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Show highlights



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A carbon fiber replacement?
E-Bike accessory roundup
Carbon road & MTB wheels
New product highlights
Overview: Pumps

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TODAY**MARCH 28****TAIPEI****30°C (86°F)**

PARTLY CLOUDY

**TONIGHT****21°C (69°F)**

MOSTLY CLEAR

**TOMORROW****25°C (77°F)**

SHOWERS



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TaiSPO SHOW DAILY.....Starts 42

Guide to booth numbers at Halls 1 and 2, Nangang Exhibition Center: Booth numbers starting with **L, M, N** are on the 4th floor, Hall 1; Booth numbers starting with **P, Q** are on the 1st floor, Hall 2; Booth numbers starting with **R, S, V** are on the 4th floor, Hall 2.

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VOX POP

What do you think of Taipei Cycle returning to March?



Troy Chen
Chainin Technology
Lugang Township, Taiwan

This whole thing has really affected us. Our customers certainly don't want to be at the show twice within a half year. It has been very inconvenient.

We also attend Taichung Bike Week. Now, having [Taipei Cycle] back to the original dates puts distance between the two shows. We're happy that things are back to normal.



Nofar Haviv
Funkier
Tel Aviv, Israel

We are very happy that the show is back in March. It works much better for us. For one thing, the weather is better. Coming from winter [in Israel] to this lovely spring weather is nice.

The main thing, though, is that it's the beginning of the year. We can look ahead and get a clear view of the products that will be in the market for the rest of the year. If the show is toward the end of the year, then that picture is not so clear.



Richard Hsieh
Grandway Power Tech
Lugang Township, Taiwan

The original March date is much better. Everybody is just used to the show being in March. The October date was too close to Eurobike — plus, there was Taichung Bike Week. Very few people will attend both, so customers are going to choose one or the other. Besides, it's the first show in the bicycle industry for the year — better to be first than last. It's very good timing for us to release our new products.



Andrew Huang
Scada International
Dajia Township, Taiwan

Returning to March was exactly the right decision. This notion of integrating with Taichung Bike Week might have seemed like a reasonable idea, but it just didn't work. Taichung Bike Week is for OE companies whereas Taipei Cycle is for the aftermarket. They have different purposes, and so they really need to be at different times of the year.

GENERAL SHOW INFORMATION

All events are at the Nangang Exhibition Halls unless otherwise noted.

GENERAL SHOW INFORMATION

TAIPEI CYCLE

**WEDNESDAY – FRIDAY,
MARCH 27-29**

Show hours: 9 a.m. – 6 p.m.
March 29 is a public day

**SATURDAY, MARCH 30
(PUBLIC DAY)**

Show hours: 9 a.m. – 3 p.m.

Venues: Nangang Exhibition Center
Hall 1 (4th floor) and Hall 2
(1st and 4th floors)

TAIPEI CYCLE ALL DAY EVENTS

Outdoor Demo

Nangang Hall 1, South outdoor corridor

d&i Golden Awards Gallery

Nangang Hall 2, 4th floor lobby

Theme Pavilions:

EU Pavilion
Italy Pavilion
Japan Pavilion
Korea Pavilion

THURSDAY, MARCH 28

9 a.m. – 5 p.m.

Taipei Cycle Forum

4F Room 401/Nangang Hall 1
(See page 24 for details)

9 a.m. – 5 p.m.

Taipei Cycle Salon

4F/Nangang Hall 1
Smart Cycling Pavilion

Note: Most speeches will be in Chinese without English translation

9:30 – 11:15 a.m.

Morning Session: Taiwan Brand Sharing

11:40 a.m. – 2 p.m.

Mid-day Session: Bicycle Smart Retail

2:30 – 5 p.m.

Afternoon Session: Retail Sharing

**FRIDAY, MARCH 29
PUBLIC DAY**

9 a.m. – 5 p.m.

Taipei Cycle Forum

4F Room 401/Nangang Hall 1
(See page 24 for details)

9:30 a.m. – 5 p.m.

Taipei Cycle Salon

4F/Nangang Hall 1

Smart Cycling Pavilion

Note: Most speeches will be in Chinese without English translation

9:30 a.m. – 12 noon

Morning Session: Bicycle Culture Forum

2:30 – 5 p.m.

Afternoon Session: Bike Travel Talks

**SATURDAY, MARCH 30
PUBLIC DAY**

9:30 a.m. – 2 p.m.

Taipei Cycle Salon

4F/Nangang Hall 1

Smart Cycling Pavilion

9:30 a.m. – 12 noon

Morning Session: 1 on 1 Sprint Roller Racing

1 – 2 p.m.

Mid-day Session: Rapha Custom Sharing Event

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Nice Tsai
Like Home International
Changhua City, Taiwan

The March date works much better. We are very happy to have things back to normal. To have no overlap with Taichung Bike Week is also very good. The two shows have entirely different purposes, and it is much better to be separate. Exhibitors and attendees really have to choose between the two — one or the other.



Winona Chiu
Vantly Fitness
Dajia Township, Taiwan

It is much more appropriate having the show in March. [November] is just too close to Eurobike, and customers are not willing to head out to Taipei so soon after the big European show.

A November show date was good for complete bike assembling companies, but not really for us. Our main products are bicycle trailers, so we don't have the issue of finalizing our spec for the model year ahead.



David Lou
Noble Glory Corporation
Hong Kong

The November date just didn't work for us. There are so many exhibitions in early to mid-October. There's the Canton Fair, the Hong Kong Electronics Fair, and so forth. By November, most people will have left Asia. I don't think anybody will stay here for another two weeks for a holiday and wait for the bike show.

But next week there are five or six exhibitions coming up in Hong Kong, and then there's the Canton Fair. Taipei Cycle attendees can plan a trip that includes these, and Taipei Cycle kicks everything off. It simply means that more people will come.



Iven Lin
Ergotec
Taipei, Taiwan

The return to normalcy is good. We participated in Taichung Bike Week and Taipei Cycle last year. These are two different kinds of show too close together, and they forced too many of our customers to choose one or the other. For us there was also a cost concern.

■ Glenn Reeves / Sabinna Den



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TAIPEI CYCLE AND TAISPO GET A BIG, BIG THUMBS UP

Taiwan's buoyant cycling and sporting goods industries are well-placed to take advantage of the convergence between sports and technology, officials said at yesterday's opening ceremony for Taipei Cycle and TaiSPO.

“With the new technology we can see the redefining of the cycling industry and the sporting goods industry,” TAITRA Chairman James Huang said, citing the proliferation of “smart” devices.

Huang said Taiwan's cycling and sporting goods companies could no longer be regarded as traditional manufacturers. Instead, they are helping cater to customers' aspirations for health and sustainability.

Wednesday's opening ceremony took place in a light-filled space in the new Hall 2 of the Nangang Exhibition Center, which opened earlier this month.

Fueling the ceremony's sense of optimism were stellar 2018 export results for Taiwan's cycling and sporting goods manufacturers.

Vincent Tseng, Taiwan's deputy minister of economic affairs, predicted that fast-growing sales of electric bicycles would keep the bike industry growing for years.

He added that more suppliers are taking advantage of Taiwan's strengths in information and com-

munication technologies by moving their operations back to Taiwan.

The Taiwan government is eager to help. It provides financial and regulatory support for manufacturers who are looking to reshore operations, the country's vice president said.

“We will roll out new rules and regulations to help you,” the vice president, Chien-Jen Chen, said. “We are helping companies with their tax treatment and other incentives.”

He added, “We're helping companies to feel they're comfortable about coming home.”

An official noted that Taiwan subsidizes land prices and offers low-interest loans for returning companies.

Now that Taipei Cycle has returned to its traditional March show dates, it is again paired with TaiSPO, its sister show for the Taiwan sporting goods manufacturing industry. TaiSPO opens today at TWTC Hall 1, next to the Taipei 101. TaiSPO coverage starts on page 42.

■ Barbara Smit



Opening Taipei Cycle and TaiSPO yesterday were (from left) TAITRA Chairman James Huang, Taiwan Vice President Chien-Jen Chen, Tseng Wen Sheng, deputy minister of economic affairs; and Hiromi Kawamura PR secretary of the Tokyo 2020 Olympics Committee.

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SNAPSHOTS FROM DAY 1



E-motocross bike from Cake with a Gates Carbon Drive



"Sweet varn varn" demonstrates Wahoo's VR trainer.



Ryuger's Brent Richards holds a fat bike that weighs just 11kg.

Samba dancers bring Brazilian rhythms to the Velo party on Tuesday night.



Alberto Contador was a special guest at velo's party.



Ann Chen and Stella Yu



Wellgo's John Chen with the new Xpedo indoor trainer



Trolley bike by Trego



Former President Ma Ying-jeou visited Neco Wang's booth yesterday.



Chasewind CEO William Su wears the company's smart glasses.

A CARBON FIBER KILLER?

HYC SAYS ITS CARBON FIBER REPLACEMENT NEEDS LITTLE LABOR — AND IS RECYCLABLE

For an industry that prides itself on being clean and green, the bicycle industry has a dirty little secret: carbon fiber. Unlike steel and aluminum, which can be easily recycled, reusing carbon fiber has seemed like an impossible dream.



A prototype frame tube made of PPS

But that may soon change with a technology from an unlikely company that is making its bike industry debut at Taipei Cycle.

HYC, HALL 2/4F/R1313 which makes slats for airport luggage conveyor belts, says it has created a new material that fundamentally replaces carbon fiber as it is known in the industry.

The material, called LFT, uses a much smaller percentage of carbon fibers than traditional carbon fiber but is as strong. Although its prototype bike frames are slightly heavier than their carbon fiber counterparts, HYC officials say the weight penalty should disappear with better optimized designs.

LFT stand for Long Carbon Fiber Reinforced Thermoplastic Composites. HYC combines carbon fibers with a new thermoplastic resin it calls PPS.

The potential benefit to bike manufacturers is enormous, HYC officials said Wednesday. The company, in existence since 1964, is based in Nantou, just south of Taichung.

"The non-recyclability of carbon

fiber is due to the resins in which the fibers are set, not the fibers," said Alex Chang, R&D manager at HYC. "Our innovation has been to come up with a recyclable resin — PPS. Epoxy is not recyclable. This is, and it's as strong as metal."

Epoxy is typically used to bind carbon fibers together in carbon composite products.

The LFT material is much easier to work with because it does not require the labor-intensive process of lay-up. Instead, it uses a process that is more akin to the highly automated method of injection molding.

Officials say that should drive down the cost of building carbon fiber-like frames.

Conventional carbon fiber requires a lot of labor, not simply because of the need to process the layers. The "finished" surface is still imperfect and requires filler for the numerous air bubbles and other imperfections.

"The thing about PPS," Chang said, "is it can take much higher temperatures when it comes to painting."

HYC developed the resin with the Industrial Economics & Knowledge Center, or IEK, a government-funded research institute. The two began working together in the middle of 2018.

"After six months we had come up with a recyclable resin that can take heat up to 300 degrees C [572 degrees Fahrenheit]," Chang said.

During the interview, Chang struck some PPS tubes together. The sound they produced was not like plastic, but more like two metal tubes clanging together.

LFT requires only 10 percent carbon fiber, significantly less than conventional carbon fiber tubing. "If you want to make it stronger, you can add up to 20 or 30 percent carbon fiber," Chang added. "It is a little heavier, however."

Like the raw ingredient for plastic injection molding, LFT comes in the form of pellets that can be manipulated like plastic pellets, making it suitable for mass production and even 3D printing.

Chang said HYC's original focus was using LFT for so-called "3C" products — those used in computers, communications and consumer electronics.

"That gave us a lot of experience," he said. "But the lifecycle of 3C products is quite short, so we focused on automobiles, luggage and bicycles. In relation to bicycles, we were encouraged by Merida."

Because HYC is not from the bicycle industry, Chang said, it is learning how to optimize LFT for bicycle products.

He said such big players as Trek, Giant, the Accell Group and Merida have expressed interest in the technology. By working with the industry, HYC expects it should be able to bring down the weight of the product to where it is compara-



Raw PPS pellets can be used like plastic pellets for injection molding, without the intensive labor required for carbon fiber lay-ups.

ble with conventional carbon fiber.

Chang said the LFT could be commercially viable for bicycles within two years. HYC has established two new production lines to make LFT products, which today includes luggage and automobile components.

■ Glenn Reeves / Sabinna Den



Tony Lin is the general manager of HYC, which has been in business since 1964.

CHASEWIND'S HEADS-UP DISPLAY LETS CYCLISTS KEEP THEIR EYES ON THE ROAD

From speed to heart rate, wattage and navigation, modern cyclometers provide a ton of information. But cyclists have to take their eyes off the road to read them.

So startup company ChaseWind is showing a prototype of a sunglass that incorporates a POV camera and a heads-up display so cyclists can keep their eyes on the road and still get the information they need. ChaseWind is showing the smart glasses at the booth of **Sunstar Taiwan Enterprises, Hall 1/4F/M0808**

"The prototype admittedly still

is a bit bulky, so currently we're focusing on making these glasses more compact, lighter and easier to use," ChaseWind co-founder and CEO William Su said Wednesday.

It may be a prototype, but Su said a consumer-ready version should be ready soon. "Production should start this August, and we're targeting a retail price of \$500,"

he said.

The young Taipei-based company is part of startup incubator, Taidah Entrepreneurship, based at National Taiwan University (NTU).

ChaseWind's original product was the Eyes Free controller. It acted as a heads-up display, but instead of transmitting information visually it does so aurally, from a smartphone to the cyclist's earpiece.

"Riders could focus on the road ahead and still get all the information they wanted by means of real-time voice messaging," Su said.

■ Laurens van Rooijen



ChaseWind founder William Su models a prototype of a smart sunglass that includes a POV camera and a heads-up display.

MPF SETS ITSELF APART AS A HOME-GROWN MID-DRIVE MAKER

The electric bike boom is giving a new charge to Taiwan bikemakers.

But most mid-drive motor systems first have to be imported to Taiwan before they can be slapped on an e-bike on the assembly line. One of the only exceptions is **MPF Drive, HALL 1/4F/NO718** which has been producing mid-drive systems in Tainan — and doing it for more than 15 years.

"Looking for a way to set my company apart, I launched our first mid-motor in 2003. Built mainly for the Japanese market, this design ran on 24 volts," MPF founder Gordon Liao said Wednesday.

Liao founded MPF's parent company, the Unique Product & Design Co., in 1989 to make golf bags and children's push trolleys powered by hub motors. But because the market was saturated with hub drives, Liao turned to mid-drives to do something different.

Eight years after launching that first mid-drive, Liao brought a more powerful version to Euro-bike with hopes of introducing it to a wider audience. Unfortunately, it debuted on the same day as another mid-drive motor system from a company called Bosch.

Bosch, of course, went on to dominate the mid-drive market, along with a handful of other deep-pocketed rivals. To stay in the game, MPF has adopted two strategies to differentiate itself.

One is by diversifying its offerings. Its top-of-the-line MPF 6 Series motor, which MPF launched in 2016, comes in no less than six configurations for applications including urban and sport bikes, speed pedelecs and even cargo bikes.

The new MPF 3 Series is 40 percent lighter and 20 percent smaller than the MPF 5 and is intended for city and compact bicycles that don't need as much support.

Liao's second strategy is a little more unusual.

"Since we cannot control the way the e-bike market develops, we aim to expand the use of our mid-motors beyond bicycles. Think pedal boats, for example," Liao said.

MPF manufactures its drives at its Tainan headquarters, which it built in 2013. To remain competitive, production is highly automated. With a staff of 60 factory workers and 40 administrative

employees, MPF produces 3,000 mid-drive motors every month.

The machinery is so advanced that Liao says he does not want to use it in China and risk losing the intellectual property behind it. At any rate, he says, export restrictions would prevent him from doing so anyway.

But manufacturing in Tainan presents another unusual problem, according to Anne Cheng, the company's vice president.

"Since the alignment of our machinery is GPS-based, a strong

earthquake means that we have to stop the production and recalibrate the entire production line," Cheng said. "Luckily, this does not happen too often."

While it may not be one of the biggest suppliers of mid-drive systems, MPF is investing heavily because it sees a bright future in the category.

It will open two factories by 2020 — another one in Tainan, and one in Vietnam, which is rapidly developing a bicycle manufacturing base. ■ **Laurens van Rooijen**



From right: MPF founder Gordon Liao with Anne Cheng and Alice Chen



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MOTION ENGINEERING BRINGS ITS UNIQUE PARALLELOGRAM FORK TO TAIPEI CYCLE

The French have a reputation for doing things their way.

For proof, check out the newest Motion Ride fork from French manufacturer **Motion Engineering, HALL 1/4F/L0009** which is unusual — from its parallelogram design, to the suspension medium, to the damper.

Visitors to Taipei Cycle will see countless telescopic suspension forks in the aisles of Nangang. The market is particularly crowded in the popular all-mountain and enduro segments, which are typically served by forks with 140mm to 170mm of travel.

But Damien Laroche, head engineer of Motion Ride, believes conventional telescopic forks have serious shortcomings.

"The biggest issue is the fact that the rider's weight shifts forward when braking," Laroche said Wednesday. "Due to this, conventional forks sink deeper into the travel, so you are sacrificing both travel and sensitivity, which is crucial to keep the wheel on the ground and the bike under control. This was the reason why we started from scratch for our Motion Ride fork."

The first step was designing the

precise geometry for the fork's parallelogram to give it proper anti-diving properties.

Ensuring that the fork does not compress under hard braking — thus changing the geometry of the bike — required some sophisticated modelling. Motion Ride obtained global patents for the fork's unique parallelogram shape.

The next step was to find a suspension medium that would bring out the best of the fork's construction.

"While air weighs nothing and offers nice progressivity, it needs tight seals which hurt the fork's sensitivity," Laroche said. "Coil springs, on the other hand, do not need seals, but they are heavy and don't offer the progressivity needed. What we came up with is a curved composite blade that is lightweight and needs no sealing."

The composite blade's precise shape was carefully dialled in to offer the necessary progression.

"As the fork goes through its travel, the shape of our carbon spring is being pulled from a curve to a straight — and the straighter it gets, the stiffer the spring rate gets

as well," Laroche continues.

Just like the geometry of the parallelogram, the shape of the blade is patented worldwide as well.

Rather than producing a variety of blades to accommodate different rider weights, Motion Engineering instead designed a bolt that preloads the blade to allow for the proper amount of sag.

To keep the fork's motion in check, the French company constructed a thru-shaft oil damper of its own without a floating piston. Since the oil in the damper works at atmospheric pressure, there's hardly any pressure on the seals, further aiding the fork's sensitivity.

Motion Engineering offers the Motion Ride fork for 27.5- and 29-inch wheels. The 27.5-inch version fits tires up to 3 inches wide, and the

29-inch version takes 2.6-inch tires.

At 2.3kg (5 pounds, 1 ounce), the weight of the fork is competitive as well. The fork retails for 1,580 euros (\$1,780). ■ **Laurens van Rooijen**



Motion Engineering's unique Motion Ride parallelogram fork.

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GST

TAIWAN MAKES — BUT DOESN'T TAKE — E-BIKES

Electric bicycles have been a boon to Taiwan's bicycle industry. Exports of expensive e-bikes are zooming, and Taiwan has enhanced its reputation as a global manufacturing and R&D center — not just for bicycles, but for batteries, software and other electronic components increasingly found on e-bikes.

Yet here in Taiwan, pedelecs and other types of e-bikes are rarely seen on the streets or in bike shops. In fact, they exist in a legal gray zone, with no government regulations or standards in place.

It seems like a disconnect, especially as Taiwan's domestic bicycle market is in a slump as once-hot road bikes sales have gone cold. Yet Taiwan bike manufacturers exported a record number of high-value, high-margin e-bikes last year. E-bike exports rose by 58 percent in units and 53 percent in value in 2018, powering Taiwan's overall bike exports to 15 percent growth for the year.

The problem, say members of the Taiwan bicycle industry, is government indifference toward e-bikes, combined with an abundance of motor scooters.

Take Bosch, for example, which makes one of the world's leading mid-drive motor systems for premium e-bikes. Thousands of Bosch-equipped e-bikes are built in Taiwan and then shipped around the world.

But Bosch has no interest at this point in supplying e-bikes for the domestic Taiwan market, said David Howard, head of Bosch eBike System Asia-Pacific. "A change would require the participation of the government. That hasn't happened yet," he said.

Instead, Bosch and others deliver motors and other e-bike components exclusively to duty-free warehouses in Taiwan, where they are fitted to complete e-bikes and then shipped back out of the country.

"In Taiwan, there are neither e-bike nor pedelec standards nor a sales market. There is no consumer demand and many barriers — clear signs for us that Taiwan is not an interesting e-bike and pedelec market," Howard said. "So we don't have a market entry plan to support sales, service and warranty processing. What we support is exporting assemblers and OEMs."

One hurdle, as Howard and others point out, is the dominance of motor scooters in Taiwan. The island nation is known for having a higher concentration of scooters per capita than perhaps any other country.

Backed by government incentives, the Taiwan scooter industry is moving away from noisy, polluting internal combustion engines to electric scooters, like the fast-growing Gogoro brand. Scooters often cost less in Taiwan than a pedelec does in Europe, yet offer more leg protection and storage



Members of the Taiwan bike industry joined journalist Jo Beckendorff for a 3-day e-bike tour of Taichung bike shops — yet rarely saw other e-bikes except for the ones they were riding. Some of the group celebrated during a stop at Taichung's Brovo Café. From left: Paul Lee, Cheer Sports; Neil Hsieh and Tony Chang, Astro Engineering; Mark Huang, Bevato International; Beckendorff; and Penny Chen, Bevato International.

space than e-bikes.

"In Taiwan, an e-bike costs more than a 150cc scooter, so people prefer to buy a scooter instead," said Tony Chang of Astro Engineering, who participated in a three-day e-bike tour of Taichung bike shops. "I wish bike shops could organize events to promote e-bikes, so that people could understand that e-bikes are not only for transportation."

Confusion reigns. Local bike manufacturers also point to confusing or conflicting government regulations governing e-bikes — if they exist at all. For example, e-bikes are not permitted on Taiwan's bike paths, but it's unclear whether they are allowed on streets. This uncertainty extends even to small matters.

Joshua Hon, managing director of Mobility Holdings, the parent company of Tern, pointed to confusion over the "walk assist" feature on many e-bike systems as one example. (Walk assist lets riders dismount and "push" their e-bikes

with the help of low-speed electric assist.)

When Mobility checked into the legality of selling an e-bike in Taiwan with walk assist, it received conflicting advice.

"We spoke to one government agency that gave us the green light. Another one gave us a red light. This keeps leading drive suppliers like Bosch and Shimano at a distance," Hon said. "If we ask these premium suppliers to remove their Walk Assist function to sell a few units on the Taiwan market, they would laugh at us."

In 2018, the Taiwan government introduced a new national battery law that requires e-bike batteries to undergo expensive certification tests. "We don't know why it was created," Hon said.

Hon said Taiwan could easily open the domestic market to e-bikes by adopting existing European Union standards for pedelecs. Taiwan e-bike makers already have to test their bikes and certify that they comply with stringent EU standards.

"This would make it possible to immediately ensure that well-made e-bikes can come onto the domestic market," he said.

Matthew Davis, Tern's sales and marketing director, said the lack of regulations and the absence of a domestic e-bike market has hampered the competitiveness of Taiwan's bike manufacturers in the fast-growing e-bike segment.

"We feel that the lack of a healthy e-bike and pedelec market is a reason why Taiwan's bicycle manufacturers completely missed the start of the e-bike boom," Davis said. "This has indirectly ensured that Chinese and European companies in particular have benefitted from the Western pedelec boom to date."

Opening the domestic market to e-bikes would let Taiwanese suppliers "experience the product and think about how they can participate" in the industry, he added.

Trial balloon. Meanwhile, Taiwan's two biggest bicycle manufacturers — Giant and Merida — were the first



Craig Wang, manager of the BESV e-bike shop in Taichung. The BESV stores are some of the only bike shops in Taiwan that specialize in e-bikes.

to sell high-quality pedelecs, equipped with mid-drive motor systems, in their home country. Yet they barely advertise the availability of the pedelecs.

Phoebe Liu, chief brand officer for Giant International, said it costs a lot of money to certify an e-bike for sale in Taiwan.

"Nobody is willing to take the time and, above all, the cost to do it," Liu said, especially as market demand is likely to remain low for some time. "Many brands are therefore hesitant to launch a domestic e-bike."

Merida offers two electric mountain bike models, both equipped with Shimano mid-drive systems, for sale in Taiwan. But so far the

models are only offered on-line, not through Merida's network of bicycle stores.

"We are currently selling them exclusively via the internet. Customers can order them there and then pick them up at the Merida dealer of their choice," said William Jeng, senior vice president and spokesman at Merida.

"So this is still a trial balloon for us at the moment." He said it's not worth marketing European-style pedelecs to Taiwan cyclists because they are simply too expensive for most Taiwan consumers.

BESV, an e-bike brand of Taiwan computer components giant Darfon Electronics, has opened three Taiwan retail stores that stock BESV e-bikes.

The stores, in Taichung, Taipei and Tainan, focus on the health benefits of e-bikes. Craig Wang, manager of the Taichung store, said parents are particularly interested in the brand's e-bikes.

"With our e-city bikes, plus associated components such as a child seat and shopping baskets, we offer a real alternative to scooters," Wang said. "I'm sure that young mothers in particular will see a pedelec as a real alternative to the scooter — whether with a combustion engine or an electric one."

YouBike's electric assist. Taiwan cyclists may now have opportunities to at least try a pedelec: YouBike, the bikeshare system owned by Giant, planned to add 300 e-bikes to its fleet in New Taipei City in the first quarter of this year. The company said it would soon begin exporting the e-share bikes.

Just maybe, Taiwan cyclists will be more willing to buy a pedelec if they have a chance to ride one.

It wouldn't be the first time that Giant has changed the attitude of the Taiwanese about



"In Taiwan, an e-bike costs more than a 150cc scooter, so people prefer to buy a scooter instead."

— Tony Chang, Astro Engineering

bicycles. Although Giant essentially created Taiwan's modern bicycle manufacturing industry, cycling was not a particularly popular pastime until 2007, when founder King Liu embarked on a bicycle tour around the island.

He was 73 at the time, and received a flood of media attention for his ride, which popularized the 930km (575 mile) Tour de Taiwan and helped spark a boom in domestic road bike sales.

But who will be the King Liu of e-bikes?

■ **Story and photos by Jo Beckendorff**

Jo Beckendorff led several members of the Taiwan bike industry on a recent three-day e-bike tour of Taichung bike shops. See more of his stories in the Friday issue of the Taipei Show Daily.

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SCOOTERS — ELECTRIC, THIS TIME — PROPEL JD'S EXPANSION TO VIETNAM

With one foot in the growing electric bike business and the other in the booming electric scooter market, JD is scrambling to meet demand while relocating production from China to Taiwan and Vietnam.

“Prior to the last couple of years, e-bikes have been progressing at a very fast pace. But now micromobility, or LEVs, are in everybody's spotlight. In the last 24 months alone the rate of change has increased 10-fold,” said Justin Chou, chief management officer of JD, known for its TranzX brand of e-bike components, Razor scooters, and Citybug and Jdbug electric scooters.

JD **HALL 2/1F/P0416** is headquartered in Changhua, Taiwan. It is scaling back production in its China factory while working to bring a new plant in Binh Duong, Vietnam, to full capacity by the end of 2019.

“The Vietnam investment decision wasn't because of the trend or the onset of the trade war,” Chou said. “When we decided to set up the plant, we didn't know that the trade war would happen. Neither was it for cheap labor.”

Instead, Chou cited regional markets as the main drivers for the move to Vietnam.

“We expect that in 15 to 20 years, ASEAN countries will have explosive growth,” he said. “We envision that our products will be very suitable for local markets.” ASEAN is the acronym for the 10-nation Association of Southeast Asian Nations.

For JD, production of electric scooters overtook e-bikes in 2018. The e-scooter boom echoes the original Razor scooter craze in the early 2000s, which laid the financial foundation for JD's subsequent expansion. At the peak of the first scooter boom, JD was producing 110,000 Razors a day in Taiwan and China.

Today's e-scooter market is

largely the result of scooter-sharing schemes in the company's target markets.

“We have been working diligently to finish the Vietnam factory set-up to accommodate these orders. By the end of March 2019, factory construction should be ready. After that the layout of the production lines can be completed. A pilot run should be ready for the electric scooters by May or June,” Chou said. JD expects the Vietnam factory to reach full capacity by the end of the year.

Chou said Vietnamese manufacturers lack expertise in making electrical products. “We will slowly transfer the technology over to that new factory, but it's a very complicated system. For the short- to mid-term — for five years or so — motors and batteries will be sourced from Taiwan,” he said.

Motors for every e-bike. JD continues to make bike components such as seatposts, stems, and QRs, but is emphasizing its new line of mid-drive and hub motors.

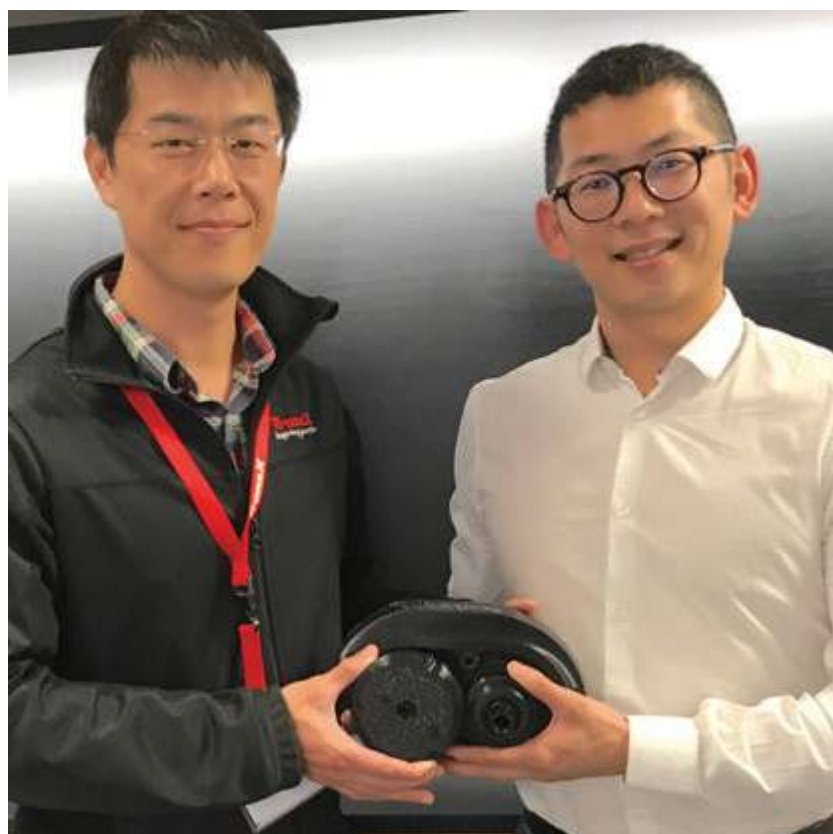
It's in the process of shifting production of its mid-drive e-bike motor systems from China to Taiwan. Chou said the Taiwan factory began producing drives in March for Taiwan OE bike manufacturers. The changeover should be completed by August or September, in time for model year 2020 production.

“The drive system is quite complicated, made up of over 1,000 SKUs. It's not easy to switch all the production from China to Taiwan in a short time,” he said.

The company is focusing on its M17 mid-drive system, an updated version of the M16 drive that offers OEMs a choice of five battery types. The M17 is smaller and easier to mount and has an improved torque sensor compared with the previous version, which remains available.

JD also manufactures front and rear hub motors for e-bikes, each of which can be paired with a rear rack battery or one integrated into the downtube.

For all of its mid-drive and hub motors, JD also offers four types of displays, led by the flagship DP29.



Allen Liao (left), assistant sales manager, and Justin Chou, CMO of JD, hold a 3D-printed prototype of a next-generation mid-drive motor.

Chou said JD still purchases some components from China, but products will have less than 40 percent Chinese components so they can be labelled as “made in Taiwan.”

“For quality control and economic benefit, the long-term strategy is to purchase all parts from Taiwan with the Binh Duong facility as the major production site for electric scooters, bicycle components and e-bike systems,” Chou said.

The Taipei LEV show? JD is working on future products through partnerships with some automotive companies, which Chou said are becoming increasingly important in the field of micromobility. These kinds of partnerships could transform the bicycle industry.

“The automakers traditionally dominate medium and long-distance travel. We on the other hand have focused on ‘last mile’ solutions for the last 15-20 years,” Chou said. “And now, with the coming revolution in LEVs and micromobility, we are starting to see a blurring of boundaries. In the future, the Taipei Show could be an LEV show — not just focused on e-bikes but on Light Electric Vehicles.”

Those LEVs will likely be very different from what is on the market today.

“Let me tell you that every automotive maker has something in their bag. We've seen projects from every automotive brand. And each one of them is drastically different from the other,” Chou said.

“They all have their thoughts on what the future of micromobility will be like.”

He added, “Most of the projects are not like what e-bikes look like

today. Conventional e-bikes or electric scooters are still mechanical products at the end of the day — a bike or a scooter but with the battery and motor slapped onto them.”

With these new types of products will come an increased focus on internet and cloud connectivity and the so-called “Internet of Things.”

“Everything in our product portfolio will have connectivity in the next year or so,” Chou said. “Being connected is an essential part of our lives nowadays.”

For developers like JD, the challenge is putting that technology to practical use.

“Cars, for example, are all connected. That provides a legitimate enhancement of the user experience, such as traffic information,” he added. “So what can we offer on the e-bike or the electric scooter that, through being connected, can give the user a better experience? That's something we've been working on in the past 12 months or so and we've been very fortunate to have a lot of feedback from a lot of partners that we've been collaborating with.”

Taipei Cycle visitors may not see many of these products that are now in development; Chou said it's up to JD's customers to decide when to debut them. But it's clear that this is a productive business direction for JD.

“A lot of products that we are developing now are brand-new products that are like nothing in the market now,” he said. “It has been a very exciting 12 months for LEVs across the board. Challenging. But very exciting.”

■ Glenn Reeves / Sabinna Den



JD's electric scooter line includes the Citybug (left and right) and Jdbug (center)

Shaping Progression

Velo saddles have launched different categories of saddles following the latest short saddle trend, to enhance your riding experience .



Eliminate the length:
performance driven orientation



Eliminate the staples:
aesthetically improvements



Eliminate stitching:
water-proof validation



SR SUNTOUR SIDESTEPS TRADE WARS WITH WELL-TIMED MOVE TO VIETNAM

When SR Suntour opened a new factory in Vietnam in June 2017, it hadn't anticipated that the European Union would impose sweeping anti-dumping duties on Chinese-made e-bikes. Nor did it anticipate the trade war between the United States and China, in which e-bikes have been collateral damage.

But its timing couldn't have been better, executives of Suntour **HALL 2/IF/PO514** said during recent interviews at the company's Taiwan headquarters.

"As it happened, due to the manufacturing climate getting more unfavorable in China, we were already well on the path to moving production away from our Shenzhen and Kunshan plants, particularly Shenzhen," said Tomonori Suenaga, senior manager of sales development.

The new factory, in Binh Duong, Vietnam, produces the company's line of suspension forks along with its increasingly sophisticated Human Electro Synergy Components, or HESC, line of front and rear hub motors for electric bikes.

"The Vietnam factory is in full operation. It's very busy there now," said Daisuke Kobayashi, president and CEO of SR Suntour.

Binh Duong joins the factories in Shenzhen and Kunshan as the third main pillar of the company's manufacturing capacity. The company also maintains a factory at its Taiwan headquarters. SR Suntour celebrated its 30th anniversary in 2018.

Early issues. Suenaga said SR Suntour had decided to set up a Vietnam factory about two and a half years ago, after manufacturing and regulatory issues began affecting its production in China.

"Painting and polishing issues began to crop up along with more stringent government oversight.

So we had to have an alternative solution," Suenaga said. "Many of our customers are also located in Southeast Asian countries. We still manufacture in China but have been gradually increasing the quantity of production in the Vietnam factory."

Given the current trade climate, SR Suntour expects to soon move all production from Shenzhen to Vietnam. The Kunshan plant will remain its main facility in China.

"For the long term, China still represents a big marketplace. So we'll basically be maintaining our presence in China with an eye to that," Suenaga said. "The popularity of sports bicycles is not the same as in Europe or the USA. But the proportion of the population enjoying recreational cycling is increasing over time."

SR Suntour's suspension fork is its most important product made in Vietnam.

"The e-bike unit just started in 2018. Originally, this production was in the China plant with those products shipped to the USA. But with the European anti-dumping duty we moved this production from China to Vietnam," Kobayashi said.

He added, "With regards to the USA, we don't know what will happen there in the future. A 25 percent tariff makes it almost impossible [to manufacture in China]. So setting up in Vietnam was the way to go."

As simple as possible. Suntour's e-



Daisuke Kobayashi, president and CEO of SR Suntour, with an HESC rear hub drive.

bike system came about because of another happy confluence of events. The company originally got involved in e-bikes under a partnership with the Japanese company Sanyo.

"Sanyo created an e-system for the Japanese market and they needed some support for the crankset system. They came to us because we manufactured a crankset with a built-in sensor," Suenaga said.

"Sanyo supplied the motors to us. But after Sanyo was taken over by Panasonic they stopped supplying the motors. That meant we had to start our own motor production." SR Suntour began making its own motors around eight years ago, starting with a front hub motor for city bikes. A rear hub motor followed a few years later.

Engineers worked to make the rear motor easy to service by allowing it to be removed from the housing without the need to remove spokes. Mechanics just have to take off the cassette, undo the screws, and take out the motor to troubleshoot problems. They can easily exchange one motor for another by simply swapping the cartridge for a new one.

Suenaga said SR Suntour applied the same philosophy to the design of its suspension fork.

"The high-end suspension fork encapsulates a hydraulic cartridge which can be quickly exchanged. So you don't need to do any complicated service work," Suenaga said. "The dealer disassembles the unit and swaps it out for a replacement unit. We try to make it as simple as possible."

Mid-drives? Maybe. Suntour officials say they are intensively studying the prospects of introducing a mid-drive motor, but note that the market is tough to break into.

"The mid-drive competition is quite hot. There are many big players, not only in the bike industry but also the automotive industry, so we have to seek a different level of

products as well as service," Suenaga said.

"There are already a lot of big players in the market and we have come in last, so we have to be very careful and focus on creating good products," added Ippei Noda, senior sales manager. "It will take time and long-term testing with a special focus on durability. These things have to be clear before we could move ahead in that area. The market is always looking for consistent performance and reliable quality."

E-bikes are too important to ignore, however, and Suenaga said the market should continue to expand over the next decade.

"We think that there will be increasing diversity in the types of e-bikes that will be available over the next five or ten years. We want to be positioned as a reliable supplier given that scenario," he said.

Suenaga added, "Right now we are making sure to establish a sound technical background as well as a good service structure. Good service is very important — even more important than it ever was."

He cited the complexities of e-mountain bikes as an example. "Obviously already we are seeing that good suspension must be there. A good frame must be there along with battery integration. Very many different high level technical and service aspects have to come together."

Not a panacea. While the new Vietnam factory will be increasingly important to SR Suntour's plans, officials warn that Vietnam may not be immune to the shifting political winds buffeting global trade and manufacturing.

"Many companies are moving to Vietnam and other Southeast Asian countries, so it is quite likely that these countries will also attract dumping duties in the future," Kobayashi said.

"This," he added, "is something we are fairly concerned about."

■ Glenn Reeves / Sabinna Den



SR Suntour's HESC rear hub drive, made in its new Vietnam factory, is designed for easy servicing.

DHL TO TEST E-CARGO BIKE DELIVERY SERVICE IN TAIWAN

DHL Express Taiwan Corp. is bringing its electric cargo bike delivery service to Taiwan in April for its first trial in the Asia-Pacific region.



Huang Yongjun (standing), general manager of DHL Taiwan, with a DHL Cubicycle

The trial will take place in Taiwan's Hsinchu Tai Yuan Industrial Park. The e-cargo bikes, called the Cubicycle, will deliver packages from a logistics center inside the park.

"It gives us a good testing ground to learn and draw best practices on how to constantly make our fleet greener," said Huang Yongjun, general manager of DHL Taiwan.

Taipei Cycle visitors can learn more about the Cubicycle this morning at the Smart Cycling Pavilion in Hall 1. Joanna Fong, head of communications for DHL Express Taiwan, will speak on "DHL's Cubicycle: The Future of Green Logistics" at 10:30 a.m. as part of the Taipei Cycle Salon forum.

DHL says Cubicycles are now in use in several European countries, and in more than 80 cities in 13 countries internationally. By the end of 2018, the company had deployed 85 Cubicycles, the newest in its line of cargo delivery bikes.

Some 60 percent of DHL's inner-city vehicle routes now use Cubicycles. DHL's goal is to operate 70 percent of first- and last-mile deliveries using clean modes of transportation, like the Cubicycle, by 2025.

DHL chose Taiwan for a test because of the nation's extensive industrial supply chain, along with its movement toward a bicycle-friendly culture. While the Cubicycle is manufactured in Europe, most of its components are sourced from Taiwan.

The trial will last three to six months. DHL says

Cubicycles are more flexible for parcel collections and deliveries in crowded inner cities and are much more environmentally friendly: Using a Cubicycle instead of a van reduces carbon emissions by 398.6kg (879 pounds) a year.

The four-wheeled Cubicycle has a weather-protected container that can carry up to 125kg of cargo. The container locks automatically to protect shipments.

Drivers typically pedal the cargo bike, but can draw on a 250-watt electric motor when they need assistance. Twin batteries allow a range of up to 50km (31 miles) on a charge.

DHL uses a recumbent-style design to improve comfort for the driver, who sits low to the ground and uses a seat with extensive back support.

Nelson Lin, a Taiwan advocate for cycling culture and the owner of Taipei's Velo City bike shop, assembled the trial Cubicycle fleet and will maintain it for DHL.

■ Glenn Reeves / Sabinna Den



DHL Cubicycle electric cargo bikes ready for deployment.

FUMPA PUMPS

USB Rechargeable
Miniature Electric
Bike Pumps

Designed for
Portability

Engineered for
Cyclists



FUMPA

Accurate pumping before you ride

Digital pressure display

Weights 380 grams

Pumps to 120psi



mini FUMPA

Take it with you

Fits in your jersey pocket

Weights just 190 grams

Pumps to 120psi



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Hall 1 / 4F / L1309

OVERVIEW: E-MTB ACCESSORIES

PIMP YOUR E-MTB FOR BETTER RIDING AND CLEANER LOOKS

Most electric mountain bikes are well engineered and nicely designed out of the box. But what's good can always be better, and Taipei Cycle exhibitors offer aftermarket products that let riders add personal touches and keep their e-MTBs running longer with less hassles.

Humpert **HALL 2/4F/R0620** knows that e-mountain bikes get ridden more often than their conventional counterparts. And because e-MTBs weigh significantly more than non-electrified bikes, their components are under a lot more stress.

So the German component maker offers its Ray Series of beefed up e-MTB components. Ray Series parts are subjected to load cycles that, the company says, far exceed the standard required tests.

By reinforcing the clamping area of its handlebars and stems to 35mm from 31.8mm, Humpert adds stiffness and strength. An alloy han-



Humpert Ray-Series reinforced e-MTB stem

dlebar is available in a 780mm low riser version and a 720mm flat bar.

A matching stem comes in lengths ranging from a stubby 35mm to a lengthy 110mm. An action camera or light mounts on an optional faceplate with two integrated threads.

Humpert put its matching seatpost through similarly excessive tests. The post is available in the most common diameters of 27.2mm, 30.9mm and 31.6mm.



TRP G-Spec e-MTB caliper

E-MTBs are heavy, so they need robust brakes. TRP, the aftermarket brand of **Tektro**, **HALL 2/1F/Q0502** offers the beefy G-Spec e-MTB brakes.

While it shares the same brake lever with machined dimples for extra traction and a large reservoir for consistent braking (developed with World Cup downhill Aaron Gwin) TRP has modified the brake calipers.

To keep rotors from bending as they heat up, TRP resorts to 2.3mm-thick steel instead of the usual 1.8mm thickness. Reinforced calipers offer similar stiffness, and the top-loading design makes it easier to swap out brake pads and keep an eye on wear. Riders no longer have to remove a wheel to check their



Magura brake lever options

brakes but can do it with a glance.

Magura **HALL 1/4F/N0518** already offers a line of e-bike brakes, such as the MT5e.

But with its current customize-your-brakes campaign, the German brake specialist encourages e-MTB riders to style their brake levers. Riders can choose among several carbon fiber lever styles and lengths, or the moto-inspired HC3 one-finger alloy lever. The HC3, developed with Danny MacAskill, gives riders options for fine-tuning the feel, modulation and touch area.

Magura is considering offering custom-machined levers for cyclists with special needs, such as



KMC says its e-MTB sprockets, like this Bosch system replacement, will last three times as long as the original equipment.



Ergon SM E-Mountain saddle for e-MTBs

those who have lost fingers.

The company also lets cyclists change the cover of the reservoir and of the clipped-in rings at the pistons to fit their personal preferences.

Mid-drive motors help e-MTBs look cleaner, and their low, centralized weight does not affect a bike's handling. But it's no secret that the torque generated by mid-drives wreaks havoc on other drivetrain components, including cogs, cassettes and chains.

KMC **HALL 2/1F/P0114** has developed reinforced cogs made of thicker, hardened steel. The chain specialist claims its cogs will last for 10,000km (6,200 miles) — about three times longer than the original cogs that come with Bosch, Shimano, Brose, Panasonic, Yamaha or Bafang systems.

KMC also sells a wide selection of e-MTB chains with reinforced rollers, plates and pins and a special surface hardening treatment, for use with 9-, 10-, and 11-gear systems.

Want to take a midnight ride on your e-MTB? A powerful headlight is essential. From **Lezyne** **HALL 1/4F/L0315** are four models that draw power from the e-bike's battery, so they don't need a separate power source.

Both the Hecto E50 and the Power Pro E80 models conform to German laws while delivering a modest output of 200 and 280 lumens, respectively.

While this may be enough for riding on a dark gravel road, truly heading off-road requires more powerful beams such as the Macro Drive 500 and Macro Drive 1000.

All four headlights come with a compact mounting bracket that is GoPro-compatible. The bracket lets riders mount the light under or on top of the handlebars. A mounting kit lets them fit the lights to the bolts of the stem's faceplate.



Prologo Proxim W650 e-MTB saddle

It's the climbs, not the descents, that have been most transformed by e-MTBs. Now that riders can tackle the steepest slopes, they sometimes need help staying in the saddle so the rear wheel won't spin.

Several saddles do just that, including models from Germany's **Ergon**. **HALL 1/4F/M0612** The SM e-Mountain model, available in men's and women's versions, has a raised tail section that keeps riders in the right position even during steep



Shimano Pro Vulture e-MTB saddle

climbs, so they can focus on picking a line and pedaling. A bit of extra padding adds comfort.

Living up to its reputation as a race-oriented saddle brand, **Prologo** **HALL 2/1F/Q0514** is showing the Proxim W650, a particularly light e-MTB saddle.

The saddle started as a design challenge for students of the Politechnic University of Milan. They came up with something that is shorter and has a rounder profile than other Prologo saddles, while its edges and tip are flexible for maximum freedom of movement.

Three dedicated areas along the saddle's length feature different interactive foams and single-cell padding. An anti-slip cover in the back helps the rider hold position in the steeps. A handle helps the rider lift the e-MTB.



The D.1 dropper post from by.schulz accommodates riders weighing up to 130kg (290 pounds).



Control Tech E-1 adjustable stem

The Vulture e-MTB saddle from Shimano's accessory brand **Pro** **HALL 1/4F/M0814** has a less extreme shape. Instead, Pro emphasizes comfort and longevity.

The Vulture has generous EVA padding, a wider, more padded nose, and a base reinforced with carbon and sturdy steel rails, but weighs just 235g (8 ounces). Look closely and you'll notice an accessory mount neatly integrated between the rails.

Dropper posts come standard on most e-MTBs, but they were probably made for riders of average weight. The D.1 dropper post from German brand **by.schulz** (exhibiting at **Castello** **HALL 2/4F/R0230**) is a very different beast: It's built for riders weighing up to 130kg (almost 300 pounds).

The D.1 has a low-maintenance gas cartridge for height adjustments. High-precision IGUS bushings prevent twisting or play, and the end stops are nicely damped for a high-quality feel.

The D.1 comes with either 100mm or 150mm of travel, and is available in versions for internal or external cables. It fits seat tubes with diameters of 30.9mm, 31.6mm, 33.9mm, or 34.9mm.

Keep the cockpit tidy with the E-1 adjustable stem from **Control Tech**. **HALL 2/1F/Q0917** This alloy stem has a built-in cradle to mount the compact Bosch Kiox display, placing it neatly in the center of a rider's field of vision. Its adjustable angle makes it well-suited to e-MTB rentals — especially when combined with Control Tech's new Cougar Hex seatpost with four setbacks.

Pro's Koryak Di2 handlebars are another option for tidy cockpits. They have internal guides for the cables of the Shimano Steps mid-drive motors.

Originally made for the cabling of Shimano's Di2 electronic shifting system, the Koryak handlebars come in flat and narrow versions or wider riser versions. ■ **Laurens van Rooijen**



Lezyne Macro Drive 1000

THE DROPPER POST'S INVENTOR DROPS THE HAMMER ON RIVALS

If the saying "you snooze, you lose" applies to the bike industry, then Martin Hsu is wide awake.

Hsu, the founder of **Kind Shock**, **HALL 2/1F/Q0702** made a name for his company and created a thriving niche when he invented the dropper post and brought it to market in 2008.

Now, dropper posts are almost a commodity item. They are considered standard equipment on many mountain bikes and have become fiercely competitive, drawing such industry heavyweight as RockShox, Fox Factory and Magura. A thriving OE dropper post business further clouds the competitive landscape because the posts sport the bicycle brand's logo, not the manufacturer's.

So Kind Shock continues to innovate to keep its brand relevant. It's crafting more of the dropper's parts from carbon fiber, and last fall acquired Taichung carbon specialist Mekkem Industrial.

Kind Shock is also building a new factory near its headquarters in Tainan that should be open by the end of 2019.

And if suspension specialists like RockShox or Fox want to get into the dropper post business, Hsu is happy to return the favor: He's planning to debut a high-end fork in 2020.

A yen for business. Hsu started in the bicycle industry in 1983, when the company was known as Yen Yue. It was a typical member of the cluster of small companies that made up the industry's supply chain. With a little more than 30 employees, Yen Yue cranked out forks, stems, headtubes, bottom bracket shells and other frame parts.

Yen Yue flourished along with the overall industry in the early 90s and opened a Shenzhen factory in 1992. With about 350 employees, the China plant was considerably larger than Yen Yue's head office in Tainan.

While Yen Yue expanded into affordable suspension forks and dampers, the company also expanded, opening factories near Shanghai in 2000 and in Vietnam in 2001. Because suspension forks and dampers became the company's biggest product category, Hsu changed the company

name to Kind Shock in 2004.

Even then he was experimenting with a concept for the first dropper post. Ten years before bringing a production model to the market, Hsu built a steel prototype that was inspired by the height adjustment mechanism on an office chair.

The first commercial product, the Cobra i950, today seems heavy and clunky. But it was an instant success, winning a number of design awards. Despite some quality issues in the first year of production, dropper post assembly soon took over almost the entire factory floor space at Kind Shock's headquarters in Tainan.

From the beginning, Kind Shock sold the posts under the KS brand to set them apart from the more affordable, comfort-oriented products it made in China.

Making with Mekkem. Today, Kind Shock offers more dropper post choices in travel and diameters than any other manufacturer. But to stay ahead of the competition, Hsu is relying on strategies of integration and differentiation.

Its current flagship product, the Genesys, was developed with select bike brands. The dropper post is incorporated into the frame's seat tube, so the dropper doesn't need a separate outer tube — saving weight and streamlining the appearance.

Since the launch of its KS LEV Ci models in 2014, Kind Shock has been using more carbon fiber components to lower the weight of its dropper posts. It's also selling a line of light bars, stems and conventional seat posts, many made from carbon, under its Ether brand.

By acquiring Mekkem, Kind Shock plans to increase its use of carbon in its products.

"Mekkem has many years' experience in the carbon field. KS will combine this advantage with our products to create more and more KS-Ether products," Hsu said. "In the future, Mekkem will be committed to incorporating high-end carbon technology into dropper posts, while at the same time we will create more and more products using carbon."

Bigger plant, lower costs.

At about 10,000 square meters (107,600 square feet) Kind Shock's new factory will be roughly three times as large as its existing headquarters, in part to accommodate a spacious in-house testing lab.

But in spite of Taiwan's reputation as a relatively costly place to manufacture, Hsu intends to lower



Martin Hsu's bike sports a prototype of a new suspension fork that Kind Shock will debut at Eurobike.

production costs by relying on automation.

"As the dropper post market is still growing and expanding to more segments, KS will invest more in automatic equipment and broaden our production capacity especially for our entry-level products. After all, we expect the market to grow fast in Taiwan and across Asia as well," Hsu said.

A first step toward serving lower price points was the introduction of the more affordable Rage-I series of dropper posts with simplified internals.

The company is also working with an expanding number of bicycle brands to incorporate the Genesys post in their frames as a way of differentiating themselves from competitors.

Fork the competitors. And, finally, there's that new suspension fork. While riding mountain bikes with Hsu after the November Taipei Cycle show, it was hard not to notice the fork that was mounted on Hsu's own bike. While the magnesium lowers of the all-black, unlabelled fork looked unremarkable, the dials on top of the crown looked like no other offering on the market.

Asked about it, Hsu acknowledged that it was a prototype of a new fork that the company intends to debut next year.

"KS has been dedicated to improving oil systems in dropper posts for years. We will incorporate our technology and experience of oil systems into our suspension forks and create unique products," he said.

Clearly, Hsu is not snoozing on the job. ■ **Laurens van Rooijen**



Rendering of Kind Shock's new Tainan factory, scheduled to open by the end of this year.

PURE FABRICATIONS

NEW WHEELS FROM MERCURY, CEC USE INNOVATIVE FABRICS

Just about every aspect of a bicycle wheel — apart from the fact that it's round — has been tweaked significantly in the past decade or so. Wheels are getting bigger and fatter, and they're made of unusual alloys or proprietary carbon fiber recipes.

Now a new material is gaining acceptance in bicycle wheels: fabrics made of polyethylene and polyester. They're appearing not just in rims, but in spokes as well.

These textile spokes are lighter than aluminum or steel, but their manufacturer says they are stronger and can better absorb and dissipate ground impacts. And because textile spokes can withstand more force than traditional metal spokes, cyclists don't need to true their wheels as often.

State-of-the-art fabrics already have a place in other sports, like sailing, where they offer a far more durable, yet pliable, alternative to steel cable.

A new generation of bicycle wheels are designed to take advantage of these fabrics' pliability for shock absorption and trail damping, without taking away from their usual structural obligations.

While these new technologies

still need to prove themselves in the market, it's clear that wheel designers aren't just going around in circles.

Carbon Endurance Component
HALL 1/4F/L1125 uses textile spokes on its SLD (Super Light Dyneema) 700c wheels. Founder Pierre Arnaud Le Magnan said the spokes became a focus as engineers looked for ways to improve a bike's vertical compliance, or how much it can "bend" in a vertical direction to absorb shocks.

"We needed to get rid of vibrations during long rides because it decreases muscle performance and induces fatigue," Le Magnan said. "You can work on the frame design, seatpost, and saddle to improve vertical compliance, but there are still a variety of shocks that cannot be dampened by the frame."

CEC's new wheels use braided spokes made of Dyneema, the brand name for a type of Ultra-High

Molecular Weight Polyethylene (UHMWPE). Dyneema is a product of the Dutch company DSM, which calls it the "world's strongest fiber" and sells it for applications ranging from body armor to air cargo containers to denim and footwear to tents and hockey sticks.

CEC says its SLD wheels provide better traction, especially on rough surfaces.

"When you are riding a rough section on the road or trail (this applies to off-road riding as well) you will experience a slowdown effect because your wheel will be subjected to shocks — or forces — that oppose its movement," Le Magnan said. "Textile spokes will absorb some of the impact, thus reducing the

slowdown effect. You will be better able to transfer your forward momentum to the riding surface."

The spokes aren't the only innovation in the SLD line. CEC uses a blend of hybrid carbon and high modulus polypropylene (HMPP) fibers to make the SLD rims, which gives them more radial flex.

The SLD wheels use CEC direct-



SLD wheels from CEC with spokes made of braided Dyneema fabric

AIRACE
AIRACE-CYCLING.COM



VISIT US IN HALL 2, 4F
BOOTH: S0704





Mercury's new X-Series wheels incorporate a fabric it calls Fiber-X.

pull hubs with 100x12mm front and 142x12mm rear axles and are compatible with Shimano or SRAM XD driver bodies. A wheelset weighs 1,250g (2 pounds, 8 ounces).

Front and rear SLD wheels use 24 spokes in a 2X cross pattern that attach to Sapim aluminum nipples.

The SLD wheels aren't the first to use textile spokes. Last summer at Eurobike, Pi Rope presented its superlight XC wheels with braided Vectran polyester spokes, and Tune unveiled prototype XC wheels with Dyneema spokes.

A new type of fabric is also the key innovation of the new X-Series wheels from **Mercury Cycling**. **HALL 1/4F/L0001** Mercury uses the material, called Fiber-X, to improve the damping capabilities of the new mountain bike wheels.

The carbon fiber X-Series wheels also use Mercury's proprietary MX resin system, which the company says dissipates energy and dampens trail input.

Fiber-X — distinguishable as a silver stripe on all X-Series wheels — has twice the tensile strength of high-modulus carbon fiber, the company says.

The company declined to provide more details about Fiber-X.

In response to questions, an official responded: "At this time, we cannot share details because it is a proprietary material that is exclusive to Mercury and the X-class wheels. Given the competitive nature of today's wheel market, we are not at liberty to share the information out of fear that it will compromise our competitive advantage."

Mercury claims that because of Fiber-X, the X-Series wheels are durable enough to withstand two forceful impacts at the same spot



Mercury's A-Series wheels use the patent-pending Kamm Tail 10 rim profile.

and remain intact. The wheels' trapezoidal rim profiles also funnel impacts from the trail into the elastic material to dissipate energy and avoid failure.

While the X-Series is intended for mountain bikes wheels, there could be some crossover as gravel bikes become more aggressive.

The X-Series wheels feature offset rim beds, embossed logos, and hookless beads, and are available in internal widths of 25mm to 40mm. The wheels use Mercury's proprietary Axis straight-pull hub with triple-stepped pawls. All current wheel diameters, axle sizes and freehub standards are supported.

Mercury also boldly claims to be releasing the "fastest wheel in the

world" at Taipei Cycle with its A-Series. It developed the A-Series with Paul Lew, the founder of Lew Composites and regarded as an aerodynamics guru.

The A-Series' unique feature is the patent-pending Kamm Tail 10 design, which channels air toward the back and repurposes it to provide an aero push for additional speed.

The A-series are available in disc or rim brake configurations laced to Mercury's Tempest hubs, which feature a 2:1 straight-pull lacing pattern to save weight but maintain stiffness.

Rims are available in 36mm, 55mm, and 77mm depths, equivalent to virtual rim depths of 50mm, 67mm and 92mm. ■ **Wendy Booher**

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MERCURY A5

- The A5 are proven to be the fastest wheels in class at any speed and angle of attack.
- Designed in Computational Fluid Dynamics (CFD) with additional testing results coming from the wind tunnel.
- Kamm Tail 10 patent pending technology provides an aerodynamic benefit of a 67mm depth rim, further enhances the aerodynamic performance of the airfoil rim shape while reducing the adverse effect of cross-winds, enhancing stability and reducing steering torque due to the shortened rim section.
- Built with the Mercury Tempest Hub with a 2:1 lacing pattern for

- adding lateral stiffness without adding any additional weight.
- Designed by world famous aerodynamicist Paul Lew

HALL 1 / 4F / L0001



WWW.MERCURYCYLING.COM

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CARBON ENDURANCE COMPONENT (CEC) SLD RANGE - TEXTILE SPOKE CARBON WHEELS

Made of the world's strongest and most durable fiber: Ultra-High Molecular weight Polyethylene (UHMWPE), textile spokes bring shock dampening properties and weight saving to these wheels. Field tests show increased comfort for the cyclist, combined with more traction especially on rough roads.

Combined with Carbon-HMPP hybrid fabric used to build the clincher tubeless rim (disc brake only) in order to enhance impact resistance, vibration damping and prevent brittle carbon failure for improved safety.

Focused for endurance cyclist riding Mountain bikes, Gravel Bikes or Road endurance, the lightest SLD wheelset weighs just 1050g.

HALL 1 / 4F / L1125



WWW.CECOMPONENT.COM

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MERCURY X1 ENDURO

- Dual Density rim construction utilizing High-Modulus Carbon and Fiber-X resulting in a trail tuned wheel set.
- Fiber-X is almost twice as strong as Carbon and features damping properties soaking up trail noise.
- Durable enough to withstand a double impact of 120 joules thanks to Fiber-X, Energy channeling rim profile and the epoxy resin reinforced with our core shell rubber additives.
- We offset the spokes to increase lateral stiffness without adding any weight.
- Mercury Axis hubs feature a triple stepped 6 pawl design resulting

- in a 3.5 degree engagement.
- We are looking for International Distribution.

HALL 1 / 4F / L0001



WWW.MERCURYCYLING.COM

OVERVIEW: PUMPS

THESE PUMPS DELIVER A BREATH — OR A BLAST — OF FRESH AIR

It used to be so simple. A pump was something you tucked under your top tube or stashed in your garage.



Fumpa pump

Now, riders are using air in ever more diverse ways. From electronic inflators to accumulators that are capable of seating tubeless tires, the category is constantly expanding.

Whether they are stand-alone devices or attached to the back of a traditional floor pump, accumulators bring a rush of fresh air to many a home mechanics' workshops. By eliminating the need for a costly, clunky air compressor, they're finally helping drive uptake of tubeless tires among users who can now fit those tires at home.

Equally clever is the latest range of portable electronic inflators, some of them small enough to slip into a jersey pocket. They combine the convenience of a CO2 inflator, but with greater pressure control and a lower environmental impact.

Would you recognize this as a pump? Fumpa's **HALL 1/4F/L1309** innovative solution to flat tires is a tiny yet powerful USB-rechargeable inflator. It can outperform many floor pumps but takes up a fraction of the space and weighs just 380g (13 ounces). And it's small and light enough to fit in a backpack.

The Fumpa pump can inflate six tires on one charge. It fills a standard road tire to 100 psi in 20 to 25 seconds, and has a maximum pressure of 120 psi. A calibrated digital gauge ensures proper inflation. The pump fits Presta or Schrader valves

via a flexible hose-mounted head.

If that model is too large, Fumpa offers the one-piece MiniFumpa, which fits in a jersey pocket and carries enough juice to inflate two tires. The MiniFumpa is about the size of two CO2 canisters.

At 190g it's only slightly heavier than the average pump, and is more economical than using canisters.

Another radical inflation option comes from **Messingschlager**. **HALL 2/1F/Q0117** Its M-Wave Elumatik electric minipump is small enough to fit in a backpack or pocket and can reach pressures of up to 100 psi.

Adjust the desired pressure on a digital display and the pump takes care of the rest, inflating the tire automatically up to the selected level. A lockable head fits every popular valve type. The Elumatik comes with adaptors for other products such as balls and air mattresses. A short, flexible hose reaches into tight spots.

The battery is USB-rechargeable. The M-Wave Elumatik complements Messingschlager's large range of conventional pumps, including the high-spec manometer-equipped Air Bullet floor pump.

Although you'll need to provide your own power, the latest pumps from Airace **HALL 2/4F/S0704** are among the smartest you'll find. Its Giyo Tubeless Floor pump is also

surprisingly slimline for a unit capable of seating tubeless tires. A switch on the robust metal head unit allows users to change between filling the tire or the pump's tank. Any accumulated pressure can then be used to pop the tire into place, before further inflating it as necessary. With a high-mount digital gauge, its accuracy in both tasks is assured.

Also from Airace is the very pretty, and exceptionally clever, HandyPro. Normally, when it comes to multi-tools, CO2 inflators combine with Allen Keys. But when you catch a flat tire on the road, all you really need is a tire lever and an inflator. Combining the two in a shiny and robust package, the HandyPro will get you up and running ASAP, without weighing down your jersey pocket or saddle pack.



Airace HandyPro

German accessories maker **SKS** **HALL 1/4F/LO611A** wants cyclists to give their arms a rest. Its stylish Airstep pump lets them use their legs instead to reach pressures exceeding 100 psi.

SKS created the Airstep's aluminum foot pedal in collaboration with fellow German company SQLab, a leader in performance-based ergonomics. The Airstep, which won a Taipei Cycle Design and Innovation award last year, is great for riders with limited mobility, or who just want to get their exercise by riding, not by pumping tires.

When the work is done, the hose coils neatly back into the unit, and the Airstep folds compactly. An integrated wall bracket ensures it takes up little space in the shop.

Beto **HALL 2/1F/Q0908** eliminates awkward levers with the EZ Head, a push-on speed head that can be operated with a single hand. One side is for Presta and the other side is for Schrader valves. Both work with a clip-on, clip-off motion.

The EZ Head uses either six or eight-fingered clamps around the valve for a secure, air-tight attachment. Beto offers the EZ Head as standard equipment on its top-end



SKS Airstep

Rapidfill Extreme and RapidAir T floor pumps, and as an optional retrofit for other models.

More traditional, but just as effective, is the CMP-172SG9 floor pump. It boasts an oversize four-inch gauge and a patented tri-valve pump head that fits Schrader, Presta, and Dunlop valves. The floor pump is 26 inches tall, with enough capacity to get the job done fast and with minimal effort.

Zéfal **HALL 1/4F/M0301** brings small and large versions of its Profil pump range to Taipei Cycle.

The Air Profil FC03 for road bikes easily achieves high pressures. Constructed of tough and light aluminum, it benefits from Zéfal's quick-fitting, screw-on Z-Turn system connector. The pump fits Presta or Schrader valves with a flexible hose that cuts the risk of valve damage.

Zéfal's classic-looking Profil Max FP60, which is still made in France, is a high-spec floor pump with a stylish wooden handle sourced from sustainable forests. It chang-



Beto EZ Head



Messingschlager M-Wave Elumatik

**Zéfal AirProfil**

es quickly between Presta and Schrader valves with the instant-fitting Z-Switch head. The base incorporates a large gauge with a magnifying lens.

Lezyne HALL 1/4F/L0315 is digitizing several of its innovative pumps. First up is the brand's Digital Shock Drive, a diminutive pump that produces not-so-diminutive pressures of up to 350 psi. A digital pressure gauge ensures accuracy.

An accurate gauge is of little use if the pump's chuck leaks air, so Lezyne uses a lossless system where the chuck unscrews after the shock's valve pin has resealed. This means no air escapes, and the reading on the gauge will always match what's in the tank.

Far larger, but just as smart, the Digital Pressure Overdrive is a floor pump with a secondary chamber to help seat tubeless tires.

The secondary chamber is manually pressurized with the pump's regular mechanism. A stainless steel, foot-activated lever then releases a steady stream of air that will pop even the toughest tires onto the rim.

Of course, it also functions as a conventional pump and benefits from a robust construction of aluminum and steel, an extra-long, nylon-reinforced hose, and a digital pressure gauge that gives the pump its name.

With the Tubibooster, **Topeak HALL 1/4F/M0711** also wants to help get those pesky tubeless tires into position.

The Tubibooster stores pressure generated by a regular pump, then releases it as if it were coming from a compressor. The robust aluminum air chamber holds one liter of air at up to 200 psi.

A familiar Presta and Schrader head is attached to a flexible hose, so the Tubibooster fits the bike just like a standard floor pump.

Once the stored pressure is released, the Tubibooster can be

used as a regular floor pump to finish inflating the tire to the desired pressure.

Also new from Topeak is the Airbooster, which the company says is the first CO2 inflator with an integrated pressure gauge. Its angled head fits Presta and Schrader valves, and a special feature lets users adjust the flow while filling the tire.

**Topeak Airbooster**

Finally, **Lifu HALL 2/1F/P0724** brings two new floor pumps to the show under its Icetoolz brand.

The A451 Sport Steel Floor Pump is tough and economical. With a quick release twin-valve thumb lock lever, the pump connects securely to Presta, Schrader, or Dunlop valves.

For cyclists who need more pressure — or style — the A652 Extreme High-Pressure Floor Pump is pretty to look at and a pleasure to use. The pump generates pressures of up to 260 psi, and an innovative single aperture valve accommodates Schrader, Presta and Dunlop fittings.

Its three-inch gauge, buried in the base for protection, is large enough so it's always readable. And with a sleek aluminum body and cast metal base, it's so stylish that it doesn't need to be hidden away.

■ Joe Delves

**Lezyne Digital Shock Drive****Icetoolz A652 Extreme High-Pressure Floor Pump**

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Adapt to 6V-36V
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JY-7078EL

Bicycle Front Light For E-bike
Adapt to 6V-48V

JY-529C

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With Stand light
Adapt to 6V/2.4W or 6V/3W

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JY-397

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PEER INTO CYCLING'S FUTURE AT THE TAIPEI CYCLE FORUM, STARTING TODAY

Join your colleagues from the global bicycle industry to discuss the future of cycling at the Taipei Cycle Forum, which runs today and tomorrow.

Taipei Cycle is again bringing in experts from around the world for the forum. This year's theme is "Strategizing for the future of cycling."

Registration opens at 8:30 a.m. today, and the forum starts at 9 a.m., in Room 401 of Nangang Hall 1. Admission at the door is NT\$1,000 per session.

This year's forum is divided into four sessions, two on each day. Here are the topics and speakers for this year's forum:



Susanne Brusch

Henry Chang is co-founder and design director of Gearlab, an industrial design office in Taipei that focuses on outdoor design, sustainable products and consumables. The Gearlab name is also a brand for cycling and paddle sports products. Chang and Gearlab have won several iF, Red Dot, and G-Mark awards, along with Golden Pin Design Awards, for products including the Espresso urban bike.

Session B: Cycling Culture. With experts from the Netherlands, the United States, and Taiwan, this cross-continental session should



Henry Chang

spark discussions on the many opportunities ahead for the international cycling industry.

Speakers include Jan van Zanen, mayor of the City of Utrecht, the Netherlands. Mayor since 2014, van Zanen is also chairman of the Association of Netherlands Municipalities. He was previously mayor of the city of Amstelveen from 2005 to 2013. Van Zanen is a member of the People's Party for Freedom and Democracy (VVD) and served as national party chairman from 2003 to 2008.

Rich Conroy is education director of Bike New York, a cycling advocacy group in New York City, and winner of the 2018 "Educator of the Year" award from the League of American Bicyclists. He holds master's and doctorate degrees from the Univ. of Notre Dame, and once worked in a bike shop.

Vicky Yang is CEO of the Cycling Lifestyle Foundation and spokesperson for the YouBike bikeshare system in Taiwan. She has worked to promote cycling in Taiwan since 2008, including organizing the 2011 Parade of Bicycles, which won a Guinness World Record by helping

encourage the use of cycling for daily transportation. She designed and implemented the YouBike system, which helped Taipei become the first Asian city to host the Velo-City conference in 2016.

Session C: E-bike Trends. With e-bikes taking the world by storm, this session offers insights into what's next in e-mobility, and how the industry can benefit from future developments.



Richard Conroy

Speakers include Susanne Brusch, CEO of Pedelec Adventures. She is a journalist and globally recognized expert in the field of electric bikes — and is credited for coining the term "pedelec." She founded Pedelec Adventures in 2011 to organize and lead long-distance adventure tours on e-bikes across deserts, mountains and snow to demonstrate their capabilities.

Marian Baukrowitz is research director at 4C Consumer Insight GmbH, where he helps provide the knowledge that companies need to make good decisions. Baukrowitz believes that successful business projects need more than data and analysis, but must also take into account the visions and the hearts and minds of the people involved.

Manuel Marsilio, general manager of the Confederation of the European Bicycle Industry (CONEBI), will also join the conversation. CONEBI is the organization that represents bicycle manufacturers in the European Union.

Session D: Future City. Enjoy an interdisciplinary session with Morten Kabell, the former mayor of technical and environmental affairs



Morten Kabell

of Copenhagen, the world's most bike-friendly city; Shyue-tair Chen, commissioner of the Department of Transportation for Taipei; and Kevin Mayne, CEO of Cycling Industries Europe.

Kabell is CEO of Copenhagenize Design Co. and a member of the board of advisors of the Ross Center for Sustainable Cities at the World Research Institute. He has been a longtime advocate of building sustainable and resilient cities through cycling, green transport and "life-sized" cities. ■

TAIPEI CYCLE FORUM

Thursday - Friday, March 28-29

Room 401, Nangang Hall 1

Thursday, March 28

Session A: Bicycle Design

8:30 - 9 a.m.: Registration
9 - 9:10 a.m.: Opening Remarks
9:10 - 12 noon: Design Excellence in the Cycling Industry

Speakers:

- Mark Sanders, director, MAS Design Products
- Stephan Esser, Constructing CAD, SQLab
- Henry Chang, co-founder and design director, Gearlab

Session B: Cycling Culture

1:30 - 2 p.m. Registration
2 - 5 p.m. Trends in Cycling Culture

Speakers:

- Jan van Zanen, mayor, City of Utrecht, the Netherlands
- Rich Conroy, director of education, Bike New York
- Vicky Yang, CEO of Cycling Lifestyle Foundation

Friday, March 29

Session C: E-bike Trends

8:30 - 9 a.m. Registration
9 a.m. - 12 noon: The Most Exciting E-bike Trends

Speakers:

- Susanne Brusch, CEO, Pedelec Adventures
- Marian Baukrowitz, research director, 4C Consumer Insight
- Manuel Marsilio, general manager, the Confederation of the European Bicycle Industry (CONEBI)

Session D: Future City

1:30 - 2 p.m. Registration
2 - 5 p.m. Cycling in the Cities of the Future

Speakers:

- Morten Kabell, CEO, Copenhagenize Design Company
- Shyue-tair Chen, commissioner of the Department of Transportation for the Taipei City Government
- Kevin Mayne, CEO, Cycling Industries Europe

Cost:

NT\$1,000 per session at the door



Jan van Zanen

Session A: Bicycle Design. Winners of the Red Dot and iF Design Awards and the Taipei Cycle d&i Awards will discuss design excellence in the cycling industry.

Speakers include Mark Sanders, director of MAS Design Products, who has invented several award-winning bicycles including the Ming Strida; the Pacific Cycles iF Mode; the Mando Footloose; and the Sinclair Research X-Bike. He has designed many other sport, medical and kitchen products, many of which sell globally in the millions.

Stephan Esser has spent more than 25 years in the bicycle industry, including a stint as an engineer for Derby Cycle Werke. He now runs a product design company for cycling and related products and has worked on projects from mountain and road bikes to children's, transportation electric cargo and folding bikes. Since 2016 Esser has been with SQLab, which makes ergonomic saddles, grips, handlebars and other cycling products.

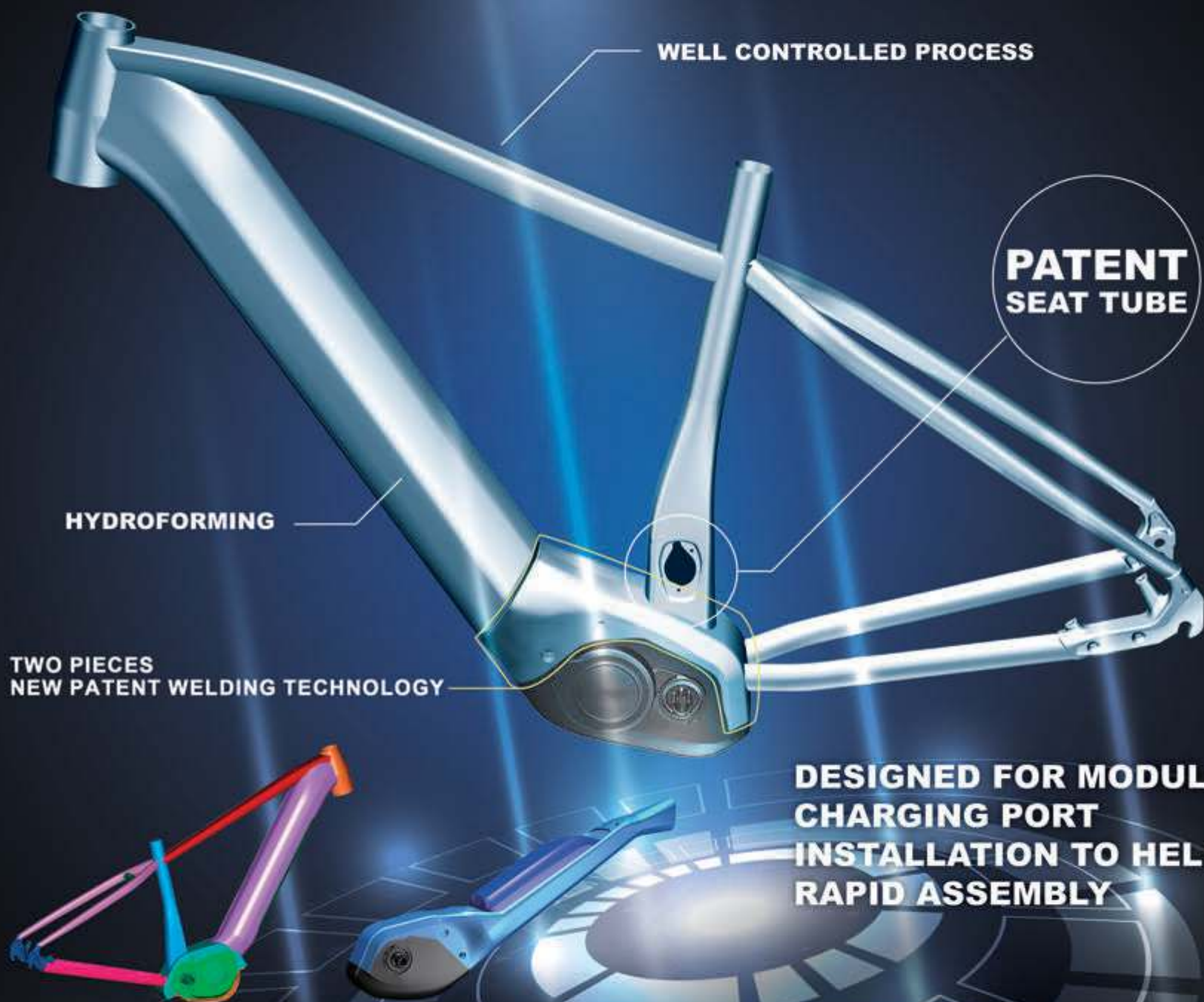


Vicky Yang

WORLD-LEADING INNOVATION



As e-bikes get more sophisticated,
So do hydroformed parts from A-FORGE



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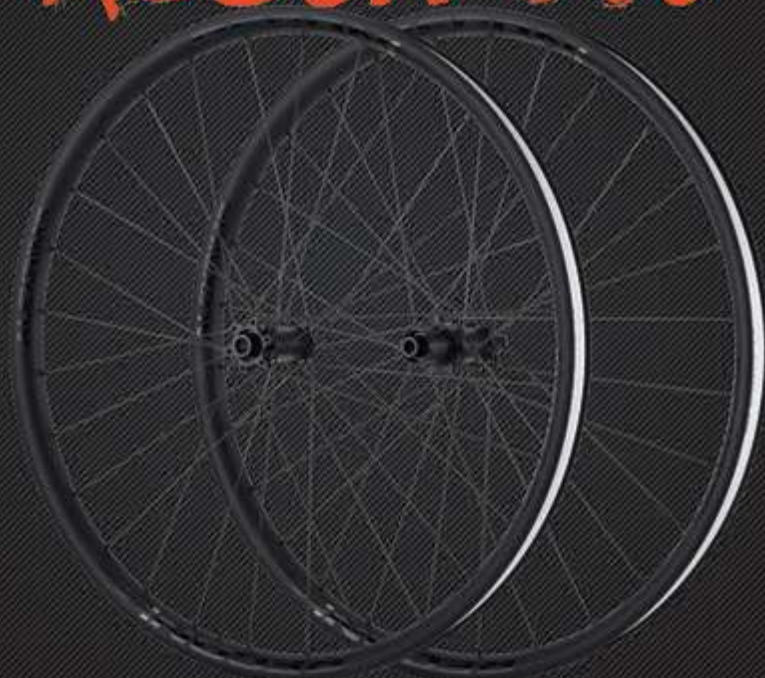
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RECON 3.0



ALEXRIMS PRESENTS THE LATEST IN OFFROAD PERFORMANCE AND VALUE. RECON 3.0 IS AN UNCOMPROMISING ENDURO AND ALL MOUNTAIN WHEELSET FOR THE MOST DEMANDING RIDING. A TUBELESS-READY FULL CARBON RIM IS LACED TO HUBS OF OUR OWN DESIGN USING BLADED STRAIGHT PULL SPOKES. THE HUBS ARE DESIGNED AND MANUFACTURED BY OUR OWN PORTFOLIO COMPANY, BEAR PAWLS AND FEATURE BOOST SPACING AND TOOL-FREE SERVICEABILITY WITH ARCHITECTURE THAT IS LIGHTWEIGHT YET OPTIMIZED FOR DURABILITY. RECON 3.0 WHEELS ARE AVAILABLE IN 27.5" OR 29" DIAMETERS WEIGHING 1,604G/PAIR AND 1,706G/PAIR RESPECTIVELY.

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NEW PRODUCTS

KIND SHOCK

DROPPER REMOTES

Now available for Matchmaker, i-Spec II, i-Spec EV or traditional clamps, Kind Shock's Southpaw dropper remotes for 1x systems have been redesigned to fit virtually every application. Additionally, an ergonomically correct drop-bar remote has been developed to fit with nearly all road, gravel and CX multi-control levers. This KG Drop model is sleek, simple, and accessible from the hoods or drops without compromising grip. Finally, Westy is KS's latest budget-friendly alloy dedicated 1x remote. **HALL 2/1F/Q0702**



NECO

10 HEADSET

The Neco 10 threaded headset from Neco Technology has a special feature: The cyclist can quickly lock it in place to prevent the fork and handlebars from unintentionally turning when the bike is parked. Locking the headset is a simple one-step process, as is returning to normal functionality when the user is ready to ride again. **HALL 2/4F/S0917**



OTRAJET

NEXO 700x40C AIRLESS TIRE

With new sizes to fit more wheels, Nexo's airless tires have been adapted to meet the unique demands of electric bikes. With a stronger structure and materials, the loading limit has been increased by a third, as has the product's lifespan. Ideally suited to the increased stresses created by e-bikes, they retain the same puncture-free features as Nexo's standard tires. **HALL 2/4F/S0902**



MICHELIN E-WILD

Made for e-bikes, the E-Wild Front E-GumX will take riders anywhere thanks to new rubber compounds for optimal grip, and a tread pattern from Michelin's enduro ranges for better traction. Gravity Shield casing from enduro reduces the risk of flats. The inner layer and central rubber improves performance and rolling strength while reducing energy consumption. The E-Wild Rear E-Gum X optimizes grip even on climbs. A new generation of top-of-the-line compounds adds rolling strength and reduces energy consumption. **HALL 1/4F/M0106**



MERCURY CYCLING X-SERIES WHEELS

With twice the tensile strength of high-modulus carbon fiber, the Fiber-X material in X-Series wheels delivers a trail-tuned ride that's durable enough to withstand a double impact of 120 joules at the same location. Trapezoidal rim profiles dissipate impact energy. Internal widths range from 25mm to 40mm. Mercury's proprietary Axis straight-pull hub features triple stepped pawls to deliver 3.5 degrees of engagement. **HALL 1/4F/L0001**



KMC

X12 CHAIN

Twelve-speed drivetrains have seen cassettes explode in size. Their maximum number of teeth has increased while at the same time the space between each sprocket has shrunk. To meet these challenges, KMC came up with a redesigned link using four asymmetrical and intelligently beveled chamfers. Together with the proprietary internal double X Bridge system, the result is a chain that loads and unloads smoothly and safely, and provides better shifting. **HALL 2/1F/P0114**



NEW PRODUCTS

WELLGO

CUSTOM ECONOMIC CNC PEDAL

Wellgo's custom economic CNC pedal has a one-piece aluminum body for strength and a longer lifespan. The replaceable pin design provides traction and stability for more stable riding, while a sealed DU bearing prevents dust from entering the pedal. It is available in a variety of styles and bright anodized colors to match your bike.

HALL 2/1F/Q0124



SUN RACE RDMZ900 DERAILLEUR

This new 12-speed rear derailleur has improved shifting stability and wide frame compatibility. An adjustable chain stabilizer reduces chain bounce on rugged roads. A new cage fixing mechanism permits fast and easy wheel and chain installation and removal. The forged aluminum alloy body is light and strong, and the A7075 guide wheels better resist wear.

HALL 2/1F/P1014



WELDTITE TUBELESS CONVERSION SYSTEM

Comprising rim tape, sealant, valve stems, levers, and easy-fit mounting gel to help seat recalcitrant tire beads, Weldtite's Tubeless Conversion System has everything you need to get set up. Because ditching the tubes saves weight and cuts down on punctures, this kit makes doing so as simple as possible. It's part of an expanding line from Weldtite that includes lubricants, cleaners, and tools.

HALL 1/4F/L0330



AVERLOGIC TECHNOLOGIES CYQLO

Got too many devices cluttering up the bike? CYQLO combines seven accessories into one: navigation, cycle computer, camera, anti-theft notifications, front light, bell, and fitness assistant. CYQLO is designed to make your ride easier, safer and smarter. The CYQLO app connects to a smartphone so riders can plan routes, add waypoints, evaluate their performance, share their rides and pictures with friends, and more.

HALL 1/4F/N0914



CROPS K4 FOLDING LOCK

Designed for compact and neat storage, this new Crops folding lock (K4-FD60B-01) uses Crops' original K4 head cylinder, with steel folding links. The lock has a universal bracket which can be fixed onto the seatpost or any round tubing (maximum diameter 50mm).

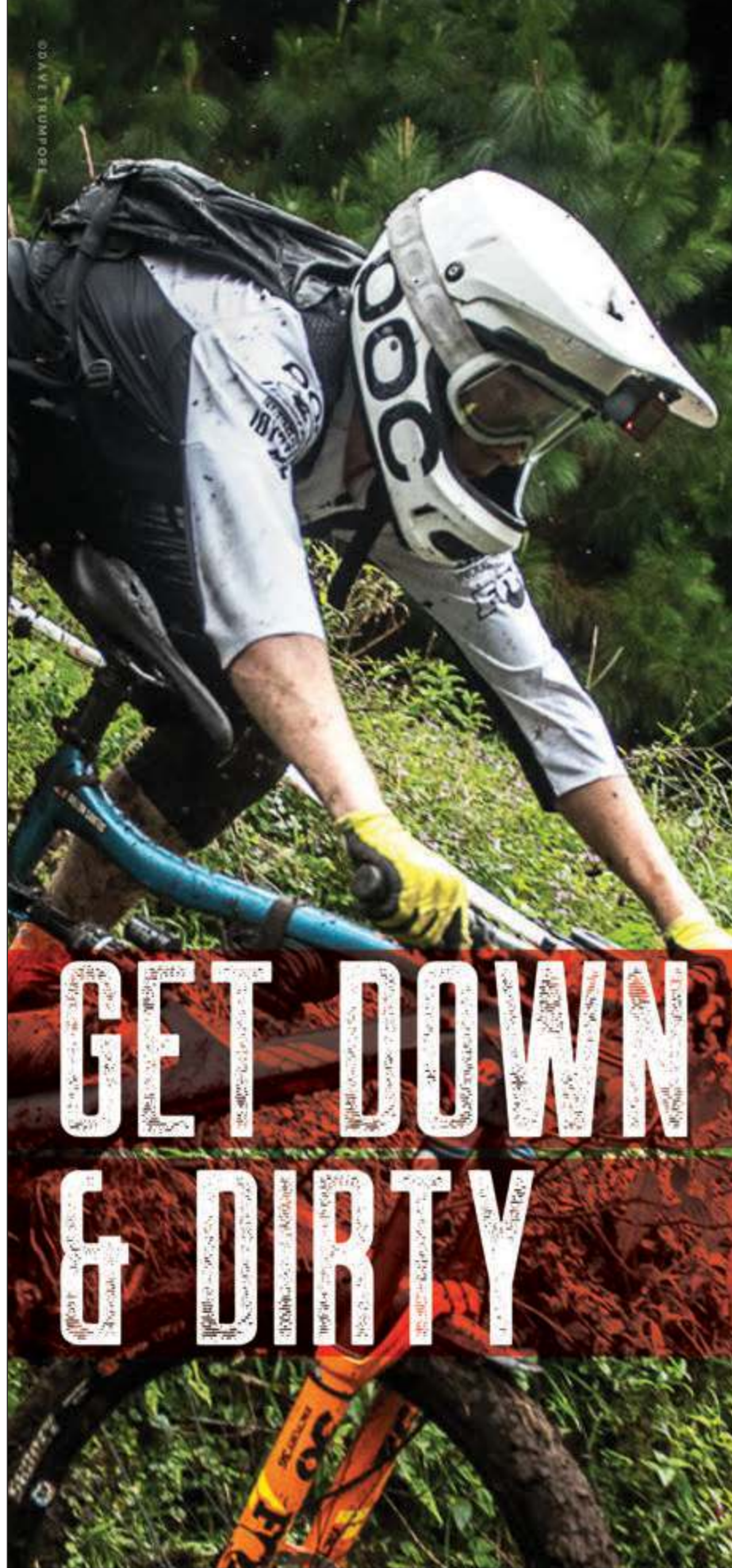
HALL 1/4F/L1018



AIRACE HANDYPRO

Normally, when it comes to multi-tools, CO2 inflators combine with Allen Keys. But when you catch a flat tire on the road, all you really need is a tire lever and an inflator. Combining the two in a shiny and robust package, the HandyPro will get you up and running ASAP, without weighing down your jersey pocket or saddle pack.

HALL 2/4F/S0704



KSS

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BOOTH #Q0702

NEW PRODUCTS

ALEXRIMS BEAR PAWLS BEB004 HUB



The BEB004 hub handles the increased power and torque requirements of e-bikes. The Power Stroke Technology design uses a hardened steel cassette body mated to a semi-high flanged hub shell, for wider spoke angles and a stronger wheel. It's designed exclusively for disc brakes with a traditional 6-bolt rotor mounting pattern. Four sealed cartridge bearings are spaced to distribute internal forces while maintaining high rolling efficiency. **HALL 2/1F/Q0714**

OTRAJET NEXO 26x1.75 AIRLESS TIRE

Made for the riding requirements of e-bikes, Nexa's recently released series of airless tires features a stronger structure and materials. The loading limit of the new tire has been increased by 30 percent, and its durability is also improved. Available in sizes to fit everything from diminutive folders to full-size adult bikes, these tires still possess Nexa's standard puncture and inflation-free performance. **HALL 2/4F/S0902**



HAFNY HF-MR088 HANDLEBAR MIRROR

The HF-MR088 handlebar bike mirror watches your back with a variety of lenses for different conditions. An unbreakable stainless steel lens is recommended for commuters, while the HD automotive grade glass lens is made with high-speed e-bikes in mind. Finally, an anti-glare blue lens is for anyone riding in sunny conditions. Surrounded by durable fiber-reinforced nylon, its new clamp is designed to fit mountain bike-style handlebars. **HALL 2/4F/R0901A**



MESSINGSCHLAGER M-WAVE ELUMATIK

No more exhausting and tedious pumping using a mini pump. This electric alternative can reach a pressure of up to 100 psi and is suitable for all common valve types. Small enough to fit in a backpack, its battery is charged via a USB cable. And it comes with a ball needle and air mattress adapter to take the hassle out of inflating those as well. **HALL 2/1F/Q0117**



VELO SADDLES

Velo has launched an extensive range of saddles so riders can hop on and try the latest short saddle trend. These shorter options boost performance, and thanks to new production methods, also boast improved aesthetics. By eliminating stapling, the new designs are more waterproof. **HALL 2/1F/Q0614**



FUMPA PUMPS MINIFUMPA

The miniFumpa is a USB-rechargeable, miniature electric bike pump that's a great alternative to CO2 canisters and minipumps. Weighing 190g and about the size of two CO2 canisters, it'll fill a pair of tires on a single charge and can reach pressures of 120psi. Optimized for portability and ease of use, it'll fit in a saddle bag or jersey pocket. For Presta valves only. **HALL 1/4F/L1309**



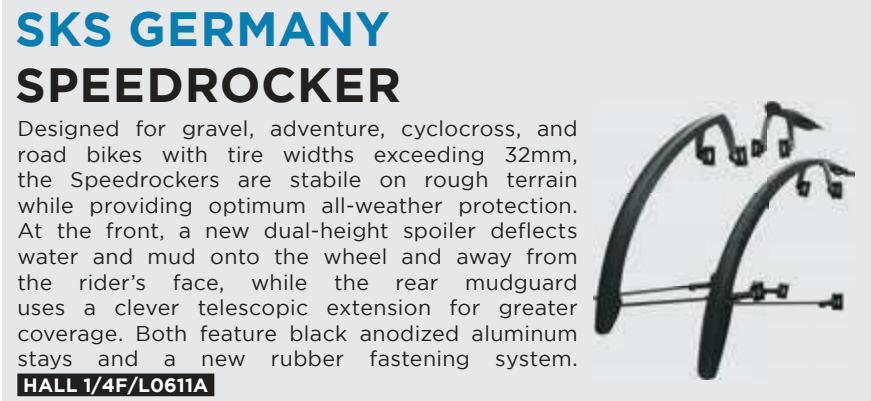
FLR SHOES F-XX ROAD SHOES

FLR says the F-XX, designed with input from winning World Tour riders, is one of the most comfortable pro racing shoes in the peloton. A supportive heel cup helps riders maintain the correct position and alignment during rotation. A soft tongue flexes for pain-free movement. Six ventilation windows provide airflow and cooling, while an ultra-stiff carbon outsole maximizes power transfer without creating hotspots. **HALL 1/4F/M1206**



SKS GERMANY SPEEDROCKER

Designed for gravel, adventure, cyclocross, and road bikes with tire widths exceeding 32mm, the Speedrockers are stable on rough terrain while providing optimum all-weather protection. At the front, a new dual-height spoiler deflects water and mud onto the wheel and away from the rider's face, while the rear mudguard uses a clever telescopic extension for greater coverage. Both feature black anodized aluminum stays and a new rubber fastening system. **HALL 1/4F/L0611A**



CHOSEN BOOST TC HU

This wideBoost-spec hub from Chosen benefits from the brand's Toothed Coupling design with a robust freehub mechanism that enhances power transmission. The system also has a longer service life. Used with direct-pull spokes that increase rigidity once the wheel is built, the hubs are the perfect starting point for a tough and efficient trail-riding wheelset. **HALL 2/4F/R0114**



ROTOR 1x13 GROUPSET

Although traditional 2x11 groupsets have 22 theoretical gears, the effective range is actually just 14 because of overlapping chainring and sprocket combinations. To access these 14 gears in the correct order, multiple front derailleur shifts are required. By comparison, Rotor's 1x13 groupset offers 13 unique and sequential gears without the risk of mis-shifting. **HALL 1/4F/L0106**



NEW PRODUCTS

BAFANG ELECTRIC (SUZHOU) M500

The M500 is a powerful mid-drive motor for electric mountain bikes. Its nominal power rating of 250W meets EU requirements, but its impressive 95Nm of torque leaves competitors behind. Other advantages include a motor weight of 3.3kg, an ISIS bottom bracket that works with premium cranksets, and an inTube battery pack (450 or 600Wh) integrated into the downtube. **HALL 1/4F/M0409**



ITM COMPONENTS

ITM50 HANDLEBAR

The stealthy, aerodynamic ITM50 integrated carbon fiber stem and handlebar features an elegant design with built-in support for cycle computers. An ergonomic shape and anti-slip grip texture on the upper part of the bar keeps riders comfortable. **HALL 1/4F/M0318**



KMC DLC COLOR CHAINS

The DLC chain is durable, scratch-resistant, and smooth-shifting, while also protecting key drivetrain parts because of reduced friction. The chain is meticulously coated with titanium nitride, a process used to make precision engineering equipment. Double X Bridge technology makes the chain lighter and stronger, and smart beveled chamfers enhance chain operation. It's the chain of choice for professional teams and riders. **HALL 2/1F/P0114**



MESSINGSCHLAGER M-WAVE SPY SPACE BICYCLE MIRROR

With the Spy Space mirror, cyclists on conventional and electric bikes always have a clear view of traffic. This rear view mirror reduces the potential for accidents by letting the rider's eyes stay focused on the road ahead. It adjusts in three dimensions and mounts on the left or right. Glare-free, impact-resistant glass offers a good field of vision. **HALL 2/1F/Q0117**



FULL SPEED AHEAD K-WING AGX HANDLEBAR

Made for all-road, gravel, or adventure, the K-Wing AGX handlebar has full carbon construction with sculpted contact points for the hoods and drops providing enhanced ergonomics. Its 10-degree forward angle allows for a more natural wrist position and wider elbow stance for easier breathing when riding on the tops. On the drops, its 25mm flared design offers better off-road control and clearance when descending. **HALL 1/4F/M1213**



SPANNINGA PIMENTO BRAKE LIGHT

The popular Pimento unit gains an additional brake-light function. Standard on cars and speed pedelecs, brake lights can be tricky to fit to regular bikes or e-bikes. The Pimento Brake provides greater safety in all lighting and weather conditions. Providing a four Candela output in standard use, it increases up to 40 Candela when the brakes are activated. **HALL 1/4F/M0310**



CHIRU BIKES KUNLUN



Designed to race the 7th edition of the TCR in 2019, Chiru presents its Kunlun endurance road bike that is inspired by the Kunlun mountains, home of the Chiru (Tibetan antelope). Using the highest quality grade of titanium combined with haute-couture craftsmanship, the Kunlun comes with a lifetime welding warranty. The 7.8kg Kunlun maximizes vertical compliance thanks to the stay-specific design and CNC-machined drop-out for torsional rigidity. **HALL 1/4F/L1125**

BETO QIKFIX SUPREME

This 18-in-1 multitool is all a cyclist needs to get up and running after mechanical problems. It includes an auto-centering chain cutter with a unique retention system. With plenty of leverage from its long handle, it's a far nicer prospect than those found on most multi-tools. There's also a CO2 inflator and all other necessary tools including Allen keys, Torx keys, screwdrivers, a 10mm wrench, and numerous spoke keys. **HALL 2/1F/Q0908**



RELIC STEM CAGE HOLDER

Simple, lightweight, affordable, and easy to install, Relic's Stem Cage Holder is an easy way to add extra carrying capacity to a bike. Its alloy construction exerts a solid grip on any standard-sized bottle so there's no danger of your drink bouncing out. The design should appeal to e-bike owners whose machines lack regular mounting points. **HALL 2/4F/S0428**



RIDEA SMP2 POWER METER

Ridea's new SMP2 power meter offers a reliable and accurate power measurement spider unit and is the perfect companion for Ridea cranks and Powerings. Available with a BCD of 110, 130/94 or 144 mm, the SMP2 allows riders to configure the perfect crankset for the cycling discipline of their choice. **HALL 2/4F/S0334**



台湾はEバイクを生産すれど消費せず



「台湾ではEバイクの価格は150ccのスクーターよりも高い。だからみんな代わりにスクーターを買う方を選ぶ」 Astro EngineeringのTony Hung氏

台湾・台中発 --- 台湾の自転車業界は電動自転車から恩恵を授かっている。高額なEバイクの輸出が急角度で上昇しており台湾は世界の生産およびR&Dの中心地としての名声を高めている——それは単に自転車に対してだけでなくEバイクへの装着が増えているバッテリーやソフトウェアその他の電子コンポーネントに対する評価の高まりでもある。

しかしここ台湾ではペデレックをはじめとするEバイクが街中や自転車店で見かけることがほとんどない。実際のところEバイクは法的グレイゾーンに在って政府によるきちんとした規格や基準が設けられていないのが現状だ。

それはまるでスイッチが切られた状態であるかのように思われるが、かつて熱を帯びたロードバイクの販売が冷めて台湾国内の自転車市場がスランプに陥っている状況にあってはなおさらである。だが台湾の自転車メーカーは昨年高額で利幅の高いEバイクの輸出で過去最高を記録した。Eバイクの輸出は2018年の最初の9ヵ月を通じて台数・金額ともおよそ50%増加し平均単価は1378ドルを記録した。

問題はEバイクに対する政府の無関心さとモータースクーターの多さにある、との声が台湾の自転車業界からは聞こえる。

ハイエンドのEバイク用中央装着型モーターシステムの生産で世界をリードするBoschを例にとると、数千台というBoschシステム装着のEバイクが台湾で作られ世界各国に出荷されている。

しかしBoschは現時点ではEバイクを台湾国内市場に供給することに関心はないと同社アジア・太平洋事業部のDavid Howard（デヴィッド・ハワード）事業部長は言う。「この方針の変更には政府の参加が必要だがそれはまだ起こっていない」と。

そこでBoschをはじめとするメーカーはモーターとその他Eバイク用コン

ポーを台湾国内の免税倉庫専用に取り込みそこで装着されてEバイクを完成させるとそこから台湾国外へと出荷させている。

「台湾にはEバイクもなければペデレックの規格もなく販売する市場もない。消費者の需要がなく、あるのは多くの障壁——ここで明白に示されているのは台湾はEバイク・ペデレックにとって興味ある市場ではないということ」とハワード部長は話す。「だから市場に参入して販売やサービス、保障処理をサポートする計画は持っていない。当社がサポートするのは輸出しているアSEMBラーでありOEMメーカーである」

ひとつのハードルとしてハワード部長その他の人たちが指摘するのが台湾の街を走るモータースクーターの圧倒的な数だ。この島国は恐らく他のどの国よりも人口一人当たりのスクーターへ

の集中度が最も高いことで知られる。

政府による奨励策の後押しを受けて台湾のスクーター業界は、Gogoroブランドのように、騒音と汚染をもたらす内燃機関を切り捨て電動スクーターへと移行させている。台湾ではスクーターはヨーロッパのペデレックに比べてしばしば安く済み、しかもEバイクよりも脚を保護できる収納スペースは余分に取る。

「台湾ではEバイク1台の値段が150ccのスクーターよりも高いので代わりにスクーターの方を選ぶ」と今回の3日間にわたる台中バイクショップEバイクツアーに同行してくれたAstro EngineeringのTony Hung（トニー・ハング）氏は言う。「バイクショップがEバイクを広めるイベントを開いてくれればと思う。そうすればEバイクが単に移動手段だけのものでないことがわかってもらえるはず」と。

混乱が支配。台湾の自転車メーカーはEバイクに対する政府の規定が仮に存在するとしてもそれに対する混乱と矛盾を指摘する。例えば、Eバイクは台湾の自転車専用道で走ってはいけないが、かといって車道を走っていいかということこれははっきりしない。こうした不明確さは小さな事柄にまで及ぶ。

Ternの親会社Mobility HoldingsのJoshua Hon（ジョシュア・ホン）マネジングディレクターはひとつの例として多くのEバイクシステムに付いてい

る“walk assist”（歩行アシスト）機能を挙げた。（walk assistはライダーが自転車を降りて低速の電動アシストの助けを借りてEバイクを押して歩くためのアシスト）

同社が台湾でEバイクを販売するにあたって合法性を調べたところ矛盾する説明を受けた。「政府のひとつの機関に話すと緑の信号（ゴーサイン）を照らしてくれたが、別の機関で話を聞くと赤の信号（ストップ）を出された。BoschやShimanoといったドライブシステムの有力サプライヤーに距離を置かせているわけがここにある」とHon氏は話す。「こうしたトップのサプライヤーに台湾市場でわずかな台数を販売するためにWalk Assist機能を外すように頼んだら笑われてしまう」

2018年に台湾政府はEバイク用バッテリーに費用の掛かる認証テストを義務化する新しい国内法を導入した。「なんでこんな法律が生まれたのかわからない」とHon氏は言う。「EUのペデレックに対する既存の規格を採り入れれば台湾は容易に国内市場を開くことができる」と。台湾のEバイクメーカーはすでに自転車をテストし厳しいEU規格の認証を受けなくてはならない。「そうすれば（EU規格を採用すれば）EU用にきちんと作られたバイクをそのまま国内市場に投入することも直ちに可能になる」と言う。

TernのMatthew Davis（マチュー・デイヴィス）営業部長は、規格がないことが急成長のEバイクセグメントで台湾の自転車メーカーの競争力を妨げる要因であると話す。

「健全なEバイクとペデレックの市場が欠落していることが台湾の自転車メーカーがEバイクブームのスタートに完全に乗り遅れた理由だと思う」とDavis部長は言う。「それが間接的に、とりわけ中国と欧州の各社が欧米のペデレックブームの恩恵を現在まで授か



台中のBESVEバイクショップのCraig Wang店長。BESV各店は台湾でEバイクを専門に扱う数少ない専門店だ。（写真：Jo Beckendorff）



Jo Beckendorf記者の3日間にわたる台中バイクショップを巡るEバイクツアーに参加してくれた台湾自転車業界の面々。残念ながら実際に乗った以外のEバイクを見かけることがほとんどなかった。途中台中のBrovo Coffee-Food-Bikeshopに立ち寄ったツアーメンバーの一部。左から：Cheer SportsのPaul Lee、Astro EngineeringのNeil HsiehとTony Hung、Bevato InternationalのMark HuangとPenny Chenの5氏。

る結果をもたらしているのは間違いない」

Eバイクに国内市場を開くことは台湾のサプライヤーに「製品に関する経験を持たせ、いかにしたら業界に参入できるかを考えさせることになるだろう」とDavis部長は付言する。

トライアルバルーン。台湾の二大メーカーGiant（巨大）とMerida（美利達）は中央装着型モーター搭載の高品質ペデレックを初めて地元台湾で売り出している。しかし両社ともそのための広告はほとんど行っていない。

台湾でEバイクの販売許可を取る

のに大きな費用が掛かる、とGiant InternationalのPhoebe Liu（フィービー・リユー）チーフブランドオフィサーは語る。「誰もそのため（認可取得のために）進んで手間とその上さらにコストを掛けようとはしない」市場の需要がしばらく停滞の見通しにある中ではなおさらで、「そのため多くのメーカーが国内でEバイク販売に乗り出すことをためらっている」と言う。

MeridaはともにShimanoの中央装着型ドライブ搭載の電動MTB 2モデルを台湾国内販売用に出しているが、これまでのところオンラインに限った供給

で同社の自転車販売店ネットワークを通じては供給していない。

「当社では現在、国内向けEバイクはインターネットを通じてだけの販売にしている。ユーザーはネットで注文し自ら選択するMeridaのディーラー店でバイクを受け取れる」とWilliam Jeng（ウィリアム・ジェング）副社長兼広報担当は話す。

「だからこれは我々にとってまだ当面トライアルバルーンということになる」とJeng副社長。欧州スタイルのペデレックは多くの台湾のユーザーにとってあまりに高額なため台湾のサイクリストに販売するに値しないものと言う。

台湾のコンピュータコンポ最大手Darfon ElectronicsのEバイクブランドBESVは自社ブランドのEバイクを扱う専門小売店を台湾に3店舗オープンさせている。

台中、台北、台南の3地域に開設した販売店はEバイクの健康面の利点にポイントを置いている。台中店のCraig Wang（クレイグ・ワン）店長は、保護者がとりわけBESVのEバイクに興味を持っていてと話し「電動のシティバイクにチャイルドシートと買物バスケットといった関連製品をプラスす

ると立派にスクーターの代わりができる」と言う。「とくに若いママさんが内燃式であれ電動式であれスクーターに実際に代わるものとしてペデレックをとらえているのは間違いない」

YouBikeの電動アシスト。台湾のサイクリストはこれから少なくともペデレックを試乗する機会を持てるだろう。Giantが運営するバイクシェアシステムYouBikeが今年第1四半期に新北市の同システム用シェアバイクとしてEバイク300台を追加する計画にあるからだ。同社ではほどなくシェアバイク用Eバイクの輸出も開始するという。

あくまで推測だが、もし試乗の機会が持てるなら台湾のサイクリストはペデレックを買おうという意欲が増してくるだろう。

Giantが台湾の人たちの自転車に対する態度を変えさせたのは初めてのことでないだろう。Giantは実質上台湾の自転車生産の現産業を造り上げたが、サイクリングは2007年まで趣味として特別人気のあるものではなかった――つまりその年創業者のKing Liu（劉金標）氏が台湾一周の自転車ツアーに乗り出すまでは。

Liu氏は当時73歳でそのツアーにメディアから大きな注目が集まった。Liu氏の台湾一周の自転車の旅が930kmのTour de Taiwanを普及させ国内のロードバイクの販売ブームに火をつける役目を果たしたのである。

しかし誰がEバイクのKing Liuになるのだろうか？

Booth P1014

SUNRACE
STURMEY
ARCHER

NEW
MTB 12-Speed series

Rear Derailleur

Trigger Shifter

Cassette

Chain

**Automatic
2-Speed**

Freewheel

A2

Disc Brake

A2K

Drum Brake

A2D

SUNRACE

総括：折り畳み自転車 続々と現れる折り畳み自転車の一群 すこぶる小型ながらすこぶるパワフル

折り畳み自転車は自転車設計する上で大きな挑戦を迫られるもののひとつである。折り畳んでコンパクトにする必要とフルサイズの自転車の走行性との間のバランスを取らなくてはならない。

折り畳み自転車は電動化に対する免疫がない一方、モーターやバッテリーを追加すると複雑さが増してしまう。電動アシストシステムのために追加される部品は折り畳み自転車の持ち運び易さを阻害しかねないが、電動折り畳み自転車はバッテリーをコンパクト化する技術によって可能な限りの軽量化も進んでいる。



Jivr

Jivr Hall 1 / 4F / L0130 の電動モデルJivrはこれまで見てきた中で最も素早く折り畳めるシステムのひとつを備えている。折り畳んでもなお車輪が楽に動かせると——これは折り畳み自転車にとってバッテリーとモーターで増えた重さを相殺するためにとりわけ欠かせない。

設計の残りの部分にも同様の工夫が凝らされている。ドライブトレインを完全に囲い込むユニークな片側チェーンステイを使うことでJivrはメンテナンスの手間を減らしライダーの服を汚れや思わぬ障害から護る。

また将来型スタイルの同モデルはデジタル連結性も特徴でユーザーはその機能の数々をスマートフォンでコントロールとモニタリングができる。最近のクラウドファンディングで本格的な関心を生んでいるJivrの次の生産モデルは250^{mm}のフロントハブモーターが特徴になるだろう。1回の充電で町を走り回るにはたっぷり十分の50kmの走行が可能だそう。

カーボン製で3ステップの折り畳みシステムを持つ**Chedech Hall 1 / 4F / L0405a** の新モデルは軽くてコンパ

クト。どれほど軽いのか？ShimanoのDura-Aceを装着したAirを選べばその軽さはなんと6.8kg。幾分すらり感の少ないWhiteとLandmarkの両モデルはSturmey Archerの5速内装ギアハブを使っている。

軽量化のためにすべてのモデルにカーボン製のハンドルバー、ステアリン



ChedechのAir

グアッセンブリー、フォーク、シートポスト並びにマッドガードを採り入れている。超軽量のAirにはそれに合わせたホイールセットが用意されているが、より実用タイプの5速モデルは丈夫なマルチスポークホイールを採用している。5速モデルはリアホイールをカバーする一体型のカーボン製フェンダーとライダーの体重と志向に合わせて調整できて快適性が得られるTPUサスペンションシステムが施されている。

Schwalbe、Shimano、Tektroのコンポでパッケージが完成しユーザーは専用リアラックが選べる。Chedechの各モデルは中間サイズの18吋ホイールを採用し折り畳みサイズ：71cm（縦）×35cm（幅）×60cm（高）なので市販で最もポータブルなバイクのひとつに入る。

フルサイズのハンドリングとコンパクトな運び易さを兼ね備えるモデルを追求して**Cosmos Hall 1 / 4F / N1208** は同社新モデルCo-Polarisに20吋ホイールを採用している。運び易さに与えるマイナス面との帳尻を合わせるため同社では極めて軽いカーボンファイバーを素材にしている。

Co-Polarisには22速ドライブトレインと油圧ディスクブレーキが収められ



Ternの折り畳んだ Vektron D8 モデル

ているがそれでも重さは9.5kg。日常の通勤用に楽々の小ささだが、フレームが堅牢でグループセットもフル機能なのでもっと長い距離を走るのにもいい相棒になる。

カーボン製シャシー（車台）とシートポストの流れるラインはレース用の外観も帯びる。Co-Polarisが旅の良き相棒なのはそれこそどこにでも行けるからで、飛行機もほとんどのエアラインで持ち込める。

アウトドアデモの会場では**Sport Mania International Hall 2 / 4F / S0602** がコンパクトな電動折り畳み自転車Vektron D8をはじめとするTernの製品レンジの試乗会を開いている。きっかり10秒で折り畳めるTernのVektron D8はBafangのM400 Drive Systemを装備しておりどんな通勤にも便利に使える。

頑丈でバンクに強いSchwalbeのBig Appleタイヤが窪みも割れたガラスも、そのほか悪路の通りでライダーを待ち受けるどんな障害も平然と乗り切ってくれる。その上、マッドガードが泥や



CosmosのCo-Polaris

水のはね返りからライダーを護り、リアラックが荷物を大事に護ってくれる。

Bafangの250^{mm}の中央装着型モーターは時速25km（EU）あるいは20マイル（32km、米国）の最大速度を生み出すのでフルサイズのハイブリッド同様の速さだがそれを搭載したVektron D8バイクはオフィスに収納したり電車に持ち運ぶのに十分な小ささである。

Lekuma Hall 1 / 4F / N0824 は大きな惑星を旅して回る小さな自転車を作っている。リチウムイオンバッテリーはフレーム内部に収められ航空会社の安全基準を満たしているためライダーと一緒に飛行できる。最新モデルのE-Goはホイールが10吋——折り畳み自転車で見られる最小クラス——なので



LekumaのE-Go



折り畳んだOyamaのCX E8D



OnipaxのR1



ZephyrのTromsø



HasaのHalo

折り畳みサイズも同様に小さく、バイクの重さも13kgに止まり邪魔にならない。

250Wのブラシレスモーターがパワーアシストする一方、一体型ライトがライダーの安全を護る。ともに多機能コントロールパネルを通じて作動できる。

もうひとつの電動モデルに**Zephyr Hall 1 / 4F / M1435**のTromsøがある。このモデルは一見するとバッテリーとモーターが搭載されているのが判別しにくい。リチウムイオンバッテリーはシートバッグに収められている。

Shimanoの7速システムTourneyがTromsøの20吋ホイールを駆動させ、堅牢なハンドルバーとステムをはじめとする他の標準パーツを装着する同モデルの走りはフルサイズの自転車のようだ。

バッテリーは取り外しが可能だが、装着しても自転車の重さは15.5kg。250Wのハブモーターとバッテリーでおよそ50kmの距離を走る。

KTM Hall 1 / 4F / M0802はずっとずっしりしていて電動折り畳み自転車のモンスターだがそれでも数秒でコンパクトに畳める。

20吋バイクの心臓部にスムーズに静かに作動するBoschのモーターActive Plusが収めてあり、500Whの大容量バッテリーPowerTubeがダウンチューブに一体化されている。

ShimanoのNexus 8速ハブがギアの幅を広げてくれ、ベルトドライブがメンテナンスの手間を減らしてくれる。サイズがずっと大きい自転車を走らせている感覚が味わえて、しかも低床フレームなので乗りやすい。

バッテリーは脱着式で自転車に装

着したままでも或いは取り外しても充電できる。油圧ディスクブレーキ、マッドガード、Busch & Müllerのライトさらに丈夫なリアキャリアを装着したMacina Foldはまさに折り畳み自転車のマシンだ。

Oyama Hall 1 / 4F / N0506の電動折り畳み自転車の最上級モデルCX E8D Series IIは同社人気モデルのひとつの最新バージョンで、トルクセンサー付の新しい350Wハブドライブモーターが走行を起動させ油圧ディスクブレーキが確実な停止を保証する。

折り畳み自転車に長い経験を有するOyamaは軽量のアルミ製フレームとShimanoの8速ギアシステム、SchwalbeのBig Appleタイヤさらにダブルウォールのアロイ製リムを使って強度と耐久性に優れるこの新モデルを造り出している。

同様に堅牢なのがCNCマシン製シートポスト、折り畳みステム、安全フレームラッチ（掛け金）で、そのい

れもが何年もの毎日の繰り返しの使用に耐える。リアラック、フェンダー、キックスタンドが装着されているがOyamaではさらにハンドルバーベルまで添えている。

折り畳み自転車のレンジを拡げて従来モデルに加えている**Hasa Hall 1 / 4F / N0416**はこのほど電動の折り畳み自転車を数モデル上市した。

そのひとつが同社の確立されたF1レンジの流れをくむHaloで、同モデルは36ボルトのバッテリーがリアホイールの上のラックに装着され、フロントハブモーターを動かしヘッドライトを作動させる。Shimanoの9速ディレーラがSagaの大きな53歯のWingfootチェーンリングと相性良く機能する。20吋ホイールはKendaのローリング性能に優れる1.5吋幅タイヤが装着される一方、Shimanoのメカニカルディスクブレーキがパワフルな力を発揮

しメンテナンスも楽だ。Haloはバッテリーを含めて重さ18kgなので必要とあれば手に提げて運べる。

自社ブランドによる自転車の生産に20年以上の経験を積む台湾の**Onipax Hall 2 / 1F / Q0933**は常に安全性と耐久性に重点を置いている。同社では3D鍛造技術を使って多くのより低コストのものよりも強度に優れる折り畳みジョイント（継ぎ手）を造り出している。

現在同社は電動アシストとベルトドライブ装着の自転車を開発しており、16吋ホイールのJ160からフルサイズの27.5吋ホイールのM27.5までのオプションレンジで提供していく計画だ。

際立つのは重さ11kgの20吋モデルR1で、同モデルはShimanoのグループセットTiagraと6061アルミフレームさらに同社内製の折り畳めて伸縮も自在なステムOPX5.1が一体となって特徴を構成している。20吋のR1はフルサイズの自転車を運ぶ面倒を省いて旅ができる自転車が欲しいというロードバイクのライダーにとっても十分なスピードが出せる。

最後に、もし自ら折り畳み自転車を造ることを考えているなら**M-Nova Hall 1 / 4F / M0501**が設計のコンサルタントサービスを提供してくれる。ブランドアイデンティティの創造からデカルのデザイン、さらにはコンポと形状の選択といった核心部分に至るまですべてM-Novaのチームはクライアントの考えを夢から現実へと導く手助けをしてくれる。M-Novaのチームは世界各国のショーに参加しているので最大の宣伝効果を図るためのイベントの開催企画も手伝ってくれる。



KTMのMacina Fold

NEW PRODUCTS

BAFANG ELECTRIC BAFANG M800

ロード、グラベル、都市型Eバイク用超コンパクトドライブシステム。フレーム一体型モーターは重さ2.3kg弱ながら最大トルク55Nmで200%の出力があり上り坂や加速時に最適。ディスプレイ、リモートシフターおよび200WhのinTubeバッテリーを備えたフルシステムでも4.4kg弱の軽さだ。トレーニングでスピードランしている友人の後を追ったりアップヒルに行くのに後押しが必要なアマチュアサイクリストにとっては究極のドライブシステムだろう。加えて、限界速度を超えてライダー自身がペダリングに努めることに影響を与えない。25km/h (EU)、32km/h (米国) および45km/h (高速ペデレック)の各速度制限に対応できる。 **M0409**



ARKIETECH TUBING



原材料を米国から調達してArkiotechはステンレススチールや空気焼き入れクロモリをはじめとするアロイチューブを専門に生産する。精巧な絞り技術によって同社の製品は常に必要とされる許容差を満たすとともに標準を上回る素材性能を引き出している。絞り、成型、かしめ、ハイドロフォームを通じて航空宇宙技術採用のKVA MS3と軍用スペックのクロモリ製Velospecは軽量にして高い張力を発揮する。 **Hall 2 / 4F / R1323**

ZEFAL ESPION Z56 MIRROR

レジャーや高速Eバイク用のこのミラーは自転車用として最大級のもので、ハイテク素材を使ったシステムの耐震動性の強さがミラーの安定性とサイクリストの視界を高めるとともに、レンズは割れにくいABSクロム素材に装着されているので転倒しても安全に護られる。 **Hall 1 / 4F / M0301**



LIMAR AIR PRO CARBON CORETECH

カーボンと発泡ポリスチレンの特性を組み合わせ、Limarは耐衝撃性に優れしかも厚みを最小限に抑えたヘルメットコアを開発した。この素材を二つの翼をもつ構造の形に作り上げそれをシェルのサイドリブと合体させることで安全性とエアロダイナミック性を高めた高性能ケースを造り上げた。素材自体が構造上に占める比率を減らすことで循環の良さも高められている。 **Hall 1 / 4F / L0118**



CHEDECH AIR MODEL FOLDING BIKE

Tour de Franceのレーシングバイクと同じ重さの折り畳み自転車？重さ6.8kgのChedech Airは同ブランド最軽量のフォールディングバイクで、すべてのモデル同様主要フレームコンボのすべてにカーボンファイバーを使っているが、シングルスピードドライブとShimanoの高性能Dura-Aceコンボでさらなる軽量化が図られた。ハンドリングとコンパクトな折り畳みのバランスをとるため中間サイズの18吋ホイールを使っているの折り畳みサイズも等しく最小サイズだ。 **Hall 1 / 4F / L0405a**



GPS TUNER RANGER EMOBILITY APP

電動自転車や電動スクーター、電動スケートボードのキャパシティを上げたeMobility Appは最も重要な機能のすべてを備えるとともにそれらの機能をクリーンで直感的なインターフェースを通じてアクセスできるようにしてくれる。乗っているもののレンジの視覚化を助けるとともにルーティングにはターンバイターンの音声ガイダンスも流してくれる。走行記録を残すこともできるし診断機能を活用して自身のLEVの健康状態をチェックしたりワイヤレスでファームウェアの更新もできる。 **Hall 1 / 4F / L1226**



FULL SPEED AHEAD KFX LIGHT DIRECT MOUNT BB392EVO MODULAR CRANKSET



FSAの軽量アルミ製モジュラーMTB用クランクの新モデルは鍛造してから精密CNCマシンにかける。先端の接着技術により剛性を高めつつ軽量化が図られている。ギアのすべてのニーズに対応するためシングルとダブルのチェーンリングを用意。FSAのMegaTooth 1xチェーンリングとのペアで過酷な状況下で最大の性能を発揮させることも可能だ。 **HALL 1 / 4F / M1212-3**

HYC TAIWAN LFT - LONG CARBON FIBER REINFORCED THERMOPLASTIC COMPOSITES



リサイクル可能なカーボンファイバーLong Carbon Fiber Reinforced Thermoplastic Compositesはカーボンファイバーと熱可塑性樹脂をペレット（小球）に結合させたものでリサイクルと繰り返しの製造が可能だ。様々な軽量形状物を形作ることが可能なのでレイドアップするかわりに射出成型することができる。そのため生産工程が速められるとともにコストとエネルギーの節約ができしかも製品の環境安全性も高められる。 **Hall 2 / 4F / R1313**

BAFANG ELECTRIC (SUZHOU) BAFANG BT F07 / F08

軽量Eバイクフレームに半一体化できる新バッテリー。Bafangでは新たに2モデルを導入してEバイク用バッテリーの製品ラインを拡大した。BT F07.450CとBT F08.600Cはそれぞれ450Whと600Whの出力を持ち、フレームのダウンチューブに半一体化できる。BT F07とF08はプレミアムバッテリーセル（18650型）をベースにしてバイクの充電が可能で充電器は2つのオプションを用意。バッテリー上部の残量表示計は見やすく、フレームロックとの組み合わせ用に「Keyed Alike」がオプションとしてある。 **M0409**



LEZYNE MACRO DRIVE 1000 E-BIKE LIGHT

Bosch、Shimano、YamahaをはじめとするトップメーカーのバッテリーにストレートにクリップインできるMacro Drive 1000はハイスpekのEバイク用ライトで、丈夫な熱放散タイプのCNC製アルミと2つの超出力LEDを使用。最大1000ルーメンの照度があり内蔵の最適化強化反射レンズがサイドの可視性を保つ。放出される光は高性能の昼夜自動切り替えモードによって常にその照度を明暗の状況に合わせて調整できる。 **Hall 1 / 4F / L0315**



NEW PRODUCTS

SPANNINGA SPANNINGA AND BASIL COLLABORATE ON THE COMMUTER CARRIER



Basilの新しいCommuter CarrierにはSpanningaはじめ有カブランド数社の技術とデータが組み込まれている。ユーザーの安全性に貢献しているのがContour Lighting Technologyの技術による一体型リアライトで、タイトに極めて高い精度で仕上げられたストリップはキャリヤの曲線部を強化するとともに以前には到達できなかったレベルのライトの拡散を可能にしている。 **Hall 1 / 4F / M0310**

CHOSEN ROAD TC HUB



ChosenのToothed Couplingデザイン採用ハブのロード用モデルで、強化されたフリーハブがとりわけ必要とされる立ちこぎ走行時に抜群のパワートランスミッションを発揮する。頑丈な設計による耐久性の高さとともにストレートブレスポークのためのハウジングがその効率性をさらに高める働きをしている。軽量アロイ製ハブはすべて快速で効率性の高いホイールセットの心臓部を形成するようにデザインされている。 **Hall 2 / 4F / R0114**

WAHOO KICKR

WahooのKickr Smart Trainersの製品ラインの成功に基づき生まれた新バージョンは静音性の高さとともにフライホイール（はずみ車）に重みを加えることで屋外での走行感を再現するのに必要な情力を生み出している。耐久性を保つためカーボンスチールボディに収められ、互換性は同社室内用グレードの新シミュレーターKickr ClimbやKickr Headwindと呼ばれるBluetoothおよびANT+の新電動ファンを含むまで拡大された。 **Hall 1 / 4F / L1102**



MESSINGSCHLAGER ROYALBABY SPACE SHUTTLE

RoyalBabyのSpace Shuttleはそのユニークなデザインに目が惹き付けられるだけでなくその軽さにも驚かされる。マグネシウムを素材に軽量にして快適性と安定性に優れる製品を生み出した。大人のMTBさながらに前後にディスクブレーキが付いている。 **Hall 2 / 1F / Q0117**



ALEXRIMS RECON 3.0 WHEELSET

Recon 3.0は妥協なく仕上げられたエンデュロ、オールマウンテン用ホイールでチューブレス対応のフルカーボンリムがブレード付ストレートブレスポークを使ったAlex独自設計のハブにセットされている。Bear Pawlsシリーズの同モデルは軽量にして抜群の耐久性を生み出す構造で、間隔を広く取りツール不要の便利さが特徴。27.5吋径と29吋径を用意。重さはペアでそれぞれ1604gと1706g。 **Hall 2 / 1F / Q0714**



LIH JAW FOLDABLE LOCK



はっきり8つのセクションに分けられたこのユニークなロックは様々な角度のものに使用でき、しかも空間効率を保っているので折り畳んで保管しやすい。特許取得の両面取り付け式ブラケットに収まっているのでチューブ径25~38 mmの自転車に簡単に取り付けられる。盗難を防止する強化アロイスチール構造とシリンドラデザインがのこぎり、ドリル、カッター、ハンマーによる攻撃も撥ね退ける。 **Hall 2 / 1F / Q1131**

BESV JR1 E-ROAD BIKE



BESVのJR1はハイエンドの外観に一体型パワースystemとリアハブモーターを兼ね備えたスマートタイプ。重さ15.7kgでバッテリーパワーが252Wh時出せるのでスピードと耐久性の高さが味わえる。Dynamic Switchを軽くたたけば3段階のモーターアシストレベルが調整でき、あるいはただクルージングするだけならSmart Modeが必要かつ正確なパワーを送り込んでくれる。デジタルインターフェースがケイデンスやペダリングパワーといった情報を表示してくれる一方Smart Appがナビゲーション、盗難防止その他諸々のサービスを提供してくれる。 **HALL 1 / 4F / N0108**

TIOGA EDGE 22 FRONT SPECIFIC ALL-MOUNTAIN TIRE

コーナリングは40度の角度でスタートしない。なのになぜコーナリングノブの位置をこれほど外側に置かれているのか？Edge 22はその慣習をオープンセンターデザインによって逆転させた。アクセス可能なコーナリングエッジをトレッドの中央部により近づけて加えたのである。これによりターンが始まると同時にその性能が発揮され幅広い傾斜角度でその性能を保持することを可能にしている。まず27.5x2.50吋を用意。次いで29x2.50吋をオプションで追加する。 **Hall 1 / 4F / L0725**



FIDLOCK TWIST UNI CONNECTOR + UNI BASE



Fidlock Twistのユニコネクターはあらゆるボトルを画期的Twistシステムの磁気ケーシング・ボトルホルダーに収めることができる。走行時に目立たず使いやすく、張りつめた状況下でもボトルをしっかりホルドしてくれる。柔軟で開閉自在のジップタイが付いているのでユニバーサルタイプのTwist Uni Baseとともに自転車のどこにでも素早く簡単に装着できる。 **Hall 1 / 4F / L0417a**

FUNKIER WAREHOUSE BIB

FunkierのWarehouse Bibは豊富なスリムラインのポケットに特徴があり、アドベンチャーに必要なすべてのものを携帯できそう。サイズの異なる4つのフロントサイドポケットから腰に2つのリアスタッシュポケット、横に広いバックポケットはジッパーと反射インサートが付いて携帯電話や財布あるいは紙幣が収められる。さらに背中には軽くパッドを入れた収納スペースがあり1.5Lのウォーターバッグが収まる。 **Hall 1 / 4F / M1413**



MEN

WOMEN

2019台北車展綜觀全局：握把套 它，抓得住我 全新登場的把手套提供更佳的操控感及舒適性

無論是公路車還是MTB，在組車時最後才纏繞的握把帶或是握把套看起來僅僅是畫龍點睛的裝飾品；然而，握把套實際上不僅僅是為了裝飾美觀，它可是扮演著重要角色，為騎士提供自行車上三個黃金支撐點之一

說明一下自行車上的三個黃金支撐點：由前而後分別為手把、座墊以及踏板。但似乎在自行車產業，大多數都太看重人體工學座墊以及專用卡踏的重要性，而很自然忽略了握把套。然而，握把套在過去幾年來經過不斷的研發精進，無論是導入新的複合材料或是更符合人體工學的外型，也形塑出另一番風貌，例如人體工學握把套。

符合人體工學的握把套，大多使用於城市車及Trekking車款，一般來說就是騎姿較為直挺的車型；而這類導入翼型化人體工學設計的把套，可以提供手部與手腕更佳的支撐性。

握把表面上複雜的紋路，其功能是用來幫助騎士吸收來自道路的衝擊和震動，同時在惡劣的騎乘條件下，提供充足的防滑效果。

為提供性能更佳的产品，有些握把套廠商也嘗試以不同材質打造產品，例如使用來自回收PET瓶的塑料，或是結合矽膠與橡膠的複材。



VP Simo BS11

VP 鈺光實業 Hall 2 / 1F / Q1018，為自行車握把帶導入摩托車的科技，推出以液體矽橡膠製成的全新Simo握把套。

VP表示，這種複材無論是在乾燥或潮濕的騎乘環境下，都能提供非常優秀的止滑力；並且其柔軟且帶有彈性的握感，可以有效降低雙手及手臂的疲勞程度。

VP進一步說明，由於此種特殊複材更能對抗紫外線和極端溫度，因此這款握把套的使用壽命比起熱塑橡膠製成的來的更佳

由於材質不吸水，並且因為它不易染色或漂白，所以這種複材可用來打造一系列不易褪色的色系。VP目前提供兩款Simo握把套，其中BS06為輕量、簡約的設計，不需要金屬鎖環，採用滑動式安裝；而BS11則搭載鋁合金鎖環，在安裝上較為方便。



Ergon GA3 Single Twist Shift

Ergon (RTI Sports Hall 1 / 4F / M0612)，談到人體工學的握把套就不得不談到這個品牌，Ergon被喻為人體工學把的領導品牌，並且它的品牌名稱就源自「人體工程學」。

其翼形化的把套設計很適用於城市車以及Trekking車款，提供非常舒適的握感。而在MTB部分的GA3則設計的更為精實，其目的是要為帶有技術性的騎乘，同時提供靈活的手部空間以及充足的支撐性。

2019年推出新款的GA2、GA3也對應於轉把變速(Single Twist Shift)的款式，因此左邊的握套為全尺寸，而右手的握套則較短來搭配轉把變速器，可相容於包括Rohloff、Pinion等內部變速系統，或是SRAM變速，讓安裝便利性及整體感提升至全新境界。



Spike Grip from Spank
Spank推出Spike握把套

Spank Industries Hall 1 / 4F / L1001，這間聞名於踏板、龍頭、把手、輪組的車廠，在今年橫向跨足握把套，這款Spike推出30mm、33mm兩種不同直徑的握把套，可滿足不同手掌尺寸的需求。這兩款均採用鋁合金鎖環讓安裝更為便利，並且推出7種顏色。

Spike握把套寬145mm，如此寬廣的握距可充分利用目前MTB騎士使用超寬把手的趨勢；而錐型的尾塞設計更容易應付外力衝擊，並且可以有效保護車把手。

而在把套紋路的設計上也別有巧思，採用一整排特殊的切口設計，提供非常好的防滑性及舒適性。

騎士對於把手套最迫切的需要，是當面臨高難度、崎嶇的騎乘地形，在這個時候握把套必須要牢牢的固定在車把上，如果發生任何移動間隙都可能造成



WTB PadLoc握把套

失控或發生危險。**WTB Hall 1 / 4F / L0826** 為此就推出一個解決方案，其專利的PadLoc握把外端有一個楔形設計，該握把經過重新設計並且握把及修改過後的車手把要一同使用，透過內側鎖環式固定達到非常好的抗旋轉性；而外側握把由柔軟的橡膠填補，讓握起來的手感更舒適。

WTB PadLoc共提供六種不同的握套表面，包括適用於轉把變速的款式，或是翼型化的人體工學款。



Herrmans Luna Lock握把套

綜觀本文的把套介紹，大多數的款式都是專為AM售後市場而生；但芬蘭品牌**Herrmans Hall 1 / 4F / M0202**推出全新多功能的Luna Lock握把套，就是專門滿足OE客戶的需求。

Herrmans的這款把把套使用兩種來自歐洲的無毒複材。在手把抓握的核心處提供扎實的基礎結構，而面料則採用較為柔軟的複材，輔以螺旋形凹槽的紋路打造出止滑及舒適的性能，並可進一步降低手指壓力。而在客制化部分，鋁合金鎖環共提供9種顏色，並且在把套外緣可依客戶需求設計Logo。



T-One Diamond握把套

T-One 去年國際 Hall 2 / 4F /

S0232 是盛達企業的子分公司，推出了Diamond菱格可調整長度握把以及Bricko積木自行車握把。這兩款把手的特色在於分段式設計，因此騎士可依需求調整握距寬度。而為避免把套結構會產生間隙或扭曲，這款把套採用進化版的鎖定結構；並且握套的菱格紋路可以有效提升止滑性。

另一項新品則是由透明橡膠製成的握把，握把上的精巧紋路在與把手搭配後顯得天衣無縫。另外，T-One會在台北展會期間，展示兩款還未發佈的新品。



Clarks
C-G242握把套

Clarks Cycle 科萊克 Hall 1 / 4F /

L1012 這間專精於煞車系統、工具、零件的品牌，將在台北展期間展示符合人體工學的握把套。這款C-G242採用經TÜV認證的熱塑性橡膠複材，搭配翼型化的設計並擁有130mm握距，可提供極佳的支撐性及舒適性。一體式的封閉尾塞可提升騎乘安全性，並且搭配方便安裝的鋁合金鎖環。

Velo 維樂 Hall 2 / 1F / Q0614 是全球最大的自行車座墊製造商，因此相信他們對於自行車的人體工學瞭若指掌。Velo將其專屬的Microtech複材科技運用於全系列的握把套，並且可滿足包括e-MTB、Trekking、城市車等需求。這些把套的表面紋路非常精細，透過更佳的止滑性讓騎士可以穩穩掌握前方的方向。

此外，級數較高的款式其固定機制採用鋁合金鎖環；而其他款式則使用強化塑膠。

Apex Products 頂湖企業 Hall 2 / 4F / S0224 推出採用PET材質打造的握把套，據稱可提升產品的耐用性。這款把套的面料採用PET回收瓶製成的編織塑料製成，有五種顏色可供選擇。在把型部分提供兩種選擇，分別為傳統圓形130mm；另一款則是略寬的翼型化設計，可提供較佳的手部支撐。

SRAM、ROTOR專攻1X傳動系統 這會帶來新一波的變速流行嗎？

經典的彎把公路車不再經典，而是隨著時代及科技的進化與時俱進，例如在規格方面導入了胖胖胎以及1X單盤系統；但問題是，消費者已經準備好接受這些改變了嗎？但或許，消費者會願意接受新一波的改變，因為讓變速操作模式更加簡化的1X單盤系統，讓騎乘體驗更加優化。



SRAM Red eTap AXS
42t功率齒盤。

SRAM Hall 1 / 4F / L0818 在今年2月份推出Red eTap AXS無線電變系統，藉由改變齒盤以及飛輪的齒數，打造出全新系列的傳動齒輪比，頗令人耳目一新。SRAM研發團隊藉由重新調整齒輪比，可達到更廣域的齒輪比、更順暢的變速體驗以及降低重覆齒比的發生。例如，SRAM全新的12速飛輪，在其最小片的飛輪僅10T，可打造出更加廣域的齒輪比。

AXS的唸法和單字「access」相同，隨附的AXS App是用於設定AXS零件個人化功能選的操作介面。此款App可兼容iOS系統與Android系統裝置，可即時監控電量，並可透過藍牙更新系統軟體，接收系統維護提醒以及進行客制化設定。

雖然這套AXS仍定位於Red eTap，但實際上AXS可說是一套截然不同的全新產品。SRAM研發團隊幾乎重新設計了所有的變速系統，並且一次推出C夾以及油壓碟煞系統，並且套件可選擇搭配功率計的版本，或是選擇符合空氣力學的Aero齒盤。

SRAM AXS在此次的新品行銷聚焦於2X雙盤系統，但也同時帶來1X單盤系統，這說明了SRAM一直有想要鞏固1X霸主的雄心壯志。自從SRAM於2014年推出專為CX公路越野而生的Force CX1傳動系統以來，SRAM可說是在1X市場位居領先地位；而在一年後，包括Rival 1、Apex 1、Force 1這幾款1X系統也陸續問市。

Red eTap AXS 1x系統維持著以往的角色定位，是專為鐵人三項、公路計時賽和公路越野賽而生，因為在這些賽事更注重穩定而持續的力量輸出，因此透過1X單盤變速的容易操作，更能滿足這幾類競賽的需求。

此外，AXS系統也專為車架擁有較短的下叉、以及相容於超級胖胖而生的設計，因為上述這兩項元素就是跨界車



Rotor 1x13齒盤。

款的必備設計，可說是專為砂礫騎乘、探險騎士特別獻上的1X傳動套件。

緊接著SRAM AXS系統發布之後的三個禮拜，另一間傳動系統品牌**Rotor Hall 1 / 4F / L0106**也發布了全新1x13公路車油壓變速系統。事實上在2018歐洲展，Rotor就展示了1x13概念，當時的設計思維是採用模組化系統，可同時對應於公路車以及越野騎乘；並且藉由搭配不同的零件，可一次滿足公路、MTB、CX公路越野、砂礫騎乘等。

1x13變速系統自此成為Rotor的行銷亮點，包括可以提供廣域的變速齒比、綿密的齒輪比、精準的變速作動等。而預計在今年底，Rotor也將推出MTB版本的1x13系統。

關於飛輪齒數，Rotor有著與眾不同的設計，針對13速飛輪更提供4種飛輪齒比：10-36、10-39、10-46、10-52。而這一系列的飛輪僅適用於Rotor專屬的棘輪座；為此，Rotor也推出碳纖維及鋁合金的輪組，並且預計在稍後公布兼容於Rotor 1x13系統的輪組品牌。而如果換一組變速系統還要更換一顆全新的花鼓，如果你覺得這樣太麻煩，Rotor也提供轉12速系統的飛輪，可以直上你的10速或11速的花鼓。

包括前變與後變，Rotor採用油壓系統來進行作動，採用礦物油以及3mm

的油管來驅動變速系統。為了讓消費者更容易選到適合的齒比，Rotor以騎乘型態進行分類，並區分為公路車、Gran Fondo、公路越野、砂礫騎乘以及公路越野等，讓騎士一目了然。

FSA Hall 1 / 4F / M1213表示除了目前的Vero Pro 1x公路齒盤組，將陸續在旗下各個產品家族導入1x齒盤組，包括碳纖維及鋁合金級數，並且姐妹品牌的Vision也將推出計時車專用的1x空力齒盤。

而關於1x系統的對應產品，**Shimano Hall 1 / 4F / M0814**與**Campagnolo Hall 1 / 4F / M0612**謝絕討論他們的1x系統計畫。

雖然說SRAM 1x系統不斷強調這是專為競賽而生的套件，但是職業公路車選手目前還不領情，並不認為1x系統適用於公路競賽；正如3T在去年導入1x Torno碳

纖維空力曲柄並且搭載Wolf Tooth齒盤，在功能及外型上看似厲害，但似乎仍未受到職業選手的青睞。

上述這幾間的傳動系統品動，都認為他們的套件是經過精雕細琢的完整系統，因此可為騎士帶來最優化的騎乘性能。然而，對於大多數的騎士而言，目前1x傳動系統的售價顯得有些高不可攀。例如說，目前最熱議的SRAM Red eTap AXS價格要價將近3千歐元，而如果選用級數更高的功率計版本其價格更超過4千歐元；另一方面，Rotor的價格也不惶多讓，價位從2,599-4,500歐元不等。

或許這樣的定價，只有金字塔頂端的客戶消費得起；而針對其他99%的普羅大眾，有許多齒盤品牌也推出1x系統，

並且祭出更親民的價格容易讓騎士更願意轉換1x系統。

例如Wolf Tooth在其官網上發布了一個專頁，說明1x系統非常適用於砂礫騎乘以及探險騎乘，而騎士可以將他們目前現有的SRAM或是Shimano的系統轉換為1x系統；而為了優化其傳動效能，其齒片還搭載了包括Drop-Stop防掉鏈技術，並推出RoadLink後變延伸座以及Tanpan拉線行程轉換器。

Miranda Hall 1 / 4F / L1216也帶來全新模組化的XMOD齒盤，這款1x齒盤隨著不同的搭配，可滿足公路、砂礫、場地賽、單速車等騎乘需求。此外，藉由模組化的設計，騎士可客制化選擇XMOD的曲柄、心軸、齒片的相關規格。

Praxis與Mountain Racing Products這兩個品牌攜手合作開發出俱有Wave技術的1x齒片，這種專屬設計可大幅提升齒尖啣合鏈條的性能，以避免1x車款最擔心發生掉鏈的情況。Praxis提供三種直鎖式齒盤齒數—38、40、42，並且包括Alba、Zayante、Zayante 4iii功率版、Zayante Carbon碳纖維公路齒盤都提供對應選擇。此外，44至50齒的齒片仍在開發中。

到目前為止，1x系統在定位上是專為追求性能的騎士而生，這類騎士會想要優化的變速體驗以及容易上手的功能。但如果在未來1x系統也應用在非競賽型車款上並逐漸提升市佔率，或許這樣一套容易上手並且容易保護的系統，更可以滿足大眾化的騎乘需求。

由於1x系統擁有輕量化以及更優化的空力性能，使得一些職業選手也願意嘗試這樣的新概念。例如在今年的春季古典賽，我們也看到一些職業選手使用1x系統征戰賽道；未來隨著1x系統取得更多的戰果，相信這波浪潮會襲捲那些堅持傳統觀念的騎士。



Rotor 1x13傳動系統。

2019台北車展

除了傳動三雄之外，你還有這些選擇？

選擇越多，通常對消費者會是一件好事。但是在自行車的傳動系統，一直以來都被三大品牌壟斷—Shimano、SRAM、Campagnolo。而除了這些品牌之外，你還有什麼選擇呢？



藍圖的煞變把

Sunace
12速變速系統

一個令人意外的答案誕生。來自中國的 **LTWOO 藍圖 Hall 2 / 4F / R0904** 在2017年於台北車展的試乘日展出中國自製的MTB 11速變速系統，可說是徹底吸引國內外買主的目光。在去年秋天的台中週 (Taichung Bike)，藍圖的創辦人Philip Liu帶來令人眼睛一亮的新品：12速MTB傳動系統，以及適用於公路車的煞變把手。

Philip說道他們開發的煞變把，在尺寸及設計上有特別為亞洲人的體型及人體工學進行優化；但也相對的，這樣的設計可能會對人高馬大的歐美騎士，在變把尺寸上顯得有些侷促。藍圖在煞變把的變速按鈕設計，是模擬騎士握在煞變把把位(Hood)。此外，藍圖也展出一款低斷面的後變速器，拉線比為2：1，以及直鎖式的前變速器，齒容比可相容於50/34齒盤，補齊公路車傳動系列產品。

還有一間來自中國的品牌也踏入傳動系統的領域，**藍溪輪峰 Hall 2 / 4F / S1133** 推出一款無線電子後變速器。藍溪輪峰據稱是全中國產量最大的齒盤及

齒片製造商，在台北展帶來的這組EDS無線電變，可以相容於公路車以及MTB的1x單盤系統。

這款名為EDS的電變系統分別針對公路車推出11速套件，而在MTB更帶來了12速；據原廠表示，這一款變速套件擁有非常精密的公差，因此可提供騎士極為順暢的變速體驗。而搭載的座管式電池的容量為800 mAh，單次充電可以達到18,000次換檔。而安裝在煞變把內部的電池，由於只需負責傳送無線變速訊號，因此電池續航力可將近一年。公路車版本後變速器的重量為335克，而MTB後變由於變速導架較長一些，因此重量來到350克。

Sunrace & Sturmey Archer Hall 2 / 1F / P1014 一直以來以高性價比的產品在小眾市場擁有一定的市佔率。例如這款S2花鼓，不僅在外型上相當極簡俐落，而且採用最先進的製程，這款花鼓搭載兩速落差極大的齒輪比，在表面處理則提供陽極或是拋光處理，對應於腳煞車或是碟煞系統。而要進行變速也非常簡單，只需要稍微逆轉踏板就可

MicroShift XCD11變速系統
(搭載離合器張力調節開關版)

以。此外，由於S2K內變速花鼓不需要另外走線或是需要安裝變速把手，因此非常適用於外型極簡的城市車款。

值得注意的是，Sunrace在2019年也導入旗艦傳動系統，MX12以及MZ12是MTB 12速系統，採用1x單盤的設定，結合11-50t超廣域齒比的飛輪以及鋁合金齒盤組。此外，這款12速後變還搭載了加大導輪，並且變速導架採用碳纖維。

兩年前，**MicroShift 台灣微轉 Hall 2 / 4F / R0714** 展示了eXCD電子變速系統的原型品。雖然這款產品目前仍未於官網發布；但近期MicroShift一口氣推出四款不同規格的11速1x單盤系統，後變，後變的最大齒容比可以來到46齒。級數較高的XCD採用鋁合金變速支架以達到輕量化，而性價比較高的XLE 11在變速支架採用鋼材。這兩款變速器還可選擇內建離合器張力調整的版本，啟動開關可透過手動操作。

本文截至目前所談的變速套件都是讀者所傳統上認知的產品；但實際上，還有一種是要安裝在經過特殊設計車架的變速箱結構。例如**Pinion**（與Gates共用攤位，**Hall 1 / 4F / L0717**）的這款體型精實的變速箱結構，就是由兩位曾任職於保時捷工程師並自創公司的心血結晶。

乍看之下，這款變速箱看起來像一個體型迷你的中置電機系統，但實際上它是一顆擁有汽車科技的小型變速箱結構，並且依不同款式提供6至18段變速。旗下較早期的產品P-Line，是由一整塊的鋁材經過鍛造及精密加工，使得價格相當可觀；而更經濟的版本C-Line採用鑄造鎂合金材質。一般來說，搭載Pinion變速箱結構的車款都會使用皮帶傳動，這也說明為何這兩間廠商共用同一個攤位。採用Pinion變速箱的優點之一在於可以增加離地間隙，並且由於前齒盤的齒數較小因此較不需要進行保養；一般來說，騎乘者大約每1萬公里換油一次即可。

與此同時，澳洲品牌**Cape Bouvard Hall 1 / 4F / L0501a** 也要針對共享自行車系統推出一款容易維修、價格親民的CBT內變速系統。這款自動變速系統安裝在車架BB的位置，搭載三段變速以及迴轉速感應。當騎士的迴轉速達到指定的轉速，系統就會自動切換到更高



藍溪輪峰推出EDS無線電變1x系統



Pinion C-Line變速箱



Cape Bouvard變速箱

或更低的檔位。此外，由於所有齒輪結構都受到箱體保護，因此可降低被民眾惡意破壞的可能，使得這款CBT變速箱幾乎不用特別維護。

CBT自動變速系統一開始是設計用於傳動自行車或是搭載花鼓電機的e-bike，而Cape Bouvard目前正開發一款中置電機系統稱為CBT Mid-Drive，將自家的自動換檔系統結合250W中置電機，CBT Mid-Drive系統可將電機置入變速箱殼體，不僅達到最佳的抗衝擊性，並且還降低鏈條及飛輪的磨損，大幅提升中置電機系統的耐用性。

近期關於傳動系統的重磅消息，就是SRAM和Campagnolo推出12速系

統，但是西班牙品牌**Rotor Hall 1 / 4F / L0106**更進一步帶來1x13變速系統。Rotor這款傳動系統是專為公路、砂礫騎乘和公路越野而生，並且一舉帶來不同齒數的飛輪可滿足各種騎乘需求；此外，還可以搭載Rotor的Q Rings橢圓盤（相關報導請見第16頁）。



包括前變與後變，Rotor採用油壓系統來進行作動，採用礦物油以及3mm的油管來驅動變速系統，因此即便是在塵土飛揚或是泥濘不堪的騎乘環境，依舊可以維持優秀的變速表現。此外，在今年的台北展，Rotor也展示相容於場地車的21Npower功率計，並且完美繼

承前作的高度整合性，還有一款可免費下載的APP可用來分析功率輸出以及踩踏動作等。

當然，傳動三雄會受到廣大車友的支持不是沒有原因，一直以來他們都是競爭對手的標竿基準。**Shimano Hall 1 / 4F / M0814**的領導地位可說是橫跨了入門的城市車款到最頂級的競賽車款，任何競爭對手有意跨足傳動系統，都不免要與他們對決一番。2019年，Shimano的旗艦產品是全新登場的XTR，這款專為林道越野、Enduro等MTB騎乘而生的套件，一併提供了1x單盤系統，這可是Shimano首次進行如此嘗試。

SRAM Hall 1 / 4F / L0818在近期停產內變速系統，並且也調整了銷售策略，幾乎放棄較低階的傳動系統。另一方面，SRAM卻在MTB系統扳回一城，尤其是在1x單盤系統藉由其輕量化以及容易上手的特性，可說是大大的成功。

2019年，SRAM推出結合eTap無線電變科技的AXS系統，可對應於公路車以及MTB。雖然目前Eagle AXS 12速的套件在價格上顯得高不可攀，但相信在未來會陸續普及到其他級數較低的家族（相關報導請見第16頁）。SRAM

這次在公路車還帶來超廣域齒輪比的飛輪，擁有12片間隔緊密的齒片，而其最小片的飛輪僅10T，可打造出更加廣域的齒輪比。這顆Red飛輪是採用一整塊鋁材進行CNC精密切削，最大齒數落差的飛輪為10-33t，可說是專為1x而生的設計。

Campagnolo Hall 1 / 4F / M0602與Shimano和SRAM相較之下，更加專注於公路車系統，而Campagnolo在這一波的油壓碟煞系統當中，由於發展的比較晚，可說是大器晚成。

憑藉著自家頂級的Super Record以及Record都導入了12速，並且搭載於自家贊助的世巡賽職業車隊，在近期征戰環澳洲大賽也有不錯的成績表現。目前Campagnolo的12速系統共提供EPS電變版本以及機械式版本，並分別對應於C夾以及碟煞系統，看來是希望藉由12速來鞏固義式經典傳動系統的地位。Campagnolo過去在歐洲有一群忠實的支持者；展望未來，希望這股風潮可以延燒至全球。

NEW PRODUCTS

ALEXRIMS BAXTER 3.0輪組

Baxter在其碳纖維輪框的內部加入鋁合金補強件，不僅可提升輪組的耐用性，並且也幾乎不犧牲輪組性能，這組輪框的外徑來到31mm（內徑25mm），前後輪都搭載24根直拉式幅條，採用Bear Pawls花鼓。規格部分提供700c，前輪重765克、後輪重950克。 **Hall 2 / 1F / Q0714**



KIND SHOCK LEV-CI 272 伸降座管

這款伸降座管完美融合各項先進功能，現在更提供27.2mm尺寸。LEV-Ci 272的座管採用經過優化處理的碳纖維材質，並在內部結構採用經過銑削的鋁製內骨架，打造出兼具輕量化以及高剛性的筒身結構。氣油壓管(hydro-pneumatic)採用LEV備受肯定的款式，可提供65mm、100mm、120mm的行程選擇。 **Hall 2 / 1F / Q0702**



ALU-MATE AA6530 E-MTB 車架

這款27.5吋的e-MTB車架適用於Shimano E8000和E8020電機系統。提供三種車架尺寸，後避震行程為150mm，這樣的設定足以應付高難度的騎乘環境。在車架下管部分採用加大式設計，可以安全且牢固的安裝超大容量電池，打造出極佳的續航電力。 **Hall 2 / 4F / R0304**



TAYA EL ONZE-117 鏈條



這款Taya鏈條是目前世界上最輕量的自行車鏈條，採用獨特的羅拉設計，可達到非常安靜以及順暢的換檔體驗。重量僅為150克，比起同級競品輕量化將近50%。本體採用自潤式類鑽膜技術可達到優秀的傳動效率，並且讓使用壽命最高可達到10,000公里。

HALL 2 / 1F / Q0302

NEW PRODUCTS

MESSINGSCHLAGER TANNUS ARMOUR

Tannus Armor是位於輪胎和內胎之間的祕密武器，是一種革命性的防穿刺保護層。不僅可提供全方位的防穿刺保護，更可以和市售的Clincher車胎搭配使用，大幅降低輪胎發生蛇咬爆胎的可能性。此外，也可以允許較低的工作胎壓，進一步提升騎乘時的循跡性以及抓地力。 **Hall 2 / 1F / Q0117**



HAFNY HF-MR101 自行車後視鏡

只換鏡片，不用換框。這款自行車後視鏡的鏡片就像你的眼鏡一樣，一旦發生刮損或是想換不同顏色，只要更換鏡片而不用更換一整組。在安裝上非常簡單，一顆螺絲即可安裝，盒裝標配三組鏡片：不鏽鋼框體版、HD高清鏡片、防眩藍光鏡片。本體採用耐用性極佳的強化玻纖尼龍，適用於公路車以及MTB。 **Hall 2 / 4F / R0901a**



RELIC 平面踏板轉換扣片

這款平面踏板轉換扣片可以讓卡踏變為兩用系統，方便騎士轉換使用於SPD卡鞋以及一般運動鞋。此外，這款扣片的重量輕、容易安裝，可對應於Shimano SPD系統。而在本體結構則採用輕量化鋁合金，打造出媲美一般踏板的踏面止滑性，並且比起使用塑料的款式來得更加耐用。 **Hall 2 / 4F / S0428**



SKS COMPIT手機固定座

Compit智慧型手機固定座是劃時代的產品，結合了整潔、俐落、智慧互聯。這款手機座擁有三個核心功能：手機座、搭載Qi認證的NFC晶片，並且其固定座還可以安裝前燈或是運動攝影機。如果進一步將電線連接到e-bike電池系統，還能夠為您的手機進行無線充電。 **Hall 1 / 4F / L0611a**



COSMOS CO-POLARIS 折疊車

這款Co-Polaris折疊車使用20吋輪組，因此打造出可媲美一般自行車的操控性。此外，也搭配了寬度適當的外胎，讓輪胎的抓地力、舒適性都相當不錯，也可以從容面對路面上的障礙物。為達到最極致的輕量化，這款車架採用碳纖維複材，讓整車重量下探9.5公斤。整車還搭載Shimano油壓碟煞以及Tiagra 2x11傳動系統，讓這款車可以滿足長途騎乘的需求。 | **Hall 1 / 4F / N1208**



WELDTITE 無內胎升級系統



Weldtite的無內胎升級系統包括無內胎膠帶、補胎液、挖胎棒、可加速裝胎的專用凝膠，這樣的升級系統可說是一應俱全。透過將輪組升級為無內胎系統，不僅可以達到輕量化，更能有效降低發生爆胎的機率，而這組升級套件就是騎士的理想選擇。此外，Weldtite也提供包括潤滑油品、清潔劑、工具等。 **Hall 1 / 4F / L0330**

NYSTRÖM SPECIAL



Nyström Special是一款復古風格的自行車，讓你騎的很有型。這款車之所以會有經典風格，在於搭載三冠式前叉、超大型頭燈、經典彈簧座墊等。但是，經典風格也可以結合現代化的科技，這款車搭載花鼓式電機系統以及Magura油壓碟煞，打造出與時俱進的騎乘性能，並且也擁有非常好的續航力，依使用模式最高可以達到100公里的電力續航。 **HALL 1 / 4F / L0310**

OTRAJET NEXO 700X40C 實心胎



Nexo實心胎為了滿足e-bike車種的需求，進一步推出可以符合多種輪徑及胎寬尺寸，儘可能滿足大輪與小輪的適配性。為了應付e-bike的嚴苛騎乘需求，這款實心胎在結構和材料部分更加強化，讓載重限制增加了三分之一，也連帶提升產品的使用壽命約三分之一。這樣的設計非常適用於e-bike的騎乘需求，同時因為實心胎俱有防爆、免充氣的特性，使得Nexo實心胎在市場上越來越熱門。 **Hall 2 / 4F / S0902**

XPEDO APX PRO智慧型 訓練台

這款智慧型訓練台的底座搭載可調式支架，可相容於大多數的自行車。本體採高強度鋁合金製成，而其塑膠外殼為防火ABS材質，不僅可保護機體內部的飛輪，更可以阻隔在騎乘中的異物干擾。使用者可以手動調整3段阻力來客制化訓練課表，更能透過使用藍芽或ANT+連接手機中相關的APP，透過不同的阻力模擬各種坡度與路況，夠產生2000瓦的阻力並模擬高達20%的坡度，完美模擬戶外的騎乘環境。 **Hall 2 / 1F / Q0124**



VELO MICROTECH握把套

Velo推出一系列搭載Microtech的握把套，這項技術採用微型握把紋理，可以增加騎士的抓握力。另外，還提供握把紋路更豐富的款式，可進一步提升操控性，特別適用於潮濕的環境或是容易流手汗的騎士。此握把套系列可滿足包括e-MTB、城市車、運動車等需求。 **Hall 2 / 1F / Q0614**



NEW PRODUCTS

BLOSSUM MASK LITE

這款Blossum-Mask Lite防污口罩是專為城市騎乘而生的好物，並且通過歐洲檢驗標準。本體採用FFP2 NR級面料，可防止一般灰塵和污染，並降低由花粉、動物毛髮和黴菌引起的呼吸道過敏。在外型上採用符合人體工學的設計，可以穩固於臉龐，因此非常適用於自行車騎乘、摩托車或是健行等戶外活動。 **Hall 1 / 4F / L0027**



FUMPA PUMPS 電動打氣筒



Fumpa是一款功能強大的USB可充電式電動打氣筒，重量僅380克而且尺寸迷你。這款便攜式電動打氣筒非常容易使用，無論是居家使用或是外出旅行都合用，搭載聰明嘴的設計可對應於法式及美式氣嘴，內建電子胎壓計也可以精準掌握胎壓。 **Hall 1 / 4F / L1309**

MESSINGSCHLAGER VELOSOCK

髒車Out，讓你的居家環境以及飯店老闆都開心。無論你的車子有多麼的藏污納垢，都可以透過這款Velosock妥善的包覆住，讓你的生活環境更加賞心悅目。由於採用極具彈性的3D彈力材料，可以高度適應您的自行車形狀，因此無論是要放在辦公室或是汽車後車廂都可以。適用於26吋至29吋各式自行車，材質為抗撕裂並且可機洗。 **Hall 2 / 1F / Q0117**



KMC E12鏈條和CHAIN MATE E-BIKE齒盤



這款e12鏈條適用於各款e-bike，並結合KMC頂尖科技可以承受e-bike電機系統的強大扭力以及嚴苛騎乘需求。KMC為打造更佳的耐用性，與知名電機製造商攜手合作，其專利的鉚釘技術可實現超過450 kgf的針腳功率，進一步達到令人讚嘆的抗扭轉性能。此外，如果同時搭配KMC全新的3mm Chain Mate電動車專用齒盤，可以打造出高達10,000公里的耐用性。 **HALL 2 / 1F / P0114**

CARDIOSPORT SOLO速度、RPM傳感器

這款分別可感測自行車騎乘速度以及迴轉速(RPM)的傳感器在外型及重量上非常精實，並且在安裝上非常便利，不再需要束帶另外去綁感應磁鐵，而且可以直接扣合在花鼓及曲柄上，達到容易組裝以及輕量化的特性。這款傳感器支援ANT+和藍牙雙通道無線通訊，可適用於大多數的專業車錶或是智慧型手機的自行車APP。 **Hall 1 / 4F / L0007**



INNOVA EL CAMINO GRAVEL 輪胎 650B X 47C



砂礫騎乘由於會騎乘在鋪設良好的柏油路，也會騎到泥濘的Off-road等，因此砂礫車專用輪胎需要在上述兩種路況之間取得平衡。這款El Camino Gravel是針對砂礫騎乘而生的款式。在胎面上採用半光頭設計，在柏油路騎乘時可帶來高速。此外，其650b x 47c的超寬輪徑，可以帶領騎士去挑戰各種路況。提供兩種配色，棕褐色胎壁的款式可賦予整車經典的風格。 **Hall 2 / 4F / S0404**

八方電氣(蘇州) M420中置電機

這款外型俐落、體型精實的中置電機適用於新世代e-bike。M420是源自於M400(原MAX Drive)的性能進化版，採用相同的車架安裝結構，額定輸出功率為250W、強大的80Nm最大扭矩，在速度規範符合歐盟法定速限25km/h。系統相容於450 Wh整合式下管電池或是其他款式的電池，並且顯示螢幕也提供多款選擇(俱有藍牙連線和USB輸出功能)，可賦予設計師靈活創意來打造新世代的都市車或旅行車款的e-bike。 **M0409**



A-PRO TECH ERDP 6.3CA-R 29 E-MTB車架

這款A-Pro車架的亮點在於極佳的系統整合性。藉由模組化的設計概念以及巧妙的模具設計，讓這款車架可以視客戶需求使用Brose或Shimano電機系統，可有效降低客戶開發新品的研發成本。這款車架無違和的整合了後避震、電機、電池系統，讓結構粗獷厚重的e-MTB也能打造出優秀的整體質感。 **Hall 2 / 4F / S0322**



FLR REXSTON 自行車鞋



Rexston是一款全新的全地形旅行鞋，其特色在於其外底設計可提升抓地力以及耐用性。外底材質採用專屬STKgrip橡膠，可大幅提升鞋底接觸面積和抓地力，不僅可提供極佳的踩踏自信，並且透過專屬的扣片保護套，更可以保護鞋底扣片並提升耐用性。Rexston的外型設計簡約耐看，很能滿足MTB騎士的需求，為騎士提供最佳的足部支撐，去探索前方未知的旅程。 **Hall 1 / 4F / M1206**

CARBON ENDURANCE COMPONENT SLD系列—纖維幅條輪組

由世界上最強和最耐用的纖維製成：超高分子量聚乙烯(Ultra-High Molecular weight Polyethylene)，搭載這種纖維幅條可以提升輪組的減震性並進一步輕量化。經戶外實測，騎乘這款輪組不僅可提升舒適性，並且在崎嶇不平的道路上更能提升抓地力。SLD系列框體結構採用Carbon-HMPP碳纖維材以增強抗衝擊性，有效降低碳纖維發生斷裂的可能性。SLD輪組系列可滿足MTB、砂礫車、耐力型公路車等騎乘需求，並且最輕量的版本僅重1050克。 **Hall 1 / 4F / L1125**





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EVENT SCHEDULE

All events are in TWTC Exhibition Hall 1.

Thursday – Friday
March 28 – 29

Show Hours:
9 a.m. – 6 p.m.

Saturday, March 30
(Public Day)

Show Hours:
9 a.m. – 3 p.m.

All Day Events

Taispo Innovation Award
Display Area
C0315

Innovative Design Award in Sports
Technology Display Area
C0415

Thursday, March 28

9 a.m. – 3:30 p.m.
Sports Industry Management and
Trends in Smart Sports Forum
(see below for details)
2F/Conference Rooms 3 - 4

2 – 5 p.m.
One-on-one Procurement Meetings
2F/Conference Room 5

Friday, March 29

9 a.m. – 2 p.m.
Smart Textile Seminar & Partnering
Meeting
2F/Conference Rooms 3 – 4

9 a.m. – 6 p.m.
CrossFit Taiwan Uprising Challenge
Stage

Saturday, March 30

9 a.m. – 3 p.m.
International Seminar for Sports
Nutrition
2F/Conference Rooms 3 – 4

9 a.m. – 3 p.m.
FitnessMania
Stage

Thursday, March 28

Sports Industry Management and
Trends in Smart Sports Forum
2F/Conference Rooms 3 – 4

9 – 9:30 a.m.
Registration

9:30 – 9:40 a.m.
Opening Remarks

9:40 – 10 a.m.
John Caraccio
President, World Gym Taiwan

10 – 10:20 a.m.
Simon Flint
CEO, Evolution Wellness

10:20 – 10:40 a.m.
Han Wei
Founder, LeFit

10:40 – 11 a.m.
Nutrition and Sports Industry
Management
Li Qi-Geng
General manager, Beijing Competitor
Sports Science & Tech. Co., Ltd (CPT)

11 – 11:50 a.m.
Panel Discussion
Chairman: John Young
VP of Commercial Business for Pan-
Asia, Johnson Health Tech

Speakers:
John Caraccio, President, World Gym
Taiwan
Simon Flint, CEO, Evolution Wellness
Han Wei, Founder, LEFIT
Li Qi-Geng, General Manager, CPT
Jin Yu-Qing, Founder, Tera Wellness

11:50 a.m. – 1:30 p.m.
Break

1:30 – 4:10 p.m.
Trends in Smart Sports Forum
2F/Conference Rooms 3 - 4

1:30 – 2 p.m.
John Young
VP of Commercial Business for Pan-
Asia, Johnson Health Tech

2 – 2:30 p.m.
Jason Lai
CEO, Light Fitness Taiwan

2:30 – 3 p.m.
Mr. Liu
CEO, SunPig Fitness China

3 – 3:30 p.m.
Marina Toeters
Founder, By-wire.net

3:30 – 4:10 p.m.
Panel Discussion

Chairman: Tzzy-Yuang Shiang, Ph.D.
Research Chair Professor, National
Taiwan Normal University
President, Taiwan Sports Technology
Association (TSTA)

Speakers:
Jason Lai, CEO, Light Fitness Taiwan
Mr. Liu, CEO, SunPig Fitness China
Marina Toeters, Founder, By-wire.net

‘SMART’ GARMENTS CAN’T READ YOUR MIND (YET), BUT THEY’RE WORKING ON YOUR VITAL SIGNS

It could soon become routine to put on your workout shirt, head to the gym for a gamified workout – and then get a call from your personal trainer with feedback based on the data transmitted by your shirt.



These calf sleeves from TTRI show one calf is working harder than the other.

That, at least, is the vision of some Taiwanese companies that have combined their textile and electronics expertise to develop intriguing concepts for “smart” sportswear.

It’s a logical progression of the desire to glean as much information from any type of training session, of which heart-rate monitors and other fitness trackers were just the beginning.

One company working intensively in this field is **Makalot, D0821** an apparel maker that operates seven factories in Asia and counts as customers such brands as Under Armour and Champion.

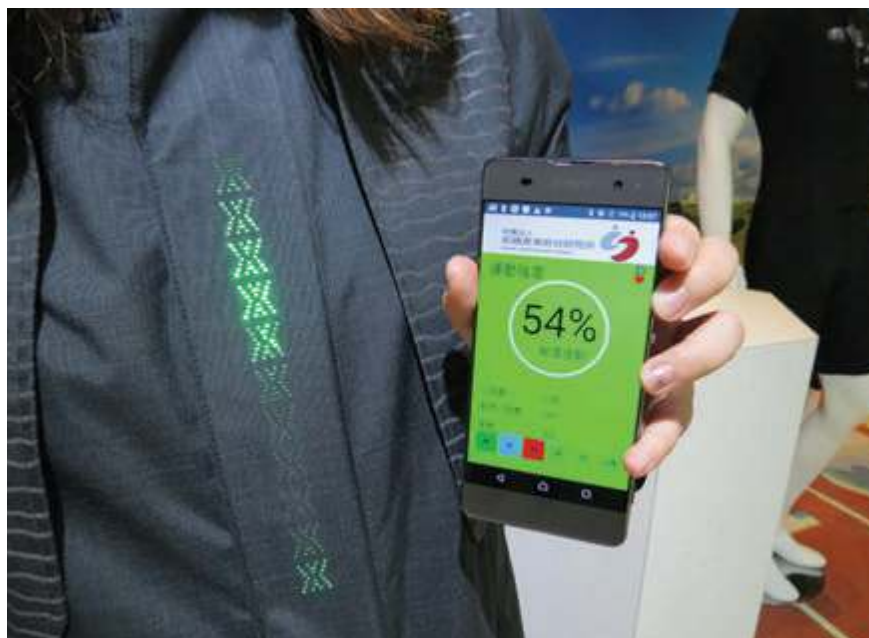
Working with Kinpo Electronics, Makalot is enhancing its range of

smart clothing that uses a technology based on electrocardiography (ECG) – the same technology used in medical settings to check on the condition of someone’s heart.

Sensors and a receptor embedded in the shirt work with algorithms that transform the medical-grade ECG signals into fitness indicators. The information can then be transferred to mobile devices via Bluetooth.

This year, Makalot and Kinpo are developing applications for gyms and personal training. Working with a fitness club chain, they have created a “digital gym system” for group classes. In addition to heart rate, the garments can measure other data such as breaths per minute.

“In the digital gym system, the



This TTRI jacket shows that the wearer’s stress level is low.



Those small bottles in the hands of AFC's Hank Lee contain conductive ink that help turn a garment into a piece of smart apparel.

smart garments collect information and show it on a dashboard," said Nicole Wang, a Makalot project specialist. "The coach can easily check everyone's information, and maybe create some competition and encourage the participants."

Makalot is developing smart clothing that uses electromyography, or EMG, to measure the electrical activity of muscles and generates real-time data on the wearer's performance while working out. Makalot expects to have prototypes before the end of the year.

The **Taiwan Textile Research Institute (TTRI)** **B0619a** in Taipei is also investigating how EMG can be adapted for use in workouts and other applications.

One TTRI concept is an EMG calf sleeve that measures the contractions of the wearer's calf muscles.

"The conductive fiber in the calf sleeve measures electrical activity, and through our algorithm it provides data on the strength of the muscle," said Cam Huang, director of TTRI's department of products. "The information is transmitted to the mobile phone of your coach, standing next to you, so he can guide you more precisely for the exercise."

The system also works at a distance, which could be useful in medical environments. For example, a doctor could check whether a patient is doing her prescribed exercises properly, overworking the muscles or slacking off.

TTRI is a public-private partnership between the Taiwan government, which underwrites 60 percent of its funding, and private industry. The organization transfers commercially promising technologies to its industry partners.

Such smart garments are possible because of advances in electronics, Huang said. Sensors, batteries and transmitters are getting smaller, and algorithms that interpret the raw data are getting smarter.

Smart garments that monitor a heartbeat, or generate heat in cold environments, need conductive fibers to transmit data and electrical currents. But those fibers and

related components need to be small and smooth enough that the wearer doesn't notice them.

That's a specialty of the **Asiatic Fiber Corporation (AFC)** **B0619a** of Taipei. AFC is developing modules — textile cables, conductive pads and textile connectors — that are washable, smooth and mostly flat so they are barely noticeable when worn.

Hank Lee, vice president of AFC's medical device department, said an accurate ECG also requires two or three sensor panels, but the newest sensors are so thin that wearers will hardly feel them.

Because AFC's initial products also are intended for the medical market, they are designed to comply with particularly strict regulations.

Another intriguing technology AFC is exploring is an ink that conducts electricity and can be "printed" on fabrics.

The ink, made of iQmax Silver Nanowire, has a silvery appearance when liquid but turns transparent when applied. It can be used on touch screens, solar panels and defogging systems — and smart wearables.

How about a golf shirt that could help improve your swing?

That's one potential of smart apparel under development by AiQ Smart Clothing, whose parent company is King's Metal Fiber Technologies, itself a subsidiary of Taiwan textile company **Tex-Ray Industrial.** **B0619a**

Nadia Kang, chief marketing officer at AiQ, said a golf shirt with embedded sensors could track the golfer's motion and reproduce it on a screen, letting players learn how to make adjustments by comparing their motion to an "ideal" swing.

Kang said a smart garment like this, which could become a reality in a couple of years, wouldn't be just another piece of apparel, but a central part of a platform that monitors such data as heart rate, temperature, pressure and stretch. "The point is not the shirt, it's the whole ecosystem," Kang said.

Founded in 2012, AiQ was an early entrant in smart apparel. Two years after its founding, the CEO of Intel wore an AiQ shirt at an international conference.

At TaiSPO, AiQ will highlight its work on smart wearables that measure a user's heart rate and display it on a dashboard.

Exhibitors are also working on several other potential applications for smart apparel.

For example, such garments could enliven gamified training and entertainment. "In a battle game, if you are punched, there could be a reflection on your garments to make the game more realistic," Makalot's Wang said.

Smart garments could lead to the more extensive use of LED lights on outerwear to give runners and cyclists more visibility.

Other applications could keep skiers and outdoor enthusiasts warm, and even automatically adjust the temperature of their garments to fit the user's "temperature profile."

Makalot says it is working on

heated outdoor gear that could be ready later this year.

"They will have sensors to check the ambient temperature. They could adjust automatically to make sure that the wearer is comfortable," Wang said.

Beyond athletic applications, Taiwan smart apparel developers see enormous potential in other markets.

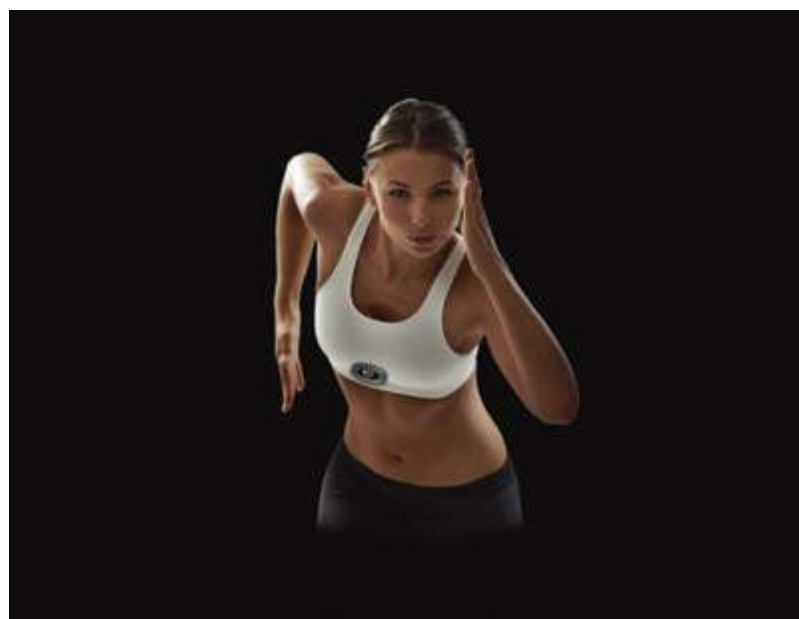
For example, TTRI is working on a patch that turns different colors to reflect the wearer's stress level.

Health care providers would welcome apparel that automatically detects an elderly person's fall. Other smart garments could monitor a driver's heart rate and alert them if they are in danger of dozing off.

AFC, Tex-Ray and TTRI are taking part in TaiSPO with another leading supplier, **Everest,** **B0619a** and the Taiwan Smart Textile Association. ■ **Barbara Smit**



A range of smart apparel made by AFC



AiQ's BioMan sports bra has a built-in heart rate monitor.

SMART TEXTILE SEMINAR

Friday, March 29

9 – 11:20 a.m.

TWTC Hall 1 / 2F / Conference Room 3

9 – 9:30 a.m.

Registration

9:30 – 10 a.m.

Trends in the Global Smart Textile Market
Ramon Maurel

Director, Textile Technology and Innovation, Istituto Europeo di Design

10 – 10:30 a.m.

Advanced electronic textiles in apparel and beyond

Yasuo Yamamoto
President, IDTechEx K.K.

10:30 – 11 a.m.

Taiwan's advantages in smart textiles, conductive materials and textile modules

Hank Lee
Vice President of Medical Device Department,
Asiatic Fiber Corporation

FROM GYM 'PODS' TO DNA TESTS, CLUB CEOS SHARE VIEWS AT FORUM

Executives from leading — and diverse — Asian fitness club chains will share their views on management and technology at today's forum on Sports Industry Management and Trends in Smart Sports.

The forum runs from 9 a.m. to 4:10 p.m. in Conference Rooms 3 and 4 on the 2nd floor of the TWTC Exhibition Hall 1. (See full program on page 42.) Here are brief descriptions of today's keynote speakers:

John Caraccio, president of World Gym Taiwan, has built his company into Taiwan's largest big box operator. The brand operates 65 clubs and three Fitzone by World Gym studios.

This year, World Gym intends to invest up to \$90 million to open 15 to 20 additional locations, Caraccio said. Taiwan is already the most concentrated fitness market in Asia, ahead of Japan and Singapore.

Along with its large-scale facilities, World Gym recently launched a second concept. World Gym Express, with four locations, is roughly half the size of other clubs and charges half the membership price.

This fits with the increasing segmentation of the gym market, partly enabled by technology. In China, for example, asset-light clubs are

on the rise. These unmanned pods are sometimes just a few square meters in size. Users book their use through an app. Some clubs charge by the hour, while others require a membership.

Han Wei is CEO of one of those disruptors: LeFit.

According to the 2018 IHRSA Greater China Health Club Report, chains like LeFit and SunPig have helped create a fitness market in China with 1,767 clubs and 4.52 million members — just in China's 10 largest cities. In 2017, clubs in those cities generated sales of some \$3.9 billion.

That made China the largest market in the Asia-Pacific region, despite a penetration rate of less than 3 percent.

Simon Flint is CEO of Evolution Wellness, which like other upmarket operators uses technology to enhance its product offerings and boost retention rates.

Evolution operates four brands of upmarket clubs in six Asian countries.

In Indonesia, its Celebrity Fit-



Celebrity Fitness is preparing the launch of a virtual fitness channel in Indonesia.

ness brand is about to launch a virtual fitness channel, which should help Evolution widen its reach and provide an opportunity to monetize classes through sales to hotels and other customers.

Another example of blending technology with fitness is DNA testing, which Evolution offers at its Fitness First clubs in Singapore and Hong Kong. Members deposit a swab sample from their mouths, and about 10 days later receive a report about their genetic predispositions. Flint said the results help inform choices about exercise and nutrition. Coaches at the clubs

are trained to interpret the results and offer customized training programs.

Other speakers at today's forum include Li Qi-Geng, general manager, Beijing Competitor Sports Science & Tech; John Young, vice president of commercial business for Pan-Asia, Johnson Health Tech; Jin Yu-Qing, founder, Tera Wellness; Jason Lai, CEO, Light Fitness Taiwan; Marina Toeters, founder, By-wire.net; and Tzyy-Yuang Shi-ang, Ph.D., research chair professor, National Taiwan Normal University and president, Taiwan Sports Technology Association. ■

MATRIX TAKES THE WORK OUT OF MANAGING CLIENTS' WORKOUTS

After launching several pieces of workout equipment in recent years, Matrix Fitness is shifting its focus to the softer side of fitness:

It is rolling out the "Connected Solutions" platform for fitness clubs and their members.

Matrix **B0609A** is tying together many of the digital functions it already includes in its products, such as cardio equipment that tracks a user's exercise session while offering entertainment options and, for club managers, maintenance information. Some 80 software engineers have been working to integrate these functions into a "digital ecosystem" that can be customized for fitness clubs.

"The solutions have been available for a while, but we wanted to build a fully integrated digital package, which makes it more relevant for the fitness clubs and the customers," said William Poon, senior director of international sales at Johnson Health Tech. Based in Taichung, Johnson is the parent company of Matrix, Horizon, Vision Fitness and other brands.

By focusing on connected solutions, Johnson is aligning with fitness clubs that strive to offer individual "customer journeys" for

members.

Johnson says its platform can not only benefit club members, but can help clubs improve retention rates, increase revenues per member and even diversify their income sources.

"The focus is on the solution more than the product," Poon said. "The question we have to answer is, what is the benefit for the customer."

The Johnson Health Tech digital solution links with the club's membership management system. It lets club owners centralize and manage their relationships with personal trainers and customers.

An asset management system helps club managers monitor gym equipment and manage maintenance.

Another aspect relates to workout management for customers and personal trainers. While Matrix offers its own app for personal trainers and lets customers track their workouts, its new system in-



Gym members connect to new Matrix equipment with an RFID-equipped wristband

tegrates with popular third-party apps such as Fitbit and MyFitnessPal, which many club members use.

The system could help personal trainers further enhance their work with clients. For example, the Matrix app helps trainers monitor their clients' progress, send them assignments, and interact with them in other ways.

Matrix is incorporating its connected services in its Ultra Series of strength equipment. Users wear an RFID-equipped wristband to connect with the system, and can monitor their progress on Intelligent Training Consoles.

"The machine is the same and

you still have to adjust your seat and to set up your weights," Poon said, "but if you're a club member, an assignment will come up for you, telling you to do ten reps with ten kilos, for example."

Club members can define their goals and receive easy-to-follow instructions for the equipment.

The brand reported 2018 sales of \$528 million, an increase of 21 percent over 2017. Matrix said the increase was driven by the U.S. market, where Matrix sales surged by 26 percent. The company saw double-digit growth across all product categories.

■ **Barbara Smit**

THE VERSATILE VERSO RELIES ON PEOPLE POWER

The Verso offers three exercises in one: a stair-stepper, elliptical trainer, and indoor cycle.

Users may switch between modes on the fly, said Michael Kuo, general manager of Sports Art. **B0309A** They can also adjust the stride length and height in elliptical mode, and step height in stepper mode. Although there isn't a seat, in cycling mode the Verso pedals mimic a bike's pedaling motion.

"If you pick the highest setting, you could get a very intense workout," Kuo said. "It could be particularly convenient for hotels that have little space. They could buy the Verso to offer different types of training without taking up too much space."

The Verso uses an innovative energy-saving system that Sports Art previously developed for other cardio gear, and later applied to its Verde treadmill.

Like the Verde, the Verso is self-powered. The Eco-Powr versions of both machines can capture human energy exerted during a workout,

convert it to useable electricity, and feed it back into the electrical grid.

In addition to the Verso and Verde, the Eco-Powr range also includes an indoor cycle, recumbent bike and elliptical trainer.

Introduced five years ago, the Eco-Powr system appeals to fitness clubs that want to save on their electricity bills or market themselves as sustainable operations.

Sports Art also sells the Eco-Natural range of the same five pieces of equipment. The Eco-Natural range is also self-powered but doesn't return excess electricity to the grid.

The company also offers what it calls the Eco-Drive system, which is currently available only on a treadmill. The motor drive system generates consistent energy and output, and Sports Art claims it uses up to a third less electricity than the standard AC or DC motors used in the industry.

The Eco-Drive treadmill had to be designed from the bottom up.

"Since we wanted to have a flat treadmill, we had to redesign the whole layout and change the electronics," Kuo said. Sports Art worked with Cristiano Mino, who runs a workshop in Italy for such customers as Technogym, the leading Italian fitness equipment maker.

Sports Art's top-of-the-line machines come with self-powered LCD consoles or with Senza touch-screens, which require an external power source. Senza consoles integrate Any Cast function, which allows them to mirror the user's mobile phone screen.

In its latest generation of equipment, Sports Art has harmonized the appearance of all of the Eco-Powr, Eco-Natural and Eco-Drive



Michael Kuo with the Sports Art Verso

equipment by using similar perforated panels.

Sports Art intends to give a face-lift to its second-tier commercial gear and home products next year. The company is also designing prototypes for what will become a new range of strength equipment.

■ Barbara Smit

PRO GYM'S NEW MOTIONCRAFT BRAND KEEPS BODIES IN STYLISH MOTION

Pro Gym Designs is launching its new Motioncraft brand at TaiSPO for vertical and commercial markets, rolling out an air bike, a power climber and a rower as its initial products.

It's the second brand from Pro Gym Designs. **B0919a** which supplies fitness equipment for home and light commercial use.

Attentive TaiSPO visitors will know the Taichung-based company for its Infiniti brand of rowers and ski trainers. Pro Gym Designs also works on an OEM basis for some of the industry's best-known fitness gear brands and retailers.

With Motioncraft, the company is making an appeal with stylish, robust designs. "The brand will cover the light commercial and

commercial markets, to offer one-stop shopping for our customers," said Luis Hung, sales manager at Pro Gym Designs.

With a fan resistance system and a reinforced frame, the Motioncraft air bike is intended for cross-training boxes and for commercial use.

The power bike fits with the growing demand for high-intensity interval training. The machine allows for "freestyle stepping movement," with an ergonomic stepping design and a fan resis-

tance system.

The Motioncraft commercial rower has a generator resistance system and thick tubing for a sturdy appearance. The seat has been heightened for better ergonomics.

"The three products have unique features to make them easier for customers to use, and to make them durable," Hung said. "A combination of many small points shows that these are well-thought-out products."

Among such thoughtful features is a patented seat adjustment system on the air bike that uses a lever instead of a knob. A stepper area at the rear of the bike makes it easier for users to mount the machine.

Unlike many Taiwanese suppliers, Pro Gym Designs concentrates on product design and outsources all production. That explains why its largest department is research and development. To ensure exclusivity, the company owns all of its own molds and boasts more than 200 patents.

In the light commercial market, the company's key product is its R100 folding rower, with a fan and a magnetic resistance system.

The second largest category for Pro Gym Designs is ellipticals. They come in various levels of so-



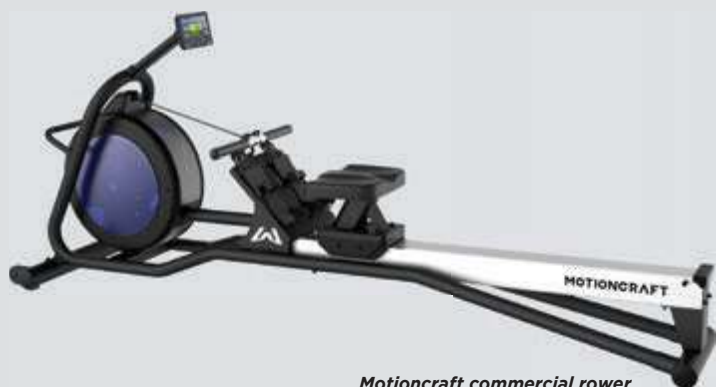
Motioncraft commercial indoor air bike

phistication, with patented magnetic resistance, motor or manual tension adjustment.

Other distinctive products include ski trainers, which few Taiwanese suppliers supply. Pro Gym Designs offers two versions — one with a generator resistance system, and a less expensive model with a fan and magnetic resistance.

Pro Gym Designs was established in 1981 by Clive Stevens, a New Zealander who previously worked as chief designer at Proteus, another Taiwanese fitness equipment specialist.

■ Barbara Smit



Motioncraft commercial rower

DYACO GETS INTO FIGHTING SHAPE WITH LICENSED UFC GEAR

With a third UFC gym set to open soon in Tainan, the chain is developing steadily in Taiwan. That's good news for Dyaco International, which this year expanded its licensing agreement with the global mixed martial arts organization.

In 2017, **Dyaco B1109** obtained the rights to make UFC-branded training gear for commercial and home use, and combat equipment. The original agreement excluded China, but in January Dyaco acquired rights to the Chinese market as well — just as the UFC is about to open a \$13 million training facility in Shanghai.

At some 8,600 square meters (92,570 square feet), the Shang-

hai facility, called the Performance Institute, will be about three times the size of its counterpart in Las Vegas, UFC's home. It will serve as a training hub for MMA fighters in China and the Asia-Pacific region, and will also be home to UFC's Asia headquarters.

Dyaco will provide the equipment for the institute's training facility, which will be used for showcases and events. The Taiwanese supplier will also have access to the center for launches and photo shoots, which should be a useful marketing opportunity as UFC launches gyms in China.

"We have a special package of equipment for UFC clubs, and a separate offering for vertical accounts, with functional training gear, free weights and combat equipment, like punching bags," said Chris Hancock, Dyaco's global

marketing director.

UFC gyms are owned by a joint venture between the UFC and New Evolution Ventures. UFC was acquired in 2016 for about \$4 billion by WME-IMG, a major talent agency in sports and entertainment.

Dyaco has established international distribution for the UFC range with retailers including Dick's Sporting Goods.

The bright red-and-black equipment range forms part of Dyaco's refreshed, multi-brand TaiSPO booth. The company also sells fitness gear under the Spirit Fitness, Sole and Xterra brands.

Dyaco invested in Spirit's commercial business last year by appointing a group of seasoned executives to lead its international development. A rower and air bike join the refreshed Spirit range.

Spirit is also drawing interest for an indoor bike made in partnership with Johnny G. Eight will be used for demos at the Dyaco booth under the leadership of Rex Chen,

a master trainer who works with Johnny G.

Dyaco has also entered into a partnership with Philips, the Dutch health technology conglomerate best known for its electronics and lighting products. Dyaco this year entered into a global licensing agreement with the company to make medical equipment under the Philips Physical Therapy Solutions name.

"As we extend Dyaco's reach into the medical and rehabilitation markets, the impact and credibility of the Philips brand make this the ideal partnership to deliver these much-needed, innovative solutions," Daniel Clayton, president of Dyaco's commercial and medical division, said in a statement.

The Philips line includes the ReCare M Series for medical professionals. The Philips ReActiv C Series is a high-end home and commercial equipment range for nursing homes and assisted living facilities. ■ **Barbara Smit**



Dyaco has a global licensing agreement with the UFC to make UFC-branded equipments for gym and home use.

DEMO SCHEDULE

Dyaco is hosting demos of its UFC equipment and Johnny G. bikes Thursday and Friday at its TaiSPO booth, B1109.

Johnny G. demos are at **10:30 a.m., 1 p.m. and 3:30 p.m.**
UFC demos are **11:15 a.m. and 1:30 p.m.**

FOR BOXERS IN TRAINING, CSG'S FORCE TRACKER IS A KNOCKOUT

Think you know how to pack a punch? The Force Tracker will tell you after a boxing workout whether you went the distance or were just pulling your punches.

The Force Tracker, which attaches to the bottom of a punching bag, detects the force of the blows delivered while training for boxing bouts or for martial arts such as karate, kickboxing and taekwondo.

It's a new product from **CSG Taiwan LTD, A0437a** which is best known for its NetPlayz sports radar system. Introduced five years ago, NetPlayz measures the speed of a ball — anything from a baseball, football, tennis ball, golf ball, soccer ball or hockey puck. A newer version added a camera, so players can film their motion and upload it for later analysis.

"We are making actual sports products, but trying to make them more fun with technology, because people always have their phones with them anyway," said Fiona Liu, managing director of CSG.

The Force Tracker connects to the X-Force system app, which analyses a boxer's or martial artists'

workout and shows punching power as well as speed and endurance.

In September, CSG entered into a licensing agreement with the UFC to offer the UFC Combat Force Tracker. Unlike some tracking systems, the CSG system does not require boxers or martial artists to wear bracelets or glove sensors.

The Force Tracker was developed by CSG engineers including Fiona Liu's brother, Eric. The team conducted shaking tests to ensure that the sensor would not fall off of a heavy bag even when subjected to a barrage of punches.

The launch comes at a time when boxing is becoming more popular for training. "There is an increasing number of boxing gyms in Taiwan, and growing influence from martial arts in fitness," Liu said.

Another connected item is Hoop Shot Online, combining hoop shot arcades with an app that lets players compete against each other online. Compatible arcades from CSG



The UFC Combat Force Tracker attaches to the bottom of a punching bag and tracks the force of a boxer's punches without the use of special bracelets or glove sensors.

have a switch on the scoreboard to enable a Bluetooth connection to the Hoop Shot online app.

Liu's father founded CSG to make rackets for such leading brands

as Wilson, Head and Babolat. It later pulled out of the racket business and diversified into other sporting equipment.

■ **Barbara Smit**

SPEARFISH IN STEALTHY STYLE WITH AROPEC'S LATEST SUITS

When you're spearfishing in deep waters, you don't want to stick out like a conspicuous predator with a sharp appendix.

That's why **Aropec D0102** developed spearfishing suits with camouflage patterns that let divers blend into the environment. Suits come in three colors for different depths.

"We used temperature analysis to split the range into three types of products with different colors," said Lynn Hsiao, a sales executive at Aropec. The Taichung company specializes in gear for water sports and triathlon.

Aropec for years has recognized a growing demand for spearfishing suits, but couldn't develop its range until it had harpooned a printing partner in Taiwan that was able to produce realistic camouflage.

The suits, which Aropec is launching at TaiSPO, start with a "cameo blue" version for shallower depths of 5 to 15 meters (16 to 49 feet). They are made of 2mm-thick neoprene and are adequate for

most Asian markets.

The next level, for depths of 10 to 30 meters, is colored "wine green" because the environment is rich in plankton and other creatures that tend be shades of yellow and brown. These suits, with 3mm-thick neoprene, are intended for European customers.

Its "copper brown" suits, for depths of 25 to 50 meters, use a 5mm-thick layer of neoprene. There is little light at those depths, and underwater creatures are typically darkly colored.

The range of full spearfishing suits comes with Supratex gun pads to protect the chest, as well as elbow, knee and calf reinforcements. Aropec has developed a range of matching hoods, masks, gloves and socks.

Aropec also sees potential, especially in Asia, for free diving gear — used for diving without the use of a

breathing apparatus.

Competitive free divers seek to go as deep as possible on a single breath. But Aropec is targeting more casual divers who just want to try out the activity as a form of adventure.

"You have to be quite eager, but free diving is getting more popular," Hsiao said. "We focus on recreational divers and young people, who often want to take pictures while they are diving."

Aropec's initial range of free diving gear includes silver suits for women, blue suits for men, and black suits for both sexes. One of the women's suits has added outside stitching to flatter the silhouette for those vacation selfies. The company plans to widen the range by offering more colors.

The free diving suits use a distinctive, 3mm-thick "super-stretch neoprene" that Aropec says reduces drag so divers can



Lynn Hsiao has picked her outfit for freediving.

move more freely. Aropec also offers accessories including fins, snorkels and masks. ■ Barbara Smit



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ALATECH SYSTEM LETS GROUP CLASS MEMBERS SHOW SOME HEART (RATES)

There's nothing like wearing your heart on your sleeve — or showing your heart rate on a big screen in front of the entire indoor cycling class.

Alatech **B0120** is adding a group heart rate tracking system to its connected fitness platform. It makes group classes more engaging by displaying live data from participants on the screen.

It's the newest piece of a smart fitness ecosystem that the Taiwan company has been expanding piece by piece. The ecosystem encompasses hardware along with digital technology, from fitness gear to smart wearables, mobile phone apps — and, now, group heart rate tracking.

"We are turning the Group Personal Training center into a complete solution," said Frank Chen, Alatech president. "We are capable of developing all of the parts in the system, and then our customers can pick their own combinations."

Alatech, based in Taichung, is showing the GPT system at TaiSPO. Instructors will demonstrate the system by leading group workouts on stationary bikes, rowers and treadmills (see schedule on this page).

They will also display the system at the Taipei Cycle show at the Nangang Exhibition Center. At Taipei Cycle, Alatech can be found at **HALL 1/4F/N0926**.

Alatech formerly made components for fitness equipment such as controllers and consoles. After launching a line of GPS watches a few years ago, Alatech began making treadmills.

The treadmills, made in Alatech's factory in Tongxiang, China, sync with its GPS watch and with smart watches from other brands.

Alatech then released its Cloud Run app, an interactive program that lets users visualize their run on screen and, if they choose, to "race" against other users. The treadmill automatically adjusts the incline to match the virtual on-screen terrain.

With the GPT Center, Alatech is looking to widen its customer base



The color codes on the big screen show at least three Alatech employees are taking it easy during a group cycling workout.

by appealing to instructors and gyms.

MyZone and other suppliers have pioneered the idea of group heart rate tracking systems, which in recent years have proliferated in fitness clubs.

On the large screen, individual tiles show workout data for each participant. Color codes based on their heart rates tell the cyclists or rowers if they are working out hard enough.

The screen displays information relevant to the exercise, such as power and cadence for the bikes, and heart rate for aerobics.

Participants wear special Alatech armbands that are equipped with optical sensors and worn on the forearm or upper arm. The armbands

sync with Alatech sports watches, cycling computers and fitness equipment, while also connecting to the live heart rate display.

The light armbands also can record and store heart rate data and steps per minute independently, so users can synchronize their workout data to Alatech's app after they're done. They are also compatible with systems from Strava, Wahoo Fitness and other brands.

Alatech says the armbands have a slower response time than chest belts, but many users find them more comfortable and convenient.

Sales manager Christina Chang

said the live display could help trainers and clubs increase retention rates by adding more value to classes. "We're trying to support them to have a higher level of interaction with their customers," she said. "The data on the platform helps to make this interaction more relevant."

As part of Alatech's increasingly powerful ecosystem, the company has developed a more high-end smart watch. It provides extra tracking parameters and pairs with external heart-rate monitors, bike computers and some fitness equipment. ■ **Barbara Smit**

ALATECH GPT DEMO SCHEDULE

Booth B0120

Thursday and Friday,
March 28 – 29

10:30 – 10:50 a.m.
11:10 – 11:30 a.m.

Group Personal Training
(GPT) demo / spin bike

2 – 2:20 p.m.
2:40 – 3 p.m.

GPT demo / rower

3:30 – 3:50 p.m.
4:10 – 4:30 p.m.
GPT demo / spin bike

4:30 – 6 p.m.
Cloud run

Saturday,
March 30
(Public day)

10 – 10:20 a.m.
10:40 – 11 a.m.
GPT demo / spin bike

11:30 – 11:50 a.m.
12:10 – 12:30 p.m.
GPT demo / rower

TAIWAN'S SPORTING GOODS MAKERS SCORE WITH ROBUST 2018 EXPORTS

Taiwan's sporting goods industry had a robust 2018, as exports jumped by 6.7 percent to just over \$1.9 billion.

According to figures shared by the Taiwan Sporting Goods Manufacturers Association (TSMA), **D0321** the fitness industry was the primary driver of the increase. Fitness manufacturers increased exports by more than 6.5 percent to \$889.3 million.

Fitness is by far the largest category for the overall sporting goods market, followed by golf and outdoor equipment. Both of those categories also saw increased demand from international customers.

Exports of golf equipment rose by 5.4 percent to \$381.9 million, while outdoor gear exports climbed by 3.5

percent to \$250.2 million.

Influenced by currency swings, the industry's exports have jumped by more than 35 percent in the past decade. The 10-year period includes two major dips, one in the aftermath of the global financial crisis and a second smaller decline in 2015.

Last year was also stellar for the Taiwan bicycle industry, which is a close cousin to the country's sporting goods industry. Thanks to electric bicycles and associated components, Taiwan bikemakers boosted exports by nearly 15 percent to \$3.21 billion.

Exports of complete bikes, including e-bikes, rose 17.7 percent in value to \$1.85 billion and accounted for nearly 58 percent of Taiwan's bicycle-related exports. Exports of parts and components rose by more than 11 percent to \$1.36 billion. ■

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