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THURSDAY



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**WHAT'S ON TODAY | EXHIBITOR NEWS
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**HALL 12.1
BOOTH B12**



— NEW FRAME CONCEPTS 2022 —



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Hall 9.0/B15

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NÜTZLICHE INFORMATIONEN FÜR BESUCHER

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BRANDS HIDE APPLE AIRTAGS IN PLAIN SIGHT



AirBell

Bike theft has given some inventive brands an opportunity to help solve crime. By concealing Apple AirTags in small parts that can be securely mounted to the frame, bike owners can track their bike if it's been stolen. An AirTag is a tracking device to help people find personal objects via Apple's crowdsourced "Find My" app using Bluetooth technology. Critics of AirTags point out that Bluetooth doesn't always work in specific environments, which

negates the benefits, but most people would agree that getting your bike ripped off is far worse than temporarily losing connectivity.

These brands have each created a solution for discreetly mounting an AirTag somewhere on your bike where would-be thieves wouldn't think to look.

Knog's (12.0 / C06) Scout Bike Alarm & Finder has bundled the AirTag, mounting hardware, and proprietary Knog Mobile app all in



Travis Rich with Knog Scout

one for €60. The Scout, which is a little larger than a pack of gum, fits between the bottle cage and frame and is secured using tamper-proof security screws. The 22-gram device has an 85-decibel audio alarm that's triggered by any subsequent movement once the alarm is engaged.

"The alarm sensitivity can be controlled by the app," explained Travis Rich, sales director for Knog, "so if you're at a café for instance – where the bike might be around a lot of people, you can adjust the sound so that if the bike is moved, you'll be alerted but the alarm won't sound."

Apple's Find My is integrated into the app so that tracking the bike is seamless from within the Knog mobile environment.



Klickfix FindMe

Messingschlag (12.1 / B12) is the exclusive supplier of AirBell, which looks like a basic commuter bike bell with metal upper and fiber reinforced plastic lower but which hides an AirTag in between the bell and the mount. The device can be mounted on 22 mm or 31.8 mm handlebars using a special tool that comes with the AirBell. The suggested price is for the AirBell is €25; the user will need to purchase an AirTag separately.

FindMe by Klickfix, manufactured by **Rixen & Kaul, (12.1 / C05)** is simply an injection-molded mount that fits between the bottle cage and the frame and is attached with a proprietary tool and screws. Same as the AirBell, the FindMe is sold without an AirTag. Suggested price is €19.95. ■ **WB**

EUROBIKE BUSINESS TALK GERMAN MARKET CONTINUES TO THRIVE DESPITE CHALLENGES

At the Eurobike Business Talk held Tuesday, a high-profile podium discussed current trends and challenges in the bicycle industry. ZIV's general manager Burkhard Stork and local bicycle dealer Alexander Friedrich gave some interesting insights from the perspective of German manufacturers and retailers.

At the first Eurobike Business Talk held in Frankfurt am Main, topics under discussion naturally included the impact of the pandemic in Asia, Russia's war against Ukraine, and the resulting supply chain pressure and inflation. As the general manager of Germany's **Zweirad Industrie Verband (ZIV, 8.0 / I12a)**, Burkhard Stork looked back at 2021 and pointed to the fact that the domestic production of e-bikes surpassed conventional bicycles, with 1.4 million e-bikes and 0.9 million conventional bicycles produced that year. As for the first two quarters of 2022, the production of both categories was only slightly lower despite the fact that none of the issues faced in 2021 have disappeared.

"Given the challenges the German

bicycle industry has been facing in 2021 – mainly squeezed supply chains, delays in sea freight and a lack of both components and skilled workers – this is a great performance that also contradicts media reports of a dried-up market and a lack of products in the shops. Regarding the sales of bicycles and e-bikes in 2022, we expect a slight drop in numbers, but not in turnover. The reason for this is that leasing models help to sell expensive models, while the lower price segments suffer from the currently low consumer confidence. As a result the average price of bicycles sold is on the rise. In short, cheap bikes are standing still while expensive bikes forge ahead", Stork explained in his presentation.



The podium at Eurobike Branchengespräch (left to right) with Bob Margevicius, Burkhard Stork, Alexander Friedrich, Gina Chang and host Stefan Reisinger.

As the general manager of Per Pedale, a group of three bicycle stores in Frankfurt, Alexander Friedrich echoed this observation: "The lower the price, the higher the sensitivity for the current price hikes. But since the products we sell have improved a lot in recent years, it's easier to explain those higher prices. One thing I like about the bicycle industry is the direction it is going as of late: less fringe, less ideological and more professional – and yes, mainstream." The electrification of the bicycle

certainly has been a driving force in this, but it comes at a price for retailers, as Alexander Friedrich explains: "Since the average value of the bicycles sold is increasing, the turnover is growing but so is the need for capital to finance pre-orders. Due to this, a certain size is necessary for IBDs to survive."

When asked about the outlook, ZIV's Burkhard Stork expected more price hikes at all price levels and no return to a normal state of the supply chains for the next 18 months. ■ **LvR**

VOX POP

How is the new venue and concept?



Matej Macinja
Industrial designer
& **Adam Stasek**
Mechanical engineer, Slovakia

Matej: I liked the festival atmosphere at the old show. Now it's more like an automotive show, probably because it's in a big city.

Adam: In Friedrichshafen there was a camping area, many people stayed there, and it was fun after closing hours.

Adam: It was easier to get an overall impression of the fair in Friedrichshafen. You could just walk from hall one to six, it was easy to get your bearings, it was all on the same floor. Now you're going left and right and across, up and down.

Matej: Mind you, it's just the first day, maybe we'll get used to it.



Silvio Burzio
Marketing director, RMS, (with Francesco Mantovani, product specialist at RMS), Italy

Friedrichshafen or Frankfurt, my opinion has not changed, that July is not the perfect moment for Eurobike. September would be a much better time. I also think that the first model was the good mix, to have one or two demo days in another location, to focus on testing bikes, and then two business days. We have a full agenda, so to have such a big area is a problem for us. Walking from one side to the other, it's

good for our fitness, not for our business. But it's important to be here. There's a good vibe, everybody wants to meet, suppliers say they have a lot of meetings, there are many new opportunities.



Nick Balla
Product manager, Flyer, Switzerland

For the logistics, two thumbs up for Frankfurt. We're from Switzerland, so for us the trip is longer, but for everybody else it's a huge improvement. In Friedrichshafen, it was easier to find where you're going. You could walk from one hall to the other or cut across to see as much as possible. You could use your transit time to look at things. Now you could walk several minutes in the corridors, there's nothing there, it looks like an airport. I miss the information points, and the signage isn't great. But still, I wouldn't move the location again for that.



Natacha Bivel
Lecyclo.com, France

We have been going to Eurobike since 2016, it was fun and maybe a little bit of a family atmosphere. Now it's taken another dimension. It's big, and I was a bit scared that we would lose the atmosphere, but I think it's great. We can talk to all our partners, and it's a lot more comfortable. It was easy for us to travel to Frankfurt, eight hours on the train from Marseille, we didn't even have to transfer in Paris. Then we had a free transport ticket, it took us just twenty minutes on the subway.



Guido Kunze
Freizeitfabrik Guido Kunze, Germany

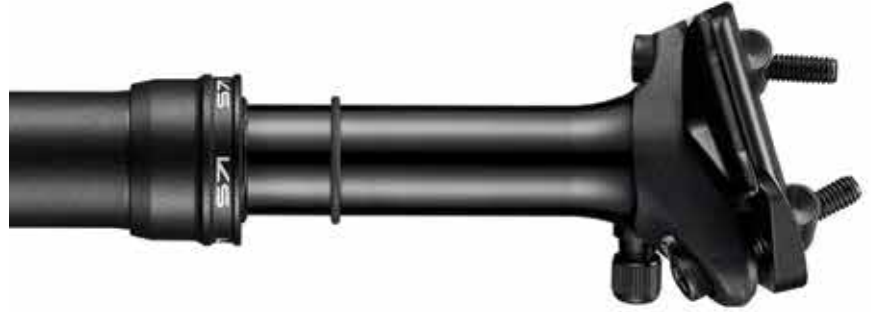
There's room for improvement. There's too much walking distance, I do find it tiresome. It's almost like the car show. In Friedrichshafen it was easier to find your way, with just two rows of halls and events in the middle, the layout was very clear. The pricing is problematic as well. Some other retailers used to take their entire team to the show, it was like a company outing. They brought a whole contingent. Now they wouldn't do that anymore, it's not affordable. But of course, the location is much more central, and

it's more comfortable. There's more space, the air conditioning works well and there's a nice choice of food and drink.



Birgit Greif
Winora, Germany

The show is bigger, there are long distances, it's another atmosphere. In Friedrichshafen it was more sporty, there was a nice combination with vacations at the beautiful lake there. Here's it's a bit colder. But it's very interesting to see all these exhibitors and the organization is wonderful.



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CYCLING INDUSTRIES EUROPE

EUROPEAN INDUSTRY PREPARES SUSTAINABILITY STRATEGY

Cycling Industries Europe (CIE) and Conebi are aiming to draft a full sustainability strategy with specific targets for each of their priorities ahead of the next Eurobike, with broader support from industry stakeholders.

Participants at the sustainability breakfast organised by the two groups at Eurobike yesterday heard that some companies have made substantial investments to tackle issues around corporate and social responsibility (CSR) and sustainability. But European industry organisations have been relatively slow in getting joint efforts off the ground – compared with industries such as fashion and the outdoor sector.

“We don’t have the time and we don’t have the luxury that our individual companies and associations and organisations and initiatives do their own individual CSR approaches,” said Alexander Thun, chairman of the CIE/Conebi expert group on CSR and sustainability. “When it comes to CSR, competitive advantage was yesterday. Nowadays, CSR is all about cooperation,” he added.

In a quick poll at the well-attended breakfast, virtually all participants agreed that cycling is sustainable, but only 7% thought that the industry itself is sustainable.

Upcoming European legislation is another motive for urgency.

Launched about two years ago, the expert group defined a mission to lead by example “with products and services designed, produced, used and re-used responsibly.”

The group started taking concrete action with a sustainable packaging pledge. About 80 bicycle companies have signed up, to make sure that they use more recycled and reusable packaging.

CIE and Conebi have created three priority groups, working on a responsible supply chain, carbon emissions and lifecycle assessment, and the circular economy. Another priority group working on a sustainability strategy for the European industry was created earlier this year. Thun said it could finalise concrete targets in the next six to nine months, provided it gets broad-based support.

Robbert de Kock, president of the World Federation of the Sporting Goods Industry (WFSGI), urged the European industry not to reinvent the wheel, and to take advantage of existing resources developed by the organisation and others.

Thun said he is eager to work



together with the WFSGI, People for Bikes and others, to avoid duplication and make faster progress.

Participants heard repeatedly that they should not be intimidated by the complexity of the task – they could start with small steps, like removing paper cups at the coffee machine, just to get their company in green motion.

Louisa Holbrook, head of sustainability at Brompton Bicycle, provided a concrete example of measuring

the impact of packaging, and finding solutions to reduce it.

Luuk de Leeuw, quality and innovation manager at Swapfiets, was on hand to outline the sustainable aspects of the Dutch company’s business model.

Alec Seaman, head of sustainability for the Bicycle Association of Great Britain, was appointed yesterday as vice chairman of the CIE and Conebi sustainability expert group. ■ BS

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NORWAY'S SASSY PODBIKE READY FOR PRODUCTION



Podbike (F12.0/F23a) has raised nearly €1.37 million on Crowdcube to start production of its four-wheel bike with full weather protection and electric assistance.

“Cute” and “neat” were some of attributes heard from visitors as they spotted the Podbike Frikar at Eurobike yesterday. The rounded white design has the appearance of a pod on wheels, with a top that smoothly slides backwards to allow for entry.

Janet Jørmeland, the Norwegian company’s marketing manager, said the Podbike Frikar will go into production through a German partner in the next few weeks, and start deliveries in Norway and Germany. The firm already has more than 3,600 pre-orders for the vehicle, which is priced at about €7,500.

Jørmeland explained that the Podbike was created by Per Hassel Sørensen after an accident on his bicycle. “He ordered a velomobile kit

but quickly realized that he needed power assist, and protection from the weather,” Jørmeland said.

Sørensen added a fourth wheel for stability, to make sure that the vehicle could be widely used to replace cars as a means of transportation.

The electric assistance provides a speed of up to 25 kms per hour, and the battery has a range of 50 to 80 kms.

As Jørmeland explains, the Podbike Frikar was built in such a way that it can be used as a bicycle, without any need for a license.

“It’s a bike – it’s just a more comfortable and fun bike,” said Jørmeland.

A Norwegian engineer, Sørensen wrote a master thesis at the university of Stavanger on ways to get more people to use bicycles instead of cars.

The Crowdcube campaign was based on a pre-money valuation of about €12.45 million. ■ BS



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48V 750W



M080MD
36V 250W/350W



M158RH
48V 750W



Front / Rear / Fat Bike Motor 250W~750W 36V/48V



Controller 36V/48V



Color screen panel



LCD control panel

BOSCH EBIKE SYSTEMS

SMART SYSTEM TECHNOLOGY TO BECOME MORE AFFORDABLE

Before the show, Bosch eBike Systems (12.0/A13) had announced a new anti-theft function and a much more compact second-generation ABS system. Both only work with the Smart System that thus far has been the top offering of the brand. On Tuesday, the company revealed the technology will trickle down to lower price points for 2023.

When Bosch eBike Systems launched the next generation Smart System of its drive systems at last year's Eurobike, it was offered only as an ecosystem of its own in one configuration, with the Performance Line CX mid-motor, a Powertube battery with 750 Wh capacity and a Kiox 300 display. This positioned the Smart System at the very top of the range from Bosch eBike Systems. Thus the additional possibilities in terms of connectivity and added functions to Bosch's Flow App were only available for those affluent enough to opt for a top-of-the-range e-bike. At the same time, Bosch stressed that its second-generation ABS system only worked with the Smart System.

At a presentation on Tuesday, Bosch announced a major expansion for 2023, giving bicycle manufacturers options to bring this novel technology to lower price points and to all kind of bicycles with electric assistance. Given the constraint in supplies of electronic components, rolling out the new firmware in small numbers as the very top of the range turned out

to be a smart decision by Bosch. But this will change for 2023 as the novel technology that is not compatible with older systems is trickling down to more offerings of the market leader in mid-motors, covering various uses and needs.

In addition to the Performance Line CX, the Smart System will now also be available for the more affordable Performance Line unit, the Performance Line Speed unit for speed pedelecs and the Cargo Line mid-motors. With the Intuvia 100, there will be a simpler and more affordable choice for the display as well. For all e-mountainbikers who felt the Smart System remote control was too exposed on the handlebar, Bosch adds a System Controller that can be built into the top tube and offers just two functions – on/off and support mode, with a Mini Remote on the handlebar for navigating through the screens on the display.



The choice of battery offerings for the Smart System also gets much wider: as for the integrated Powertube battery, Bosch eBike Systems adds two smaller options with 500 Wh and 625 Wh respectively. This is a welcome addition for manufacturers

prioritizing weight over maximum range. And since cargo bikes, recumbents and trikes often rely on the external Powerpack batteries, these will also become available for the Smart System with either 545 Wh or 725 Wh capacity. ■ LVR



TRELOCK DEBUTS VEHICLE-TO-X COMMUNICATION

Trelock (12.1 / C01) has one-upped the "see and be seen" function of bicycle lights by entering the field of "vehicle-to-X" communication. Street Screen Technology transforms the road into a screen for projecting a wide variety of visual content, like directional arrows and dangers symbols, plus reminds the rider to lock the bike or wear a helmet. It can also warn about black ice and project brand logos.

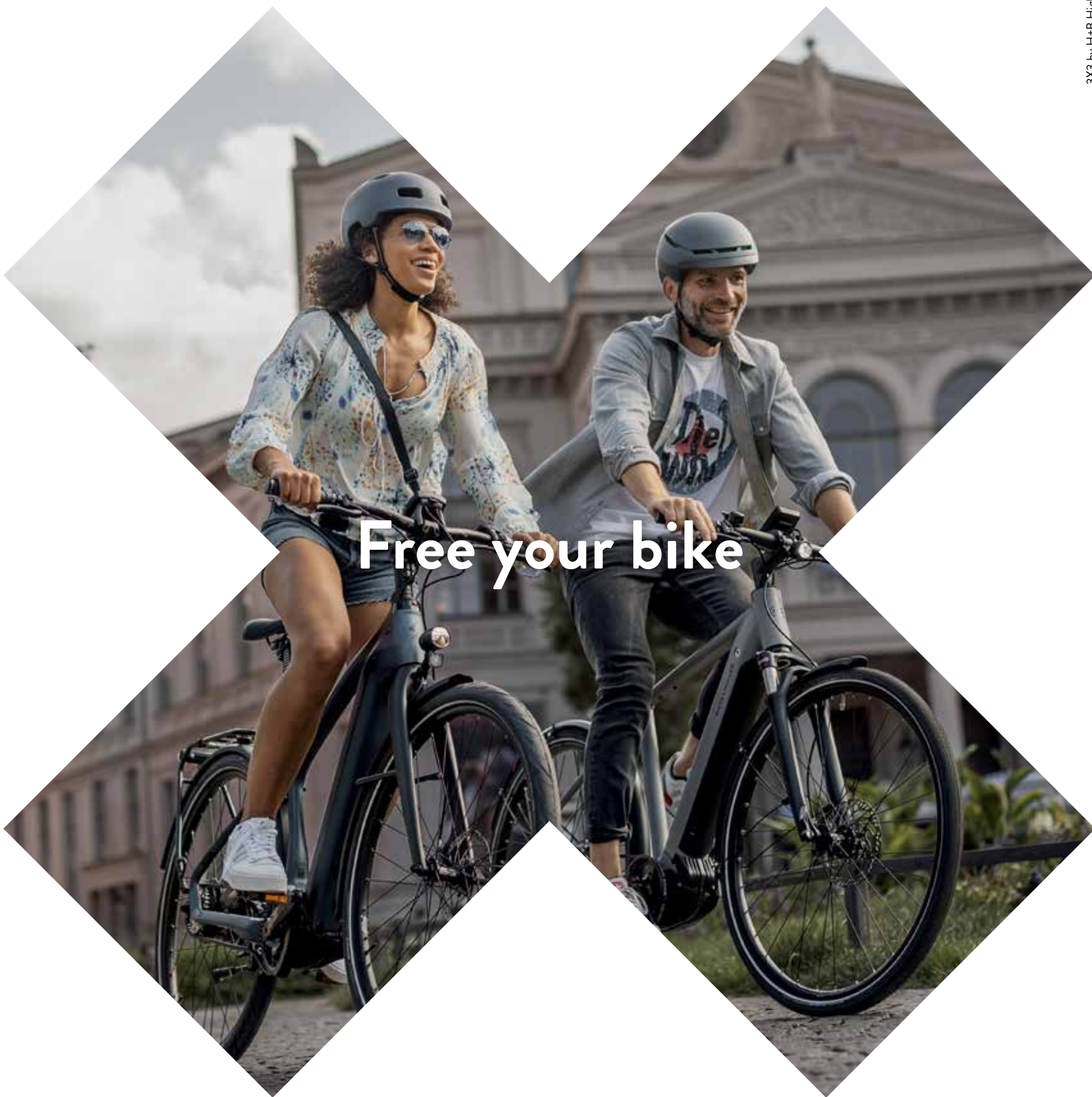
The technology is integrated into a handlebar light that's intended as an OEM product for the premium e-bike segment. It's based on a tiny module with thousands of small moving micromirrors, which create high-resolution animated images or videos that can then be projected onto the road. The light acts as a monitor with input coming from devices connected

with the e-bike, and projects both the bike's and rider's preferred metrics, like battery level and heartrate.

As present, the new lighting concept is being presented to the bicycle industry for the first time here at Eurobike with the goal to open up further exchange and possible collaborations. When and how the technology will be available to the market remains to be determined. Compliance with traffic regulations varies between countries and Trelock is relying on feedback to guide the system's development to become street-legal worldwide.

Trelock is welcoming potential OE partners to start a conversation about implementing their respective e-bikes. ■ WB





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WHAT'S ON TODAY: THURSDAY JULY 13



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06:00 a.m. - 10:00 p.m.

Frankfurt, Mainkai

KOMument

A bike race made entirely of Strava segments.

07:00 a.m. - 08:00 a.m.

Early Bird Ride

EUROBIKE Gravel Ride by Gravel Collective

Start: Gravel Club Lounge at Mainkai,

08:00 a.m. - 09:30 a.m.

Future Mobility Forum, Networking Area + Pink Stage

Industry Leaders' Breakfast - where industry and advocacy meet

Eurobike's annual summit for industry leaders is back. [E](#)

09:30 a.m. - 10:00 a.m.

EUROBIKE CAREER CENTER, Halle 12.1

Expand workshop capacity: The "workshop factory" without customer contact

Thorsten Larschow | Rad & Tour Cuxhaven [G](#)

10:00 a.m. - 10:45 a.m.

Portalhaus: Room Transparenz 2

Circular Economy: UpCycling Bikes

Nikolaj Mosch, FairBikes [G](#)

Full-time Yellow Stage -FUTURE MOBILITY FORUM - Hall 8

START-UP & INNOVATION DAY

Here to learn - here innovate - here to network

10:00 a.m. - 10:45 a.m.

EUROBIKE CAREER CENTER, Halle 12.1

Industry or trade? Decision-making aid "bike job". What suits me?

Ralf Reins | Bereichsleiter Personal der BIKE & OUTDOOR COMPANY [G](#)

10:00 a.m. - 10:45 a.m.

Cargo Area Stage - Hall 8

The bicycle industry and brand: The big dilemma

With well over 1,000 brands competing worldwide, the e-bike market is booming. What's the differentiator? Either price or brand. This presentation is a wake-up call to e-bike brands and dealers who want to prepare for a future after "the big e-bike party" is over. Alex Thusbass, KISKA Munich [G](#)

10:15 a.m. - 10:30 a.m.

Future Mobility Forum, Pink Stage, Hall 8

From niche to mainstream - the impact of the CCCB project

Keynote: Province of Utrecht, CCCB Project coordinator

10:30 a.m. - 11:15 a.m.

Future Mobility Forum, Pink Stage, Hall 8

City roundtable: "North to South, East to West"

Secrets of success from 10 European cities that have used cargo bike programmes for city transformation. Listen to Lisbon, Prague, Cambridge, Gdynia, Utrecht, Rimini, Mechelen, Victoria Gasteiz and others telling their stories.

11:00 a.m. - 11:45 a.m.

Portalhaus: Room, Transparenz 1

Environmental Compliance 2022

New challenges 2022 for the bike industry regarding WEEE, battery and packaging compliance worldwide. Lukas Ebbert and Sascha Heinz, Go4Recycling [E](#)

11:00 a.m. - 11:15 a.m.

Introduction - Moving cycling forward through innovation

Welcoming by the organizers and introducing Frankfurt accelerator programmes and city of Frankfurt

11:00 a.m. - 11:30 a.m.

Success factor "Onboarding"

Gunnar Fehlau | bootcamp.bike [G](#)

11:00 a.m. - 11:45 a.m.

Portalhaus: Room Transparenz 1

TikTok and the Short Form Video Revolution

Wyatt Wees, Wyatt Wees Consulting [E](#)

11:00 a.m. - 11:20 a.m.

True sustainability through a combination of ultimate rider's experience and a European supply chain

ASKA BIKES [E](#)

11:15 a.m. - 11:30 a.m.

Future Mobility Forum, Black Stage - Hall 8

Life re-imagined - the new customer to cycling and their motivation

START-UP & INNOVATION DAY - Here to Learn

11:15 a.m. - 12:00 p.m.

Future Mobility Forum, Pink Stage, Hall 8

Business panel: Transformation of the business of logistics and last mile services

Leading companies share how the business of logistics and last mile services can be transformed by cycling. (Invitees include Amazon Logistics, Zedify and UPS)

11:30 a.m. - 12:00 p.m.

Future Mobility Forum, Black Stage - Hall 8

New customers to cycling

START-UP & INNOVATION DAY - Here to Learn

11:45 a.m. - 12:15 p.m.

EUROBIKE CAREER CENTER, Halle 12.1

Quality standards "Workshop"

Dirk Zedler | Zedler Institut [G](#)

12:00 p.m. - 12:45 p.m.

Portalhaus: Room, Transparenz 1

How we can succeed in the mobility revolution and what innovations we need now

Martha Marisa Wanat, MOND Mobility New Designs, BICICLI Holding GmbH [G](#)

12:00 p.m. - 03:00 p.m.

Portalhaus, Room: Frequenz 2

Workshop: Circular Cycling Industry

Learn how to make sustainability a core part of your company in this 3 hour interactive workshop by Erik Bronsvort, author of the book From Marginal Gains to a Circular Revolution.

12:00 p.m. - 12:45 p.m.

Cargo Area Stage - Hall 8

DTC on Amazon: Successfully selling directly to customers

Henry Krause, MOVESELL GmbH [E](#)

12:00 p.m. - 12:15 p.m.

Future Mobility Forum, Black Stage - Hall 8

New Business Models with Cycling

START-UP & INNOVATION DAY - Here to Learn

12:00 p.m. - 12:45 p.m.

Future Mobility Forum, Pink Stage, Hall 8

Cargo bikes for Europe

A look at the lessons learned from CCCB and how they have become mainstream policy across Europe. (Invitees include EU Commission DG Move, Roberta Frisoni (Mobility Councilor Rimini), Jill Warren (CEO European Cyclists' Federation) Tom Assmann (Head of Radlogistik Verband Deutschland))

12:15 p.m. - 12:45 p.m.

Future Mobility Forum, Black Stage - Hall 8

New Business Models with Cycling - Renting, Data, and Digitalization

START-UP & INNOVATION DAY - Here to Learn

12:15 p.m. - 01:00 p.m.

EUROBIKE CAREER CENTER, Halle 12.1

The VSF. all-ride workshop

12:45 p.m. - 01:00 p.m.

Future Mobility Forum, Pink Stage, Hall 8

Towards 1 million new cargo bikes per year on our streets - how to make it happen

Keynote: Kevin Mayne, CEO of Cycling Industries Europe

01:00 p.m. - 01:45 p.m.

Portalhaus: Room Transparenz 1

Shopfitting: How to create a shopping experience for customers in a bike store

Carsten Schemberg, Theodor Schemberg Einrichtungen GmbH [G](#)

01:00 p.m. - 01:15 p.m.

Future Mobility Forum, Black Stage - Hall 8

Challenges in Product Development

START-UP & INNOVATION DAY - Here to Learn

01:10 p.m. - 02:00 p.m.

Future Mobility Forum - Yellow Stage - Hall 8

GDV, a International Wholesaler with AI solve your stock problems. Welcome to our SaaS solutions

GDV welcomes AI in the mobility spare parts distribution sector, and presents its new SaaS that will put an end to B2B platforms. [E](#)

01:15 p.m. - 01:45 p.m.

Future Mobility Forum, Black Stage - Hall 8

Challenges in Product Development

START-UP & INNOVATION DAY - Here to Learn

01:30 p.m. - 04:00 p.m.

GRAVEL TALK 2022 - From an underground movement to a mega trend

Gravel bikes, with and without motor, are a trend driver in the bike world. EUROBIKE is dedicating a main topic to them with the Gravel Talk, with industry professional and gravel enthusiast Gunnar Fehlau.

01:30 p.m. - 01:50 p.m.

Cargo Area Stage - Hall 8

Cargo - a need for change?

Alexander Mai, Vredestein Tyres [E](#)

02:00 p.m. - 10:00 p.m.

Frankfurt, Mainkai

EUROBIKE CITY Programme

Participate, try out, meet, eat, drink, be inspired and entertained, do it yourself...

02:00 p.m. - 06:00 p.m.
CARGO BIKE ACADEMY

02:00 p.m. - 02:45 p.m.
Portalhaus: Room Transparenz 1
Digital transformation in future bike stores

Ulrike Valentiner-Brant, DIFFERENT SPACES

02:00 p.m. - 02:45 p.m.
Portalhaus: Room Transparenz 1
"An end to annoying cost estimates!" The DEKRA bicycle damage appraisal: Comprehensive, marketable and process-safe.

In order to ensure a quick and uncomplicated settlement of the claim, the specialist dealer should bring a DEKRA bicycle damage assessor on board. Marcel Ott - Head of Product Management Damage Assessments at DEKRA Automobil GmbH Marc Gözl - Product Manager Bicycle Damage Assessment at DEKRA Automobil GmbH

02:00 p.m. - 02:55 p.m.
Future Mobility Forum, Pink Stage, Hall 8
Panel 1: Cargobikes & Politics
What political and legal framework is needed to fully develop the potential of cargo bikes?

02:00 p.m. - 02:45 p.m.
EUROBIKE CAREER CENTER, Halle 12.1
Professionally plan and implement the handover of a business or the sale of a company
Ulf Blume | 53-ELF

02:30 p.m. - 04:00 p.m.
Meet & Gravel with Paul Voss powered by ORBEA
EUROBIKE Gravel Ride by Gravel Collective
Start: Gravel Club Lounge at Mainkai
Registration.

02:30 p.m. - 04:00 p.m.
Start-up-Talk by HOLM & HUB31
START-UP & INNOVATION DAY - Here to Innovate

02:30 p.m. - 04:00 p.m.
EUROBIKE Young Researchers Forum
START-UP & INNOVATION DAY - Here to Innovate

02:30 p.m. - 04:00 p.m.
VeloLAB - Design Thinking Workshop
START-UP & INNOVATION DAY - Here to Innovate

03:00 p.m. - 03:45 p.m.
Portalhaus: Room Transparenz 2
Requirements regarding Sustainable Supply Chains
Klaus Wiesen, sustainabill GmbH

03:00 p.m. - 03:45 p.m.
EUROBIKE CAREER CENTER, Halle 12.1
Dream job... Marketing Manager in the bicycle industry
Volker Haug | Vertriebsmarketing Ortlieb

03:00 p.m. - 03:45 p.m.
EUROBIKE CAREER CENTER, Halle 12.1
Dream job... Marketing Manager in the bicycle industry
Volker Haug | Vertriebsmarketing Ortlieb

03:20 p.m. - 04:00 p.m.
Future Mobility Forum, Pink Stage, Hall 8

Panel 2: Cargobikes & the component question
How is the market for cargo bike-specific components doing?

04:00 p.m. - 04:45 p.m.
Portalhaus: Room Transparenz 2
Sustainability in Supply Chains: Implementation measures for Companies
Klaus Wiesen, sustainabill GmbH

04:00 p.m. - 04:45 p.m.
EUROBIKE CAREER CENTER, Halle 12.1
The VSF..all-ride workshop

04:00 p.m. - 04:45 p.m.
Reverse Investor's Pitch
START-UP & INNOVATION DAY - Here to Network

04:00 p.m. - 04:45 p.m.
Portalhaus: Room, Transparenz 1
Activities and successes in focus: How Naviki creates motivation for daily bicycle use
Achim Hennecke, Naviki

04:05 p.m. - 04:55 p.m.
Future Mobility Forum, Pink Stage, Hall 8
Panel 3: Cargobikes & Infrastructure: where to park?
"I don't have a secure parking space!" - this is a common argument against buying a cargo bike in many inner cities. Cities are now deliberately creating cargo bike parking spaces in public streets. Cargo bike parking is also an issue in existing and in the construction of new residential and other buildings.

04:30 p.m. - 05:30 p.m.
Future Mobility Forum - Yellow Stage - Hall 8
Connected e-bikes, what opportunities for the cycling industry?

Connectivity is a game changer for our industry, Velco

04:30 p.m. - 06:00 p.m.
Portalhaus, Riders' Lounge
Gravel Talk Ride
EUROBIKE Gravel Talk Ride by Gravel Collective, powered by komoot

05:00 p.m. - 05:45 p.m.
Portalhaus: Room, Transparenz 1
Solar E-bike Charge Stations: a solution for commuters and a low-season opportunity for dealers
James Post, ECOpro Technology BV

05:00 p.m. - 05:45 p.m.
Portalhaus: Room Transparenz 2
BIKE RIDE GREEN - The most sustainable Mountainbike
Jan Timmerman, BIKE

05:00 p.m. - 06:00 p.m.
Future Mobility Forum, Pink Stage, Hall 8
Panel 4: Cargobikes & Safety: Draft EN standard
There has been a DIN standard for cargo bikes since 2020. A European EN standard is to replace this by 2024. The public consultation phase for the first draft standards will run until September 2022. Representatives of the Carrier Cycles working group at the European Committee for Standardization (CEN) will present the drafts and opportunities for collaboration.

05:00 p.m. - 05:30 p.m.
EUROBIKE CAREER CENTER, Halle 12.1
Dream job... product design in the bicycle industry
Dirk Zedler | Zedler Institut

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BOOTH A13**

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DARFON GREEN ENERGY "WE ARE THE BATTERY AND POWER EXPERTS"

With its fast-growing Green Energy department, Darfon Electronics has become a well-known ODM and OEM partner for many e-bike manufacturers. Thanks to ongoing investment this role is sure to expand, as the company's Eurobike booth in Hall 8 demonstrates.

Founded in 1997, **Darfon Electronics (8.0 / F29)** has grown to become the world leader in laptop keyboard manufacturing. But the fastest growth in recent years has been in its Green Energy department, focusing on batteries and power solutions. According to Darfon Electronics' president Josh Tsai, the share of this department has grown to 40 percent within a few years. "This growth has been both organic and due to recent investments. In 2020, we have acquired fellow Taiwanese battery makers TD HiTech Energy, who specialize in custom batteries such as the extra large-capacity units used by Swiss pedelec maker Stromer. We also hold 60 percent of the shares of Kenstone and a majority in the joint venture with OE and OD frame builder Astro Tech," Tsai told the Show Daily at the company's Eurobike stand yesterday.

The first result of this joint

venture is on display at both Darfon Electronics' and Astro Tech's Eurobike booths: a prototype of a deep instep unisex frame with an integrated battery and smart IOT. And with a Darfon-branded Smart Trainer, another new product is also on display, due to start shipping this month. Still the company insists on being a professional, IT-based ODM and OEM manufacturer and aims to become a one-stop shop for e-bike manufacturers who are looking not only for a battery, but also for software and IoT-based service solutions. "At Darfon Electronics we have the know-how in terms of software and IoT solutions in-house, so we'd like to expand our offering in these aspects", Josh Tsai explains.

With a European subsidiary in the Czech Republic set up more than 15 years ago to service products of its



Darfon Electronics' president Josh Tsai at Eurobike yesterday

consumer electronics division, Darfon Electronics is well positioned to expand part of its production to Europe to get closer to European clients and partners. Thanks to the use of 21700 battery cells, the largest-capacity in-tube battery from the Taiwanese manufacturer now stands at 1500 Wh. "While our Green Energy department has been focusing its e-bike related

efforts on batteries that work with Shimano's Steps mid-motors, we have noticed a lot of interest from a number of smaller drive system suppliers who would like to combine their motor with our batteries and IT know-how, both before Eurobike and now at the show", says Josh Tsai. Interest that no doubt will turn into further growth. ■ **LVR**

TAIWAN EXCELLENCE NEW PRODUCT LAUNCH BRAVING THE PANDEMIC WITH INNOVATION

Taiwan is a central player in the bicycle industry, and over the years the press conference from Taiwan's External Trade Development Council (**TAITRA, 9.0 / F24**) has become a fixture at Eurobike. The products presented yesterday reflect current trends.



Gina Chang and Wai-Ta Chang (center) with the participants in yesterday's Taiwan Excellence press conference.

In his opening remarks, Wai-Ta Chang, General Director of the Taipei Representative Office in Germany, pointed to the strong presence of Taiwan's bicycle industry at the show with over

180 companies exhibiting. "With this presence and today's press conference, Taiwan underlines its commitment to the Eurobike show. Comprehensive supply chains and extensive networks

helped to keep Taiwan's industry running at the pace needed to provide the products the market demands. And the Taiwan Excellence brand is there to distinguish our best producers," Wai-Ta Chang explained.

The Secretary General of the Taiwan Bicycle Association, Gina Chang pointed out the post-pandemic challenges for the industry: "The current inflation and doubts about the future hurt the readiness to invest in bicycles. For that reason, I expect the sharing and rental businesses to profit. Since Taiwan's bicycle industry has production facilities across Asia, the export volume rose by another 28 percent throughout the first months of this year – and keep in mind this is in comparison to a very successful 2021. For the future, Taiwan's bicycle industry wants to move from manufacturing to partnership value."

A number of innovative products were presented to showcase what Taiwan's bicycle industry is capable of. As the Head of Product at **Cadex (11.0 / D06)**, Giant's high-end performance brand for parts and components, Jeff Schneider presented the Cadex 36 Disc wheel system built for long, performance-oriented road bike rides.

"With the Cadex 36 Disc wheels, we've put a special focus on an optimized stiffness to weight ratio. Still, these tubeless-ready wheels with carbon rims and spokes weigh only 1302 grams a pair, and thanks to the hookless rims they are surprisingly sturdy and come with an inner width of 22.4 mm, ideal for slightly wider tires."

GPS specialist **Mio** presented two new bicycle computers with GPS navigation, the Cyclo Discover Connect and the Cyclo Discover Pal. With its simple operation, a 3.5 inch full-colour touchscreen and its easy initial set-up through the Mio Share app, the Connect model offers plenty of value and comes with Wifi and Bluetooth connectivity. The Pal model also works perfectly as display for Shimano's Steps systems, and through the app a whole group of riders can use the pathfinding capabilities of this device. Xplova, a sub-brand of the **Acer Gadget Inc. (9.0 / F28)** showcased its new Noza smart trainers and the Lightning e-scooters. And last but not least **Maxxis (12.1 / C06)** showcased the breadth of its portfolio, ranging from performance road tires to gravel tires and cargo bike tires. ■ **LVR**

Meet Portugal Bike Value at **Hall 9.0**

Booths B15 and B05

The Portuguese “embassy”

Portugal Bike Value is participating at EuroBike, for the sixth consecutive edition in the current format. This time with ten manufacturers, representing some of the best that Portuguese two wheels and soft mobility industry has to offer. This delegation is led by ABIMOTA.

ABIMOTA is the association that represents two wheelers, soft mobility, hardware and metal furniture, sector with the Portuguese government and promotes it abroad.

Ten manufacturers are participating in Eurobike, together with the Portugal Bike Value brand.

There are currently 51 Portuguese companies dedicated to the production of conventional and electric bicycles, as well as other vehicles related to soft mobility.

The soft mobility sector generates more than 8,000 direct jobs and more than 24,000 indirect jobs, taking into account the increase in the complexity and extension of the supply chain that we have been observing.

The Portuguese sector already exports to a hundred countries. In order of magnitude, the main importers of Portuguese products

are Spain, France, Germany, United Kingdom, Belgium and the Netherlands.

Portugal Bike Value’s participation in Euro Bike takes place through the ABIMOTA Portugal Fest 2020 project, co-financed by ABIMOTA and Compete2020, Portugal 2020.



Portugal Bike Value’s booth at Eurobike 2021.
From left to right: Gil Nadalis; Cristina Marques; Sérgio Ribeiro.

CONTACT US: showroom.portugalbikevalue.pt



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SPINDLE Boron
BEARING Polymer bearing
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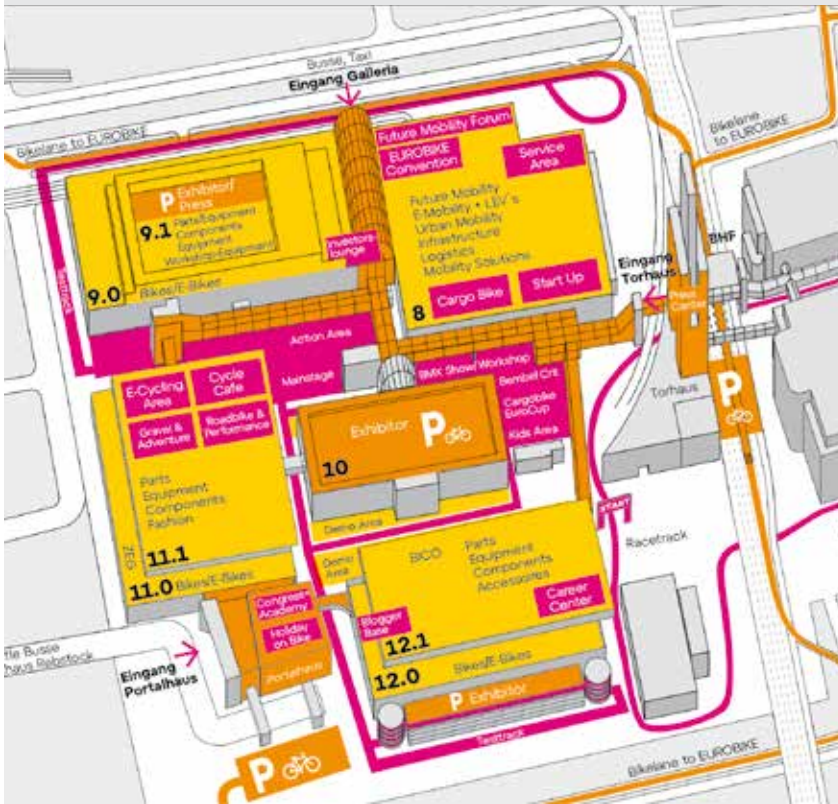


C318RB  

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BODY Aluminum
COVER Sand Paper
SPINDLE Boron
BEARING DU / Sealed
SIZE 110 x 92 x 24 mm
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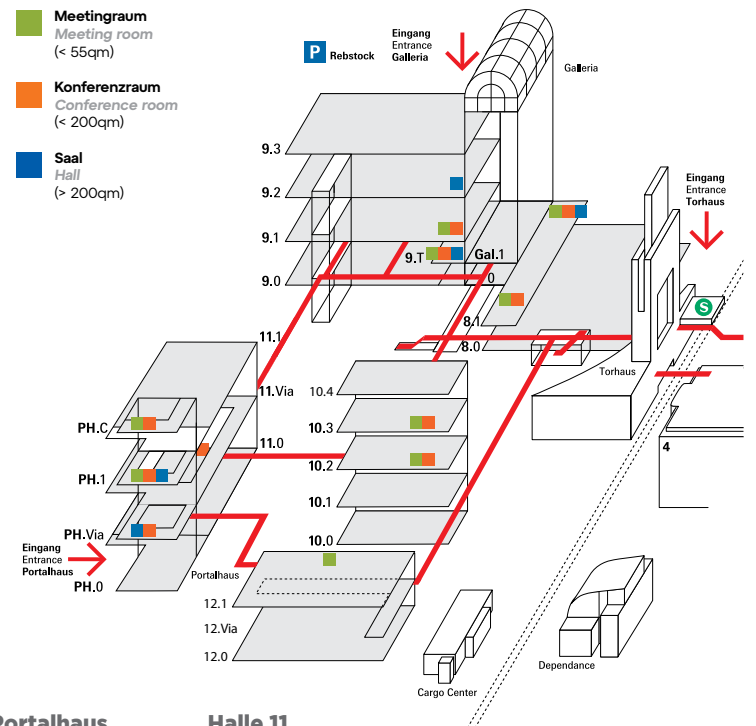
NEW CITY, NEW SHOW GETTING AROUND EUROBIKE

HALL ALLOCATION EUROBIKE SHOW



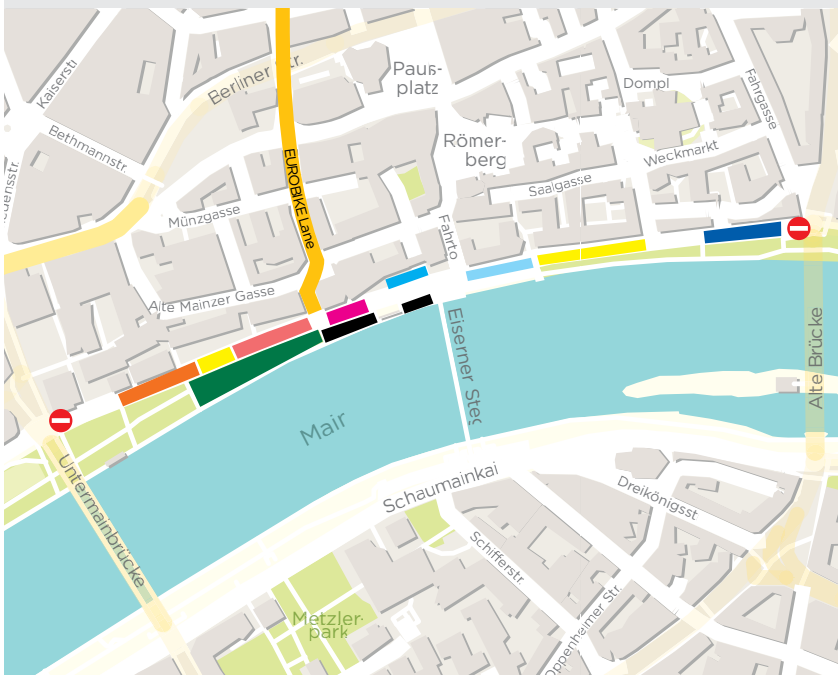
Event areas Special exhibition areas Logistics, routes, entrances

CONFERENCE ROOMS



- Portalhaus Ebene PH. Via**
 - Frequenz 1
 - Frequenz 2
 - Frequenz 1 + 2
- Halle 11 Ebene 11.0**
 - Korall
 - Karmesin
 - Granat
- Halle 9.1**
 - Cosmopolitan
 - Lounge
- Halle 8 Ebene 8.1**
 - Symmetrie 1
 - Symmetrie 4
 - Symmetrie 2
 - Symmetrie 3
 - Symmetrie 2 + 3
- Halle 10 Ebene 10.2**
 - Inspiration 1
 - Inspiration 3
 - Inspiration 2
 - Inspiration 1 + 2
 - Inspiration 2 + 3
 - Inspiration 1 - 3
 - Atelier
- Halle 9.2**
 - Dialog
- Halle 12 Ebene 12.1**
 - Achat
 - Amethyst
 - Aventurin
 - Jade
 - Jaspis
 - Lapis
 - Onyx
 - Opal
 - Pyrit
 - Rubin
 - Saphir
 - Smaragd
- Ebene PH.1**
 - Sequenz
 - Transparenz 1
 - Transparenz 2
 - Transparenz 1 + 2
- Ebene PH.C**
 - Lumen
 - Lux
 - Candela
 - Focus
 - Prisma
- Ebene 10.3**
 - Reflexion 1
 - Reflexion 3
 - Reflexion 2
 - Reflexion 1 + 2
 - Reflexion 2 + 3
 - Reflexion 1 - 3
 - Halle 9
- Ebene 9.1**
 - Impuls
 - Ratio
 - Logos
 - Genius
 - Logos + Genius
 - Esprit
 - Motiv
- Ebene 9.0**
 - Gal.1

EUROBIKE CITY



Whether as a contact point for the bike scene, a weekend program for the family or to wind down after a hard day at the trade fair - the EUROBIKE CITY Mainkai becomes a relaxed meeting place - right on the beautiful banks of the Main. There, all bike fans can look forward to a colorful bike culture program with a bike flea market, children's parcours, street food, information stands from initiatives as well as lectures, workshops and movies on the stages.

Location: Mainkai between "Eiserner Steg" and "Untermainbrücke", free admission!

Opening hours:

Wednesday July 13 - Friday July 15: from 2p.m. - 10p.m.
 Saturday July 16: from 9a.m. - 10p.m.
 Sunday July 17: from 10a.m. - 8p.m.

FREE TRAVEL BY PUBLIC TRANSPORT



All visitor tickets, which are available online, entitle the holder to free return travel to the fair on buses and trains in the area covered by the Rhein-Main-Verkehrsverbund. Please note that these tickets are only valid when printed out and accompanied by a valid identification document. You will find further information on your ticket.

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High Pressure Zone

Road • Trekking

30-160 psi

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Giyo Pumps

Hall 9.1 Booth A29

Pressure Management For All Bike Types

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giyo.com.tw

KENDA CELEBRATES 60 YEARS OF INNOVATION

2022 marks the sixtieth anniversary of **Kenda (12.1/D04)**, which today boasts more than 12,000 employees worldwide. With a production capacity of 800,000 tyres and tubes per day, Kenda is one of the top five global tyre manufacturers. Kenda's entire history is as a manufacturer of bicycle tyres: the company was founded with that aim in 1962 by Mr. Chi-Pao Yang in the countryside of Yuanlin, Taiwan. Since those beginnings the company has not only expanded in size but also in remit: tyres for the automotive industry, wheelchairs, powersports, trailers, golf carts and lawn and garden equipment have been added to the company's product roster, in addition to steel wheels and roofing products.

Kenda has been an innovator in the bicycle tyre industry throughout its history. 30 years ago it was the first company to add a sub-tread protection layer (K-Shield), to significantly increase the puncture protection of tyres. It was also the first company to launch a tyre casing, EMC, developed for the specific needs of e-mountain bikes, and in 2019 Kenda received an Eurobike Award for the first cargo bike tyre ever (Kwick Drumlin Cargo), which offered an increased load capacity of 150kg/tyre thanks to its special 4-ply construction. Airolution, Kenda's latest innovation, launches at Eurobike this year: it's a bicycle inner tube with patent pending technology that offers four times higher air



Jimmy Yang, Chairman of Kenda Group

retention compared to a standard butyl tube, and 20% higher puncture protection without affecting weight or rolling resistance.

Kenda has always shown strong support for professional cycling, and is most associated with mountain biking. The turn of the century was a particular pink patch for Kenda, when it was the leading brand in the mountain bike tyre business and many of the legends of the sport such as John Tomac, Tinker Juarez, Hans Rey, Brian Lopes trusted in the quality of Kenda tyres.

Today the partnership with world class athletes and teams is still playing an important role at Kenda. Kenda sponsors leading World Cup teams that have notched up more than 50 podiums and overall wins in the past five years. Alongside the sporting suc-



Kenda headquarters today

cess that is testament to the quality of the tyres, Kenda also benefits from the experience and feedback from the athletes to continuously improve its products and develop new models. The company was recently awarded the "Best Practice Award" for manufacturing quality during the 26th National Quality Awards in Taiwan. The award recognizes businesses that demonstrate high quality management and is the only award for business quality issued by the Executive Council in Taiwan.

"It takes an unwavering adherence to strong values and quality products as well as dedicated, passionate and knowledgeable team members to earn the privilege to celebrate 60 years as one of the world's leading tyre



Kenda was founded in the countryside of Yuanlin, Taiwan in 1962

manufacturers," says Kenda Group chairman, Jimmy Yang. Despite the diversification in the product line, bicycle tyres and tubes remain central to the company's success. "They are not only the roots of the company", says Yang, "they are still the air and water for Kenda. Without them, Kenda would not be where it is today". ■ **DA**

INFINITY UNIVERSAL

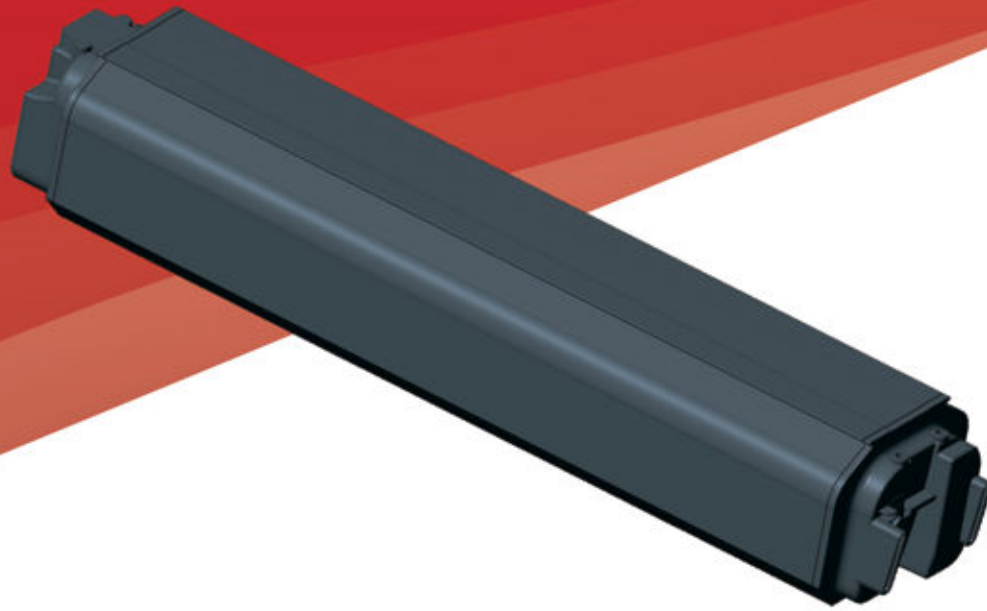
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- Range Extender Battery Available

HALL 8 , F29



21700 New Generation Battery



835Wh/720Wh
E4COL / E4COM



626Wh/540Wh
E3COA / E3C09



360Wh
E2C07



418W
E2C09



360Wh
Range Extender, E2C0C

Voltage 36V
Nominal Capacity 23.2Ah / 20Ah
Type Integration
Dimension (L x W x H) 410 x 88.4 x 74 mm
Weight 3.8kg
Communication Interface CANBus/ Uart

Voltage 36V
Nominal Capacity 17.4Ah / 15Ah
Type Integration
Dimension (L x W x H) 410 x 78.2 x 63.8 mm
Weight 3kg
Communication Interface CANBus/ Uart

Voltage 36V
Nominal Capacity 10Ah
Type Integration
Dimension (L x W x H) 365 x 68 x 64 mm
Weight 2kg
Communication Interface CANBus/ Uart

Voltage 36V
Nominal Capacity 11.6Ah
Type In Tube
Dimension (L x W x H) 393 x 58 x 52 mm
Weight 1.9kg
Communication Interface CANBus/ Uart

Voltage 36V
Nominal Capacity 10Ah
Type On Tube
Dimension (L x W x H) 303 x 100 x 79 mm
Weight 2kg
Communication Interface CANBus/ Uart

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HANNES NEUPERT OF EXTRAENERGY 40 YEARS IN ELECTRIC CYCLING: A PERSONAL REVIEW

The electrification of the bicycle has opened up new applications and social acceptance of cycling - to a level unimaginable for most cycle industry insiders when I entered this field 40 years ago.



Over those four decades, I helped bring Panasonic to Europe and worked with Yamaha on legislation, as well as convincing names like BMZ, Alber, Marquardt, Bosch, Brose, and ZF/Sachs to enter the pedelec business. But it's only in the past ten years that the industry has really become aware of the importance of the pedelec.

There are still key challenges to be tackled and there's still a lack of awareness of their importance. In my view, these vital building blocks need to be put in place - here they are sorted by priority:

- A) The real legalization of Pedelecs - which requires a rewriting of the Vienna Convention on Road Traffic of 1968, which defined the cycle as "any vehicle which has at least two wheels and is propelled solely by the muscular energy of the person on that vehicle, in particular by means of pedals or hand-crank." By this definition pedelecs are not bicycles since they are partially propelled by an electric motor. My proposed revision of this sentence would be: "any vehicle which is propelled by the muscular energy of the person on that vehicle, in particular by means of pedals or hand-crank, and optionally by an electric assistance system which is limited in its performance so that the safety level of the vehicles remains equal to or better than that of an unassisted cycle." With this the pedelec would be defined as a cycle for the first time. Currently pedelecs are technically motor vehicles which are haphazardly legalized as something equal to a cycle - but this is not legally secure.
- B) Be outspoken on battery safety —

- stop selling any LEV battery which does not conform to EN 50604-1, a standard which I worked to develop and harmonize since 2002, when Panasonic Cycle introduced the first lithium battery to the market. Stop hiding the fact that batteries may burn, educate customers that they understand that even the safest battery in the market should not be charged at home, in a room without F90 fire reinforced doors, a sprinkler system, or a room where in case of a fire, nobody's life is at risk. Manufacturers and dealers still avoid this topic when marketing pedelecs.
- C) Massively cutting the number of parts on a pedelec from thousands to a few hundred. Moreover, the digitalization of functions can allow the creation of pedelecs which are safer, more fun to ride, and with an expected 30,000 km/7 years service free life. All at a cost, including service and insurance, of less than 25 Euro a month to use. I expect that such pedelecs will appear soon and dominate the market, since they will be rented in the millions annually.
- D) Stop calling pedelecs "E-Bikes" - the name E-Bike is owned by the motorcycle guys... it's vital to clearly differentiate electrically assisted bicycles from any kind of motor vehicle. Down the road, this could be of massive legal importance for the cycle industry to survive.
- E) In 2012, I made some predictions about future milestones in the development of pedelecs (see image), published in the GoPedelec Handbook - a coproduction of the EU and the IEA. The technology was just becoming practicable but was still at an early stage.



Hannes Neupert uses a LEV parking and charging location that conforms to the IEC TS 61851-3-Series Standard. The MOCCI Pedelec with innovative structure and drive system and be seen at Eurobike at the eFlow Europe booth (Hall 8.0 / E21).

Milestones reached by 2017:

- Easy payment via tax beneficial leases (at least in some countries) Including service and anti-theft protection coverage
- Products became more robust

Milestones not yet reached by 2017:

- Products may become flat-rate available for approximately 30 Euro/Month
- Service life at 30,000 km or 7 years

Milestones reached in 2022:

- Many products have IoT
- Customer benefits from Digital still at an early stage...

Milestones not yet reached by 2022:

- Fully digital drive trains in mass production (series hybrid)
- Chameleon legality opening new applications and creating more competitive products (legal status of the vehicle)
- Batteries considered safe under any conditions
- Parking with charging integrated in the locking functionality
- Theft virtually eliminated by digital integration
- Payment for use due to CO2 and health benefits, cash out possible
- Legal and standards framework which sets a clear boundary between cycles and motor vehicles

Key innovations to be tackled:

- Series Hybrid (Maintenance free & best human efficiency)
- High volume thermoplastic

- injection molded frames without painting - fully recyclable
- Strongly improved safety with ABS, ESP, ASR, AWD, airbags and other features from the automotive industry
- Life Cycle Analysis (LCA)-based vehicle optimization at all levels
- Human machine interface which always optimizes rider happiness
- Safe and convenient parking (and charging) close to destinations. The same interface for every vehicle (sharing, private, closed fleet vehicle)

In the global effort to decarbonise transport, the only way forward is the replacement of cars by pedelecs and other LEVs.

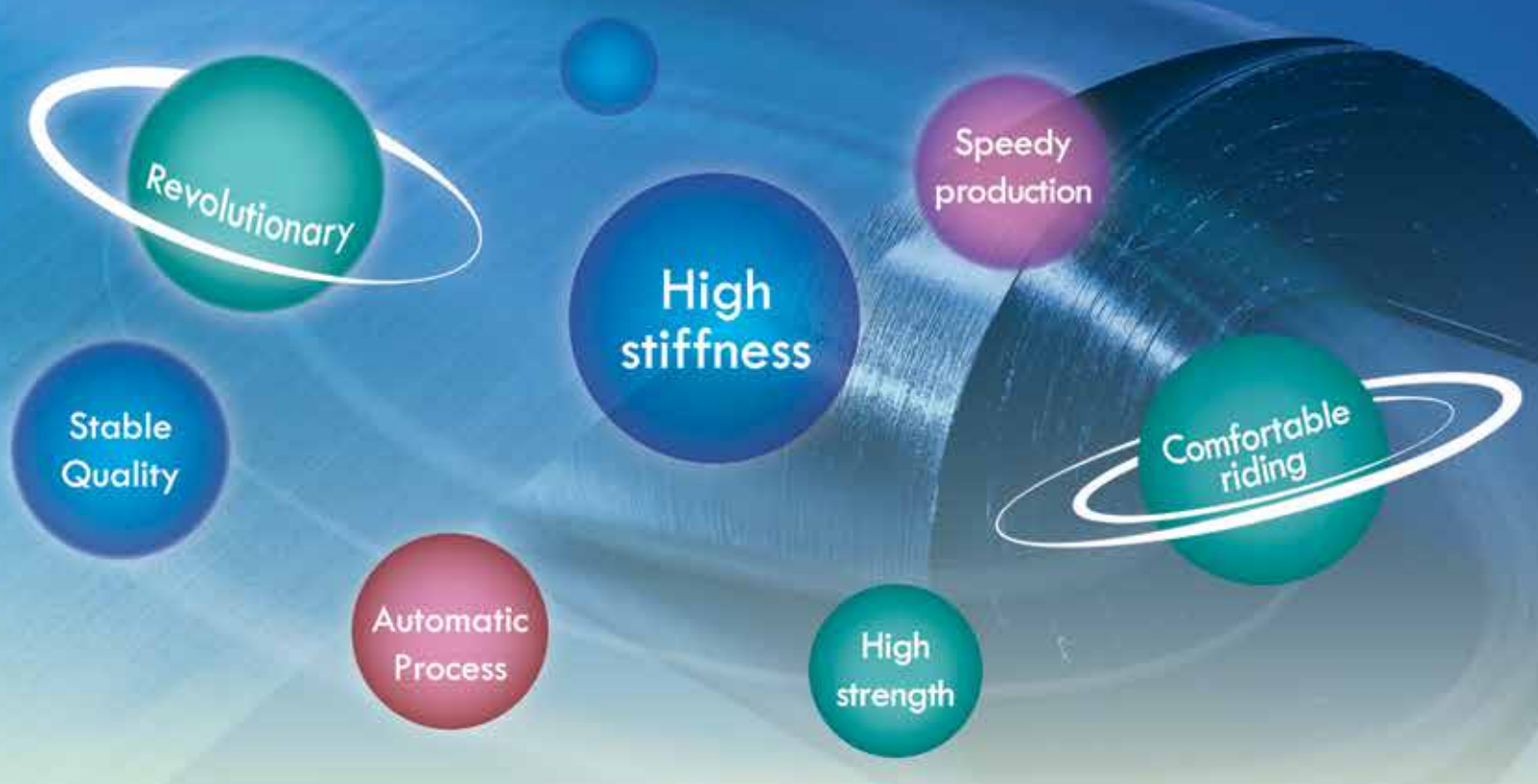
- Replacing ICE SUVs with electric SUVs is not changing the idea that cars provide universal mobility.
- When cars become autonomous they should move away from privately-owned individual vehicles standing unused 23 hours a day, instead becoming part of public transport systems.
- Walking and cycling - the active mobility choices - should be considered the dominant modes of individual transport.
- Integration of active mobility into public transport schemes is key to acceptance and adoption rates.

The cycle industry as we know it today may change beyond recognition, but we must make sure that cycling becomes the number one mobility option in the world. ■ Hannes Neupert

The pedelec is a new product and one which is still fast-developing in its properties. That applies for manufacturers too, irrespective of which sector they come from: motorbikes, cars or the cycle industry. Similarly, for most customers it's a new product.

Hannes Neupert





Thermoplastic Carbon

- ✓ Sustainable and friendly for the environment
- ✓ Tougher and better impact resistant than thermoset
- ✓ Comfortable and stable riding experience
- ✓ Consistent quality for manufacturing
- ✓ Rapid production by Automatic process-15min per frame



SHIMANO DU_EP8
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RIESE & MÜLLER

GERMANY'S R+M GROWS SUSTAINABLY, DESPITE THE PANDEMIC DISRUPTION

German premium brand Riese & Müller has been hugely successful with its strict focus on pedelecs and customizable specifications. Despite the difficult circumstances throughout the last two years the company has been able to significantly expand its output.



With Eurobike's move to Frankfurt, Riese & Müller (12.0/A11) is a true local player at this year's fair. Its state-of-the-art headquarters with eco-efficient buildings and large solar panels mounted on the roof are based in an industrial park in Mühlthal, close to Darmstadt. Apart from its iconic Birdy folding bike, this manufacturer has been fully focusing on pedelecs for utility use. Demand for this kind of bike has been particularly high during the pandemic as people avoided public transport and looked for viable alternatives instead. And while German consumers have long been famous for being tight with money and constantly looking for deals and bargains, leasing models have opened the flood gates in terms of average purchasing prices. As a premium brand Riese & Müller has seen this happen first-hand.

As a part of the EU's new green deal, cycling as a mode of transport has taken center-stage recently, with infrastructure for cyclists being expanded and improved in many cities

throughout Europe. "For many years the bicycle industry has put its focus on the more prestigious sports and leisure segments. But these only appeal to a limited share of the population and as a consequence create moderate growth at best. Now the focus not only of the Eurobike fair but of the entire industry is changing to utility bikes for daily use. This calls for more reliability and an emphasis on quality, and it may well increase demand significantly – in Europe and beyond. We expect this trend to change the industry profoundly," explains Alexander Eilhauer, Riese & Müller's Head of Purchasing and Supply Chain Management.

The latest numbers from Riese & Müller are impressive indeed: from August 1st 2020 to July 31st 2021, the company's turnover grew by 60 percent year on year, and production exceeded 100,000 units for the first time since the company was founded back in 1993. "Since our order books were full and demand was high, we had the clear objective to keep

our production running despite the pandemic," Alexander Eilhauer remembers. "For this reason we took all the pandemic-related measures and safeguards very seriously from the very start, offering vaccinations and tests to our employees on site, taking care of distancing and mask mandates and reorganizing and demerging teams active in the production in order to keep any infections from spreading within the company. And of course within the administration we have incentivised work-from-home whenever possible."

These strict measures seem to have been the right decision as production in January 2022 was 40% larger in unit terms than back in January 2021, and when the author visited the headquarters of Riese & Müller in February a new weekly production record had been posted – so it's expected this growth will continue. The only thing that may get in the way are long lead times and shortages regarding parts, components and frames. As Riese &



Alexander Eilhauer

Müller's second responsibility report regarding the sustainability of its operations goes to show, spreading the risk throughout the supply chain has been



an ongoing effort for some years. The company's aluminium frames are being made both in Taiwan and in Portugal's state-of-the-art Triangle's factory. Due to the complexity of the frames, the number of companies who can actually build them is rather limited.

In its drive for more sustainability, Riese & Müller has been looking for suppliers in Europe. That also goes for saddles from Selle Royal or the Rohloff internal transmission hubs that are one of the most commonly ordered extras to be put on the bikes, combined with a belt drive. For the best-selling deep instep model, Riese & Müller sources 62% of the cost price in Europe, while this value stands at approximately 50% throughout the entire range. "The last two years have been a wake-up call", Alexander Eilhauer reflects. "Relying on

global supply chains and just-in-time deliveries simply has not worked in times of trouble. As for our company, we are lucky to be a premium brand that has been relying on running changes in the specifications rather than rolling out entirely new model years on an annual basis. Still we have to constantly monitor what goods are being delayed in order to adjust our production planning." Needless to say, times of extremely high demand are not the best moments to change supply lines from scratch.

In February 2022 the high-bay warehouse was full to the brim. Since Heiko Müller and Markus Riese as the company's founders still hold half of the shares each, they can take decisions following a longer-term perspective than just the next quarter's results. One of those decisions was

to put more capital into parts and components so the production could keep up with the demand. "The last thing we wanted to do was to create a bow wave of unfulfilled orders that creates frustrated consumers and hampers the attempts to rethink commuting and urban mobility in more cycling-friendly ways," says Alexander Eilhauer. While delivery times did lengthen at Riese & Müller, they still remained between four to six weeks, which is not too bad seen the degree of customization offered. The extra work to get parts in time did hurt the margin sometimes, as Eilhauer confirms: "We prefer to build and deliver a bike and give up some of the profit and margin to not being able to deliver a bike and letting down customers."

As for the assembly of the bicycles, Riese & Müller relies on a system of

work units rather than a conveyor belt. This gives mechanics the time needed to do their job properly, and it also allows for flexibility regarding the specification of every single bicycle. The number of these units has doubled from four to eight over the years, with one being twice the length of the others as a dedicated assembly line for cargo bikes. As yet another example for Riese & Müller's drive for less waste and more sustainability, the mid-motors from Bosch eBike Systems are not wrapped in plastic upon delivery – a step that needed quite some convincing, but a typical step for Riese & Müller. After all, this company wants to set benchmarks proactively rather than just follow minimal requirements from governments regarding sustainability as a core aspect for its operations. ■ LVR



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RETYRE EXPANDS ITS MODULAR TYRE TECHNOLOGY INTO NEW MARKETS

Solutions for wheelchairs, fleet scooters and hire bikes added to an expanding range of easy-to-switch tread options for bikes

Every company had its challenges during the pandemic, when lockdowns were playing havoc with normal working. For Oslo-based **reTyre (9.1/B04)**, the world's leading developer of modular tyre solutions, it was a time to focus on its local market, and that strategy was a big success. The company has a strong market presence in Norway and Scandinavia, and in 2021 sales increased by 450%. The last couple of years have also been a time to innovate, grow the team and develop the product range, and now the company is well-placed to expand. "We are well positioned for scaling in 2022 with many large partners. We have presence in more than 40 countries, through OEMs, retailers and distributors," says Tamara Rosic, Chief Marketing Officer.

reTyre's modular tyre systems allow a user to change their tyres to suit the conditions without removing their wheels. The Winter Traveler Skin, which was declared the winner in the ADAC collective test of winter tyres this winter, has been joined by Ice Racer and the summer variant Gravel Chaser, to be used for bikepacking and on gravel roads. It's a system that has been well received, and has recently been improved with the new Nordic Commuter Skin,

which is the lowest-profile studded skin yet, allowing it to fit into a wider range of frames. 27.5" systems are currently in production too.

reTyre is also busy moving into new markets. The Traction system allows wheelchair users to add a more aggressive tread to third-party tyres. The Traction tread can simply be rolled onto the existing tyre by the wheelchair user, and stowed in a backpack when not in use. It uses a Velcro fastening that's quick and simple. The Grippy system offers similar benefits to stroller users, with a studded tread that can be cut to fit and fastened with Velcro tabs.

Another new direction for the company is the Stinger, which is reTyre's studded tyre solution for E-scooter fleets. It was initially developed for TIER, allowing its global fleet of eScooters to have higher uptime throughout the year in northern markets. In a fleet scenario the outer tyre needs to be secured to the scooter to prevent theft. reTyre has developed a proprietary fastening mechanism that uses a stainless steel lock which is inserted into the clip using a dedicated tool. This ensures that the tyre remains in place until it's time to take it off for the warmer



reTyre's modular system for bikes consists of a slick base tyre and a selection of treaded skins which can be zipped into place

weather. reTyre will be using the same technology for Fleet, its modular tyre designed for E-bike fleets.

reTyre sees its products as a sustainable solution for year-round mobility. "We are still strongly focusing on sustainability, both now and for the future", says Rosic. "Our tyre and skin technology already means a 40% decrease in tyre waste. Also, reTyre products prolong the biking season and eliminate car & public transport journeys all year round. In future, even more of our efforts will be devoted here." ■ DA



The reTyre system allows riders to adjust their tyre tread for the conditions without removing the wheels



reTyre's new Stinger product is a studded tyre cover designed for scooter fleets

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ASTRO TECH'S THERMOPLASTIC FRAMES

High end sports products manufacturers using carbon fiber have traditionally employed thermoset polymer-based air bladder forming technology.

The alternative method, which binds carbon fibers with thermoplastic, has advantages over thermoset polymers which are only now beginning to be exploited by the industry. **Astro Tech's (9.1/B16)** solution is an automated process that can produce one thermoplastic carbon frame every 15 minutes.

Thermoplastic makes recycling carbon frames much easier. It's tougher than thermoset and has better impact resistance. It also allows the achievement of consistent manufacturing quality in automated processing. A continuous fiber structure is retained with thermoplastic as the matrix, says Astro's General Manager, Samuel Hu. "This way the frame can be more sustainable, but keep the structural properties similar to thermoset polymer. Pre-preg material still consists of carbon fiber and thermoplastic and still has the same layup design to get our required fiber orientation. We first make two halves of the mold, similar to a monocoque process, then join them. Doing it this way means we don't break any fibers."

A major bugbear for carbon fiber frame manufacturers has been the amount of labor needed in the



manufacturing process. "Due to this being such a labor intensive industry, we've had to move from place to place. Starting off in Taiwan, we moved to China and then to Vietnam, Cambodia and Burma," says a company representative. "And regardless of the location, we have been using the same handmade process and the same materials which cannot be mass produced. This was the motivation for us to come up with a new automated system to mass produce thermoplastic carbon frames."

The significant cost savings that will accrue has made this move into both a new material and a new manufacturing regime necessary for such a large frame manufacturer where large orders are standard. While the upfront investment cost is high, the boost to overall profitability is significant. ■ GR

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OVERVIEW: MID-MOTORS

MID-MOTORS GET LIGHTER & MORE POWERFUL - AND SOME OFFER GEARS

As ebikes continue to gain ground across the world the market for mid motors grows and grows. While the major players have mostly concentrated on consolidating their ranges there are a wealth of other systems vying for your attention, and some interesting tech on display at Eurobike this year.



Revonte's drive unit uses two motors and a planetary gearing system

Want to make riding fun again? That's the promise of **Revonte (8.0/J36)** with their ONE motor system, which is probably the most innovative drive in development right now. The Revonte ONE features an integrated stepless transmission system meaning that the whole gearing mechanism of the bike is enclosed, and the bike uses a simple single ratio transmission to drive the rear wheel, resulting in much longer component life, especially in a mountain biking situation where derailleur gears are at risk of damage from rocks and roots.

The Revonte ONE uses a planetary gear system to transfer power to the bottom bracket axle. But unlike a hub motor, where one of the gears would be stationary giving a fixed ratio, in the Revonte ONE both the sun gear on the inside and the ring gear on the

outside can rotate, allowing a continuously variable ratio between the pedal input at the bottom bracket and the chainring output. It's a similar design to that used in many electric vehicles, and the gear range is over 400% which is comparable with a derailleur system. The gears can be automatically controlled, or in manual mode you can use a bar-mounted shifter to control the drive ratio.

The system has two electric motors rather than the more usual one. The first motor rotates the sun gear in the planetary system to control the gear ratio, and the second drives the ring gear directly, which in turn is connected directly to the chainring. The system is capable of 200Nm of torque, but in a standard 250W configuration you'll get 90Nm from a standstill. The Revonte AKKU battery system has options of 530Wh and 705Wh batteries, and up to four can

be added for a total capacity of nearly 3KWh. That, along with the low-maintenance transmission, should make the system attractive for the e-cargo and last-mile LEV markets, as well as for urban riding and mountain biking.

Okawa (8.0/F20) is an offshoot of Yadea, China's

The as-yet-unnamed Project AT4 motor includes a four-speed gearbox



The fully internal Bikedrive Air system weighs just 3.5kg

largest producer of electric two-wheelers. Its original motor, the Fusion, was developed in-house at Yadea as a motor for the company's range of pedelec bikes. In 2020 Yadea decided not to continue with the development of their own drivetrain systems and Okawa took over development as a separate company, with Yadea still the main shareholder.

There's a new motor in the range, which at time of going to press was named Project AT4, although that's set to change and may already have done so if you seek it out on Okawa's stand! Again it's a mid motor with an 80Nm output but there are some significant differences. Biggest of all is that the motor includes a four-speed gearbox with a range of 240%. The gearbox can be controlled manually or automatically, and it means that all the motor and shiftgear parts are enclosed which should lead to a longer lifetime. All Okawa's motor systems and peripherals carry a four-year warranty.

The system voltage is upped to 48V for the new motor, which again is available in 250W and 350W configurations for different markets, and uses an ISIS axle. The motor is heavier thanks to the gearbox, weighing in at 5.5kg, but isn't any noisier than its non-g geared counterpart, the 36V Fusion motor, which continues in the range. It's available in 250W and 350W builds. The 3.6kg Fusion unit is capable of 80Nm of torque, and is quiet, with a

noise rating of under 55dB. It also uses an ISIS-pattern axle, so it's compatible with a wide range of aftermarket cranks.

With ebikemotion now a part of Mahle and Fazua now wholly owned by Porsche, there's big investment currently going into lightweight drive systems. If you're looking for a motor to build into a lightweight ebike then the Bikedrive Air from **Maxon (8.0/H39)** is one of the lightest mid drive systems on the market. Maxon has 60 years' experience of building precision electric motors, and its motors have powered two Mars landers. Built in Switzerland, the Bikedrive Air has a total system weight of 3.5kg, with the motor accounting for 1.9kg of that. The motor system has a maximum torque of 30Nm. Both the motor and the

250Wh battery are designed to



Polini's EP-3+ is offered in road and MTB configurations



Amprio's 2.9kg R-Mag drive puts out 85Nm of torque

be fully integrated into the bike's down tube, and the slimline system allows for down tubes as narrow as 60mm in diameter to be used. The small motor also allows for a low Q-factor of as little as 155mm.

The top-tube mounted interface gives you control of the system but you can also connect the Bikedrive Air to Maxon's smartphone app which allows you to customise the assistance modes. The system is also ANT+ enabled, so it's easy to pair with many aftermarket GPS devices. There's a dealer app too that can give up-to-the-minute servicing information.

Elsewhere there are new motors surfacing, and improvements being made to existing units. **OLI ebike Systems (8.0/F12)** has a

number of motor systems already in production but its new 3kg Edge drive unit is powerful enough that it required a ground-up redesign of the control electronics to properly manage the 90Nm of torque on offer. Oli ebike says that the 36V motor is designed for 'limitless eMTB and heavy-duty urban mobility', and it's available in Bosch Gen4 and Shimano E8000/EP8 mount configurations, so it doesn't require a frame redesign to be used in place of a Bosch or Shimano motor. The motor has a Q-factor of 177mm and uses an ISIS axle for compatibility with a wide range of aftermarket cranks and chainrings.

The **Polini (8.0/F21)** E-P3 motor has been around for a few years, powering bikes such as the excellent first generation Bianchi Impulso e-Allroad. That bike has moved to a Mahle X35 system now, but Polini has continued to develop the

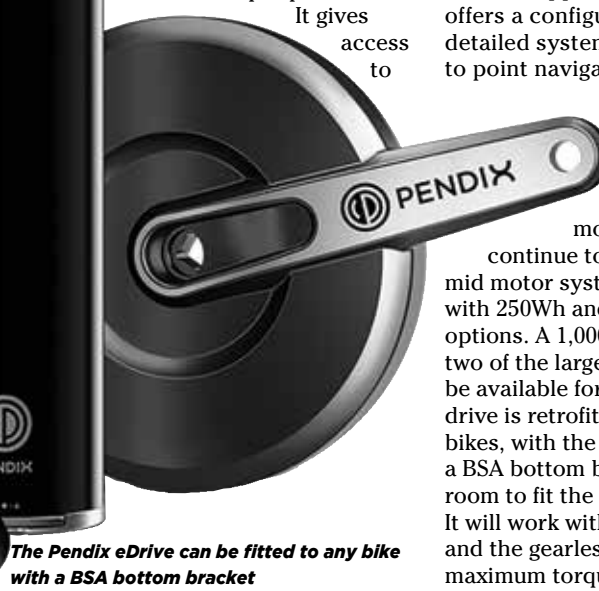


E-P3 motor and a new version, the E-P3+, has now been released.

Weighing in at 2.95kg the E-P3+ is competitive with the likes of Bosch's Performance Line CX and Shimano's EP8 motors in terms of weight. And also in terms of output: The motor is offered in two different configurations, a road build topping out at 75Nm of torque, and an MX model for mountain bikes with an impressive 90Nm on tap. Polini's Dynamic Control software is designed to offer natural assistance, even at high cadences of up to 120rpm.

Polini's TFT display remote shows all the usual metrics and also displays the rider's input power.

It gives access to



The Pendix eDrive can be fitted to any bike with a BSA bottom bracket

the five levels of assistance. Three of these are pre-set, and two are configurable by the user from Polini's accompanying smartphone app.

Amprio (8.0/H36) is part of the huge Rheinmetall group, which produces electric traction systems for all types of electric vehicle. The company first presented a motor at Eurobike in 2017, and the current R-Mag drive is an ultra-compact 48V mid motor that offers up to 85Nm of torque and 420% assistance at the pedals. It's also a lightweight unit thanks to its magnesium housing which keeps the overall motor weight down to 2.9kg.

Amprio offers batteries from 660Wh to 800Wh, and a range of different bar- and centre-mounted control options. There's an iOS and Android app available too, which offers a configurable bike dashboard, detailed system information and point to point navigation.

Pendix (8.0/F19) has a chainless rear drive system at the show which we'll cover in our hub

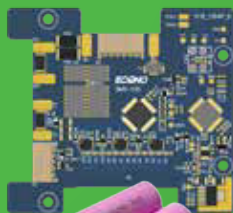
motor roundup, but they continue to produce their eDrive mid motor system which is available with 250Wh and 500Wh battery options. A 1,000Wh system using two of the larger batteries will soon be available for extended range. The drive is retrofittable to a wide range of bikes, with the only stipulations being a BSA bottom bracket and enough room to fit the motor and battery. It will work with any transmission and the gearless 250W motor has a maximum torque of 65Nm. **DA**

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OVERVIEW: CARGO BIKES FOR FAMILIES

VERSATILE EVERYDAY ALTERNATIVES TO THE FAMILY CAR

With pay loads of up to 90 kilograms and plenty of space for groceries, children or pets, classic front loader cargo bikes are a versatile alternative to a car. All the more so if an e-bike drive system makes it easier to get and keep going once fully loaded.



If you're looking for a cargo bike with a bamboo frame, MyBoo has you covered.



Ca Go has upped the ante in terms of passenger protection.

Ten to fifteen years ago, cargo bikes were niche products built by a few specialized manufacturers. Thanks to a mix of improved infrastructure, increasing environmental awareness and public subsidies as incentives for buyers, the demand for cargo bikes has been growing swiftly in recent years. This has attracted a number of established mainstream manufacturers such as **Kettler Alu-Rad (12.0 / B06)**, **Bergamont (12.0 / A12)** and **Cube** to develop suitable models. Following the automotive industry's platform philosophy, the Accell Group has launched largely identical Long John-style cargo bikes and cargo trikes under its Winora, Batavus and Raleigh brands. The Accell Group also bought cargo bike specialist Velosophy with its brands **Babboe (8.0 / C51)** and **Carqon** back in 2018 while its Dutch rival PON Bike bought **Urban Arrow (8.0 / C55)** late in 2019.

With its spacious transport boxes made of extruded polypropylene, **Urban Arrow**

has set the tone for safe transport of children. For 2023 the Dutch cargo bike specialist is focusing on rolling out its smart phone app **Urban Arrow Connected**. From a b2b perspective, the inclusion of a digital maintenance booklet may well be the most interesting aspect of this new app that of course also offers features such as real-time navigation or theft detection and tracking of a stolen cargo bike. German premium brand **Ca Go (8.0 / C60)** upped the ante in terms of passenger protection, with its EPP box made by industrial foam specialist Schumpeter coming with two individual children seats, including height-adjustable headrests and proper five-point harnesses. As an option, Ca Go offers a three-year subscription plan to theft-tracking devices upon buying one of their premium cargo bikes.

With the **Packster 70**, **Riese & Müller (12.0 / A11)** made a big step ahead in terms of keeping precious cargo safe from harm. Thanks to its

The Packster 70 of Riese & Müller is back - better than ever.



The Cruise model is Carqon's latest family cargo bike.

high edges, the box made of extruded, compressed polypropylene and the harnesses that come with the padded seats offer a lot more protection for little passengers when compared to the shallow wooden boxes of earlier Packster models. Riese & Müller also neatly integrated up to two Powertube battery packs into the alloy profiles of the main frame to feed Bosch's Cargo Line mid-motor. Another innovation was the steering that relied on a cable instead of a push rod. However, this steering mechanism caused issues and forced Riese & Müller to issue a recall in the fall of 2021. At this year's Eurobike show, the German premium brand is presenting a revised steering mechanism that will be retrofitted to existing and recalled Packster 70 models starting in the third quarter of 2022. And of course all new Packster 70 models will come with the improved steering.

Carqon (8.0 / B15) first

made headlines with its Classic model that featured a hinged side-door to enter the cargo box made of recycled HDPE plastic. The brand's latest Cruise model has been further optimized for transporting children. The Dibond cover and an alloy subframe add longevity to the EPP box that is extended in the back to safely protect the passengers – up to two children on a seat bench secured with harnesses and a baby in a Maxi-Cosi. Thanks to the support of Bosch's Performance CX Cargoline mid-motor with its 75 Nm of torque, it's easy to get going and get up climbs. As for the battery, customers get to choose from Powerpacks with a capacity of either 400 or 500 Wh, including a double-battery option for extra range. Carqon also offers versions of the Cruise with either an XT drivetrain and a conventional chain or Enviolo's internal transmission hub combined with a belt drive. While the Cruise model weighs roughly 50 kg depending on its exact



Electric support facilitates transport of all kinds.

specification, the maximum system weight stands at 225 kg.

The standout feature of Dutch cargo bike brand **Dolly Bikes (8.0 / B66)** is the cargo box made of double-walled plastic that is sturdy and weatherproof, lightweight, easy to recycle and available in no less than 11 colours.

Since the alloy frame can be ordered in five colours as well, there are plenty of possible combinations to make a cargo bike unique. For the e-bike drive system on the Cargo Bike model, Dolly Bikes relies on Bafang's M400 mid-motor as a powerful yet affordable solution. Combined with Enviolo's Nuvinci Cargo gear hub, you get a low-maintenance package that is easy to operate. As of late, Dolly Bikes have moved the battery with a capacity of 600 Wh from a beneath-the-carrier solution to a well-protected space under the seat bench, thus moving the battery's weight to a lower and more central position on the bike. As a consequence, the cargo bikes now come without a rear carrier in their standard configuration, but you still can order a carrier if you want one.

Presenting a unique take on a cargo trike for families is Danish manufacturer **Black Iron Horse (8.0 / C57)**. Its trike construction relies on two fixed wheels up front and one wheel to steer in the back – with all wheels measuring 20 inches in diameter for added



Black Iron Horse's cargo trike has a unique rear wheel steering.

to work well in bad weather or to transport dogs rather than children. At a width below 90 centimeters, this cargo trike can still thread through traffic easily and fits on cycle paths and through doorways.

When it first showed up at the Eurobike show back in 2017 German start-up **Chike (8.0 / B11)** – the company name being a combination of child and trike - turned a lot of heads with its compact E-Cargo and E-Kids cargo tricycles, winning a Eurobike award. Thanks to a logistics cooperation with German distributor and wholesaler Hartje, this young company got through the pandemic's chaos pretty well. Last year Chike tweaked some details to make the transport of children even safer, such as adding a support strut made of EPP under the roof of the kids' compartment. The trike also got a more powerful Steps Cargo 6100 mid-motor and a belt drive for minimum maintenance. All new for 2023 is the E-Dog as a version to transport four-legged family members. As with the existing trikes, you get a tilting mechanism up front for maneuverability. Instead of a cargo box or a kid's compartment, a made-in-Germany box for dogs with insect nets and rain protection is mounted to the loading bay up front. As an optional extra you can order a retractable set of alloy stairs.

sturdiness and agility. The Pegasus trikes are available with Shimano's Steps M6100 mid-motor, with the latest and most powerful EP8 version being offered as an option at a premium. The same goes for double-battery specifications. The cargo box of the Pegasus is made of sturdy, recycled plastic and available in four colorways and in three sizes – fitting two, four or even six children plus a sizable bit of cargo. Thanks to a selection of accessories the Pegasus trike can be optimized



Chike's E-Dog offers a luxurious way to take your dog with you.

Closely cooperating with farmers and workshops in Ghana as part of its social commitment, **my Boo (8.0 / B72)** is a bicycle manufacturer based



Cargo bikes are a viable alternative to a car for urban families.

in Northern Germany that does a lot of things differently. That starts with the choice of frame material where my Boo is banking on bamboo as a natural resource that grows quickly. The individual bamboo tubes are linked using sisal fibres, with only some threads and bearing seats made of alloy – and of course the interface for the mid-motor. After two years of development and refinement, the my Kumasi is the first cargo bike from my Boo. For cleaner looks and to make sure that the cargo box fits into the cradle neatly, the bamboo tubes of the my Kumasi are linked with much thinner flax fibers. One interesting quirk is that my Boo relies on a belt drive rather than a push rod or cables for the steering mechanism.

Once the my Kumasi hits the markets in 2023, my Boo wants to increase the functionality of this model by offering modular solutions for the cargo box such as seats, a side-entry door or a rain cover. With Shimano's Steps Cargo mid-motor maxing out at 85 Nm of torque, there is no lack of powerful support. And while the specification of the my Kumasi is pretty straight-forward with a Deore Link Glide 10-speed drivetrain and hydraulic four-piston disc brakes from Shimano, Supernova's powerful headlight, Schwalbe's extra-wide Pick-Up tires and fenders with integrated struts to mount pannier bags add some bling and utility to this cargo bike that certainly stands out due to its frame material. **LVR**

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OVERVIEW: DISC BRAKES

BETTER BIKE STOPPERS AT ALL PRICE POINTS

Apart from very few entry-level models, disc brakes have become the norm on quality bicycles. And there is no lack in innovation regarding disc brakes at this year's Eurobike show



Magura has teamed up with Bosch eBike Systems to further refine the ABS system.

Disc brakes have taken cycling by storm, starting in the adrenaline-filled world of gravity mountain bike racing and making it all the way to the pro peloton at the Tour de France. As the electrification has resulted in heavier bikes that get ridden over longer distances at higher speeds, the demands for brake systems have grown in the utility market as well – and have outpaced the capabilities of rim brakes or roller brakes. As a result, almost all bicycles nowadays come with disc brakes as standard equipment.

Known for its CNC machining mastery and 25 years of experience in building hydraulic disc brakes for bicycles, **Hope Technology (9.0/A05)** is presenting its new Tech4 series disc brakes at Eurobike. The main emphasis when developing these brakes was to offer more stopping power while retaining the legendary lever feel and modulation. According to the British manufacturer, the redesign results in a pressure increase of 30 percent. Since the lever now moves on roller bearing, operating forces are lower than ever for less fatigued hands on long, technical descents.

The calipers have also been tweaked for smooth running and to better handle high temperatures, featuring phenolic inserts in the stainless steel pistons. Both reach and bite-point are adjustable without tools through machined dials and Hope Technology offers braided hoses as an option at a premium as well. The Tech4 series is available as a lightweight two-piston X2 version and



Hope's Tech4 brakes add 30 percents in brake power - and plenty of colour.

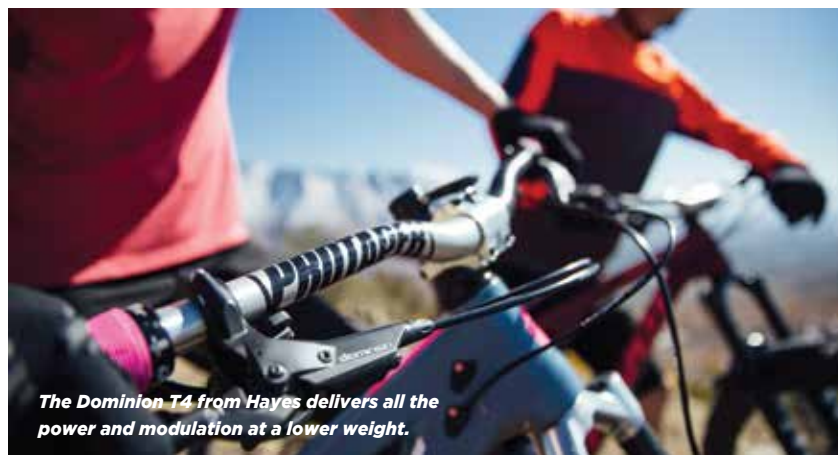
as four-piston E4 and V4 versions, respectively. For road and gravel bikes, the RX4+ caliper fits the flat mount standard now as well and is available to work with either DOT-based systems like Sram or mineral oil-based systems like Shimano or Campagnolo.

With the Slate Evo model **Tektro TRP (12.0 / B08)** is bringing its latest Evo disc brake technology derived from various partnerships in gravity racing to a new entry-level price point. Just as with the DHR Evo flagship model you get a stiff, die-cast four-piston caliper for plenty of stopping power and proper modulation and an ergonomic alloy lever blade with dimples for extra grip. The rotors come with a thickness of 2.3 rather than 2 mm, and are less prone to warping when getting hot on long descents. Other features that have trickled down from TRP's top offerings are the 5 mm brake hoses that handle internal pressures better and are easier to route internally through the frame and the high-performance mineral oil with a boiling point of 230°C flowing through those. According to TRP, the Slate Evo model is a good fit not just for all mountain and trail bikes but for e-mountainbikes in particular that generally weigh more and thus pose higher loads and demands on the brake system. For that kind of use, TRP also has a matching third type of brake pads and rotors ranging from 160 all the way to a whopping 223 mm in diameter.

With its first-ever disc brake system that works with mineral oil instead of DOT, **Sram (12.0 / B10)** is taking aim at the growing OE market for e-mountainbikes.



The Slate Evo discbrakes bring TRP's latest technology to a lower price point.



The Dominion T4 from Hayes delivers all the power and modulation at a lower weight.

The four-piston caliper of DB8 brake is based on Sram's Code series and works with the same brake pads. The hoses, the Stealth-a-Majig couplings and the olives are interchangeable between existing DOT systems and the DB8 working with mineral oil as well. Based on the Level series, the levers do not feature dials for fine-tuning but the reach of the lever is adjustable with an Allen key. For proper heat dissipation Sram recommends the use of its HS2 rotors. Most importantly, Sram offers specific bleed kits for the DB8 that work with mineral oil instead of DOT.

While Sram will be offering the DB8 as an aftermarket product as well, the main focus certainly is on the budget-minded OE market where this brake promises to be a low-maintenance alternative to the existing offerings.

While antilock braking systems have become a standard on cars and pretty common on motorbikes built for on-road use, they are still rare on bicycles. With e-bikes becoming more common every year and the weights and speeds of bicycles going up correspondingly, it's only a matter of time for the ABS technology to become more wide-spread on pedelecs as well. **Magura (12.0 / C09)** has been offering a selection of disc brake components adapted to the needs of e-bikes for a while, and it has been partnering with Bosch eBike Systems on the latter's first ABS system for bicycles before. This partnership has now resulted in the second generation of Bosch's eBike ABS that is not only much more compact and easier to integrate, but also promises to add stability to the handling under hard braking thanks to combined sensors on both wheels. By preventing the front wheel from locking up and the rear wheel from lifting,

The 2nd generation ABS system has become much smaller and more integrated.



With its first mineral oil brake system, Sram aims at the OE market.

the ABS system provides the shortest possible brake path by using Magura's MT C ABS brake components.

In a bid to return to former glory, **Hayes (12.0 / C14)** upped its game substantially with the launch of the first new Dominion disc brakes back in 2018. With forged calipers, ergonomic levers and a sturdy construction overall, the Dominion A4 offered plenty of stopping power and fine modulation at low operating forces. Another neat feature was the PerFit system, making a perfect alignment of caliper and rotor so much easier by building two grub bolts into the caliper mounts for fine-adjustment. If the press had any complaints, it was about the weight.

So Hayes set out to shave some weight off their proven Dominion package without sacrificing either performance or reliability. The result is the Dominion T4 rolling out at Eurobike. One obvious way to reduce weight is to replace the alloy brake lever with a unit from carbon fiber hand laid by sister company Reynolds, offering the same ergonomics at a fraction of the weight. Composite reservoir covers, alloy back plates of the brake pads and titanium bolts help to save even more weight, making a set of Dominion T4 disc brakes 100 grams lighter than its proven Dominion A4 sibling. ■ LVR

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OVERVIEW: DRIVETRAIN ALTERNATIVES

NEW LINKS FOR THE SUPPLY CHAIN

With lead times of major component suppliers exceeding 300 days, the bicycle industry is looking for alternatives to keep up production momentum. At this year's Eurobike, a number of fresh offerings will be on display that make a lot of sense for pedelecs in particular. And some other alternative suppliers have upped their game as well



Nine gears add longevity to Tektro's E-Drive 9 drivetrain.

The combination of a significantly increased demand and various challenges and squeezes along the supply chain have led to a drastic growth in lead times for key bicycle components. Apart from disc brakes and suspension forks, drivetrains have seen the most dramatic squeeze with lead times moving close to 400 days. For bicycle producers, this is a real issue as they simply cannot scale up their production fast enough to meet the high demand when parts are that scarce and hard to find. As a result, many bicycle manufacturers have become more open to working with alternative suppliers.

While this situation may look like a great opportunity for up-and-coming suppliers and start-ups, these of course also face the same issues as their bigger competitors: raw materials such as steel and alloys are hard to get and increasing in price. Even investing in additional machines to scale up production is hard these days due to a worldwide lack in computer chips, semi-conductors and other electronics. Despite all these limiting factors there are more options for bicycle manufacturers than ever. Who are the hidden champions that come to the rescue of production planners and purchasing crews?

As an example of a big industry player getting into drivetrains at the right time, **Tektro-TRP (12.0 / B08)** made good use of their sponsoring partnerships in gravity racing to first launch a downhill-specific drivetrain with the G-Spec DH7 before following up with the G-Spec TR12 drivetrain offering the full choice of gears. With its latest product, Tektro-TRP is catering to the fast-growing e-mountainbike and pedelec market, aiming for OE business primarily. The E-Drive 9 is a derailleur-based one-by drivetrain with

a trigger-style shifter and a cassette that has been built to last and resist the higher torque forces that typically occur on e-bikes. All nine cogs of this cassette are made of steel, and the three smallest cogs can be replaced separately. With a range from 11 to 46 teeth, the choice of gears should be fully sufficient when combined with electric assistance.

With its Powershift system, **Classified Cycling (11.0 / A07)** has found an answer to the question of whether a front derailleur is necessary on gravel and road bikes. The Belgian start-up replaces the front derailleur and the smaller chainring with a lightweight planetary drive that sits in the rear hub. Its ratio mimics proven gear ratios for double-chainring set-ups, with the command to change gears being transmitted wirelessly and the gear change happening within 15 thousandths of a second without the danger of the chain derailing.

The Powershift system won a Gold Eurobike Award in 2021, and well-known former pro riders such as Tom Boonen, Marcel Kittel and Anna van der Breggen have come aboard as investors and brand ambassadors.



Kindernay is aiming at the e-utility market with the VII hub.



Classified's Powershift system replaces the front derailleur with a two-gear hub.

Three new players have decided to put all the gears into the rear hub, thus sealing all moving parts from dust and water and eliminating the need for an exposed derailleur. This concept makes a lot of sense on all kinds of e-bikes with a mid-motor. After all the additional watts and the torque dished out by mid-motors needs to be transferred to the rear wheel by a chain, and that wears a lot faster under the additional loads just as lightweight performance cassettes do. Resorting to an internal transmission is one way to avoid these issues and also allows for a durable and quiet drivebelt instead of a traditional chain, compensating for some of the extra weight that is generally associated with gear hubs.

Hailing from Norway, the **Kindernay Corporation (9.1 / D20)** has been around for a couple of years with its high-end gear hub XIV aiming at the performance mountain segment. While the market for this product was relatively small, the more recent VII gear hub costs about 20 percent less.

Mind you, due to the assembly in Norway it still is far from being a bargain – but it won a Eurobike award in 2021, with the expert judges calling this hub “the new benchmark for e-bike gear hubs”. With service intervals of about

5000 kilometers, it sounds like an interesting option for riders who rack up a lot of miles.

The seven evenly spaced gears of Kindernay's VII hub cover a large range



Revolute sees its Hub1 as a perfect match for e-bikes with mid-motors.

of 428 percent, offering lightning-fast gear changes even under up to 160 Nm of torque. At 1200 grams the VII hub weighs much less than many other gear hubs on the market as well. One stand-out feature of the Norwegian manufacturer worth mentioning is their unique Swap Cage technology. All the moving parts of the transmission sit in a hub core that slides into a shell and is secured by bolts. The spokes and rim are mounted to that shell, so if the transmission is not working as it should you can easily swap out the core and continue riding.

German start-up **Revolute (F12.0 / G20)** first showed their Hub1 at the Eurobike event in July 2021. Since much of its technology had not been trademarked yet, Revolute decided not to exhibit their product at last year's Eurobike. Now that all the legal work has been done, the innovative made-in-Germany Hub1 will be on display in Frankfurt. And it really deserves a closer



when stopping on a rise. This function can be switched off in favor of a true neutral gear that facilitates maneuvering the bike in tight spots. Last but not least, Revolute has found a neat way to secure the straight-pull spokes, combining high strength with convenience if a spoke needs to be replaced.

Another new internal transmission hub designed and produced in Germany is the Nine from **3x3 (8.0 / 121)**, a subsidiary of the Southwestern German manufacturer H+B Hightech GmbH. This hub comes with dedicated flanges for j-bend spokes, can be combined with either conventional chains or a belt and houses a planetary gear that is completely sealed from the elements. According to 3x3 the nine gears can be changed under loads of up to 250 Nm using either a twist shifter or an e-shifter and covering a really large range of 554 percent. While 3x3 says that the sturdiness of the internals of the Nine hub are a perfect match for pedelecs or cargo bikes with a mid-motor, it also recommends this hub for other applications – be it on paved roads or rough terrain.

Since the bottom bracket area of bicycle frames needs to be designed around its gear boxes, German transmission specialist **Pinion (12.0 / D08)** is a special case in the OE market. Its gear boxes are



With the Smart Shift technology, Pinion has electrified its gearbox.

available as the premium P-Series with a shell machined from a solid block of aluminum and as the slightly more affordable C-Series with a cast magnesium shell, with the number of gears ranging from six to eighteen. At the Eurobike show Pinion premieres its Smart.Shift technology which was developed in close cooperation with Swiss speed pedelec specialist Stromer Bike. The main difference is that the gear box is not controlled by two shift cables but electronically. This

means gears changes can be done while riding or standing in just 0.2 seconds and a compact, ergonomic trigger shifter can be used. Thanks to the CanBus interface the selected gear is shown on the display of the e-bike, and you can select which gear you wish to start in. Pinion's Smart.Shift technology will debut on the new ST7 model of Stromer Bike. It will only be offered as part of the C-series and can not be retrofitted to existing gear boxes. ■ **LvR**

The Nine transmission hub is 3x3's first product for bicycles.

look as it comes with a couple of clever features. With its six gears, it covers a range of 400 percent while the weight is said to be below two kilograms. Helical gears inside the Hub1 reduce the noise level when riding and allow for gear changes even under full load, withstanding loads of up to 250 Nm.

According to Revolute, the regular service interval stands at 5000 kilometers with a first service being advised after 1000 kilometers or one year after the purchase. One particularly interesting feature of the Hub1 is called Hill Assist and prevents the wheel from rolling backwards

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OVERVIEW: E-MOBILITY

BRANDS THAT ARE WINNING AT E-MOBILITY

A few years ago new players from all over the world were enriching the cycling industry with alternative approaches to future mobility requirements. Back then no one could have predicted what was to come, which proved fatal to some e-mobility solutions but a boon to others who managed to ride out the pandemic with a mix of determination, strategy, innovation, and some luck. Now there are new (and some newish) players who are collaborating with the cycling industry to offer more mobility options for getting around year-round. Check them out here at Eurobike.



With almost zero marketing initiatives to date, AER has achieved more than £1m in presales for its award-winning AER 557



the UK to deepen and broaden the AER 557's market reach and increase its EU distribution channels with the financing it needs. With almost zero marketing to date, AER has achieved more than \$1 million in presales, and will begin mass production with professional bicycle assemblers WSF in Austria in November, with a second run in March 2023.

Straight out of Italy's automotive capital, **To.tem (8.0 / B33)** first debuted its award-winning Lynx three-wheeled electric scooter at the end of 2020. After exhaustive consumer research that included hundreds of online surveys and in-person interviews that led to 14 prototypes, Lynx led the charge to change the micromobility paradigm by providing customers with a unique, safe, and stable e-kickscooter. Key features such as a safety system, navigation, and three wheels were the foundation for a unique user experience for riding in an urban environment. To.tem also determined that the Lynx's three-wheel design would result in safe, maneuverable, and stable riding, which was missing in existing solutions.

Since then To.tem has expanded the range and narrowed its focus on safety with a rear camera for its collision alert system. Both the Lynx eMotion and eVision have front and rear lights as well as directional lights to safely signaling rider movement. Removable battery, phone holder, carry handles, and companion app are also standard features for each model, but only the eVision includes a lifetime collision alarm and a one-year subscription to navigation software. Whether it's a pro or a con, the lack of

2019 Eurobike Award winner in the startup category, **AER (8.0 / H18)** ("An Electric Revolution"), survived the pandemic and has even thrived while its competitors fell victim to pandemic-related challenges. A few key aspects contributed to the company's success, like iron-clad determination on behalf of founder John Irving, the nimbleness and agility of being a startup, and of course, a product that has continued to outrank its rivals in terms of quality and aesthetics. The foldable AER 557 has changed little since it was first introduced – some tolerances have been improved but it still looks the same. Top-quality components go into the 557. **DT Swiss (12.0 / C19)** spokes, Halo hubs, **Magura (12.0 / C09)** MT4 brakes, **Schwalbe (12.1 / C08)** tires, **TDCM (9.0 / F21)** motor, and SQlab 30X bars and 710 grips all contribute to the singular e-scooter that so far no one has been able to match. What is new however, is the announcement that a big private equity firm has backed AER, which will enable the startup from



reTyre's Stinger modular tire for e-scooters was developed for fleets to have more uptime in northern markets.



The To.tem Lynx: what people said they want in an electric scooter.

an onboard dashboard is deliberate; the user interacts with the e-scooter via the Lynx smartphone app. Last but not least, the scooter's usefulness doesn't end when the user arrives home — once the Lynx is parked inside, it can be used as an interior lighting device thanks to its minimalist, standalone design.

To.tem has instituted a circular economy approach to decrease its carbon footprint: the e-scooters' wood deck, aluminum frame, and batteries have been designed to close the product lifecycle by reintroducing the materials back into the supply chain. The suggested price for the Lynx eMotion is €899 and €1199 for the eVision.

Reid Bikes (9.0 / E03) made good on its mission "to facilitate people's freedom on two wheels and more across the world" when it expanded its products offerings to include other forms of mobility, like e-scooters and hoverboards. Reid offers its Boost or Overdrive e-scooters to anyone who's looking to live the e-mobility lifestyle without spending a lot of money. The Boost e-scooter has a 250w motor with a battery range of 28-35 kilometers and a charge time of 5-6 hours. An electronic brake on the front and mechanical rear disc brake provide stopping power while a front light with three modes and an LED integrated rear brake light and side lighting help the user see and be seen. The Overdrive bumps up the power to 432w with

a 35–45-kilometer range; 10" puncture-proof tires and front disc brake and electronic rear brake plus foot brake all provide a little extra insurance for arriving safely at one's destination. Both e-scooters have integrated rear suspension and comply with EU regulations. Reid goes one step further in its mission and has pledged to take an active role in tackling climate change. For every Reid bike or scooter purchased, one tree is planted.

While not an outright e-mobility solution, **reTyre (9.1 / B04)** is knocking down barriers that might keep people from engaging in sustainable mobility. reTyre's modular tire systems allow a user to change their tires to suit external conditions without removing their wheels. The company has experienced

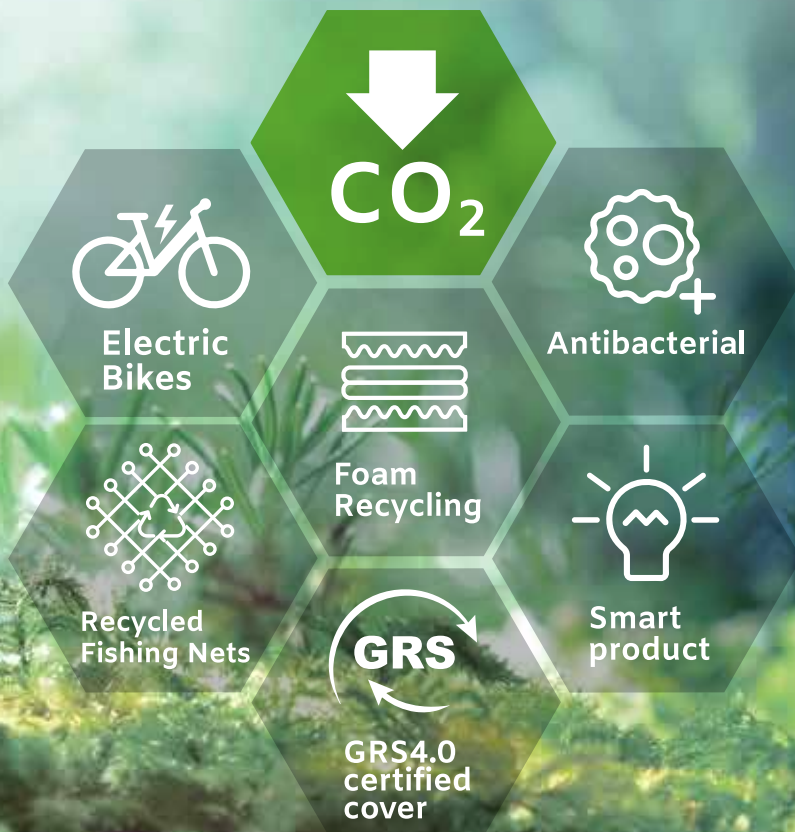
success in the cycling market with tire "skins" for ice and rough terrain, now it's busy moving into new markets, like e-scooter fleets. The Stinger was developed through a collaboration with Tier, a leading micromobility sharing scheme in Europe and the Middle East, to allow its global fleet of e-scooters to have a higher uptime in northern markets throughout the year.

E-mobility shows no slowing down and government policies, infrastructure, and climate change are making it easier to turn to micromobility as a way of life. Now with e-mobility solutions like these, that lifestyle change just got even easier. ■ **WB**



To tackle climate change, Reid Bikes has pledged to plant a tree for every bike or scooter purchased

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12.1 / A19

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OVERVIEW: CAMPING AND TOURING

CYCLING KIT FOR THE GREAT OUTDOORS

As interest in bikepacking and cycle touring has grown, the dividing line between cycling and more general outdoor pursuits has become less defined. This trend has seen cycling clothing become more amenable to spending time off the bike, while companies producing traditional outdoor gear like tents and sleeping bags are paying increasing attention to the features cyclists require. After all, who wants to double up on items that do a similar job?



Lightweight Astro sleeping bags from Deuter

Deuter (11.1/D05) is one such outdoor brand that has you covered for all kinds of activities. Along with its vast range of bike-specific bags and luggage, it also produces a slew of lightweight sleeping bags. Including synthetic and down fill styles, the latter is particularly useful for bikepacking trips due to their lightweight and minimal pack size. Covering a wide range of temperatures, the firm's Astro line features comfortable mummy shapes and is Bluesign-certified to reflect the enhanced social and environmental standards used in their construction. Also offering a range of organisers, toiletries, and first aid kits designed for outdoor pursuits, the firm's stand is an excellent stop for anyone needing pointers on organising their next camp-out.

Offering a similar selection of bags for putting on your back, attaching to your bike, or crawling into at the end of a hard day's riding is **Vaude (11.1/C19)**. This German firm can also supply riders with a huge range of tents and sleeping mats, plus clothing for hiking, biking, or a bit of both. With lines specifically covering mountain biking, bikepacking, cycle touring, plus road, and gravel, it's close to being a one-stop brand for all your outdoor needs. For the truly tough, the firm

also offers its Biwak bivy bags. Popular with ultra-racers and grizzled outdoor types, these waterproof bags provide an outer layer to protect your sleeping bag. The last word in lightweight crash-and-dash camping, they're speedy to set up and offer a true open-air experience.

In a similar vein, **Big Sky International (11.1/B25a)** focuses exclusively on the kind of ultra-light tents beloved by bikepackers and cycle tourists. This American firm offers a wide selection of tents and shelters, along with equally light accessories, including pegs and repair kits. Ranging from the minimalist Wisp one-person super bivy tent to the more spacious two-person Evolution, all feature bikepacking-friendly pack sizes and offer rapid set-up. Helping you maximise time spent on your back, the firm's equally minimalist pillows ensure you'll have somewhere comfy to lay your head after a long day pedalling.

It's likely a sign that the worlds of cycling and general outdoor pursuits are increasingly overlapping when you see companies like **Jack Wolfskin (11.1/C17)** exhibiting at Eurobike. This well-established firm makes everything you need for a comfortable camping trip, from clothing to tents and sleeping bags. At this year's show, it's keen to promote its new bikepacking line. Comprising five bike-mounted bags, these are made from 100% recycled polyester and offer a total of 40 litres of storage. Complemented by a range of casually-styled yet technically-adept clothing, this aims to work well both on and off the bike.

If you're leaving the road behind, it's even more important to know where you're going. Combining cycling and hiking features, **TwoNav's (11.1/B30)** range of GPS units will suit riders who like exploring away from the road or (whisper it) occasionally do so without their bike. New for the show is



TwoNav Terra GPS

its Terra unit. Compact and rugged for a life spent knocking about outdoors, it boasts a 15-hour battery life and a 3.7-inch touchscreen. Preloaded with topographic maps, you'll be able to see upcoming terrain in accurate detail, including contour lines and other features.

With a touchscreen and multiple physical buttons, it's happy to operate in all types of weather too.

Moving onto brands perhaps more familiar to the cycling market, besides making a vast range of tools and accessories, **Topeak (12.1/C18)** creates many items that will appeal to bike campers. Key among them is its tag-along style Journey Trailer TX and drybag. Designed for bikes with 12mm rear thru-axles, it offers a carrying capacity of 65 litres and 32 kg. At the same time, its minimal 5.35 kg weight is supported by a single additional wheel. Easily swallowing a tent and other kit, you'll be less limited in what you can take than when using bike-mounted bags. Also keeping the weight off your back and your bicycle, the system makes for easy steering and comfortable transportation.

Similarly, many cyclists will know **Camelbak (11.1/B01)** for its bottles and backpack-based hydration systems. However, if you're venturing far enough from civilisation that you'll be unsure of securing clean water, its Lifestraw-equipped products are worth discovering too. Working with either the firm's bladder or bottle-style designs, they use a two-stage filtration process to remove bacteria, parasites, chemicals, and other pollutants. Allowing you to drink freely even when your campsite is far from the nearest water main, they're a potential lifesaver.

Finally, while most of us probably do our touring with a tent or camper van, a lucky few might find themselves lodging in more luxurious quarters. The Marine edition of **Vello's (12.0/**



Ultra-light tents by Big Sky International



Jack Wolfskin is at Eurobike with bikepacking products



Journey Trailer TX and drybag



Camelbak Lifestraw



Marine edition of Vello's electric folding bike

frame, its Gates belt drive and Shimano Alfine 8-speed hub gears should prove almost equally long-lasting. Ideal for travel thanks to its 11.9 kg weight and small pack size, these qualities are as applicable on the daily commute as they are for time spent exploring. Also ideal for stashing in your camper or motor home if yachting is not your thing, it benefits from a range of luggage options. Making it practical as a primary mode of transport or the perfect low-maintenance run-around once you reach your destination, it'll likely do for less adventurous use once home too. ■ JD



Vaude has a huge range of products to help you explore the outdoors

SUSTAINABILITY IN SOFT GOODS

GREEN INVESTMENTS STARTING TO PAY OFF FOR CYCLING APPAREL

From household waste to discarded tires, an increasingly diverse mix of materials is used for the production of greener cycling apparel, amid growing consumer demand for sustainable gear. Some suppliers have long integrated sustainability into their product development and business practices, and investments in alternative materials are starting to pay off, leading to a proliferation of more sustainable choices.



Vaude (11.1/C19) is among the companies that were working on sustainability long before riders started asking about carbon footprint, microplastics and circular solutions. The German company has consistently pushed for the development of greener performance materials, and invested to make its operations and supply chain more sustainable.

This Moab shirt from Vaude uses recycled PET bottles and recycled post-consumer tire polyamide.

Vaude was able to proclaim earlier this year that its products are climate neutral on a global basis. It invested heavily to reduce its own carbon emissions and it decided to offset unavoidable emissions, at the cost of its marketing budget.

Such topics are particularly relevant for the younger enduro riders targeted by Vaude with its Moab long-sleeved shirt and shorts for women.

Some of the fabrics used for the Moab Pro range use mass balance technology, which extracts oil from discarded tires and turns that into recycled fabric. The Moab long-sleeved shirt for women integrates recycled PET bottles and recycled post-consumer tire polyamide.

Another part of the green approach is that the products are easy to repair, resulting in a clean design with stylish details. With a simple hook and tape, the construction of the pants' closures has no zippers and fewer trims.

"We try to avoid difficult stitching elements," said Vanessa Crazzolaro, bike product manager at Vaude. "We're

also very focused on the quality of the colours, to make sure that they don't fade. It's a goal for all our styles that the lifecycle of the products should be very long."

Jack Wolfskin (11.1/C17) is another brand coming from the outdoor business, where sustainability has been high on the agenda for several years. Along with its investments in materials, the brand has been working on circularity with the Mono jacket for bike commuting. The outdoor brand reckons the product is a "real milestone in terms of circular economy."

The three-layer jacket is made almost entirely with recycled polyester. Even the adhesive that bonds the membrane to the fabric

is made from 80% recycled polyester. This means that the Mono can be recycled again quite easily, without the fiddly process of separating many different materials. The jacket's main fabric as well as all tapes are recyclable, while the reflectors and zippers can be removed for direct recycling.

Jack Wolfskin is at Eurobike with a Mono jacket launching next spring, mostly consisting of a material that is derived from PET bottles, and that may be returned to the PE cycle.

A winter jacket to be launched in the second half of next year will use recycled and recyclable material without PET bottles. The Mono uses Jack Wolfskin's own **(cont. on pg 36)**



The Mono jacket for bike commuting from Jack Wolfskin.

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OVERVIEW: BACKPACKS

PACKING IN SMARTER AND GREENER FEATURES

Recycled materials, magnetic closures and smart carrying systems have come into play for the latest cycling backpacks, to help riders bring along their stuff in lighter, smarter and greener products.



Ortlieb's waterproof urban backpack, the Soulo.

Ortlieb (11.1/ D13) has unusually departed from the roll closures with hooks that are often used in its panniers and bike packs. It's opted for an opening with a magnetic lock for its Soulo, a

daypack with a simple and efficient construction for commuters. While roll closures remain trendy and popular among urban cyclists, Ortlieb found that some commuters preferred quick and easy access to the main compartment.

Falko Schott, senior product manager at Ortlieb, said that the team started by working on a flap or lid construction, keeping in mind that the bag should be waterproof. Instead of hooks or side release buckles, it uses a magnetic closure system. "It was a big test for the development team to come up with a construction that just drops down, that closes very quickly and easily, and that fits perfectly to the body shape," said Falko Schott, senior product manager at Ortlieb.

An added feature is a theft protection system, with a lever on the inside of the lid construction. "You could use it when you're going into crowded areas in the city or on the aeroplane, to make sure the backpack remains closed," said Schott. The Soulo uses a coated polyester fabric that works well for urban environments. The design is intentionally simple, with just one zipper for a pocket at the front. The



Deuter's Plamort, for all weather conditions.

chest strap is removable. Ventilation channels on the back padding and ergonomic shoulder straps make the backpack more comfortable. The 25-litre daypack includes a padded back compartment.

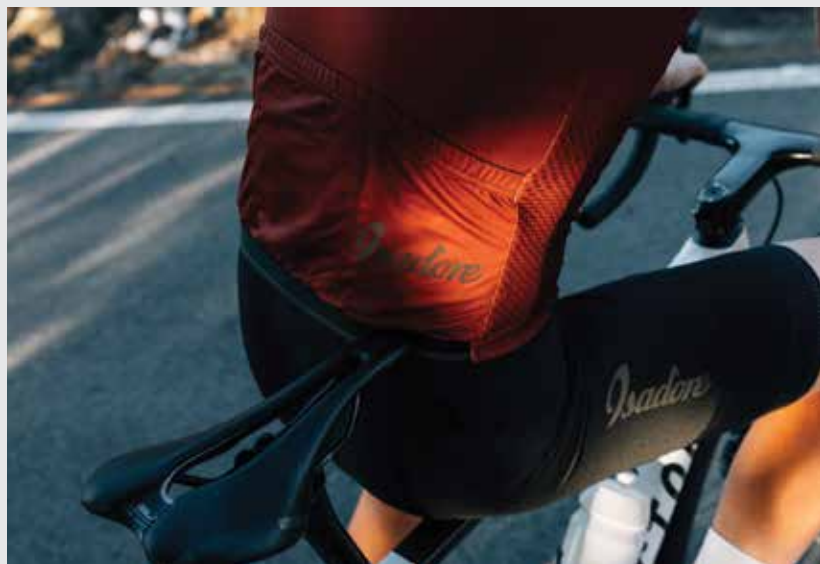
With its Plamort, **Deuter (11.1/ D05)** is targeting mountain bike riders who head out in all weather conditions. The 510 gram bag, with

a capacity of 12 litres, is made with waterproof fabric, taped and welded seams and coated zippers.

Sebastian Schwager, Deuter's head of product management, said that the company has been working with its production partner in Vietnam for several years to start making waterproof backpacks again. The range shown at Eurobike also includes a waterproof commuter bag and two rack packs.

The Plamort comes with an Airstripes back that is split in the middle to ensure more air flow. "When you're riding downhill, there are stones and roots that can get in the way, so it's important that the backpack is properly fixed on your back," said Schwager. The sternum strap has a new buckle that can be undone with one hand. With mesh hip fins, it makes sure the pack stays put, even on the bumpy and rougher rides.

The Moab Jam 16 was conceived by **Jack Wolfskin (11.1/C17)** as a lightweight and sustainable cycling backpack, for short excursions or as extra storage on longer bike-packing trips. **(cont. on page 38)**



Isadore expands its fully recycled Alternative range.

(cont. from page 35) Texapore Ecosphere three-layer construction.

Sustainability is an integral part of the business model for the Slovak company behind the **Isadore (11.1/ D11)** brand. It insists on local production at the Makyta factory in Puchov, and the use of biodegradable packaging. Last year Isadore launched a traceability program to track the provenance of the materials in its products.

This year Isadore has widened its range of apparel made from recycled "trash." It has added plenty of colours to its Alternative Collection, to encourage more riders to switch to performance cycling apparel made entirely from recycled materials.



Soffio shorts from Biotex, made with recycled fibers.

"If some of our more eye-catching Alternative patterns were a bit loud for you, we have now added solid colors for anyone who likes to play it a bit quieter," the company writes.

The brand hopes to replace all virgin synthetic materials with their recycled counterparts by 2025. It insists that there is "no performance difference between using virgin synthetics or recycled fabrics."

Biotex (11.1/D21) has opted for fully recycled fabric for its own technical cycling underwear – and it has done so for many years. The brand uses Econyl, a nylon yarn created from waste that is recovered from landfill or the sea, such as fishnets, carpet and industrial plastic. Aquafil, the company behind Econyl, adds that this regenerated nylon is also "regenerable an infinite number of times without any compromise in quality."

The Soffio shorts from Biotex are made entirely from recycled fibers, with an integrated pad. The company says the elasticity of the fiber helps to create an outstanding "internal microclimate" and moisture wicking. It adds that the pad, inserted as a single layer, has strong elasticity

and it allows for proper ventilation.

Part of the sustainable focus for **Löffler (12.1/C15)** is that it uses local knitting, in Austria. That is the case for the mountain biking shirts and jerseys to be launched by Löffler next spring, along with new cycling shorts.

The company's Hotbond cycling shorts and its Concept XT bib shorts will use Elastic Interlock knitted at its own mill in Austria from next year. The material is said to be highly elastic, resistant and yet very light.

The local production is highlighted on the back print of the M Bike Hotbond RF XT bib shorts. "These shorts have travelled less than 1 km from cutting to delivery," it states.

That is aligned with a trend that has been relevant for several years in the textile industry, to invest in more local production. It has led to reshoring of some apparel manufacturing facilities, and investments by several European specialists in technical sports apparel.

The bib shorts use the Hotbond reflective technology and Transtex Inside in the kidney area. The fabric is said to be particularly compact, with the interlock construction providing a slight compression effect.



A message about regional manufacturing on these M Bike bib shorts by Löffler.

■ BS

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36T

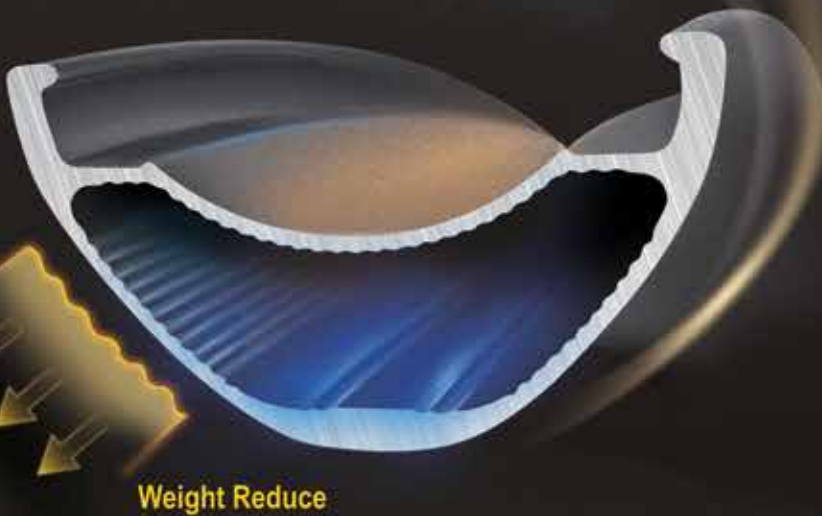


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The Moab Jam 16 from Jack Wolfskin.



Vaude's compact Uphill 8.

(cont. from page 36) The backpack integrates the Aeroshape carrying system, which has the triple advantage of light weight, climate management and a fit that lets the rider move freely. With a capacity of 16 liters, the Moab weighs just 640 grams. Another characteristic for the Moab is efficient use of resources. The main and inner fabric are made from entirely recycled polyamide. Its green credentials include Bluesign and the Grüner Knopf.

Vaude (11.1/ C19) has managed to find a fabric that is light, tear-resistant and green for its Uphill 8. This backpack of just eight litres is intended for short excursions, with a compact design and clever features. Vaude used "mass balanced fabric," which is extracted from a special tire recycling program. The process involves chemical recycling and a raw material compound system. It enables the German company to claim "climate neutral manufacturing" for the Uphill

8. While the fabric is light, Vaude says it's more robust than polyester of similar weight. "If you have a small rip in the fabric, it won't tear," said Florian Schmid, senior product manager for backpacks at Vaude. "And due to the fact that it's siliconised, you don't need any extra coating for water resistance. The fabric won't soak up water or dirt." The fit is easy to adjust with drawstring compression. A zip pocket on the right side is meant to lodge your phone. The hip belt can be detached if the rider wants to take the minimalist design all the way.



Scott Sports' (12.0/B11) backpack launch this year is a hydration product, which comes with a two-liter Hydrapak Elite reservoir. The Perform Evo Hy'16 helps riders to stay hydrated on long performance rides. It has adjustment features for hip and shoulders, and several stretch pockets. **BS**

The Perform Evo Hy'16 hydration pack from Scott.

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SOULO

Despite its minimalist appearance, the Soulo waterproof rucksack conceals a wealth of features beneath the large opening with magnetic lock. The easy-to-open lid closure with integrated theft protection provides quick access to the interior of this 25-litre daypack. In addition to the



padded laptop compartment, it also has a front pocket on the outside. Made in Germany from PU-coated polyester fabric, Soulo is also pleasant to touch and comfortable to wear thanks to ergonomic shoulder straps and ventilation channels on the back padding.

hall 11.1 / D13



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RIESE & MÜLLER

OVERVIEW: E-MTBS

E-MOUNTAIN BIKES CONTINUE TO EVOLVE

At first glance, new developments in e-MTBs may only look like improvements to existing bikes but that's where the singletrack diverges.



*Is it an e-MTB?
Purists might say no to
Ultima's debut model*

Rigid forks, non-traditional frames, slicker tires, bigger tires, longer travel, green manufacturing, and proprietary electric systems are just a few of the eyebrow-raising features disrupting the category. Some manufacturers have chucked tradition in favor of innovation, while others have returned to reliable designs to support cutting edge technology. These are a few examples of how e-MTBs have remained open to interpretation.

Purists would likely deny entry of newcomer **Ultima's (8.0 / J38)** Multipath e-bike into the e-MTB category for its obvious lack of traditional suspension and diamond frame design. Yet the bike can be easily adapted to riding off-road by opting

for the trekking version with a flex fork from Motion Engineering and mountain bike tires. This frame is the first on the market using thin carbon and plastic monocoque injected technology borrowed from the automotive industry. The flex fork has been designed in-house and is equipped with Ultima's own drawn blade technology to make riding comfortable.

The company is a young startup based just outside of Lyon, France and founded on the principle of improving cycling mobility in a safe, sustainable, and easy-to-ride way. Ultima's business model is a disruptive approach to deliver products that are 100 percent designed and made



Leader 96's Wild HTX delivers mid-range performance



Econic One brings us a new Adventure

in Europe using recycled material, lean manufacturing processes, and automotive technology. The debut Multipath e-bike is available through Ultima's website, starting from 2990€.

Leader 96 (9.0 / E12) claims to be one of the largest e-bike manufacturers in eastern Europe with business focused entirely on OEM. The Bulgarian company has a production capacity of 250,000 bike per year, 99 percent of which is exported within Europe. For Eurobike, Leader 96 is presenting an expanded collection of e-MTBs that are focused on stability, efficiency, and ride optimization. Lower suspension, bigger tires, cables integrated into the cockpit, and upgraded frame geometry mark the new improvements that are aimed at a well-balanced ride quality and clean aerodynamic profile. Four new models join Leader 96's lineup, starting with the E-Trail 12, a dual e-MTB with Bosch Gen 4 motor, Shimano drivetrain and brakes, integrated cables, suspension fork and shock, and 29" wheels. The Commander Fully and Commander HT add a pro level full-susp and hardtail respectively to the existing

Commander range, while the Wild HTX delivers mid-range performance for off-road adventures and commuting.

Econic One (12.0 / F07) first made a name for itself when its fully integrated electrical system was introduced to the market in 2010 under the name Eljoy. The built-from-scratch system quickly catapulted the brand to fame, which accelerated production and caused a state-of-the-art factory to be constructed in Varna, Bulgaria in 2020. Last year Econic One came to the Eurobike demo area with a fleet of prototype bikes. This year the results of those prototypes are on display at Frankfurt Messe. The Adventure is a high-performance e-MTB conceived to meet the demands of adventurous off-road riders through features like a 100 mm suspension fork, 29" wheels with wide 2.35" tires, Shimano drivetrain and brakes, and Bafang 500W mid-drive motor. The Econic One Element app has all the usual metrics (speed, distance, and route) plus smart security that connects to the I Lock It+ intelligent lock. The Adventure comes in in three colors and is available in M, L, and XL for 3,149€ via Econic One's website or at one of its



Scott adds three new e-MTBs to its range



Yadea has upgraded its HT65-01 to be more durable

more than 500 retailers.

A leader in the mountain bike market, **Scott Sports (12.0 / B11)** is forever making gains in the category with small and large improvements. The brand has added three new models to existing lines with the Axis eRide 10, the Patron ST eRide 900 Tuned, and the Strike eRide 900 EVO. The Axis eRide 10 stands out for its patented integrated rear shock, which improves both frame rigidity and power transfer. Based on the classic Patron platform, the Patron ST (for Super Trail) eRide

900 Tuned has been optimized for big air and steep descents. The fork loses the Twinloc and boasts 170 mm of travel, while beefier tires make for a bolder ride. The Strike eRide 900 EVO has been boosted with Scott's latest technologies and the latest Bosch motor, yet puts the spotlight on comfort with 150 mm travel, slicker tires, and thicker grips and saddle.

House brand for the Trinity Group, **Trinx (9.0 / F39)**, manufactures bikes across almost all disciplines, yet focuses mainly on mid to high level



Trinity Group house brand, Trinx, launches 2 next-gen models

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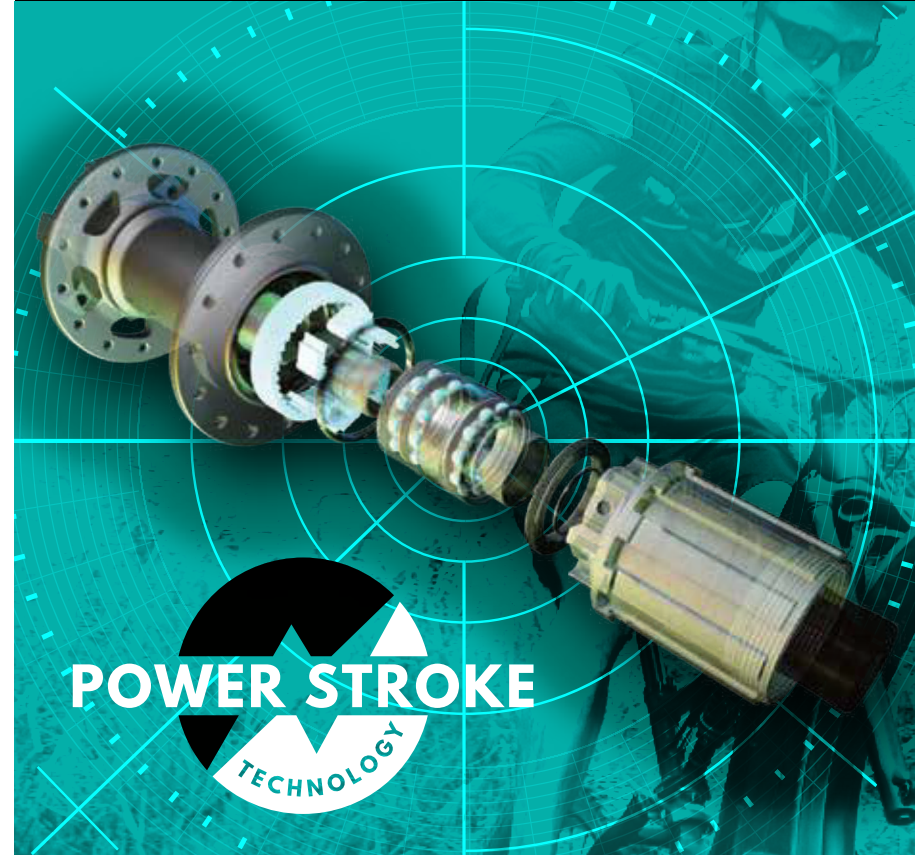
Torpadò is pleased to present its new alloy Enduro E-MTB (Front 29" - Rear 27,5"), Full Suspended with 160mm front/rear travel and Italian motor OLI: XANTO A, available in three sizes and colours. The motor is "OLI Sport" 250 W, 85 Nm and 3.5kg weight.

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Hall 12.0 / A08



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Cybro's No. 7 is manufactured in Italy using clean energy

internal 14-speed hub, **FSA (12.0 / A10)** cranks, and **Magura (12.0 / C09)** brakes. The N° 7 is available for €11,900 + VAT.

We first learned of **Greyp Bikes (12.0 / C11)** in 2019 when the ultra tech brand from Croatia scored a Eurobike award for its sensational G 6.2 e-mtb. Attendees buzzed about the bike's constant Internet connection, onboard front and rear cameras, multiple data-collecting sensors, and a mobile app that was beyond the norm. Since then, the company hasn't looked back and has returned to Eurobike to showcase its full-suspension G6 models, the G6.4, G6.5, and the G6.6. Also on display are the Greyp e-SUV T5 models with the addition of the new rigid fork Greyp T5.0 Adventure, which is Greyp's entry into a more urban segment of the e-bike market.

"We are really curious to see what this edition of Eurobike will look like," said Rea Berger, PR and event manager for Greyp. "We were at the Eurobike Media Days last year and it's pretty clear that the venue will offer even more possibilities for both exhibitors and visitors. Since the last edition of Eurobike, Greyp has had some big news – Porsche has acquired the majority stake of the company and launched new micromobility projects that we are working on now."

Whether Eurobike's time and date changes were the facelift needed to appeal to a new kind of cyclist who has embraced the utility of riding a bike is an opinion still in-the-making. Meanwhile, e-MTBs are a constant mood-booster for riders unafraid of exploring new options. **WB**

mountain bikes. Trinx is presenting the two most recent models of its EAGGO line of e-MTBs with the e-drive system as the only perceptible difference between them. The EAGGO 3.2 is powered by a Xofo mid-drive motor while the 3.3 features a Bafang M-Series mid-drive motor. Around since at least last year, the next gen models have evolved from its predecessors, the EAGGO 2.0 and 3.0.

Chinese manufacturer **Yadea (8.0 / F09)** has upgraded the frame of its HT65-01 to be more durable and give the rider a little more assurance when riding off-road. An Okawa mid-drive motor offers three riding modes: high-performance, eco, and easy, while its accompanying app offers a remote diagnosis function to complement

the bike's intelligent torque sensor technology, hydraulic disc brakes, and a waterproof rating of IP65.

Cybro Industries (12.0 / D20), founded in 2019 in Bassano del Grapa, Italy, has brought its showpiece, the N° 7, to demonstrate Cybro's technologically advanced custom bicycle craftsmanship with a deep bow toward environmental sustainability, thanks to its "ultra-green" facility. Conceived as an enduro bike, the N° 7 is a full-suspension e-MTB with a carbon fiber monocoque frame and a steering angle in between enduro and downhill for tackling steeper descents. The N° 7 also has a few key components that make it stand out, like the Sachs motor, **Gates Carbon Drive CDX (12.1 / B13)**, **Rohloff (12.1 / D28)**



Greyp applies high tech to its full-suspension G6.6

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<i>Rim Construction</i>	Clincher , Tubeless ready
<i>Rim Size</i>	700c
<i>Rim Width</i>	Internal 19 mm External 26.6 mm
<i>Rim Depth</i>	35 mm
<i>Rim Weight</i>	480g
<i>Hole Count</i>	24 / 28
<i>Tire Pressure</i>	110 psi



G001-C42CL E-GRAVEL DISC

<i>Rim Material</i>	Carbon Fiber , High Toughness resin system
<i>Rim Construction</i>	Clincher , Tubeless ready
<i>Rim Size</i>	700c
<i>Rim Width</i>	Internal 24.8 mm / External 33 mm
<i>Rim Depth</i>	42 mm
<i>Rim Weight</i>	470g (24H)
<i>Hole Count</i>	24 / 28
<i>Tire Pressure</i>	60 psi



G701-C35CL GRAVEL DISC

<i>Rim Material</i>	Carbon Fiber , Nano elastomer resin compound
<i>Rim Construction</i>	Clincher , Tubeless ready
<i>Rim Size</i>	700c
<i>Rim Width</i>	Internal 23 mm / External 30 mm
<i>Rim Depth</i>	35 mm
<i>Rim Weight</i>	425g (28H)
<i>Hole Count</i>	24 / 28
<i>Tire Pressure</i>	75 psi



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EUROBIKE 2022 Hall 9.0 E23

OVERVIEW: FOOTWEAR

SMART AND COMFY CYCLING SHOES TARGET VERSATILE RIDERS

Cycling footwear makers have had another go at a tricky equation to create shoes for demanding riders, who want optimal function and comfort as well as a snazzy appearance.



The Extreme Pro 3 by Northwave.

Northwave (11.1/C13) has used anatomic reticular support technology to create an exoskeleton for its Extreme Pro 3 shoes. Again, the purpose is to combine a snug fit with steady power transfer to the pedal. The ergonomic sole, made from unidirectional carbon fibre, is compatible with Speedplay and Wahoo pedals. With the Powershape system, it's engineered to deliver support to the bow arch. The double dial and the dual zone closure make it easy for the rider to apply different levels of pressure across the toe area and the top of the instep. The three air intake ports on the sole and the perforated upper provide



Shimano is creating a new footwear lineup for touring and exploring.

Scott Sports (12.0/B11) is at Eurobike with two enhanced versions of its RC Ultimate footwear, for road

cycling and mountain biking. They are based on an HMX carbon fiber outsole, that allows Scott to build lighter and stiffer shoes. Scott says this fiber blend is 20% stiffer than its conventional HMF counterpart for the same weight. The upper is mostly from Carbitex fabric, which integrates the high tensile strength of carbon fiber with a flexible textile, Scott says. This creates a combination of optimal power transfer with a textile feel.



Scott's revamped RC Ultimate footwear.

"We improved the placement of the Carbitex material to further optimise power transfer and improve comfort at the same time," Scott explains. Both shoes come with a dual Boa closure system and an adjustable ErgoLogic insole.



The Formula shoe from Giro for trail riders.

ventilation.

Giro (11.1/A14) has come up with its own duo of bold yet sleek-looking trail performance shoes, with the Formula Pro at the higher end of the range. The upper on the Formula Pro uses supple-yet-durable textile, with a thermo-bonded seam construction and overlays, for more protection from rocks and trail debris. Giro picked a dual Boa closure, in a dial Z version, for an easy micro-adjustable fit. The grippy outsole is made with Sensor rubber and somewhat aggressive lugs with composite cores, to provide traction while keeping the weight down. They are co-molded to a dual-injected carbon composite plate. With the shock-absorbing parts in the middle, it all adds up to just 420 grams.

The Formula uses some of the same features to address the needs of aggressive trail riders, from the upper to the Sensor rubber outsole and the lugs. But this shoe uses a single Boa dial closure. Giro has added a women's version, built with the same features and last but with more sizes.

Shimano (11.0/ A16) is creating a new line-up of EX footwear meant for touring and exploring, from urban to mountain environments. With EX, Shimano is using partially recycled materials for its footwear for the first time. The shoes are meant to provide a combination of performance and comfort, with plenty of grip and cushioning for walking. That's why all EX shoes have

a new Ultrad sole, using a technology launched at Eurobike last year. The range includes the EX700 GTX, a tough new all-weather mountain bike shoe. With a Gore-Tex membrane and neoprene ankle cuffs, it targets riders who never miss a day on the trails.

The shoe features lightweight and aggressive lugs for walking on dirt, rock and mud.

Separately, the growing uptake of gravel riding has encouraged Shimano to update and expand its RX series. The

brief was to find the right combination between a lightweight and stiff shoe, with the off-bike capabilities of a cross-country shoe. The refreshed RX800 targets committed gravel riders and racers, who are after performance and light weight. It uses a new Boa closure and a new inkjet printing method that gives it a more interesting appearance. The sole is unchanged, with full carbon length.

Pearl Izumi (11.0/ C04) went out of its way to assemble its own materials for its Pro Air shoe, to make sure it's outstandingly lightweight as well as strong and providing enough support. The upper is made from a light and durable mesh laminate with zonal construction.

Justin Hawkins, Pearl Izumi's footwear manager, explained that this next generation of the brand's higher-end road shoe was cut in a



Pearl Izumi's Expedition Pro.

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The Hummvee cross-country shoe by Endura.

strategic way to trim the weight. The same could be said for the carbon sole, which was thinned out in specific areas. The closure gives the Pro Air a distinctly clean look. "We moved to a dual Boa system with a wrap that comes up over the foot," said Hawkins. "Then we used soft lace guides, which are usually meant for running shoes, to eliminate more pressure points."

Some of the same features have been taken up for the Expedition Pro shoe, such as the dual Boa system and the soft lace guides. But this one is



The Gran Tourer II by Quoc.

targeting gravel riders, with a thicker upper and lugs on the outsole that give it a much more rugged appearance.

Endura (11.1 / C20) is building on its footwear range with the Hummvee and SingleTrack XC shoes. The company says they open the

Endura footwear offer to those riders who prefer a stiffer cross-country shoe, meaning they should work very well for the "growing tribe of gravel riders."

Some of the same riders are targeted by Quoc (at SportsNut, 12.1 / B06), which has expanded its footwear offering with the Gran Tourer II.

The independent British brand has equipped this "all-terrain performance gravel shoe" with a micro-adjustable dial system, a race-ready sole, and plenty of details to make it more comfortable.

The two all-terrain shoes brought by Gaerne (11.1/D17) both have Boa reel closures and Vibram soles. The outsoles are split into several sections, with a rubber compound to provide grip on wet and dry surfaces. The



The microfiber upper on the G.Oak gives it a suede look.



The knit version of FLR's popular F-11 shoe.

breathable insole ensures comfort and energy transmission. The G. Electra's upper adapts to the shape of the foot, and it has reinforcements at pressure points to reduce abrasion. The Gore-Tex membrane makes the shoe more breathable and waterproof.

FLR Shoes (9.1/E06) has come up with a knit version of its popular F-11 shoes. It combines knit uppers with a nylon outsole, to make them both efficient and affordable. The supplier says the sole optimises power transfers between the rider and the pedal without compromising on weight or comfort. The upper features a triple layer of extra strong nylon yarn, which is breathable and durable. FLR says

the upper doesn't stretch, so the shoe won't deform and create drag over time.

Back in the city, the latest bike commuting shoe by Vaude Sport (11.1/C19) fits

with its sustainable approach in more ways than one. Oliver Korden, Vaude's head of footwear, explained that the initial purpose was to motivate more people to get on their bikes. Based on consumer surveys, a recurrent reason to leave the bike in the garage is the need to change shoes after a commute. "We wanted to make sure that they only need one pair," Korden said. The outcome is the TVL Dualflex Asphalt Nature, a shoe that has the appearance of a sneaker, but with a technical sole that ensures a combination of stiffness for riding and comfort for walking. Another green point is that the rubber used for the outsole includes 20% of recycled content, and the upper is made with organic cotton. ■ BS

Almost a sneaker: Vaude's comfortable bike commuting shoe.



OVERVIEW: MOUNTAIN BIKES

GOING STRONG - WITHOUT AN ENGINE

The big headlines and the bulk of the R&D budgets of many bicycle brands may now be dedicated to new models with electric assistance.

But there are still plenty of exciting new mountain bikes without a motor and battery to be found at the show.

A few years ago, an overview covering new mountain bikes at Eurobike had to focus on a very specific segment not to become too overwhelming. After all, Eurobike grew to its impressive size by riding the mountain bike wave of the late 80s and early 90s. This year is different for two reasons. With the complicated planning situation and various squeezes along supply lines, many brands have decided to stick to running changes in the specification for their conventional mountain bikes, putting the R&D money for the big news into the booming e-mountain bike segment instead. Stevens Bikes and Merida are two examples. Some new models originally planned to be new for 2022 have not even been delivered to IBDs due to long lead times and delays in production.

The second reason why this overview is much less specific than in years past lies in an ongoing distinctive shift regarding the exhibitors at the Eurobike show. Many of the brands at the show are focusing on the utility segment and new players from the worlds of electronics and precision metal works are becoming suppliers. At the same time, many brands with an expertise in performance mountain (or road) bikes without an engine have decided not to participate at this year's show or have been opting for events of their own to launch their new models for many years already. The ratio of complete bicycles to suppliers of parts, accessories and components clearly has moved in favor of the latter over the most recent decade. Nevertheless, there are plenty of interesting new mountain bikes to discover at the show.

Aiming for maximum efficiency at minimum weight, cross country hardtails epitomize performance and **KTM Fahrrad's (12.0 / A09)** Myroon series has done just that since it was first launched back in 2009. The latest version has been renewed from scratch and combines a modern geometry with plenty of reach and a slacker head angle with high-grade carbon. In frame size medium the frame weighs as little as 920 grams as

KTM Fahrrad's engineers have found ways to reduce the weight of the frame by 7 percent while the rear triangle has become 13 percent stiffer - and they also integrated the hydraulic lines for clean looks. As the flagship of the series the new Myroon Exonic is ready for racing straight from the box. From Fox Shox's 32 Factory fork with 100 mm of travel to the XRC 1200 Spline wheels of DT Swiss with tubeless-ready carbon rims to Sram's XX1 Eagle AXS groupset, all the parts are proven to perform in cross country competitions.

Over the years cross country racing courses have evolved from being simply physically exhausting to challenging the riders' skills both up and down hills. As a consequence, full-suspension models have become increasingly popular. A fitting example for a new-school cross country bike is the new RKT 9 RDO model of Niner Bikes (**at United Wheels, 11.0 / A12**). Relying on the brand's own patented CVA kinematics tuned for efficiency, the frame offers 100 mm of travel in the rear and a contemporary, race-oriented geometry with generous reach, 430 mm short chainstays and a slack-ish head tube angle. And while the RKT 9 RDO comes with remote lock-outs for the fork and the rear shock, the frame is built to accept a fork with 120 mm of travel, a dropper post with internal routing and tires with a width of up to 2.5 inches as well, extending this bike's range of use far beyond endurance-focused racing.

Last year **Scott Sports (12.0 / B11)** debuted the new, short-travel Spark models with IST-kinematics (for internal suspension technology), where the shock sits inside the frame - out of sight, mud and grime. This bike has been ridden to a Worldcup win by Nino Schurter. With the Spark ST Tuned 900, the brand now launches an additional model within this race-driven platform. The abbreviation ST stands for Super Trail, and Scott Sports puts a clear emphasis on suspension performance for this model, adding forks with



Niner Bikes RKT 9 RDO



Scott Spark ST Tuned 900

more travel and a custom Fox shock with a wider range of adjustability for riders who like to push the limits on descents. The handlebar remote only controls the rear suspension as opposed to both wheels on the pure cross-country models, however. All the cables and hydraulic hoses are neatly integrated, and as you would expect from a Scott Sports model labelled with the Tuned 900 moniker, the parts list does not disappoint, blending functionality with light weight.

As a small, rider-owned company Knolly Bikes (**at Tri-Cycles, 12.1 / D01**) does not carry carbon frames or e-mountainbikes. While this Canadian brand does offer some hardtails and gravelbikes with frames made of steel and titanium, their go-to material for full-suspension mountain bikes is aluminum. As the shortest-travel option of the brand, the Fugitive comes with 138 mm of travel in the back and a 150 mm fork up front. When combined with 29-inch wheels and burly tires,

you get quite a capable ride for the rough stuff. The patented Four by Four kinematics deliver plenty of traction when pedaling and reduce brake squat for more control in rough sections. Another typical Knolly Bikes feature is the seat tube that connects to the bottom bracket area with a forward offset. This design is meant to enhance the climbing performance when in the saddle and the descending capabilities when out of it. The latest iteration of the Fugitive features a progressive geometry and a shorter seat tube to fit longer-travel dropper posts.



Knolly Bikes Fugitive



KTM Myroon Exonic



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OEM/ODM welcome



ESJ04



ESJ09



EVR-3
Phone Bag



EVR-303
EVA Bag



EVR-277
Saddle Bag



EVR122-2
Top tube bag



EVR-391
Bottle Bag



EV-067
Triple Bag

BH Bikes Lynx Trail 150



With the latest addition to the full-suspension models of Basque bicycle manufacturer **BH Bikes (12.1 / B11)**, the name of the Lynx Trail 150 model is a dead giveaway: The combination of 29-inch wheels with burly tires and 150 mm of travel on both axles makes for a mountain bike well capable of tackling rough terrain, bridging the gap between all mountain and enduro

models. As with all fully suspended models BH Bikes relies on the proven Split Pivot kinematics in the back, known for its anti-squat capabilities and for eliminating brake forces. Both is welcome with this much travel aboard. Still the weight stays low thanks to the carbon mainframe and swingarm and the generally svelte construction. As for the geometry of

the Lynx Trail 150, BH Bikes has gone all progressive with generous reach, a slack head tube angle and a steep seat tube angle for lots of confidence on descents. Thanks to the Superboost rear axle, tire clearance in the rear is very generous as well.

Polish brand NS Bikes (**at Sports Nut, 12.1 / B06**) has grown from the dirt jump niche to a full line-up of mountain bikes. With 180 mm of travel up front and 170 mm in the back the Define AL 170 model is ready to spend a day in a bike park and can basically be described as a downhill bike that has all the gears, a dropper post and a weight low enough to be ridden uphill as well. One typical feature of this bike is the reverse mullet concept: the 29-inch wheel up front rolls over pretty much everything you throw at it while the 27.5-inch wheel in the back adds agility to the mix. Another feature is the hidden, external cable routing

that combines clean looks with easy serviceability. The frame is built from custom hydroformed aluminum tubes and features a progressive geometry with a slack 64.5° head angle, a steep 76° seat tube angle and plenty of reach. To cap things off NS Bikes has done some nice colour matching of the frame's front section, the rims, the grips and the top cap of the headset as well.

Since this overview does not contain any pure gravity models, there is no example for one obvious trend. Many brands are betting on high-pivot constructions that tend to work very sensitively. To eliminate bobbing under pedaling loads, an idler jockey wheel is added to the construction, so the chain line runs exactly through the main pivot of the swing arm, essentially isolating the suspension from drivetrain-induced forces. **■ LVR**

NS Bikes Define AL 170



EUROBIKE 13-17 July 2022
Hall 11.1 Stand B15
Messe Frankfurt, Frankfurt, Germany

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»» Halle 11.1 / B13

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DIRK ZEDLER

WHEELS: THE SOURCE OF MANY TROUBLES

With e-bikes continuing their sales boom, front and rear wheels are increasingly the focus of attention, since the limited lifespan of wheel components often leads to arguments with customers. What can dealers and manufacturers do about that?



photo@zedler.de

For a few years now, we have seen our wishes come true: More and more people switch over to electric bicycles. Many of them also ride many more miles than they did with their city or trekking bike. Baggage or trailer loads are no longer a deterrent, and neither are hilly terrain and strong headwinds. What's more, on the strength of their e-bike's motor and the longevity of modern batteries, riders who do not exactly boast the physique of a pro cyclist venture more and more into mountainous regions. A frequent outcome: unexplainable punctures, frequent spoke failures or rims breaking in two along their well.

What are the reasons behind these phenomena, which hitherto used to be encountered mostly by dealers with a lot of road cyclists among their clientele, even still in the era of the early system wheels?

It is mainly on the manufacturers to improve the situation. After all, they are the ones who can get so many things right or wrong when building wheels.

But if something does go wrong, it is up to the dealers with their workshops to help the customer out.

Testing is too lax

Modern e-bikes weigh approx. 10 kilograms more than city or trekking bikes made for similar types of use. But it is not just the bikes themselves that have gained weight over the past 10 years. The average man in the D-A-CH region weighed 89 kilograms, the average woman 71 – and that was before Corona hit. Would you have guessed it? Surveys have revealed that people gained an additional two to four kilograms during the pandemic.

The optional test on the roller test bench included in the applicable EN standard places a load of 640 newtons on wheels and tyres. Is that a lot? No, not even close! Assuming a typical wheel load distribution of 70 % of the weight resting on the rear wheel, a 30 kg heavy pedelec with a rider of aver-

age weight (90 kg) results in a wheel load of 824 newtons, which is almost 30 % more than what the test specifies. If the rider weighs 100 kg and carries with them 10 kg of baggage, almost 960 newtons would apply. The 750,000 impacts with 10 mm bumper height are not even worth discussing as they are simply not sufficiently demanding for a typical tyre with 40 to 50 mm width.

This means that testing according to the standard is absolutely inadequate for finding wheels with sufficient engineering strength for typical pedelec use. It is up to manufacturers and their testers to act.

Spoke count too low, spokes too weak

For many years rear wheels used to come with 36 spokes by default. This was pared down to 32 as the spokes got stronger over time. But for heavy pedelecs, subjected to high driving forces in combination with disc brakes, we should actually turn back time. Although, merely returning to the traditional spoke count will not suffice. The significantly higher loads will also require borrowing a few tricks from builders specialising in sport wheels. Double butted spokes are solid at the thread and bend but thinned out along their centre section. This makes for some elasticity in this section, relieving the two weak spots and drastically prolonging the lifespan.

If a customer experiences repeated failure of individual spokes, it can be worthwhile to spoke the complete wheel with such spokes.

Flanges that are too thin

If spokes break at the bend, it may help to have a look at the hub flanges and the clearance between the spoke's head and bend. That clearance can be so big, especially with some speed hubs, that the bends are no longer properly in contact with the flange, leading to harmful movement.

If the spokes frequently break at

the bends, washers underneath each spoke head may help. They are available from the spoke manufacturers.

Spoke tension is too low

With high loads acting on the wheel on any ride, the spokes are strongly unloaded at the centre of the tyre contact with every revolution. A spoke is only able to cope with these periodic changes in tension for a reasonable amount of time if it still remains under tension at the point of maximum load relief. In other words: If the spokes are insufficiently pretensioned, they will fail after only a few hundred kilometres due to the load peaks/impacts at the lowest point of the wheel.

This can be avoided only through a maintenance regime that goes beyond a perfunctory check for the axial runout. It is also necessary to check the spoke tension and increase it as required. Spoke manufacturers will provide information on the correct spoke tension and also supply testing devices.

Internal tyre failure

If customers complain of flat tyres for which there seems to be no explanation, take a closer look at the inner tube. Two holes close to each other are an unmistakable sign that the inner tube was crushed while riding over a curb while the tyre pressure was much too low, a phenomenon known as 'snake bite'. The thing to do here is to advise the customer on the correct tyre pressure and on checking the pressure regularly.

But what if air escapes through a multitude of miniscule holes? This is usually due to high loads acting on the wheel, wide tyres and an unsuitable tyre pressure, leading to increased flexing work. The resulting strong friction between the tyre and the inner tube leads to the tube material being virtually ground away over time and becoming porous.

Talcum works particularly well with rubber-based products and helps reduce friction; it can be introduced into the tyre with a shaker. Carefully distribute this dry lubricant around the complete inner diameter of the tyre before inserting a new inner tube. Experience shows that this will solve the problem.

Building wheels that last longer even in bikes subjected to high loads comes down to a combination of the engineering undertaken by the manufacturer and solid craftsmanship applied in workshops. Manufacturers are well-advised to test their wheels diligently to avoid problems further down the line. Dealers, for their part, still need to check good wheels for proper spoke tension. Only when manufacturers and dealers work together will the customer be satisfied in the long run and ideally decide to buy another e-bike of the same brand in the future. ■ Dirk Zedler



Dirk Zedler (photo©Bernd Lammel)

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 from 1986 on, and now holds the respected advanced engineering degree known as "Diplom-Ingenieur."

Courts have recognized Zedler as an officially appointed and sworn expert on bicycles since 1994, and on electric bicycles since 2014.

The Zedler – Institute for Bicycle Technology and Safety has used this wealth of knowledge, derived from his and his teams work in thousands of court proceedings and expert's reports not only in Germany but from the US to all over Europe, 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 performance 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 risk analyses, conformity papers, workshops, recall papers and 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.



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Actionable storytelling and content marketing concepts make it easy for users to make these adventures their own: An influencer explores a destination, documents their adventure in a Collection of Tours on komoot, which

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In this way, users receive useful information from people who've explored a place in real life. This might include information about a Tour's difficulty rating, the ideal equipment for the route, accommodation and resupply options en route, and sights to be discovered along the way. The Sponsored Collections by influencers or ambassadors usually have a very high interaction and engagement rate.



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NEW PRODUCTS

VELO SENSO VENTURE SADDLE

Velo's Senso Venture saddle has been developed especially for mountain bikers. Offering a central groove design that reduces unwanted pressure, its surface is covered with a unique embossed pattern to improve traction. The tail structure has also been created to support the rider and stabilise their centre of gravity while

going uphill. Making it ideal for prolonged climbing, it'll suit conventional and electrically powered riders alike. With extra foam volume also added to the side of the nose and top of the saddle, this combines with Velo's reverse Arctech suspension system to improve comfort and security at high speeds. **12.1 / A19**



A-PRO R001-C35CL WHEELS

Suitable for gravel and road bike use, this medium-depth wheelset utilises a 35mm deep carbon rim. Offering high rigidity married to low weight, it won't drag when climbing uphill, either on or off the tarmac. At the same time, it requires less effort while cruising due to excellent inertia and low wind resistance—an ideal balance for every situation.

9.0 / E23



AVS ELECTRONICS AVE RC18 CONTROL RING

The RC18 smart ring remote inconspicuously mounts onto any standard e-vehicle handlebar. Offering a minimalist way to control multiple functions, its design incorporates an easily readable display while providing wireless connectivity, plus dedicated function and data screens. Secured by IP56 rating protection, the RC18 ring remote supports common communication interface protocols and easily integrates with leading drive systems.

8.0 / I08



GATES CDC BELT

A completely new belt explicitly designed for mid-drive e-bikes. The CDC range is focused on the needs of commuters. It features a new combination of highly engineered carbon-fibre tensile cord, high-stiffness ethylene elastomer materials, and nylon tooth fabric. Offering all the traditional benefits of a belt drive, including cleaner, quieter and more convenient operation, it will also outlast traditional chain drives two or three times over.

12.1 / B13

V-GRIP V PLAID SPORT BOTTLE.

A unique plaid-textured version of V-Grip's unique Wave bottle. Allowing you to stay hydrated while also offering a cooling shower of water for you to direct over yourself, switching modes is simple and can be achieved while one hand remains on the bars. Dishwasher safe and recyclable, the bottle has BPA, FDA, and EU restriction of hazardous substances directive approval.

9.1 / E04



HIGO A&C MICRO M CONNECTORS

A connector solution for fully integrated cable routing, Higo's new micro M connector series products are designed with crimp contacts.

This enables it to reduce both the mating length (30mm) and the

diameter (5,5mm) by 50% compared to standard signal connectors. The crimping process also ensures more reliable connections, which are more resistant to rotational forces and vibration. **8.0 / E18**



RIESE & MÜLLER URBAN LINE

Riese & Müller's new Urban Line has been specially developed for the demands of urban environments and prioritises low maintenance, integration, connectivity and intuitive operation. Aiming to offer the right support at the

right moment, it promises sufficient motor power and battery capacity for city commutes. Fully connected as standard, it delivers essentials like ride data, statistics, and safety features straight to your phone. **12.0 / A11**

2022



2011



2003



2001



1999



1997



1993



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NEW PRODUCTS



TERN BICYCLES QUICK HAUL E-BIKE

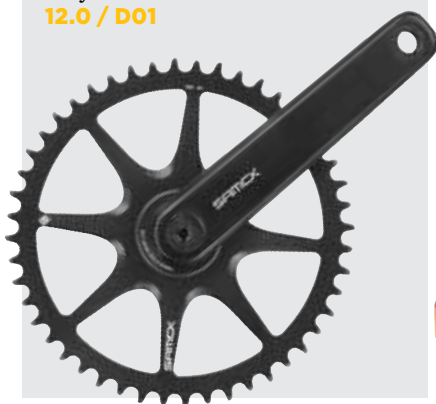
The Quick Haul is a built-to-last compact e-bike that's ready to tackle your daily grind. It's designed to be like a multitool. Small and unassuming, yet capable of handling big jobs with finesse, thanks to a hefty 150kg max gross vehicle weight. A burly rear rack easily carries a passenger, a dog, or up to 50kg of whatever stuff you fancy.

10.0 / D04

SAMOX EMA SERIES CRANKSET

This direct-mount one-piece chainring is forged from durable 7075-T6 aluminium and fits Bosch Cargo, CX Performance, and CX Performance Line motors. Its narrow-wide tooth design aids in chain retention over rough terrain and is perfect for either mountain bike use or to fit alongside more radical commuter-style designs. Compatible with 12-speed systems, its understated styling makes it an easy choice for bike builders.

12.0 / D01



NOVATEC D902SB-B12 REAR HUB

Upgraded and improved with oversize bearings, this hub is specially designed for MTB and e-MTB bikes and is available with interchangeable steel or alloy free hub bodies and axles. Thanks to 40 teeth and four individual pawls, it offers quick and secure engagement. Available in the common 148mm Boost specification, both Centerlock and

six-bolts rotor fixing options are available, while Shimano HG and Micro Spline plus SRAM XD driver types are also supported.

9.1 / C07



SKS GERMANY INFINITY UNIVERSAL LUGGAGE RACK

This aluminium luggage rack system features an adjustable mechanism that allows it to be adapted to any geometry. Its rapid clamping system with durable nylon straps then ensures easy mounting to the frame's seatstays. Another clever feature is the MIK adapter plate to quickly attach

bike bags, while the option to fit a dedicated mudguard under the luggage rack can also be achieved in just a few simple steps.

12.1 / A27



DARFON SMART CHARGER

Darfon's reliable smart charger solution offers quicker charging to save its users valuable time. It also promises higher charging efficiency, allowing for the best charging of 36V/48V platforms up to 1KW. With complete safety certifications compliance, including IPX5 waterproof credentials, it's of proven quality for outdoor use and is compatible with all motor systems.

8.0 / F29



SPANNINGA PIMENTO LARGE REAR LIGHT

A new wider version of the carrier-based Pimento rear light. Now compatible with 50mm and 80mm bolt distance carriers, it offers the benefits of COB technology to even more riders. Providing superior illumination in a minimalist, streamlined design, it's also available with a brake light function. This uses a sensor within the unit to activate an additional 12 candela of illumination when it detects the rider slowing down, braking, or stopping in traffic.

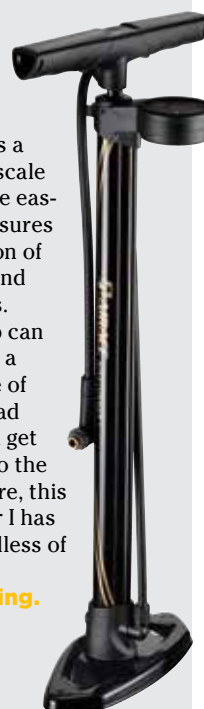
9.0 / B11



AIRACE AIRSTORMER FLOOR PUMP

The Airstormer I floor pump features a top-mounted dual-scale gauge, which can be easily read at low pressures for accurate inflation of mountain, gravel, and other fat tyre types. However, the pump can nevertheless reach a maximum pressure of up to 160 psi for road bikes. Meaning you get accuracy tailored to the pressure you require, this ensures Airstormer I has you covered regardless of tyre type.

www.airace-cycling.com/



WELLGO B365 PEDALS

This single-side platform clipless pedal provides an oversize stepping surface and a unique one-piece claw design to offer better mud shedding. Backed by sealed bearings and replaceable pins, they're ideal for mixed weather. Allowing riders to choose between flat sole shoes or dedicated SPDs as the mood or conditions dictate, they're ideal for casual users.

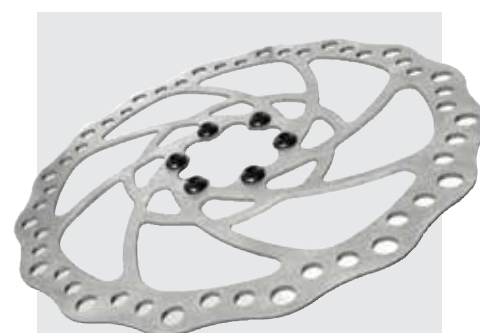
12.1 / A18



KRYPTONITE INCITE XBR REAR LIGHT

The Incite Series XBR rear bike light features a deceleration sensor that illuminates an additional optic when speed is reduced, increasing visibility as you brake. It also has seven modes, is fully USB rechargeable, and includes a memory function that remembers the last mode used each time you switch it on.

12.1 / C01



TAYA GST TECHNOLOGY

TAYA takes its metal-based expertise and applies it to disc brake rotors. Employing its exclusive GST anti-rust coating technology, this promises to eliminate any chance of rust developing on the rotor. Allowing you to enjoy your journey without worrying about oxidation affecting the efficacy of your brakes, the treatment has been tested via exposure to 1,000 hours of salt spray for extra peace of mind.

9.1 / G05

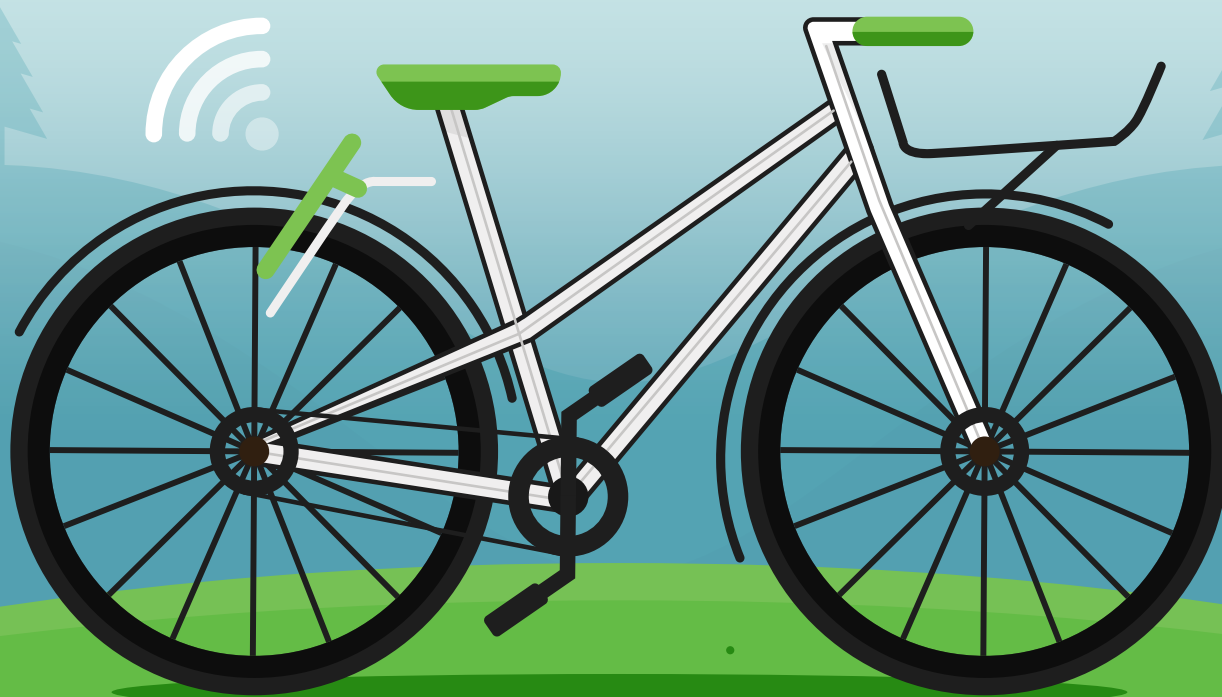


Bikesharing

Das Radeln neu erfunden

Eine Ausstellung der Deutsche Bahn Connect GmbH in
Kooperation mit dem Deutschen Museum Verkehrszentrum

7.10.2022 bis 16.4.2023



Deutsches Museum 
VERKEHRSZENTRUM

NEW PRODUCTS

ORTLIEB PACKING CUBE BUNDLE

A set of lightweight organisers, this modular system comprises three individual bags in different sizes. Ideal for separating your kit while keeping it easily accessible, the smallest of the set is a toiletry bag which is just as handy whether you're staying in a hotel or a tent. Fitting perfectly into Ortlieb's panniers, each cube promises to be just as useful when combined with other forms of luggage.

11.1 / D13



LEM HELMETS SPYNE HELMET

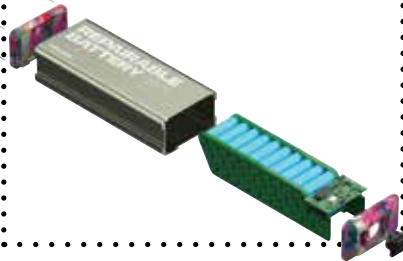
Expanded coverage for full-gas riding. Lightweight enough for all-day comfort, this open-face mountain bike helmet ensures against all kinds of accidents thanks to proprietary GelMotion technology that manages both high and low energy impacts while protecting against rotational and oblique forces. Utilising the firm's durable and lightweight shell technology, a micro-adjust fit system, and a burly indexing visor, it's held in place by a quick and secure Fidlock buckle.

8.0 / B36

GOUACH RENEWABLE & REPAIRABLE BATTERY

Gouach claims to be the first life-long, eco-friendly lithium-ion battery for micro-mobility that's explicitly designed for the circular economy. Renewable and repairable, its innovative solder-less and cable-free design is easy to maintain and service. As a result, when defective, individual cells or electronic components can be easily and safely replaced in under 10 minutes.

8.0 / G29



GIYO GF-2232 FLOOR PUMP

The GF-2232 high-pressure/high-volume floor pump with dual-scale gauge makes inflating your tyres as easy as possible. Its high-volume mode pushes a huge 600cc per stroke to deal with the oversized tyres easily. At the same time, its dual-scale gauge suits it to all bicycle tyres. At lower pressures up to 40psi, it offers readable single psi increments specially designed for the accurate inflation of mountain, gravel, and fat bike tyres.

9.1 / A29



KT TAIWAN 102 POE SYSTEM HUB

With 102 points of engagement and six pawls, KT Taiwan brings ultra-fast 3.5-degree pick-up to the mountain bike segment. Compatible with all types of derailleurs and modern driver standards, for detailed specifications and further information on KT Taiwan's complete range of MTB products, check out the page via the QR code or contact kttw@q-lai.com.tw.

www.kttw-hub.com



HAFNY HF-M958S-FR011L HANDLEBAR MIRROR

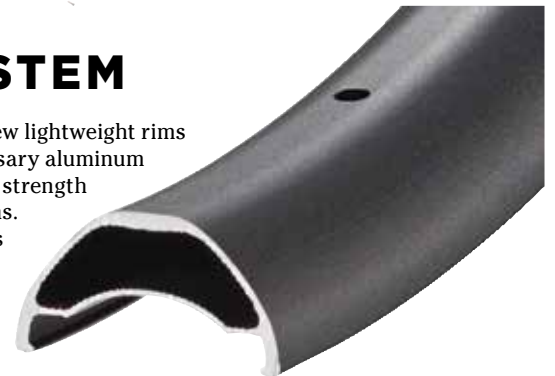
A handlebar mirror made of an anodised aluminium rod married to a high-definition automotive-grade glass lens. Sturdy and durable enough to withstand all weather conditions, its two pivot joints allow it to adjust to any desired angle. Similarly, the quality glass lens has been designed with high-speed e-bikes in mind. Expanding the range of bikes to which it can be attached, it now also features a new clamp that can fit 21-26mm diameter handlebars.

9.1 / G16

JETSET ARCOS SYSTEM

The unique design of these new lightweight rims from Jetset removes unnecessary aluminum from the rim wall, yet has the strength for Road and MTB applications. The new ARCOS technology is patented and is the basis for several new products being exhibited at Eurobike.

Hall 9.0 / G45



MIRANDA XMOD CRANKSETS

Miranda cranksets with the XMOD patented system allow all parts to be fully interchangeable for maximum flexibility and reach market-leading weights. The great versatility XMOD provides allows configurations for all kinds of bicycles and tailored to all client specifications, while its sustainable approach for OEM allows the packing of double the cranksets in the same

space as regular cranksets, not only for transportation but also for storage. Field tested and winning in several downhill, enduro and road championship podiums, XMOD cranksets are built to last and to give maximum performance in all harsh conditions. At Eurobike, Miranda is also presenting newly designed XMOD solutions for Gravel. Hall 9.0/B15



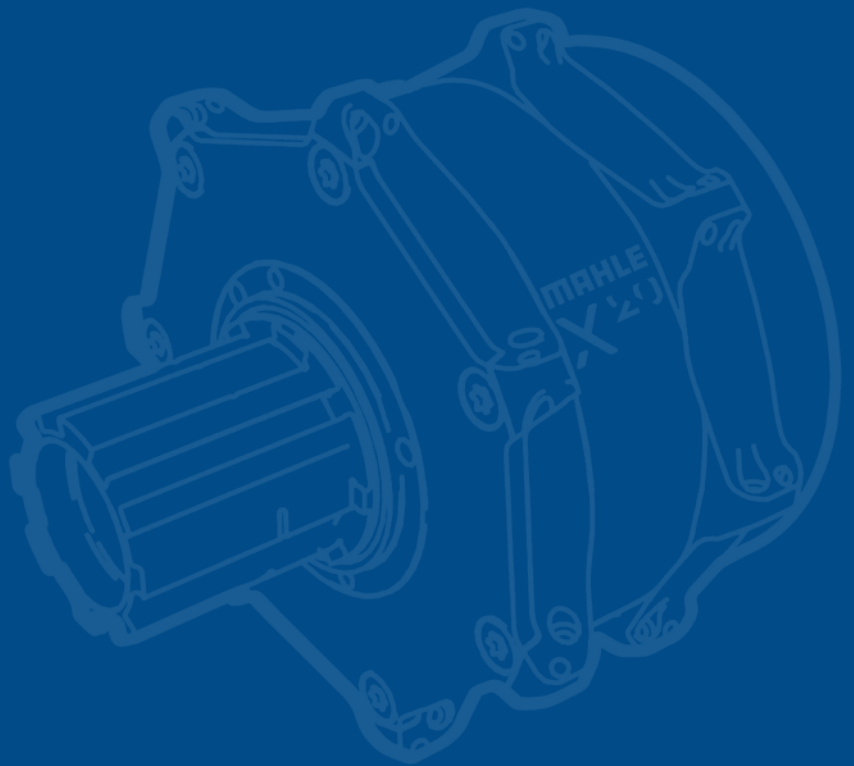
BAFANG M410 - THE POWERFUL ALL-ROUND MID-RANGE MOTOR

The M410 is the successor to the popular M400. While the two motors deliver almost identical performance data, such as 80 N.m. torque (at max. 120 rpm) and 250W, a sizeable 700g was shaved off the M410's weight - only 3.2kg (a reduction of 18% from the M400's

3.9kg). This makes the M410 motor a real all-rounder that's multi-talented in a wide range of e-bike categories. Like all Bafang drive systems, the M410 shines with a smooth start-up and supports the rider with strong acceleration. Hall 8.0 / H40



The future of eGraXel is written with an X



Discover the new X20 SmartBike System



- Total system weight only 3.2 Kg
- 1.3 Kg drive unit
- 55 Nm torque
- 236 Wh/350 Wh internal batteries
- Automatic motor connection
- Torque sensor & cadence monitoring



Main Booth
F18 Building 8
Demo area
G24 - F12

MAHLE

NEW PRODUCTS



ASTRO CARBON BIKE PRODUCTION

Astro offers all kinds of OEM and ODM services in the field of carbon frame development and manufacture. Established in 1991 and headquartered in Taiwan, it covers the road, utility, electric, and full-suspension categories. With a particular focus on sustainable and environmentally sound production techniques, it's recently been working towards increasing production process automation. Allowing for speed and consistent quality, its rapid automation now provides for the creation of frames in as little as 15 minutes. Developing its own materials technologies in-house and testing with an extensive suite of dedicated machines, Astro is ready to help bike brands realise their next products in double-quick time.

9.1 / B16

SON NABENDYNAMO EDELUX DC 170 LIGHT

Made in Germany, the Edelux DC 170 light is approved for all common e-bike drive systems ranging from 5 to 15 Volts. It offers 170lux plus a wide and homogeneous light field to provide visibility both near to the rider and into the distance. Available in four colours, its aluminium construction is complemented by water and dust protection courtesy of a membrane ventilating system. With a copper heatsink cooling

its LED, it also sports new connecting technology allowing for tool-free fitting.

12.1 / A09



FIT E-BIKE TRACKER THEFT PROTECTION AND RECOVERY

FIT E-Bike's Tracker is an extension of the firm's Find my E-Bike app that allows equipped e-bikes to be located at any time via a built-in GPS module. In addition to theft protection with motion detec-

tion, other services are available. These include recovery if the bike is stolen. Similarly, its fall detection mode will send a call to a specified contact person or an emergency service if it senses a crash.

12.0 / C13



SCHWALBE MARATHON EFFICIENCY

The Schwalbe Marathon is well known for its combination of safety, puncture protection, and everyday functionality. Adding performance to the mix thanks to meagre rolling resistance, Schwalbe now claims this makes the Marathon Efficiency its fastest touring tyre. Quick enough to save your legs or extend the range of your e-bike, the grippy blocks on its shoulders also offer increased versatility.

12.1 / C08



YADEA TROOPER 1 E-BIKE

The fully-loaded Yadea Trooper 1 e-bike features a powerful 75Nm rear hub motor to fuel your off-road biking expeditions. Equipped with an IP65 waterproof battery, it's capable of an impressive 80km range and benefits from torque and cadence pedal-assist technology. Also powering an upgraded HD front light, keeping you comfortable are its motorbike-style bench seat, massive tyres, and rear suspension.

8.0 / F09



EKOÏ GARA HELMET

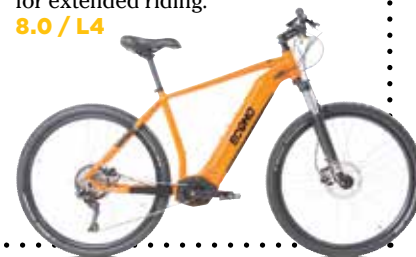
The Ekoï Gara was designed in Italy in consultation with the firm's pro team riders. Strengthened in case of side impacts, its shape has been optimised to offer better rock protection. Possessing 20 separate ventilation points, these promise adequate airflow even in the hottest temperatures. Available in three sizes, each can be fitted as close to the skull as possible, while the included foams provide a near-custom fit.

11.1 / C09

ECONO EQUUS MTB C4

The Equus MTB C4 is an ideal entry point into the world of e-mountain bikes. A lightweight option ready to get you to work in the morning, it's still happy to take you for a long recreational tour in the afternoon. Off-road or in the hills, the bike's integrated Econo InTube SmartBattery has a capacity of 880Wh. Combined with a Motinova Volans+ drive, it aims to be perfect for extended riding.

8.0 / L4



STAGES CYCLING POWER L POWER METERS

Stages Cycling offers crank-based power meters to fit the latest Shimano groupsets. These include single-sided options for Dura-Ace 9200 and Ultegra 8100, with dual-sided versions launching soon. For off-road-focused riders, the firm also offers products covering GRX and XTR. Alternatively, for those on other brands, Stages presents a carbon crank left power meter covering SRAM, Race Face, Easton, and Specialized. All compatible with Bluetooth and ANT+ bike computers, each offers accuracy within 1.5%.

11.1 / A12



VOLTA VB7 E-BIKE

The Volta VB7 e-bike's steel chassis has been designed to carry loads of up to 25kg. Helped along by a substantial 888Wh lithium-ion battery, its quiet rear-hub motor offers five different levels of assistance. Equipped with a unique combination of front mechanical and rear hydraulic disc brakes, this keeps the bike's power in check, while its built-in rack ensures it the perfect platform for making rapid deliveries.

8.0 / G22



NEW PRODUCTS



RETYRE STINGER

ReTyre aims to be the leading developer of modular systems. It's now launched the world's first detachable studded winter treads for e-scooters. Designed with rental firm Tier, its modular solution mounts in minutes on top of existing tyres. The design provides a theft-proof solution to adapting for winter conditions, resulting in higher year-round uptime for the fleet, elevated user safety, and increased tender attractiveness.

9.1 / B04

MAHLE SMARTBIKE SYSTEMS X20 SYSTEM

The cutting-edge technology behind our X20 System is designed to create a high-performance riding experience with the best features electric and Smart Bikes can offer. The latest innovations allow us to create the lightest systems in the market with only 3.2 kg weight,

while delivering the right support at any cadence, whether racing at top speeds or climbing up a mountain. This eBike System is designed to push the rider and the whole industry forward. See MAHLE SmartBike in Hall 8 or Demo Area G24. **Hall 8.0 / F18**



MESSINGSCHLAGER NEW INTEGRATED E-BIKE COMPONENTS

Elegance and integration are essential for e-bikes. For the 2023 model year, Germany's Messingschlagler is offering nine e-bike platforms, from the sporty to the practical. An essential feature of each is the combination of luggage rack and mudguard. A new design, this integrated luggage rack and mudguard system enables both components to be mounted to in-house models from the GEN 2 and Urban Light series without additional mudguard stays. Alternatively, the mudguard can be mounted without a large luggage rack, but only with minimalist stays, which can hold light panniers by themselves. As the attachment points can be set flexibly, both variants are also suitable for rear triangles from many other suppliers. Covering a range of applications, the firm's mudguards are available in twin widths of 59mm and 69mm. Developed especially for the carbon and aluminium E-MTB Fully platforms, Messingschlagler also offers a dedicated luggage rack with the option to integrate a matching aluminium mudguard should you so wish.

12.1 / B12

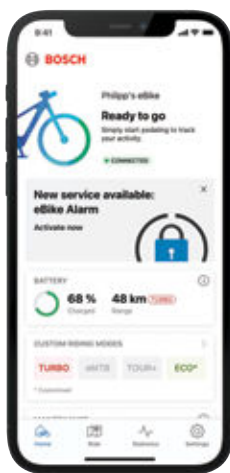


BOSCH EBIKE ALARM

The eBike Alarm is an ideal supplement to a mechanical lock. Activating automatically when the bike is switched off, the eBike Flow app allows your smartphone to serve as a digital key.

In case of slight movements, the system warns with alarm signals. If the bike is moved further, it highlights the attempted theft with an acoustic alarm and sends a notification to your smartphone. Any further movements are then tracked in the eBike Flow app.

12.0 / A13



VINKA AIoT MAX SYSTEM

Composed of Vinka motor, battery, display, VBox, Vinka cloud, and Vinka Life app, the AIoT Max System connects the eBike to the digital world, enabling safer, more enjoyable and more convenient eBiking. All the functions of the smart system can be executed via the app, such as Fall Detection, Anti-theft, OTA, customize riding mode etc.

Hall 8 / H37



JOYLAND MOPED E-BIKE JLL-057L

Joyland is a major supplier of electric bicycles, including mountain bikes, fat-tire models, and commuter and cargo designs. Offering its own off-the-shelf products, it also welcomes OEM and ODM projects. In recent years, a new area of growth for the firm has been the development of motorcycle-like products. Its Moped E-Bike is emblematic of the category, which offers the possibil-

ity of motorcycle-style adventures and is likely to appeal to younger riders. Capable of off-road trail riding, the Moped E-Bike aims to deliver classic looks along with an eco-friendly and cost-effective method of commuting or exploring. Benefiting from a quiet, low-maintenance design, its motor is tuned to provide instant torque.

www.joylandsports.com



Find out more



HONBIKE'S U4 TO MAKE TRADITIONAL BIKE RIDERS THINK TWICE ABOUT E-BIKES

Honbike (8.0 / 120) is kicking off its Eurobike debut with the brand new U4, which has been specifically designed to attract traditional bicycle riders and encourage them to make the switch over to an e-bike.

The way to do this is to start with a contemporary fluid design that's meant for urban use and perfect for every type of user. The U4 looks almost like a traditional bike but its top tube connection with the headset tube and rear hub strays far outside the definition of "traditional." For instance, Honbike's e-bike experts have combined one-piece TRU magnesium wheels with a thru axle on the front fork to maintain stability and ensure solid shock-absorption performance. Its minimalist, edge-less frame is crafted from 7000-series aluminum, which renders it both lightweight and sturdy for road and gravel riding.

"Our U4 has been designed to promote no chain, no fuss," said Quinton Pullinger, managing director of Honbike. "Thanks to its technology and design, the U4 offer buyers affordable value, and is the smart

choice for anyone who has ever considered an e-bike but hasn't yet made the move."

The bike is powered by Honbike's SmartHon system, which automatically adjusts and delivers electric assistance to the user based on the terrain and rider behavior. To keep things simple, it has three operating modes (eco-city-sport). A 432 Wh battery is integrated into the frame to further maintain the U4's aesthetics. The user can expect up to a maximum range of 62 miles on a single charge, which allows for easy commuting and errand running without worrying about power loss. The built-in LCD display frees the rider from having to use a phone to monitor the power system, thus eliminating potential hassles involved with hardware connectivity. A greaseless, practically maintenance-free **Gates Carbon Drive (12.1 / B13)** takes some of the anxiety out of having to monitor and service a traditional drivetrain, while improving the bike's overall durability. The bike's highly water-resistant design allows users to clean the bike directly with a hose and even be



stored or ridden during light showers. The U4's top-down engineering has balanced rider comfort with bicycle performance with the goal to encourage conventional bike riders to go electric.

With the debut of the U4, Honbike is building on its reputation as an award-winning designer, owing to its significant success in Japan with

its first model, the HF01. By taking advantage of automotive industry processes, Honbike has reduced production costs and passed those savings on to its customers. The Honbike U4 is available for pre-order via Honbike's website for a recommended price of £1599 including tax. The U4 will start shipping from the middle of August. ■ **WB**

AMERICAN CLASSIC NOW MAKES TIRES



Chris Clinton (L), and Eragon Li (R)

American Classic (**11.1 / B23**), the company founded by Bill Shook in 1982, now sells tires in addition to wheels. The brand's first product was a lightweight bottle cage, then seatposts and precision rollers until settling on wheels, which have defined the brand's identity until owners Shook and Ellen Kast sold all the American Classic assets in late 2019 to a group of Taiwanese investors. With previous experience in tire manufacturing for other brands, the group wanted to produce its own brand of tires without having to start from zero in terms of brand recognition. While closing the gap between tires and wheels has raised a few eyebrows, American Classic has

leveraged available assets to speed up its market penetration.

With tire production under control, American Classic rebuilt its website, repopulated its YouTube channel with product-focused videos, and generally overhauled the American Classic identity. Shook was even hired back to ease the transfer and relaunch the "new" brand.

American Classic was relaunched in September 2021 with consumer direct sales of its new road and gravel tires via Amazon, which enabled the small brand to compete with existing tire brands at a retail level.

"We chose to start with consumer direct and work with the media to

recapture brand recognition starting in the States," said Chris Clinton, president of American Classic, "and now we're discussing ways to grow our distribution beyond our current program."

Product prices are a third to half as much as competitors' prices for a few reasons: American Classic has its own factory in Taiwan; the company accepts more modest profit margins; and the direct-to-consumer model serves as distribution too, thanks to Amazon's multiple warehouse locations. American Classic has already started to expand to a traditional distribution model with a warehouse in the U.S. and is hunting for partners to increase distribution worldwide. ■ **WB**

ELASTIC INTERFACE PADS GET SMARTER WITH 3D PRINTING

Italian pad maker **Elastic Interface (11.1 / B02)** has managed to pack plenty of function into thin and smooth pad inserts, by using a three-dimensional printing technology.

Unveiling the technology at Eurobike yesterday, the Italian company explained that 3D printing enabled it to create inserts with a very precise structure. They are built to provide just the right level of support in the right spot – without the usual multi-layered construction.

"We put in a lot of work to get the structure and the geometry just right,"

said Massimo Fregonese, chief executive of Cytech, the company behind Elastic Interface, Berenis and Bikepad. Part of the trick was to apply 3D printing in such a way that the inserts could still be elastic and breathable.

For the consumer, a clear benefit is that the inserts are smooth and quick-drying.

Another advantage is that the technology makes sure the production leaves no waste, Fregonese said. The 3D-printed inserts are made from proprietary, bio-based filaments.

Elastic Interface worked together

with the University of Bologna.

Fregonese joined Elastic Interface just last year, after other assignments with Sigg, CamelBak and Fizik, among others. His appointment came after PM & Partners, an Italian private equity firm, acquired a majority stake in the bicycle pad specialist. Marino De Marchi and Stefano Coccia, the group's founders, remained as minority shareholders.

Cytech said on this occasion that it sold more than 3.2 million pads for bicycle wear in 2020, and its production has widened to cycling gloves. ■ **BS**



Massimo Fregonese shows off Elastic Interface's 3D-printed pad inserts.

ENVILO DEBUTS TWO NEW PRODUCTS AT EUROBIKE EXTREME TRANSMISSIONS FOR EXTREME LOADS

What better place for a world premiere than the world's largest bicycle trade show? Gear hub specialist Enviolo thought so and chose Eurobike to launch two products aiming at the heavy-duty cargo bike market.

With its stepless internal transmission hubs based on Nuvinci's technology, Enviolo (F12.0 / H07) has seen some success in the utility segment. For less trained riders, these hubs offer a very intuitive way to always find the right gear ratio by turning the twist shifter. The company showed a keen eye for trends when it launched its first cargo bike-specific hub designed to perform under higher load and weight back in 2018. Yesterday, Enviolo launched two entirely new products aiming at the heavy-duty cargo bike market at Eurobike with the Extreme product line.

These are built to last on commercial cargo trikes that can weigh up to 500 kilograms and come with a gear range of 380 percent. The two new products share Enviolo's trademark stepless technology that copes well with heavy loads and can be combined with belt drives, and aim to be speeded on the same kind of heavy-duty cargo trikes or even quads. Still Enviolo offers OEM customers two very distinctive options: the Extreme internal transmission hub puts the transmission into the center of the wheel and is the right choice for manufacturers who want to rely on traditional bicycle wheels with rims and spokes.

The second option is a novelty for

Enviolo as the transmission is built into a compact gearbox that fits directly into the bottom bracket area of the frame rather than in the center of the wheel. This allows for novel approaches particularly on cargo bikes with three or more wheels, allowing for a clean solution with the transmission being placed in the frame where it is well protected. Of course, both Extreme transmissions can be combined with belt drive systems, further lessening the need for maintenance and the reliability.

According to Enviolo's CEO David Hancock, the Extreme transmission products are aiming mainly at the b2b segment of cargo bikes: "With the development of stepless transmissions capable of handling heavy loads, we hope to aid urban communities that want to focus on sustainable, healthy and socially responsible life styles and that intend to replace some of the traffic caused by delivery vans with heavy cargo bikes. When riding a heavy cargo bike with Enviolo's stepless transmission technology, the rider can focus on steering his cargo bike without having to think about finding the right gear.

Enviolo's Extreme product range is available for test rides at the company's Eurobike booth, so make sure to stop by and try them.



Enviolo's CEO David Hancock presents the new Extreme product range in the atrium of the show.



An up-close look at the Extreme hub and gearbox of Enviolo.

VINKA'S RELEASES ITS ALL-NEW SMART AIOT MAX SYSTEM

As Artificial Intelligence and the Internet of Things technology transform the way we interact with the devices all around us, **Vinka (8.0 / H37)**, a Chinese e-bike drive system manufacturer, has launched its AIoT Max System for eBike. This smart system is aimed to make the best use of AI and IoT to unleash the full potential of big data to empower e-biking with connectivity, convenience, user enjoyment and safety.

The Vinka AIoT Max System includes drive unit, battery, display, VBox, Vinka app and cloud. What differentiates this smart system from others is that it offers plenty of options to the customer. All Vinka drive units – both mid motors and hub motors – are compatible with the new smart system. Customers can also choose the battery that best aligns with their frame if it supports the Vinka CAN protocol. The same is true for the display.

VBox is a smart box developed in-house by VINKA. It extends bi-directional communication between IoT devices, including motor, battery, display, and the cloud. The upgraded Vinka life 2.0 app allows riders to engage with their e-bike's features, such as battery level, charging status, location, lock



status, track their activities, customize their riding mode to their needs, and automatically lock or unlock the e-bike. The app can also be customized by brands. Fall Detection features a built-in gyroscope located in the VBox, which can detect a hard fall and alert emergency contacts right away to offer a sense of safety to both users and their family. The system's anti-theft function triggers an alarm and notifies the owner when the bike is moved while the alarm is engaged.

Intended for OE customers, the AIoT Max System represents the next development in e-bike functionality. ■ **WB**

AVE MOBILITY NEW PARTS FOR A BETTER USER EXPERIENCE

Taiwan-based HMI (Human Machine Interface) specialist **AVE Mobility (AVS Electronics, 8.0 / IO8)** focuses on displays and controllers for e-bikes. At Eurobike, the manufacturer is presenting a number of new products.

For the user experience on an e-bike, the remote controls and the display are decisive factors to stay up to date on the battery status and change the support mode. AVE Mobility brought three new products in this field to Frankfurt. The AVE CD9 HMI features a high-res 2.8-inch display with high brightness for proper readability in direct sunlight, super tough laminated glass and an all-weather capacitive touchscreen integrated into a sturdy housing with a minimalist design. You get a wide choice of connectivity functions as well as a USB-C port to charge devices.

If you are looking for a low-profile handlebar remote control for e-bikes, AVE Mobility has you covered with the AVE RC18: this smart HMI ring can be used as a standalone device or combined with various displays. It mounts easily on any standard bicycle handlebar

and comes with a 1.5-inch AMOLED LCD display, a capacitive touchscreen, dedicated function and data screens and wireless connectivity. Last but not least, the AVE TT10 is a display and control units built to fit into the top tube, with just two buttons and an all-weather 1.14-inch high brightness IPS display. While this unit does work as a standalone device, it can also be combined with various remote controls.

One ring to rule them all: AVE Mobility's compact RC18 remote control.



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SHOW DAILY

Credit & Contact Info

Published by

KB Media Ltd.
28 Llewellyn Way
Dublin 16, Ireland
www.showdaily.net

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Printed by:

Kuthal Print & Co. KG
Johann-Dahem-Strasse
63815 Mainaschaff

Eurobike liaison

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Supported by

Fairnamic GmbH



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