

SHOW DAILY













EUROBIKE A1-110



DRIVE POWER UNIT



MO65MD











Power Efficiency (W) (%) 200 80

Torque (Nm) >60

Speed (kph) ≥25

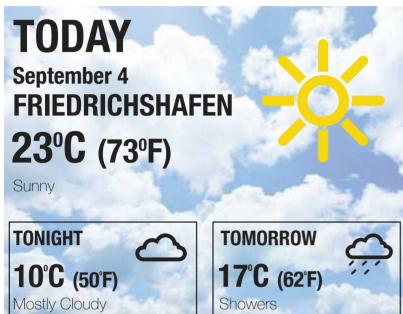
Weight (kg) <3

> CHANNE www.channelonnet.com

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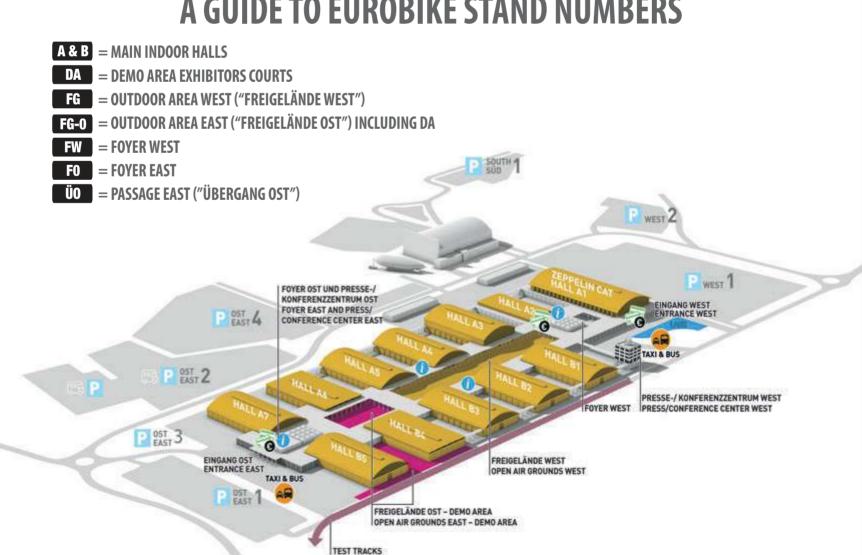


Showers

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THE FASTEST GROWING E-BIKE-RENTING-APP!

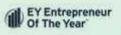
Promote our Rental App and earn on every rental.

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STRONG 2019 GERMAN BIKE SALES BODE WELL FOR EUROBIKE

If the bike market is healthy, so is EUROBIKE — and this year the bike market is very healthy, especially in Germany.

Germany, the biggest bike market in the European Union, is on track to sell at least 1.1 million electric bikes this year, surpassing the 1 million mark for the first time.

Sales of all bikes rose by 3.2 percent in the first six months of the year, Siegfried Neuberger, director of the German Bike Industry Association (ZIV), said Tuesday at the Industry Discussion Panel, traditionally held on the eve of Eurobike.

And that's on top of 2018 results, which Neuberger said was a "sensational year" for bike sales.

Neuberger joined Eurobike head Stefan Reisinger along with Fabrizio Scalzotto, CEO of **Bianchi**, [**B2-500**] and Philipp Simon, CEO of online retailer Bike-Components, for this year's panel. ARD-Sports reporter Bernd-Uwe Gutknecht moderated the discussion.

Neuberger said sales of conventional bikes are about flat, with growth coming from e-bikes. "We think the bike industry without the 'e' has stabilized at a certain level, and that growth comes from the e-bike sector — which is quite a nice development," he added.

E-bike sales of 1.1 million would represent a growth rate of 12 percent over 2018, he said. Still, Neuberger added, about 75 percent of the German bike market is conventional bikes, not e-bikes.

"We have to keep that in mind," he said. "The largest part is still traditional bikes – muscle-driven bikes — although by the end of the year that might change a bit."

German bicycle production is also growing, with manufacturers making about 1.47 million bikes in the first half of the year, an increase of 4.6 percent.

Imports of bicycles and e-bikes into

the country rose by 6.1 percent in the first half, according to the country's Federal Statistical Office, with e-bikes accounting for 26 percent of the imports.

Reisinger said the healthy exhibitor levels reflect the relative strength of the bike market.

"I'm quite satisfied," he said. "The house is full. We have more than 1,400 exhibitors from all over the world."

He noted that Eurobike has evolved with the industry over the years, from its founding as a sports-oriented mountain bike show to its current status as more of an e-bike and a mobility show.

"E-bikes dominate the industry, so they are also dominating the show," Reisinger said.

Scalzotto said Bianchi is debuting a new e-bike line at the show, a development that carries some challenges for such a traditional brand.

"It means a double personality. It's difficult to convince the customers that we are a race bike maker and at the same time also an e-bike maker," Scalzotto said.

The new line also required new production techniques, he added. "It takes a different kind of plant to produce e-bikes."

Scalzotto, who took charge of Bianchi one year ago yesterday, said he insisted that the brand return to Eurobike after an absence.

The former general manager of Fulcrum Wheels said he has attended every Eurobike since the beginning.

"I think this is one of the most important fairs in the world. I think it is absolutely necessary to be here to speak with people," he said. "The first decision I took when I arrived [at Bianchi] was that we have to be back in Eurobike."



The Eurobike Industry Discussion panel on Tuesday drew a crowd of international bike iournalists.

EUROBIKE

WHAT'S ON TODAY WEDNESDAY, SEPT. 4

Show Dates:

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

Show Hours

9 a.m. - 6 p.m.

All Day / Every Day Events

Foyer East

15th Eurobike Award

Exhibition of the award-winning products

Open Air Grounds East/ Behind Halls B4 and B5

Demo Area

Around 100 brands will have road, cargo, mountain and city bikes, conventional and electric, for visitors to test on 10km (6 miles) of test tracks.

Fover East

Recumbent Bikes and Velomobile exhibition

Hall A1

Cargo Area/E-Mobility Area

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

Foyer East

Blogger Base/The Wriders' Club

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

Foyer West

Service Area

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

Passage East

Start-Up Area

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

Foyer West

Job Fair

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

FO-106

Velomobile Show

Vehicles that close the gap between bicycles and cars

A1-105

Greenstorm

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

A7-400

Thule

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

A4-303

Ortlieb

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

Scheduled Events

Wednesday, Sept. 4

8:30 - 10 a.m.

Foyer East/Blogger Base

Blogger Breakfast with South Tyrol

9:30 - 10 a.m.

Foyer East/Eurobike Stage

Welcoming Start-up Day with networking

10 - 10:45 a.m.

Conference Center East/Room London

Eurobike Start-Up Academy Workshop: What type of support structure suits my start-up best?

Guido Zinke (in German with English translation)

10 - 10:45 a.m.

Foyer East/Eurobike Stage

World Bicycle Relief - The Power of Bicycles

Juana Gräter (in German)

10:30 - 11 a.m.

VSF/FW-OG100

AGFW-BW: Establishment "Förderkreis Wirtschaft"

With BW Transport Minister Winfried Hermann and AGFK-BW Chairman Günter Riemer

11 - 11:30 a.m.

Rouvy/B3-110

New Rouvy App - Now on Apple TV and Mac

11 - 11:40 a.m.

Conference Center East/Room London

Eurobike Start-Up Academy Workshop: Legislation pitfalls - how start-ups can avoid them

Dirk Zedler, Institut für Fahrradtechnik und Sicherheit GmbH (In German with English translation)

11 a.m. - 12 p.m.

Foyer East/Eurobike Stage

Eurobike Academy: Why we buy what we buy

Patrick Seitter, Seitter & Partner (In German)

11 a.m. - 12 p.m.

Conference Center East/ Room Paris

Bianchi press conference - Lif-E e-bike premiere

12 - 12:45 p.m.

Conference Center East/ Room London

Eurobike Start-Up Academy Panel Discussion — Innovation bicycle: product development through smart partnerships

Recep Yesil, Coboc; Marc Gillessen, Hermann Hartje; and Manuel Prager, Chike (In German with English translation)



SQlab debuted its first bike shorts at a press tour yesterday.

12 - 12:45 p.m.

Foyer East/Eurobike Stage

LEVs @ Eurobike

ExtraEnergy

1 - 1:30 p.m.

Foyer East/Eurobike Stage

Sharea — e-mobility, ready for you

Franz Tepe (In German)

1 - 2 p.m.

Conference Center East/Room Paris

Taiwan Excellence Press Conference Updates on the 2020 Taipei Cycle show,

Updates on the 2020 Taipei Cycle show, and product presentations from Merida, Kenda, KMC, Buzzrack, and Bryton

1:45 - 2:15

Foyer East/Eurobike Stage

Kettler Alu Rad new product presentation

(In German)

2 - 6 p.m.

Foyer East/Blogger Base

Meet the Start-Ups at the Blogger Base

2:30- 2:45 p.m.

Foyer East/Eurobike Stage

Start-Up Day Opening Ceremony and panel discussion: Why Eurobike is focusing on start-ups

Stefan Reisinger, Eurobike; Julian Pfeiffer, Eurobike; Ulrike Saade, Velokonzept. Moderator: Bernd-Uwe Gutknecht

2:45 - 3:45 p.m

Foyer East/Eurobike Stage

Start-Up Day panel discussion: The bicycle is leading the way — is the bicycle industry going along too?

Martin Obers, Swapfiets; Fabian Auch, Magenwirth; Katja Diehl, Door2Door; Geraint Florida-James, Mountain Bike Center of Scotland; Philipp Kessler, Start-up Netzwerk Bodensee. Moderator: Isabell Eberlein, Velokonzept. (In German and English with translation)

3 p.m.

Yuba Bicycles/A1-715

Guided tour of Cargo Area for visitors and journalists

3 p.m.

Hase Bikes/FG-B7-1

The Hase Bikes Beast Show

3 - 3:30 p.m.

Bioracer/A7-305

Kristina Vogel

3:45 - 5:15 p.m.Foyer East/Eurobike Stage

Start-Up Award Pitches: 20 finalists get 180 seconds to pitch their products.

4 - 6 p.m.

Enervit/B5-207

Italian Aperitivo in honor of Francesco Moser's 1984 Hour Record

5:30 - 6:30 p.m.

Foyer East/Eurobike Stage

Eurobike Award Ceremony

5:30 - 8 p.m.

Entrance West/Show Lake

Eurobike Social Ride by ShimanoTake a 43km (28 mile) road bike ride in the Friedrichshafen area, followed by a BBQ at the Shimano booth. Bring your own helmet and bike. Come early to

5:30 p.m. - on

register

-Hutchinson/B3-207

Booth party, and intro to Racing Lab

6 - 8 p.m.

Foyer East

Start-Up Lounge Bodensee

Networking party with a discussion by 2018 Start-Up Award winners. Panelists: Carsten Fongen, TriEye; Johnny Smith, Velco; and Finn Süberküb, Trenux. Moderator: Bernd-Uwe Gutknecht. (In English)

6 - 8 p.m.

Thule/A7-400

Beer and networking

Hosting a party, an athlete appearance or another special event at Eurobike? Send us your information no later than 3 p.m. for the next day's Show Daily at EurobikeShowDaily@gmail.com. Please include your stand number and a contact name, phone number and email.



FROM FRIEDRICHSHAFEN TO THE WORLD WITH 'EUROBIKE CONNECT'

Eurobike is adding a virtual component to the show as it prepares to launch a digital platform to connect bike brands with suppliers and other partners in the bicycle and mobility industries.



Called Eurobike Connect, the platform will launch in October. Participating companies will be able to make contacts, find suppliers and compare products, but will not be able to conduct sales. In effect, it will be a digital extension of the show itself.

"You have the possibility to make use of the central platform in the digital world, and in addition it makes sense to meet here personally once a year," Eurobike head Stefan Reisinger said Tuesday.

Eurobike has been developing Eurobike Connect for more than a year. Officials say they want to "supersede Google as the main source of information and developing business connections" for the bike industry.

With a simple and clean design, the digital service allows companies to easily upload information about their businesses such as product highlights, media and contact details. Developers created customized search and filter functions specifically for the bike industry, including a filter that shows which languages a member speaks.

Companies will be able to subscribe to Eurobike Connect for 690 euros (about \$755) a year, but all of the 1,400-plus exhibitors at this year's show will receive a free, one-year subscription. Other companies that sign up before Dec. 7 will receive a 30 percent discount. Individuals will be able to upload their profiles for free.

Participants don't have to be Eurobike exhibitors — or, indeed, members of the bike industry. "I would be glad if strange and 'weird' people had profiles there, because that would give the platform a different feel than just a copy of a physical event,' Peter Post, managing director of Scholz & Volkmer, said at the platform's rollout

yesterday during the Bike Biz Revolution conference. The German digital agency developed Eurobike Connect.

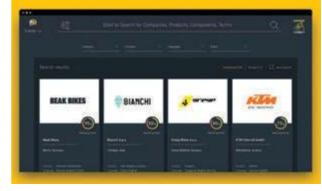
Other potential users, Post said, included representatives of city governments or technology firms. He added that Scholz & Volkmer has plenty of ideas for added features, and said the platform will evolve based on how people use it, and on comments from participants.

Unlike other business matchmaking platforms, Eurobike Connect has no apparent plans to upsell participating companies to put them at the top of search results. "We would prefer to implement the next features to help companies make their information more useful, instead of having them pay extra money to be ranked up," Post said.

Messe Friedrichshafen has not set goals for numbers of members. Instead, it is more focused on other indicators that show how intensely members use Eurobike Connect, such as the duration of connections and the number of contacts made.

The platform fits with Eurobike's earlier decision to open up some events to participants that are not exhibiting at the main show. The menu-based approach allows such companies to pick and choose among Eurobike events, such as Eurobike Media and Urban Media Days and the upcoming ASEAN-Bike show in Bangkok, which debuts in October.

BS



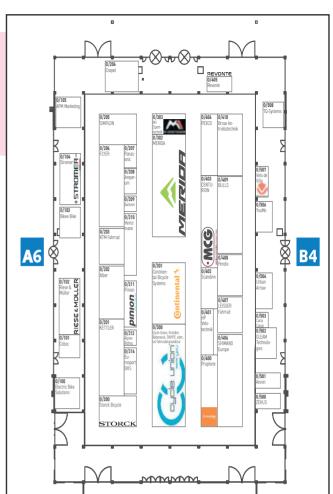


GUIDE TO EUROBIKE DEMO AREAS



COMPA FIRMA	NY	STAND	COMPA FIRMA	NY S	STAND
0/100	Electric Bike Sc	olutions	0/211	Pinion	
0/101	Coboc		0/212	Alpine Riding	
0/102	Riese & Müller		0/214	Eurosport DHS	
0/103	Bikee Bike		0/300	Rabeneick	
0/104	Stromer		0/300	vsf fahrradmanu	ıfaktur
0/105	APM Marketing		0/300	ebm	
0/200	Storck Bicycle		0/300	Kreidler	
0/201	KETTLER		0/300	Cycle Union	
0/202	Alber		0/300	SWYPE	
0/203	KTM Fahrrad		0/301	Continental Bicy	cle
0/204	FLYER			Systems	
0/205	SIMPLON		0/302	MERIDA	
0/206	Csepel		0/303	M1 Sporttechnik	
0/207	Panasonic		0/400	Prophete	
0/208	Amperum		0/401	HP Velotechnik	
0/209	Barbieri		0/402	Scandinn	
0/210	Heinzmann	<u>.</u>	0/403	CENTURION	

COMPA FIRMA	NY STAND
0/404	PEXC0
0/405	Revonte
0/406	SHIMANO Europe
0/407	LEISGER Fahrrad
0/408	Pendix
0/409	BULLS
0/410	Brose Antriebstechnik
0/500	ZEHUS
0/501	Aevon
0/502	GLEAM Technologies
0/503	Carla Cargo
0/504	Urban Arrow
0/506	YouMo
0/507	Velo de Ville
0/508	TQ-Systems







FIRMA	
500	Schindelhauer
501	Fazua
502	Fantic
503	Denver Bike
504	Krykun Private Company
505	iweech
506	Promovec
507	Mahle
508	ExtraEnergy Services
508	Mac Motor

COMP FIRM	OMPANY STAN IRMA	
511	Rookey Bike	
512	BicBuddy	
513	Cloud Bike	
515	VAZALAB	
516	Star Union Wuxing	
517	Bafang Electric (Suzhou)	
518	Profile Design	
519	Argon 18, United Cycling	
520	Bosch	
521	ASE Action Sports Electronics	

	COMPANY STAN FIRMA		
401	Motinova Technology		
402	YOKLER CARGOBIKES		
403	Rohloff		
404	GOLDEN WHEEL		
405	F.S.A.		
406	Pivot Cycles		
407	RTI Sports		
408	Hase Bikes		
409	Greyp Bikes		
410	cycleWASH		
411	Outbraker		

COMP FIRM	
411	FINE CHEMICAL
412	OECHSLER
413	YORKS
414	BASSO Bikes
415	XCYC_excites cycling
416	3t cycling
416	Open Cycle
417	TranzX
418	ANANDA
419	Hercules
420	VICTORIA c/o Hermann Hartie





THE HSD IS MIGHTY BUT MINI

It's easy to handle, easy to share, extremely comfortable to ride, carries a whole lot of cargo-and all of this in a compact design that's shorter than a standard bicycle.



PEXCO IS FINALLY READY FOR ITS CLOSE-U

It takes more than a year, as it turns out, to create a new bike company with global aspirations.

At Eurobike 2017, Susanne and Felix Puello - who are as close to bicycle industry royalty as anyone announced the launch of a new bike company, Pexco, at a packed news

The Puellos had hoped to return to Eurobike last year to show the first models from the new company. But starting a new broad-based bike company, with three brands for different markets, takes time.

Although Pexco began selling bikes in 2018, executives waited until this year's show, when they could offer a broader line to the global market.

Their timing is ideal. With other big brands skipping Eurobike, Pexco [B2-**400]** will be a significant presence in the halls.

The company is showing more than 100 models across two brands, Husqvarna and R Raymon. The rollout of its third brand, R2R (for "Ready to Race") has been delayed.

Officials say Pexco's top priority for 2020 is to deliver on time.

"For us as a newcomer, delivery ability is a central point," Bernd Lesch, director of sales, said earlier this year.

"To reach this target, we have socalled 'All Stars' models. This selected range is going to be most likely in stock during the entire season."

The Husqvarna brand is Pexco's flagship. Pexco co-owner KTM Industries licenses the Husqvarna name for motorcycles and bicycles from the Swedish maker of tractors, chainsaws and other power tools.

(KTM Industries, known for its KTM-branded motorcycles, should not be confused with KTM Fahrrad, a separate company that manufactures the well-known KTM brand of bicvcles.)

All Husqvarna Bicycle models are electric, while the R Raymon brand, aimed at younger, more price-sensitive cyclists, offers a mix of conventional and e-bikes, including e-bikes with 24- and 26-inch wheels for teenagers.

Husqvarna uses the Shimano Steps mid-drive motor system exclusively, while R Raymon's e-bike models will be equipped with Yamaha's new mid-drive range for 2020. The only exceptions are some of its juvenile bikes, which use a less expensive hub drive from SR Suntour so they can reach price points as low as 1,499 euros (\$1,680).

"R Raymon is the launch partner for Yamaha's new mid motors," Susanne Puello said. "It's a commitment between us and Yamaha that we are strongly connected to."

The first Husqvarna models were e-mountain bikes, but for 2020 the brand expands into gravel and urban segments. "The expanded ranges means reaching out for new customer groups to increase volume sales," she said.

Pexco is even launching a collection of Husqvarna bike apparel, created

in collaboration with KTM Industries' motorcycle division. The new range includes performance and urban pieces, including co-branded products such as helmets from Bell [B3-203] and eyewear from 100%

[B4-200].

Astro Engineering in Vietnam, a longtime manufacturing partner for the Puellos, produces the frames for Husqvarna and R Raymon, Husqyarna bikes are assembled in Taiwan, and R Raymon models in Bulgaria by Maxcom. "For two years now we have been a major Maxcom customer," Felix Puello said.

For 2020, Pexco is looking to expand beyond its "home" markets of Germany, Austria and Switzerland and other European countries where it already has distribution, including France, Italy, the Benelux region, parts

of Scandinavia, Poland, and the Czech Republic. Pexco will undoubtedly sign up distributors for other countries at Eurobike.

The company is also launching a new service app for IBDs, so mechanics can connect directly with Pexco employees for help.

Pexco is also entering the growing new segment of e-bike leasing, which it believes could open up the e-bike market by making access to bikes less expensive. "We want to make e-mobility affordable to everyone," Susanne Puello said.

It's a triumphant return to Eurobike for the Puellos, who shocked the industry in 2017 when they severed ties with the Accell Group, owner of



The Husqvarna Gran Tourer GT4 is an urban SUV bike.

the Winora name. Susanne Puello is the great-granddaughter of Winora founder Engelbert Wiener, and the Puellos had overseen the Winora brand under Accell.

The Puellos were also the brains behind the launch of Haibike, the Accell brand that went on to sensational success and helped drive the boom in e-MTB sales. Susanne Puello said at the time that she disagreed with Accell's strategic direction. Several Winora employees followed the Puellos to Pexco.

The name Pexco is short for "Puello eMobility Crossover Company." Pexco is a joint venture between the Puello family, KTM Industries, and Stefan Pierer, the CEO of KTM Industries.

■ Jo Beckendorff



From left to right: Susanne & Felix Puello, Ralina Mitkova, Ilie Mitkov, Nina Mitkova, Maxim Mitkov & Viktor Mitkov. Maxeurope assembles all R Raymon bikes at its plant in Bulgaria. (Photo by Jo Beckendorff)



The GS4 is part of Husqvarna's new 'Gran Sport' line.





The new Brose Drive System

A harmoniously synced system of drive, display and battery for the most natural e-bike riding experience.

With three compact, ergonomic displays, Brose grants very different biker wishes: practical, puristic, clear.

The Brose Display Allround is the stylish all-in-one solution for design lovers. Purists get their money's worth with the slimline Brose Display Remote. And for bikers who love the big picture, the Brose Display Central offers the best view of all displayable data.

The new Brose Battery 630 is optimally coordinated with the Brose Drive product family.

Connected to the specially developed, very robust Brose standard plug, it has a nominal capacity of 17 ampere-hours at 36 volts, providing an energy storage capacity of 630 watt-hours.

The Brose Battery 630 fits perfectly into the e-bike frame and can

The Brose Battery 630 fits perfectly into the e-bike frame and can still be removed easily. The patented locking system offers two major benefits: the battery remains securely mounted, even during the most extreme riding conditions, and for removal, only one lock needs to be opened.

Brose Drive – one product family, four characters: harmonious, efficient, fast and athletic.

The Brose Drive product family offers specially designed drives for diverse requirements of e-bikers: The Drive S for mountain bikes, the Drive TF for S-Pedelecs, the Drive T for trekking bikes and the Drive C for city bikes.

What is so special about Brose drives? The natural riding feeling!

- // Very quiet, low vibration
- // No pedal resistance without drive assistance
- // Sensitive response
- // Powerful assistance and harmonious handling
- // Attractive frame integration



GREYP'S E-MTB IS STRIKING, BUT ITS APP IS GROUNDBREAKIN

One of the hottest new exhibitors at Eurobike declares in its slogan that it is "not a bike company." Its young staff is more into coding and electronics than riding bikes. Its new electric mountain bike, while striking, isn't the main attraction. Instead, it's the bike's built-in electronics and the app that comes with it.

The company, Greyp [A1-502] hails from Croatia. It's a subsidiary of Rimac Automobili, which builds electric hyper cars that sell for 1.5 million euros (\$1.7 million) and up, and has attracted investors including Porsche Engineering, Kia and Hyundai. Rimac's 31-yearold mastermind, Mate Rimac, has been called the "Elon Musk of the Balkans," in a nod to the founder of Tesla.

At Eurobike, Greyp is showing its newest e-MTB, the G6. Extreme riders would dismiss the G6 as a bit too heavy, with a geometry that is too short and steep. But at Eurobike Media Days, journalists — and representatives of other brands — were most impressed with the Greyp app.

While most e-bike displays tell the rider how much range is left, the G6 displays what Greyp calls the "reach potato" - a graphic visualization of the remaining range that is overlaid on a map of the area. (And, yes, the shape can somewhat resemble a potato.)

A "kill switch" lets the owner remotely shut down the drive system on a stolen G6. The only way to restore the bike's function is to plug the

owner's smartphone to the bike.

With front and rear cameras, riders can record and share ride videos. In case of accidents or other unexpected events, they can also rewind and view the last 30 seconds or so of video. Greyp is now developing a way of letting cyclists livestream their rides.

An embedded eSIM module ensures the bike is always connected to the internet.

"With Greyp, it really is about the experience riding the bike and sharing it with others, not just about the performance. We are no hardcore mountain bikers, but we are mad about digital technology and we are not afraid to use it," said Zvonimir Sucic, chief technology officer of Greyp.

Sucic is particularly proud of the eSIM chip, which today is used by only a handful of high-end carmakers. including Tesla, BMW and, of course,

"While other manufacturers connect their e-bikes to the owner's smartphone, that is just one tiny aspect for us, as the smartphone is the bike's display anyway," Sucic explained.

He added, "We connect the bike to the cloud and the entire internet — not just for sharing purposes, but also to log the use of our products and help optimize it, to do small software updates for the battery, or to notify customers that a firmware update is available.'

Another difference between the G6 and typical e-MTBs is also invisible, but significant: Greyp insisted that the drive system manufacturer open up its source code so Greyp programmers could modify it.

The big names were unwilling to do so, "but Taiwanese mid-motor manufacturer MPF happily agreed, so our coders were free to add functions not seen thus far on a bicycle, and to optimize the way the motor works with our own 700Wh battery pack," said Irene Weber, brand and marketing manager for Grevo.

The G6 is unusual, but the e-MTBit was derived from is even more out-there.

That bike, the G12, is a wild crossbreed between a pedal-driven bike and an electric motocross machine. It was a passion project of one of Rimac's first employees, who had been working on it in his spare time.

The employee called it the Greyborg. Rimac was fascinated by its ride dynamics and decided to put the Greyborg into production through a new subsidiary. Rimac called the new company Greyp in a nod to "Greyborg."

Greyp now employs a staff of 70, 22 of whom are programmers or IT specialists (compare that ratio to most bike brands).

The G12 delivers electric support up to a speed of 70 kph (43.5 mph), powered by a rear hub motor that cranks out a humongous 12kW of power. You can buy one today for as little as 9,000 euros.

"As the G12 could only be ridden on private property, sales were limited to rich people who bought a hyper car from us and a G12 to go with it," Rimac said. "So we decided to scale down the G12 in order to bring a product to the market that complied with all relevant regulations and thus could be sold as a normal e-mountain bike.



Mate Rimac at the launch of the Greyp G6 in Croatia earlier this year

Greyp engineers worked on the G6 for about three and a half years and unveiled it to the public this March, on the Croatian island of Brac.

The company is working on other versions, including a more affordable hardtail, the G6 C, and a performanceoriented version, the G6 X, with a 29-inch wheel up front and a 27.5- inch wheel in back. The G6 models will retail for prices ranging from 6,499 to 7,499 euros. Owners will need to buy a separate plan from T-Mobile for mobile services delivered through the eSIM

Greyp is also taking an unconventional approach to distribution. It is skipping national distributors to work directly with bicycle retailers. And it is exploring retail channels outside of cycling. To promote the eSIM card, for example, T-Mobile will sell the G6 bike at select shops in Germany, starting this month. **LvR**

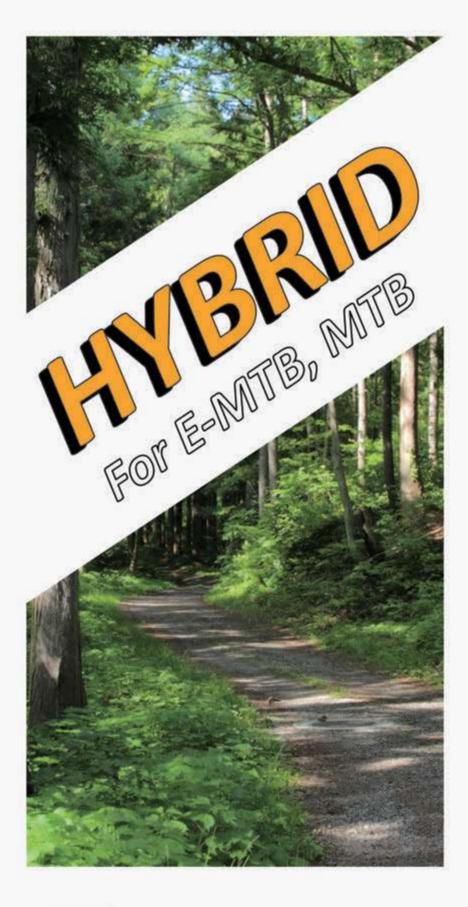


The G6 app is one of its most impressive



Grevp showed journalists the G6 at Eurobike Media Days.



















Asymmetric rims with offset spoke holes allow for better triangulation of spoke angles and balance of tensions in a wheel build, resulting in a stronger, stiffer (laterally due to proportionately more lateral tension), more compliant (radially due to proportionately less radial tension), and more reliable wheel.



(M802) (M801)

Rim Material Carbon Fiber > High Toughness resin system

Rim Construction Hookless - Tubeless ready Rim Size 29 (M801) - 275+ (M802) Rim Width Internal 30 mm / External 36 mm

Rim Depth 26 mm

450g (32H) (M801) - 425g (32H) (M802) Rim Weight

Hole Count 28/32 Tire Pressure 50 psi

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GREENSTORM TAKES E-BIKE RENTAL MARKET BY STORM

A company that gives hotels premium electric bikes in exchange for the right to sell their vacant rooms has, in just two years, become one of Europe's biggest sellers of e-bikes.



Now, Greenstorm Marketplace [A1-105], formerly known as Greenstorm Mobility, is expanding its e-bike exchange program to IBDs with a program it calls Green4Rent. It will provide a fleet of new e-bikes to participating IBDs, who can offer them

for test rides and rentals.

"While our IBD partner can get more customers interested in e-bike mobility, 30 percent of the rental price goes into his pockets. The remaining 70 percent is for us," Greenstorm co-founder Richard Hirschhuber said. "If there are any repairs while these e-bikes are at the IBD, we will pay for the labor."

After an e-bike is used for no more than two seasons or 1,500km (930 miles), Greenstorm takes it back,

refurbishes it, and sells it on the second-hand market. It then replenishes the IBD's inventory with a new rental e-bike.

By August, Hirschhuber said Greenstorm had signed up more than 1,800 IBDs, mostly in the German-speaking market. "We hope to increase this number within a short time to 3,000," he added.

The company, in Kufstein, Austria, is already working with nearly 1,000 hotels in central Europe. It provides e-bike fleets, along with charging stations and some electric cars, to the hotels that they can then offer to their customers. In exchange, the hotels give Greenstorm the right to sell some of their inventory of unsold rooms.



Greenstorm general manager Richard Hirschhuber poses with refurbished e-bikes he sells at the company's headquarters in Kuftein, Austria. (Photo by Jo Beckendorff)

Greenstorm's business model has attracted a capital infusion from Bregal Milestone, a European private equity firm. Bregal invested an undisclosed amount in Greenstorm, which Hirschhuber said exceeds 10 million euros. (Bregal says it typically invests between 20 and 60 million euros in its partner companies, but declines to give details on specific investments.)

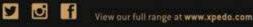
The program is so successful that Greenstorm ordered 15,000 new e-bikes for the 2019 season. The company works with a host of brands, from Bergamont, Corratec, Cube, and Ghost to Haibike, Husqyarna, KTM and Raleigh — and many more.

In April, Greenstorm will start













reselling those 15,000 e-bikes on the secondary market. How will it move all of these second-hand bikes?

First, the e-bikes have to be refurbished. Greenstorm has established a subsidiary in Slovenia, where it can repair and refurbish the bikes cost-effectively.

The more important part is the creation of a new online marketplace, which Greenstorm launched on Aug. 28. Hirschhuber calls the store, at www.shop.greenstorm.eu, "Europe's largest online e-bike marketplace."

The store will not only sell Greenstorm's fleet of second-hand e-bikes, but will be open to its IBD partners, who will also be allowed to sell new e-bikes there.

Unlike other online merchants, Hirschhuber says Greenstorm will not charge IBDs a commission on sales, and will help them advertise through Facebook and Google.

IBDs will also be able to use Greenstorm's logistics and automated payment system. Finally, and most important, "they will be able to offer the products on an online platform with a million-plus visitors a month," he said.

In addition to working with hotels and IBDs, Greenstorm is rolling out an e-bike rental program for corporations that it calls "My Job — My Bike."

Among the companies taking part in the program is the big Austrian firm Swarovski, a famous manufacturer of crystal used in jewelry and apparel. "Swarovksi can now equip its employees with green e-mobility at most attractive prices," Hirschhuber said.

For Hirschhuber, Greenstorm is a big change of pace from his previous job. He ran a family hotel business in Kufstein for 18 years before founding Greenstorm, with partner Philipp Zimmermann, in 2016.

He's since sold the family business to concentrate on Greenstorm, which has seen exponential growth since the company launched its hotel rental program in 2017.

"In 2016, we started with four people. Today we have a total of 160," he said. "Isn't that great?" JB

WIN 8 MONTHS WITH A TESLA FROM GREENSTORM

Visit Greenstorm Marketplace and you could win exclusive use of a Tesla Model 3 for eight months.

The use of a Tesla is the top prize in a lottery that **Greenstorm [A1-105]** is holding during Eurobike. The company will give out a total of 888 prizes (Greenstorm co-founder Richard Hirschhuber considers 8 to be his lucky number.)

The second- and third-place prizes are intended for IBDs, who will receive a Green4Rent rental station and four e-bikes that they can rent out for a year without paying commissions to Greenstorm. The company typically splits rental income 70-30

with the IBD.

Winners four through eight will get to advertise their logos on Greenstorm's new online marketplace for one month at no charge. Winners nine to 88 can advertise for a day, and winners 89 to 888 for an hour.

Trade visitors can enter the lottery throughout Eurobike, but consumers who attend Festival Day are not eligible to participate.

Greenstorm will announce the winners about a week after the show ends.

JB





BREXIT IS A CHALLENGE, BUT BROMPTON HAS SEEN CHALLENGES BEFORE

With a British factory that can turn out up to 100,000 of its iconic folding bikes a year, Brompton is a strong player in Britain's bicycle industry. And while it faces much uncertainty amid the country's seemingly endless Brexit odyssey, Brompton has overcome more difficult challenges before.

Today, Brompton [A2-309] sells its folding bikes in 1,450 shops across 50 countries. Its stores include 15 flagship stores, called "Brompton Junctions," in major cities including New York, Tokyo, Beijing, Shanghai, Singapore, and Barcelona.

All bikes come out of a complex in Greenford, England, that opened in October 2016. Brompton has its headquarters there as well as a factory that handles everything from welding frames to painting, wheel building and final assembly.

"While the annual production capacity of our new factory could max out at 100,000 units, the current production is closer to 60,000. Apart from the optional titanium forks and rear triangles for our Superlite models that are being welded in Sheffield, the steel frames and forks are being soldered at the factory, with two production lines and about 30 frame builders working in our spacious headquarters. Most of those welders have been trained by ourselves," said Tom Hobbs, who at the time of a recent visit worked in



choices, Brompton customers can customize their bikes up to 16 million ways.

Brompton's marketing department.

In its home market, Brompton benefits from a rise in consumers who are more concerned about the environment, and from an effort by cities to reduce car traffic in their crowded urban cores and thereby reduce smog and gridlock.

Low-slung Brompton folding bikes can be seen all over London, and hardly one bike is exactly like the other. That highlights another of the company's strengths: While the frame and fork are identical throughout Brompton's model range, consumers can choose from among some 16 million variations of colors, components, and other specifications. Brompton also produces special editions, such as the sporty, well-equipped CHPTR3 editions designed with former road professional David Millar.

Brompton hasn't ignored the e-bike trend, either. Its solution is a typically distinctive one that doesn't rely on well-trodden solutions from famous suppliers

Instead, the Brompton Electric uses a front hub motor that it developed with Williams Advanced Engineering, a British company with a long history in motor racing. The motor uses a 300Wh battery that's hidden in a bag in front of the steering column.

Sensors and the brains of the drive system are also hidden in the bag mount. The cadence sensor is the only drive component that is visible on the main frame.

By relying on domestic suppliers and production. Brompton has sidestepped the ongoing trade conflicts between China and the EU and United States. Yet its extensive export business faces a different challenge in Britain's never-ending Brexit saga.

To hedge against the uncertainty of exactly whether and how Britain will leave the European Union, Brompton has stockpiled parts and components worth more than a million pounds



Brompton's new factory and headquarters opened in October 2016.

(1.09 million euros; \$1.2 million). The parts are stacked to the ceiling on heavy-duty shelves in Brompton's headquarters.

While managing Brexit is a huge challenge for British firms, Brompton has survived more serious difficulties. Its story began in the late 1970s, in the aftermath of the oil crisis. Andrew Ritchie, a newly minted engineer from Cambridge University, wanted to get people out of their cars. He designed a high-quality folding bike that he hoped would spark interest in multimodal mobility. Yet he couldn't convince Raleigh, then Britain's biggest bikemaker, or banks to back his idea.

In 1982, Ritchie founded a company with one other employee and made about 50 of his original folding bike. called the Mark I. But a recession proved to be too difficult to overcome, especially after a key supplier - a British metal processing firm that made the main hinge on the frame - went out of business.

Ritchie gave up and took on a job as a landscape gardener to make ends meet. Then, fate intervened.

A wealthy entrepreneur, Julian Vereker, docked his vacht in the French harbor of Cherbourg and saw another yacht owner pedal away on his Mark I. Vereker — founder of the company that makes Naim high-end amplifiers — wanted one of his own and wouldn't take no for an answer.

Vereker tracked down Ritchie. pulled together financing from other wealthy friends and created a business plan to restart Brompton.

Brompton, Chapter 2, was launched in 1987 — in a 93-square-meter (1,000-square-foot) building under a railroad bridge in the West London suburb of Brentford. Ritchie tweaked the original design to create the Mark II, and the rest is history.

Today's Bromptons are largely similar to the Mark II design and still offer a unique parking option - where the bike sits on its own and leaves the rider's hands free — between its riding and fully folded positions. ■ LVR



Brazing frames at Brompton





A SMALL DANISH BIKEMAKER TAKES ON A BIG ISSUE WITH RECYCLABLE CARBON BIKES

Coh&Co Copenhagen is so small you can count its employees with your fingers and still have a digit or two left over. But it's punched well above its weight with bikes made of unusual materials. Its Wooca line, for example, uses frames crafted of thin veneers of ash or walnut interleaved with carbon fiber.

At Eurobike, **Coh&Co [A2-507]** hopes to land another punch with a line of carbon fiber bikes that it says are completely recyclable — thus tackling one of the biggest drawbacks of carbon usage in an industry that prides itself on its environmental friendliness.

The recyclability is just one of the distinctive features of the new bikes. Frames are made of a combination of carbon and basalt fibers — basalt, as in stone.

"It's crushed-up rocks that have been melted and extruded into fiber, and then woven into a textile, just like carbon," said Paul Harder Cohen, co-founder of Coh&Co. "If you put raw carbon [fiber] and raw stone next to each other, you'd think that one was just a dirtier version of the other."

These carbon and basalt fibers are embedded in a degradable resin system, developed by a Chinese supplier, that can be "dissolved" at the end of the bike's life, leaving the fibers available for other uses. "They are not going to make new bikes. They are being downcycled," he said. "But for once, we finally have a recycling process that's interesting for a few reasons."

Typical carbon fiber frames use resins that break down only under very high temperatures, imposing a high "cost" in energy usage and CO2 emissions. The resin used by Coh&Co breaks down much more easily.

Coh&Co calls the frame material StoneWeave. At Eurobike, it's showing an urban bike, Erik; a gravel bike, Mattis; and frames for a forthcoming road bike that are made of the stuff.

At about 2kg (4 lbs., 6 oz.), the Erik's frameset is relatively heavy. Cohen said that's by design, not because of the basalt. "We want something that you can hit with a hammer. It's supposed to be used in the city," he said. The new road bike frameset uses the

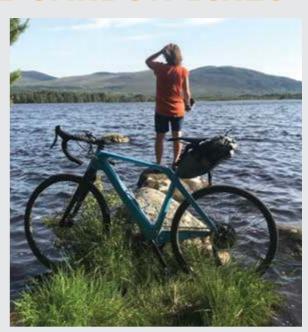
same composite and weighs a much more competitive 1.1kg.

The Erik, now in production, is distinctive for another reason: The frame has one seatstay and one chainstay. That makes it easy to maintain.

"When you live in a city like Copenhagen, and you ride 24/7, 12 months a year with winter, gravel, dust, and dirt, nobody cleans their bikes until the spring because it's just a horrible ugly process," Cohen said. "An open chainstay allows you to get in with a rag in 10 seconds."

More important, the design allows the frame to flex in a way that enhances the bike's response.

Cohen, whose background is in materials engineering, used to design racing yachts. He noted that Denmark has a thriving composites industry because it was once the world's largest manufacturer of wind turbines, which



StoneWeave Mattis gravel bike

use enormous carbon fiber blades.

Why basalt? Cohen says it is very similar to wood in its ability to deaden road noise, without having to rely on, as he puts it, "weird seatstays or rubber inserts or disconnecting the seat tube from the seatstays" or other "active damping" systems touted by bike brands.



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HUB MAKERS RUSH IN AS THE DT SWISS STAR RATCHET PATENTS EXPIRE

It was 1995 when **DT Swiss [A3-400]** bought Hügi, a fellow Swiss company, and expanded its portfolio from spokes and nipples to hubs. But DT Swiss hadn't just acquired a hub manufacturer. It also acquired Hügi's valuable intellectual property for the star ratchet freewheel mechanism.



The patent proved to be a boon for DT Swiss — even more than the company perhaps expected. It turns out that star ratchet freewheels are well-suited to the demands of electric bikes and electric MTBs, which didn't exist in 1995. That's because these freewheels can cope with the extra torque dished out by mid-drive motors.

Thanks to its star ratchet system, DT Swiss has found much success on the OE market for its hybrid e-MTB wheels and, now, for its e-gravel and e-road bike wheels. But its star ratchet patents expired in August, and a flurry of hub makers is launching their own products based on the system.

DT Swiss is not standing still. It is rolling out the new Ratchet EXP system that it says is lighter and more reliable and adds stiffness to the rear hub. "Tens of years of experience with this system are part of our DNA, and it took DT Swiss quite some time and effort to get things exactly right," said Friso Lorscheider, a mountain bike marketing specialist for DT Swiss. "No doubt our competitors will find out that getting 90 percent of a new system right is not that hard, but getting the remaining 10 percent exactly right is the real challenge."

The star ratchet system relies on ratchets instead of pawls for fast and safe engagement. The ratchets — serrated metal discs with interlocking teeth — make a distinctive rattling sound when coasting.

More important, the star ratchet system allows for simultaneous engagement over a larger area, distributing peak loads much better than conventional pawl-based hubs. That allows them to handle the higher torques generated by mid-drive motors.

Some smaller manufacturers such as Chris King, exhibiting at **Cosmic Sports [B1-308]**, **Syntace, Newmen, Foss, and Tune [A2-301]** managed to find ways around the DT Swiss patents and create similar ratchet



Shimano Face Ratchet system

mechanisms based on serrated discs. But the bigger players shied away from the challenge for fear of being sued and labelled as copycats. Now that the patent is no longer in force, that's no longer an issue because anyone can use the technology.

Mavic may not be exhibiting at Eurobike, but its wheels can be seen on a lot of the bikes here on display. For the 2019 model year, the French



Chosen TC components

wheel giant launched its ID360 freewheel mechanism. A closer look at the inner workings of these "Instant Drive" hubs shows a star ratchet-like system with serrated interlocking discs. These come with 40 teeth each, resulting in an engagement angle of 9 degrees. Mavic says its new freewheel system does a much better job of coping with high torque.

Shimano, [B5-300]

another heavyweight in the OE market, had planned to launch a star ratchet freewheel system with its new XTR groupset in 2019. Originally, the ratchet-style Scylence freewheel system was designed for silence, making no noise at all when coasting and thus offering less internal drag. While early samples of these new hubs worked well at media events, Shimano faced reliability and durability issues for production models and has shelved the Scylence hubs for now.

But Shimano didn't shelve its Face Ratchet system. The system, which uses angled serrated discs, offers a tight engagement angle of 7 degrees that should appeal to competitive riders. Since most moving parts are made of alloy, the weight is attractively low as well. Shimano offers the Face Ratchet freewheel mechanism on its Micro Spline hubs for XTR, XT and SLX groupsets. While the Face Ratchet system may not be silent, it offers a secure engagement that can easily deal with high torques.

At this year's Taipei Cycle Show, the new **Bear Pawls [A5-206]** hub brand from Alex Global debuted its Clutch 24t freewheel mechanism. It is clearly a ratchet system because it uses serrated discs for engagement.

By using discs with 24 teeth, Bear Pawls has opted for durability and reliability rather than the fastest possible engagement — a sensible choice for e-MTBs with mid-drive motors. The Clutch 24t fits any Bear Pawls hub with an axle that runs on four bearings, giving OE customers more options.

Kun Teng [B3-503] is another Taiwanese heavyweight in the OE hub market that has rolled out a ratchetbased freewheel mechanism.

Its Disc Drive, or DD, system features the serrated and interlocking discs that typically provide the reliable engagement with ratchetstyle freewheels. While the Disc Drive system does not show up in Kun Teng's 2020 OE catalogue, the QL-DD4MR aftermarket mountain bike hub comes with this variety of the star ratchet system. It's available in a non-boost version with a 142mm axle width, and in a boost version, with IS or centerlock disc mounts and with Shimano or

SRAM XD drivers.

Taiwan hub specialist **Chosen [A5-203]** also has developed a star ratchet-like freewheel system that it calls TC, for "toothed coupling." Its serrated discs each have 36 teeth for an engagement angle of 10 degrees — fast enough for almost all applications without sacrificing durability.



DT Swiss Spline 190 Ratchet EXP & DT Swiss Ratchet EXP parts

Other manufacturers rely on conical springs or magnets to move the ratchets, while Chosen opts for a compact tooth spring made of steel for secure power transmission. And like many other hub makers, Chosen says a planar engagement is more reliable when increased forces and more torque come into play.

With the Ratchet EXP system, DT Swiss is taking a less-is-more approach to its top-of-the-line hubs. Instead of two ratchet discs that move alongside the axle with conical springs, the inner ratchet disc is fixed to the hub shell. Only the outer disc moves along the axle.

Because there are fewer moving parts, DT Swiss says the freewheel mechanism is more reliable. And because it permits the axle bearings to be moved further outboard, the Ratchet EXP also increases rear hub stiffness.

In fact, some World Cup mountain bike teams are now using Ratchet EXP-equipped rear hubs with ceramic bearings, usually considered too fragile for use on rough terrain. DT Swiss opted for ratchets with 36 teeth, finding the sweet spot between fast engagement and internal drag.



Kun Teng Disc Drive schematic

THE LONG AND WINDING ROAD TO BENNO BIKES

Samuel Weishaupt didn't know anything about the bike business. But he did know how to convert delivery vans into tricked-out "expedition vehicles," rugged enough to tackle off-road paths or beaches and luxurious enough to sleep, feed, house, and entertain four people.

He set up his company on the grounds of his family's century-old business in Appenzell, Switzerland. His first customer was Benno Baenziger — the co-founder of Electra Bicycle Company — who asked him to convert a Mercedes Sprinter van into a "surf mobile."

Baenziger lives in southern California, and he and his partner had sold Electra to Trek in 2014. But he was already drawing up plans for a new bike brand, **Benno Bikes [A1-518]**.

"While we were planning his Sprinter together here in Appenzell, Benno kept telling me about his latest bicycle plans. That's when I first came into contact with bikes," Weishaupt said.

Weishaupt didn't think more about them until he saw the Benno Boost E electric cargo bike for the first time. "I thought it was really cool. I had never seen such a transport bike before," he recalled.

He liked it so much he decided to become Benno Bikes' distributor for Switzerland, even though he didn't know anyone in the industry, much less the bike dealers he would need to convince to carry the brand.

He went about it the old-fashioned way. After establishing Benno Bikes Swiss GmbH, Weishaupt began visiting IBDs one by one and showing them three prototypes of Benno models, including the Boost E.

Although he was a stranger to the retailers, Weishaupt had quite a story to tell. From 2008 to 2010, he and a buddy had driven around the world in a colorful Land Rover. At one point, they had paid a visit to Baenziger, a distant relative, in California.

In Switzerland, Weishaupt built a bike trailer, attached it to the back of a small Suzuki van, and set off to visit bike shops. After he had production models to show, Weishaupt switched to the Land Rover and wound up visiting about 200 Swiss IBDs.

"There were periods of frustration, but I didn't want to give up," he said. "First, I chatted with the dealers about the Land Rover and the trip around the world. Then — very important — I rolled a bike into the shop. The Boost E quickly became an eyecatcher, and the IBDs immediately saw that this bike was different. Some guessed the Electra background right away."

He began delivering Benno bikes in 2018, and orders doubled for 2019. "In March 2019, we had 50 dealers in Switzerland. In May it was up to 55," he said.

Weishaupt has set up a duty-free warehouse from which he can serve the European Union, and currently distributes Benno in Austria and northern Italy. This year, half of the bikes he's sold are the Boost E, about 30 percent are the eJoy — a more compact cargo bike with a step-through frame; and 20 percent the eScout, a rugged commuter bike.

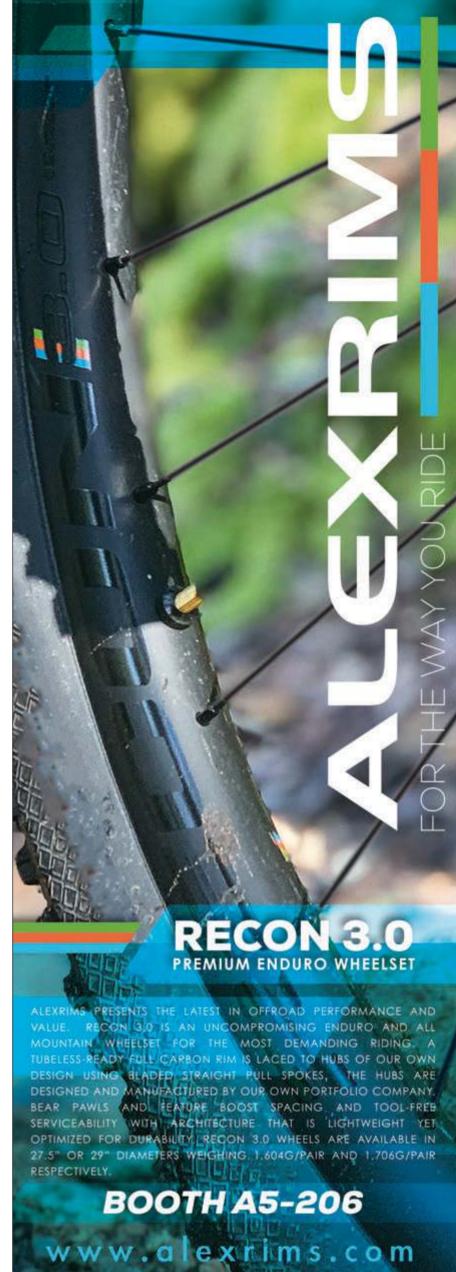
Benno Bikes recently received a marketing boost when Air Zermatt — one of the world's oldest helicopter rescue services — ordered Boost E bikes painted in its signature red and white star design.

At Eurobike, Benno Baenziger hopes to line up distributors for Germany and other European markets. It's a good bet he won't find anyone as colorful as Samuel Weishaupt.

JB



Samuel Weishaupt and his Land Rover, which he drove around the world and now uses to promote Benno Bikes. (Photo by Jo Beckendorff)



20 **EUROBIKE** SHOW DAILY Wednesday, September 4, 2019

OVERVIEW: COMMERCIAL CARGO BIKES

THE CARGO BIKE MARKET IS ABOUT TO GET BIG — REALLY BIG

So many families are giving up cars in favor of cargo bikes that bike manufacturers can't keep up. Some brands report lead times of up to 25 weeks for new orders because frame builders are running at full capacity.



Yokler U

But family-oriented cargo bikes are just the start. Now, the cargo bike market is poised for big growth — literally as well as figuratively. Many brands are rolling out oversized electric cargo bikes for commercial use, as logistics companies seek urban-friendly alternatives for last-mile deliveries of everything from mail to Amazon and Zalando shipments.

A growing number of European cit-

ies, including Stockholm and London, are restricting traffic coming into their city centers. That's a challenge for vans and larger trucks, which already have to cope with scarce parking and pedestrian-only zones.

Enter these oversized cargo bikes. They are narrow enough to fit onto a bicycle lane and squeeze past traffic jams, and operators don't need driver's licenses.

Yet these XL cargo bikes can handle loads of 300kg (660 pounds) or more — including cargo, bike and rider. Some governments offer financial incentives for companies to purchase cargo bikes. For example, the German government subsidizes 30 percent of the cost of a large cargo bike, up to 2,500 euros. The bike must be intended for commercial use and have a minimum cargo capacity of 1 cubic meter (35 cubic feet).

Regulators and the cargo bike industry still need to resolve some issues before the market can truly take off. One is a lack of suitable infrastructure: Nearly all big cargo bikes use three or even four wheels, so they need more room in which to operate.

Another problem is that the European Union has not yet set standards for such important issues as the maximum power output of an electric motor for commercial cargo bikes, or their maximum weight. Because of this uncertainty, some large bike manufacturers have been wary of entering the market.

Germany is in the process of adopting a new standard for commercial cargo bikes, DIN 79010, and there's a good chance it will also be adopted throughout the EU.

Instead, specialized manufacturers have stepped into the breach. They include Rytle, which makes bikes for UPS, and Velove, manufacturer of the Armadillo cargo bikes used by DHL.

Perhaps the most serious challenge has less to do with regulations and more to do with manufacturing and servicing, as Franz Tepe, marketing director for ZEG, explained:

"In a pilot study that UPS did with the University of Nurnberg, ordinary cargo bikes caused repair costs exceeding 7,500 euros per year, and a lot of downtime," Tepe said. "These downtimes are a serious no-go in logistics. A cargo bike that cannot be used due to some mechanical issues equals a loss in logistics — even without any repair costs."

Tepe added, "For these customers we need first a product that has been fully optimized for reliability and utility, and second a service solution that solves any issues quickly and reliably to get the bikes back to service as fast as possible."

That's why ZEG is debuting a large commercial cargo trike that it designed from scratch. It has also launched a new brand, **A-N.T. [A1-703]** to produce and distribute it.

The burly A-N.T. trike uses only a few components from traditional bicycles, including the saddle, handlebar and pedals.

To handle the bike's 300kg capacity, which includes cargo, rider and bike, the three-wheeled A-N.T. borrows its wheels, tires and disc brakes from motorbikes.



Urban Arrow Tender Post & Parcel 1300

Powering the A-N.T. is a fully integrated Erzmo MS1 mid-drive motor with a built-in three-speed transmission. Made by German supplier Elektromotorenwerk Grünhain GmbH, the motor provides plenty of torque to get a fully loaded bike moving from a stop.

The front cargo platform holds up to 100kg, and the rear platform takes another 60kg, allowing the A-N.T. to easily meet the 1 cubic meter requirement. The platforms have plenty of space for modular containers of varying sizes.

To reduce charging times for its big 810Wh battery, the system runs on 48 volts.

One remarkable detail of the A-N.T. is its parallelogram steering system, developed by a retired engineer who previously designed the suspension system for the iconic Porsche 911. The system places the pivot of the steering axle ahead of the front wheels to stabilize the trike's handling and steering.

Urban Arrow, [A1-706] a

recognized name in conventional cargo bikes, has reworked the design of the oversized Tender bike that it first launched in 2017.

The original Tender has been used by supermarkets for home grocery deliveries, and by other logistics companies for delivering parcels. The Dutch cargo bike specialist used these real-life test cases to improve the bike's design.

For its newest version, the three-wheeled Tender Post & Parcel 1300, Urban Arrow offers a flatter cargo compartment with a capacity of 1.3 cubic meters. The new compartment improves the rider's view of the road ahead; Urban Arrow's original boxy compartment created a large blind



A-N.T. Cargo Bike

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Sample specs: GEM2701 Frame: Aluminum 27.5"

Motor: Bafang mid-drive motor 332, 250W

Battery: Greenway 36V 10. 4AH, Samsung Cell

Display: Bafang LCD-Display DP

:18 B**rake System:** Shimano Disc

Brake System: Shimano Disc Brake **Derailleur:** Shimano Altus 9-Speed

B4-311







Bavk Bring

Because the original box limited access to parcels, Urban Arrow replaced the roller shutter opening with a giant lid.

The guts of the Tender Post & Parcel 1300 are a creative mix of components from bicycles and other types of vehicles. A Bosch Powerline Cargo mid-drive motor, coupled with a 500Wh PowerPack battery, is the heart of the drive system.

Its back looks more like a conventional bike. The rear wheel, bulked up with a strengthened rim and reinforced spokes, has a 14-gear Rohloff Speedhub for a wide gear ratio and a Shimano disc brake.

Up front, the Tender becomes less bike-like. Its two front wheels and tires are adapted from a light electric car. Custom dual brakes keep the

Tender's speed in check even when it's loaded to its maximum 400kg capacity. A parking brake is integrated into the left brake lever.

The Pickup Work 2.0 from German manufacturer XCYC [A1-723] carries less weight than others but is made for plenty of flexibility. This burly cargo trike rolls on heavy-duty wheels and can carry up to 250kg.

Its 2.9-meter (114-inch) wheelbase supports a rear platform that is large enough to haul a Euro-pallet.

XCYC has built the frame around a Bosch Performance Line CX mid-drive motor that cranks out up to 75Nm of torque, with a 500Wh PowerPack mounted to the downtube.

XCYC offers several containers and open cargo compartments so users can choose the best fit for whatever task they need to accomplish.



Maxpro Parcelmate



Triobike Taxi pedicab

Many logistics companies need cargo bikes that can accommodate standardized cargo containers, so they can be transferred easily from an large truck.

The Bring cargo trike from Bayk, at TQ Systems [A1-306] has built a 1.4-cubic-meter Flex Box cargo compartment on its rear platform. A fairing protects the rider from the elements. The Bring combines TQ Systems' powerful drive system with a differential taken from Husqvarna motorbikes. Stopping power is provided by Brembo disc brakes. The Bring can haul up to 450kg.

This Polish manufacturer Maxpro, [A1-700] which has

been making commercial trikes for 15 years, is debuting the full-suspension Parcelmate at Eurobike. The bike has an independent suspension system for the two rear wheels and an oversized suspension fork up front. It can haul up to 250kg

Unique features are the bike's retractable track ramps and a motorized winch to help the rider load and unload cargo.

A powerful Heinzmann hub motor delivers plenty of torque, and a polycarbonate shield protects the rider from wind and weather.

Because Maxpro has its own factory, almost all production

Continued on page 22 ...

OBVIOUSLY-— INVISIBLE

Discover what makes a great e-cargo bike at Eurobike 2019: sensor precision by Thun (booth no. A2-107), motor power by HEINZMANN (booth no. FG-0/210) and cargo expertise by Radkutsche (booth no. A1-724).









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





HCP Swiss Sabrina

... continued from page 21

processes are done in-house. Maxpro can also customize the trike's design for specific requirements. For example, Maxpro recently built the XXL Ecocargo bike for DHL with a humongous 3-cubic-meter cargo capacity.

Small can be mighty, too, as evidenced by the U cargo trike from French manufacturer Yokler Cyclopolitain. [A1-720]

The U is only 2.5 meters long, but its rear compartment can carry up to 1 cubic meter and 150kg of cargo. Its small size allows for agile handling and a small turning radius that is especially welcome in dense city centers.

To cope with the added weight, Yokler uses a motorbike suspension fork. The stock 250W mid-drive motor puts out 70Nm of torque, and Yokler offers a more powerful 100Nm version as an option.

seem small, but the U also accommodates a second battery. And if your cargo is people, Yokler offers a pedicab version it calls the X.

A pedicab is just another type of cargo bike, and Italian manufacturer Triobike [A1-702] offers an easy-toride pedicab trike it calls the Taxi.

With an ergonomic seat that is 90cm wide, there's plenty of space for two adult passengers. And because they ride up front, they have an unobstructed view. For further comfort, Taxi comes with a retractable hood, waterproof blanket and a storage compartment.

Triobike hasn't neglected the pilot; the Taxi is equipped with a powerful Brose Drive S mid-drive motor, powered by a rear rack battery. A short wheelbase makes the Taxi highly maneuverable in traffic or on tight

urban streets.

The standard 360Wh battery may

HCP Swiss [A1-731]

originally made trikes for carrying someone in a wheelchair. Now it is expanding its concept for other types of cargo.

At Eurobike, HCP Swiss is showing three versions: the Noëmi. with a platform that safely holds someone in a wheelchair; the Leonie, a pedicab with comfy seats for two adults; and the

Sabrina, with an open metal freight compartment that can be customized for different requirements.

All three models use a mid-drive system from Bafang, powered by a battery that sits beneath the carrier. An additional battery can be mounted on the platform between the two wheels, extending the trike' range to more than 100km.

Powerful hydraulic disc brakes provide safety, especially important for human cargo.

The Spanish postal service uses an impressive number of cargo trikes made by Spanish manufacturer BKL Bikelecing, [A1-705] which has used the mail carriers' hands-on experience to improve the chassis.

For 2020, BKL expands its cargo line-up. A front-loader Long John model has a burly double crown fork, and a longtail model is fitted with a heavy-duty carrier. Both models come with either a front hub motor or a Conti-

nental mid-drive motor.

transmission and differential.

A third new model, the Surf Cargo, doesn't try to be a heavyweight. Instead, it's a compact e-scooter with cargo baskets front and back, a rear hub motor and a suspension fork up front.

While its cargo capacity is under 1 cubic meter, the Surf Cargo is convenient for delivering mail, picking and packing in a warehouse, or transferring cargo from a truck to a cargo bike in an urban cargo hub.

As ZEG's Franz Tepe explained above, downtime is a serious concern for logistics firms because they can't afford to have vehicles sit idle for lengthy periods.

For commercial e-cargo bikes, batteries can be a leading cause of downtime because they have to be recharged. Since bikes made for heavy hauling need bigger or multiple batteries, charging times can add up.

So GreenPack Mobile Energy Solutions, [A1-700] a start-up from Berlin, offers batteries than can be quickly swapped with fresh ones when they run out of juice.

GreenPack has developed a battery



sharing system it calls Swobbee. It will soon roll out a network of Swobbee Sharing Points where e-bike users can quickly make the swap. The automated sharing points are operated through touch screens and card readers.

GreenPack takes care of charging and storing the batteries, making the lives of logistics company operators a lot easier. LVR



GreenPack Sharing Point



BKL Bikelecing Surf Cargo





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24 **EUROBIKE** SHOW DAILY Wednesday, September 4, 2019

OVERVIEW: MID-DRIVES FROM THE MARKET LEADERS

SHRINKING MOTORS, BIGGER BATTERIES, AND BETTER CONNECTIVITY ON TAP FOR 2020

Advances in the booming electric bike segment are largely driven by drive suppliers. So what are the leading motor manufacturers offering for the 2020 model year? The answer: more choices, more connectivity, smaller and lighter motors, and larger batteries that add range, albeit at the expense of weight.



The new Smartphone Hub from Bosch turns the rider's phone into a fully functional e-bike display unit.

Bosch eBike Systems [A6-207]

was founded 10 years ago, and it has since been the driving force behind the industry-wide adoption of mid-drive motors. For 2020, Bosch debuts the fourth generation of its motor line. Highlights include new Performance Line models that are built specifically for cycling, instead of being adapted from systems used by other Bosch

divisions.

This has enabled Bosch to slash the dimensions of the motor unit by more than 40 percent, and the weight by 25 percent, to 2.9kg (6 pounds, 6 ounces). Cooling fins help dissipate heat buildup.

In addition to a particularly powerful Performance Line CX motor for e-mountain bikes, Bosch offers versions of the new motor for speed pedelecs and, in its Cargo Line, for cargo and speed cargo bikes.

For cargo bikes, Bosh has increased the maximum support to 400 percent from 340 percent. A lower-cost alternative, the Performance Line Cruise, scales back performance to maximum support of 300 percent with 65Nm of torque. Because the Performance Line Cruise combines a new inner working with an older, larger motor housing, the weight increases somewhat to 3.3kg.

For longer range, Bosch has added a 625Wh PowerTube battery that has 25 percent more capacity at an extra weight of 650g. Two of the new PowerTubes can be combined for overall capacity of 1250Wh.

Bosch also adds a smaller 400Wh PowerTube battery that saves users money if not weight.

A new Smartphone Hub bridges

the gap between hardware and software. It's a smartphone mount with a small, integrated display that shows such basic ride data as speed, battery capacity and distance covered. As soon as the rider starts up the Cobi.Bike smartphone app, the phone becomes the display. Riders can then use the controller's buttons to switch among a large number of functions.

The new
Kiox display
unit, for more
performanceoriented bikes,
now incorporates
Bluetooth for
expanded connectivity options.

Lock is a new

anti-theft system
that links a bike owner's
smartphone to the Kiox
display and motor using a
randomly generated digital code. The
motor is locked down when the owner
removes the display from the bike,
making it unusable if it is stolen. The
motor unlocks only when the owner
re-mounts the display.

For electric mountain bikes, the Bosch display integrates with the e-Live Valve system used on Fox Factory suspension systems, so the controller can be used to tune the suspension settings.

A final innovation may be the most controversial: software that can't be "tuned," or overridden, so that the drive system exceeds legal speeds.

"Our intention in this is not to spoil the fun for anyone," said Claus Fleischer, general manager of Bosch eBike Systems. "We want to make sure that e-bikes are being treated as bicycles rather than motorcycles in the future as well. And apart from obvious dangers in traffic, tuning puts e-bikes at risk of becoming over-regulated, making them less attractive to use and thus killing off the current boom."

The Bosch anti-tuning software looks for abnormalities in the system that could indicate unauthorized manipulation. Once it identifies an abnormality, the system displays an error code and limits the motor to a minimal "limp back home" mode. Only authorized Bosch dealers can reactivate the system, and they can only do so twice.

Brose [A1-504] unveiled its biggest news for 2020 bikes at Eurobike Media Days. Until now, Brose has supplied only the motors, but has relied on partners for the displays, controllers



Yamaha's new PW-X 2 drive incorporates a fourth sensor that measures the incline of the terrain.

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brose

THE NEW BROSE DRIVE SYSTEM: DRIVE, DISPLAY AND BATTERY FROM ONE SOURCE

Compact design, high quality and flexibility: the award-winning Brose drives, the three new ergonomic Brose displays "Remote", "Allround" and "Central" and the new Brose Battery 630 have all this in common. All components work perfectly together in the Brose Drive System so the overall Brose riding experience is optimised. At the same time, the customer can now also benefit from a range of services from a single source. The individual Brose e-bike components are intelligently coordinated. This facilitates maintenance and diagnostics of the Brose Drive System by certified dealers using the Brose Service Tool. Brose's flexible e-bike kit remains in place: manufacturers can still select from

various Brose components but can now also opt for the complete drive system, too.

Find out more here:

WWW.BROSE-EBIKE.COM

A1-504



and batteries.

For 2020, Brose offers its own integrated battery, which rests in an alloy subframe to reduce rattling. The subframe also allows looser tolerances in frame building. An Abus lock secures the battery. The 3.8kg, 630Wh battery follows the current trend of bigger batteries for longer range.

Earlier this year, Brose also debuted a handlebar controller and two displays with a focus on ergonomics and clean design. Cyclists now have options ranging from a minimal system to one that displays as much information as possible.

With these new components, Brose has transformed from a motor supplier to a company that offers complete drive systems. This increases its responsibil-

EUROBIKE

ity for service and technical support, so Brose is adding staff for its helpline and is enhancing its service tool for retailers. Authorized Brose dealers now will be able to diagnose issues with the displays, controllers and batteries along with the motors.

Brose is also expanding the variety and price points of its drive systems to give bike brands more options. It is expanding the availability of its more compact magnesium housing, which is 500g lighter than the conventional housing, to its Drive T and Drive C systems for trekking and city bikes, respectively. The magnesium housing had been available only for the Drive S system.

The only motor not to get the

magnesium housing is the Drive TF version for speed pedelecs.

For 2020, **Shimano [B5-400]** has focused more on associated components than on making significant changes to its Steps drive systems. It has managed to significantly shrink its 504Wh integrated battery, the BT-8035, so that it fits more easily into downtubes by using an octagonal cross-section and a shorter length. Shimano has also tweaked its E-Tube Ride-App so that users can customize the settings of Eco mode, not just Trail and Boost modes.

Because Shimano is a leading component maker, it has the unique ability to modify those components so they are better integrated with its drive systems. For 2020, Shimano has updated its XT and SLX groupsets so that they now come with optional four-piston disc brake calipers — something that makes perfect sense for heavier e-MTBs.

For the growing segment of electrified gravel and road bikes, Shimano now offers a 47-teeth chainring that fits its Steps mid-drive system. The Steps system has also been modified so that it will work with the dropbar levers on its Di2 system.



Shimano shrank the dimensions of its 504Wh integrated battery so it fits more easily into the downtube.

Yamaha does not have its own booth at Eurobike, but its new PW mid-drive systems are on display at **Pexco. [B2-400]** Pexco uses the PW motors on all e-models in its R Raymon line

With the PW-X 2 drive for e-MTBs, and the value-oriented PW-ST drive, Yamaha has incorporated a fourth sensor that measures the incline of the terrain. Combined with measurements for speed, cadence and acceleration, the incline data helps the system's algorithm offer up the right amount of support.

Yamaha uses the more sophisticated algorithm for a new automatic mode, so riders can focus on the trail without being distracted by adjusting the motor setting.

To make it easier for riders to start from a stop on an uphill

slope, Yamaha has added a "smooth hill start" feature that reduces drive support for the first couple of meters to prevent wheel slip.

Yamaha has also boosted the torque of the PW-X 2 to 80Nm from 70Nm. The system also offers as much as 50 percent more support at high cadences than Yamaha's previous motors.

Yamaha also offers more options for integrated batteries to cover more price points. Its new range includes options of 400, 500 and 600Wh. ■ LVR

A number of companies are vying to take on these market leaders in the fast-growing mid-drive market.

Find out what these challengers are showing at Eurobike on page 26.



For 2020 bikes, Brose now offers complete e-bike drive systems, not just motors.



26 **EUROBIKE** SHOW DAILY Wednesday, September 4, 2019

OVERVIEW: UP-AND-COMING E-BIKE DRIVES

A HOST OF CONTENDERS QUEUE UP TO TAKE ON THE MARKET LEADERS

Despite the dominance of a few big manufacturers, the market for e-bike drive systems is diverse. While motors from unfamiliar suppliers may require extra explanations on the salesfloor, they also allow bike brands to set their e-bikes apart and integrate additional functions.



Maxon's e-road bike drive system in action. The "bottle" is the battery.

When it comes to reputation, reliability and support, drive systems from the market leaders offer many advantages. But product managers have plenty of reasons to look elsewhere when choosing a system for a new ebike model. They may want to set their e-bikes apart from their competitors, or may represent a niche that has specific performance demands. Some want an "open system" so they can modify the drive system's software.

The booming e-bike market has attracted a number of companies with very different backgrounds — including start-ups created by cyclists, such as Fazua and Comp Drives; industrial heavyweights from the auto industry, such as TQ Systems and Continental; electric motor specialists such as Bafang or Maxon; and traditional bicycle component suppliers seeking to diversify their offerings, such as TranzX and FSA.

Apart from building reliable drive systems, these companies all face the challenge of establishing service networks that are fast, reliable and extensive enough to win over skeptical retailers.



The Fazua Remote fX controller

Given the OE success that **Fazua [A1-205]** enjoys with its downsized Evation system, it's no wonder that the German company is focusing on the details for 2020.

Fazua has reworked the lock mechanism and incorporated it directly onto the motor and battery unit, thus freeing up space for its new Remote fX controller.

The elegant touchpad, with integrated LED lights and a light sensor, serves as the brain of the Evation system. It is integrated into a cutout on top of the toptube where cyclists can reach it easily. The fX can also serve as the controller, if OE customers want clean up the cockpit by doing away with a separate handlebar controller.

Fazua has also "opened" its app to work with other sensors and displays.

Making its debut at Eurobike is a brand-new drive manufacturer, **Comp Drives. [A1-510]** This Czech-Chinese joint venture has developed the C19, a compact, patent-pending mid-drive motor for performance e-bikes.

With a power output of 250 watts and 60Nm of torque, the numbers are pretty mainstream; what's not is the drive's remarkably compact size and its weight, which is well below 3kg (6 pounds, 10 ounces). Because the C19 fits into the downtube, bike designers aren't forced to stretch the chainstays to make the motor unit fit.

The unit has a width of just 64mm, allowing for a minimal Q-factor of 160mm. The Comp Drives' mid-drive motor can be equipped with one or two chainrings up front. Thanks to the integration of a Gearsensor GSGI shifting sensor, the drive system temporarily reduces the level of electric support while shifting, for faster and smoother gear changes with less wear on the

chain and cogs.

Comp Drives says the C19 eliminates all mechanical resistance once the rider exceeds the legal assisted speed limit of 25 kph (15.5 mph), so the bike rides like a conventional bike

Bafang [A1-304] is one of the most ambitious challengers in e-bike drives. After recently debuting its first middrive motors, Bafang opened a factory near Wrozlaw, Poland, and became a sponsor of a new UCI-sanctioned e-MTB racing team, headed by Olympic gold medalist Bart Brentjens.

While its mid-drive systems can be combined with third-party batteries, Bafang now offers batteries of its own, with capacities of either 450Wh or 600Wh. They can be integrated in the frame or mounted more conventionally atop the downtube.

Its compact M800 mid-drive motor for e-road bikes turned heads when Bafang launched it last year. This year, the M500 mid-drive for performance e-MTBs takes center stage. Developed with Brentjens, the M500 sticks to the legally required 250 watt limit, but offers maximum torque of 95Nm for dynamic support. Bafang offers a 350-watt version for North America. The motor weighs a competitive 3.3kg.

Continental [A1-505] has teamed up with German compatriots Kalkhoff to further fine-tune its Continental eBike system. To reduce charging times, the system runs on 48 volts instead of the customary 36 volts.

The integrated IDT downtube battery comes with a generous 660Wh capacity. For a more dynamic riding sensation, Continental boosted the maximum available torque to 75Nm.

The user interface has been reworked; as an alternative to the existing four support modes, customers can opt for a simpler model with easier-to-understand Range, Balance and Power modes. The new XT 2.0 Bluetooth display shows relevant data.

Continental's free e-bike app adds such functions as GPS-based navigation, weather forecasts, and an advanced range calculation that accounts for topography.

An established name becomes one of the more interesting newcomers to the drive market this year. At Eurobike, **FSA [B3-400]** is debuting the FSA System, based around a rear hub drive.

A 250-watt motor is built into a rear hub with disc mounts. The system is powered by a 250Wh battery, and an optional expansion battery doubles the total battery capacity.

A control unit is integrated into the toptube, and FSA offers a smartphone app to control the system. The system weighs a claimed 4kg and, FSA says, runs quietly at 55 decibels.

Once the system reaches the top legal speed, the motor cuts out and, FSA says, offers almost no resistance to normal pedaling. FSA offers four Vision wheelsets for road and gravel bikes that have the FSA System built in.



Bafang M500 mid-drive system for performance e-MTBs

Sachs Micro Mobility, [A1-403] a joint venture of German auto supplier ZF with Magura, BFO and the BMZ Group, is adding two new drives to the RS 925 system it showed at its launch last year.

The RS 845, for speed pedelecs, delivers powerful support and more than 110Nm of torque up to a speed of 45kph. The CT 925 and its sibling, the CT 945, make good use of that 110Nm torque to power cargo bikes — the 925 for conventional e-cargo bikes, and the 945 for speed cargo bikes.

The RS 925 drive system will be spec'd on selected 2020 Bulls e-bikes.

TQ Systems [A1-306] made a statement at its Eurobike debut last year with a 120Nm mid-drive system. Haibike had exclusive rights to the system for its Flyon e-MTB. Starting with 2020 models, however, the TQ system will be available to other brands. "We now offer a standard package for OEMs looking to get up and running quickly: our motor, various battery options, display, electronics, sensors and wiring and, as an option, connectivity," the company's Kevin Fencil said.

The drive system has a distinctive round shape and subtle cooling fins. And the high torque makes the TQ drive useful for heavy-duty e-cargo bikes and other applications that require the transport of heavy loads.

The M17 is the new flagship middrive system from **TranzX.** [A6-309] At 3.2kg, the motor is light, but with up to 85Nm of torque, it's no lightweight.

TranzX offers a 250-watt version for the European market and a 350-watt



Continental's new display





FSA's new rear hub motor

version for North America, each of which has five support modes. Cadence and torque sensors to continuously calculate an appropriate support level.

TranzX offers two battery options, both designed for in-tube mounting. One has a capacity of 396Wh and the other 504Wh. Completing the system is a Bluetooth-enabled handlebar unit that combines an LED display with the controls. Because TranzX does extensive OE business, customers can put their logos on the motor housing. The Taiwanese manufacturer has upgraded the connectors and made the system easier to mount on the assembly line.



Sachs RS mid-drive motor

Swiss drive system supplier Maxon [A1-413] — best known for producing the hub motors used on the Mars Explorer — debuts its first mid-drive motor system at Eurobike. The light and compact unit is intended for the burgeoning e-road bike segment.

Maxon continues to offer beefy rear hub motors that, with a top output of well over 1,300 watts, are powerful enough to get the heaviest cargo bikes moving. The company

also offers an integrated battery for these drives.

With its Quartz 6 system, the French company **Kervelo [A1-202A]** combines a gearbox with a mid-drive motor in one compact unit that fits around the bottom bracket.

Because its integrated 330Wh battery fits compactly into the downtube, the Quartz 6 system allows for cleaner e-bike designs. The system is well protected from theft or vandalism, as only the display and controller are exposed on the handlebar.

The 250-watt motor offers a surprising 70Nm of torque — quite a lot for a system intended primarily for utility bikes. The gearbox meets the IP67 standard for water and dust resistance, and Kervelo says it needs servicing only once every 10,000km (6,200 miles). An ISIS axle allows the Quartz 6 to accommodate high-quality cranks. Kervelo is developing a chainring for belt drives as well.

The Kervelo system weighs 3.7kg without battery.

Another auto industry supplier is moving into the e-bike industry with a new mid-drive system for e-bikes and e-cargo bikes. **Oechsler [A1-508]** is showing its German-made 3ve Drivematic system, which includes a



A TQ Systems drive for cargo bikes

three-speed automatic transmission. With built-in Bluetooth connectivity, riders can control the system through a smartphone or smartwatch app.

Oechsler says the 3ve system is ready to go into production The company is a big plastics supplier to the auto industry and also makes actuators for car mirrors, tailgates, locks and other products. It also



The M17 is the flagship mid-drive system from TranzX.

produces 3D-printed soles and complete shoes for Adidas.

The Finnish company **Revonte [FG-O/405]** is a finalist for the Eurobike Start-Up Award for its e-bike drive system, the Revonte One, that has a continuously variable automatic transmission so riders don't need to shift gears. The company says the Revonte One can work on all bike styles, from urban bikes to



The Kervelo Quartz 6 combines a mid-drive motor with a gearbox

e-MTBs to cargo bikes, by modifying the software. Brands will be intrigued by Revonte's open-system approach, which encourages its customers to modify the drive software as they see fit. Revonte supplies open APIs that let brands develop their own displays, automatic locking systems and other applications.



Revonte One system with BMZ battery

Revonte has partnered with battery supplier **BMZ [A1-404]** which supplies the batteries for the Revonte One system and will handle customer service for Revonte.



Oechsler 3ve Drivematic

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SEMPIONE TEAM

Full Suspended Enduro e-bike powered by Bosch Performance CX GEN 4, Bosch Kiox display, 625Wh Bosch PowerTube. The rear travel (150mm) has been improved for more elasticity to increase linearity on bumps. The new Sempione Team uses a ROCK SHOX Super Deluxe Select RT shock absorber with standard Trunnion. The frame

is made of aluminium and the geometry shows an e-bike with marked Enduro characteristics optimized to safely tackle challenging downhill stretches.

k absorber n. The frame SPONSORED BY



QUARTZ MID-DRIVE GEARBOX AND MOTOR

The Quartz system, an innovative mid-drive gearbox and motor for e-bikes from French company KERVELO (booth A1-202A) delivers 70 Nm and 250W with 6 or 12 gears. At only 3.7 Kg for the 6-gear version, it's a very light and compact motor and transmission system that integrates very discreetly in the bottom bracket and frame down tube. An in-tube battery is also available to complete the integration of all e-bike system elements inside the frame. This higher level of integration allows for better e-bike design, better bike dynamics with a simple rear wheel, easier maintenance, better reliability by design, and

overall better riding experience. A

belt version will be announced this Fall season for even higher simplicity and comfort.

A1-202A

WWW.KERVELO.COM



MORE IS THE NEW MORE FOR PLUSH, VERSATILE E-SUVS

Who says less is more? When it comes to power, battery capacity and comfort, many consumers want as much from their e-bikes as possible. The industry has responded with crossover models that are the bike world's equivalent to

big. plush SUVs.



Stromer ST5

While brands like Schindelhauer and Coboc bet on minimalist e-bikes for their younger, more lifestyle-oriented consumers, many other bikemakers prefer to be all-inclusive.

Because they market their e-bikes as car alternatives, they strive to make them as versatile and comfortable as possible, without worrying too much about weight or price.

To encourage everyday use, brands typically combine wide tires and suspension up front, a full city kit in back with fenders, rack, and lights, and a large battery for extended range.

Because all of these add weight, these "e-SUVs" typically include powerful drive systems. Some of these plush e-bikes are designed as speed pedelecs for commuters with longer distances to travel every day.

Since most consumers don't need the extra speed, brands also have beefed up their conventional pedelecs. Studded tires on some models add a sporty touch and limited off-road capabilities - much like an SUV that is rarely driven off pavement.

This quest for a bike that is all things to all riders, is akin to the way automakers design their SUVs. Like the car makers, bike brands try to appeal to consumers who want the bike to cover all of the bases instead of choosing a more specialized design.

Stromer [A6-301]

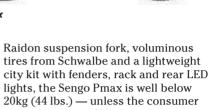
arguably deserves credit for starting this trend with its ST-series speed pedelecs. With their powerful hub motors, large batteries that are fully integrated in burly alloy frames, and Stromer's pioneering work in connectivity and GPS-based Sengo Pmax theft protection, these bikes have always been the SUVs of e-bikes, albeit without off-road ambitions. More recent versions profited from bigger 27.5-inch wheels and bigger tires for a more stable handling.

Now Stromer's s-pedelecs are available with an optional 30mm upside-down suspension fork and a suspended seatpost, for more comfort and stability at speed.

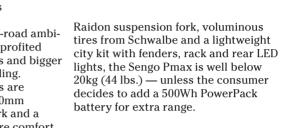
With its Sengo Pmax, Simplon [A3-100] set out to make a light, fast e-MTB

hardtail based on the new Bosch Performance Line CX mid-drive motor. Its carbon frame is built around Bosch's new internal 625Wh PowerTube battery and 29-inch wheels.

For everyday use, Simplon offers internal transmission options from Enviolo and Rohloff. The latter can be paired with a Gates belt drive. Even with an SR Suntour



With its e-MTB Hybrid XC Tour hardtail, Nox Cycles [B1-103] ticks all the boxes for an e-SUV. Its alloy frame is built around a Brose Drive





Victoria eAdventure 8.9 Wave

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CHENOA BOSCH CX UNI

The Chenoa Uni has raised the bar for its competition in terms of weight and riding comfort. The centrepiece of the lightweight e-bike is its high-quality carbon frame, which elegantly integrates the latest Bosch drive unit as well as a 600 Wh battery. If you're looking for the perfect blend of function and design, this bike definitely sets new standards.

- light carbon frame with optimum stiffness
- carbon fork for a low total weight and optimum stiffness (suspension fork optional)
- belt-drive compatible
- fully enclosed internal cable routing (Smart Headset optional)
- stem with cover for a sleek, integrated look
- integrated rear rack/aluminium mudguard

- optional heavy-load cargo rack
- dual battery option with integrated battery (600Wh) and external battery on the rear rack (500Wh)
- integrated Vario seatpost for comfortable mounting and dismounting

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+STROME

ST1 — THE LEGEND RELOADED

Stromer launches the new edition of the legendary ST1: with a range of 90 kilometres - battery upgrade available up to 180 kilometres and wide 27.5-inch tires, the completely revised ST1 is a reliable companion in everyday life and replaces car or public transport. The first-class entry-level model into the speed pedelec class comes in three different colours with a 670 W. 35 Nm CYRO-Drive II motor that accelerates powerfully and almost noiselessly to up to 45 km/h. Maximum driving fun

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A6 - 301







Nox XC Tour

S Alloy mid-drive motor, and a fully integrated, generous 630Wh battery. It's fully equipped with powerful lights, fenders, a full-sized rear rack and a kickstand and accepts a second rack on the fork.

For comfort, Nox includes a suspension fork and wide, studded Continental tires on its 27.5-inch wheels. For less adventure and more utility, the bike also accepts 29-inch wheels with less aggressive tires.

The eAdventure series from **Victoria [B4-400]** can conquer unpaved routes without sacrificing everyday capabilities. Available with diamond or step-though frames, this new series relies on Shimano Steps E-8000 and E-7000 mid-drive motors with semi-integrated 504Wh batteries. Its 2.25-inch Schwalbe tires have a slight tread for paved or unpaved routes. A suspension fork and suspended seatpost improve comfort, and every day riders will

appreciate its full complement of lights, fenders, rear rack, chain guard, frame lock and kickstand.

For a perfect example of a tamed-down e-SUV, see the eSpresso CC from Me-rida. [A3-200] It combines the best of a city cruiser and an off-road bike. A deep step-through alloy ers straddle the bike or

frame lets riders straddle the bike or dismount at traffic lights. A Shimano Steps E-8000 or E-7000 mid-drive motor offers dynamic assistance, powered by a semi-integrated battery on the downtube.

For comfort, Merida adds a

suspension fork and suspended seatpost. Its 2.25-inch tires have a slight tread for off-road traction. Fenders, a Racktime carrier, lights, kickstand, frame lock and chainguard give riders all they need for daily errands.

The new Quadriga Duo series from **Kettler [A6-302]** is easy to ride, thanks to its deep step-through frame. It needs to be.

because the Quadriga Duo comes with a massive 1,250Wh of battery capacity — thanks to dual Bosch PowerTube 625 batteries — for all-day riding. The new Bosch Performance Line CX mid-drive motor supplies the power.

The bike is available as a conventional or speed pedelec, and with a 12-gear derailleur or an Enviolo internal transmission hub. A belt drive is also an option.

Its oversized 1.8-inch headtube ensures the frame is rocksolid, while a suspension fork and a



Kettler Quadriga Duo

seatpost that is both a suspension and a dropper post enhance comfort. Adding to its utility are front and rear fenders, a rack with integrated rear light, powerful headlight, kickstand, and a minimalist chainguard.

Full-suspension e-bikes make perfect sense for cyclists who have

Continued on page 30 ...



Centurion Lhasa E R850i EQ



Merida eSpresso CC





Husqvarna CT6 FS

... continued from page 29

to live with bad roads or unpaved streets. **Centurion [A3-200]** has them covered with its Lhasa E series. All models but the smallest frame sizes use 29-inch wheels and wide tires, with suspension on both axles for comfort and traction. Centurion has hidden the cables and brake lines in the frame, just as it has the Bosch PowerTube 625Wh battery.

With the Bosch battery comes a Bosch Performance Line CX mid-drive motor, which is well protected by a grill-like cover. Its 12-gear SRAM Eagle SX drivetrain covers an enormous range. Making performance practical are a Racktime carrier, extra-wide Tubus fenders, and lights from Trelock and Lezvne.

The first models from the new **Husqvarna** [B2-400] brand were e-

MTBs, but for 2020 the brand expands into more utility-oriented segments. The cross touring CT6 FS model is a good representative of this new focus. With 100mm of travel on both axles, a dropper post, plus-sized Schwalbe Hurricane tires, powerful four-piston disc brakes, and an 11-gear Shimano XT Di2 drivetrain, riding off-road is no problem.

The Shimano Steps E-8000 middrive motor delivers powerful support, and an integrated 630Wh Simplo battery. Thanks to the integrated 630Wh Simplo battery, the bike will go far on a charge. Fenders, lights and a rear rack add utility, and the generously padded saddle and adjustable stem make riders feel comfortable.

Austrian brand KTM [A6-200]



KTM Macina Chacana LFC

offers an LFC option for many of its e-bikes, with LFC standing for "lights, fenders and carrier." Add the LFC package to KTM's full-suspension 29er, the Macina Chacana, and you get a true e-SUV, with 125mm of front and rear travel and with Schwalbe Smart Sam tires.

KTM has expertly integrated a Bosch Performance Line CX mid-drive motor and PowerTube 625Wh battery into the alloy frame. Lights are from Busch & Müller, and the rear

and the rear fender includes integrated mounts for Ortlieb panniers. And since the rear stays come with threads, KTM adds a solid kickstand.

An undisputed pioneer in e-bikes, **Flyer** [A6-102] now tackles the crossover/e-SUV segment with its new Goroc series,

which includes two full-suspension models and two hardtails. For capable off-road riding, the

full-suspension Gorocs offer 130mm of travel in the back and 140mm up front, plus a dropper post and Maxxis tires with a medium tread. For everyday utility, Flyer adds lights, fenders and a rear carrier.

The Goroc 3 is built around the new Bosch Performance Line CX mid-drive motor. Riders can add a second PowerPack battery to the stock 625Wh PowerTube battery. The Goroc 4 uses an equally light and powerful Panasonic mid-drive motor with a semi-integrated 650Wh battery. Both models are available as conventional pedelecs or as

Few crossover bikes are more distinctive than the full-suspension Superdelite GX from Riese & Müller. [A6-300].

speed pedelecs.

With one PowerTube 625Wh battery each in the toptube and downtube, this bike comes with a massive total battery capacity of 1,250Wh. The GX version includes 140mm of front and rear travel, wide studded tires and a dropper post for off-road riding.

Riese & Müller offers conventional and speed pedlec versions, both driven by fourth-generation Bosch Performance Line mid-drive motors.

To ensure the rear suspension



Flyer Goroc 4

works properly when the bike is loaded, its rear carrier mounts to the main frame instead of the swingarm.

Front and rear lights are neatly integrated, and riders can add a front rack for extra carrying capacity.

Need to carry more stuff? Riese & Müller also offers a GX version of its full-suspension Load cargo bike. An on-board chip helps riders track down a stolen bike.



Riese & Müller Superdelite GX



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32 **EUROBIKE SHOW DAILY**

OVERVIEW: MICROMOBILITY

THERE'S NOTHING MICRO ABOUT THE POTENTIAL OF MICROMOBILITY

Forget about the infamous "last mile," which accounts for as much as 60 percent of today's total passenger miles. According to a recent study from McKinsey & Company, micromobility products — from bikes and e-bikes to electric scooters and skateboards — make people happy. Few things put a bigger smile on commuters' faces than avoiding traffic jams and outrageous city parking fees, and arriving at their destinations quickly and efficiently.



Halo S Pro

City officials, urban planners, mobility experts, and entrepreneurs are realizing that the way to make people happy is to supply safe, efficient, streetlegal vehicles — and provide a safe and extensive infrastructure on which they can be ridden.

While bikes and pedelecs, including bikeshare systems, have been the most popular forms of micromobility, it is electric scooters that have energized the movement. Love them or hate them, the fleets of dockless, shared e-scooters that have emerged in many cities have been a boon to the micromobility movement.

But they have also angered municipal officials, along with residents and pedestrians, who resent the unsightly piles of unused scooters and the sometimes dangerous mix of scooter and foot traffic on city sidewalks.

Yet e-scooters are undeniably popular. And while it may be surprising to see them at a "bike" show, Eurobike has been quietly remaking itself into more of a mobility show.

"New players from all over the world are enriching the cycle industry with product innovations, solutions and alternative approaches to future mobility requirements," Stefan Reisinger,



Yorks S1-Elite e-scooter

head of Eurobike, said in a statement. "The future is beginning here and now – Eurobike is showing what will come tomorrow and delivering new stimuli while giving cause for thought to retailers, industry and all the other market participants."

If e-scooters and other micromobility products are the future, Eurobike is a good place to learn more about them. Many exhibitors are showing e-scooters that are meant to be owned, not rented, which means they have more features and are built to higher standards than typical share scooters.

German authorities have already implemented a new traffic regulation to govern e-scooters. The regulation, which went into effect on June 15, requires that e-scooters on public roads go no faster than 20 kph and that their motors be no larger than 500 watts.

E-scooters must have two independent brakes, front and rear lights, and a bell. All e-scooter owners must carry liability insurance and prove it with a sticker on their machines. Insurance costs about 38 euros a year and is available through most carriers. Riders have to be at least 14 years old. Helmet use is recommended but not mandatory.

The regulation could boost sales of the kinds of e-scooters here at the show, because it restricts the use of cheaper, shoddier models.

Since 2016, **Yorks [A1-113]** has gone through eight prototypes to arrive at its S1-Elite escooter. The first-time Eurobike exhibitor, a division of the Fele Group, received funding from the German government to help develop a product that would

be a true e-vehicle, not an "e-toy."

By design, the S1-Elite is neither the smallest nor lightest e-scooter on the market. Yorks set out to design a compact e-scooter that was durable and had enough power and weight so it could perform like a larger vehicle.

But it isn't cumbersome – with its patented trolley feature, users can tow it like a suitcase on wheels for traversing busy transportation hubs. Its integrated charger plugs into household outlets and recharges the 460-watt battery in 3.5 hours.

The motor is rated at 500 watts but can reach a peak output of 800 watts. The S1-Elite's stated range is 25km (15.5 miles), but the company says it can go as far as 35km in favorable conditions.

Its 10-inch pneumatic tires provide a more comfortable ride than typical smaller, solid rubber scooter tires can manage. The S1-Elite is suitable for riders who weigh up to 120kg (265 lbs.), covering most of the population.

Yorks says the production version of S1-Elite, which will be available next spring, should weigh between 15-16kg. It will retail for about 1,600 to 1,800 euros (\$1,800 to \$2,015).

Yorks is vying for a Eurobike Award this year. So is another newcomer, **AER Electric**, **[ÜO-302]** a finalist in the Start-Up Award category for its AER 557 e-scooter.

AER says it invested one million British pounds (1.1 million euros; \$1.226 million) developing the AER 557. The scooter's hydroformed aluminum frame prioritizes rider comfort, control, and safety.

A removable battery powers the



AER 557 e-scooter

500W direct-drive motor. The AER 557 can travel about 20 miles on a charge.

Riders use pre-programmed key fobs to unlock the motor. The scooter also uses information from the fob to restrict the maximum speed to the legal limit in the user's country. Unrestricted, the scooter can go as fast as 43 kph (27 mph).

Metz Mecatech [A1-410]

introduced its Moover e-scooter more than a year ago, but the Nuremburg company has only been allowed to sell it in Germany since March 1, under a special agreement from the Federal Motor Transport Authority.

Among other things, the agreement requires that Moover users be at least 15 years old and possess a valid moped license.



Metz Moover with an optional front pack.

First-time exhibitor **One Mile [A1-206]** combines industrial design, craftsmanship, innovation, and engineering in its Halo S Pro e-scooter. This one has something that the others in this overview don't: an ergonomic suspension saddle to smooth the ride over rough terrain.

The Halo S Pro weighs 16.5kg, with a 400-watt motor and a top speed of 25 kph. Its light, compact folding frame includes an integrated handle for portability. Dual brakes help riders stop suddenly when necessary.

Other features include a twist throttle, smartphone app and a custom battery management system. One Mile has not set a retail price but expects it will be under 1,300 euros.

Another Eurobike newcomer, **Go!Mate [A1-301]**, says it's going the extra mile on "last mile" mobility. Its distinctive frameless e-kickscooter combines a large-diameter front wheel with a smaller rear wheel. A flexboard platform between pneumatic tires absorbs bumps and protect joints. The Go!Mate models are powered by 250-watt motors and equipped with hydraulic disc brakes.

The Staep ER1 and ER2 Plus models top out at 25 kph, and the ER2 at 20 kph. The three Staep models, which won Red Dot Design awards, can carry loads of up to 120kg and weigh 13.2kg. Prices range from 1,649 to 1,749 euros.

The Golkick26 e-kickscooter even goes off pavement. If you thought you'd seen the last of the 26-inch wheels, you'll find one on this model, equipped with a suspension fork. A hub motor fits in the scooter's 20-inch rear wheel and gets the Golkick26 going up to 25 kph, with a range of 35km. This model retails for 1,799 euros.



Go!Mate Staep



Egret Eight V3

Because not everyone has 1,000 euros or more to drop on an e-scooter, the Urban line from Walberg Urban Electrics [A1-303] has models starting below $400~{\rm euros}$. The Urban #LNDN model, priced at 399 euros, weighs just 8.5kg and cruises at 20 kph without throttle or cables. For 550 euros more,



Urban #BRLN

wriders can buy more power and speed with the 350-watt Urban #BRLN V3, which gets up to 25 kph. Walberg also offers the higher-end Egret line, with more powerful motors and more durable materials.

Uebler [A2-322] debuts two compact, light e-scooters as follow-ups to the Si.o S1.1 that it launched last year. The new Si.o K1.1 and K2.1 are designed for multimodal travel — they fold compactly enough to be carried onto a train or bus, and then unfold quickly to get you the rest of the way.

With 250-watt motors, both models can reach 20 kph. They can accommodate loads of up to 100kg, and travel up to 25km on a charge.

The K1.1 weighs 8.8 kg; the 13.8 kg



Uebler's K2.1 folds compactly for carrying.

K2.1 adds features such as three speed levels (compared with two for the K1.1), an integrated Bluetooth speaker, and an LED rear light.

Along with manufacturers, German distributor Grofa is showing several e-scooters through its Action Sports Electronics [B3-200] subsidiary, including models from Metz, Segway and Walberg. ASE distributes e-mobility products, which at the moment are mainly e-scooters. **WB**

SHAREA AND SHARE AL

These days, consumers who want to use an e-bike either have to spend thousands of euros to buy their own, or rely on a sometimes unreliable city bikeshare system — if they live in the right place.

But ZEG, the German buying group, believes there's a middle ground for bikeshare systems that target specific clusters of users. Think apartment complexes, hotels, and university or corporate campuses.

Through its subsidiary Eurorad, **ZEG [B1-200]** has developed a concept it calls Sharea that it plans to test at its headquarters in Cologne, Germany, and at a nearby 800-unit housing complex.

Eurorad will install a fleet of 15 bikes, e-bikes and cargo bikes on the grounds of the housing complex that will be available to residents.

Using the Sharea app, the residents can reserve a bike, unlock it at the chosen time, and head off. They are free to stop along the way, whether for a supermarket run or for a café stop.



This is what a Sharea communal bike storage unit looks like.



Screenshots from the Sharea app

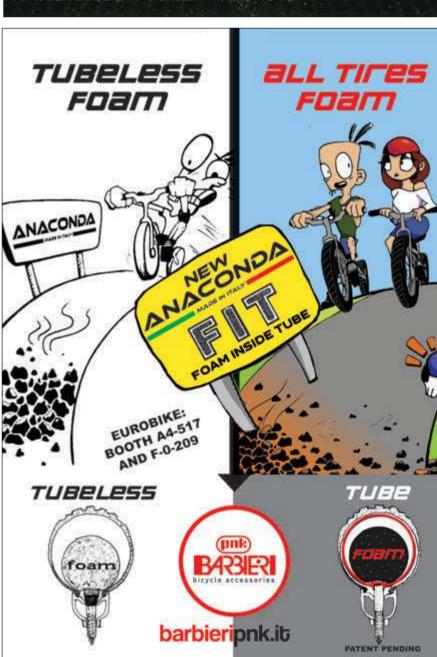
Eurorad supplies the high-quality bikes, which have internet connectivity, as well as a protected storage unit where the bikes are stored and recharged between uses. Sharea users automatically receive full insurance coverage.

The company says Sharea systems could accommodate e-scooters and other light electric vehicles in the

As Germany's largest buying group for bicycle retailers, ZEG has an extensive network of bike shops and is now a significant bike manufacturer with several brands.

ZEG designed the Sharea system to be implemented by its subsidiaries. It's also planning to test the system in Hannover, Germany. ■ WB





34 **EUROBIKE SHOW DAILY** Wednesday, September 4, 2019

OVERVIEW: ROAD APPAREL

BIKEWEAR THAT CAN TAKE THE HEAT

Hot enough for you this summer? Scorching temperatures across the continent have given road enthusiasts a chance to appreciate the technology that goes into their cycling wear. They'll be glad to learn that apparel makers and their suppliers are working on increasingly ingenious fabrics and constructions that can keep riders cool without slowing them down.



Alé Velocity G+

One of the most technical launches at Eurobike is the newest S-Phyre race jersey from Shimano. [B5-300] A key ingredient of the high-end jersey is a compact woven material with a dimpled surface that improves the garment's aerodynamics.

"It's for those who are really crazy about performance, for the Strava addicts who care about every second." said Giovanna Dominicus, product development coordinator for soft goods.

Shimano developed the jersey with Italian textile supplier Tessitura Taiana Virgilio. [A7-123]

Its Kinetech technology produces compact woven materials for a snug fit and some compression. The fabric's density reduces airflow in front of the jersey, pushing it up and over the rider instead.

"It doesn't wrinkle, and it doesn't flap around," Dominicus said. "For the front and the shoulders, we created a dimpled structure that makes the jersey more aerodynamic. It's really made to cheat the wind." Flat, smooth fabric on the lower back also reduces

Shimano uses the same technology in its S-Phyre bibshorts, making them

lighter than knitted shorts. The shorts, which are most efficient at speed, incorporate a fourlayer chamois that ventilates and wicks away moisture.

You'll also find Kinetech technology in the Roma jersey and London bibshorts from **Nalini**. [**B5-210**]

With this technology, very thin yarns are used in knitting the fabric together, so it's extremely compact,"

sales manager Alessandra Agostini said. "It gives you some muscle support, it's water repelling, and it acts as a wind blocker."

Shimano S-Phyre jersey

Similar to the Shimano concept, the front and shoulder parts of the Roma have a three-dimensional structure that creates a sort of wave to improve aerodynamics. More open panels in back combine with laser-cut underarm pieces to enhance evaporation.

Kinetech in the bibshorts provides light compression for better performance and recovery. The upper part is entirely laser cut and made of another special fabric that allows for a seamless construction. The two parts are assembled with flatlock stitching.

These recent hot summers have inspired other apparel brands to design garments that keep things fresh. Castelli [A7-323] adds lightweight bibshorts to its Superleggera range.

Castelli rethought the construction and composition of its bibshorts to eliminate unnecessary functions. The new Superleggera bibshorts keep the pad in place, and to ensure the shorts weigh as little as possible but are durable enough to withstand a season of tough training.

The new woven fabric reduces weight by about 30 percent compared to knit, without affecting support or opacity, Castelli says.

A leading supplier built a gradient fabric that gets lighter the farther down the leg it goes, to as little as 90 grams per square meter. Castelli says that compares with about 220g per square meter for a typical bibshort fabric.

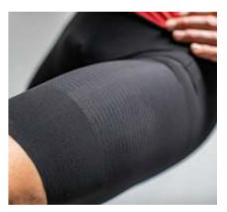
The company boasts that the shorts are "insanely light" but remain reasonably durable and abrasionresistant.

"Note that while the short saves a mere 48 grams while dry, this means it also absorbs around 30 percent less moisture when you're sweating," the company says. "So when you're sweating your way up the Alpe d'Huez you're actually saving closer to 150 grams."

Weighing 141g in size large, the Superleggera uses the Nalini Roma jersey

same striped mesh bibs as Castelli's Free Aero 4 product. A flat stretch woven leg gripper holds the shorts in place, and a Progetto X2 Air seamless pad provides protection and comfort.

In the bike industry, discussions about graphene — a sheet of carbon that's only one atom thick — typi-



Castelli Superleggera

cally involve tires or batteries. But Alé Cycling [A7-206] uses graphene to boost the performance of its newest cycling jersey, the Velocity G+.

The jersey uses a grapheneenhanced fabric called Core G+. In climate chamber tests, Alé says Core G+ creates its own microclimate that makes for a comfortable ride in almost any type of weather.

In tires, graphene adds significant strength. For apparel, however, graphene helps dissipate heat generated by the rider, while keeping bacteria and funky smells at bay.



IIIII rh+

BLACK MAMBA AIRX JERSEY

Aerodynamic, lightness and thermal comfort in a jersey designed following our technical cycling tradition with a touch of Italian

The new Dry Aero Tech Snake Skin fabric, features the same dimpled surface as a golf ball and exploits what is known as the Magnus Effect: at high speed the dimples keep the air flow close to the cyclist's body, reducing air resistance. This aerodynamic advantage reduces the effort to keep speed and pace, an energy saving that means a longer lasting performance for every cyclist.

Biomorphic Micro Fresh Adaptive Stretch panels, a new fabric with high breathability and fast drving

features, enables a very light jersey, fresh and comfortable for the best thermoregulation

WWW.ZERORH.COM







POC VPD bibshort

Alé says other features, including a thin, elastic material with a structured surface, help riders "cut through the air."

The bottom of the jersey is laminated in front to reduce bulk and



Pella Ri-ciclo jersey

keep the garment close to the body. To improve aerodynamics, Alé reverses the front zipper. The Velocity G+ comes in a tight race fit with elongated sleeves.

The accompanying Velocity bibshorts are also built for speed. An open weave fabric, used on the side and bottom leg bands, has a surface that is almost three-dimensional, to break airflow and reduce friction. An opaque, compact inseam has a special "wave" shape that improves aerodynamics.

Alé uses a new pad that's tweaked for sprinters. It's lighter in front, and a protective, opencell foam transports moisture away from the body.

The Super Light jersey from **rh+** [A7-212] is just what the name suggests: The brand says its jersey weighs about half, on average, of other jerseys in the company's catalog.

The Super Light uses the new Biomorphic Ultra Light Adaptive Stretch fabric, which promises efficient thermoregulation on the climbs, and quick drying on the

Very light New Micro Mesh fabric is used under the sleeves and in the back of the pockets for ventilation. "Two tapes are placed along the back side of this jersey to avoid excessive stretching when pockets are extra loaded, thus avoiding one of the main problems of ultralight jerseys," the company says.

The Ultimate VPD bibshorts from POC [B3-402] were designed to solve a perpetual annoyance for female cyclists: the hassle of the roadside comfort stop.

"It's incredibly poor that women have to go into the bush and take off their jersey for a toilet break, whereas men can just casually pull down their pants," said Damian Phillips, POC's head of communication. "Women shouldn't have a second-rate solution for their bibshorts."

On the VPD, it looks as if the suspenders are the wrong way around because the shorts are held up from the front.

'You can just pull them down [at the back] without taking off any piece of clothing," Phillips said. "The back is

made with double perforated stretch material. It comes straight back to form when you pull the shorts back up."

POC says the unusual construction doesn't compromise performance. While the bibshorts are flexible, they also provide compression and have aerodynamic dimples on the side. The chamois is made with a unique silicone technology.

A light zipper on the back of the women's Allure bibshorts from Northwave [A7-201] also makes nature breaks easier. The zipper makes it easier for women to take it off and put it back on.

The latest version includes several other upgrades, including pre-shaped panels and "sculpt fabric" for support. The pad is probably the most important improvement; Northwave says it is 35 percent lighter and 22

Continued on page 36...



rh+ Super Light iersev



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Northwave Allure bibshort

... continued from page 35

percent more breathable, even though it is made of the highest density foam for support.

The Blade jersey, also for women, uses Linfa fabric that is made of yarns from recycled waste materials. Microscopic pores and mesh inserts on the side panels increase airflow

The Platinum Pro jersey from **Pella Sportswear [A7-401]** also has a sustainable story to tell: It's made entirely of recycled polyester and elastomer, which is soft, breathable, and light. The manufacturing

process for the Italian-made jersey is powered by renewable energy sources. Pella also uses high-quality raw materials that are certified by Oeko-Tex.

If it's drizzling when you're heading out, the Vortex WXB jacket from **Pearl Izumi [B5-302]** could come in handy. The company calls it a "game-changing cycling rain jacket," because of its lightness, construction, and water-shedding performance.

"It's a close-fitting jacket with an over-helmet hood," said Andrew Hammond, Pearl's global marketing manager. "It stays closely in place and it's not going to billow up. It keeps you warm, although the material is otherwise breathable."

The Vortex uses a lightweight face fabric with stretch that's made from recycled materials.

Keeping the water off is PI Dry technology, a hydrophobic coating on every fiber. Pearl Izumi says the treatment won't wash off and remains effective after several cleanings.

The jacket also incorporates a threelayer waterproof, breathable membrane and fully taped seams. **BS**



Pearl Izumi Vortex WXB jacket

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SUPER LIGHT JERSEY

The new Super Light jersey by rh+ is an average of 50% lighter than other jerseys in our collection, but without sacrificing breathability and thermal comfort. Made with the new Biomorphic Ultra Light Adaptive Stretch fabric, perfect for the hottest days: guaranteeing the right thermoregulation on climbs, in order to remove excessive body heat without wasting energies, and to dry very quickly on the next downhill.

New Micro Mesh, a super light fabric, is placed under sleeves and in the back of pockets. Two tapes are placed along the back side of this jersey to avoid an excessive stretching when pockets are extra loaded, thus avoiding one of the main problems of ultralight jerseys. WWW.ZERORH.COM



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BAGS AND PACKS THAT PUT UP WITH YOUR OLD BAGGAGE

If your bike is going to be your life partner, it's going to have to put up with all of your baggage. Luckily, help is at hand from these clever luggage solutions



Topeak Terra Rack system

A new craving for adventure might be behind the boom in bikepacking bags, but riders also need practical solutions for lugging stuff around town. From panniers that'll do just as well for a tour down the Danube as for popping out to Lidl, to bags that convert from backpacks to something that'll clip to your rack, we've rounded up the show's smartest.

For cyclists that require something smart in looks and operation, the **Ibera [A4-216]** Pannier Office Bag IB-SF4 is a carrier-mounted briefcase that's ideal for commuting to work or university. With a portfolio of different compartments, it's able to carry a laptop or tablet safely and is respectable enough for the

office. It's water-resistant outside and comes with a protective inner sleeve to keep documents and electronics safe. The Pannier Office Bag attaches to a standard rack with stainless steel hooks. An angled position allows for heel clearance. A carry handle is built



Ibera Pannier Office Bag

in, and D-ring fixings accommodate an over-the-shoulder strap. A reflective swatch helps visibility in the dark.

New Looxs [B4-208] debuts the stylish Nevada backpack with hidden pannier hooks. Straps tuck away so you can take the bag off your back and on to the bike. The Nevada is made of water-repellent Bisonyl, and has a compartment for a laptop or tablet. Reflective elements help you be seen.

Also new from New Looxs is the Nova Double Racktime. A traditional over-the-top style dual pannier, it comes with a pre-mounted Snapit adapter to fit Racktime carriers with one click, and it comes off in one motion. The 32-liter pannier has two main compartments and three zip pockets.

Also urbane is the B3 bag from **B&W International. [A2-317]** With two smooth-running wheels and a telescopic handle, the B3 is easy to handle even when loaded with up to 15kg (33 lbs.) of cargo. Its 35-liter capacity expands to 48 liters when left open, enough to swallow up everything from the weekly grocery store run. It's indistinguishable from the sort of suitcase you might use around town, but two handles and Vario hooks mean the B3 Bag attaches quickly to your luggage rack. It's available in shades of grey, blue, or black.

The e-bike revolution is driving new bag designs, too. The E-glow Ultimate Six Urban from **Ortlieb [A4-303]** is a waterproof handlebar bag for e-bikes, made to match the E-Mate rear pannier. A magnetic lid on a transparent window keeps a smartphone or bike computer safe, visible, and operable through the waterproof material.



New Looxs Nova Double Racktime

Seven liters of total capacity are kept organized with an internal zipped pocket for keys and other valuables. The exterior has two bottle-cage mounts. Integrated LED strips light up the whole assemblage for front and side visibility — and let you see inside. It gets its power through a USB exit to the display or power bank, and its lights conform to German StVZO regulations.

Also new from Ortlieb is a new product that helps keep its other



B&W B3 bag

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PACKING CUBES FOR PANNIERS

Ortlieb's Packing Cubes are a set of lightweight organizers for bike panniers. The modular system is a set of three individual zippered bags (2 x 6 liter volume, 1 x 5 liter volume). All bags feature a two way zipper, mesh pockets and a handle for quick access. The contents of the upper cube is easily accessible from the top even when inside a Back-Roller. These purpose designed bags simplify organized packing and storing your gear, e.g. store clean and dirty gear separately. The lower bag with 5 liter volume has an additional handle, making it ideal as toiletry

The Packing Cubes fit into Back-Rollers or other Ortlieb

panniers with a similar shape (e.g. Bike-Packer, Velo- Shopper).

WWW.ORTLIEB.COM



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BIKE.BAG II

The new bike.bag II of B&W bike.cases & bags has been totally optimized for travel use: more space inside for all standard bike models (racing, triathlon and mountain bikes up to 29') in combination with a new fastening system ensure a safe transport of the bike. Bicycles are securely fixed on the adjustable pedestal. The service mat integrated in the bike.bag II makes working on the bike significantly easier.

The bottom tray, made of shockproof ABS material, and the upper bag, made of hardwearing ripstop polyester with additional padding, protects the precious cargo against shocks. Two carrying straps and a pull strap together with four smooth-running wheels, two of which are freely rotatable, ensure effortless transport during the journey.







Ortlieb E-alow

products tidy. Its Packing Cubes, for front and rear panniers, help divide up panniers into smaller compartments.

Even traditional panniers can be refined. The Discovery 365 single bag pannier from **Basil [A4-206]** is neat, well-featured, and well-priced. Designed for relaxing and exploring rides, or the daily grind of the commute, this lightweight nine-liter bag comes with a waterproof cover. Zipped pockets inside help organize items, and a pull cord keeps them secure. Twin elastic side-pockets hold



Basil Discovery 365

water bottles to expand the pannier's capacity, while lashing points and a carabiner add more carry options. Its low-key styling is offset by green highlights and reflective details. Using Basil's Hook-On system, the Discovery clicks onto the pannier rack.

Basil is also launching an innovative e-bike carrier. Made in collaboration with Spanninga, Tracefy, Massload, and MIK, its shockproof design includes something called Basil Shock Absorbing Tube (BSAT) technology, a form of suspension that reduces the forces on your accessories for a smoother ride.



Thule Shield Panniers

Thule [A7-400] has improved the compatibility, ergonomics and durability of its popular Shield Panniers this year. Still as waterproof and functional as ever, they are well-suited for touring or commuting, thanks to interior organizer pockets and detachable shoulder straps. A roll-top design keeps the rain out, and mounting hardware clamps securely and releases with a single pull. Thule has enlarged the reflective swatches, but has kept the Shield Panniers' distinctive colors of black, blue and yellow.

The Aqua T-30 bag from **Oxford [B3-312]** is one tough companion, originally made for motorbike riders. It sits above existing panniers or can be lashed atop a rack with multiple fixing points. A waterproof roll-top closure keeps foul weather out, and is backed up by welded seams and water-resistant zips. Kit that's already damp can be stored in a front mesh pocket where it won't make the other stuff soggy. Integrated compression straps improve stability, and a padded shoulder sling makes it comfortable to



Oxford Aqua T-30

carry off the bike. The Aqua T-30 has internal and external pockets and a handle on top, so it's ready to travel.

For longer trips when you want to escape the city, **Restrap [B3-208]** has added to its expanding line of craftily made bikepacking bags. The new Fork Bag and Tool Roll fill some of the few remaining gaps in its range.

The five-liter Fork Bag works with increasingly popular fork-mounted cages, and is a step up from a standard dry bag. Restrap adds four sturdy attachment loops and a hard-wearing Hypalon base. A waterproof roll-top design keeps gear safe in all conditions



Restrap Fork Bag

Meanwhile, Restrap's new undersaddle Tool Roll has four slots for key items like a multitool, tubes, tire levers, CO2 cartridges, and a pouch for small spares, like chain links.

Evoc [B3-303] is also moving into the bikepacking market from its more traditional bike bags and backpacks. Its line of bikepacking bags were designed with Boa, the fastener specialist. They include handlebar, seat, toptube, and multi-frame packs.

The seat pack is the most radical, because the Boa fixture is so solid it can attach to a dropper post. The Handlebar Pack also uses a clever fixing system that leaves enough room for the bike's cables but keeps the bag tightly attached.

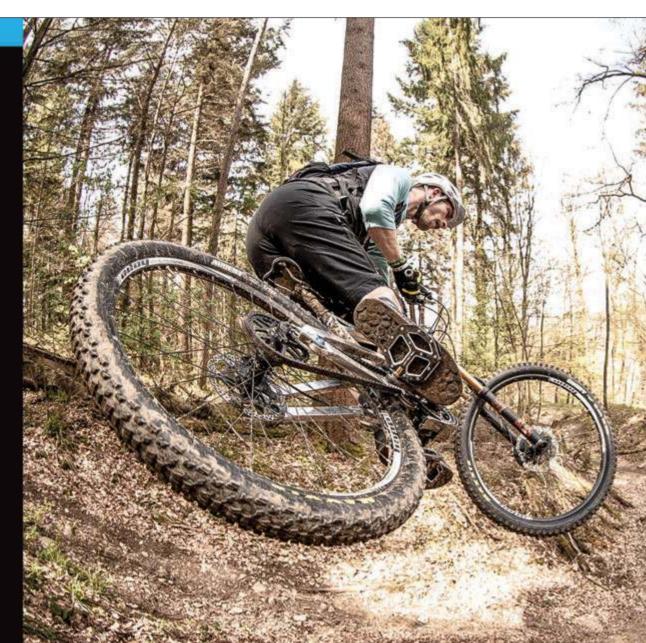
The Terra Rack system from **Topeak [B4-102]** gives extra support front and rear for rugged trips. They come in two models, the M1/M2 for suspension and R1/R2 for rigid bikes. A

Continued on page 40...





BOOTH #A2-201







LIVE AT OUR BOOTH

Hall A1, Booth 408 and Freigelände Ost, Booth FGO-303

SPITZING *EVO*BOBBY ROOT EDITION

Not everyone is managing the strongest challenges with his M1 Carbon E-Bike in the German Alpes. But Bobby Root, a Freeride-Legend, is doing exactly this. But what you can do as well is riding the highest peaks with a full powered motor performance of 250W to 920W. The TQ-Power machine, used since already 5 years in M1, including our newly developed and totally integrated, but still removable battery pack with up to 1050Wh guarantees fun until the last voltage of the pack.

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Ma-Sporttechnik GmbH & Co. KG, Am Weiglfeld 15, 83629 Weyarm

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Evoc bikepacking line

... continued from page 39

quick-mount system on all models does not require eyelets but is very stable. While they support several different types of bags, the integrated QuickTrack system lets Topeak TrunkBags fit simply with a slide-and-lock action. Terra Racks are made of aluminum and engineeringgrade polymer.

The uber-minimalist Sendit Caddy from **Lezyne [A3-305]** lets riders strap a few essentials beneath the saddle or on the frame. Three compartments keep gear and tools organized and secure. The stretchy, robust Sendit Caddy holds such items as a tube, tire levers, multitool, and 25g CO2 cartridge. Its combination of polyester, neoprene, and rubberized elastic adds grip.

Baskets remain a simple, efficient and even stylish way of carrying stuff, and **Tsaiyarn [A5-311]** has a huge selection of them. Including the cool rear-mounted and wire lid-topped options shown here, the basket range has undergone a makeover to expand

compatibility.



Lezyne Sendit Caddy

The Tsaiyarn baskets sit on a mounting plate that's as universal as they come, fitting KLICKfix, Atran Velo, Racktime, and MIK systems. Its handlebar-mounted baskets now accommodate mounts from Lotus, Sunny Wheel, Ibera, and New Loox, so retailers will likely find something to fit any customers' requirements.





Tsaiyarn baskets

Sunny Wheel [A5-103] also makes a range of baskets and brackets and has plenty of them on hand at Eurobike. One handy product is an articulated quick-release bracket that allows many Sunny Wheel baskets to attach or detach quickly. The bracket leaves room for brake cables, and a low mounting position improves the look and handling of the bike when loaded.

It's not a bag or basket, but it can make a world of difference for cyclists. **BikerTop [ÜO-202]** says its Rain Cover is the first pop-up shield cover for cyclists. It sits in a box above the front wheel, and when the weather makes a turn for the worse, the screen deploys as quickly as an umbrella. BikerTop says rain is probably the biggest deterrent to bike commuters so this should help them keep going. Many seem to agree; BikerTop has secured seed funding and will launch the Rain Cover on the crowdfunding platform Indiegogo after the show. **JD**



BikerTop Rain Cover

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UP-TOWN URBAN

Ortlieb's waterproof handlebar basket Up-Town Urban is purpose built for the urban environment. The 17.5 liter front basket is perfect for a visit to the market or a stroll through town. Easy access and loading, with a zippered inner pocket to secures wallet, keys or smartphone. Internal stiffener ensures stability when loading or unloading. A stable aluminum frame as well as a comfortable and adjustable carrying handle round off the modern look. With an Ortlieb reflector for your safety Maximum load is 5 kg/11 lbs. Up-Town Urban is made of a Cordura blend with a textile look. All models are compatible with Ortlieb mounting sets, available as optional accessories, including lockable and E-bikes versions.

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OVERVIEW: BACKPACKS

THEY'LL SCHLEP YOUR TOOLS, SNACKS, CLOTHES, AND — OH YEAH — AN EXTRA BATTERY

With electric drives spreading from mountain to road bikes, cyclists in any discipline are riding longer and need to carry plenty of grub, a change of clothes, their electronic devices and even a second battery.

Backpack makers are responding with increasingly useful options that let riders safely schlep all the extras they need for a day out, without adding too much of a weight penalty.



Ampifi e-Track 17

Amplifi [FG-B10/2a] claims to have originated the concept of an emountain bike backpack two years ago. "We wanted to make a backpack with a protector in it and all the features of a proper enduro pack, and an extra battery," said Tom Howells, product designer at Amplifi.

Team rider Guido Tschugg suggested Amplifi make an e-bike backpack that could carry a second battery. His suggestion inspired the company to update its e-Track pack this year.

Amplifi improved the fixation on the battery pocket so it is more stable and accommodates more sizes. As Howells noted, batteries now come in many shapes and sizes, and Amplifi wanted to ensure its pack could accommodate extra-long batteries.

The battery compartment is made of

high-strength, insulating neoprene with a roll-top closure. A modified interior harness system keeps the bag close to the rider's back, and it's supported by an integrated protector that weighs 160g (6 ounces).

Designers also adjusted the shoulder straps to reduce point loading and ensure the backpack doesn't swing around due to the weight of the battery. "They distribute the weight of the backpack more evenly to avoid muscle fatigue, make it wobble less, and still have enough ventilation," Howells said.

The e-Track has a 17-liter capacity. Amplifi also offers 23-liter sizes in medium/large and large/extra large



Deuter Trans Alpine 30

The Trans Alpine 30 from **Deuter [A7-200]** is made for comfort, as it's intended for multi-day bike trips. Plenty of stowage options hold all of the small things a rider wants to keep handy. For example, a small internal pocket holds tools, and an externally accessible compartment stores an air or suspension pump — so fixing a flat doesn't require rummaging through the rest of the pack.

With pockets on the side, front and inside, Deuter makes it easy for

cyclists to organize their stuff. Another clever addition is a new helmet holder with two special rings on the outside. Deuter has placed the rings so that all compartments remain accessible even when the helmet is stowed in the holder.

Deuter has also added its Airstripes ventilation system for better airflow and less surface contact with the rider's back.

Riders can also add the optional e-Pocket, a padded bag for e-bike batteries, to the hydration system loop on the Trans Alpine and most other Deuter bike packs. The e-Pocket also has a place to stow the charger cable.

The Stage Capture from **Evoc Sports [B3-303]** has plenty of stowage options, but it's really made for a specific use: It's a camera bag integrated into an MTB backpack, for riders who prefer to chronicle their trips with real cameras, not smartphones.

In addition to camera gear, the Stage Capture holds a 3-liter hydration bladder. Food and clothing storage areas are separated from the padded and fluff-free camera compartment with a zip.

The camera area can be subdivided as needed, with three padded and detachable dividers. They can also be removed to increase the volume of the



Evoc Sports Stage Capture

main compartment.

An extra zippered pocket on the hip belt provides space for small items that need to be kept handy, such as lens caps, a cleaning cloth or a mobile phone. A tripod fastens to the underside or side of the backpack.

A sewn-in, zipped mesh pocket in the upper compartment ensures that personal items like keys and a wallet won't go missing.

In back is Evoc's Airflow Contact system, with specially milled, padded elements that create ventilation conduits. Three-dimensional Airmesh, rests against the rider's back and drives body heat into the ventilation channels.



Restrap Ascent

Perhaps unsurprisingly from a British backpack specialist, **Restrap [B3-208]** focused on making its Ascent pack waterproof. With a tape-sealed roll-top construction and lightweight fabrics, the 25-liter Ascent is suitable for all sorts of outings.

Although its magnetic buckles are engineered in Germany, Restrap makes its packs by hand at a workshop in Leeds. Founder Nathan Hughes said the family-run company has invested in expansion and new technologies, which helped it develop its new line of technical backpacks. Another priority



from Restrap is to minimize its carbon footprint by sourcing all materials from the U.K.

Among the Ascent's many practical details are reflective side panels, a waterproof roll-top front pocket and front paracord for quick storage. An integrated rail holds Restrap's clip-in sleeve for a laptop or tablet.

The company is also launching the Hilltop pack, meant for commuting or a trip to the gym.



Oxford Acqua

Another British company, **Oxford Products**, **[B3-312]** also focuses on making fully waterproof backpacks. The Acqua backpacks have a roll-top closure with a waterproof front pocket. The company says inverted seams make it "impossible" for water to get in.

Jordan Sanders, cycling marketing executive at Oxford Products, said the brand's fluorescent colors and honeycomb design elements "massively increase visibility."



Ergon BC Urban

The latest backpack from **Ergon Bike [B4-102]** is made for urban riders. The company, which specializes in ergonomically designed products, already sells adjustable-length packs for mountain bikers, which helps to carry heavy loads.

It realized that cyclists who do nothing more rugged than commute to work could also benefit from an adjustable-length pack. After all, they sometimes have to carry books, computers, and even the odd parcel that has to be returned to the post office.

"All of Ergon's backpacks have a back plate with straps and a Velcro system, so the rider can adjust the back length in four ways," brand manager Tim Weingarten said. "They always have a proper hip belt to carry the weight away from the shoulders to the hip."

As Weingarten explained, urban riders often use the same backpack for daily commutes and weekend pleasure rides. The BC Urban has Ergon's adjustable back system and a wide hip belt. The company added a useful cargo strap as well for carrying bulkier items.

In a green touch, the BC Urban's water-resistant outer material is made of recycled PET bottles. Weingarten said it takes 39 half-liter bottles to make one BC Urban pack, which is finished with a touch of canvas.



Ortlieb Velocity

The Velocity from **Ortlieb [A4-303]** has for years been a mainstay of its urban cycling backpack range. This year, Ortlieb is adding a smaller (17-liter), upgraded version intended mostly for women. A new 23-liter size replaces a previous 24-liter backpack.

Product manager Falko Schott said Ortlieb improved the shoulder straps by making them more ergonomic and by using more air mesh for ventilation. There's also a fully padded compartment for a laptop or other electronic device.

The hip belt is perhaps its most innovative upgrade. It uses a patent-pending detachable system with large buckles screwed on both sides, in the lower part of the back. "Nobody else had this idea before," Schott said. "It's just quicker to release the backpack."

Ortlieb uses another new system for the Velcro strap that is used to close the top of the bag. The strap unscrews so it can be removed, and the Velcro replaced, instead of requiring that another piece of Velcro be stitched onto the bag.

"It makes the product more repairfriendly, and in that way it's more sustainable," Schott said. **BS**



The Ortlieb hip belt is detachable





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OVERVIEW: GLOVES

ELECTRIC MOUNTAIN BIKES ARE EVEN TRANSFORMING THE GLOVE MARKET

The proliferation of electric mountain bikes has opened up new product categories in accessories and apparel, from saddles to footwear to backpacks. Now, even glove makers are getting in on the act.

Several glove brands are introducing e-bike models that combine the grip needed for speeding down — or up — hills with just the right padding to protect against numbness and scratches.



Cutaway view of Cytech's padding system for cycling gloves

Cytech [A7-222] knows something about the interface between bike and rider: Through its Elastic Interface brand, Cytech is a leading maker of pads for bike and bibshorts.

Five years ago, Cytech began looking at ways of applying its pad expertise to gloves. It conducted studies of cyclists' palms, including the nervous systems and the way blood flows through the hands, to develop what it calls Elastic Interface Palm technology. The resulting glove system uses elaborate constructions to relieve pressure and improve blood flow.

Several apparel and glove brands will soon incorporate the Elastic Interface Palm system into their glove lines.

As in its cycling pads, the Cytech Palm technology uses thermo-molded foam for a seamless construction. Cytech applies a "multidirectional curvature technology" to shape the foam, then perforates the foam to make it breathable.

Cytech offers several glove models that vary depending on their intended use. Variations involve the thickness of the construction in different parts of the palm, and the foam density.

Cytech even makes a glove for gravel riders with extra padding between the thumb and index finger.



Roecki Maleo glove

Roeckl
Sports [A7-100]
opts for light and
efficient padding
in its Maleo
glove, made for eMTB riders who
spend a couple
of hours going
uphill before
cutting loose
for a technical
downhill return.

The Maleo's

palm uses a soft and comfortable material called Duradero, which incorporates silicon strips and light padding for a secure grip. "It's high-density foam, which is flexible and absorbs vibrations very well," said Christian Roeckl, managing director of the family-owned German supplier.

By using foam instead of gel, Roeckl can punch small ventilation holes in the palm, which isn't an option with typical gels. The holes create a cooling flow of air that riders will appreciate, especially on the way up.

The back of the Maleo is protected by a dense nylon fiber of Econyl yarn, made from recycled fishing nets. Two of the fingertips are touchscreencompatible so riders can send a text without removing the gloves.

The Molteno model, for more aggressive off-road riding, uses thicker padding.

The palm and fingers are enhanced with Roeck-Grip, a proprietary material. "It provides grip on the outside and the inside, so there's no twisting and no friction," the company says. Small Kevlar crash pads providing extra protection for the ball of the hand.

Padding technology is just as important on the XR-Trail Protech from **Five Gloves**, **[B4-304]** made for full-on mountain biking.

Palm, thumb and metacarpal regions are reinforced with 3mm of Air Gel.

The back of the hand is also reinforced, with Impacton technology to protect knuckles. This Korean technology uses three-dimensional pieces made of specially formulated polyurethane.

"Supple enough not to hinder your movements, but rigid enough to protect you from the impact of branches or rocks," the French glove specialist explains.

The XR-Trail Protech comes in versions for men and women. A silicone print provides optimal grip, and on the top is a thermoplastic rubber and Velcro adjustment flap.

Knuckle and finger protection are also integrated into the North Shore gloves from **Oxford Products.**[B3-312] the North Shore model is part of a new range of road and mountain bike gloves from the British company. Oxford offered the line for pre-sale in July and is launching it more broadly at Eurobike.

The upper of the North Shore gloves uses an armored material with four-way stretch.

The palm is made of Clarino, a brand of artificial leather, for a padded, comfortable fit, while silicone on the fingertips improves grip. A hook and loop wrist closure allows riders to adjust the fit.



XR-Trail Protech from Five Gloves

The e-Glove 3 from **Racer [B1-213]** keeps hands warm, and the French company this year improves the electric wiring used to deliver heat. "It's particularly suitable for winter road biking, but also for fat biking, especially on snow," marketing manager Aurélie Lecomte said.

The e-Glove 3 automatically regulates the temperature, and a battery control panel lets users manage heat settings. At its lowest setting, the battery lasts for up to five hours, while at its maximum setting of 50 degrees Celsius (122 degrees Fahrenheit) it runs for about two hours. The latest version of the e-Glove accommodates an



Oxford North Shore glove

optional second battery.

Another important upgrade is the use of a Polymax membrane to make the e-Glove 3 waterproof.

The gloves are made with comfortable soft shell materials and Clarino. Racer has also lengthened and widened the cuff and reinforced the zipper.



The German



Racer e-Glove 3

manufacturer suggests that about 40 percent of cyclists experience pain and numbness in their hands — not to mention other issues involving the back, neck and other joints. This can cause fatigue, poor concentration and slower reaction times.

Chiba says hand and arm pain is most often caused by pressure on the carpal tunnel and ulnar nerve, while the most intense pressure occurs on the inside of the thumb.

Its BioXCell system targets that area with a double layer of padding, to direct handlebar pressure away from the carpal tunnel area. The padding also corrects a cyclist's hand position. Chiba this year adds reflective strips to the existing BioXCell range. ■ BS



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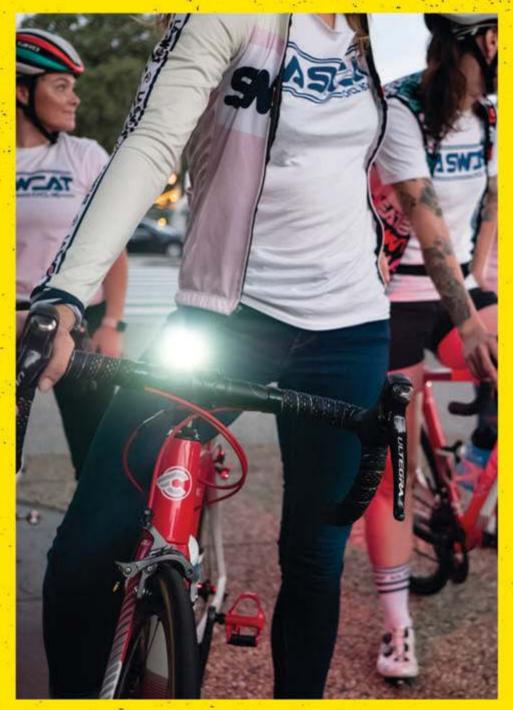
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FOR MORE INFORMATION

GET FIT FOR THE FUTURE OF CYCLING AT LEADERS' BREAKFAST

Thursday morning's Leaders' Breakfast is a priority appointment in the day planner for company presidents, CEOs, founders and other strategic leaders to discuss the future of the global cycling industries.

Tomorrow's breakfast, from 8-10 a.m. in Rooms Berlin and Paris in the Conference Center East, is hosted by Cycling Industries Europe, CONEBI, the World Federation of the Sporting Goods Industries and the European Cyclists' Federation.

Speakers will discuss growth opportunities in Europe and across the world, political challenges, and opportunities for collaboration among different industry segments.

The future looks bright for the global cycling industry, with accelerating growth in e-bike sales leading the way. Add to this the

CYCLING INDUSTRY LEADERS' BREAKFAST

8 - 10 a.m. Thursday, Sept. 5

Conference Center East/ Rooms Berlin and Paris Advance registration requested continuing expansion of mountain biking, bike sharing and bike tourism along with ambitious predictions for the growth of commercial cargo bikes.

According to some estimates, bike sales in Europe alone could grow nearly 50 percent by the year 2030, which would represent an additional 10 million bikes and e-bikes sold every year.

This offers opportunities for existing companies as well as exciting potential for innovators and new entrants.

But growth also brings pressures which require the industry to be well organized and well structured. Growth is likely to attract much more competition from both within and without the industry.

New micromobility products view cyclists as a target market. The industry will be under stress to maintain the supply of batteries, and to find skilled staff to produce, distribute and maintain new bike fleets, among other challenges.

Digitalization will be a gamechanger for all industries, with more



It was all smiles and thumbs up at last year's Eurobike Leaders' Breakfast.

demanding users and integrated supply chains, while sustainability will be essential for any forwardlooking company.

All of these topics form the work of the international associations that advocate for cycling internationally or in their home countries.

The associations that are sponsoring the Leaders' Breakfast all lobby for cycling, and provide platforms, networks and expertise to help get businesses fit for the future.

At the Leaders Breakfast, these associations and their members invite industry leaders to share their visions for the market, and discuss critical initiatives that will help our industries continue to grow

■ Story and photo courtesy of CIE

LEARN ABOUT THE NEW ASEANBIKE

Join officials Thursday for a presentation on the new "ASEANBike powered by Eurobike" trade show, and on the potential of Southeast Asia. The presentation is 12-12:45 p.m. on the Eurobike stage in Foyer East.

The first ASEAN-Bike, a B2B event for the cycling industry, will be Oct. 3-5 at the Impact Exhibition Complex in Bangkok, Thailand.

Southeast Asia presents an opportunity for the bike industry on both



POWERED BY EUROBIKE

the consumer and supply sides. A growing population, rising incomes and greater awareness of health and fitness, combined with concerns over congested cities, sustainability and the environment, are boosting demand for bikes and e-bikes. Meanwhile, tariffs and anti-dumping duties are driving producers to Southeast Asia.

Guest speakers include H.E. Arif Havas Oegroseno, the Indonesian ambassador to Germany; Sakchai Pattarapreechakul, president of NEO, co-organizer of the show; and Bike Sukanjanapong of Vee Tire, which is based in Thailand. Joining them are Eurobike head Stefan Reisinger and Gerhard Vanzi, founder and CEO of the Hero World Series.



EUROBIKE \$\frac{2}{5}\$

GET SOCIAL WITH SHIMANO

Shimano is once again hosting its popular Social Ride, which takes participants on a guided road bike tour around Friedrichshafen.



Getting ready for last year's Shimano Social Ride

The ride leaves at 5:30 p.m. today from the Fair Lake. The ride is free, but participants must register in advance at **Shimano**. **[B5-300]** The ride will cover 43km (27 miles) at an average speed of about 25 kmh (15.5 mph), with local guides providing expert guidance. The ride should last for up to two hours, and riders will return in time for the Shimano BBQ at its booth in the Open Air Ground East.

Riders are required to provide their own bikes and must wear helmets.

Shimano plans to take pictures and videos at the start and finish, so participants need to let the organizers know if they do not prefer to be in them.

THE EUROBIKE ACADEMY HELPS YOU STAY CURRENT

Because the bike industry is changing so rapidly, the Eurobike Academy can help retailers and suppliers make sense of it all, and be prepared for what's coming.

The Academy is Eurobike's program of expert talks and panel discussions that run throughout the show. There will even be Academy presentations during Saturday's Festival Day, geared toward members of the public.

"People are not only coming to the show to see new products. They also want to take something back home and learn something," Eurobike head Stefan Reisinger said in an interview. "With the trend to electric bikes and mobility solutions, there is a lot for the industry to learn and experience, for brands as well as for dealers."

This year's Academy sessions are divided into several overarching themes: Digital and technology, retail, start-ups, marketing, industry trends and changes, and cargo bikes.

Presentations are in German or English, but many German-language sessions offer simultaneous English translation. Academy sessions are free to Eurobike visitors.

Because today is "Start-Up Day" at Eurobike, organizers are hosting

Academy sessions to help young entrepreneurs navigate the legal and financial obstacles of getting their businesses up to speed.

On Thursday, Eurobike offers several Academy workshops focusing on cargo bikes, including panel discussions on the emerging DIN and EN cargo bike standards. Other panel discus-

sions will tackle the growth of commercial cargo bikes. including the development of heavy-duty components needed to handle hefty loads, and the future of cargo hike-hased logistics services in congested urban centers.

Want to keep up with other trends? On Friday, Marco Brust and Ernst Brust of Velotech.de gives overviews of the emerging micromobility market. And just for fun, join Larissa Koch of Verwegener & Trefflich on Friday for a wide-ranging workshop to envision what the bike business will look like in 2030.

See the full Eurobike Academy schedule, along with all of the other events taking place at the show, in the daily events guide in the Show Daily. You'll find today's calendar of events on page 5.



Stay on top of emerging trends and technology at Eurobike Academy sessions throughout the show.



SCAPIN REBUILDS FROM THE BONES OUT

Last September, the iconic Italian brand Scapin changed ownership. At Eurobike Media Days, the new owners showed off their new vision for the brand: flamboyant, high-end e-mountain bikes with a decidedly Italian flavor.

Scapin [B5-306] is a brand, founded in 1957, that has seen considerable success in road racing. After it was purchased by Cicli Olympia in 2005, Scapin continued to focus on race-oriented bikes for both road and terrain.

But with this latest change in ownership to Bettella SRL, the brand's focus has shifted significantly. Because of its background in automotive services and in tuning parts for scooters, Bettella is now positioning Scapin as a high-end performance brand for e-MTBs.

At Media Days, Scapin presented two version of what it calls the E-Bone:

an endurance race model with 120mm of travel, and a trail bike with 140mm of travel.

Both are built around carbon main frames and swing arms, with high-quality hardware and a sophisticated build. The most striking detail of the frame is an asymmetrical area around the shock mount and seat tube. In the headtube area are alloy cable entry ports, an adjustable head angle and an integrated rubber bumper that protects the frame from the impacts of the fork crown.

For the E-Bone's drive system, Scapin has opted for the Fazua Evation system because it is one of the lightest



Detail of the Scapin E-Bone

mid-drive motors on the market today. That helps it keep the weight of the shorter-travel version to under 17kg (37 lbs., 8 oz.). To extend the reach, Scapin puts a spare 250Wh battery in an oversized bottle cage. ■ LVR

SIGMA MOVES INTO TO E-BIKE DISPLAYS

Spare a thought for the companies like Sigma Sport that built their brands around traditional bicycle computers. Their once solid businesses have been eroded by competition from GPS specialists and smartphone apps.



Sigma EOX e-bike controller

So it's no surprise that **Sigma [A5-200]** is now moving into the vibrant, and still growing, market for electric

bike displays and controllers.

Since its founding in 1982, Sigma has sold more than 70 million bike comput-

ers in more than 60 countries, putting it at the forefront of providing cyclists with data.

But in the face of stiff competition from the likes of Garmin, Polar and Wahoo, Sigma is looking to e-bikes for new market opportunities, starting with a series of devices it is debuting under the EOX name. This new line

is especially timely, as German display specialist Bloks went out of business last year.

"At Sigma, our core competence is displays from cyclists, for cyclists. We now bring this knowhow to e-bikes with our EOX series, consisting of the svelte EOX View 1200 e-bike computer, the EOX Remote 500 controller with built-in LEDs, and our own EOX app," said Mike Dietz, sales director of the Neustadt, Germany, company.

Sigma is currently working with BMZ/Brose, Bafang and Sachs Micro Mobility. The EOX line is also compatible with the Shimano Steps drive systems.

"Apart from customization options and real-time feedback, the EOX app also has logging functions, and we have included IoT solutions as well so the data can be transferred to the cloud and used to improve the product or the aftersales service." Dietz added.



Sigma EOX display





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



TITICI IS REBORN UNDER TRERE INNOVATION

The Italian company Trere Innovation recently debuted its UYN brand of high-end sportswear. Now, Trere is relaunching a venerable Italian bicycle brand, Titici.

Titici [B3-211] (the name is short for "Tecno Telai Ciclo"), founded in 1961 by Alberto Pedrazzani in the northern Italian city of Asola, was known for its hand-made steel frames. But as steel bikes gave way to aluminum and then carbon in the 80s and 90s, Titici's business eroded.

Trere Innovation is also based in Asola, and two years ago acquired Titici. It set out to relaunch the brand as a maker of carbon and alloy bikes.

Although its ownership has changed, Titici retains a strong family tie to its founder: Matteo Pedrazzani, one of the founder's five sons, is the brand's product and development manager.

At Eurobike Media Days, Pedrazzani highlighted one of the carbon frames on display.

"The flattened toptube is a trademark detail of our Flexy carbon frames that adds vertical compliance without hurting torsional stiffness," he said. "This way we can combine comfort and efficiency, and since the frames are hand-made, we can adjust the lay-up to the respective rider's weight."

With its Energy line of e-bikes, Titici has opted for a decidedly Italian solution for this big trend. It combines alloy tubing sourced from Dedacciai with a mid-drive motor from Italian maker Pollini.

Apart from road bikes, gravel bikes and mountain bike hardtails, Titici has added a full-suspension e-mountain bike to its 2020 lineup.

Another new model is a carbon gravel bike with a Flexy frame and plenty of space for wider tires. ■ LVR



Matteo Pedrazzani (left) with Titici brand manager Roberto Sambinelli





DIRK ZEDLER

E-MTBS SHOULD BE AS TOUGH IN THE CITY AS THEY ARE ON THE TRAIL

Electric mountain bikes continue to be one of the healthiest segments in the industry. But how well do e-MTBs compensate for their extra weight — not just of their drive systems, but of the frames, components, chains, sprockets, etc., needed to support them — and for the inexperience of many e-MTB riders?

One reason e-MTBs are tremendously successful is that they attract two types of consumers. One consists of experienced mountain bikers who have discovered that a motor means more fun. They can now ride uphill through steep or more technical passages that on a conventional mountain bike would have required them to get off and push.

An electric drive lets them climb a mountain three times in a day instead of just once, for three times the fun. Gravity riders no longer have to rely on a shuttle or a chairlift to return to the top. They can simply ride back up.

E-MTBs as SUVs. But there's a second, large group of e-MTB customers who rarely take their bikes on mountainous trails. Instead, you see them riding e-MTBs on roads and cycle paths, even at night. They prefer e-MTBs over electric city or trekking bikes, and they want to stay as far away as possible from the kind of e-bikes associated with pensioners.

These cyclists use their e-MTBs more like SUVs, and stick mostly to roads, bike paths, and easy trails in forests and fields. We can almost give these customers' e-MTBs the "all-clear" signal. Over its 30-year history, the mountain bike has become so durable and technically advanced that most e-MTBs can easily cope with the higher mileages associated with city use.

The problem, however, is that no bike designer or product manager knows who will buy a particular bike, or how they will use it. For example, a hardtail might be used by an ambitious athlete who is training for a marathon and intends to push the bike hard.

For these reasons, it's important to take a more detailed look at how riders actually use their e-MTBs, and how the loads that act on e-MTB components differ from those that act on conventional MTBs.

E-MTBs vs. MTBs. Based on market observations and the Zedler Institute's extensive tests, we can identify several fundamental differences of e-MTB use compared with classic mountain bikes:

- Cyclists don't pedal as hard because they let the motor do more of the work.
- Cyclists remain seated for longer periods and spend less time out of the saddle.
- E-MTBs attract heavier riders, and the bikes themselves are 6 to 12kg (13 to 26 pounds) heavier than conventional mountain bikes.
- E-MTBs are increasingly used for towing kids in bike trailers.
- When e-MTBs are ridden for sport, they are subjected to more downhill use. Cyclists are more likely to ride out of the saddle over rough

terrain and jumps, significantly increasing the loads on the bike and its components.

- Unskilled riders tend to ride the brakes continually when going downhill, putting them under severe
- Unskilled riders stress their e-MTBs more than experienced riders, even on unchallenging terrain, because they don't have the skills to navigate even small obstacles and cannot minimize the loads through active riding.

As a result, there are clearly higher loads acting on some components and thus an increased potential for failure — but not under all conditions. Compromises have to be made.

Bike developers, and testing institutes, should consider all of these potential issues. But trying to address them all would lead to a longer and more expensive development process, and an e-MTB that is heavier than many users really need.

However, we can identify certain areas that are well worth the expense:

E-MTB developers are well-advised to invest in beefier brake discs and should never use minimal, lightweight discs. Heavier discs reduce the problem of brake fade and improve the brakes' heat stability, helping protect unskilled or heavier riders from accidents. Better brakes also make customers happier because they don't have to make so many trips to the bike shop to replace worn-out pads and discs.

An investment in testing seatposts, forks and frames beyond the vertical loads outlined in the standard is also money well-spent. Trying to save money here can cost brands dearly down the road.

Before an e-MTB is certified for towing trailers, manufacturers should perform weight-adjusted tests of the frame, fork and handlebar. The extra weight of a child trailer has a particularly harmful effect on a bike's braking performance — and increases loads on the frame and front fork.

Toward a new category. Some market surveillance authorities have fined bike brands and banned the sale of some models because they violate standards.

E-MTBs sold in the EU are supposed to be equipped with a bell and a full lighting system, because these bikes are also expected to be used on public roads. Manufacturers often choose the cheapest lights they can find, which is not the right answer.

Instead, they should learn from the auto industry, where lighting plays a major role in the design of a new vehicle. It's an opportunity for smart



Because e-MTB riders tend to sit more and pedal less, the Zedler Institute strongly recommends that manufacturers perform additional tests on an e-MTB's seat tube as shown here. (Identifying features have been blurred) (Photo: Zedler.de)

manufacturers to include lights in the overall design of an e-MTB, especially as they have a power source on board.

Combine that, for example, with an e-MTB that specifically designed and marketed for towing a child trailer, and the industry could create an important

new bike segment — call it the e-SUV market. (For a look at the newest "e-SUVs," see our story on page 28.)

While these bikes would be less suited for riding on rough terrain, they would satisfy the needs of many customers.

Dirk Zedler

DIRK ZEDLER

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



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

Courts have recognized Zedler as an officially appointed and sworn expert on bicycles since 1994, and on electric bicycles since 2014. His staff prepares some 800 expert's reports every year.

Zedler – Institut für Fahrradtechnik und -Sicherheit GmbH (the Zedler Institute for Bicycle Technology and Safety) has used this wealth of knowledge, derived from its work in thousands of court proceedings and expert's reports, to enhance research and development in the bicycle industry.

The Institute sets the standards for the bicycle industry. It develops and builds testing equipment that is used by manufacturers to improve the riding quality and safety of their bikes, and by leading European bicycle magazines to test them. The Institute's work provides a basis for European and American manufacturers to communicate with their Asian suppliers. Manufacturers can buy test equipment from the Institute or use its state-of-the-art testing labs.

The Zedler Institute also prepares user manuals for bicycles and pedelecs. These manuals, now available in more than 40 languages, help consumers use their bikes properly — and in many cases have protected manufacturers from liability.

For more information, visit www.zedler.de.

TERN, ENVIOLO TEAM UP ON AUTOMATIC SHIFTING

Enviolo is debuting an updated version of its automatic shifting system for electric bikes, and has teamed up with Tern as one of seven launch partners.

The system, called Automatiq, shifts automatically according to the rider's speed, cadence and terrain. **Tern [B4-403]** is using the system on its new HSD S+ e-bike, which is powered by a Bosch Performance motor. The Automatiq system automates such hassles as shifting up when accelerating from a dead stop, or shifting down at a stoplight.

The compact HSD is shorter than a standard bicycle but has a gross vehicle weight (including bike and rider) of 170kg. (344 lbs.) It's made to be a family bike, with a seatpost that resizes to fit riders from 150 to 195m (4 feet 11 inches to 6 feet 5 inches). Riders set their desired pedaling cadence on the Bosch Intuvia controller. With the Enviolo app, the system automatically changes the cadence depending on

Other components include a Gates belt drive and Magura hydraulic disc brakes.

which rider is using the bike.

"We all know what a pain it is to drive a manual shift car in stopand-go traffic," Tern's Josh Hon said. "Well, it's the same on a bike, especially when you're carrying a load of stuff. But with Automatiq taking care of shift duties, urban riding becomes a lot more enjoyable."

The Automatiq system uses Bluetooth Low Energy technology for maintenance, updates, and for sharing system analytics.

The HSD S+ will ship in the first quarter of 2020. Tern will have models available for test rides at Eurobike.

Enviolo, formerly known as NuVinci, is the bicycle division of Fallbrook Technologies. ■



Enviolo Automatiq automatic shifting system



Johnny Loco

Amsterdam Original

Cheers to Johnny Loco! @ Eurobike 2019

Location Hall A1 - Booth 718 Date 5th of September Time 16:00



A-PRO TECH ERDP6.0A-B 29 FRAME



This on-trend e-mountain bike frame fits the latest Bosch Performance Line CX 2020 motors. With a variable capacity, its internal housing can accommodate both 500Wh or 625Wh batteries thanks to a special mount in the downtube. The centrally located motor is enclosed within a vented shell so it stays cool and secure. B1-204

BY.SCHULZ XXL SEATPOST

This is an XXL version of by.schulz's popular G.2 parallel suspension seatpost. Its parallelogram design combines with an elastomer insert to provide progressive suspension to smooth the ride. With a diameter of 33.9 mm and

a total length of 670mm, the longer version is ideal for compact and folding bikes including Dahon and Tern and will help offset the harsh ride of smaller wheels. **A3-109**



BOOST E-CARGO BIKE

BARBIERI

ANACONDA FIT INNER TUBE

With a new worldwide patent, Barbieri's Anaconda Fit Tubes are the first inner tubes to contain a semi-rigid foam that can prevent pinch-flats. Available in a range of sizes and suitable for all types of

bikes, they're no more difficult to fit than a standard tube and allow users to run lower pressures with greater security. 44-517



JANUS 3X SAT MAN CHAMOIS

Designed to work with the latest generation of cutaway saddles, the Janus chamois grants maximum freedom of movement, and enhanced breathability and moisture management in this central area. Four-way stretch further improves comfort and performance. Shock Absorption Technology gives additional protection at key pressure points.



CHOSEN

LA FONTE

BOOST TC HUB

This wide boost spec hub from Chosen benefits from the brand's Toothed Coupling design. A robust freehub mechanism enhances power transmission. The system has a long service life. With direct pull spokes also increasing rigidity once the wheel is built, they're the perfect starting point for a tough and efficient trail-riding wheelset.



BETO

QD MINI PUMP

This dual-action alloy mini pump. which won a 2018 Golden Pin Design Award, has a clever quick-dial valve change system that allows its single aperture to accommodate Schrader and Presta valves. Stored beneath the lever is a Dunlop adaptor. The durable alloy pump barrel features an easy-to-grip,

co-molded plastic handle.



BOSCH

PERFORMANCE LINE CX **DRIVE UNIT**

Bosch's new drive system for e-mountain bikes is light and compact, but also strong and efficient. It is Bosch's most powerful drive unit, providing support of up to 340 percent. The unit reacts to rider input without decelerating and provides dynamic handling from the first pedal stroke. For e-mountain bikers, this means more agility and control. A6-20



EVOLO

MR360S BICYCLE: **MIRROR**

Mounting on either the left or right side, Evolo's MR360S Bicycle Mirror fits handlebars with diameters between 22 and 32mm. With a 360-degree rotatable base, the mirror is supported by a flexible rod that's nearly unbreakable. The mirror's convex shape provides a wider field of view to help riders avoid blind spots.



ZERO RH+

ELITE W WOMEN'S JERSEY

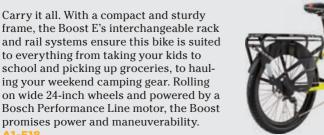
A new Biomorphic Micro Fresh adaptive stretch fabric, made for women's garments, makes this jersey quick-drying and improves its thermal properties. Its elasticity allows for an excellent fit. With a micro-mesh fabric on the shoulders and sides, the

Elite W combines nice aesthetics and transparency with great breathability.



BENNO BIKES

frame, the Boost E's interchangeable rack and rail systems ensure this bike is suited to everything from taking your kids to school and picking up groceries, to hauling your weekend camping gear. Rolling on wide 24-inch wheels and powered by a Bosch Performance Line motor, the Boost





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UCI RECOGNIZES ABIMOTA TESTS

QUALITY COMMITMENT

The International Cyclist Union (UCI) has recently recognized the ABIMOTA Testing Laboratory (LEA) for testing high-competition bicycles.

The recognition by UCI of the tests performed in the LEA is the result of the high credibility that this laboratory has gained in the international community, thanks to the commitment that ABIMOTA has undertaken in equipment to meet the needs of its customers and associates.

"In order to meet the challenges facing its customers, ABIMOTA has been recognized for its technical ability to test bicycle components that meet UCI's stringent requirements and are used by the world's top athletes," a representative of the industry association said.

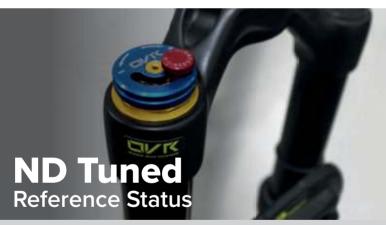
UCl's recognition allows ABIMOTA to enter in the restricted "club" of worldwide institutions that test and certify sports equipment for high-level competition.

"The UCI tests aim to analyse the strength and safety of bicycles and their components for use in competition. To meet its customers' needs, ABIMOTA has equipped itself with the right means and has seen its efforts recognized as it reached a level of sports competition to which it had never been called upon" the representative emphasized.

upon", the representative emphasized.

This significant moment goes towards meeting the development needs of other brands of products, and other components for high competition cycling and beyond, which in Portugal find a particularly favourable ecosystem for their development.





ND Tuned kicked off for the two-wheeled world in 2013 with 15 years of experience and has already achieved reference status in the two-wheel competition area, both for bicycles and motorcycles, in Portugal and beyond.

Headquartered in Figueira da Foz, the brand holds several patents and a variety of technical and service solutions for extreme off-road conditions, for the XC, DH segments, but also for Motocross and Enduro.

Among the exclusive product lines, one highlight is the OVR suspension system, in RockShox and Fox variants, specially designed to work with low speed compressive strength.

The DH 2XRC3 shock absorber represents another of ND Tuned's patented technologies. This allows highly customized configuration, according to the specific requirements of the bike and rider.

The ND Tuned stanchions, developed for the RockShox and Fox suspensions, in addition to their unique design, use an anodizing process - 40 microns - which guarantees extreme wear resistance but also good sliding ability.

ND Tuned provides services in seven different areas: preparation, maintenance, recovery, development, production, anodizing and prototyping.

CONTACT: Rua Ribeira de Caceira, 14 3090-398, Figueira da Foz, Portugal +351 233 425 265 geral@ndtuned.com www.ndtuned.com

MIRANDA & IRMÃO, LDA

60 YEARS OF EXPERIENCE IN INNOVATION

Miranda & Irmão, Lda. became a registered company in 1950 and from there the company expanded with the foresight to develop products that met the demand of the rapidly rising motorcycle industry. The most significant development from that period was the electronic speedometer, a first-of-its-kind at that time.

By the 1960's Miranda increased its industrial space and manufacturing capabilities, with a product range that included motorcycle headlamps, speedometers, grips, switches, and horns, among others.

The introduction of plastic injection technology in 1978 brought a new surge of development to this already thriving company. That year Miranda also began developing hydraulic brakes for motorcycles, but later in the 80's with the decline of motorcycle industry in Europe, Miranda further expanded its bicycle product range by introducing v-brakes, cantilever brakes, and brake levers.

By 2000, in response to market demand, Miranda installed the equipment and technology for cold forging aluminum and introduced v-brakes and brake levers using that technology.

Miranda has since extended production to a new range of bicycle drivetrain components, including cranksets and sprockets and has been aggressively pursuing the mid-to- high-end bicycle components market with custom solutions offering a high degree of innovation and unique manufacturing techniques, all produced at its advanced manufacturing facilities in Portugal.



CONTACT:

Miranda e Irmão, Lda, En1 Km228,9 - Borralha, 3750-871 - Águeda Portugal, N 40 32.820 W 8 26.825, T +351 234 612 796

INTER BIKE

QUALITY COMMITMENT



Founded in the late 1990s in Vagos, INTER BIKE specializes in the development and production of conventional bicycles as well as E-bikes and is now a major player in the European market.

INTER BIKE's production process is ensured by three distinct assembly lines: E-Bikes, conventional products (models for children, city, road and MTB) and high-end. If in the first two lines the production process is based on an automation basis, at last all the work is done exclusively by specialized technicians and mechanics, who guarantee the assembly from the first to the last component.

However, thanks to a multidisciplinary team of designers and permanent technicians, the brand can still meet any type of customer demand, even when we deal with specific products, namely for the competition area.

CONTACT: Zona Industrial de Vagos, Lote 27, 3840-385 Vagos, Portugal, +351 234 794 780 info@interbike.pt





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LEADING E-BIKE MARKETPLACE

LANGE REDE KURZER SINN:

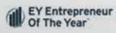
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NEW PRODUCTS

DP MOTORS CO., LTD M065MD MID-DRIVE MOTOR

DP Motors introduces its next generation mid-drive motor for road bikes, the M065MD. At under 3kg, this powerful 200W motor is small and light, but offers smooth, silent riding. A1-110



B&W INTERNATIONAL BIKE.CASE II

The bike.case II is a protective hardshell case for transporting racing, triathlon or mountain bikes. Thanks to its surrounding aluminum frame, robust ABS material, and protective pads, it provides reliable protection against shocks. New this year is an additionally reinforced bottom shell. Removable hinges allow the lid to be detached for easier packing and unpacking.

11.542-317



RIESE & MÜLLER SUPERDELITE GT ROHLOFF HS

The Superdelite is the more powerful sibling of the Delite. Its frame-integrated motor, headlight and brake light are standard. R&M offers three chassis with different tuning, spring travel and crank bearing heights to meet the most exacting demands. It comes with the new Bosch Performance CX Gen4 motor and DualBattery Technology with two 500 Wh batteries, and is also

available in an off-road GX version. A6-300



NOVATEC

E-MTB HUBS

Novatec's e-MTB hub series (D162SB, D332SB and D902SB) includes mid-to high-end hubs in two-bearing and four-bearing versions, with axle specs in 148TA, 142TA, 141QR and 135QR versions.

The D162SB-SL-B12-11S (pictured) uses oversized pawls with a wide press-fit ratchet ring design and oversized steel axle to increase the strength and performance. All e-MTB hubs will be available with Micro Spline beginning Jan. 1, B1-203



TERN BICYCLES TERN BYB

TERN BYB FOLDING BIKE

The Tern BYB has one of the most diminutive folded footprints on the market. — Tern says it's 30 percent smaller than most traditional 20-inch wheel folding bikes. It's small and slim enough to fit into lockers,

closets, or other narrow spaces. With built-in trundle wheels, the folded BYB stands on its rack and can be wheeled like a suitcase, making it ideal for mixed-mode commuters.



OTRAJET INC. NEXO 2 AIRLESS TIRE

Claiming to be 40 percent lighter than any other traditional solid tire, these airless models from Nexo are burst-proof and pump-free. That means users no longer need to worry about flats. Intended for the growing folding and e-bike markets. Nexo launches a new 20 x 1.75-inch size along with two eye-popping new shades of blue and pink. A3-342





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NEW PRODUCTS

SPONSORED BY

KENDA

GRAN MUDDA PRO

Kenda completes its gravity tire range by launching its first-ever mud tire: Gran Mudda. Developed in close cooperation with the athletes of Polygon UR Team. Tracey Hannah already won this year's DH World Cup race in Les Gets on the all-new tire.

Like the Hellkat and Helldiver, the Gran Mudda comes with World Cup-proven AGC casing (Advanced Gravity Casing) that offers the highest possible protection, combined with a super tacky compound and a competitive weight of 1100 grams (27.5x2.4). Suitable not only for DH racing but also for muddy Enduro tracks.

Compared to other mud tires it has a lower rolling resistance and significantly better knob stability with handling on mud, grass, stones and rocks. The Gran Mudda will be available in 27.5x2.40 and 29x 2.40.



WWW.BICYCLE-KENDATIRE.COM

STAN'S NOTUBES FLOW EX3 RIM

Made for handling faster speeds on demanding trails, the Flow EX3 is available as a rim or complete wheelset. Combining a 29mm internal width and durable 6069 aluminum construction, the Flow's Tiebeam inner bridge design helps it withstand impacts that would deform most rims to the point of air loss and structural failure. Their patented Bead Socket Technology makes setup pleasingly simple.

B1-101



HUSQVARNA BICYCLES MC4

Mountain Cross is the category at Husqvarna Bicycles for all tours in the mountains and demanding trails. Husqvarna offers six new models in this category: the MCX, MC8, MC7, MC6, MC5, and MC4. All Mountain Cross models come exclusively with 27.5+ tires, 150mm travel and a battery integrated in the downtube. The geometry is sporty and agile steep angles and relatively short wheelbases provide off-road maneuverability. The MC4 is equipped with SR Suntour fork and damper and is powered by a Shimano Steps E7000 mid-drive system. B2-400



SHULZ BIG DADDY 2020 FOLDING BIKE

The Big Daddy is a folding chromoly adventure bike with fat three-inch-wide tires, Avid mechanical disc brakes, and a Shimano Nexus 8-speed hub. The Big Daddy 2020 may be small, but its performance is full-sized, and you can stash it in the car trunk or at home when you aren't riding it. FG-A9/9



LEM HELMETS

MOTIVAIR HELMET

With proprietary exoCarbon technology for an improved strength-to-weight ratio and improved low-energy and oblique impact management, the high-performance MotivAir features a full carbon shell and weighs just 220g. LEM takes an inside-out approach by moving the interior structure to the outside for better high and low-energy impact management. A4-309



SARIS

MP1 TRAINER PLATFORM

.....

The MP1 is the missing analog link to virtual cycling. It's part of a new range that is now under the Saris name instead of CycleOps. Proprietary Nfinity technology provide a responsive and natural training experience when used indoors. The universally compatible platform works with any product on the market including

all existing trainers.



THUN X-CELL RT 3.0 BOTTOM

BRACKET

Thun has upgraded its torque and cadence sensor bottom bracket. Used in conjunction with compatible e-drive components, its advantages include minimal integration space, reduced wear and tear on other e-bike components, and an expanded battery range. With an IPX7 rating and new cups that can take additional waterproof seals, Thun has improved

its lifespan and ease of assembly.



WD-40

WD-40 FLEXIBLE

The familiar WD40 formula can now be applied with a flexible metal straw that can access hard-to-reach areas. The straw holds whatever shape you position it in to reach around pipework and behind panels. With WD-40's "Sprays 2 Ways" technology, users can flip down the straw and apply a wide spray. **B5-507**



TAYA CHAIN EL-ONZE-117



The 11-speed El-Onze-117 combines rollers with inner plates. With high efficiency and over 500kg riveting, this chain provides a precise and quiet shifting experience. A self-lubricating groove design extends its lifespan to up to 10,000 kilometers. A5-205





















NEW PRODUCTS

HUTCHINSON GRIFFUS 2.4 RACING LAB TIRE



One of the first models from Hutchinson's new Racing Lab range, the $\,$ Griffus is fast-rolling. With a 57mm cross-section and low-drag central tread, it can be used as a rear tire for riders seeking to save seconds in competition. It's versatile enough for all-mountain riders as well. It's available in front and rear options. **B3-20**

KRYPTONITE

KEEPER 585 INTEGRATED CHAIN

The Keeper 585 provides light, flexible security for low- to moderaterisk situations. The 85cm chain includes 5mm four-sided chain links made from hardened carbon steel and a weather-resistant nylon sleeve that prevents scratches. It comes with two keys, and with the Key Safe Program, customers can register their keys online and

Kryptonite will send two free replacement keys.



NECO NECO 11 CHARGER

Charge your devices as you pedal. With a built-in rectifier, the Neco 11 provides voltage regulation for a safe and stable current. Made of machined aluminum and sitting above the stem, its USB port serves a huge range of accessories, including many mobile phones and GPS units. A5-403



RETYRE

MODULAR TIRE SYSTEM

With durable integrated zip-on technology, reTyre allows you to swap treads in less than 60 seconds. Just zip the appropriate skin to the base tire and continue riding. Four skins are available: Winter Traveler, Ice Racer, Gravel Chaser, and Trail Rider. The reTyre system is suitable for coventional bikes and e-bikes. A3-716



SKS GERMANY AIRFLEX PUMP

Available in Racer and Explorer models for road bikes and mountain bikes, respectively, the Airflex Pump conceals a flexible hose in its body. The head fits Schrader and Presta valves

and protects the valve stem during inflation. The handle is made of a soft, easy-to-grip compound.



SIGMA SPORT

ID.FREE AND ID.TRI SMARTWATCHES

The iD.TRI smartwatch was developed specifically for triathlon, whereas the more versatile iD.FREE covers many different sports. Both marry in-device heart rate monitor-

ing, via an optical sensor, with a host of other functions. For cyclists, the two smartwatches also come with a bike mount. A5-200



STROMER

ST1 E-BIKE

Stromer launches a new edition of its ST1 speed pedelec. It's a car replacement that can go 90km on a charge, and with an extra battery as far as 180km. Wide 27.5-inch tires keep the ST1 stable even at speed. Speaking of speed, its high-spec CYRO-Drive II motor will accelerate you quickly up to 45 kmh. A6-301



TREND POWER

BATTERY SOLUTIONS

Trend Power provides customized and off-the-shelf battery solutions for e-bikes. It is compatible with Shimano, Yamaha, Panasonic, Brose, and other systems. Trend Power's newest 630Wh and 504Wh batteries share the same casing for ease of fitting. They are also compatible with Trend Power's 360Wh range-extender battery for riders who need more range. A4-310



BROSE DRIVE SYSTEM

Combining the brand's drives with three new ergonomic displays units and a new battery system, Brose has worked hard to ensure its components work perfectly together. Allowing users to benefit from a range of services from a single source, their intelligent coordination also facilitates quicker system maintenance and diagnostics by dealers using the Brose Service Tool. A1-504



FUMPA PUMPS FUMPA

The Fumpa is a powerful, USB rechargeable, miniature electric bike pump. Weighing just 380g, it promises to out-perform most floor pumps at a fraction of the size. Optimized for portability and ease of use, it's designed for both travel and use at home. It has a calibrated digital pressure display and accepts Presta and Schrader valves. B1-106





ETILITY. DESIGN HAS COME TO THE RESCUE.



See the Official eBike and Helicopter of the Swiss Mountain Rescue Team at our Booth.

Benno Baenziger, co-founder of the Electra Bicycle Company and designer of America's most sold bicycle, the Townie with patented Flat Foot Technology, is bringing the capability and agility of trademarked Etility™ Design to the world of ebikes. Come discover why the Swiss rescue team, adventurers, work crews and families all rely on the Benno Boost E. See the entire Benno bike lineup and the Air Zermatt rescue helicopter in person at **Booth A1-518**. bennobikes.com



Max gross weight: 440LB/200KG, high volume Utility Pannier Bags



Cargo and child setup, fits two kids and four grocery bags



Two child setup with High Rail, single Yepp seat and Rack Pad



Two Yepp child seats plus large Front Tray Bag and dual battery



NEW PRODUCTS

SELLE ITALIA SLR BOOST KIT CARBONIO SUPERFLOW SADDLE



This compact saddle is made with the lightest CarboKeramic rails. Its short shape will suit aggressive riders and those with powerful legs, while its on-trend 248mm length places it at the forefront of current design. It's based on the classic SLR saddle shape. **B3-100**

VELO

E-BIKE SADDLES

E-bikers are best served by saddles that are made for e-bikes, not repurposed from conventional bikes. Velo, one of the first saddle brands to launch e-bike models, now has a huge range of them with contours, padding, and other features that are tailored to different types of e-bikes and e-bike riders. Velo's

e-bike saddles help riders stay in the saddle as they accelerate. They also make it easier for an e-biker to lift and maneuver their heavy bikes. A4-302



ALEXRIMS

BAXTER 3.0 GRAVEL WHEELSET

A premium gravel wheelset. Baxter uses Alexrims' carbon technology to place in-molded alloy inserts in key areas to improve durability and fatigue life without sacrificing compliance. Using broad 31mm wide rims that'll accommodate aggressive tires, 24 straight-pull spokes keep weight low and stiffness high. Laced to the brand's Bear Pawls hubs, the wheelset

is currently available in size 700c. **A5-206**



WD-40

BIKE CARE PRODUCTS

This complete range of bike care products bears the famous WD40 brand and includes cleaners, degreasers, and lubricants, each developed with cycling teams and other experts. All are branded with WD-40's familiar yellow and blue color scheme. **B5-507**



SCHWALBE PRO ONE TIRE

Making it easy to go tubeless, the Schwalbe Pro One tire perform like a classic tubular. An Addix Race compound bolsters grip in wet conditions, and the V-Guard protection belt insures against cuts and punctures. Locking everything into place, the latest Souplesse carcass construction integrates Tubeless Easy technology for quick installation. A5-300



SATE-LITE SPL-01 LIGHT

Equipped with 49 high-performance LEDs, the SPL-01 light produces up to 2,000 lumens to illuminate the surrounding environment and greatly increase the safety of its user. Capable of running in automotive daytime mode using just its peripheral LEDs, the light's housing material and electronic components ensure efficient heat dissipation even at full power. A built-in light sensor allows

for intelligent switching.



KTM FAHRRAD

MACINA PROWLER SONIC

For 2020 KTM goes 'All In' with the Macina Prowler. There's 180mm of travel at the fork and 170mm at the rear, making this the e-MTB for trail and enduro use. The carbon frame is fitted with proven DiMMiX tires and has a 29-inch wheel in front and 27.5-inch plus wheel in back. A Bosch Performance Line CX engine provides

the juice.



ORTLIEB

PACKING CUBES FOR PANNIERS

Organize your panniers with these three light, modular bags. Each has a two-way zipper, mesh pockets, and a handle for quick access. The contents of the upper cube remain easily accessible even inside the pannier. The lower unit has an additional handle so it can double as a toiletries bag. A4-303



BAFANG M500 & M600

Bafang wants to inspire riding pleasure and off-road racing success with its new M500 and M600 mid-drive systems. The 250W M500 and 500W M600 produce peak torques of 95Nm (M500) and a whopping 120Nm (M600). They weigh 3.3kg and 3.7kg, respectively. A1-304



CROPS HIGHEFFICIENCY LIGHT AND BRACKET

The new HD800, part of Crops' expanding range of lights, has high optical efficiency. It uses a 6-36V power supply and comes with a unique wire-stay attachment. It fixes to the bikes head column and points in the correct direction even during turns. A5-104



VELO'S UNRIVALED INJECTION MOLDING ADVANTAGE

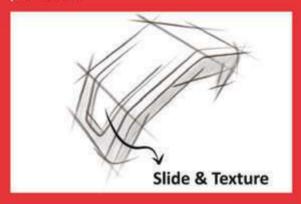
Taiwan's premier saddle maker, Velo is celebrating its 40th anniversary this year. Since its founding, the company has built up an unparalleled degree of Since its founding, the company has built up an unparalleled degree of technical knowledge, professionalism and reliability in the manufacturing of its saddles. However, perhaps less well known is that the company also uses its accumulated knowledge and technology to provide Taiwan's premier injection molding services for the OE production other parts based on customers designs.

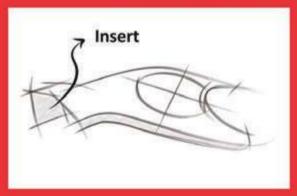
Recently more and more globally-acclaimed customers have been discovering that the extent of Velo's expertise is not limited to saddles, and that the company is also able to offer the advantages accumulated over 40 years to produce any injection part.

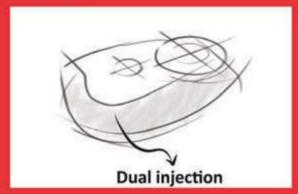
No substitute for being No.1

Velo is not shy about innovating for the future. Its previous developments for saddles include such ground-breaking tech as double and triple density injection molding techniques, ArcTech and Wing Bow saddle suspension systems and the O-Zone cooling system. These innovative philosophies and advanced production techniques have been passed on to the company's OE production of other injection-molded products.

Velo is able to boast that it can produce injection-molded parts of any shape the customer desires. Additionally, the company is able to accommodate a wide range of state-of-the-art production techniques including inserts of different materials such as metals or even magnets. Double and even triple density injection products, where two or three different densities of plastic—usually one harder and the other softer, are injected on the same machine are also offered, as well as a complete range of color availability.







You name it, Velo can make it

For many years, Velo has been producing OE injection-molded parts to customers' designs, clients including many of the most renowned brands in the world. This wide spectrum of products ranging from fairings to fenders, downtube protectors and chainstay protectors to chainguards. Velo even manufactures parts for customers outside the bike industry, regularly supplying such products as hand guards or knee protectors to clients in the motorbike industry. The burgeoning growth in e-bike sales worldwide has also led to Velo producing an increasing number of parts for electric assist bikes including motor covers, motor protectors, battery covers and battery protectors. With Velo's injection processes, the sky really is the limit for customer product designs.

Unrivaled capability and service

Velo employes over 2000 people worldwide.

The company's main plant in Taiwan employs over 1000 people and has over 100 cutting-edge injection molding machines turning out precision parts 24 hours a day. Velo factories in Kunshan and Shenzhen further enhance and expand the company's production capabilities and capacity.

All tooling is carried out at the Taiwanese plant where Velo is able to take advantage its many years experience and CNC machines to rapidly and professionally open molds based on customer designs.

Bringing together all of these advantages, Velo is able to offer unrivaled service, cutting-edge technical innovations, and an unlimited choice in customer-designed injection products.









YAMAHA PW-X2

Yamaha Motor's new flagship, the PW-X2, offers the next step in powerful - and natural - support on the trail, with its Quad Sensor System and Automatic Support Mode technologies. Based on the same technical data (250W, max. 80Nm) as its predecessor, the updated drive from the Japanese e-bike pioneer outperforms the PW-X by far. The new drive also delivers support over a broader cadence range (up to 150 rpm). Yamaha's engineers have measured 50 percent higher torque at 100 rpm - making the PW-X2 a hot item for performance-oriented e-mountain bikers. FG-O-404

CHAOYANG TIRE TLR ROAD TIRE

Weighing 280g, Chaoyang's new TLR Road Tire should improve the climbing and acceleration of most bikes. Its silica compound balances rolling resistance and grip, for confidence while cornering. A bead-to-bead protection layer provides puncture resistance and guards against pinch flats, while lightning-shaped grooves on its shoulders divert water and dirt away from the tire. A3-103



MIRANDA

CHAINFLOW 3D CHAINRINGS **FOR BOSCH** GEN 4

These Bosch-compatible chainrings feature a patented T-shaped tooth design that prevents chain drops and aims to provide superior retention even in the dirtiest conditions. The teeth engage directly with the chain's rollers for instant drive and maximum surface contact, which should also improve chain load distribution, guidance, and wear resistance. Available in BCD 104 or

Direct Mount versions from 32 to 46t.



M1-SPORTTECHNIK

SPITZING EVOLUTION BOBBY ROOT

Designed with pro rider Bobby Root, this is the latest version of the aggressive 170mm travel Spitzing Evolution e-mountain bike. Featuring a carbon motor cover, its color scheme is based around the gold Kashima surface that coats the bike's FOX 36 Transfer forks, DHX2 coil damper, and matching dropper post. A1-408



RAGE-I DROPPER POST

Providing up to 190mm of travel at a retail price of only 199 euros including cable and remote, the Rage-I dropper post packs in features that rival many more expensive units. It weighs 549g and boasts a one-piece stanchion and cradle. A twin-bolt micro-adjust head and open-bath air/oil cartridge round off what looks like a top-value package. B1-504



XPEDO

APX PRO

APX PRO is a new direct drive smart trainer by Xpedo. The 18-pound flywheel gives it real-world road simulation. Integrated sensors provide all the relevant data including speed, power and cadence to fine-tune and monitor your progress. Connect to your favorite virtual training app and you can join a peloton with riders from all over the world at any time.



GATES CARBON

DRIVE NICOLAI G1 EBOXX E14

The G1 EBoxx E14 boasts what its makers claim is the most advanced e-mountain bike drivetrain. It uses the new Gates Carbon Drive spider assembly for Bosch 2020 motors. A Gates belt drive connects the Bosch mid-drive motor to a Rohloff E14 electronic

shifting hub.



ROXIM

Z3EK PRO

Integrating both high and low beam functions into a miniaturized housing, the Z3EK Pro complies with K-mark regulations. It gives riders better night vision but takes up little space and weight. The Z3EK puts out up to 700 lumens in an ultrawide beam. A handlebar remote controls the beam and turns the light on and off. A5-212



HAUTEWORKS CLIQ TAIL LIGHT

The Cliq is one smart tail light. Total internal reflection (TIR) lenses direct and focus light from three bright Osram LEDs to boost rear and side visibility. A mobile app communicates by Bluetooth so users can personalize blinking patterns, turn on a smart brake feature, and group sync modes. A3-506



JOHNNY LOCO THE TWIN E-CARGO BIKE

A lightweight, two-wheeled ecargo bike, the Twin is the newest electric cruiser in Johnny Loco's fleet. Lean enough to squeeze through traffic, it retains the benefits of a long-wheelbase cargo bike. A custom aluminum frame and box keeps its weight down, while its neutral styling should be popular with business users and city slickers alike. A1-718





BEING ONE WITH THE MACHINE

Bringing rider and machine together as one: that is the long-standing and exclusive development ideal of Yamaha.





PWseries ST

The new benchmark for light off-road and sports trekking bikes

<Eurobike2019>

See and test bikes with the new Yamaha motors at the following brands:

R RAYMON: B2-400 / Wheeler: B3-506



^{*} At a cadence rate of 100, power delivery is 50% higher than its predecessor (PW-X)

^{**} Automatic Support Mode is included in all MY2020 drive unit.

Career Opportunity

Benelux Sales Manager

Language Proficiency: Excellent Dutch and English

Digital Marketing Specialist

Language Proficiency: Excellent Dutch or German

and English

Contact: Stanley Chien

Stanley.Chien@besv.com





Designed for 45km/h E-bikes

E13 Approved





BIKE BIZ REVOLUTION CONFERENCE

YOU SAY YOU WANT A **REVOLUTION?**

If you want change, start a revolution.



Yesterday's Bike Biz Revolution conference sought to collect all the cogs of change that are in motion and align them in the same direction to drive the bike industry into the future.

Eleven Eurobike newcomers and veterans sparked conversations with presentations on topics ranging from altering customer behavior, data-based business models, digital transformation, and the future of mobility.

An audience of about 100 filled the conference room nearly to capacity for the first pre-show conference that was organized by Eurobike itself.

'We don't have a capacity problem, we have a utilization problem," explained Thomas Sauter-Servaes in his talk, "How the Spotifysation of Traffic Makes Us Happy." "For example, people in Berlin use their vehicles an average of 36 minutes per day and then it sits idle the rest of the time." Sauter-Servaes said this excess of inefficiency has been a catalyst for "digitizing mobility," such as car and ride sharing services.

Kresimir Hlede of Greyp Bikes [A1-502] revealed Greyp's concept of what future e-bikes will look like. Hlede

explained that four features would become standard on e-bikes: IoT connectivity, gaming capabilities, blockchain-related functions, and smart sharing.

We believe that vehicles of the future will be fully connected by Eurobike 2025," Hlede said. "We believe that vehicles will be smart — that they will interact with each other within an infrastructure, and that they will be blockchain-enabled."

A blockchain-enabled vehicle, he explained, would allow a decentralized way of identifying a vehicle.

He also introduced the concept of "EoT," or the "economy of things," where a

vehicle could exchange value between people and things, such as sharing a private vehicle for financial gain. Greyp also envisions an on-pedal gaming platform that would allow third-party developers to create games.

"Not all revolutions end well when you're too radical," warned Thomas Schwerdtner of the Bike Data Exchange (Bidex). [FW-202] Schwerdtner objected to what he called the "disruptive approach that's so modern, so in fashion right now." Instead, he said the industry should focus more on evolution, not revolution.

Schwerdtner discussed the new opportunities of digitization in his talk 'Successful without Retail."

He said brands should focus on selling direct, and need to be present on Amazon, which is so dominant that brands have no option but to be available there. Otherwise, he said, they do not exist for the customer and will thus jeopardize their position in the market.

He also encouraged brands to be "radical" in that they should be willing to change a sales strategy that isn't working. **WB**



Thomas Sauter-Servaes

TA PES C&C8F March 4-7, 2020

Meet Us @ FW108



More Taiwanese Products @ Taiwan Pavilion A5 211-233





Visit us on website:

Taipeicycle.com.tw * TAITRA











TRANSPORT GUIDE

EUROBIKE COMMUTER SERVICES

Whether you're arriving in Friedrichshafen by plane, ship or train, Eurobike offers many shuttles that bring you to the international hub of the bicycle world at Messe Friedrichshafen, and back again.

HOTEL SHUTTLE

NO STRESS AND NO COST

Take your time at breakfast. The Eurobike hotel shuttle will pick you up at your hotel, or close by. Ten shuttle lines connect the region between Dornbirn, Austria, in the east; Überlingen, Germany, in the west; and Weingarten, Germany in the north. There's no easier way to get to the show!



°bus stops directly in front of the hotel / Bus fährt direkt ab Hotel

Hotel Shuttle Überlingen – Uhldingen – Imme

Bus Stop / Haltestelle	Tour 1	Tour 2
Überlingen/Andelshofen Hotel Johanniter Kreuz°	6:54	8:39
Überlingen ZOB*	6:59	8:44
Mühlhofen Hotel Kreuz°	7:12	8:57
Oberuhldingen Marktplatz/Höhe Parkplatz*	7:18	9:03
Unteruhldingen Meersburgerstraße/		
Höhe Kreuzung Bergstraße*	7:21	9:06
Immenstaad Rathaus*	7:37	9:22
Immenstaad Airbus*	7:40	9:25
Fischbach Hotel Maier*	7:43	9:28
Friedrichshafen Hotel Föhr/Albrechtstraße°	7:49	9:34
EUROBIKE Entrance East/Ankunft Eingang Ost	8:00	9:45

DEPARTURE ENTRANCE EAST / ABFAHRT EINGANG OST		
Departure Entrance East/Abfahrt Eingang Ost		
Wed - Sat/Mi - Sa 4 9 - 7 9	18:30	

2 Hotel Shuttle Meersburg - Hagnau

DEPARTURE ENTRANCE EAST / ABFAHRT FIN

Bus Stop / Haltestelle	Tour 1	Tour 2
Meersburg ferry station/Fähranleger*	7:30	9:00
Meersburg Kirche*	7:33	9:03
Meersburg Sabaheim/		
gegenüber der Agip Tankstelle*	7:35	9:05
Hagnau Mitte/Höhe Fußgängerampel*	7:39	9:09
Arrival Entrance East/Ankunft Eingang Ost	8:00	9:30

Departure Entrance East/Abfahrt Eingang Ost	
Wed - Sat/Mi - Sa 4.9 7.9.	18:30
-	

3 Hotel Shuttle Salem - Bermatingen - Markdorf - Oberteurin

Bus Stop / Haltestelle	Tour 1	Tour 2
Salem Hotel Schwanen°	7:11	8:41
Salem Hotel Recks ^o	7:16	8:46
Salem Hotel Apfelblüte°	7:18	8:48
Bermatingen Markdorferstraße/Höhe Hausnr. 9*	7:23	8:53
Markdorf Bahnhofstraße (Reisebüro Lippmann)*	7:28	8:58
Markdorf Hotel Wirthshof°	7:33	9:03
Oberteuringen Hotel Adler°	7:41	9:11
Alilingen Hauptstraße/Höhe Hellers Twenty Four*	7:49	9:19
Ailingen Rathaus*	7:51	9:21
Arrival Entrance East / Ankunft Eingang Ost	8:00	9:30

18:30

4 Hotel Shuttle Weingarten - Ravensburg - Meckenbeuren

ARRIVAL ENTRANCE EAST / ANKUNFT EINGANG OST		
Bus Stop/Haltestelle	Tour 1	Tour 2
Weingarten post office/Post*	7:17	8:47
Weingarten Charlottenplatz/Höhe Best Western*	7:20	8:50
Weingarten Linse*	7:21	8:51
Ravensburg Marienplatz/Busbahnhof*	7:30	9:00
Meckenbeuren sports ground/Sportplatz Lenbachstraße	7:41	9:11
Meckenbeuren Hotel Wiesental®	7:42	9:12
Meckenbeuren Buch/Kreuzung Max-Eyth-Straße*	7:43	9:13

DEPARTURE ENTRANCE EAST / ABFAHRT EINGANG OST	
Departure Entrance East/Abfahrt Eingang Ost	
Wed = Sat /Mi = Sa /, 9 = 7.9	18-30

5 Hotel Shuttle Wangen - Neukirch - Tannau - Tettnang

Arrival Entrance East / Ankunft Eingang Ost

ARRIVAL ENTRANCE EAST / ANKUNFT EINGANG OST			
Bus Stop/Haltestelle	Tour 1	Tour 2	
Wangen Hotel JUFA°	7:00	8:45	
Wangen Bahnhof*	7:05	8:50	
Neukirch Rathaus*	7:23	9:08	
Tettnang Tannau*	7:30	9:15	
Tettnang Bärenplatz*	7:35	9:20	
Tettnang Seestraße/Höhe Kreisverkehr*	7:37	9:22	
Arrival Entrance Fast / Ankunft Fingang Ost	8-00	9.45	

DEPARTURE ENTRANCE EAST / ABFAHRT EINGANG OST	
Departure Entrance East / Abfahrt Eingang Ost	
Wed = Sat/Mi = Sa / 9 = 7 9	10.1

NG OST	
Tour 1	Tour 2
7:25	8:55
7:30	9:00
7:32	9:02
7:35	9:05
7:40	9:10
8:00	9:30
	Tour 1 7:25 7:30 7:32 7:35 7:40

DEPARTURE ENTRANCE EAST / ABFAHRT EINGANG OS	т
DEPARTURE ENTRANCE EAST / ABFAHRT EINGANG US	1
Departure Entrance East/Abfahrt Eingang Ost	
Wed - Sat/Mi - Sa 4.9 7.9.	18:30

7 Hotel Shuttle Lindau Island / Insel		
ARRIVAL ENTRANCE EAST / ANKUNFT EING	SANG OST	
Bus Stop/Haltestelle	Tour 1	Tour 2
Lindau Bahnhof (Island/Insel)*	7:12	8:47
Lindau Casino/Spielbank*	7:15	8:50
Arrival Entrance East / Ankunft Eingang Ost	8.00	0.25

ATTIVAL EINTOINEE EUST/ AIRCHIN EINGUNG OST	7.00
DEPARTURE ENTRANCE EAST / ABFAHRT EINGANG	OST
Departure Entrance East/Abfahrt Eingang Ost	
Wed = Sat/Mi = Sa 4.9. = 7.9.	18:30

berg – Lindau	- wasserbur	
NG OST		
Tour 1	Tour 2	
6:59	8:34	
7:02	8:37	
7:09	8:44	
7:12	8:47	
7:14	8:49	
7:17	8:52	
7:25	9:00	
	6:59 7:02 7:09 7:12 7:14 7:17	

DEPARTURE ENTRANCE EAST / ABFAHRT EI	NGANG OST	
Arrival Entrance East/Ankunft Eingang Ost	8:00	9:35
Wasserburg Bahnhof*	7:35	9:10
Bad Schachen Kreuzung Schachenstr./Badstr.°	7:25	9:00
Lindau Aeschacher Markt*	7:17	8:52
Lindau Berlinerplatz/Lindaupark	7:14	8:43

Departure Entrance East/Abfahrt Eingang Ost	
Wed - Sat/Mi - Sa 4.9 7.9.	18:30
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ARRIVAL ENTRANCE EAST / ANKONFT EIN	NGAING UST	
Bus Stop/Haltestelle	Tour 1	Tour 2
indau Casino/Spielbank*	7:15	8:50
angenargen Oberdorf/Höhe Hausnr. 22*	7:30	9:05
	7.70	0.15

Eriskirch Moos Hotel St. Theresia°	7:50	9:25
Arrival Entrance East/Ankunft Eingang Ost	8:00	9:35
DEPARTURE ENTRANCE EAST / ABFAHRT E	EINGANG OST	
Departure Entrance East/Abfahrt Eingang Ost		

10 Hotel Shuttle Dornbirn (Austria) - Bregenz (Austria) - Lochau (Aus

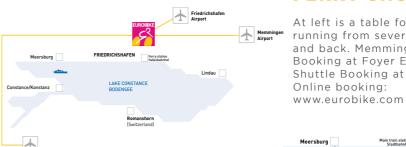
Bus Stop/Haltestelle	Tour 1	Tour 2
Dornbirn Rathaus (Marktplatzseite)*	6:30	8:50
Dornbirn Sägerbrücke°		
(Zustieg für Gäste Hotel Bischof, Hotel Krone)	6:33	8:53
Dornbirn Messkreuzung (KIKA/gegenüber Sheraton)°	6:35	8:55
Bregenz Hotel Deutschmann°	6:55	9:15
Bregenz Bahnhofplatz*	7:00	9:20
Bregenz Kreisverkehr/Höhe Sutterlüty *	7:05	9:25
Lochau Seehotel am Kaiserstrand°	7:10	9:30
Lindau Hotel Marina Star°	7:17	9:37
Arrival Entrance East / Ankunft Eingang Ost	7:45	10:05

DEPARTURE ENTRANCE EAST / ABFAHRT EI	IGANG OST
Departure Entrance East/Abfahrt Eingang Ost	
Wed - Sat/Mi - Sa 4.9 7.9.	18:30

All timetables are also available on www.eurobike.com (Info Center) or the EUROBIKE app

naviki App: Use the free navigation app for Android and iPhone. naviki will always show you the best cycling route to the EUROBIKE, More information: www

AIRPORT SHUTTLE



Bus Stop/Haltestelle	From/Von		Till/Bis
Airport/Flughafen	8:00	every/alle	11:00
EUROBIKE Entrance East/Eingang Ost	8:10	30 min	11:10
Airport/Flughafen	11:00	every/alle	15:00
EUROBIKE Entrance East/Eingang Ost	11:10	60 min	15:10
Airport/Flughafen	15:00	every/alle	18:30
FUDODIKE E-1 E+/E O-1	15.10	30 min	10.7

Departure/Abfahrt	From/Von		Till/Bis
EUROBIKE Entrance East/Ei	ngang Ost 8:15	every/alle	11:15
Airport/Flughafen	8:25	30 min	11:25
EUROBIKE Entrance East/Eir	ngang Ost 11:15	every/alle	15:15
Airport/Flughafen	11:25	60 min	15:25

Zürich Airport/Flughafen – EUROBIKE

DEPARTURE ZURICH / ABFAHRT ZÜRICH							
3.9.		8:00*	9:00	10:00	11:00	13:30	16:00
4.9.	7:30	8:00*	9:00	10:00	11:00	13:30	16:00
5.9.	7:30	8:00*	9:00	10:00			14:30
6.9.	7:30	8:00*	9:00		11:00		14:30
7.0		0.00*	0.00				

DEPARTURE ENTRANCE WEST / ABFAHRT EINGANG WEST							
3.9.				17:00		19:00**	
4.9.			16:00	17:00	18:00	19:00**	
5.9.	14:00	15:00	16:00	17:00	18:00	19:00**	
6.9.	14:00	15:00	16:00	17:00	18:00	19:00**	
7.9.	14:00	15:00	16:00	17:00	18:00	19:00**	

Memmingen Airport/Flughafen - EUROBIKE

DEPART	TURE	/ ABFA	HRT ME	EMMING	EN			
3.9.		9:00	10:00				16:00	
4.97.9.	8:30			10:30	13:30	15:30		18:30

DEPART	TURE E	NTRANC	EEAST / ABFAH	IRT EING	ANG OST
4.97.9.	7:00	9:00	12:00	14:00	17:00
4.97.9.	7:00	9:00	12:00	14:00	17:00

MESSE EXPRESS

17 Messe Express	Main train station/Stadtbahnhof - Ferry station,
ADDIVAL ENTRANCE ME	OT / 11// INST ENIO 11/O 11/EST

Bus Stop/Haltestelle	From	Till/Bis	
Main train station/Stadtbahnhof	8:10	Takt :10/:30/:35/:50	12:50
EUROBIKE Entrance/Eingang West	8:21	Takt :21/:41/:46/:01	13:01
Ferry station/Hafenbahnhof	8:00	Takt :00/:10/:40	13:00
EUROBIKE Entrance/Eingang West	8:10	Takt :10/:20/:50	13:10
Ferry station/Hafenbahnhof	13:10	Takt :00/:10/:20/:30/:40/:5	
Main train station/Stadtbahnhof	13:16	Takt :06/:16/:26/:36/:46/:5	6 18:36
EUROBIKE Entrance / Eingang West	13:27	Takt:17/:27/:37/:47/:57/:0	7 18:47
Ferry station/Hafenbahnhof	18:50	Takt :10/:30/:50	21:30
Main train station/Stadtbahnhof	18:56	Takt :16/:36/:56	21:36
EUROBIKE Entrance / Eingang West	19:07	Takt :27/:47/:07	21:47

Bus Stop/Haltestelle	From	Till/Bis	
EUROBIKE Entrance/Eingang West	8:15	Takt :15/:22/:37/:55	12:37
Main train station/Stadtbahnhof	8:25	Takt :25/:32/:47/:05	12:47
EUROBIKE Entrance/Eingang West	8:26	Takt :02/:26/:45/:50	12:45
Ferry station/Hafenbahnhof	8:34	Takt :10/:34/:53/:58	12:53
EUROBIKE Entrance/Eingang West	13:00	Takt:00/:10/:20/:30/:40/:5	19:00
Ferry station/Hafenbahnhof	13:09	Takt :09/:19/:29/:39/:49/:5	9 19:09
Main train station/Stadtbahnhof	13:15	Takt:15/:25/:35/:45/:55/:0	5 19:15
EUROBIKE Entrance/Eingang West	19:20	Takt :20/:40/:00	22:00
Ferry station/Hafenbahnhof	19:29	Takt :29/:49/:09	22:09
Main train station/Stadtbahnhof	19:35	Takt :35/:55/:15	22:15

FREE RENTAL BIKES

Visitors and exhibitors can make their way to the exhibition center easily and quickly on bike. And the best thing about the bike rental service: it's free. For more details, see www. eurobike.com/en/your-visit/arrival/bicycle/

Get the Movelo app on your preferred app store

Movelo in **GooglePlay Store** Movelo in **App Store**

The bikes can be used free of charge 03/09/19 - 07/09/19.

AIRPORT, TRAIN & FERRY SHUTTLES

At left is a table for bus shuttles running from several airports and back. Memmingen Shuttle Booking at Foyer East. Zurich Shuttle Booking at Foyer West. Online booking:



FERRY SERVICES

You can also reach Eurobike by ferry across beautiful Lake Constance. The Lake Constance ferry ("Bodenseefähre") connects Konstanz, southwest of Lake Constance, with Meersburg, east of Friedrichshafen. Or you take the catamaran from Konstanz directly to Friedrichshafen, Finally there is also a connection between Romanshorn, Switzerland, south of Lake Constance, to Friedrichshafen. Below are the schedules.

DEPARTURE / ABFAHRT			
Departure Constance/Abfahrt Konstanz	From/	Von	Till/B
	00:05	Takt :05	04:
	05:05	Takt :05/:35*/:50*	05:
	06:05	Takt :05/:20*/:35/:50*	06:
	07:05	Takt :05/:20*/:35/:50	07:
	08:05	Takt :05/:20/:35/:50	19:
	20:05	Takt :05/:20/:35/:50**	20:
	21:05	Takt :05/:35	23:
Departure/Abfahrt Meersburg	From/	Von	Till/E
	00:35	Takt :35	05:
	06:05	Takt :05*/:20*/:35/:50*	06:
	07:05	Takt :05/:20*/:35/:50*	07:
	08:05	Takt :05/:20/:35/:50	20:
	21:05	Takt :05/:20**/:35	21:
	22:05	Takt :05/:35	23:

CATAMARAN/KATAMARAN o

Departure Constance / Abfahrt Konstanz	From/	Von	Till/Bis
Mon - Fri/Mo - Fr	6:02	every/alle	19:02
Sat - Sun/Sa - So	8:02	60 min	19:02
Departure/Abfahrt Friedrichshafen Ferry Sta	ation/Hafen		
Mon - Fri/Mo - Fr	6:02	every/alle	19:02
Sat - Sun/Sa - So	8:02	60 min	19:02

FERRY/BODENSEEFÄHR

Departure/Abfahrt Romanshorn	From/	Von	Till/B
Mon - Fri/Mo - Fr	5:22	every/alle	20:2
Sat - Sun/Sa - So	7:22		20:22

Departure/Abfahrt Friedrichshafe	n Ferry Station/Hafe	n	
Mon - Fri/Mo - Fr	5:27	every/alle	20:27
Sat - Sun/Sa - So	7:27	60 min	20:27

AFTER-PARTY SHUTTLE

Why worry about how to get back to the hotel when you'd rather be partying? Relax. On Friday, September 6, Eurobike organizes a free After Party Shuttle Service. There will be a bus from Eurobike Entry West to Friedrichshafen Ferry Station and the on to the main Train Station. Shuttles starting at 19:20 every 15 minutes until 01.00 (last one).



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