lot of money with its new Rage-I post.

The Rage-I boasts a huge 190mm of drop, but retails for a suggested 199 euros (\$220). A one-piece stanchion and cradle keep weight to a relatively svelte 549g (1 pound, 3 ounces). And it includes a cable and remote.

With a twin-bolt, micro-adjust head and open-bath air/oil cartridge, the Rage-I is as fully featured as many more expensive options.

slide into skinny frames, FSA hasn't squeezed out the technology that made the original so popular. The post offers 100mm of travel, while a new three-pin brass keyway system ensures long-term durability and minimizes side-to-side movement.

FSA has also integrated the heat into the stanchion, which not only looks better but allows for a reduced insertion depth. At 500g, plus another 80g for the remote, the Flowtron AGX won't add significantly to the weight of your rig.



Magura Vyrion

The wireless, and cable-less, Vyrion eLect seatpost from **Magura [A2-202]** was a revelation when it was first introduced. Magura redesigned the Vyrion eLect last year — but since many riders still haven't seen the light, the company is offering a 30-euro rebate on new purchases.

The Vyrion eLect can be raised and lowered at the touch of a button. Installation is simple, and since there is no physical connection between post and remote there are no muddy cables or damaged hydraulic lines to worry about. It is infinitely adjustable and available in 100mm, 125mm, and 150mm stroke lengths.

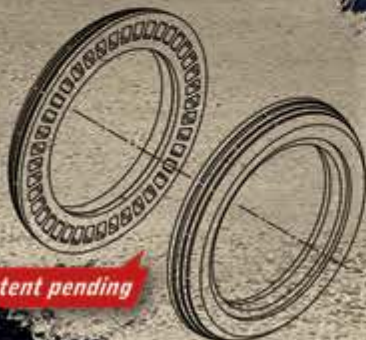
While droppers are almost universally loved, some riders still swear by their suspension seatposts. Thanks to **by.schulz [A3-109]** riders no longer have to choose between the two technologies.

Its D.2 ST-Ri parallel suspension seatpost offers both 30mm of suspension travel with 100mm of dropper functionality.

Winner of a Eurobike Award last

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by.schulz D.2 ST-ri

year, the D.2 ST-Ri uses a proven parallelogram mechanism that absorbs road shocks. It comes with five interchangeable springs so riders can tune it depending on their weight, from 45kg to 130kg (99 to 287 pounds).

Its separate dropper function, which is operated by an internally routed cable and handlebar-mounted lever, boosts pedaling efficiency and increases a rider's confidence. While mountain bikers use dropper posts to tackle tough terrain, city riders can use the D.2 ST-ri to put a foot down at a traffic light.

Whether smoothing out potholed roads or giving comfort to the gravel bikers, the new ShockStop seatpost from Redshift



Redshift ShockStop seatpost

[B3-114] promises to reduce the accumulated effects of bumps and vibrations by up to 60 percent.

The inside of the post houses an interchangeable spring to add a four-bar linkage beneath the saddle.

The spring can be swapped out to match the rider's weight and style of use, and also preloaded to further tune the ride. When the wheels strike an object, the head's parallelogram design ensures that the saddle angle remains constant as it moves through

its 35mm of travel.

Redshift designed the seatpost as a companion to its wildly popular ShockStop suspension stem. One indication that the seatpost will also be a success is the fact that Redshift raised more than \$430,000 in a Kickstarter campaign for the seatpost, vastly overshooting its \$20,000 target.

**Cane Creek, [B1-202]** a veteran in the suspension seatpost market, is showing its Thudbuster and eeSilk models. The first of these could again prove an excellent option for gravel riders looking to add a little extra compliance.

Weighing just 295g, the eeSilk post is comparable in weight to a traditional rigid model, yet has 20mm of vertical compliance for better control on rough surfaces and to reduce fatigue on long rides.

For riders who want a little more insulation, the Thudbuster uses a similar parallel linkage to deliver 33mm of suspension. Cane Creek says it exactly tracks the impact path of the rear wheel as it responds to bumps in the road, which means the saddle stays in the same place relative to the rider and the surface.

As with the eeSilk, riders can tune the Thudbuster's performance by swapping out the stock elastomer for one of the two alternative elastomers that come with the post. ■ JD



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## D.2 ST-RI PARALLEL SUSPENSION SEATPOST

Designed for sporty (E)-City/Trekking bikers, the D.2 ST-Ri dropper post combines comfort and safety in a unique way. The proven parallelogram suspension with 30 mm travel reliably absorbs road shocks. This means top seating comfort - whether you are riding on bumpy dirt roads or in urban areas. The remote controlled 80 or 100 mm lowering function increases bicycle control when riding downhill and allows a quick change between ergonomic seating comfort while riding and a safe stand at the traffic light with both feet on the ground. The cable routing of the control lever at the handlebar runs protected inside the frame. The D.2 ST-Ri is the perfect combination of

suspension and vario seatpost and maximises driving pleasure.

**A3-109**



## OVERVIEW: E-BIKE TIRES

# AS E-BIKES GAIN TRACTION, SO DO E-BIKE TIRES

There are as many varieties of e-bikes as regular bikes, and like regular bikes, they all need different tires to do different jobs.



**Hutchinson Sector 32**

All e-bike tires have a few things in common. They tend to be more robust to support the extra loads involved. Many are designed for the higher speeds possible with speed pedelecs. For those, look for an ECE-R75 certification.

There are plenty of differences too. E-road bikes need tires that are fast rolling and grippy on good surfaces, while e-MTBs need traction and cornering control in loose conditions.

City bikes prioritize puncture protection and long life above all, while e-cargo bike tires need to cope with big loads. But whatever the requirements, there's a manufacturer at Eurobike that's got a tire to fit.

The Sector from French manufacturer **Hutchinson [B3-207]** isn't new; it's been around in various guises since 2014. Originally designed as a tubeless tire for pro teams racing over the cobbles in the classics (hence the name: the cobbles of Paris-Roubaix are referred to as "sectors"), the tire has migrated away from its initial use case and found a home instead on e-road bikes.

It's a perfect fit: The larger chamber provides a better ride for the heavier bikes, and the dual compound tread optimizes a balance of grip and durability.

Available in 700x28 and 700x32 sizes, it's a tire at home on road, gravel ... and, of course, on cobbles.

One unlikely convert is ex-profes-

sional racer Thomas Voeckler. "Since I'm retired I've been testing cycling on a totally different way thanks to e-bikes," he said. "As specific components are needed, I've been using the Sector 32 e-bike tire with the reinforced casing and compound made for the needs of e-biking: a heavier bike and increased traction because of the engine."

The Sector e-bike tire is tubeless ready and designed to be used with sealant; it weighs from just 290g for a 700x28 tire.

Also new from Hutchinson is a front/rear e-MTB tire combination, the Toro Koloss and the Taipan Koloss. Designed for 27.5+ e-MTBs, the tires are available in a 2.8-inch width and are optimized for e-bikes.

Both of the tires use Hutchinson's SpiderTech construction for puncture resistance and steering precision. The Toro up front has a central tread section for braking stability, with sharp lateral knobs that bite in the turns.

In back, the Taipan features fragmented central knobs for effective traction, and sculpted lateral knobs for grip. Both tires offer plenty of lateral rigidity for a predictable ride experience.



**ReTyre modular tire system**



**Chaoyang E-liner City**

"We wanted to find the perfect marriage between right profiles, appropriate section and proper construction," said Joël Balez, R&D engineer at Hutchinson.

Now for something completely different, from Norwegian manufacturer **reTyre. [A3-716]**

It's inconvenient to change tires to match prevailing weather conditions, especially so if that tire is on a heavy e-bike that might have a cumbersome rear hub motor.

reTyre's clever modular system side-steps the problem of taking the wheel off of the bike.

First, mount the "base tire" on the bike. By itself, the base tire is made for city riding. One unusual feature are the zippers integrated along both sides.

Is a winter storm blowing through? You can take the reTyre Winter Traveller tread — one of four the company offers — and zipper it in over the base tire. The process only takes about a minute, so you're always prepared for any weather conditions.

The other three tread options offered by reTyre include the Ice

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The award-winning modular system is the optimal upgrade for any e-bike. #easierisbetter

**A3 - 716**



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**KENDA**

## KWICK DRUMLIN CARGO

Kwick Drumlin CARGO is specifically developed for Cargo E-Bikes, which are heavier than traditional bikes. Cargo E-Bikes are also exposed to greater loads during active use, resulting in accelerated tire wear to failure and punctures. Kenda developed a special tire with a 2-ply construction and the addition of a sub-tread puncture breaker, called K-Shield. Resulting in a load capacity of 150kg/tire and an increase to overall durability by more than 600% compared to traditional e-bike tires. Kwick Drumlin Cargo

tires' durability ensures no down time and loss of revenue. Kenda launches three different sizes at Eurobike: 20/24/26"x2.0. In the near future the Cargo-specific range will be completed with more tread pattern and sizes.

**B1-405**



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**Innova Wanderlust**

Racer, with a studded tread that's more aggressive than the Winter Traveler's; the more lightly-treaded Gravel Chaser; and the Trail Rider, for venturing farther off-road.

reTyre is working with e-bike brands to fit the tires as original equipment. One such brand is Buddy Bike.

"Our customers love the innovative solution from reTyre," Buddy Bike said. "It makes it very easy to change to winter tires or trail tires, especially for those riding our e-bikes with rear hub motor."

**Chaoyang Tire [A3-103]** offers a range of e-bike tires within its E-Liner series. The E-Liner Offroad AT is an all-rounder for light off-road use. It features a tight central tread that ensures a low rolling resistance on better surfaces.

If you're venturing further off-road, the more aggressive tread profile of the Offroad AT provides excellent

cornering grip. Both tires feature a bead-to-bead puncture protection system that protects against intrusions through the tread and sidewalls.

If you're staying within the city limits, Chaoyang has you covered with its Urban, City, and Tour tires from the E-liner series. All use Chaoyang's specially designed E-Maxx compound. It's formulated for e-bike use with low rolling resistance and excellent grip that keeps e-bikers safe while cornering.

A smooth center tread on the Urban promotes quick rolling, while grooves shed water and give better traction on slippery roads. The tread pattern on the shoulders improves stability when cornering, and grip when the surface is less than perfect.

The City is a classic commuting tire, with a 5mm Rhino Skin puncture prevention layer, while the Tour is made for longer distances. All are ECE-R75 certified for use on s-pedelects.



**Marathon E-Plus cutaway**

**Innova Rubber [A3-714]** is showing the Wanderlust e-bike tire at Eurobike. As the name suggests, the tire is made for longer rides over mixed terrain. A grooved slick tread is intended to be fast-rolling on tarmac but grippy on looser surfaces. Available in a 700x38c size, it's ideal for city and touring e-bikes

From **Schwalbe, [A5-300]** the Marathon is synonymous with trouble-free riding over long distances. Now Schwalbe offers the Marathon E-Plus, a variation made specifically for e-bikes. And with an ECE-R75 certification, it's suitable for speed pedelecs, too.

"Our highest quality Marathon tires were refined for the special demands of an e-Bike," Schwalbe said. The German tiremakers have made a few changes to the e-bike version.

The Marathon E-Plus uses a new external compound, Addix-E, which was developed for e-bikes. It's intended to provide superior grip at high speeds and to be exceptionally durable.

Underneath the tread, Schwalbe's patented SmartGuard protection layer is bolstered by two layers of RaceGuard fabric. This "Smart-DualGuard" should protect ever better against sharp objects and reduce the possibility of punctures, which are especially annoying on an e-bike.

E-Cargo bikes are a fast-growing sector of the market, which is why Eurobike is putting a spotlight on



**Kenda Kwick Drumlín Cargo**

them at this show, with a designated cargo area in Hall A1. (Today also features four Eurobike Academy sessions on cargo bikes — see page 14 for details.)

**Kenda, [B1-405]** for one, is focusing on e-cargo bikes. It just picked up a Eurobike Award for its Drumlín Cargo tire, which it launched at the show.

E-bikes are heavy, but many e-cargo bikes are especially hefty, especially when they're hauling big loads.

That can cause accelerated tire wear and more flats. Kenda given the Drumlín Cargo a 2-ply construction, and adds a sub-tread puncture breaker, called K-Shield.

The Drumlín Cargo has a load capacity of up to 150kg per tire, and lasts up to six times as long as a traditional e-bike tire in loaded use. Better wear times means less downtime and loss of revenue for e-cargo operators.

The Drumlín Cargo is available in 20- 24- and 26x2.0 sizes. An entire cargo-specific range, in more sizes and tread patterns, will follow. ■ **DA**



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## OVERVIEW: CARBON MTB WHEELS

# CARBON IS NOT JUST LIGHT, BUT IT'S EMINENTLY ADAPTABLE

Carbon fiber is traditionally used to save weight. But that's not all a carbon structure can do. For wheels, it's possible to fine-tune the characteristics of a carbon rim to match the needs of just about any kind of off-road riding.

Wheel makers are producing carbon wheelsets that span the whole gamut of off-road riding, from gravel and XC to downhill and everything in between.

As their production processes become more refined, wheel brands are moving further away from the shapes that dominate in the alloy rim market. As tires get wider, so do carbon rims. Pretty much everything in the world of carbon MTB wheelsets is tubeless-compatible, with gravel wheels following suit and road wheels not that far behind.

**Industry Nine [B1-411]** has two new wheelsets at the show. The 1,380g Ultralite 240c is aimed squarely at XC racers. The wheelset uses Industry Nine's new Hydra freehub system, with six pawls and a massive 690 points of engagement for near-instantaneous power transfer. Riders can tune the sound of the freehub with Dumonde Tech freehub oil (louder) or Dumonde Tech Pro-X freehub grease (quieter).

The UL-240c, available only in a 29-inch size, uses a 24-hole system chassis with straight pull aluminum



Testing the Zipp 3Zero Moto

spokes that thread directly into the hub. Its 24mm inner rim width is geared towards tires that are 2 to 2.4 inches wide.

Also new is the Enduro 310c. As the name suggests, this wheelset is for wider and heavier use than its racier sibling, with more aggressive all-mountain riders the target market.

The Enduro 310c is available either as a 24-spoke wheelset for maximal compliance and ride quality, or as a 32-hole wheelset for better strength and stiffness — good for heavier riders or more technical terrain.

The Enduro 310c also uses the Hydra driver, with an independent pawl engagement mechanism that was designed with the flex of the system in mind. It's made to avoid single-pawl engagements and thus improve bearing life. The Enduro 310c comes in 27.5- and 29-inch sizes.

Dutch wheel manufacturer **Scope [B3-205]**

shows its O2 wheelset, for XC and gravel racers alike.

The 31mm external width and 25mm internal profile are optimized for tubeless tires. The wheelset weighs 1,380g in the non-boost version, so it's light enough for race use. (Scope also offers the O2 with boost hubs.)

Scope uses a 2:1 spoke lacing pattern on the rear wheel, to even out spoke tensions across the wheel for a

*Continued on page 44...*

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## FLOW CB7

The Flow CB7 wheelset features a lightweight carbon version of Stan's legendary Flow rim. Only 420g (27.5" rim) and 455g (29" rim), the Flow CB7 has an internal width of 29mm and an entirely new asymmetric shape. Developed in partnership with Ibis Cycles, the Flow CB7 combines the added strength and stability of an asymmetric rim with Stan's patented Bead Socket Technology. Offering the easiest inflation and best air retention of any tubeless asymmetric design, Flow CB7 rims also allow for lower sidewalls for less rotational weight and better impact absorption. Flow CB7 wheelsets include Neo hubs with Durasync 6-pawl, triple bearing freehubs and Sapim Force spokes with Sapim Secure Lock alloy nipples. The Flow CB7 wheelset is

available in all common axle configuration and multiple cassette options, and custom decal colors are available. All Stan's carbon rims now include a 7-year warranty and lifetime crash replacement.

**B1-101**



Industry Nine UltraLite 240c

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...continued from page 42...

**Industry Nine Enduro 310c**

stronger build. Extra-wide flange spacing helps improve stiffness and durability without sacrificing the compliance needed for a comfortable ride.

Like all of Scope's tubeless-compatible wheelsets, the O2 is tubeless-ready. Tubeless rim tape and valve are installed at the factory. The wheelset is available for both SRAM and Shimano transmissions, and a Microspline version is coming.

As upgrades, Scope offers Ceramic-Speed bearings and custom decals.

From **Stan's [B1-101]** are the new Baron and Flow wheels. The Baron

**Scope O2**

CB7 is made for trail riding on 2.8- to 3.2-inch tires, Stans' worked with Ibis Bikes to develop the wheelset, with the goal of addressing problems common to wider tubeless rims.

"Most wider carbon rims are notoriously difficult to work with when it comes to mounting, inflating, and removing tubeless tires," Stan's said. "Many also don't offer a reliable

**Stan's Baron CB7**

airtight seal under impact and when cornering. Wide and stiff carbon rims often put added stress on spokes and hubs and deliver a harsh ride that actually slows you down."

Stan's solution is an asymmetric design with offset spoke hole drilling that improves the bracing angle of the spokes. That creates a more stable, wider base that better supports the rim.

The low sidewalls, carbon lay-up, and overall shape of the Baron CB7 also incorporates RiACT, Stan's radial impact-absorbing carbon technology. That allows the rim to absorb impacts and vibration by deflecting radially, so they're more durable and comfortable and roll faster.

Rims feature Stan's patented Bead Socket Technology, so it's easier to install, inflate, and remove tires. It also ensures a dependable airtight seal in

*Continued on page 46...*

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## BARON CB7

The Baron CB7 is a lightweight carbon trail wheelset with an internal width of 35mm and a new asymmetric rim shape. Features an entirely new version of the patented Bead Socket Technology made specifically for asymmetric carbon rims. The result is the strength and stability of an asymmetric rim and the easiest inflation and most trusted tubeless rim design. At only 420g (27.5i) and 455g (29i) the Baron CB7 rim is also among the lightest trail rims. Available with Sapim Force spokes, Sapim Secure Lock alloy nipples, and built around 100% CNC machined Neo hubs with Durasync 6-pawl triple bearing freehubs, Baron CB7 wheels are built to last. The wheels are available in all common axle configurations and

multiple cassette options, and custom decal colors are available. All Stan's carbon rims now include a 7-year warranty and lifetime crash replacement.

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**Zipp 3Zero Moto**

...continued from page 46...

all conditions.

Sapim Force spokes connect the rims with Stan's own CNC-machined Neo hubs. The hubs use a Durasync 6-pawl freehub with fast 10-degree engagement and triple freehub bearings to better distribute axle load.

Like all of Stan's wheels, the Baron CB7 relies on conventional j-bend spokes, which are easy to replace at almost any shop.

The company backs up its wheels with a seven-year warranty and a crash replacement program. The Baron CB7 is available in a 27.5-inch size, with a system weight of 1,674g, or 29-inch at 1,761g. They accommodate riders weighing up to 113kg (250 lbs).

The Flow CB7 wheelset uses many of the same technologies as its sibling, but has a narrower rim profile, for tires with widths between 2.35 and 2.8 inches.

Again there's an asymmetric rim shape, with custom carbon layup to equalize impact forces on both the long and short sides of the rim. The rims feature RIACT rim technology with low-profile sidewalls, and Stan's Bead Socket Technology.

They're available in 27.5- and 29-inch versions, with overall system weights the same as for the Baron CB7.

The Flow CB7 supports all popular axle configurations and Shimano HG or SRAM XD cassettes.

**Alexrims [A5-206]** pitches its Baxter 3.0 wheelset firmly at the gravel market. Available in 700c and weighing 1,715g for the set, the Baxter uses Alexrims' proprietary carbon rim technology.

In-molded alloy inserts at key areas ensure that the rims are durable, but don't sacrifice compliance for better rolling and grip over rough sections of trail. The rims have a 25mm internal width that's perfect for bigger volume 700c gravel tires. They're laced with 24 straight-pull spokes to Alexrims' own Bear Pawls star flanged hubs.

For its new 3Zero Moto wheel, **Zipp [A3-300]** says it was "inspired by moto to provide riders with the control and durability required for pure speed."

The result is a single-walled rim design. Zipp says it has higher impact resistance and better protection against pinch flats, along with traction in rough corners and a smoother ride in rocky terrain.

With the 3Zero Moto, riders can use lower tire pressures.

Zipp's sponsored riders have ridden on prototypes for the past two years. Enduro MTB rider Adrien Dailly raced them to their first EWS podium in France, while enduro legend Jérôme Clementz recorded the first win in New Zealand.

Zipp says its test riders reported much less fatigue and arm pump because less trail vibration is coming up through the handlebars. "Those wheels feel like I have an extra inch of travel," Clementz said.

Zipp points to several features that impact performance.

Because a bigger section of the rim absorbs impacts, it is radially compliant. The rims are built onto the Zipp ZM1 hubset with 32 spokes. The wide flange design and high spoke count improve durability and energy transfer.

The rim locally flex to stay parallel to the ground during cornering. This ability to twist locally allows it to deflect during single bead impacts without the rider getting bounced off-line.

In tests, Zipp says wheel deflection was three times higher than that of top rival box-section carbon wheels.

"That extra compliance behaves like extra suspension," the company says, "but it also spreads the impact energy over a larger area. This also benefits the rider in the form of pinch flat prevention."

In enduro racing, minor changes in tire pressure can make a big difference in speed and comfort, so Zipp ships all



**Alexrims Baxter 3.0**



**Crankbrothers Synthesis E11 rear wheel**

3Zero Moto wheelsets with an integrated Quarq TyreWiz system.

TyreWiz lets riders monitor tire pressures via a smartphone or ANT+/BLE head unit. Quarq claims the system is accurate to plus or minus 2 percent, all the way down to 0 psi.

The 3Zero Moto wheelset is available in 27.5- and 29-inch sizes, and Zipp offers eight color choices. The company offers a lifetime warranty.

Riders can also buy the rims and the TyreWiz system separately.

The Synthesis wheelsets have been a **Crankbrothers [A5-301]** success story for some time.

The company is now making the Synthesis E11 and DH11 wheelsets available to buy as a mixed wheelset.

Also new is an option to equip them with 157mm Superboost or Microspline rear hubs.

The concept behind Synthesis is that front and rear wheels should be tuned differently because they perform different jobs.

The rear wheel is stiffer to support peak loads and improve stability, and features a narrower rim width to better support smaller tire profiles popular at the rear. A greater number of heavier weight spokes are used, at a higher tension.

The smaller rear wheel has lower rotational weight for faster acceleration. It's also easier to change direction and move further back on the bike.

In front, a more compliant wheel improves handling, and maximizes grip and control when cornering. A lighter, wider rim offers more compliance and rounds off the tire profile for better performance in the turns. The front wheel uses fewer spokes at a lower tension.

The larger front wheel reduces trail chatter and facilitates faster rolling, and its larger contact patch means faster rolling and improved grip.

Crankbrothers offers the Synthesis in various builds in both 27.5- and 29-inch sizes.

They are well-suited to the current "reverse mullet" fad, where racers use a 29-inch wheel in front and 27.5-inch in the rear.

Racers on so-equipped bikes have dominated race headlines this year, including Loic Bruni's latest UCI DH World Cup victories. **DA**

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X-CELL RT 3.0 is compatible with HEINZMANN's most powerful wheel hub motors resulting in the most reliable motor support possible.

# REFINEMENT

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BOOTH NO.  
**A5-203**



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## FIND OUT THE LATEST ON E-BIKE DUTIES, TARIFFS

European anti-dumping duties on Chinese-made electric bicycles, along with the U.S. tariffs imposed on a variety of Chinese-made goods, have “seriously injured and disrupted many businesses all over the world.” That’s according to LEVA-EU and LEVA, associations that represent light electric vehicle manufacturers in Europe and the United States.

The associations host two events today to delve into the implications of these trade policies, and to discuss EN 15194:2017, the newest version of the European standard for electric bicycles.

The first event is an information meeting from 12 – 2:30 p.m. at the Eurobike Conference Center. Annick Roetyneck, manager of **LEVA-EU, [FW OG-101]** will answer such questions as whether manufacturers are legally required to comply with the standard, and whether an e-bike has to be tested by an accredited testing institution.

Other questions include what types of e-bikes fall under the standard and which don’t, and how the standard relates to the European harmonized legislation that applies to e-bikes.

Admission is free for members of LEVA and LEVA-EU, and for the media. Admission for non-members is 100 euros.



Annick Roetyneck

A light lunch is included.

Ed Benjamin, chairman of LEVA, the U.S. counterpart to LEVA-EU, will give an update on the U.S. trade war and Chinese tariffs and his outlook for the U.S. e-bike market.

The second event, at 6 p.m., is the annual LEVA and LEVA-EU Networking Dinner at the Zeppelin Hangar Restaurant on the Eurobike grounds.

The annual dinner brings manufacturers, assemblers and component producers from around the world together to explore business opportunities. All participating companies will be introduced at the beginning of the dinner. Visitors will have the opportunity to introduce themselves to others in the global LEV industry.

Admission is 85 euros for LEVA members and 95 euros for non-members. All are welcome, but must register and pay in advance. Visit [www.leva-eu.com](http://www.leva-eu.com) or go to the booth to register. ■

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Signature of applicant

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DIRK ZEDLER

# CYCLING NEEDS MORE HEAVYWEIGHT CHAMPIONS

It's hard to believe, but the average German, Swiss or Austrian man today weighs about 89 kilograms (196 pounds). A typical e-bike weighs, on average, 25kg. Add in a helmet, clothes and shoes, and an average man on an average e-bike weighs 117kg out the door. And that doesn't account for a briefcase, a backpack, or other luggage.

Yet the globally accepted ISO 4210 standard for bicycles implies a total permissible weight of 100kg. For EN 15194, the comparable standard for e-bikes, it's 120kg. (A kilogram equals 2.2 pounds.)

This means an e-bike that has been tested only to the EN standard has not been sufficiently vetted for nearly 50 percent of its potential male riders in these three countries, or, indeed, in many others. If we assume that many of these riders will carry some sort of cargo, the gap is even greater.

For conventional bicycles, the problem gets worse. A conventional bike weighs about 8 to 10kg less than an e-bike, but the applicable standard for a "safety-tested" bicycle assumes a total weight that is 20kg less.

It's obvious that these standards are insufficient for today's population of bike riders. Bike manufacturers should never be satisfied with testing their bikes only to the standards.

**Mind the gap.** How can it be that these standards are so far removed from the realities of the market?

The answer is complex: The process of developing standards is very lengthy, and average weights have increased so fast that the standards haven't kept up.

Another problem is that the standards are intended to apply globally. In Asia, the average male weighs barely 70kg, so these global standards remain valid for the majority of Asian cyclists.

In general, however, manufacturers should think of these standards as minimum requirements. They may be good guidelines for initial tests of components and complete bicycles, but manufacturers should understand that they are neither sufficient nor complete.

And the standards have significant gaps. For example, there is no standard for loads acting on a frame from a disc brake, nor is there a reasonable fatigue strength test for wheels.

Enough court decisions have put manufacturers on notice that simply fulfilling the requirements of the standards is insufficient. Instead, several courts have ruled that manufacturers must test their products to the current state of the art in science and technology.

**Bikes are doing more.** By observing cyclists, it's quickly apparent that, as electric motors become more powerful, the standards are falling further behind.

Not only are cyclists themselves getting heavier, but their e-bikes make it easy for them to carry more stuff with

them, like backpacks or other luggage. Every day, we see pedelecs serving as "mom's taxi" with a children's trailer in tow.

These changes are so dramatic that we can no longer use historical statistics about the type and frequency of component failures to predict what may happen in the future.

My own archives are proof. As an expert witness, I've presented hundreds of expert's reports for courts and insurance companies on accidents involving material failure that resulted in serious injuries or deaths. Two contributing factors stand out as common themes in many of these accidents: bicycles that were carrying heavy loads, and bicycles that had been used intensively.

E-bike accidents typically involve even heavier loads and even more intensive use. These are verifiable facts.

**One bike does not fit all sizes.** With a little luggage, a 140kg rider on an e-bike equals an overall weight of 180kg — well above the 120kg weight specified in the EN standard. You might argue that few riders weigh 140kg, even in today's society. But let's calculate this in a slightly different way:

Assume our rider weighs 105kg — above average but still common. He's on a 25kg pedelec and carries a 5kg briefcase on the luggage rack. Oh, and he's hauling his kids in a trailer, adding another 40kg to the total.

These very reasonable assumptions take us to a total weight of 175kg. Now we can see why a "normal" e-bike should be tested for a total weight of 180kg.

Because the standard is clearly insufficient, I believe that city and trekking bikes should be categorized by the amount of weight they can carry, as well as their anticipated uses.

It doesn't make sense to sell an e-bike designed to accommodate 180kg of total weight to a woman who only weighs 55kg. It would be too much bike for her to handle safely.

That's why the Zedler Institute has developed weight classifications that we believe do a better job of accounting for different types of riders and different types of uses.

Our Advanced tests cover total weight of up to 130kg, while our Advanced-Plus tests go up to 150kg and our Advanced-Plus-XXL tests to 180kg.

Our tests, as well as real-world experience with XXL-tested products, confirm that bicycles are perfectly capable of carrying 180kg of total weight. But it's up to manufacturers to accept and promote these categories.



**Even a step-through frames can be the foundation of a good XXL bike, as long as it is properly tested as shown here (identifying details are blurred). (Photo: zedler.de)**

They should also understand that the use of trailers is becoming more and more popular, especially with e-bikes.

Another task requires sensitizing retailers that e-bikes are not all equal. They should inform their customers early in the sales conversation about the importance of accounting for the total weight that a new bike will be expected to carry. Retailers should make sure customers understand that

their bike will have to carry not just them, but the weight of the bike itself, their luggage, and, if relevant, their kids and a trailer.

We have also found that particularly heavy customers, who are accustomed to compensating for their weight in other aspects of their lives, are grateful for the opportunity to buy an XXL-tested bike.

■ Dirk Zedler

## DIRK ZEDLER

Since 1993, Dirk Zedler has been an analyst and expert witness on bicycle accidents and product failures for courts, bike and insurance companies, and private individuals.



He got his start in the industry by working for a large bike shop in 1986, and now holds the respected advanced engineering degree known as a "Diplom-Ingenieur."

Courts have recognized Zedler as an officially appointed and sworn expert on bicycles since 1994, and on electric bicycles since 2014. His staff prepares some 800 expert's reports every year.

Zedler – Institut für Fahrradtechnik und -Sicherheit GmbH (the Zedler Institute for Bicycle Technology and Safety) has used this wealth of knowledge, derived

from its work in thousands of court proceedings and expert's reports, to enhance research and development in the bicycle industry.

The Institute sets the standards for the bicycle industry. It develops and builds testing equipment that is used by manufacturers to improve the riding quality and safety of their bikes, and by leading European bicycle magazines to test them. The Institute's work provides a basis for European and American manufacturers to communicate with their Asian suppliers. Manufacturers can buy test equipment from the Institute or use its state-of-the-art testing labs.

The Zedler Institute also prepares user manuals for bicycles and pedelecs. These manuals, now available in more than 40 languages, help consumers use their bikes properly — and in many cases have protected manufacturers from liability.

■ For more information, visit [www.zedler.de](http://www.zedler.de).



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<Eurobike2019>

See and test bikes with the new Yamaha motors at the following brands:

R RAYMON: B2-400 / Wheeler: B3-506



# NEW PRODUCTS

## WD-40 BIKE RANGE



This complete range of cleaners and lubricants from the well-known WD-40 brand includes cleaners, degreasers, and lubricants, developed with cycling teams and other experts. Product packaging employs the brand's familiar yellow and blue color scheme. **B5-507**

## CHAOYANG TIRE E-LINER SERIES MOUNTAIN BIKE TIRES

E-Liner tires are made for the rigors of e-mountain bikes. The E-Liner Off-Road AT is an all-rounder designed for light off-road use. Tight center knobs ensure low rolling-resistance. Giving more comfort on all kinds of surfaces, the Off-Road MT's aggressive knobs provide cornering grip and braking performance. **A3-103**



## TERN BICYCLES AIRPORTER SLIM FOLDING BIKE CASE

Made for the Tern BYB, the AirPorter Slim case lets you take your bike wherever you travel. Fold your bike, put it in the suitcase, and you're ready for check-in. The premium hardshell suitcase is durable, light, and features 360-degree spinner wheels for rolling. It also fits Tern Link and Verge bikes with some disassembly. **B4-403**



## SATE-LITE LF-12 LIGHT

Its built-in control system changes the light intensity in response to its environment, yet the LF-12 Light is ultra-compact and portable. With an easy-to-read three-stage power gauge, its single button provides intuitive operation. An amber sidelight adds visibility, and it's IPX5 waterproof. **A6-219**



## A-PRO TECH ERDP6.3CA-R 29 FRAME

This full-suspension 29er frame has dual-module options to accommodate e-bike drive systems from Shimano and Brose. The battery installs from the bottom of the downtube so no additional opening is needed. This streamlines the chassis and significantly improves frame stiffness. **B1-204**



## ITM BIKE COMPONENTS ITM50 HANDLEBAR

This stealthy, aerodynamic, and ergonomic high-modulus carbon handlebar has a unique integrated support for quick coupling with every type of cycle computer. A double forward bend creates a comfortable and natural position. It's equipped for fully internal cable routing and is finished with a special texture that improves grip on the upper part of the handlebar. **B5-106**



## NECO NECO8 HEADSET

Normally, headsets have multiple elements, sometimes coming in as many as eight pieces. This two-piece headset drops into place simply with less risk of incorrect assembly and lost pieces. It's also easier to install in a non-workshop setting. **A5-403**



## BENNO BIKES ESCOUT BIKE

Capable of carrying almost twice the cargo load of a typical bike, the eScout is built around a taut, light aluminum frame for strength and rigidity. Its road bike-inspired design combines with low and narrow handlebars for a sporty riding position. It sits atop 27.5 x 2.4-inch Schwalbe tires and is powered by Bosch's premier drive system. **A1-518**



## WD-40 WD-40 FLEXIBLE

WD-40 Flexible is made for precision applications. With a flexible, hard-wearing, and heat-resistant metal straw that retains its shape, WD-40 Flexible can be used for a wide variety of applications. This unique solution is intended for anyone needing to lubricate, unlock, protect, or clean inaccessible areas. **B5-507**



## LA FONTE ALPHA 3X GOLD SAT WOMAN CHAMOIS

This women's chamois features an aerodynamic fit and is made for long distances and extreme conditions. The comfortable high-spec fabric provides excellent transpiration and dries quickly. High-density foams, shaped 3X Technology, and shock absorption inserts add protection. **A7-326**



Visit Booth  
**A4-319**

# A bite of Portugal

Brought to you by:  
Portugal Bike Value



## Have a Bite of Portugal

To promote Portugal during the Eurobike, a special event - **A Bite of Portugal** - will take place this afternoon, at the Portugal Bike Value stand, in hall A4 - 319. We are welcoming you with an offer to taste and enjoy a variety of typical Portuguese products.

Nowadays, Portugal is a major destination for the two-wheel production sector. The country offers excellent manufacturing conditions: a specialized work force, committed entrepreneurs and plants equipped with cutting edge technology. This environment translated in a strong two-digit growth year on year for the last five years, and expectations are that, relative to 2018, almost three times more e-bikes will be produced in Portugal in 2019.

Last but not least, Portugal is blessed with fine weather, excellent gastronomy and a unique and very friendly way to welcome visitors.

This afternoon, we welcome you at the Portugal Bike Value stand for A Bite of Portugal.

## JASIL

### HIGH PRECISION PARTS MAKER

Jasil is a metal mechanics company founded in 1948 with a dynamic approach and long experience of the production of parts with very tight tolerances and high quality standards. It has 100 workers and state-of-the-art technology.

The production processes are: FORGING, TURNING, MACHINING, GRINDING, GEAR MILLING, POLISHING, ASSEMBLING and PACKAGING. This allows customers to order a finished product from a single supplier.

Jasil is able to work on aluminium, steel, brass, titanium and plastic, producing bicycle parts such as Crank Axles, Gears, Bottom Brackets, Sprockets, Bike Stems, Seat Posts, Clamps and Hubs. The Crank Axle can be with ISIS Drive (6), ISIS Mini Drive (5) or Tapered Square. They are produced with special steel to be used in torque sensors.

The quality system is certified by ISO 9001 and the IATF requirements are currently being implemented, side by side with Industry 4.0 concepts and Kaizen Lean Managing system in a culture of continuous improvement.



**CONTACT:** JASIL – J. António da Silva, Lda., Parque Industrial de Adaúfe, Lote i-6, 4710-571 Braga – Portugal, Phone: + 351 253 307 380, Email : comercial@jasil.com www.jasil.com

## RODI

RODI is a Portuguese company based in Aveiro, with over 67 years of experience, specialized in high-quality aluminium rims and wheels.

At RODI, you will find performance based on technological innovation of products and processes. Thanks to this vision we have achieved a solid leadership position in the European market, which has enabled us to bring together customers around the world and win the trust of the best and biggest bicycle manufacturers.



**CONTACT:**

Apartado 1, Eixo - 3801-551  
- Aveiro, Portugal

Phone+351 234 920 260  
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Email: rodi@rodi.pt

## PROTOTYPE

### BICYCLE RACING PARTS SINCE 2005

Prototype was founded in the mid-1990s by three friends with a love of competition in go-karts, remote-controlled cars and slots, setting its sights on race-winning parts with dynamic and functional efficiency.

People often ask why we chose the name "Prototype" – it's because all our products are carefully studied and analyzed. At Prototype we aim to delight our customers and we like to surprise them. We test what we do!

Performance, efficiency and reliability are our basic priorities. Lightweight and rigid Prototype products are laboratory-tested to the limit, as well as tested by elite athletes who have won over 50 national and international titles.

One of the main objectives of Prototype is to provide customers with an efficient after-sales service, seeking to provide technical solutions to enable practical and simple maintenance. Our products have a reason to exist, because we know where we are and where we want to go.



**CONTACT:**

Rua dos Lagoeiros Arm-54, 2415-644 Leiria - Portugal  
Phone: +351 244 027 587 E-mail: hello@prototype.pt

## POLIPROMOTION

### 360° CUSTOM BOTTLES AND DRINKWARE

Although Polipromotion is taking its first steps in the market, it's one of six independent brands of the Polisport Group, a specialist in plastic production since the 1970s.

Supported by Polisport's brand know-how, Polipromotion focuses on custom water bottles and accessories.

Available in different models and capacities, all the bottles have fully customizable options for design, color and printing. This is a product fit for both morning jogging, professional sports or home and office use.

This company is dedicated to producing and selling custom bottles all over Europe through its wide distribution and agency network when we deal with specific products, namely for the competition area.



**CONTACT:** Zona Industrial do Rossio, Vila Cova de Perrinho, 3730-605 Vale de Cambra - Portugal, + 351 256 248 150, info@polipromotion.com  
GPS: 40.899067, -8.380811



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# NEW PRODUCTS

## ROXIM R3EK LIGHT



The R3EK integrates rear brake and position lighting into a neat and compact enclosure. Compliant with K-mark standards and designed for pedelecs, it's flexible enough to be mounted in different positions, including the rear rack, rear fender, or under the saddle. It takes a power input of DC 6V-12V and includes an optional holder for bike manufacturers. **A5-212**

## RIESE & MÜLLER SWING3 VARIO URBAN

With its elegant and minimalistic design, the Swing3 is reminiscent of a classic Dutch-style bike. Integrated cabling is visually pleasing and prevents tangled cables on the basket and front light. The battery is integrated into the luggage carrier so it is almost invisible. Redesigned rear baskets attach on the sides instead of the carrier for a lower center of gravity and more room for cargo. The new handlebar basket sits closer to the headtube, so a loaded basket can be transported more safely. **A6-300**



## MARIN PINE MOUNTAIN E2 BIKE

A powerful Shimano Steps mid-drive motor and an adventure-seeking steel frame pair with a burly suspension fork and 27.5+ tires to help this bike climb like a billy goat. It's ready for trail-based fun, or for an overnighter at your favorite peak. **B4-100**



## MIRANDA BOSCH GEN 4 COMPATIBLE

Miranda has various spider solutions for the new Bosch motor. Its latest cold-forged spiders are available in four-arm BCD 104 or five-arm BCD 110 options, and in various offsets to achieve the desired chain line. The spider works with Miranda's ChainFlow 3D chainrings for the Bosch Gen 4 motor. **A4-319**



# LEV-Ci

## LEV-Ci

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# NEW PRODUCTS

## SCHWALBE MARATHON E-PLUS TIRE



Schwalbe created its first “flat-less” bicycle tire for e-bikes. A patented SmartGuard protection layer is supported by two layers of RaceGuard fabric. This dual system protects against sharp objects, while the Addix-E compound provides grip at high speeds. **A5-300**

## B&W INTERNATIONAL BIKE.BOX II

Interlocking at six points and pulled together with a self-tightening buckle, this two-part hardshell bike case is suitable for road bikes up to 62cm. Its top shell can be completely removed, while inside the case the bike is mounted with several straps and protected by multiple layers of foam. It's easy to maneuver, with several carrying handles and four smooth-running wheels. **A2-317**



## SKS GERMANY AIRSPY PRESSURE GAUGE

These dustproof, watertight units screw onto the valves and continually monitor tire pressure, letting cyclists know on their smartphones or compatible bike computers when it's time to pump up the tires. It can sound an alarm when it detects a change in pressure. **A5-400**



## ORTLIEB UP-TOWN URBAN BASKET

This 17.5-liter waterproof handlebar basket is made for urban environments. A zippered inner pocket secures a wallet, keys, or a smartphone, while an internal stiffener ensures stability. It carries up to 5kg. An aluminum frame and adjustable carrying handle complete the modern design, and it's finished with a reflector for visibility. **A4-303**



## LEM HELMETS FLOW HELMET

The fully-featured Flow has extended coverage, micro-fit adjustment, and a BugOut inner liner. Its 16 large intake and exhaust vents providing cooling, while a multi-positioning visor gives secure on-trail adjustment and convenient out-of-the-way goggle stowage. Designed with an integrated 3 PC shell technology and in-mold EPS for impact energy management, the Flow is light and durable. **A4-309**



## ZERO RH+ CHANGE XTRM AND NEXUS SPORT GLASSES

These glasses feature three Zeiss technology lenses; mirrored category 3, orange category 1, and grey category 3. Fast to change, they're also available in polarized (Change XTRM) and photochromic (Nexus) versions. Cut-outs in the Change improve airflow and avoid misting, while the Nexus accepts prescription clip-ons. **A7-212**



## PIRELLI VELO CINTURATO GRAVEL TIRE

The gravel-specific Cinturato is available with a tubeless-ready reinforced construction and two tread patterns for hard or mixed terrain. Linked to surface consistency, not weather, the H model is for hard-packed gravel roads, while the M model has more open spacing and aggressive knobs for demanding terrain. **B3-200**



## SHULZ SEAFORD FOLDING BIKE

With a robust chromoly frame, fat 2.5-inch tires, mechanical disc brakes, and a SRAM transmission, the Seaford is a capable small-wheeled, folding adventure bike. It can take front and rear racks, while a simple two-part fold means it collapses down quickly for storage or transport. **FG-A9/9**



## BROSE DRIVE C MAG AND DRIVE T MAG MOTORS

The new Brose Drive C Mag offers support for urban bikers of up to 280 percent and delivers 50Nm of torque at high and low cadences. The new Drive T Mag is optimized for longer rides and provides 70Nm of torque and support of up to 320 percent. Both come in an innovative magnesium housing that's 500g lighter and 15 percent smaller than the aluminum alternative. **A1-504**



## KRYPTONITE KEEPER 585 COMBINATION FOLDING LOCK

Kryptonite's new 85cm resettable combination folding lock has 3mm hardened steel links for moderate-security lock ups. An easy-to-install bracket provides convenient transport. The lock comes with a lifetime warranty and Kryptonite's Combo Safe Program. **B3-200**





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Organizer:



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# NEW PRODUCTS

## ALEXRIMS RECON 3.0 WHEELS



This uncompromising enduro and all-mountain wheelset has tubeless-ready carbon rims and bladed straight-pull spokes. House-brand Bear Pawl hubs have boost spacing and allow for tool-free servicing. Available in 27.5-inch and 29-inch diameters, they weigh 1,604g and 1,706g per pair, respectively. **A5-206**

## R RAYMON TRAILRAY E-SEVEN 10.0

With three 170mm eTrailray models, riders are sure to find the right e-MTB. All models come with the new Yamaha PW-X2 drive for powerful performance on any surface. Sporty geometries with steep angles and relatively short wheelbases ensure a dynamic and agile driving experience. The Trailray E-Seven 10.0 is equipped with RockShox shock and suspension fork, Shimano hydraulic disc brakes, 12-speed Shimano XT gears and Schwalbe Magic Marry tyres. **B2-400**



## SARIS WAVE DELINEATOR POP-UP BIKE LANE

The Delineator is a pop-up bike lane. It's a flat strip of ABS thermoplastic that turns into a wave when compressed. It's modular and easy to carry, and one adult can carry up to 30 meters of bike lane at a time. It deploys with no tools. The strip has safe chamfered edges and reflective decals. **A3-302**



## FUMPA PUMPS MINIFUMPA

This USB-rechargeable, miniature electric bike pump is a smart alternative to CO2 canisters and mini-pumps. It weighs 190g and is about the size of two CO2 canisters, but will inflate two tires on a charge and can reach pressures of up to 120psi. The miniFumpa fits in a saddle bag or jersey pocket and works with Presta valves. **B1-106**



## BAFANG M420

The clean, compact and dynamic M400 has had a facelift for modern city and trekking bicycles. Formerly called Max Drive, the M400 uses the same frame mounting interface. The 250W motor offers the same powerful 80Nm of torque and complies with the 25 kph EU speed limit. It's compatible with the 450Wh InTube or other rack type batteries, and with several new displays. It gives designers an opportunity to create contemporary-looking city and trekking bikes.

**A1-304**



## SH+ SHIROCCO HELMET

The Shirocco's aerodynamic outer shell has wide front vents to optimize transpiration. The inner padding comes with laser cut technology and Polygiene fabric, the chinstrap has an automatic buckle and soft piping. Cooling is assured by many vents which allow humid air to exit the helmet while drawing fresh air in. **A7-304**



## RACER MOTION TOP 2 ARMOR

This body armor incorporates the latest D30 pads on dorsal, shoulder, and elbow areas while breathable mesh panels keep things cool. A perforated 4mm EVA foam pad protects the chest and ribs. It's adaptable with a large front zipper and removable sleeves and can accommodate a hydration system. It has three pockets for storage. **B1-213**



## BOSCH EBIKE SYSTEMS CARGO LINE MOTOR

Made for cargo bikes, the Cargo Line is available in two versions; a standard 25 kmh version or a 45 kmh speed version for s-pedelecs. The standard version can help consumers haul kids and shopping bags in a flexible and environmentally friendly way, while the speed version will help delivery services get packages to their destinations quickly and efficiently. **A6-207**



## THUN GREENWICH SYSTEM

Excessive chain line deviations can result from incorrect assembly or lax component tolerances. The Greenwich is a unique 1x drivetrain system that guarantees an optimum chain or belt line by separating the chain or belt wheel from the crank arm, while its spacers ensure precise positioning and allow manufacturers to create different alignments. **A2-107**



## RUFF CYCLES LIL'BUDDY

This compact homage to the minibikes of the 70s will appeal to younger riders as well as older fans of vintage machines. Known as the "Lil'Buddy," this modern-day version is electrified with a Bosch Active Line drive, Shimano components, and a wide variety of accessories. Like all of the brand's bikes, it's assembled in Regensburg, Germany. **A2-510**



# NEW PRODUCTS

## ALEXRIMS BEAR PAWLS IMPEL CASSETTE BODY

This new 24-tooth ratchet-ring style driver provides more positive engagement with the hub than a traditional pawl system for better power transfer. It'll last longer with less wear, making it ideal for aggressive riders or for e-bikes. **A5-206**



## SIGMA SPORT EOX SERIES

The latest version of Sigma Sport's EOX series includes the EOX Remote 500, EOX View 1200 display, and EOX app, making it a complete solution for e-bike and drivetrain manufacturers. The smart remote, which will work without the head unit, provides drive control while displaying information such as support level and battery status via a six-color LED indicator.

**A5-200**



## CROPS K4-CABRIO LOCK

Compatible with the brand's Lion alarm system, the K4-Cabrio lock uses the innovative K4 head cylinder design coupled to a shackle made of steel folding links. It stores away neatly and comes with a universal bracket that fixes onto the seatpost, or any round tubing with a maximum diameter of 50mm. **A5-104**



## TAYA CHAIN E-ONZE-111 GALAXY

Taya makes e-bike chains colorful, and lets riders design their bike. The Galaxy Nano coating is anti-scratch and rust proof. The e-Onze-111 offers high performance along with good looks. **A5-205**



## BARBIERI CARBONARIA PRESTA VALVES

Barbieri claims these are the world's first carbon fiber Presta valves for tubeless tires. They use a light, aerodynamic carbon ring with ti-fix ergonomic unscrewing system. They are channel-compatible and can be run with internal tubeless bumpers, like the brand's Anaconda system. Equipped with two interchangeable rubber seals, they come in 55mm and 65mm lengths. **A4-517**



## BY.SCHULZ BONE COLLECTION

By.schulz is now the German distributor for Bone Collection. This universal smartphone holder tie is made of high-quality silicone and will mount a variety of smartphones to stems or handlebars with diameters between 22 and 38mm. **A3-109**



**CARBON DRIVE™**

**UNCHAIN  
YOUR  
COMMUTE**

**BOOTH #A2-201**



# NEW PRODUCTS

## BAFANG M400



The well-tested Bafang M400 mid-drive motor system provides powerful performance for cargo bikes. With rated power of 250W and 80Nm of maximum torque, the M400-powered Dolly cargo bike from Utrecht can reach the EU speed limit of 25 kmh even when fully loaded. This bestselling drive system is a viable option for commercial or family cargo bikes. **A1-304**

## HUTCHINSON GRIFFUS 2.5 RACING LAB

The Griffus is the choice of elite riders such as Carson Storch, Kilian Bron, Yoann Barelli, and Cécile Ravanel. Used at the front, the Griffus' high knobs provide cornering stability and riding precision. Used in the rear, its 58mm width will cushion the ride even in difficult conditions. **B3-207**



## EVOLO MAGNESIUM RACE PUSH BIKE

Made for little racers, this balance bike's magnesium alloy frame and fork mean it's super light. Using an adult headset, the position of its alloy handlebar is easy to adjust. It weighs between 2.5 and 3.5kg and comes with either puncture-free 12-inch EVA tires or smoother-riding pneumatic options. **B4-311**



## SELLE ITALIA SP-01 BOOST TEKNO

For the full-carbon version of the SP-01 Boost, Selle Italia collaborated with Dallara Compositi because of its ability to use carbon in contexts where resistance to extreme pressures is fundamental, as in Formula 1. The SP-01 Boost Tekno, with its futuristic design inspired by the automotive world, combines with the racing tradition of Selle Italia for comfort and performance in a saddle that weighs 110g. **B3-100**



## GATES CARBON DRIVE CDC SPROCKETS

Made for e-bikes, this new line of hardened Chromoly CDC sprockets provides product managers with a balance of performance and value. Featuring a proprietary CenterTrack design, these rear sprockets supplement the Gates premium CDX line. They are engineered for lower-torque urban mid-drive e-bikes with motors that produce 50Nm or less of torque. **A2-201**



## CHOSEN ROAD TC HUB

A road-going version of Chosen's Toothed Coupling design hubs has a reinforced freehub mechanism for excellent power transmission. A robust design and housing for straight-pull spokes makes it efficient and durable. Made of lightweight alloy, a Road TC hub can form the heart of a fast, efficient wheelset. **A5-203**



## ELASTIC INTERFACE PALM TECHNOLOGY

This three-dimensional, seamless palm for road, gravel, and mountain bike use is made to relieve pressure on the ulnar nerve and vascular structures while providing a more secure grasp and superior control. Pre-shaped and elastic, its thermo-molding process eliminates extra material and wrinkles while providing protection and a snug fit. **A7-222**



## TREND POWER BATTERY SOLUTIONS

Trend Power offers customized and off-the-shelf battery solutions for systems from Shimano, Yamaha, Panasonic, Brose, and others. Trend Power's standard 630Wh and 504Wh batteries share the same casing and are compatible with its 360Wh range-extender battery for longer journeys. Trend Power also provides cable harnesses, chargers, mounting parts, and other accessories. **A4-310**



## KTM FAHRRAD SCARP MT PRESTIGE



MT stands for Marathon and is a new bike segment for KTM. The Scarp MT uses KTM's new ultra-light, full-suspension race frame, the Scarp Evo2. It comes with 115mm rear and 120mm front travel and incorporates KTM's Straight-Line-Link technology. It has a steering angle of 67.5 degrees, space for a second bottle cage, and a dropper seatpost. **A6-200**

# NEW PRODUCTS

## KS KG-DROP REMOTE

This remote for drop bars complements the ergonomics of Shimano and SRAM levers. The KG-Drop is compatible with all KS droppers, along with any post employing an 8 to 12mm cable pull. It fits the left hand, and its slim, hinged bar clamp can be wrapped under the tape for a clean look.

**B1-504**



## HAFNY E-BIKE MIRRORS

The HF-M903L/R-FR01 handlebar mirror is available with multiple lenses. An unbreakable stainless steel lens is recommended for commuters; the HD automotive-grade glass lens is designed for high speed e-bikes; and an anti-glare blue option is great for sunny days. The body is made of durable fiber-reinforced nylon. Two pivot points allow easy adjustment.

**A6-217**



## M1 SPORTTECHNIK STERZING EVOLUTION E-BIKE

Available as a pedelec or speed-pedelec, this rowdy carbon fiber hardtail uses Sporttechnik's radical M1 split-tube design. Paired with the same data profile and replaceable battery system found on the brand's M1-Sporttechnik bike, it's now been significantly streamlined. With a stiff carbon frame, 650B + tires, and Fox suspension fork, it's ready for anything. **A1-408**



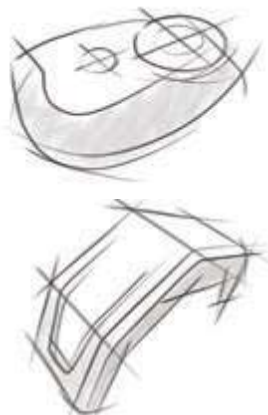
## YAMAHA PW SPEED

Yamaha enters the speed pedelec market with the PW Speed, a sister drive to its flagship PW-X2 system. The PW Speed relies on the same technologies and performance features, including Quad Sensor System and Automatic Support Mode. The rated power output is higher, at 350W. The PW Speed delivers support over a broader cadence range (up to 150 rpm), making it an interesting option for high-speed commuters. **FG-O-404**



## VELO INJECTION MOLDING CAPABILITY

Of interest to anyone commissioning OE parts, saddle maker Velo now offers a range of injection molding processes and can produce items from fairings to fenders to downtube protectors and chain guards, helping producers streamline their supplier list. Already active in the motorbike industry, Velo boasts over 40 years of experience in the sector. **A4-302**

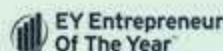


# JETZT PARTNER WERDEN & MITVERDIENEN

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# DAY 1 SNAPSHOTS



Spitzing Evolution by M1 Sporttechnik on the test track



Brose Drive S Mag in Hall A1



'Chocolate' enjoying EUROBIKE opening day



Networking Dinner, Edison Talk (from left): Martin Hahn, Winfried Hermann, Wolf-Henning Scheider, Klaus Wellmann



Shimano socks in Hall B5



Simplon Rapcon Pmax in Hall A3



Alpina helmets in Hall A4



Riese+Müller in Hall A6



Testing out a Pino from Hase-Bikes at the Demo Area test track



Start-up Day



Bringing a little color to the Blogger Base



Bosch eBike Cargo Line



Benno Bikes brought an Air Zermatt helicopter to their stand in Hall A1

## Career Opportunity

- **Benelux Sales Manager**  
Language Proficiency : Excellent Dutch and English
- **Digital Marketing Specialist**  
Language Proficiency : Excellent Dutch or German and English

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**Stanley Chien**  
Stanley.Chien@besv.com  
Welcome to BESV booth  
for more info (B2-304)



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EUROBIKE  
 A6-217

## TAIPEI CYCLE DELEGATION PREVIEWS 2020 TRADE SHOW

Taipei Cycle will be bigger and offer several new features for its 2020 edition, officials said Wednesday.

They gave a brief preview of the 2020 Taipei Cycle Show during a Eurobike press conference that showcased winners of the Taiwan Excellence Award.

"We will have over 4,000 booth spaces available, and we expect over 1,250 exhibitors, and over 8,000 overseas buyers and 15,000 domestic visitors," spokesman Ethan Liu said. Liu works for the exhibition department of **TAITRA [A5-233]**, the Taiwan government agency that organizes the trade show.

Taipei Cycle will be March 4-7, 2020, and for the first time will use all areas of the Nangang Exhibition Center, including all of Hall 1 and the new Hall 2.

Taipei Cycle is the "world's leading B2B gathering, and the gateway for brands to reach Asia-Pacific markets," Liu said.

He said the e-bike zone at Taipei Cycle is expected to grow by more than 50 percent in 2020. Organizers are adding a new Cycling Lifestyle zone that will focus on cycle travel, fashion and other lifestyle aspects.

Also new for 2020 is a Cycling Services area, which will include exhibitors in such areas as social media, training, and e-commerce.

"For the first time we will have a dedicated area for Bike Travel. This will cover travel advice and guided tours, logistics, insurance, and bike rental exhibitors. It's part of our effort to create a sustainable cycling culture," Liu said. "We are also setting up a Smart Cycling area and inviting players in smart devices, training apps, data management and smart manufacturing to join us."

In another first, Taipei Cycle will host a fashion show along with the Taipei Cycle+ Salon, a forum for cyclists and

industry members to share experiences. The salon will include talks on bike travel, industry best practices as well as a book and movie expo.

Another significant change involves the Outdoor Demo. Taipei Cycle will move the demo back to Nangang and will offer it over the four days of the show. In recent years, the show has hosted a one-day demo event at a riverside park that's some distance from Nangang.

Taiwan is the beating heart of the global bicycle supply chain. Manufacturers from the island nation produced more than 2.2 million bikes in 2018 and 286,000 e-bikes, a record high. Taiwan's leading bike and component makers also oversee factories in several other countries, including China, Vietnam, and Cambodia, and in Europe.

Meanwhile, the industry is undertaking extensive research into consumer preferences across age groups. Gina Chang, secretary general of the Taiwan Bicycle Association, presented a brief outline at Wednesday's press conference.

"Our aim is to make Taiwan the global center of the bicycle industry and we want to know what the user of the future will be like, so we need to segment the market in detail," Chang said. "We want to know more about Gen Y and Gen Z, the next generations of users. In order to succeed, we need to focus on market trends as well as product development."

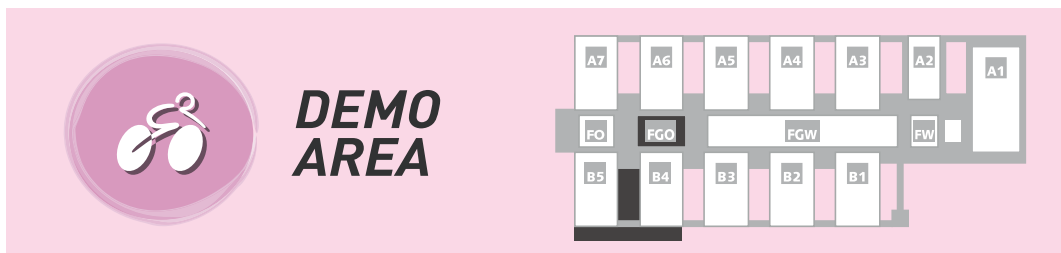
Taipei Excellence Award winners included a GPS bike computer from Bryton; an e-bike car carrier from BuzzRack; new tires from Kenda; 12-speed chains from KMC; and a new e-MTB from Merida. **TK**



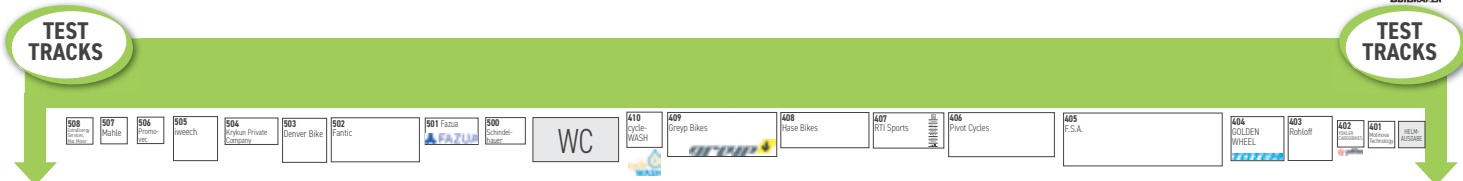
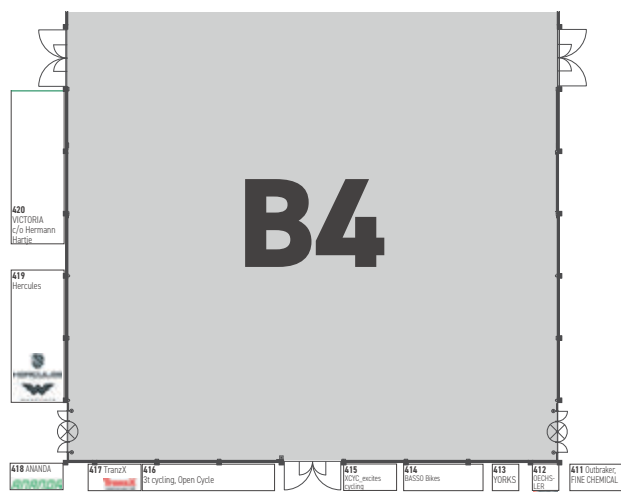
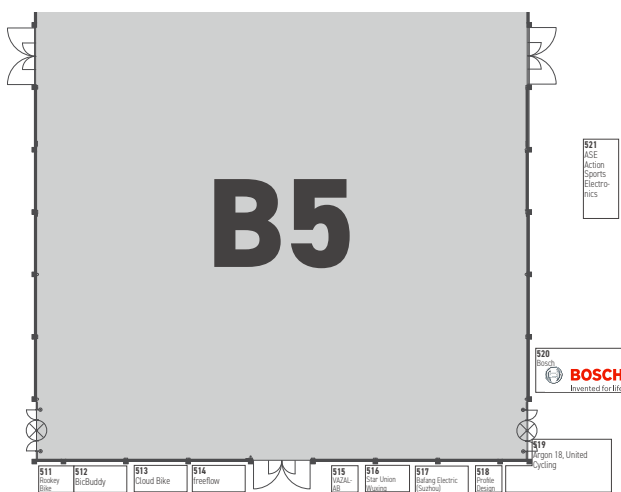
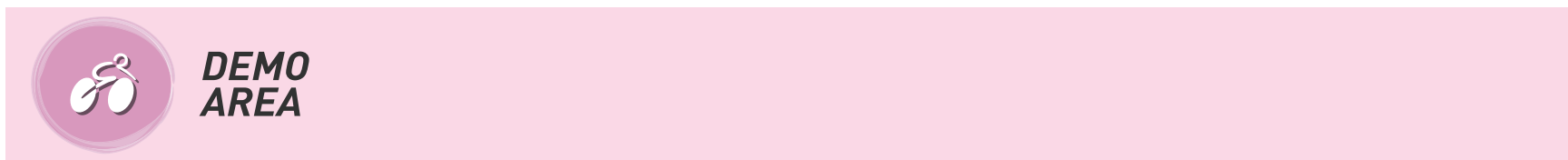
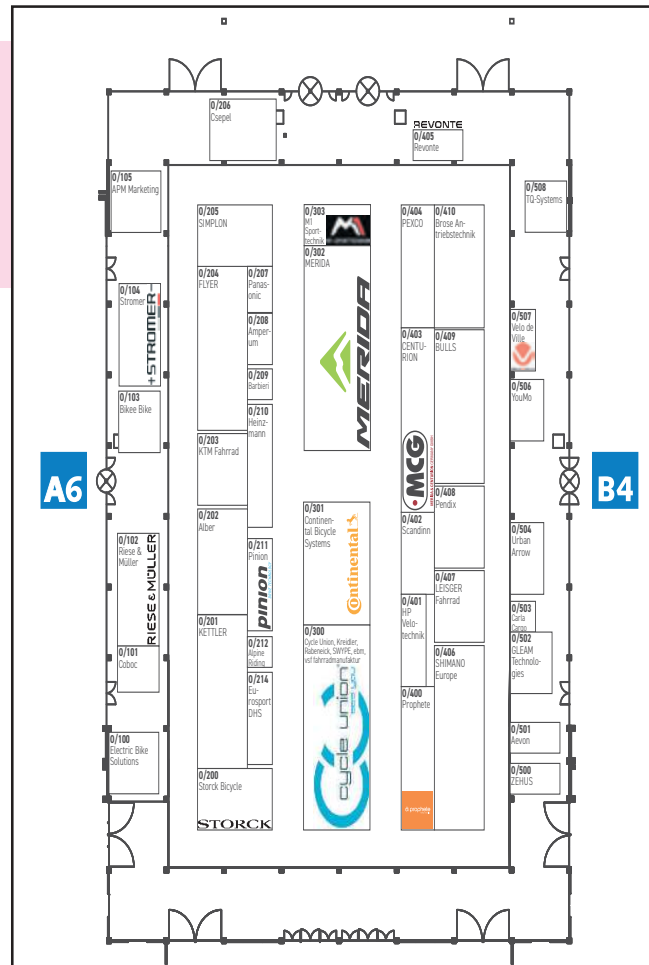
From left: Gina Chang, TBA; Pei-Shan Chiang, Bryton; Anthony Lai, Buzzrack; Hubert Hager, Kenda; Juergen Falke, Merida; Adrian Bleiler, KMC; and Lydia Chou, Taiwan Trade Center München.



# GUIDE TO EUROBIKE DEMO AREAS



COMPANY FIRMA	STAND	COMPANY FIRMA	STAND	COMPANY FIRMA	STAND
0/100	Electric Bike Solutions	0/211	Pinion	0/404	PEXCO
0/101	Coboc	0/212	Alpine Riding	0/405	Revonte
0/102	Riese & Müller	0/214	Eurosport DHS	0/406	SHIMANO Europe
0/103	Bikee Bike	0/300	Rabeneick	0/407	LEISGER Fahrrad
0/104	Stromer	0/300	vsf fahrradmanufaktur	0/408	Pendix
0/105	APM Marketing	0/300	ebm	0/409	BULLS
0/200	Storck Bicycle	0/300	Kreidler	0/410	Brose Antriebstechnik
0/201	KETTLER	0/300	Cycle Union	0/500	ZEHUS
0/202	Alber	0/300	SWYPE	0/501	Aevon
0/203	KTM Fahrrad	0/301	Continental Bicycle Systems	0/502	GLEAM Technologies
0/204	FLYER	0/302	MERIDA	0/503	Carla Cargo
0/205	SIMPLON	0/303	M1 Sporttechnik	0/504	Urban Arrow
0/206	Csepel	0/400	Prophete	0/506	YouMo
0/207	Panasonic	0/401	HP Velotechnik	0/507	Velo de Ville
0/208	Amperum	0/402	Scandinn	0/508	TQ-Systems
0/209	Barbieri	0/403	CENTURION		
0/210	Heinzmann				



COMPANY FIRMA	STAND
500	Schindelhauer
501	Fazua
502	Fantic
503	Denver Bike
504	Krykun Private Company
505	iweech
506	Promovec
507	Mahle
508	ExtraEnergy Services
508	Mac Motor

COMPANY FIRMA	STAND
511	Rookey Bike
512	BicBuddy
513	Cloud Bike
515	VAZALAB
516	Star Union Wuxing
517	Bafang Electric (Suzhou)
518	Profile Design
519	Argon 18, United Cycling
520	Bosch
521	ASE Action Sports Electronics

COMPANY FIRMA	STAND
401	Motinova Technology
402	YOKLER CARGOBIKES
403	Rohloff
404	GOLDEN WHEEL
405	F.S.A.
406	Pivot Cycles
407	RTI Sports
408	Hase Bikes
409	Greyp Bikes
410	cycleWASH
411	Outbraker

COMPANY FIRMA	STAND
411	FINE CHEMICAL
412	OECHSLER
413	YORKS
414	BASSO Bikes
415	XCYC_excites cycling
416	3t cycling
416	Open Cycle
417	TranzX
418	ANANDA
419	Hercules
420	VICTORIA c/o Hermann Hartje

# TRANSPORT GUIDE

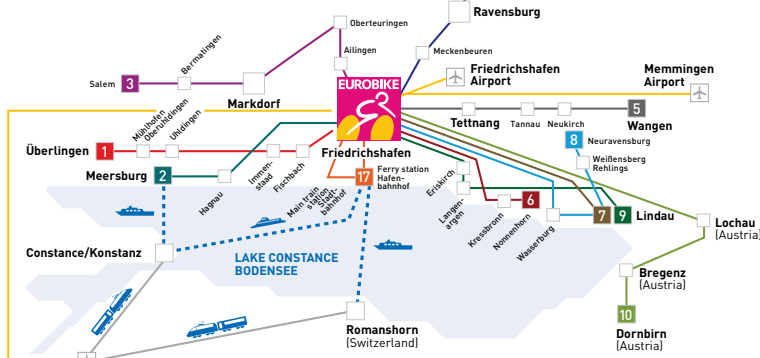
## EUROBIKE COMMUTER SERVICES

Whether you're arriving in Friedrichshafen by plane, ship or train, Eurobike offers many shuttles that bring you to the international hub of the bicycle world at Messe Friedrichshafen, and back again.

## HOTEL SHUTTLE NO STRESS AND NO COST

Take your time at breakfast. The Eurobike hotel shuttle will pick you up at your hotel, or close by. Ten shuttle lines connect the region between Dornbirn, Austria, in the east; Überlingen, Germany, in the west; and Weingarten, Germany in the north. There's no easier way to get to the show!

### Overview / Übersicht



\*bus stop / Bushaltestelle  
\*bus stops directly in front of the hotel / Bus fährt direkt ab Hotel

#### 1 Hotel Shuttle Überlingen - Uhlidingen - Immenstaad - Fischbach

##### ARRIVAL ENTRANCE EAST / ANKUNFT EINGANG OST

Bus Stop / Haltestelle	Tour 1	Tour 2
Überlingen/Andelshofen Hotel Johanniter Kreuz*	6:54	8:39
Überlingen ZOB*	6:59	8:44
Mühlhofen Hotel Kreuz*	7:12	8:57
Oberuhldingen Markt/Höhe Parkplatz*	7:18	9:03
Unteruhldingen Meersburgerstraße/		
Höhe Kreuzung Bergstraße*	7:21	9:06
Immenstaad Rathaus*	7:37	9:22
Immenstaad Airbus*	7:40	9:25
Fischbach Hotel Maier*	7:43	9:28
Friedrichshafen Hotel Fähr/Albrechtstraße*	7:49	9:34
<b>EUROBIKE Entrance East/Ankunft Eingang Ost</b>	<b>8:00</b>	<b>9:45</b>

##### DEPARTURE ENTRANCE EAST / ABFAHRT EINGANG OST

Departure Entrance East/Abfahrt Eingang Ost	Time
Wed - Sat/Mi - Sa 4.9. - 7.9.	18:30

#### 2 Hotel Shuttle Meersburg - Hagnau

##### ARRIVAL ENTRANCE EAST / ANKUNFT EINGANG OST

Bus Stop / Haltestelle	Tour 1	Tour 2
Meersburg ferry station/Fähranleger*	7:30	9:00
Meersburg Kirche*	7:33	9:03
Meersburg Sabahaus/ gegenüber der Agis Tankstelle*	7:35	9:05
Hagnau Mitte/Höhe Fußgängerampel*	7:39	9:09
<b>Arrival Entrance East/Ankunft Eingang Ost</b>	<b>8:00</b>	<b>9:30</b>

##### DEPARTURE ENTRANCE EAST / ABFAHRT EINGANG OST

Departure Entrance East/Abfahrt Eingang Ost	Time
Wed - Sat/Mi - Sa 4.9. - 7.9.	18:30

#### 3 Hotel Shuttle Salem - Bermatingen - Markdorf - Oberteuringen -

##### ARRIVAL ENTRANCE EAST / ANKUNFT EINGANG OST

Bus Stop / Haltestelle	Tour 1	Tour 2
Salem Hotel Schwane*	7:11	8:41
Salem Hotel Reck*	7:16	8:46
Salem Hotel Apfelmühle*	7:18	8:48
Bermatingen Markdorferstraße/Höhe Hausnr. 9*	7:23	8:53
Markdorf Bahnhofstraße/Reisebüro Lippmann*	7:28	8:58
Markdorf Hotel Wirthshof*	7:33	9:03
Oberteuringen Hotel Adler*	7:41	9:11
Allingen Hauptstraße/Höhe Hellers Twenty Four*	7:49	9:19
Allingen Rathaus*	7:51	9:21
<b>Arrival Entrance East/Ankunft Eingang Ost</b>	<b>8:00</b>	<b>9:30</b>

##### DEPARTURE ENTRANCE EAST / ABFAHRT EINGANG OST

Departure Entrance East/Abfahrt Eingang Ost	Time
Wed - Sat/Mi - Sa 4.9. - 7.9.	18:30

#### 4 Hotel Shuttle Weingarten - Ravensburg - Meckenbeuren

##### ARRIVAL ENTRANCE EAST / ANKUNFT EINGANG OST

Bus Stop / Haltestelle	Tour 1	Tour 2
Weingarten post office/Post*	7:17	8:47
Weingarten Charlottenplatz/Höhe Best Western*	7:20	8:50
Weingarten Linde*	7:21	8:51
Ravensburg Marienplatz/Busbahnhof*	7:30	9:00
Meckenbeuren sports ground/Sportplatz Lenbachstraße	7:41	9:11
Meckenbeuren Hotel Wiesental*	7:42	9:12
Meckenbeuren Buch/Kreuzung Max-Eyth-Straße*	7:43	9:13
<b>Arrival Entrance East/Ankunft Eingang Ost</b>	<b>8:00</b>	<b>9:30</b>

##### DEPARTURE ENTRANCE EAST / ABFAHRT EINGANG OST

Departure Entrance East/Abfahrt Eingang Ost	Time
Wed - Sat/Mi - Sa 4.9. - 7.9.	18:30

#### 5 Hotel Shuttle Wangen - Neukirch - Tannau - Tettng

##### ARRIVAL ENTRANCE EAST / ANKUNFT EINGANG OST

Bus Stop / Haltestelle	Tour 1	Tour 2
Wangen Hotel JUFA*	7:00	8:45
Wangen Bahnhof*	7:05	8:50
Neukirch Rathaus*	7:23	9:08
Tettng Tannau*	7:30	9:15
Tettng Bärenplatz*	7:35	9:20
Tettng Seestraße/Höhe Kreisverkehr*	7:37	9:22
<b>Arrival Entrance East/Ankunft Eingang Ost</b>	<b>8:00</b>	<b>9:45</b>

##### DEPARTURE ENTRANCE EAST / ABFAHRT EINGANG OST

Departure Entrance East/Abfahrt Eingang Ost	Time
Wed - Sat/Mi - Sa 4.9. - 7.9.	18:30

#### 6 Hotel Shuttle Nonnenhorn - Kressbronn

##### ARRIVAL ENTRANCE EAST / ANKUNFT EINGANG OST

Bus Stop / Haltestelle	Tour 1	Tour 2
Nonnenhorn Hotel Zum Torkel*	7:25	8:55
Nonnenhorn Hotel Haus am See*	7:30	9:00
Kressbronn Seehotel Nonnenhorn Straße*	7:32	9:02
Kressbronn Rathaus/Hauptstraße*	7:35	9:05
Gohren Langenangerstraße/Höhe Hausnr. 52*	7:40	9:10
<b>Arrival Entrance East/Ankunft Eingang Ost</b>	<b>8:00</b>	<b>9:30</b>

##### DEPARTURE ENTRANCE EAST / ABFAHRT EINGANG OST

Departure Entrance East/Abfahrt Eingang Ost	Time
Wed - Sat/Mi - Sa 4.9. - 7.9.	18:30

#### 7 Hotel Shuttle Lindau Island / Insel

##### ARRIVAL ENTRANCE EAST / ANKUNFT EINGANG OST

Bus Stop / Haltestelle	Tour 1	Tour 2
Lindau Bahnhof/Island/Insel*	7:12	8:47
Lindau Casino/Spielbank*	7:15	8:50
<b>Arrival Entrance East/Ankunft Eingang Ost</b>	<b>8:00</b>	<b>9:35</b>

##### DEPARTURE ENTRANCE EAST / ABFAHRT EINGANG OST

Departure Entrance East/Abfahrt Eingang Ost	Time
Wed - Sat/Mi - Sa 4.9. - 7.9.	18:30

#### 8 Hotel Shuttle Neuravensburg - Weißenberg - Lindau - Wasserbur

##### ARRIVAL ENTRANCE EAST / ANKUNFT EINGANG OST

Bus Stop / Haltestelle	Tour 1	Tour 2
Neuravensburg Schwarzenbach/ Bodenseestraße Einmündung Moeweiler Straße*	6:59	8:34
Neuravensburg Gasthof Hirschen*	7:02	8:37
Weißenberg/Bayerischer Hof*	7:09	8:44
Lindau-Reutin Rathaus*	7:12	8:47
Lindau Berlinerplatz/Lindaupark*	7:14	8:49
Lindau Aeschacher Markt*	7:17	8:52
Bad Schachen Kreuzung Schachenr./Badstr.*	7:25	9:00
Wasserburg Bahnhof*	7:35	9:10
<b>Arrival Entrance East/Ankunft Eingang Ost</b>	<b>8:00</b>	<b>9:35</b>

##### DEPARTURE ENTRANCE EAST / ABFAHRT EINGANG OST

Departure Entrance East/Abfahrt Eingang Ost	Time
Wed - Sat/Mi - Sa 4.9. - 7.9.	18:30

#### 9 Hotel Shuttle Lindau - Oberdorf - Langenargen - Eriskirch

##### ARRIVAL ENTRANCE EAST / ANKUNFT EINGANG OST

Bus Stop / Haltestelle	Tour 1	Tour 2
Lindau Casino/Spielbank*	7:15	8:50
Langenargen Oberdorf/Höhe Hausnr. 22*	7:30	9:05
Langenargen Markt/Höhe Engel*	7:40	9:15
Eriskirch Moos Hotel St. Theresia*	7:50	9:25
<b>Arrival Entrance East/Ankunft Eingang Ost</b>	<b>8:00</b>	<b>9:35</b>

##### DEPARTURE ENTRANCE EAST / ABFAHRT EINGANG OST

Departure Entrance East/Abfahrt Eingang Ost	Time
Wed - Sat/Mi - Sa 4.9. - 7.9.	18:30

#### 10 Hotel Shuttle Dornbirn (Austria) - Bregenz (Austria) - Lochau (Austria)

##### ARRIVAL ENTRANCE EAST / ANKUNFT EINGANG OST

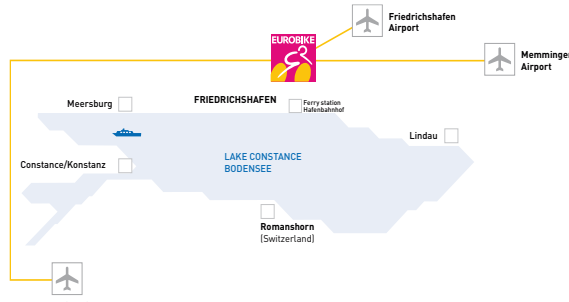
Bus Stop / Haltestelle	Tour 1	Tour 2
Dornbirn Rathaus (Marktplatzseite)*	6:30	8:50
Dornbirn Sägerei* (Zustieg für Gäste Hotel Bischof, Hotel Krone)	6:33	8:53
Dornbirn Messkreuzung (KIKI/gegenüber Sheraton)*	6:35	8:55
Bregenz Hotel Deutschmann*	6:55	9:15
Bregenz Bahnhofplatz*	7:00	9:20
Bregenz Kreuzverkehr/Höhe Sutterlity*	7:05	9:25
Lochau Seehotel am Kaiserstrand*	7:10	9:30
Lindau Hotel Marina Star*	7:17	9:37
<b>Arrival Entrance East/Ankunft Eingang Ost</b>	<b>7:45</b>	<b>10:05</b>

##### DEPARTURE ENTRANCE EAST / ABFAHRT EINGANG OST

Departure Entrance East/Abfahrt Eingang Ost	Time
Wed - Sat/Mi - Sa 4.9. - 7.9.	18:30

All timetables are also available on [www.eurobike.com](http://www.eurobike.com) (Info Center) or the **EUROBIKE app** **naviki App**: Use the free navigation app for Android and iPhone. naviki will always show you the best cycling route to the EUROBIKE. More information: [www.eurobike.com](http://www.eurobike.com)

## AIRPORT SHUTTLE



#### Airport Shuttle Airport/Flughafen

##### ARRIVAL ENTRANCE EAST / ANKUNFT EINGANG OST

Bus Stop / Haltestelle	From/Von	Till/Bis
Airport/Flughafen	8:00	every/alle 30 min
EUROBIKE Entrance East/Eingang Ost	8:10	11:10
Airport/Flughafen	11:00	every/alle 60 min
EUROBIKE Entrance East/Eingang Ost	11:10	15:10
Airport/Flughafen	15:00	every/alle 30 min
EUROBIKE Entrance East/Eingang Ost	15:10	18:40

##### DEPARTURE ENTRANCE EAST / ABFAHRT EINGANG OST

Departure Entrance East/Abfahrt Eingang Ost	From/Von	Till/Bis
EUROBIKE Entrance East/Eingang Ost	8:15	every/alle 30 min
Airport/Flughafen	8:25	11:25
EUROBIKE Entrance East/Eingang Ost	11:15	every/alle 60 min
Airport/Flughafen	11:25	15:25
EUROBIKE Entrance East/Eingang Ost	15:15	every/alle 30 min
Airport/Flughafen	15:25	18:55

#### Zürich Airport/Flughafen - EUROBIKE

##### DEPARTURE ZÜRICH / ABFAHRT ZÜRICH

3.9.	8:00*	9:00	10:00	11:00	13:30	16:00
4.9.	7:30	8:00*	9:00	10:00	11:00	13:30
5.9.	7:30	8:00*	9:00	10:00	11:00	14:30
6.9.	7:30	8:00*	9:00	11:00	14:30	
7.9.	8:00*	9:00				

##### DEPARTURE ENTRANCE WEST / ABFAHRT EINGANG WEST

3.9.		17:00	19:00**
4.9.		16:00	18:00
5.9.	14:00	15:00	16:00
6.9.	14:00	15:00	16:00
7.9.	14:00	15:00	16:00

#### Memmingen Airport/Flughafen - EUROBIKE

##### DEPARTURE / ABFAHRT MEMMINGEN

3.9.	8:30	9:00	10:00	10:30	13:30	15:30	16:00
4.9.-7.9.	8:30						

##### DEPARTURE ENTRANCE EAST / ABFAHRT EINGANG OST

4.9.-7.9.	7:00	9:00	12:00	14:00	17:00
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##### DEPARTURE ENTRANCE WEST / ANKUNFT EINGANG WEST

Bus Stop / Haltestelle	From/Von	Till/Bis
Main train station/Stadtbahnhof	8:10	Takt: 10/20/35/50
EUROBIKE Entrance/Eingang West	8:21	Takt: 21/41/54/01
Ferry station/Hafenbahnhof	8:00	Takt: 00/10/40
EUROBIKE Entrance/Eingang West	8:10	Takt: 10/20/50
Ferry station/Hafenbahnhof	13:10	Takt: 00/10/20/30/40/50
Main train station/Stadtbahnhof	13:16	Takt: 06/16/26/36/46/56
EUROBIKE Entrance/Eingang West	13:27	Takt: 11/21/31/41/51/01
Ferry station/Hafenbahnhof	18:50	Takt: 10/20/50
Main train station/Stadtbahnhof	18:56	Takt: 14/24/34/44/54
EUROBIKE Entrance/Eingang West	19:07	Takt: 27/47/07

##### DEPARTURE ENTRANCE WEST / ABFAHRT EINGANG WEST

Bus Stop / Haltestelle	From/Von	Till/Bis
EUROBIKE Entrance/Eingang West	8:15	Takt: 15/21/31/55
Main train station/Stadtbahnhof	8:25	Takt: 25/32/47/05
EUROBIKE Entrance/Eingang West	8:26	Takt: 02/24/45/50
Ferry station/Hafenbahnhof	8:34	Takt: 10/34/53/58

EUROBIKE Entrance/Eingang West	From/Von	Till/Bis
Ferry station/Hafenbahnhof	13:09	Takt: 09/19/29/39/49/59
Main train station/Stadtbahnhof	13:15	Takt: 15/25/35/45/55/05
EUROBIKE Entrance/Eingang West	19:20	Takt: 20/40/60
Ferry station/Hafenbahnhof	19:29	Takt: 29/49/69
Main train station/Stadtbahnhof	19:35	Takt: 35/55/15

\*fährt nur am So

## FREE RENTAL BIKES

Visitors and exhibitors can make their way to the exhibition center easily and quickly on bike. And the best thing about the bike rental service: it's free. For more details, see [www.eurobike.com/en/your-visit/arrival/bicycle](http://www.eurobike.com/en/your-visit/arrival/bicycle)

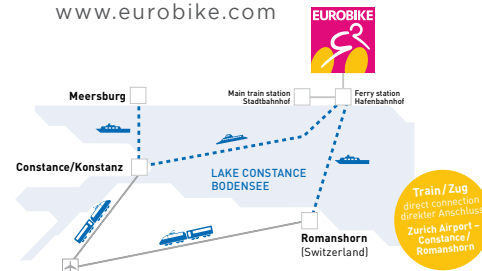
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The bikes can be used free of charge 03/09/19 - 07/09/19.

## AIRPORT, TRAIN & FERRY SHUTTLES

At left is a table for bus shuttles running from several airports and back. Memmingen Shuttle Booking at Foyer East. Zurich Shuttle Booking at Foyer West. Online booking: [www.eurobike.com](http://www.eurobike.com)



## FERRY SERVICES

You can also reach Eurobike by ferry across beautiful Lake Constance. The Lake Constance ferry ("Bodenseefähre") connects Konstanz, southwest of Lake Constance, with Meersburg, east of Friedrichshafen. Or you take the catamaran from Konstanz directly to Friedrichshafen. Finally there is also a connection between Romanshorn, Switzerland, south of Lake Constance, to Friedrichshafen. Below are the schedules.

#### FERRY/BODENSEEFÄHRE Konstanz Stadt/Konstanz Stadt - Meersburg

##### DEPARTURE / ABFAHRT

Departure Konstanz/Abfahrt Konstanz	From/Von	Till/Bis
	00:05	Takt: 05 04:05
	05:05	Takt: 05/35/50/50* 05:50
	06:0	



**Stadtplan**  
Map of town · Plan de la ville  
Pianta della città

- Zeichenerklärung**
- Parkhaus
  - Parkplätze
  - Stad- und Hafenhof
  - zentrale Bushaltestellen
  - WC (behindertengerecht)
  - Bank
  - Supermarkt
  - Campingplatz
  - Freibad
  - Hallenbad
  - Kirchen / Kapellen
  - Wohnmobil-Stellplatz
  - Wanderweg
  - Fahrradroute

0 100 250 500 m

**Audioguide Friedrichshafen**  
Interaktive Stadtführung für Kinder und Erwachsene – einfach per Smartphone. Studenten der Zeppelin Universität erzählen spannende Geschichten über Friedrichshafen. Unbedingt anhören unter [audioguide.friedrichshafen.de](http://audioguide.friedrichshafen.de)

**Tourist-Information Friedrichshafen**  
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NECO  
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CHINA  
PAT.



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**8**



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INNOVATIVE

NEW

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FRONT LOCK

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lock design.



**BOOTH  
A5-403  
2019**



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135 cassette

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**11**

USB PARTS

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Traditional Sturdy Parts

Wenn das E-BIKE keinen Strom hat, kann es 4  
Stunden lang beleuchten.



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INNOVATIVE

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