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CYCLE**

SHOW DAILY

PREVIEW/DAY 1

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COVID-19 & Taiwan's industry

Taiwan's export boom

Interview: Gina Chang, TBA



E-bike drive systems

Tools & pumps

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<h1>TAIPEI CYCLE 2022 Show Profile</h1>	
Organizer	Taiwan External Trade Development Council
Exhibition Dates	March 9 - March 12, 2022
Main Themes	<ul style="list-style-type: none"> Bicycle supply chain: bicycle parts and accessories Complete bicycles Overseas exhibitors and international brands e-Bikes and drive units: e-Bikes, electric motor, battery, electric parts and components Cycling lifestyle and fashion: cycling accessories, bike tour services, smart cycling services, startups, fashion show, TAIPEI CYCLE+ salon
Unique Show Features	<ul style="list-style-type: none"> A hybrid show, both on-site and online. The long-awaited gathering of the world's leading B2B cycling industry leaders. Direct access to cycling's leading global brands and manufacturers. The gateway event for brands to reach the Asia-Pacific markets. A hub to exhibit and see the latest designs, innovation and R&D in cycling. The one stop shop event to conduct business with stakeholders all across the global supply chain. Witness the intersection and collaboration of the electronics and cycling industries through connected technologies.
Exhibition	TAIPEI CYCLE Show: 638 exhibitors/ 2111 booths TAIPEI CYCLE DigitalGo: 207 exhibitors. https://online.taipeicycle.com.tw/
TAIPEI CYCLE Key Exhibitors	Giant, Merida, Ideal Bikes, Darfon (BESV), Shimano, SRAM, KMC, Pacific Cycles, KTM
Events	<ul style="list-style-type: none"> TAIPEI CYCLE d&i awards Pre-show press conference TAIPEI CYCLE FORUM Outdoor Taipei (outdoor event)
Theme Pavilions	TAIPEI CYCLE d&i awards Pavilion
Free visitor services	<ul style="list-style-type: none"> Online & onsite registration In-hall wireless Internet Show publications Show APP Information Centers Muslim prayer room Legal consultation service

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TAIPEI
CYCLE
2022

DigitalGo Calendar*

<https://online.taipeicycle.com.tw/>

- Publications
- Physical event
- E Publications

WEEK ONE: THE REUNION	7	8	9	10	11
			■ Show Daily 1	■ Show Daily 2 ■ Forum ■ Live Tour Market Day US *GCN(TBC)	■ Live Tour Market Day Europe GCN(TBC)
WEEK TWO: ONLINE CONNECTIONS	14	15	16	17	18
	■ 1. E-Newsletter: TTS Match & d&I awards 2. DigitalGo's Bulletin board Announcement	TTS Match	TTS Match d&i award winners	TTS Match d&i award winners	TTS Match
WEEK THREE: THE KNOWLEDGE BANK	21	22	23	24	25
	■ 1. E-Newsletter: This week's feature exhibitors (schedules) 2. DigitalGo's Bulletin board Announcement	Video Feature: complete bike	Video Feature: Ebikes & Drive units Smart cycling devices	Video Feature: Bicycle Parts, Bicycle Accessories	Video Feature: Int'l brands & Cycling Services, Smart cycling devices
WEEK FOUR: THE HIGHLIGHTS	28	29	30	31	1
	■ 1. E-Newsletter: Highlights 2. DigitalGo's Bulletin board Announcement	Live Tour Video	Live Tour Video	Webinar video: Gina Chang <i>Discover Market Trends and Marketing Strategies</i>	Webinar video: Pacific Cycles, KTM <i>Sharing experience: How to Integrate ESG into Business</i>
WEEK FIVE: THE WRAP UP	4	5	6	7	8
	■ 1. E-Newsletter: Highlights 2. DigitalGo's Bulletin board Announcement	Forum Videos	Market Day US & Europe Videos	Live Tour Videos	

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INTERVIEW: TBA SECRETARY GENERAL GINA CHANG INNOVATION IS KEY TO LATEST ELECTRIC DRIVE SYSTEMS

After two intense years dominated by high demand for bicycles, components and parts, serious supply chain issues and price hikes in raw materials and freight costs, the Show Daily sat down with Gina Chang, Secretary General of the Taiwan Bicycle Association, to discuss how Taiwan's bicycle industry fared during the pandemic.



series of three books that help its members to map their business, optimize their networking efforts and improve in terms of branding and aesthetics.

Show Daily: Which are the main trends TBA will be focusing on in 2022, and what are the challenges?

Gina Chang: Improving the online presence of Taiwanese manufacturers, many of them small and medium enterprises, is key. We are also looking for ways to lower the carbon footprint of their production and make them greener. To qualify for eco certifications, the entire supply chain needs to be examined and to be optimized where necessary.

One big and constant challenge for Taiwan's bicycle industry that limits fast growth is to find staff in sufficient numbers, with qualified employees being particularly hard to find. One way to address this issue is to push for the automation of the production. ■ **Laurens van Rooijen**

Gina Chang, Secretary General of the Taiwan Bicycle Association

Show Daily: What is your assessment regarding the last two years?

Gina Chang: Taiwan's bicycle industry has seen another year of strong growth in the e-bike segment in particular. Even under the impact of the Covid-19 pandemic, the market demand continues to soar. According to our export statistics the United States outpaces the EU region in terms of growth, which was a surprise for us. At the end of the third quarter, Taiwan had exported close to 750,000 e-bikes and 1.5 million conventional bicycles.

Show Daily: Where do you see the main challenges for Taiwan's bicycle industry?

Gina Chang: Due to the Covid-19 pandemic markets have been changing at a fast pace - faster than we could ever imagine. The ongoing trend towards e-bikes has been a chance and a threat at the same time. The rapid evolution of e-bikes has put small and medium companies under pressure due to high development costs. But as this segment is going from one high to another, most manufacturers want to be part of this booming business

Show Daily: What is your assessment of the most important markets?

Gina Chang: Europe is the biggest bicycle market in the world, so the competition is tight. To keep growing in this market we are looking at new generations and their interests, and also post-pandemic environment. Starting from a lower level, the markets in North America and in the United States in particular have shown a particularly dynamic growth, so that is very promising.

Show Daily: What other markets are on TBA's radar currently?

Gina Chang: Australia has been developing rapidly as of late, so we are surely looking into this market. As for Asia there are two distinctive markets, with Northern Asia (i.e. Japan, Korea, China and Taiwan) differing vastly from South Asia in terms of buying power and the technical know-how of IBDs regarding latest technologies. So for South Asia in particular we need the right product and we also have to look into the right sales channels. This means less integration, less flashy features to ease both assembly and maintenance, and it may well mean opting for direct sales through the internet.

Show Daily: Apart from keeping track of market developments, what other assistance is TBA offering to Taiwan's bicycle industry?

Gina Chang: As physical meetings at trade shows such as the Taipei Cycle Show and the Taichung Bike Week have become much more complicated, keeping in virtual contact is key. We think many Taiwanese companies still have some room for improvement in terms of internet marketing and the online presentation of their expertise and products. For this reason, TBA has launched several online initiatives to coach our members and provide the know-how to show product abilities on camera for their existing and potential customers. After all, the product presentation online and at physical shows differ vastly. Also, TBA brought out a

photo: Sterling Lorence rider: Thomas Vandenhain

TAIWAN'S INDUSTRY SEES SOARING DEMAND BUT FACES INFLATION & RECRUITMENT ISSUES NAVIGATING THROUGH THE PANDEMIC

The export numbers of Taiwan's bicycle industry have been impressive over the last two years. But it has not been all smooth sailing, as various consequences of the pandemic posed real challenges for manufacturers to meet existing orders and cover a globally increased demand.

Throughout 2020 and 2021, global demand for bicycles and related parts and accessories has skyrocketed. In 2020 demand grew by a whopping 30 percent globally. In 2021 growth may have been somewhat lower, but that's in comparison with that highly extraordinary year before. Pandemic-related travel restrictions, closed gyms and people looking to avoid public transport and the infection risk associated with it on their daily commute caused this increased demand for bicycles. Large cities such as Berlin or Paris repurposing road space as pop-up bike lanes further added to a situation where bicycles were jokingly referred to as "the new toilet paper" during the pandemic. An end of the current bicycle bonanza does not seem to be in sight as the EU plans to lower VAT on all kind of bicycles as part of its post-pandemic New Green Deal and the United States is likely to introduce the first ever federal tax credit for e-bikes.

Even under perfect conditions this strong rise in demand would have posed a serious challenge for Taiwan's bicycle industry. But the last two years served up a perfect storm for the kind of industrial production that relies on global supply chains. The cost of sea freight skyrocketed while its reliability went down drastically, due to closed ports and the backlog that followed suit. Manufacturers were facing a double-pronged challenge, first to get their respective products produced in time in the needed quantities according to their order book and then to get those products shipped to the markets where distributors and consumers alike were eagerly awaiting them. Since many Taiwan-based companies also run factories in China and Vietnam, they faced separate challenges there, including power cuts, lockdowns and closed factories.

How did key players of Taiwan's bicycle industry get through these two challenging years? Show Daily reached out to them to find out. First of all, TBA's impressive export numbers are confirmed by all of the companies contacted. A typical example is Giant Group, Taiwan's biggest bicycle manufacturer, as chairwoman Bonnie Tu explains: "The global demand for both regular bicycles and e-bikes was strong. As a consequence, our revenue grew by 10.3 % in 2020 year-on-year, and in 2021 it even grew by 16.9 % as we picked up the rewards of earlier investments." KMC Chain's Adrian Bleiler has a similarly positive estimate on how turnover developed: "Over the last two years, KMC has experienced a continuous sales growth of 20 to 25 % as a result of heightened demand and strategic investments."

In terms of profit, for many companies things were not as rosy as the turnover increase might suggest. RST's global sales manager Susan Chang points to one major reason for this: "Due to the strong demand from the market, our turnover grew. But profits didn't see the same strong growth because the prices of raw materials increased a lot, and we had to absorb some percentage of this increase ourselves." Novatec's marketing manager Jeff Chen adds: "Since raw materials were not only in high demand with the bicycle industry but also with other industries, we had to fight for those and faced higher prices as a consequence." Another source of worries were logistics and sea freight, as Giant Group's Bonnie Tu points out: "Increasing tariffs and growing lead times in global ocean freight could bring some impact to both sales and profit growth. The same goes for the limited supply of bicycle components that is likely to lessen the production rate."

A long-lasting problem for industrial production in Taiwan is the lack of factory workers and qualified staff in particular. Various factors converged to amplify the issue as of late, including the government's tightening of rules on overtime hours. From March 2020 strict travel restrictions to keep the pandemic out caused more problems as Novatec's Jeff Chen points out: "As a manufacturer we very much rely on labor from South-East Asia. The travel ban and restrictions did have an impact on some of our production capacity. As a consequence, we could not increase staff at our Taiwanese factory as much as we would have liked. Even in China finding skilled workers is getting more difficult every year." Interestingly, RST managed to recruit additional staff, according to Susan Chang: "For both our factories in Taiwan and in China, we have been increasing our staff by 10 to 15 % over the last two years."

It's not just the availability of raw materials and skilled workers that have been limiting the output of factories. Distancing rules and other governmental restrictions related to the pandemic also had an effect, as Velo Saddles' Vice General Manager Ann Chen points out: "To ensure the safety and health of our staff during the pandemic, we have not been increasing staff numbers in our factories. In Vietnam, last year's lockdown has postponed the opening of Velo Saddles' new factory. Instead of becoming operational in 2020, we had no choice but to reschedule and we now hope to start producing there in 2022." Giant Group's Bonnie Tu confirms the impact of pandemic-related restrictions as well: "Apart from stricter rules on overtime work and the general lack of factory workers,



Novatec's Jeff Chen

these restrictions lessened the output of the production. However, employees' physical and mental health are extremely important to us."

A proven way to lessen the dependence on recruitment and migrant workers is to invest in automation, and many manufacturers in Taiwan had started to do just that pre-pandemic, to offset the higher labor costs in Taiwan when compared to China or Vietnam. One example for this is KMC Chains, as Adrian Bleiler points out: "Automation investments in the last decade have allowed us to develop a stable long-term human workforce. Due to this no shortages of employees were experienced in 2020 and 2021." RST's Susan Chang also points at this way to mitigate bottlenecks regarding factory workers: "Thanks to more and more automation, workforce shortages are not a major issue for our operations." And Jeff Chen explains: "Novatec has been investing in automation to replace simple jobs. We have been working with students from surrounding colleges and universities to find better skilled staff for the future as well."

But automation is not a feasible option for every manufacturer as Velo Saddles' Ann Chen explains: "We are doing our best to increase the capacity through higher efficiency and automation, but due to the level of customization that Velo offers to its customers there are still many tasks in our production that



Susan Chang, RST global sales manager

require human labor." This points at a weakness of robots that are highly efficient in producing large amounts of standardized items but that cannot compete with human beings in terms of flexibility. The impact of the pandemic on the daily business of



Adrian Bleiler of KMC Chain



Ann Chen of Velo

Taiwan's bicycle industry could have been much more serious if it were not for two factors: by reacting swiftly and imposing strict immigration controls early on, Taiwan managed to keep Covid out for more than a year and only faced one serious wave of infections thus far. So far the country has seen no lockdowns.

In addition many manufacturers in Taiwan were lucky (or wise) to have invested in new production facilities both domestically and abroad before the pandemic struck, making it easier to absorb the increased demand and to avoid a cluster risk for their operations. As for a time line for a return to some

FREIGHT COSTS SOAR

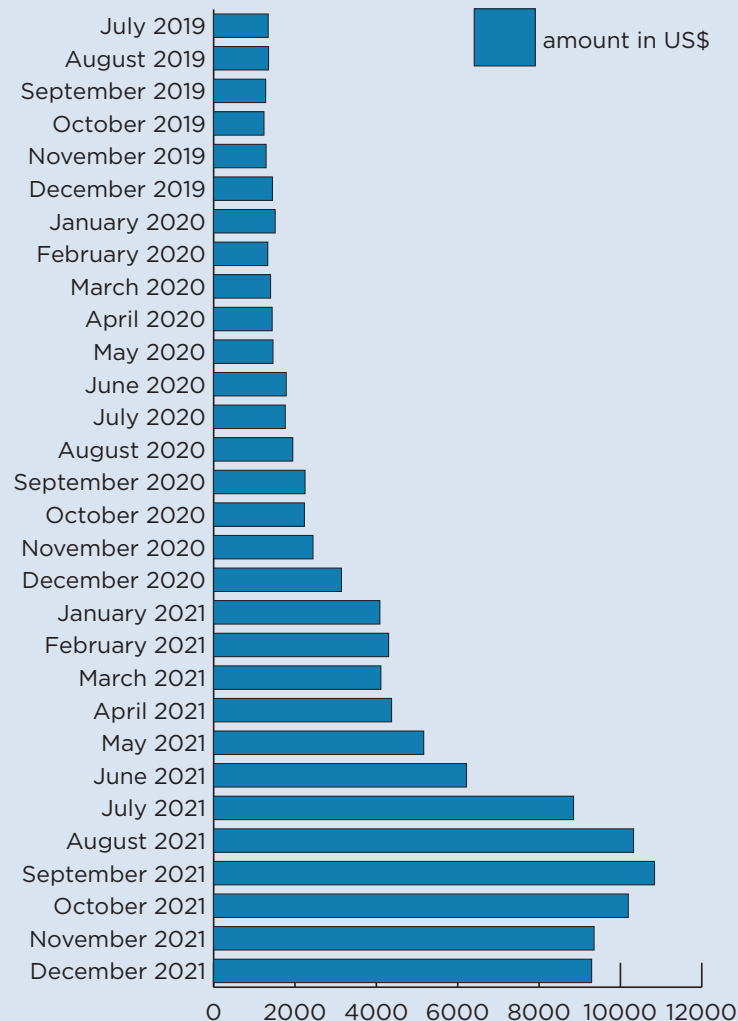
When the MS Ever Given drifted off her trajectory and blocked the Suez Canal for a full week in March 2021, it looked like a fitting metaphor for the chaos inflicted on logistics, and sea freight in particular, by the Covid-19 pandemic.

With its advanced division of labor, complex supply chain and often large distances between factories and markets, the global bicycle industry depends heavily on sea freight. As an island nation and a key player in this global industry, Taiwan naturally is no exception and it was not spared from issues such as a lack of containers and temporarily closed harbours that caused massive backlogs. For example, Merida Industries could not ship 15,000 finished bicycles at the end of September 2021 due to a lack of containers. These bicycles were missing in the result for the third quarter as a consequence. Merida was not alone in facing these logistics issues. Delays regarding the estimated date of delivery were commonplace throughout the industry - some-

times caused by a lack of components and parts and sometimes caused by bottlenecks regarding sea freight.

As always, there are some winners in times of trouble as well. When a product or service is scarce in a market economy, prices go up. The prices for 40-foot standard shipping containers increased almost tenfold globally, with even steeper hikes on the most popular routes from Far East to the West coast of the United States and to the European harbors of Rotterdam and Hamburg, respectively. These routes make up 44 % of all cargo being exported from Far East. Year-end bonuses for some employees of major freight forwarding companies show how the business boomed during the pandemic. Evergreen Marine Corp., Taiwan's largest container shipper, paid up to 40 months salary as bonus to certain employees. At Yang Ming Marine Transport Corp. the numbers were a bit lower, but a 12 month salary bonus is still a nice year-end bump.

■ Laurens van Rooijen



The index represents a market rate for freight for any given shipping lane for a 40' container. The index is based on aggregated and anonymized real-time business data from global freight carriers, freight forwarders, and shippers that use the WebCargo by Freightos freight rate management platform. The values are an average of the five business days of the last full week in each month.

kind of normal, the managers contacted by Show Daily were reluctant to risk a statement - not all that surprising two years into a pandemic that keeps surprising the world with new mutations. Until this is the case, it's best to follow the advice of Velo Saddles' Ann Chen: "When the world is changing, we must be

prepared for ourselves to follow up and adopt to the changes at hand." With this in mind, let us all hope that suppliers, manufacturers, distributors and bicycle dealers soon will be able to meet again. Plenty has happened since the last meetings in person, so there is no lack of topics to discuss. ■ Laurens van Rooijen

TAIWAN'S EXPORT NUMBERS 2021

E-BIKE EXPORTS TOP US\$1B IN 2021

In years past, e-bikes have been the driving force of Taiwan's bicycle industry to keep growing the volume of its exports despite declining units. As the numbers from the Taiwan Bicycle Association (TBA) show, e-bikes have become a billion-dollar business, topping the export volume of conventional bicycles in 2021 for the first time.



For almost one and a half years Taiwan managed to stay out of the grasp of the Covid-19 pandemic. But from mid-May to the end of June 2021 the country faced a first serious wave of local infections. These resulted in restrictions such as mask-wearing mandates and strict immigration and social distancing rules that naturally had an impact on industrial production as well. At the same time the pandemic disturbed global logistics and sea freight in particular, making it hard for many producers to get their goods to their markets. Despite these disturbances, Taiwan's well-oiled industry kept producing bicycles at full steam. It had no choice but to do so as demand continued to be very high — shortages in bikes in 2020 had led pretty much all bicycle distributors to up their forecast as dealers rushed to increase their pre-order for 2021.

A close look at Taiwan's bicycle export numbers from January to November 2021 (the numbers for the entire year 2021 will only be presented in late February at a press conference of TAITRA) shows

that the already strong numbers of 2020, when exports grew by 18 % in volume and 14 % in value compared to the year before, have been far exceeded. Until the end of November 2021, 914,020 e-bikes were exported from Taiwan, exceeding the entire previous year's 760,000 units by far. When comparing the period from January to November, Taiwan's e-bike exports grew by 34 % in units with the average value going up by 2% to USD 1325.16 and the overall export volume growing by 36.7 % to USD 1,211,220,985. Even without the month of December Taiwan's e-bike exports thus have exceeded a billion USD in value for the first time.

Last year Taiwan's exports of e-bikes to the EU grew by a relatively moderate 15.5 % to 482,689 units and by 18 % in volume to USD 625,4 million. The numbers were way more spectacular for the NAFTA region and the United States in particular. E-bike exports to the United States grew by 68 % to 255,332 units and by a staggering 79.5 % in volume to USD 352.4 million. As for the average value of exported e-bikes the





United States come in slightly higher at USD 1380.13 - whereas the EU comes in at USD 1295.75 -. A look at Asia and the Southern hemisphere shows that China with 18,661 units, Australia with 12,020 units and Japan with 9,755 units were the most important export markets in these regions, albeit at a much smaller scale and closer to Switzerland's 8,416 units.

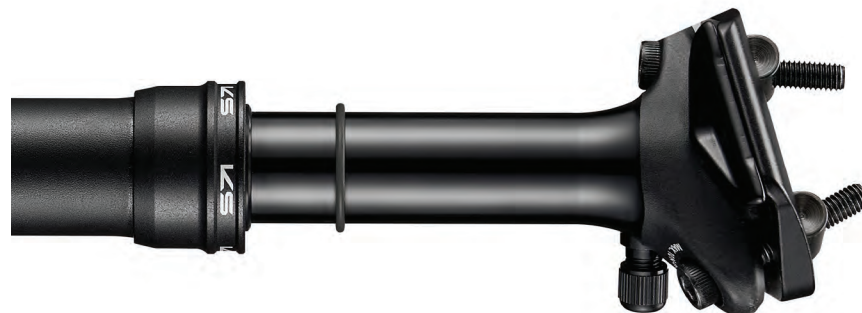
The dominance of both the EU and NAFTA markets is obvious as they account for more than 80 % of Taiwan's e-bike exports in 2021. Announcements to lower the VAT on all kind of bicycles as a part of the EU's revised New Green Deal and plans to introduce a federal tax credit for e-bikes in the United States for the first time ever should keep demand at a high level for years to come in these two key markets for Taiwan's e-bike exports. Still, due to logistical factors most of the e-bikes assembled in Taiwan are built around Asian-made motors, ranging from Shimano, Yamaha and Panasonic to Bafang, MPF and TranzX, while most of the e-bikes with European-made electric assistance systems from the likes of Bosch or Brose are assembled in Europe. Challenging this pattern will not be an easy task.

It's not all about E-bikes however and Taiwan still exports plenty of conventional bicycles as well, ranging from kids and utility bicycles to sophisticated road and mountain bikes. For this category the NAFTA region is Taiwan's most important export market. And while the export units are much higher, the average value is significantly lower. Still the overall volume of exported conventional bicycles summed up at USD 1,208,050,974. A total number of 1.84 million units were exported from Taiwan between January and November 2021, about twice the number of e-bikes exported. 820,065 units or 44.5 % went to the NAFTA region - in this market the number of exported bicycles grew by 26.7 % compared to the year before. Since the average value rose by almost 10 % to USD 671.80, the export volume for conventional bikes

grew by an impressive 39 % to USD 550.9 million. The average value of exported bicycles is much higher in Canada and Mexico than in the United States, so those anti-dumping duties imposed on China by the United States do have an effect.

With 505,810 units the EU absorbs another 27.5 % of Taiwan's exports of conventional bicycles. This number grew by 21.3 % compared to the year before, accounting for an export volume of USD 287.3 million. While the average value of conventional bicycles exported to the EU dropped by 12.8 % to USD 568.05, this value shows a big variance within the EU, ranging from USD 107 in Portugal to USD 2336.65 in Ireland. For conventional bicycles, Asia and the Southern hemisphere are still important markets for Taiwan's bicycle industry, with Australia accounting for 85,145 units and Japan adding 59,874 units and South Korea 29,122 units and China 28,356 units respectively. With all these countries, exports of conventional bicycles saw a slight decline in average value. This surely can be credited to competition from a number of Southeast Asian countries.

Last but not least, Taiwan's bicycle industry also exports a wide variety of components and parts. And since demand has been growing globally, these components and parts were in high demand around the world. When compared to the year before, the tonnage of exported bicycle parts grew by an impressive 44.15 % to 68,264.25 metric tons. As for the value of these exports, the growth was even bigger at 58.2 %, accounting for a volume of USD 2,259,668,545 - just a bit less than the value of the combined exports of bicycles and e-bikes. As the largest category by far, frames and forks account for 37 % of this export volume. The only parts categories to show low growth in exports in 2021 were inner tubes and bicycle chains, hinting at the high domestic demand to build all those bicycles and e-bikes that have been sent from Taiwan to the entire world. ■ **Laurens van Rooijen**



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OVERVIEW: E-BIKE DRIVE SYSTEMS

INNOVATION IS KEY TO LATEST ELECTRIC DRIVE SYSTEMS

E-bikes have become a driving force of Taiwan's bicycle exports. But supply shortages have extended lead times massively, so the number of motor manufacturers exhibiting at the Taipei Cycle Show is lower than usual. All the same, there are some interesting products on display.



Shimano Steps CRG EP800

At the Taipei Cycle Show, **Shimano M0814** is putting its main emphasis on components and the latest iteration of its electronic Di2 shifting for the road bike flagship Dura-Ace in particular. But there is some innovation in terms of the range of Steps mid-motors as well. To cater to the dynamic cargo bike market the Japanese component manufacturer presents two Steps CRG mid-motors - one based on the new EP8 model with a maximum torque of 85 Nm and one based on the mid-end Steps 6100 version with a maximum torque of 60 Nm. While the hardware of these two motors remains unchanged, the firmware has been optimized to deliver more support and more torque in particular so handling a fully-loaded cargo bike (that can

easily weigh up to 250 kilograms) gets easier. The CRG cargo versions have been tuned to deliver more torque at low speeds and cadences, so it gets easier to get going and up to speed.

By supplying Croatian e-mountainbike maker Greyp with its top-of-the-line MPF 6 mid-motor, Tainan-based **Unique Product and Design Corporation N0414** attracted a lot of attention for its **MPF Drive** brand. And its flagship motor ticks many boxes: while it may be a bit heavier than the offerings of Bosch and Shimano, this extra weight is caused by the fact that all internal moving parts are made of metal and run in an oil bath. This results in two major advantages: first the MPF 6 mid-motor is very low on maintenance as its use on a fleet of



MPF 6 Drive



FSA System HM 1.0 hub

rental e-mountainbikes from Greyp has shown. The second advantage of the all-metal internals is the extra portion of torque that this mid-motor delivers. Officially the torque maxes out at 95 Nm, but it can be lowered to 80 Nm for less sporty applications. With its combination of high torque and low maintenance the MPF 6 mid-motor would be a good match for many cargo bikes as well.

With its FSA System HM 1.0, parts and components maker **Full Speed Ahead M1012** is aiming at the other extreme regarding e-bike drive systems. The motor has been built into the compact rear hub, delivering 250 Watt and 42 Nm of torque. This hub features a six-point IS disc brake mount and a standard HG body. Adding to the stealthy looks of the FSA System HM 1.0 are the minimalist controller that has been designed to fit into the top tube and a slim in-tube battery with a capacity of 250 Wh. If needed, a bottle-

shaped range expander battery can be linked up to the system's CAN bus to double the range. For additional information on the exact charging status of the battery or the distances covered, FSA also has a smartphone app. Apart from weighing less than 4 kg, the biggest advantage of this system is the low q-factor that will even make competitive cyclists smile.

As a classic OE partner, **JD Components J0717** makes sure to cover all needs in terms of e-bikes. And it does so pretty well with two products of its TranzX brand: the R16 is a compact hub motor that only weighs 2 kg and delivers 250 Watt and 45 Nm of torque, making it an ideal match for lifestyle-oriented urban bikes or road bikes with electric assistance. Apart from its compact size, the R16 also shines with low noise and vibration levels - and it is available for both disc or rim brakes. For manufacturers focusing on mid-motors, TranzX has the



FSA System HM 1.0 schematic



TranzX R16



TranzX R17

M17 as a powerful unit capable of delivering up to 85 Nm of torque at a weight of 3.2 kilograms. As a supplier of complete drive systems for e-bikes, TranzX also has two controllers with LCD displays and Bluetooth connectivity, an in-tube battery with a capacity of 504 Wh and various cadence and torque sensors in its portfolio. Last but not least OE customers can customize logo and decal areas to further add to the looks of their e-bikes.

As a full-service development partner and R&D company, **Hyena Inc. N1014** provides all drive system parts, an app for consumers and service software for brands looking to get into the lucrative e-bike market. OE customers get to choose from different packages for city, trekking or road bikes. All systems are based on hub motors that deliver 250 Watt power and 40 Nm of torque and fit standard cassettes. As for the batteries, Hyena has units that fit under the carrier, semi-integrated designs or particularly slim

in-tube batteries with a lower capacity. You also get to select from handlebar-mounted displays with all control buttons, low-profile handlebar units with some LED lights and a minimalist control unit that fits into the top tube for the road bike package. The latter also comes with dual sensors for a natural feel when pedaling. So far Hyena Inc. only offers bottom brackets with square taper axles, but they are working on a splined axle for the road package as well.

Established only in 2018 **DP Motors N0326** has set up shop in Taichung to be close to potential OE customers and to avoid antidumping duties aimed at China. And since the domestic market for e-bikes is still pretty small, the mid-motors of DP Motors conform with relevant international regulations and certifications such as EN15194 and ISO13849 certification. As for the latest generation of mid-motors, DP Motors offers the choice of two models that aim to deliver

350 Watt for North America. Positioning itself as an alternative to the mid-motors of the big suppliers, Chinese brand **Ananda DigitalGo only** has upped its game with its new top-of-the-line C230 offering. Built for the use on e-mountaintainbikes, this mid-motor combines a compact build and a low weight of

2.7 kilograms with over 100 Nm of torque - more than most mid-motors on the market. As for the voltage and the maximum watts, OE customers can choose from options fitting for the relevant regulations of the EU or the United States, respectively. Thanks

to the ISIS axle standard the choice of cranks that fit Ananda's mid-motor is abundant, and the tiny TFT display and controller to switch between the five support modes is tailored for use in terrain, offering strong contrast for easy readability. As a supplier of complete drive systems, Ananda also has battery solutions that fit into the downtube of e-mountaintainbikes and offer up to 520 Wh of capacity, weighing in at approximately 3.5 kilograms.

■ **Laurens van Rooijen**



DP Motor's powerful M80MD

a natural feel thanks to integrated torque and cadence sensors paired with advanced software. As the more compact option the M065MD model weighs in at 2.5 kg and delivers up to 200 W support and 60 Nm torque. For those looking for more power the M080MD model is the obvious choice, cranking out up to 80 Nm torque. As for the power output, DP Motors offers the choice of 250 Watt for EU legislation and



Hyena E-Road System



Hyena E-Trekking Classic System



Ananda C230 motor

OVERVIEW: TOOLS AND PUMPS

ESSENTIAL WORKSHOP TOOLS MATCHED TO NEW TECHNOLOGY

Every dedicated mechanic will have perennial tools that would be recognisable to anyone working on bikes twenty or thirty years ago. Yet, as technology moves on, so do the tools needed to service and repair bikes.



New pumps by SKS feature the revised MV Easy multi-valve head

Driven by the increasing uptake of new features like tubeless tyres or lightweight proprietary parts, dedicated solutions for problems such as mending tyres without inner tubes or achieving reliable torque settings are just two ways the tool market is evolving. Of course, one thing that's been a constant almost since the bicycle's invention is the need to keep your tyres pumped up. Along with its range of compact multi-tools, a trip to the **SKS M0514** stand offers an excellent opportunity to see the German firm's recently overhauled range of floor pumps. Famous for launching the indestructible Renkompressor in 1966, SKS has now released a slew of five new models, each featuring its revised MV Easy multi-valve head. The cheapest of the quintet is the Airkompressor Compact pump. Made of light yet robust plastic, above it sits the full-size Airkompressor 10.0, which is equipped with a large precision gauge for optimum readability. Sitting a level above this, the Air-X-Plorer has an exceptionally sturdy metal base, steel main tube, and a high-pressure rating for higher usage applications. Taking inflation up to an even more sizable 12-bar, the even more premium Airmotion offers an extra-long hose and soft-touch handle to ensure getting there is a comfortable experience. Finally, bringing its pumps right up-to-date, SKS' Air-X-Plorer Digi incorporates a smart digital pressure gauge for instantly readable



Shianglong Cycletool offers a spectrum of compact tools for tubeless tyre repair

values and exact inflation. Besides pumps, the advent of tubeless tyres has left many riders needing a new host of tools to keep their tyres in top condition. With this in mind, **Shianglong Cycletool K1133** has recently expanded its range to offer a spectrum of compact and brightly coloured tools for tubeless tyre repair. These include carry-along plug kits, which nicely match its equally bright CO2 inflators. Likely to become increasingly standard items in rider's saddle packs or jersey pockets, their low weight and small size are sure to win them fans. Also offering a neat solution for tubeless riders, **Kronyo's K0401** beautifully compact tubeless tyre repair kits are housed in a CNC machined aluminium capsule. Perfect for popping into your saddlebag, each contains a needle and five tyre sealing strips. With the cap-



Kronyo's compact tubeless tyre repair kits

sule's head forming a convenient handle for operating the needle, this can be specified in either a 4mm or 3mm diameter. Ideal for getting yourself back underway if your tubeless tyres suffer a puncture while you're out riding, Kronyo also offers a vast range of workshop tools. These include its tyre repair bag, which covers various instruments, adaptors, inflators, and patches for working on all sorts of tyres and tubes.

With bike frames and components increasingly switching to carbon fibre, plus the rise of complex proprietary parts, mechanics need to be mindful of working to the correct torque ratings. Helping them do just this is **Eclatorq Technology DigitalGo Only**. Producing a broad spectrum of digital display torque wrenches, these are suitable for both professional and home mechanics. Creating standard full-size tools for maximum leverage, the firm also offers multiple compact wrenches. Usable with a selection of interchangeable bits, each features



Digital display torque wrench from Eclatorq

both a digital display and buzzer function. Once pre-set to the desired torque, both combine to alert their user when this is reached. Similarly helping riders and mechanics set up their components to the correct torque is **Jcool K1206**. Minimalist in style, its pre-set torque sleeves slot onto the end of an Allen key or driver to provide one of three colour-coded torque settings. Preventing further tightening once either 4, 5, or 6Nm settings are reached, each promises an accuracy of +/- 5%. Also launching at the show is the firm's Speedy



Jcool pre-set torque sleeves

Torque tool. An adjustable torque wrench covering between 3-10Nm, its foldable handle results in an incredibly compact package. This includes ten of the most common bits accommodated around the tool's base for easy storage.

Of course, once you've rounded up a workshop's worth of quality tools, you'll need somewhere to store them all. Taiwan-based **Hazel DigitalGo Only**, part of Best Friend Enterprise, creates a range of beautiful yet robust cases from FSC certified wood. From specialist individual tool cases to larger roller-style systems, its wooden trolley uses traditional mortise and tenon construction backed by CNC engineering. Attractive and functional, it can support up to 400kg of tools across its six separate drawers. Fully lockable, it combines perfectly with Hazel's extensive range of foam-cut tool storage options and is available to custom order.



Hazel's robust cases in FSC certified wood

Finally, helping mechanics clean up once the job is complete, **Donzee's K1034** RIDOF wipes easily remove oil, grease, silicone, paint, grime, and adhesives from your hands. Available in various pack sizes, these range from continuous rolls of 336 sheets for busy commercial workshops down to individually wrapped sachets ideal for cleaning up following a roadside repair. Safe and non-toxic, they've been tested and certified by Swiss safety experts SGS.

■ JD



Donzee's RIDOF wipes



LINK TO PERFECTION



Link to Strength



► **High Tensile Strength**

Exceeding international tensile-strength standards by 50%.

► **Industry-Leading Chain Life & Durability**

Redesigned protective bushings cover pins to reduce abrasion and high-load wear allowing chains to last over twice as long.

► **Innovative Plate Design**

Wider and thicker unique O-Shaped plates which increased strength, stability, and provide anti-chain drop assurance.



KMC (KUEI MENG) International Inc.
www.kmcchain.com



KMC Chain

KMC Chain Europe N. V.
www.kmcchain.eu



KMC Chain Europe

KMC Chain American Co.
www.kmcchain.us



KMC Bicycle Chain

NEW PRODUCTS

BAFANG H700 AUTOMATIC DUAL SPEED DRIVE SYSTEM



Bafang's H700 built-in automatic dual speed rear drive system is a clean, compact and dynamic rear-motor that aids urban commuting for eCity segment. The H700 rear motor is not only equipped with the deceleration system that Bafang is known for, but is also integrated with the automatic dual

speed system. The motor automatically adjusts the gearbox ratio by detecting the speed of the vehicle during cycling, so that the rider can get a better cadence without manually shifting and experience greatly improved riding comfort without affecting the power of the motor. www.bafang-e.com

A-PRO E-CARGO EG4A-B11

A-Pro promotes sustainable development and environment-friendly transport with this e-cargo model. The EG4A-B11 E-Cargo features an integrated design (the motor and downtube combine together). It offers a clean appearance with integrated cable routing. The modular cargo platform can be adapted for a child seat, while the motor assist system has a dual battery setting for endurance. With the E-Cargo, outdoor life is more interesting.

IO608



HAFNY E13 APPROVED E-BIKE MIRROR

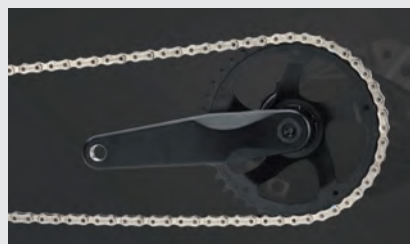
The HF-M901L/R-FR08 is designed for 45km/h e-bikes. The mirror has a hollow design to decrease the weight and improve wind resistance. The body is made of fiber-reinforced nylon, and can fit 14.8-23mm inside the diameter of the handlebars. The mirror has three pivot joints which can be adjusted to any desired angle. Available in HD glass lens and Anti-glare blue lens. www.hafny.com.tw

IO400



KMC E-CARGO CHAIN

e-Cargo Chain has unparalleled high tensile strength, exceeding international tensile-strength standards to achieve a market-leading 1350kgf which is 30% higher than other KMC e-Bike chains and 50% higher than industry standards. Unique O-Shaped inner and outer plates are strengthened by 13%



and 20%, respectively. Wider and thicker plates allow for increased strength, stability, and provide anti-chain drop assurance.

JO118 & DIGITALGO

SKS GERMANY COMPIT ANYWHERE

This mobile phone holder is simple, fast and universal: with a robust hook and loop fastener and two locking rings, the COMPIT ANYWHERE mobile phone holder can be mounted securely on the handlebars, stem or top tube. The system can also be easily attached to buggies and removed again.

The 30 cm long, rubberised hook and loop fastener ensures a perfect hold; the locking rings are slip-resistant and protect the surface. Thanks to the tilt adjustment, the position of the mobile phone can be optimally adjusted to ensure good readability from any angle.

MO514



TAYA CHAIN ROLLERLESS CHAIN SERIES

TAYA's rollerless chain series with the innovative design without rollers, save 8% weight comparing to the current model. Furthermore, the grease storage within the O-shape container prolongs the chain's self-lubrication, which significantly slows down chain's wear, extending the life of chain.

KO610



GALAXY PURPLE RED



GALAXY GREEN



GALAXY BLUE

TAYA CHAIN GALAXY SERIES

TAYA's galaxy series with the unique surface treatment on the chain plate captures the sparkle into your cycling journey. The mirroring and glossy surfaces also ensures end-users to eas-

ily rinse and maintain chains. There are three color choices of the galaxy series including blue, green, and purple-red.

KO610

STAN'S NOTUBES CREST MK4 RIM

The Crest MK4 rim features a new asymmetric version of Stan's patented BST tubeless design, creating a stronger, more balanced wheel. The 25mm internal width is optimized for gravel and XC use. The 6069 welded aluminum construction and reinforced spoke holes ensure lightweight durability. Available in 20", 24", 26", 27.5", and 29" sizes, the rim includes a 3-year warranty.

www.notubes.com

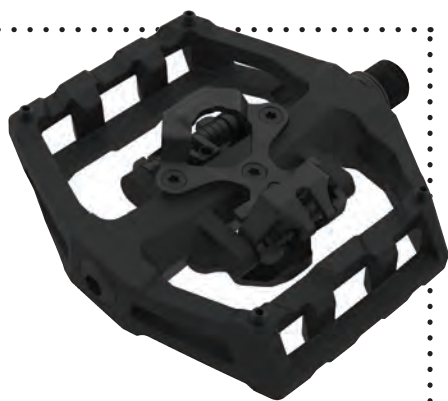


NEW PRODUCTS

WELLGO B366 PEDAL

Unique one-piece claw design helps to create better performance for mud shedding while riding in muddy environments. The oversize platform not only gives better support, but also helps create endless possibilities for riding enjoyment.

J0418



XPEDO APX LITE SMART TRAINER

The brand new Xpedo APX LITE is the best entry-level smart trainer. APX LITE supplies speed, cadence, and power data without additional sensors. APX LITE provides a maximum resistance of 1200 watts, a simulated uphill grade of 12%, and an accuracy of +/- 2.5%. Enjoy super high CP value, indoor training starts now!

J0418



MESSINGSCHLAGEL AIR BELL

With the Air Bell, Messingschlagel offers an optimally hidden security solution using the tiny Apple® AirTag tracking device. The Air-Bell accommodates the AirTag unobtrusively and invisibly. Fitting any standard bicycle handlebar with a diameter of 22mm, it consists of a strong fibre-rein-

forced plastic bracket with an aluminum bell housing. The AirTag can be tracked via Apple's "Find my" network - all over the world. Battery life is over one year and it is waterproof to IP 67. The price also makes sense as iOS users can purchase a tracking system for around 60 euros for the bell and the AirTag, with no follow-up costs.

NO HOT AIR!

THE NEW FLOOR PUMPS ARE AVAILABLE NOW

MORE INFO AT SKS-GERMANY.COM



ONCA 6.0-CA-S-29er

The ONCA 6.0-CA-S-29er Fully is design for conquering extreme terrain. The slim, muscular look is reminiscent of an Leopard. The carbon fiber chassis is manufactured utilizing EPS technology and High Modulus Carbon Fiber. EPS Tech is an unique forming technology which provides superior strength and extreme lightweight. Combined with a #6061 Aluminum chain stay the complete frame is lightweight, stiff and responsive. The heart of the frame is the power drive, a SHIMANO EP-800 motor with its new in-tube battery.

Material : Front Carbon / Rear Aluminum #6061
Mfg. Method : Tig welding
Frame Size : 17" / 18.5" / 20"
HT : 1 1/8"-1 1/2"; FSA NO.42-ACB
ST FD : \varnothing 31.6
Seat Post : \varnothing 31.6
Rear Hub : 148 x 12mm E-thru system
Dropout : Post mount
Tire : 29" x 2.6"
Travel : 150mm
Shock Length : 215 x 63mm
Shock : Upper 28mm / \varnothing 15
Bushing : Lower 28mm / \varnothing 15
Weight : 3400g (17" w/o Shock)



Meet us at booth I0608



野實科技股份有限公司
A-PRO TECH CO., LTD.

台中市大甲區幼九路16號
Tel : +886-4-26821688

NO.16, You 9th Rd., Dachia Dist., Taichung City 437, Taiwan
Fax : +886-4-26821699 Email : apro-sales@aprotek.com.tw

BICYCLE CLUSTER: A DEDICATED B2B SEARCH ENGINE A POWERFUL TOOL FOR FAST AND EFFICIENT PROCUREMENT

Facing an ever-changing global market and the impact of Covid-19, business models and sales behaviors have changed. How can global bicycle manufacturers accelerate their digital transformation so that customers can get new product information as soon as possible? How can they increase business opportunities and keep up with the latest market changes?

Alfred Tsai, founder of bike industry portal **Bicycle Cluster L1109 + DigitalGo**, thinks the most important thing is to assist buyers, product managers and developers to find products or suppliers quickly and efficiently. Bicycle Cluster (www.bicyclecluster.com) is a B2B digital service platform focusing on the global bicycle industry. "With the cluster effect and digital advantages, we expect to become the most practical bicycle database for industry partners, helping buyers to search for products more accurately and efficiently. Suppliers can find potential customers more quickly and become the best partner of global exhibitions. As of now, hundreds of members have registered and thousands of products have been uploaded," Tsai said.

Precise Search — Quick Links

The Bicycle Cluster platform provides the most direct and precise search for buyers. Searches are based on product and specification

keywords enabling buyers, procurement specialists and R&D personnel to find suitable products. They can also make detailed specification comparisons of similar products on the same page, and the online real-time dialogue solves the problem of two-way communication, which also improves efficiency.

Bicycle Cluster provides an exclusive page for each supplier to showcase their brand and display product images. New product information is thus more immediate and global buyers can become aware of the latest information without delay. Suppliers can also know how many views each product gets by using the platform's browsing data analysis, gaining insight into market development trends and formulating development strategies.

Bicycle Cluster is divided into three membership levels: Standard, Plus, and Pro. Each membership level is allocated a maximum number of products that can be upload-

ed and other advanced functions. Standard members can use the platform for free after registration.

Due to the Covid-19 pandemic many global bicycle exhibitions have been forced to cancel their events with no face-to-face interaction between manufacturers and customers. Bicycle Cluster functions like an year-round online exhibition, connecting the entire global bicycle industry. Registered members can use the platform to maintain communication with customers and release new product information at any time.

Virtual Reality integration

In addition to online promotion, Bicycle Cluster also hopes to cooperate with physical exhibitions. Through the integration of the virtual and the real, global buyers can search products while also participating in physical exhibitions, quickly finding the exhibition map and then the way to the booth where a



Bicycle Cluster founder Alfred Tsai

product of interest is located.

Looking to the future, Tsai said Bicycle Cluster will leverage its key advantages and develop more functions according to the needs of members with the aim of becoming the key database of the bicycle supply chain and the best partner for exhibitions.

ECO FRIENDLY

25 YEARS RUST-PROOF

BOOTH: K0610

Water cage nuts

Spoke nipples

Disc brakes bolts

Crank screw

e-BIKE chain: 12S e TOLV-121 GST-500



OVERVIEW: DRIVETRAINS

MORE ELECTRONICS, FEWER CABLES

More electronics, fewer cables and more cogs per cassette: these are the main trends in drivetrains to be seen in Taipei.



Shimano DA Di2 CS-R9200

Shimano **M0814** has launched the third generation of its electronic Di2 shifting with the Dura-Ace and Ultegra groups simultaneously. Its most important features are 12-speed cassettes and a strict focus on electronic shifting. Thanks to the eTube smartphone app there are extended customization options for the Synchro shift, Semi-Synchro shift and Multi-shift modes, and you are also free to configure the shift buttons as you like, including additional satellite shifters. To cater to owners of expensive custom bikes wanting to upgrade to the latest technology, Shimano offers both the new Dura-Ace and Ultegra groups with cable-actuated side-pull rim brakes as well.

Only those who opt for hydraulic disc brakes get to enjoy the biggest innovation of the third Di2 generation, however. Shimano has gone for a semi-wireless solution, with the shift levers sending wireless signals to the front and rear derailleurs.

These two



Shimano DA Di2
FD-R9250



Shimano DA Di2 RD-R9250

are connected to the system's central battery that fits into the seat tube or seat post. To charge this battery, a cable is linked to the rear derailleur while the two shift levers work with CR1632 batteries that are easy to source when needed. The 12-speed cassettes are available with 11 to 30 and 11 to 34 teeth, respectively. While they offer a bigger range, the emphasis is on narrowly spaced gears and they are still meant to be combined with a front derailleur. Better yet, they are compatible with HG bodies.

For the performance mountain bike segment, Shimano has gone for 12 speed drivetrains with their own Microspline standard. But for e-mountain bikes, the Japanese company opts for a different way: offered at the XT and Deore levels, the Link Glide drivetrain comes with cassettes with 11 gears and less range. The specially shaped cogs and a fitting chain result in a lot more durability, which is important due to the additional torque dished out by mid-motors. And compared to Shimano's latest performance mountain bike groups, the Link Glide drivetrain offers effortless operation and silky smooth gear changes, putting a clear emphasis on comfort.

As a pioneer in term of wireless electronic shifting, Sram **M0612** has been expanding its AXS eTap offerings to lower price points step by step, down to the GX Eagle. But since Sram is producing much more than just drivetrains, the American-Taiwanese component maker has

5 SRAM Reverb AXS Xplr



SRAM Xplr Rival AXS

gone all-in for the booming gravel market with its XPLR package. As for the drivetrain, Sram covers three price points with Red, Force and Rival versions. With cogs ranging from 10 to 44 teeth, the range offered by the 12-speed cassettes is large enough to go for a one-by set-up with direct mount chainrings available from 38 to 46 teeth. For rough terrain, Rock Shox adds a short-travel suspension fork dubbed Rudy and a short-stroke, wireless dropper post dubbed Reverb AXS XPLR, while Zipp supplies a choice of wheels ready for wide tubeless tires and a flared Service Course handlebar made of aluminum.

While Shimano and Sram are arguing for or against the need of a front derailleur, Belgian start-up Classified Cycling at Ceepo International, **M0910** has come up with a solution of its own that combines the clean looks of one-by builds with the range and narrowly stepped gears of systems with a front derailleur. The true innovation of the Powershift system is a lightweight, two-gear planetary transmission built into the rear hub. The electronics of the shifting buttons fit into the handlebar and send their signals wirelessly to the lever of the rear axle and then to the hub.

According to Classified Cycling, it only takes 14 thousandths of a second to change gear with no danger of dreaded chain sucks that could ruin your ride or even your precious frame. The 0.7:1 ratio of the transmission mimics the ratio of conventional chainrings on road

bike cranks with a front derailleur. When combined with 11- or 12-speed cassettes, you get the full and narrowly spaced gears of a conventional build, but also the clean looks. To make upgrading easier for consumers, Classified Cycling has added a complete wheel offering with carbon aero rims either 35 mm or 50mm deep. At last year's Eurobike, Classified Cycling won one of the prestigious Gold Awards for its Powershift system.

With its aftermarket brand TRP, Taiwan's brake manufacturing heavyweight Tektro **DigitalGo** expanded into the drivetrain business back in 2019 with the launch of the G-Spec DH7 rear derailleur and shifter. Purpose-built for the small yet prestigious downhill market, this system could handle seven gears. One

year later TRP added the G-Spec TR12 rear derailleur and shifter that were aiming at the much larger trail bike and enduro markets. For 2022, Tektro is upping its game in the drivetrain market with the launch of the E-Drive 9 system for e-bikes. This offering is not limited to a shifter and rear derailleur but also includes purpose-built nine-speed cassettes with steel cogs ranging from 11 to 46 teeth. For more durability, the smallest three cogs can be replaced separately. And the derailleur comes with the same ratchet-style clutch mechanism to keep the chain from derailing. As a Tektro product, the E-Drive 9 system strictly aims at the OE market and will not be sold on the aftermarket for now.

Another Taiwan-based manufacturer looking to ride the wave of high demand and increase its sales is Drivetrain Tech Solutions **M0304**. With C-Drive, it has been offering an affordable belt drive solution for utility and children bicycles for years. Under



SRAM Xplr
Rudy.





Classified Powershift



Tektro E-Drive 9 system

its Geardrive brand, it has developed value-oriented drivetrains that have been mounted to bicycles sold at Walmart in the United States for three years now. While the shifters are built in China, all the other parts are made in the company's factory in Changhua. For 2022, the drivetrain offering has been expanded to include a steel crankset with a direct mount chainring fitting tapered bottom bracket axles. Since Geardrive focusses on one-by drivetrains, there's no



DTS Geardrive 9s Sprocket

need for a front derailleur. Offering 8, 9 or 10 gears these drivetrains are aimed at price-sensitive volume markets, also in Asia. According to company founder Adrian Chen, they are a smart and affordable way to upgrade existing bicycles with double or triple chainring set-ups. For the 2023 model year, Drivetrain Tech Solutions intends to launch 1x11 and 1x12 drivetrains

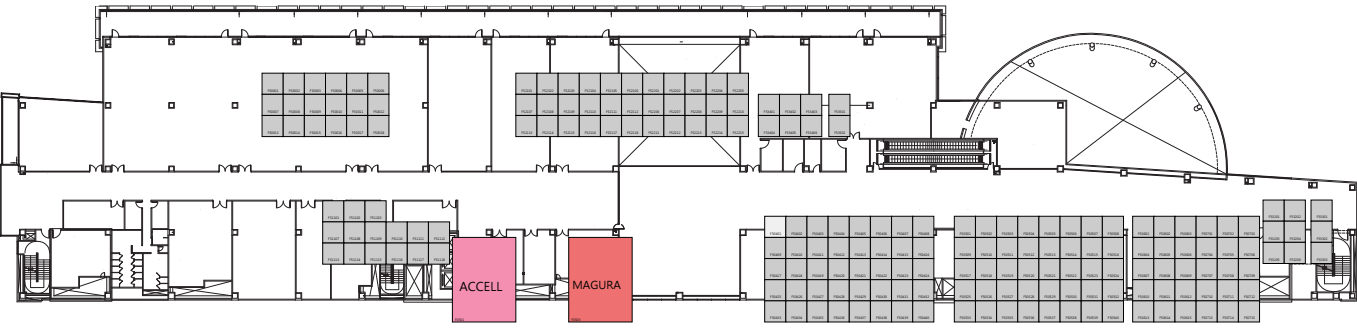
DTS Geardrive Rear Derailleur

at higher price points as well. One product category that has seen a significant rise in demand by OE customers from both Europe and Northern America are Geardrive's cassettes. Offered in 8 to 11 speed versions for road bikes and 8 to 12 speed versions for mountain bikes, these cassettes feature a durable silver-nickel plated finish. Since the smallest cog has 11 teeth all cassettes fit on HG bodies. And the best thing is that the lead times for these items are relatively short, certainly when compared to the offerings of the market leaders.

■ **Laurens van Rooijen**

FLOOR 4
FLOOR 5

Map of exhibitor booths for Floor 4 and Floor 5, including names like QEF, FU AN, KWO LIN, AEGIS, KBLEWS, DOLLO, ALPHA ONE, LOXON LOCK, RIDEA, Live Streaming Studio, LING YUH, FINA, KASHIMA BIKE, GALON, WHEEL GIANT, CHC, AIRACE, FASTACE, BO WELL, ACC, DYNAMIC, QBEST, JALCO, GIANTEC, NEW LOOK, BICYCLE TODAY, BICYCLE CLUSTER, INFOTRADE, BICYCLE EUROPE, MING-JING, PROHERO, AMOEBIA, TAILOU, GMD, JTMCO, RIMAX, LASCOR, BIKEMEN, MEGA, BONE, KING ROOF, JR SHENG, ALU MEGA, SOURCE SOLUTIONS, CWI, WTB, TANLUS, TOURISM BUREAU, FRICO, BRYTON, AGS, CHENN DAA, TANGE SEIKI, LEE DUO, TAPEI CYCLE DigitalGo onsite Display, d&i Awards Pavilion, OBOR, WAHOO, GEARDRIVE CDRIVE, COLMAX, AERO OPTIM, RITCHEY, TOPEAK, JET X-FUSION, DARSON, PRO-LITE, SYNERGY, BRAKCO, SLIC1, TH, SAN FANG, SRAM, SHIMANO, FSA, URSUS, IDEAL BIKE, MING CYCLE, FRITZ JOU, MERIDA, GIANT, FAIRLY, SANFA, LIYANG, AXMAN, E-TIDE TECH, GW, SIN CHANG HUNG, PEAKBUYER, UNI-VICTOR, SOLU, KTM, CAROL CYCLE, F&U, YUH JIUN, CYCLE-BAY, NEO-MAC, NEW GOOSE BERRY, CHANGHIN, TAI KWA, TA JONG, SHUZ TUNG, FU CHENG, KHS, RIKULAU, WHEELER, TRIGON, OULLON, LINK-TECH, BESV, ARYEN, PACIFIC CYCLES, OVERLORD, A & J, DARFON, SUNNES, ACETRIKES, GRANDWAY, EISO, EVOLO, LEKUMA, LT MEXLLER, ABC, IGUS, MPF, YOTA, CKT, KINLIN, T-SOX, AICOTECH, HYENA, BEARS, JEE ANN, QOE, BIXETEC, HONEY HOPE HONESTY, KST, JETER, HON LIN, MYCARR, ONECOOL, INNOR, MYKA, MADAHA, INSKEY, SHENGHO, DP MOTORS, HTE, MADAHA, MADAHA, HON LIN, ACTIVA HT, MYCARR, TECLIN, GPT, GI FAR, TDCM, HIGO, HAN WIN, ZEMEN, MPS, HON LIN, ACTIVA HT, TECLIN, GPT, GI FAR, TDCM.



Exhibitor List

Physical show Only

Booth number	Company name
M1102	3D PRINTING TECHNOLOGY CO., LTD.
I1330	3DR INTERNATIONAL LTD.
N0529	3MEN TECHNOLOGY CO., LTD.
I0608	A-PRO TECH CO., LTD.
I0502	A-RIM ENT. CO., LTD.
I1002	A2Z DESIGN & DEVELOPMENT INC.
I0814	ACCORD ENTERPRISE CORP.
N1010	ACETRIKES INDUSTRIAL. CO., LTD.
I1000	ACHIMAY ENTERPRISE CO., LTD.
I0423a	ACT TESTING INC.
L0302	AEGIS SPORTS INC.
I1128	AGOGO BIKE CO., LTD.
L0526	AGS GLOBAL MARKETING INC.
L0406	AGUILA ENTERPRISES CO., LTD.
K0510	AI-KWANG TECH CO., LTD.
J0404	AIN TEC INDUSTRIAL CO., LTD.
L0410	AIRACE ENTERPRISE CO., LTD.
L0622	AIRBONE BIKE ACCESSORIES
K1102	AIRSMITH CO., LTD.
J0230	ALHONGA ENTERPRISE CO., LTD.
I0621a	ALLIED INTERNATIONAL (1951) LTD.
L0501	ALPHA-ONE LEATHER PRODUCTS CO., LTD.
J1025a	AMENTUM INDUSTRY CO., LTD.
J1224	APEX CREATIVE CO., LTD
L0515	APEX PRODUCTS CO., LTD.
I0708	APREBIC INDUSTRY CO., LTD.
I0508	APSE ENTERPRISE CO., LTD.
M0314	ARGON 18 INC.
I0418	ARISUN INTERNATIONAL CO., LTD.
L1017a	ARKIETECH ENGINEERING CO.
J0810	ARMOR MANUFACTURING CORPORATION
J0810	ARMOR PRECISION CO., LTD.
L0924	ARSAM SPORTS
N0612	ARTHUR AND JUDY INTERNATIONAL CO., LTD. TAIWAN BRANCH
K1227	ARTSUN INDUSTRIAL CO.,LTD
N0407	ARYEN MOTOR & AERONAUTICS CO., LTD.
J1101	ASHIMA LTD.
L1115	ASIANA INTERNATIONAL CO., LTD.
K0634	ASOKA INCORPORATION
I0313	ASSESS INDUSTRY CO., LTD.
K1027	ASSIZE TECHNOLOGY CO., LTD.
N1127	ASUKA AUTOTRONICS INC.
M1118	ATECH TOTALSOLUTION CO., LTD.
I0912	AVANT INNOVATION LTD.
J0618	AVIS INTERNATIONAL LTD.
M0132	AXMAN ENTERPRISE CO., LTD.
J0433	BAIWIN CO., LTD.
J0104	BARADINE RUBBER IND. CO., LTD.
N1114	BEARS BIKE CO., LTD.
M0513	BIKETECH CO., LTD.
L0217	BIKMEN CO., LTD.
L0518	BITEX INDUSTRIAL CO., LTD.

Booth number	Company name
L0609a	BO WELL ENTERPRISE CO., LTD.
L1028	BONDI TECHNOLOGY LIMITED
K0130	BRIGHT ADVERTISING ENTERPRISE CORP.
N0918	BRIGHTSTAR TECHNOLOGY CO., LTD.
I1323	BRISKY TECHNOLOGY CO., LTD.
L0226	BRYTON INC.
I0702	C.D. COMPONENTS CO., LTD.
K0534	CAFA CORPORATION
M1006	CANE CREEK CYCLING COMPONENTS
M1109	CAPTAIN SCIENCE CORPORATION
J0902	CARBONAGE TECHNOLOGY CO., LTD.
I0628	CARBOTEC INDUSTRIAL CO., LTD.
M0930	CAROL CYCLE INDUSTRIAL CO., LTD.
I1305	CASA CYCLES ENGINEERING INC.
J0204	CASTELLO CYCLE CO., LTD.
M0910	CEEPO INTERNATIONAL LIMITED
N1124	CELXPRT ENERGY CORPORATION
J1207	CENTURY METALS CO., LTD.
K0616	CHANCE GOOD ENT. CO., LTD.
N1219	CHARGEON CORP.
K0810	CHENG SHIN RUBBER IND. CO., LTD.
I0424	CHENG YI ENTERPRISE CO., LTD.
J0203	CHENG'S ENTERPRISES CORPORATION
L0510	CHENGFENG PRECISION TECHNOLOGY CO., LTD.
L0726	CHENN DAA CO.,LTD
I1217	CHENNQ HOU CO., LTD.
K0226	CHEPARK ENTERPRISE CO., LTD.
K1216	CHERN SHIANQ ENTERPRISE CO., LTD.
K1121	CHEWREN INDUSTRY CO., LTD.
K0408	CHIA CHERNE INDUSTRY CO., LTD.
L0505	CHIEN GER INDUSTRIAL CO., LTD.
L0122	CHILILON ENTERPRISE CO., LTD.
K0531	CHIN-HONG BATTERY CHARGER CO., LTD.
L0309	CHINA-STAR WORLDWIDE CORP.
K1022	CHING CHERN INDUSTRIAL. CORP.
J0634	CHIUH SHENG CO., LTD.
I0300	CHOSEN CO., LTD.
J1002	CHUAN MA INC.
J0604	CHUHN-E INDUSTRIES CO., LTD.
J1006	CHUMMY ENTERPRISE CO., LTD.
I0812	CIAN FA PIPE INDUSTRY CO., LTD.
I0112	CIONLLI INDUSTRIAL CO., LTD.
K0502	CKC ENVIRONMENTAL TECHNOLOGY CO.,LTD.
L0424	CLEAN & GREEN TECHNOLOGY CO., LTD.
J1112	CN SPOKE
K0430	CO-UNION INDUSTRY CO., LTD.
J0901	COLE PRODUCTS INC.
M0404	COLMAX BICYCLE TAIWAN LIMITED
L0210	COLOURY ENTERPRISE CO., LTD.
M0510	CONTINENTAL REIFEN DEUTSCHLAND GMBH
N0130	COPPERCELL TECHNOLOGY CO., LTD.
L0206	COUNTRY LIFE LTD.
N0202	CSK PROFESSIONAL
I0299	CW BEARING
N0920	CYBER MOTIONS INTERNATIONAL CO., LTD.
N1206	CYCLE CHRIS CO.,LTD.

Booth number	Company name
I1100	CYCLE LUCHA CO., LTD.
M1130	CYCLE-BAY INTERNATIONAL CO., LTD.
L0108	CYCLING & HEALTH TECH INDUSTRY R&D CENTER
K0628	CYY SPORTING GOODS CO., LTD.
K0132	DAN YU SPORTS CO., LTD.
LO413	DANKEN ENTERPRISE CO., LTD.
N0812	DARFON ELECTRONICS CORP.
N0112	DARFON INNOVATION CORP.
M0903	DARSON J&B ENTERPRISE CO., LTD.
LO202	DEAMARK LIMITED.
I1322	DG RUBBER CO., LTD.
K1306	DIBAR TECHNOLOGY CO., LTD.
I0599	DIGIRIT INDUSTRY CO., LTD.
N0231	DING SHI INTERNATIONAL LIMITED
K1110	DIRECTION TECHNOLOGY CO., LTD.
LO402	DOLIDE LIMITED COMPANY
K1034	DONZEE ENTERPRISE LTD.
K1232	DOTS EYEWEAR INC.,
M0304	DRIVETRAIN TECH SOLUTION INC.
I0100	DURMAS ENTERPRISE CO., LTD.
J1110	DWL BICYCLE CO., LTD.
LO710	DYNAMIC COMPOSITE TAIWAN LTD.
N1129	E-ASSISTED GO TECHNOLOGIES INC
M0330	E-TIDE TECHNOLOGY CO., LTD.
LO711	EASTERN CABOT ENTERPRISE CO., LTD.
J1304	EASYLIGHT E-O TECHNOLOGY CO., LTD.
N0624	ECOICS TECHNOLOGY CO., LTD.
K1221	EMFISS INC.
K1122	ENCHESS INTERNATIONAL CO., LTD.
K0216	ENTERPRISE CO., LTD.
L1011a	ERIS CYCLE INTERNATIONAL CO., LTD.
N1117	EUROCYCLE ASIA COMAPNY LTD.
K1127	EVERGREAT OPTICAL IND. CO., LTD.
LO525	EVOLVING CONCEPTS LTD.
K0329	EZSPORT CO., LTD.
M1020	FAIRLY BIKE MANUFACTURING CO., LTD.
I1302	FALCON CYCLE PARTS CO., LTD
LO510	FASTACE PRECISION TECHNOLOGY
K1023	FAXSON CO., LTD.
M1202	FEDAL ENTRPRISE CO., LTD.
K1330	FENG ZE YUAN AIR TOOLS CO., LTD.
LO901a	FINA INTERNATIONAL CO., LTD.
LO504	FIVE BIG ENTERPRISE CO., LTD.
LO314	FOOTLAND INC.
J1020	FORMULA ENGINEERING INC.
J1323	FORTUNED -TRADING CO., LTD.
L1231	FOSS WORLDWIDE INC.
N0430	FOUNDER ALUMINUM CO., LTD.
K1029	FOX EYEWEAR CO., LTD.
I0820	FPD INDUSTRY CORP.
M0932	FRED & JEAN ENGINEERING CO., LTD.
M1233	FREE GO TECHNOLOGY CO., LTD.
LO223	FRICO DEVELOP CO., LTD.
LO423	FRONTIER SPORTWEAR INTERNATIONAL CO.,LTD
LO201	FU AN INDUSTRIAL CO., LTD.
N0401	FU CHENG CYCLE INDUSTRIES CO., LTD.
I1118	FUL CHEE ENT CO., LTD

Booth number	Company name
M1012	FULL SPEED AHEAD
J0302	FULL TECH. CO., LTD.
I0523	FULLKING INDUSTRIAL CORP.
LO305	FUTUREYE COMPANY
K1005a	G-MA ENGINEERING CO., LTD.
I1226	GA-E INDUSTRIAL PRECISION CO., LTD.
M0312	GARMIIN TACX
I1206	GENERAL CYCLE CO.
J1130	GENERAL PRECISE MACHINERY CO., LTD.
K1132	GENG HUNG CO., LTD.
I1205	GG CO., LTD.
N1031	GI FAR TECHNOLOGY CO., LTD.
J0930	GIANT WELL INTERNATIONAL LTD.
LO810	GIANTEC DESIGN CO., LTD.
LO106	GIFTSTART CO., LTD.
J1212	GIGANTEX COMPOSITE TECHNOLOGIES CO., LTD.
J1205	GIN TER INDUSTRY CO., LTD.
K1222	GING HWA LONG HARDWARE INDUSTRY CO., LTD.
N1029	GLOBAL PROSPERITY TECHNOLOGY
J1124	GOMIER MANUFACTURING CO., LTD.
I1208	GOOD TAIWAN INTELLIGENT CO., LTD
I1106	GRAND STAR INDUSTRIAL CORP.
N1106	GRANDWAY POWER TECH CO., LTD.
K1324	GREAT EAST INDUSTRIAL MATERIAL CORP.
N0802	GREAT GO CYCLES INC.
K1331	GREAT YO CO., LTD.
L1213	GUMONDER INDUSTRIAL CORP. LTD.
IO400	HAFNY INTERNATIONAL CO., LTD.
N0330	HAN-WIN TECHNOLOGY CO., LTD.
LO411	HANDY SOCKS CO., LTD.
K0126	HANDYWAY CO., LTD.
J0425a	HANTAI IMPREGNATION ENTERPRISE LTD.
K0307	HCT ENTERPRISE CO., LTD
LO323	HEMMING CORPORATION
J1324	HENG YEN ENTERPRISE CO., LTD.
K1212	HENKEL TAIWAN LTD.
J1325	HER SHENG INDUSTRY CO., LTD.
K1321	HER-MAO PRINTING CORPORATION
LO132	GREENWAY TECHNOLOGY CO. LTD.
LO231	HERRMANS BIKE COMPONENTS
I1218	HI BIKE LTD.
N0830	HIIN INDUSTRY CO., LTD.
K1128	HIMOUNT INDUSTRIAL CO., LTD.
K0928	HOME SOON ENTERPRISE CO., LTD.
N0723	HON LIN HEAVY INDUSTRIES CO., LTD.
N1018	HONEY HOPE HONESTY ENTERPRISE CO., LTD.
K0422	HOU INTERNATIONAL CO.
I1028	HSIN TA ELEMENTS LTD.
N1028	HSIN TU TECHNOLOGY CO., LTD.
IO924	HSING TA INDUSTRIAL CO., LTD.
I1124	HSONG HSING INDUSTRIAL CO., LTD.
IO728	HSU SHENG BICYCLE INDUSTRIAL CO., LTD.
L1111	HUANG WEI TECHNOLOGY ENTERPRISE CO., LTD.
J0102	HUANG'S HO PRECISION CO., LTD.
K0429	HUBBLEVISION CO., LTD.
LO703	HUEI CHUN ENTERPRISES CO., LTD.
IO808	HUMPERT-ASIA INTERNATIONAL CO., LTD.

Booth number	Company name
L0513	HUNG CHUNG TIEN INTERNATIONAL CO., LTD.
L0626	HYDRAKNIGHT INNOVATION CO., LTD
N1217	I3DPRINT TECHNOLOGY CO., LTD.
L1018	IBARAKI PREFECTURAL GOVERNMENT
N0314	IGUS TAIWAN COMPANY LIMITED
K0834	IKS ACTION EYEWEAR CO., LTD.
L0603	IN-TEK CORP.
L1211	INFOWIN INFORMATION CO., LTD.
K1028	INGENIUS CO., LTD
N1024	INNOR COMPANY
I0512	INNOVA RUBBER CO., LTD.
N0126	INSKEY ENERGY TECHNOLOGY CO., LTD.
N0621	INTERTEK TESTING SERVICES TAIWAN LTD.
K1109	J-MEX INC.
J0717	J.D. COMPONENTS CO., LTD.
K1308	J'Z SPORTS CO., LTD
K0230	JAE YOU CO., LTD.
L0205	JAEGER DIGITAL PRINTING CO., LTD.
L0714	JALCO INDUSTRY CO., LTD.
K1206	JCOOL CO., LTD.
K1105	JEN DUO TRADING CO., LTD.
L0224	JENG-AN BUTTON CO., LTD.
L0931	JET RIDER CO., LTD.
N1118	JETER COMPANY
I0522	JETSET IND. CO., LTD.
J1123	JHU YI MACHINERY INDUSTRIAL CO., LTD.
J0510	JIAN SHENG BICYCLE CORP.
J0201	JIANG DING TECHNOLOGY CO., LTD.
L1313	JIEN TSUN MACHINERY INDUSTRIAL CO., LTD.
L1011	JINN YEH INDUSTRIAL CO., LTD.
N0201a	JIU LING CO., LTD.
L0720	JIUN YIH BICYCLE INDUSTRIAL CO., LTD.
K0229	JIUNDAR INDUSTRIAL CO., LTD.
M0604	JOE'S NO-FLATS
J0134	JOGON INDUSTRIES CO., LTD.
N0530	JOIN TEK CORPORATION CO., LTD.
N0203a	JONQ TYAN ENTERPRISE CO., LTD.
L0516	JOVIAL BIKE COMPONENTS LTD.
I0211	JOY INDUSTRIAL CO., LTD.
L0617	JR SHENG INTERNATIONAL CO., LTD
J0908	JUI CHIH MACHINERY INDUSTRIAL CO., LTD.
K0521a	JUN RAY ELECTRONIC TECHNOLOGY CO., LTD.
K1030	JUVIN ENT. CO., LTD.
J1303	JYE SEN ENTERPRISE CO., LTD.
K1116	JYIN SHENG CO., LTD.
N1120	K. S. TERMINALS INC.
I0928	KAI CHENG INDUSTRIAL CO., LTD.
K0705	KALLOY INDUSTRIAL CO., LTD.
I1300	KAMIGAWA CO., LTD.
K0402	KANGWAY INTERNATIONAL CORP.
I0327	KARBONA PARTS INC.
L1001	KASHIMA BIKE INTERNATIONAL CO., LTD.
K1010	KCNC INTERNATIONAL
M0534	KEEGO MOBILITY CO., LTD.
J0610	KENDA RUBBER INDUSTRIAL CO., LTD.
J1004	KENFORCE INTERNATIONAL CO., LTD.

Booth number	Company name
J0614	KENLIGHT TRADING CORP.
I0503	KEYENCE TAIWAN CO., LTD.
J0525	KIDEN TRADING LIMITED COMPANY
J1229	KING FLY PRECISION LTD.
L0220	KING HER FENG INDUSTRIAL CORP.
N0132	KING RITZ ENTERPRISE CO., LTD.
L0418	KING ROOF INDUSTRIAL CO., LTD.
I0132	KINGTEC TECHNICAL CO., LTD.
N0714	KINLIN INDUSTRIAL CORPORATION
M0830	KTM FAHRRAD GMBH
M0830	KTM-BIKES INTERNATIONAL (SINGAPORE) PTE. LTD. TAIWAN BRANCH
K0120	KUJI SPORTS CO., LTD.
L0421	KUSO TOP INTERNATIONAL CO., LTD
L0301	KWO LIN CO., LTD.
N0630	KYNAMIC INC.
J0804	LABICI SPORT INC.
I1012	LAGEAR ENT. CO., LTD.
I1014	LAMINAR ENT. CO., LTD.
L0126	LANDING ENTERPRISE CO., LTD.
L0311	LEADTEK RESEARCH INC.
K0108	LEE CHI ENTERPRISES CO., LTD.
L0926	LEE DUO INTERNATIONAL CO., LTD
L0926	LEE DUO TRADING CO., LTD.
I0204	LEGION ENGINEERING CORPORATION
N1210	LEKUMA TECHNOLOGY INC.
I0927a	LEN LINN INDUSTRIAL CO., LTD.
L0905a	LI YI DA CO., LTD.
I1113	LIANG FENG MACHINERY CO., LTD.
M0409a	LIGHTSKIN
I1107	LIGHTWAVE BIKES INTERNATIONAL INC.
K0922	LIKE HOME INTERNATIONAL ENT. CO., LTD.
L0514	LIMOTEC LIMITED
L0615a	LIMOTEC METAL INDUSTRY LIMITED
L0802	LING YUH ENTERPRISES CO., LTD.
I0600	LINK CHANCE CO., LTD.
I0118	LIOW KO CO., LTD.
L0425	LITEMOVE TECHNOLOGY CO., LTD.
I1328	LLL INTERNATIONAL CO., LTD.
N0930	LONGWIN TECHNOLOGY CO., LTD.
K1002	LOONEY-MAX ENTERPRISE CO., LTD.
L0502	LOXON LOCK
N0114	LT. MEXLLER INTL CO., LTD
K0232	LUENN DUENN INDUSTRIAL CORP.
L0313	LUFT TECH CO., LTD.
J1106	LUNG YANGS CO., LTD.
L0118	LUNGE INDUSTRY CO., LTD
K0432	MACHAN INTERNATIONAL CO., LTD.
N0528	MADY ENTERPRISE CO., LTD.
F0503	MAGURA ASIA LIMITED CO.
N0526	MAINSHINE INTERNATIONAL CO., LTD.
K0208	MAN DAI ALUMINUM CO., LTD.
K0508	MARUDEAN CO., LTD.
I0308	MARWI TAIWAN INDUSTRIAL CO., LTD.
L0728	MATRIX METAL CORP.
I0128	MAXWAY CYCLES CO., LTD.
L0218	MEGA PRODUCTIONS CO., LTD.

Booth number	Company name
L0523	MEGAJOY ENTERPRISE CO., LTD.
M0232	METALLICA INTERNATIONAL CO., LTD.
M0902	METRO TYRES LIMITED
K1316	MICROLITE CO., LTD.
J1105	MICROSHIFT AD- ENGINEERING INC.
JO504	MIDWAY PACIFIC CORP.
M0320	MING CYCLE INDUSTRIAL CO., LTD.
L0701	MING SUEY PRECISION IND. CO., LTD.
L1309	MING-JING TECH CO.,LTD
I1310	MITROC FORTUNE CO., LTD.
J1118	MJ CYCLE INTERNATIONAL CO., LTD.
I0824	MODERNE TECH CORPORATION
JO603a	MORTOP INTERNATIONAL CO., LTD.
N0532	MPS ENERGY INC.
N0824	MYCARR LIGHTING TECHNOLOGY CO., LTD.
N1223	MYKIA INTERNATIONAL CO., LTD.
JO401	NAMMAX CORP.
JO325	NAN HOANG TRAFFIC INSTRUMENT CO., LTD.
N0601	NARO DELTA LLC.
J1218	NECO TECHNOLOGY INDUSTRY CO.,LTD.
M1229	NEO-MAC MACHINERY CO., LTD.
L0804	NEW AN LUN LAMP (SHENZHEN) CO., LTD.
K1322	NEW EPIC GROUP CO., LTD
M1230	NEW GOOSE BERRY ENTERPRISE CO., LTD.
L0909a	NEW LOOK EYEWEAR CO., LTD.
JO910	NEW-TEC (YUNG-ZHEN) SPORTING GOODS COMPANY
K1228	O-RIVER CO., LTD.
I0904	OLYMPIC PRO MANUFACTURING CO., LTD.
N0924	ONECOOL CO., LTD.
K0933	OPEN ROAD SOLUTIONS, INC.
I0908	ORA ENGINEERING., LTD.
N1002	OULLON CO., LTD.
M0501	OUTBRAKER (HS CO., LTD.)
N0512	OVERLORD INDUSTRIES CORP.
JO509	OXO-PRO LTD.
L0409	PAULTEX HOSIERY LTD.
M0530	PEAKBUYER CO. ,LTD.
J1208	PING CHI INTERNATIONAL LIMITED
JO426	PIRNGDER INDUSTRY CO., LTD.
I1124	POWERWAY INDUSTRIAL CO.,LTD.
I0410	PRO SUPERGO INT'L CORP.
M0804	PRO-LITE INTERNATIONAL LTD.
M0202	PROBOR TIRES, INC.
M1101	PROCHEM PACIFIC CORPORATION
L0814	PROHERO GROUP CO., LTD.
K0331	PROJECT AUTOPARTS CO., LTD.
N1218	PROMISE SUCCESS CO. LTD
JO126	PROPALM INDUSTRY CO., LTD.
J1308	PSB BIKE INDUSTRIAL CO., LTD.
K0515	Q-LITE CO., LTD.
L0712	QBEST CYCLE INDUSTRIAL CO., LTD.
K0530	QBICLE INC.
N0620	QQE TECHNOLOGY CO., LTD.
I1127	QUAXAR ENGINEERING CO., LTD.
K1031	RAISE WINGS ENTERPRISE CO., LTD.
M0310	RANGPUR METAL INDUSTRIES LTD. - BANGLADESH

Booth number	Company name
K1130	RAY CHENG INDUSTRIAL.CO.LTD
L0705	RECON CO., LTD.
I1220	RELIC INTERNATIONAL INC.
M1212	RI FEI TENG CO., LTD.
N0503	RIKULAU CO., LTD.
J1117	RIM MASTER INDUSTRIAL CO., LTD.
I1005a	RISEBIKE INDUSTRY CO., LTD.
M0602	RITCHEY ASIA CO., LTD.
JO430	RODRIGO INDUSTRIAL CORP.
M0703	RTI SPORTS GMBH
K0302	RYSTAR INTERNATIONAL CO., LTD.
N0329	S-SHINE TECHNOLOGY CO., LTD.
I0700	S.D. COMPONENTS CO., LTD
L0225	SAFETY PLANET GROUP CO., LTD.
L0401	SAING EI CORP.
J1016	SAMOX COMPONENTS CO., LTD.
JO530	SAN YAKOS ENTERPRISE CO., LTD.
M1120	SANFA BICYCLE INDUSTRIAL CO., LTD.
M0411	SANTA CRUZ BICYCLES
M1103	SATE-LITE (FOSHAN) PLASTIC CO., LTD.
I1224	SCADA INTERNATIONAL CO., LTD.
K0631	SEAOUT WEAR CO., LTD.
L0232	SGS TAIWAN LTD.
JO304	SHA DAR ACCESSORIES CO., LTD.
I0104	SHEANG LIH CYCLE INDUSTRY CO., LTD.
I0228	SHENG AN CO., LTD.
L0307	SHENG CHUAN INTERNATIONAL CO.LTD.
K0930	SHENG JEN IND. CO., LTD
N0226	SHENGHO MOTOR CO., LTD.
M0316	SHENYANG BICYCLE INTERNATIONAL CO. LTD.
K1133	SHIANGLONG
M0814	SHIMANO INC.
JO824	SHINE WHEEL IND., CORP.
I0804	SHINE-HO KNAPSACK & BAG MFG CO., LTD.
J1030	SHUN SHING BICYCLE CO.,LTD.
K0614	SHUTTER PRECISION CO., LTD.
N0302	SHUZ TUNG MACHINERY INDUSTRIAL CO., LTD.
K0330	SIMPLE LOCKSMITH CO., LTD.
N1130	SINCERE LIMITED
L1020	SINCERE PHOTO & DESIGN INC.
J1306	SINMAT TECHNOLOGY CORP.
I1318	SINNIC INTERNATIONAL CO., LTD.
K0828	SINOX COMPANY LTD.
I1032	SIX UNION MACHINE ENTERPRISE CO., LTD.
M0514	SKS METAPLAST SCHEFFER-KLUTE GMBH
L0214	SMART CO., LTD.
K1332	SOLINK INTERNATIONAL MANUFACTURES CO., LTD.
M0634	SOLU INTERNATIONAL CO., LTD.
L0717	SOURCE SOLUTIONS INTERNATIONAL LTD.
L0310	SOXLINK CO., LTD.
M0610	SPANK INDUSTRIES CO.,LTD.
N1319	SPRING MING CO., LTD.
M0612	SRAM LLC
L0932	STANTON BIKES
K0520	STARWINN CYCLE CORPORATION
JO229	STEP SOLUTION CO., LTD.

Booth number	Company name
J0630	SUN RACE STURMEY-ARCHER INC.
K0529	SUN SIGHT GLASSES CO., LTD.
N1006	SUNNES INT'L CO.,LTD.
N0614	SUNNY CROWN ENTERPRISES CO., LTD.
K1326	SUNRISING ECO-FRIENDLY TECH. CO., LTD.
N0501	SUNUP ECO CO., LTD.
K0816	SUPER B PRECISION TOOLS CO., LTD.
I0900	SYMBIOSIS GLOBAL CO.,LTD.
M1004	SYNERGY SOURCING & TRADING CO., LTD.
K1229	T.G.&SON CORP. LTD
I1105	T&K ENTERPRISE CO., LTD.
N0102	TA JONG INDUSTRIAL CO., LTD.
N0626	TAFA INTERNATIONAL CORP.
N1202	TAI KWA CYCLE INDUSTRIAL INC.
I0528	TAI LOU METAL INDUSTRY CO., LTD.
I0404	TAI-WORLD-MFG.CO.,LTD
I0717	TAIWAN BICYCLE GROUP INC.
M1201	TAIWAN FU LUNG CO., LTD.
N0229	TAIWAN HIGO ELECTRICAL SYSTEM CO., LTD.
I0218	TAIWAN JOHNSON INDUSTRIES CO., LTD.
J0509a	TAIWAN SELF-LOCKING FASTENERS INDUSTRY CO., LTD.
I0200	TAIWAN TEAMA TECHNOLOGY CO., LTD.
I0800	TANGE INTERNATIONAL CO., LTD.
L0828	TANGE SEIKI CO., LTD.
L0918	TANNUS INTERNATIONAL
N0426	TD HITECH ENERGY INC.
N1131	TDCM CORPORATION LIMITED
I0428	TEAMSUN CO., LTD.
J0130	TENY RIM ENTERPRISE CO., LTD.
M1010	TH INDUSTRIES CO., LTD.
I0199	THINKCHANGE COMPOSITE CO., LTD.
K0532	TIN ROAD CIVIL ENGINEERING CO. LTD.
M0509	TOKEN PRODUCTS INC.
K0824	TOP ACTION TECHNOLOGY INC.
K0621a	TOP RITE INTERNATIONAL CO., LTD.
L1203	TOP SCREW METAL CORP.
M0702	TOPEAK INC.
M0110	TOURISM BUREAU NORTH COAST & GUANYINSHAN NATIONAL SCENIC AREA ADMINISTRATION
I0417	TRANSART GRAPHICS CO., LTD.
M0810	TRELLEBORG SEALING SOLUTIONS TAIWAN CO., LTD.
J0512	TREND POWER TECHNOLOGY PRIVATE LIMITED - TAIWAN BRANCH
J1302	TRIPOD ALUMINUM CO.,LTD
K0418	TSAIYARN TRADE DEVELOPMENT CO., LTD.
I0500	TUN HAUNG CO., LTD.
K1305	U-JOIN COMPANY LIMITED
K0902	U-LOGIS CO., LIMITED
I1122	U-MOUTH ENTERPRISE CO., LTD.
K1231	U-POWER COLLECTION ENTERPRISE CO., LTD.
I0232	UFOR ENTERPRISE CO., LTD
M0630	UNI-VICTOR INTERNATIONAL CORP.
N0429	UNICABLE CO., LTD.
N0414	UNIQUE PRODUCT & DESIGN CO., LTD
N0502	UNITED ENGINEERING CORP.
L0326	UNITIDE INDUSTRIAL CO., LTD.
K0210	VANTLY FITNESS INTERNATIONAL ENTERPRISE CO.,LTD.
M0402	VAZALAB

Booth number	Company name
M0709	VEE RUBBER CORPORATION LTD.
M1204	VISIONARY INJECTION ENGINEERING LTD.
K0222	VOLL WILL ENTERPRISE CO., LTD.
K0806	VP COMPONENTS CO., LTD.
J1326	VT HARDWARE CO., LTD.
K1310	VULCAN SPORTS CO., LTD.
M0302	WAHOO FITNESS
L0407	WEI CHAN INTERNATIONAL ENTERPRISE CO., LTD.
J0830	WEI HAU ACCESSORIES CO., LTD
L0208	WEI RONG ENTERPRISE CO., LTD.
N0420	WEI SHENG MARKETING CO., LTD
I0331	WEI ZHUN ENTERPRISE CO., LTD.
K0607a	WELL MADE CYCLE TRADING LIMITED
J0418	WELLGO PEDAL'S CORP.
J0225a	WEWAY INTERNATIONALCO., TW
N1230	WHAICHEN PRODUCE CO., LTD.
N0602	WHEELER INDUSTRIAL CO., LTD.
J0122	WHOLE MAN ENTERPRISE CO.,LTD.
L0818	WILDERNESS TRAIL BIKES, INC. TAIWAN BRANCH (U.S.A.)
J0226	WINDNER CARBON TECH. CO., LTD.
I0518	WINNING ENTERPRISES CO., LTD.
L0324	WINRIDE INTERNATIONAL CO., LTD.
I0604	WISHBONE ENTERPRISE CO., LTD.
N0508	WIW INTERNATIONAL CO., LTD
I0499	WOEI FANG PRECISION INDUSTRY CO., LTD.
I0222	WOEI FONG MACHINERY WORKS CO., LTD.
L0426	WOHO BIKE ACCESSORY CORP
I1110	WONDERWIDE LIMITED
L1024	WOOD FIELD POWER MACHINE CO. LTD.
L0322	WYNIST EYEWEAR CO. LTD.
M0802	X - FUSION SHOX
K1111	XING YI FENG INDUSTRIAL CO., LTD
K0426	XPLOVA INC.
L0308	XU SHENG WANG ENTERPRISE CO., LTD.
K0332	YA CHENG CO., LTD.
K0932	YA MEI TECHNOLOGY CO., LTD.
K0102	YABAN CHAIN INDUSTRIAL CO., LTD.
J1312	YANTEC INDUSTRIES
K0507a	YAW SHENG MACHINERY CO., LTD.
L0806	YE CHOU INDUSTRY CO., LTD.
J0904	YEONG FUH BICYCLE INDUSTRIAL CO., LTD.
K0629	YI JIN ENTERPRISE CO., LTD.
K1129	YI SHIANG ENTERPRISE CO., LTD.
J1318	YICHENG SPORTS CO., LTD.
I1307	YIH FENG METAL INDUSTRIAL CO., LTD.
I1228	YIH JENG ENT. CO., LTD
I0122	YOAN TECHNOLOGIES CO., LTD.
N1101	YOHO CITY INTERNATIONAL LTD.
K0431	YONG DA INTERNATIONAL CO., LTD.
K0606	YONG HONG CHEN ENTERPRISE CO., LTD.
L1025a	YONG TENG TECHNOLOGY CO., LTD.
N0514	YOTA CYCLES CO., LTD.
K1101	YOUNG SING BALL BEARING CO., LTD.
M1134	YU ZHAN METAL INDUSTRY CO., LTD.
L0212	YUAN LUNG METAL IND. CO., LTD.
I0618	YUAN WEN SHING INDUSTRIES CORP.

Booth number	Company name
I0303	YUCENT ENTERPRISE CO., LTD.
M1030	YUH JIUN INDUSTRIAL CO., LTD.
K0906	YUNG SHYANG CHEMICAL INDUSTRIAL CO.,LTD.
I0627a	ZEIT BICYCLE INDUSTRIAL CO., LTD.
M1226	ZEKTOR POWER TECH. CO., LTD.
L0319	ZIYU ENTERPRISE CO., LTD.
J1307	ZSK STICKMASCHINEN GMBH

Both physical and online show



















K0526	 720 INTERNATIONAL LIMITED
N0522	ABONMAX CO., LTD
L0709	ACCURATECH AUTOMATION CO.,LTD
N0814	 AIKEMA AICOTECH CO., LTD.
J1034	ARIX ENTERPRISE CO., LTD.
N0214	 ASIA BICYCLE TRADING COMPANY
L1009a	ASIA BIKE MEDIA CO., LTD.
J0601a	ASIA SEIKO COMPOSITE MATERIAL CO., LTD.
J1026	AVERTRONICS INC.
I0408	 AZURE BIKE INTERNATIONAL LTD.
K0512	BEV INTERNATIONAL CORP.
N0719	 BALLISTIC E-BIKE BIXETEC INTERNATIONAL CO., LTD.
M1104	BRAKCO INDUSTRY CO., LTD
M1234	 CHAININ TECHNOLOGY CO., LTD.
I1114	 CHEN WHUA INTERNATIONAL CO., LTD.
I1314	CHIN CHANG PLASTIC INDUSTRY CO., LTD.
L1109	 CRITICAL CLUSTER CO., LTD.
J0410	DDK GROUP CO., LTD.
K0522	DESIGN CO., LTD.
M1210	DNM INDUSTRIAL CO., LTD.
N0326	 DP MOTORS CO., LTD.
M1329	DURAPRO INTERNATIONAL CORPORATION
N1108	 EISO ENTERPRISE CO., LTD.
N0632	ELITE ENERGY CO., LTD
J1102	EMP INC.,
K0720	 EXUSTAR EXUSTAR ENTERPRISE CO., LTD.
M0520	FRITZ JOU MFG. CO., LTD.
L0318	 FRUITSHOP INTERNATIONAL CO., LTD.
M0820	 GIANT GROUP
N1220	GIATEX CYCLE CO., LTD.
M0429	GLORY WHEEL ENTERPRISE CO., LTD.
I1199	 GOLFCEL INDUSTRIAL CO., LTD.
I0712	GUNIOR ENTERPRISE CO., LTD.
N0320	GWA ENERGY, INC.
J0110	 HSIN LUNG ACCESSORIES CO., LTD.
M1001a	 HUBSMITH CO., LTD
I1111	 HUGA TECHNOLOGY ENTERPRISE COMPANY
N1014	 HYENA INC.
M0120	 IDEAL BIKE CORPORATION
I0718	IDEATION INDUSTRIAL CO., LTD.
L1027a	 IMOTEK INC.
L1209	 INFOTRADE MEDIA CO., LTD.
N1214	JEE ANN BICYCLE CO., LTD.
I1325	 JOEB LTD.
N0220	KHGEARS LIMITED
I0212	KIND SHOCK HI-TECH CO., LTD.

Booth number	Company name
J0118	 KMC CHAIN INDUSTRIAL CO., LTD.
K0401	 KRÖNYO KRONYO UNITED CO., LTD.
M0830	KTM-BIKES INTERNATIONAL (HK) CO., LTD. TAIWAN BRANCH
J0330	 LEADTEC CO., LTD.
L1209	 LIXING CHAIN CO., LTD.
M1220	LIYANG GLOBAL LTD.
N1102	LTI CORP.
J0218	MAJUN INDUSTRY CO.,LTD.
M0620	MERIDA INDUSTRY CO., LTD.
N1030	MICROPROGRAM INFORMATION CO., LTD.
K1016	 MING TAY HARDWARE IND. CO., LTD.
I0507	 NAN HAI INDUSTRIAL CO., LTD.
M0502	NISHIYAMA / JAPAN WIND TUNNEL MFG.
K0916	NUVO ENT. CO., LTD.
K0802	 OTRAJET INC.
N0312	PACIFIC CYCLES INC.
J0517	 PROLOGO (VELO EUROPE S.R.L)
L0102	GEF DESIGN CORP.
K0507	RICH SOU TECHNOLOGY CO., LTD.
K0231	ROAR & SOAR INTERNATIONAL CO., LTD.
N0230	 ROXIM TECHNOLOGIES, INC.
J0733	 RST GREENERGY TECHNOLOGY CO., LTD.
M1110	 SAN FANG CHEMICAL INDUSTRY CO., LTD.
M0529	SIN CHANG HUNG INDUSTRY COMPANY
J0818	 SR SUNTOUR INC.
I0423	SUN CHANG INDUSTRY CO., LTD.
K0725	 SUNNY WHEEL INDUSTRIAL CO., LTD.
K0202	 SUZICO LIMITED
I1200	T-BONE INTERNATIONAL COMPANY
K1033	T. K. CHIN COMPANY LTD.
L1111a	TAIWAN CYCLIST FEDERATION
M0433	TAIWAN LANDON INDUSTRIES CO., LTD
K0610	TAYA CHAIN CO., LTD.
K0626	THAMES CO., LTD.
L1105	TIMEDIA SOCIAL CO.
I1212	TOP VENTURER INTERNATIONAL LIMITED
K0732	 TRUE EAST ENTERPRISE CO., LTD.
N0618	UNITE CREATIVE DESIGN CO., LTD.
J0518	 VELO ENTERPRISE CO., LTD.
L1005	 WHEEL GIANT INC.
J0525a	 WINLUCK CYCLE CORP.
I1112	XON LTD.
K0326	 YING PAIO ENTERPRISE CO., LTD.
I0328	 YO ZU METAL CO., LTD.
I0206	YUEN I INDUSTRIAL CO., LTD.
K1106	 YUNG FANG PLASTIC CO., LTD.
L1023a	 Z.J CO., LTD.
I0311	 ZENO BICYCLE COMPONENT LTD.

DigitalGo Only

DigitalGo only	ACTION TRADING INT'L LTD. TAIWAN BRANCH.(HONG KONG)
DigitalGo only	ACTIVA HEALTH TECH CO. LTD.
DigitalGo only	ALATECH TECHNOLOGY LIMITED
DigitalGo only	ALEX GLOBAL TECHNOLOGY INC.
DigitalGo only	ALLOTEC CO., LTD.

Booth number	Company name
DigitalGo only	ALU-MATE METAL INDUSTRIAL CO., LTD.
DigitalGo only	 ANANDA DRIVE TECHNIQUES (SHANGHAI) CO., LTD.
DigitalGo only	ASTRO TECH. CO., LTD.
DigitalGo only	BEST FRIEND ENTERPRISE CO., LTD.
DigitalGo only	BESTZONE INDUSTRY CO., LTD.
DigitalGo only	 BETO ENGINEERING AND MARKETING CO., LTD.
DigitalGo only	BVA
DigitalGo only	CHUHN CHUAN CORP.
DigitalGo only	 CIRCLE ENGINEERING
DigitalGo only	CLARKS CYCLE SYSTEMS LTD.
DigitalGo only	CRANKGEARS INTERNATIONAL LTD.
DigitalGo only	 CROPS CO., LTD.
DigitalGo only	 CYBIC SPORT INTERNATIONAL CO., LIMITED
DigitalGo only	 DAHON GLOBAL CO., LIMITED.
DigitalGo only	DEESTONE CORPORATION PUBLIC COMPANY LTD
DigitalGo only	DEL REY INTERNATIONAL MERCANTILE PARTNERS, LLC
DigitalGo only	 DYNAPACK INTERNATIONAL TECHNOLOGY CORPORATION
DigitalGo only	E-MA INTERNATIONAL CORP.
DigitalGo only	ECLATORQ TECHNOLOGY CO., LTD.
DigitalGo only	 ELEBIKE CO., LTD.
DigitalGo only	 ENERMAX TECHNOLOGY
DigitalGo only	 ENVIS INT. CO., LTD.
DigitalGo only	ESPECTRUM INT'L CORP.
DigitalGo only	 EVERBLISS GREEN CO., LTD.
DigitalGo only	 FALCONCYCLE TECH CO., LTD.
DigitalGo only	FEDERAL SPORTING GOODS MFG. CO., LTD.
DigitalGo only	FOREVER MACHINE INDUSTRIAL CO., LTD.
DigitalGo only	GATES CORPORATION
DigitalGo only	G-MAX INTERNATIONAL CO., LTD.
DigitalGo only	GLG SPORTS ONLINE STORES
DigitalGo only	GOLDEN CARBON COMPOSITE CO., LTD.
DigitalGo only	GREAT MACHINERY-ELECTRICITY CO.,LTD.
DigitalGo only	 GRUPO WEILICO CO.,LTD
DigitalGo only	HAKA CO., LTD.
DigitalGo only	HARTEX RUBBER PVT LTD
DigitalGo only	HENG FENG BICYCLE CO., LTD.
DigitalGo only	HK TOBEST INDUSTRY CO.LTD
DigitalGo only	HOLI BICYCLE (KUNSHAN) CO., LTD.
DigitalGo only	HUSAR INTERNATIONAL CO., LTD.
DigitalGo only	HWA FONG RUBBER IND. CO., LTD.
DigitalGo only	 IMEIER GREEN TECHNOLOGY CO., LTD
DigitalGo only	 IRWIN CO., LTD.
DigitalGo only	 IUVO INDUSTRY CO., LTD
DigitalGo only	 JEDAN INTERNATIONAL CO., LTD.
DigitalGo only	 JET MING INTERNATIONAL CO., LTD.
DigitalGo only	 JINDE RUBBER (FUJIAN) CO., LTD
DigitalGo only	JINHUA STARS ALLOY RIMS CO., LTD.
DigitalGo only	JOB INTERNATIONAL LTD
DigitalGo only	 JOY KIE CORPORATION LIMITED
DigitalGo only	JOY TAI INT'L CORP.
DigitalGo only	KING PEY INDUSTRY CO., LTD.
DigitalGo only	KING RACK INDUSTRIAL CO., LTD.
DigitalGo only	KOC INDUSTRY CORP.
DigitalGo only	 KOOL SPORTS INTERNATIONAL CO., LTD.
DigitalGo only	LEECHIE INTERNATIONAL SPORT CO., LTD

Booth number	Company name
DigitalGo only	LEGEND TECHNIC CO., LTD.
DigitalGo only	LIFU BICYCLE CO., LTD.
DigitalGo only	 LIH JAW INDUSTRIAL CO., LTD.
DigitalGo only	MARECHAL INTERNATIONAL CO., LTD.
DigitalGo only	MEI LAN (HONG KONG) CO., LIMITED
DigitalGo only	METRONOME LLC
DigitalGo only	MIT CYCLE SOURCING LTD.
DigitalGo only	MM BICYCLES CO.,LTD.
DigitalGo only	 NIEUWSFIETS MEDIA & EVENTS
DigitalGo only	NINGBO DOUYU PLASTIC CO., LTD.
DigitalGo only	NOBLE GLORY CORPORATION LIMITED
DigitalGo only	 OGK CO., LTD
DigitalGo only	 ORDER CENTER INDUSTRIAL CORP.
DigitalGo only	 OREDISC PRECISION CO., LTD.
DigitalGo only	 PRETTY WHEEL INDUSTRIAL CO., LTD.
DigitalGo only	 PT TERANG DUNIA INTERNUSA
DigitalGo only	R&N CYCLE CORP.
DigitalGo only	RALSON (INDIA) LIMITED
DigitalGo only	RISING PUBLISHING CO. LTD.
DigitalGo only	 RUI XING ELECTRONICS LTD.
DigitalGo only	 SAMSON RUBBER INDUSTRIES (PVT) LTD.
DigitalGo only	SAMUEL INDUSTRIAL CO., LTD
DigitalGo only	 SAZBIKE
DigitalGo only	SHENG LI SPRING INDUSTRIAL CO., LTD.
DigitalGo only	ダイアログボックス SHIZUOKA PREFECTURE
DigitalGo only	 SHOW DAILY
DigitalGo only	 SIGMA-ELEKTRO GMBH
DigitalGo only	 SPANNINGA
DigitalGo only	SPEEDHIGH LTD.
DigitalGo only	SPORT PRESS SRL
DigitalGo only	SPORT SERVICE SRL
DigitalGo only	SPORTS PLUS HELMET CORPORATION
DigitalGo only	 STARTS JUMP CO., LTD.
DigitalGo only	STRONGMAN PRODUCTS CORP.
DigitalGo only	SUNSTAR TAIWAN ENTERPRISES CO., LTD.
DigitalGo only	TAIOKU MANUFACTURING CO., LTD.
DigitalGo only	TAITRA
DigitalGo only	TAIWAN HODAKA INDUSTRIAL CO., LTD.
DigitalGo only	TBS GROUP CORPORATION
DigitalGo only	TEKTRO TECHNOLOGY CORPORATION
DigitalGo only	TG BAO LAN LIMITED.
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DigitalGo only	UNITRADE CYCLE INC.
DigitalGo only	 UNIWILL TECHNOLOGY INC.
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DigitalGo only	WHILFLY INCORPORATED
DigitalGo only	WULER BICYCLE INDUSTRIAL CO., LTD.
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e-Bike 電機系統大觀園

瞧瞧這些全新的電機系統 帶來哪些創新



Shimano Steps CRG EP800

Shimano M0814 在展場上的亮點，以跑車來說是其全新發表的 Dura-Ace。但是，其新款的 Steps 中置電機系統同樣帶來創新應用，推出了兩款專為 Cargo（貨運）自行車市場而生的 Steps CRG 中置電機。首先，第一款是根基於 EP8 的全新電機系統，最大扭矩可達到 85Nm，另一款則是根基於 Steps 6100 定位中級數的系統，最大扭矩可達到 60Nm。以硬體規格來說，這兩款專為 Cargo（貨運）而生的電機系統跟一般版本並沒有任何改變，而是透過韌體的優化及調校，針對特定情境需要大扭力輸出的情況下，可以產生更大的馬力及扭矩，因此即便是一輛重量滿載約 250 公斤的 Cargo 自行車，在動力輸出上一樣可以游刃有餘。簡言之，CRG cargo 系列就是針對載重而特別調校的產品，尤其是在低速度、低迴轉速的情況下，可以為騎士帶來更大的電輔助力。

穩正企業 N0414 是一間位於台南的中置馬達製造商，並推出備受關注的 MPF Drive 自有品牌，其 MPF 6 頂級電機系統供應給 Greyp（克羅埃西亞電動車品牌）。這款頂級電機雖然在重量上略重於 Bosch 和 Shimano 的系統，但以功能而言可說是並駕其驅；而其增加的重量是來自於內部齒輪元件都是採用金屬材質以及灌注充足的潤滑油。這帶來了兩個優勢：首先，MPF 6 中置電機的維護成本非常低，這一點可以從 Greyp 品牌所營運的租賃用 e-MTB 得到證明。第二點優勢在於全金屬的內部結構，可以承受中置電機所產生的大扭矩輸出所造

成的磨損。其官方標示的最大扭矩為 95Nm，並且可以透過軟體調校，將扭矩調整到 80Nm，以適用於休閒或通勤用車款。簡言之，這款 MPF 6 中置電機結合了高扭矩和低維護成本，也非常適配於 Cargo 貨運自行車。

作為全球專業操控套件領航者的 **Full Speed Ahead M1012**，近幾年也持續拓展產品線，並帶來了 FSA System HM 1.0 的後輪花鼓電機系統，顧名思義就是將馬達整合到後花鼓結構，可提供高達 250 瓦輸出及 42Nm 的最大扭矩。這款系統採用六孔碟盤鎖付以及標準 HG 棘輪座規格。而它的控制器整合在車架上管，不僅容易操作而且富有科技感，而其長條圓柱型的電池可以隱身於車架下管，達到近乎完美的整合性。此外，由於這套系統採用 CAN bus 架構，因此如有需要額外電力的需求，可以在水壺架的位置再加掛一顆增程電池。騎士也可以透過下載專屬手機 APP，進一步得到行車資訊以及電池狀態等。這款電機的最大優勢在於極輕的重量，整套系統低於 4 公斤，並且擁有較小的 Q-Factor，適配於競賽及專業運動用車款。

久鼎金屬實業 J0717 長期作為品牌的 OE 合作夥伴，提供各式電機系統以滿足需求。其自有品牌 TranzX 的兩款產品中表現出色：首先 R16 是一款後置電機花鼓系統，僅重 2 公斤，提供 250 瓦輸出和 45 Nm 的最大扭矩，適配於城市休閒車款或是公路跑車。其亮點之一在於精巧的外型設計，再者還俱備了低噪音及低振動水平，

電動自行車已成為台灣自行車出口的主力車款。然而，近期因應供應鏈缺料、缺件的問題，導致交貨時間大幅延長，也因此今年參加北展的電機系統品牌也略低於往年。儘管如此，我們在展場上還是可以看到全新亮相的電機產品。



FSA System HM 1.0 hub



MPF 6 Drive



FSA System HM 1.0 schematic



TranzX R16



TranzX R17



DP Motor's powerful M80MD



Hyena E-Road System



Hyena E-Trekking Classic System



Ananda C230 motor

在規格上可以對應包括碟煞系統或是 C 夾煞車。另一款亮點產品則是 M17 中置電機，在 3.2 公斤的系統重量下可提供高達 85 Nm 的扭矩。TranzX 作為 e-Bike 電機系統的解決方案，還提供兩款搭載 LCD 螢幕和藍牙連接的控制器、一款容量為 504 Wh 的車架管內電池，以及各種踏頻和扭矩傳感器。最後，作為 OE 系統供應商，Tranzx 可以允許客製貼標、Logo 等，讓客戶的品牌更顯高級感。

凱納 **N1014** 作為 e-Bike 系統與開發服務商，為客戶提供軟、硬體整合的服務，包括電機系統、手機 APP、以及服務軟體等，期許在蓬勃發展的電車市場佔有一席之地。OE 客戶可以選擇的車款系統配置，包括城市車、

Trekking 或是公路跑車等。所有系統均基於花鼓電機，可以提供 250 瓦功率輸出和 40 Nm 的最大扭矩，並採用標準的棘輪座規格。至於電池的款式，提供了包括貨架型電池、半整合式車架電池，或是容量較小的全隱藏式管內電池等。關於控制器的款式，則提供了包括車把顯示器（搭載 LED 螢幕以及按鈕），還有適配於公路車的車架上管的控制器，擁有更為簡約的外觀。後者還配備了雙傳感器，可在踩踏時提供自然、不爆衝的電輔助力。到目前為止，凱納的 BB 僅提供四方軸規格，正極力開發適用於公路車的 BB。

成立於 2018 年的帝普電機 **N0326** 已在台中開設辦公室，以貼近潛在

的 OE 客戶並避免針對中國的反傾銷稅。此外，由於台灣電動自行車市場還很小，因此帝普電機的中置電機符合 EN15194、ISO13849 等相關國際法規和認證。至於最新一代的中置電機，帝普電機提供兩種型號，透過整合式扭矩和踏頻傳感器的無線傳輸，以及專屬調校的軟體，可以為騎士帶來自然推進的電輔助力。另一款體型更為精巧的 M065MD 重量為 2.5 公斤，可提供高達 200 W 的功率輸出和 60 Nm 的最大扭矩。而另一款 M080MD 則是提供更大的動力輸出，它可以產生高達 80 Nm 的最大扭矩。至於功率輸出，帝普電機提供符合歐盟法規 250 瓦和北美 350 瓦的選擇。

來自中國的 Ananda **僅參加線上展** 將其定位為主流中置電機品牌的替代方案，尤其是近期發布的頂規 C230 更彰顯其競爭力。這款專為 e-MTB 而生的中置電機，擁有精實的外型，重量僅 2.7 公斤，可以帶來超過 100Nm 的最大扭矩，超過市場上的同級競品。至於電壓和最大功率瓦數，OE 客戶可以分別選擇符合歐盟或美國相關法規的選項。在曲柄心軸規採用 ISIS，因此可以適配的曲柄款式非常多。在控制器部分搭配了 TFT 螢幕，提供五種助力模式可發揮於不同地形，並且螢幕的對比度很高、容易閱讀。Ananda 作為 e-Bike 電機系統的整合方案，還提供適合 e-MTB 的車架下管電池，提供高達 520 Wh 的容量，重量約為 3.5 公斤。■ LVR

EOCA 歐洲戶外保護協會 呼籲自行車產業共同努力

自行車可以更綠色，共同保護世界自然景觀

你有想過嗎？「跟你買自行車產品、零件的客戶、騎士們，他們在世界各地騎乘的絕美生態騎乘環境，是由哪個單位來協助維護環境的？」這是歐洲戶外保護協會 (EOCA) 聯合總經理巴斯科姆 (Tanya Bascombe) 提出的問題。「誰在保護這些特殊地方受威脅的生物多樣性，並確保其生態系統維持健康，以便它們能夠吸收二氧化碳並有助減緩氣候變遷？答案揭曉，正是由 EOCA 協助維護生態，而你也可以成為一份子！」

如果你有在關注在中國舉行的 COP 15，這場會議主要在討論關於需要解決生物多樣性喪失的迫切性，以及在格拉斯哥關於需要應對氣候危機的議題。你就會意識到，現在是時候重新評估公司的 CSR 企業社會責任，並確保是站在正確的軌道上。「我們每一個人都可以發揮良能，巴斯科姆說除了關注整個供應鏈中的碳排放，以及以合乎道德和可永續的方式採購原物料外，還有運輸、廢物、用水和許多其他層面需要考慮。但是你的客戶在哪裡使用你的產品呢？」她說道。

EOCA 成立於 2006 年，是一個非營利性會員組織，在全球擁有 150 多名成員，所有公司都生產和銷售戶外運動用產品。到目前為止，這些成員已在全球 59 個不同國家/地區，共同為保護項目投入了超過 400 萬歐元。

那麼 EOCA 是如何營運的呢？聯合總經理 Catherine Savidge 解釋說：「EOCA 通過會員費籌集資金，金額取決於在歐洲的營業額。另外，也通過與成員的募款活動籌集資金。然後，EOCA 每年兩次邀請非營利組織，為保護項目申請高達 30,000 歐元的資金。符合各項審核標準的計畫案，

將可以獲得資助，並且得到來自不同保護領域的科學顧問小組的支持，以確保所資助的計畫案可以得到理想的保護效益。這些計畫必須協助保護、強化或恢復受威脅的棲息地或景觀，與當地社區合作並使當地居民從中受益，為社區帶來正向的改變，包括應對氣候變化以及提供教育元素等。所有計畫也必須跟戶外運動愛好者建立聯繫，因為我們之間是如此息息相關。

「透過完整的評估標準，可進一步得到潛在的資助計畫案，然後對這些計畫案進行投票，」Savidge 繼續說道「成員可以透過投票選擇要資助哪一些項目。另外，當民眾和戶外運動愛好者對於 EOCA 所支持的計畫案想發表意見，也可以舉行公眾投票。舉例來說，在 2021 年的投票獲得了極大的關注，共獲得了近 140,000 張選票。此外，近年來也受到許多名人的加持，包括哥斯大黎加總統、大衛·艾登堡爵士、流行歌星、政治人物和尼泊爾環球小姐等！這一投票過程透過國際媒體平台的廣宣，讓所有參與的計畫案都受益，進一步推動計畫案的工作進展。」

Arturo Balderas Torres (CIPAD 組織) 說道，在 2021 年的一項墨西哥計



在英國的 Cut Gate 協助修復林道和保護泥碳沼澤

畫就是透過公眾投票成功獲取資金，並補充「我們對計畫案的熱烈投票反應和參與方式感到非常驚訝，尤其是年輕人參與佔了最多數。正因為如此，我們意識到其實有非常多人願意支持有助於保護環境的計畫，以及在氣候變遷的緊急情況下，去關心森林和生物多樣性。另外，我們也收到了來自墨西哥和世界其他地區的許多支持。這是一次奇妙而令人鼓舞的經驗！由於我們在投票過程中獲得了承諾，執行該計畫對我們來說將是一項重要任務。」

在不同的時間、不同的地點，EOCA 都會根據當地的需求去資助計畫。其中包括在羅馬尼亞和南非建立自行車道，通過生態旅遊加強對景觀的保護；也透過與槳板愛好者、登山車騎士、徒步旅行者、衝浪者和滑雪者一起清除環境中的塑料污染；在蘇格蘭、瑞典、法國、印度尼西亞、西班牙和尼泊爾等協助恢復、重新種植和保護森林。另外，也保護義大利和西班牙的熊、英國的紅松鼠、婆羅洲的猩猩和泰國的大象的棲息地。

Dom Ferris (Trash Free Trails 組織) 是 2020 年 EOCA 資金的獲得者，他說：「我們有責任為自行車騎士、跑步者和徒步者提供靈感、訊息和工具，以保護和改善他們的林道小徑及生態。為了實現這一目標，我們需要財務支持、各領域的專業知識和各個戶外運動品牌的支持。而 EOCA 為我們帶來這些支持及資援，透過他

們的協助，使我們的社區能夠持續改善林道小徑與野外生態的環境。」

ADEPT Transylvania 於 2019 年獲得 EOCA 的資助，其執行長 Cristi Gherghiceanu 表示：「EOCA 幫助我們將 Angofa Wild Center 與登山自行車道串聯起來，增加了體驗大自然的人數。有了這個正向循環，我們更容易完成農村發展和生物多樣性保護的使命。」

我們希望大家共同加入，無論你是製造、供應、經銷、零售、推廣，或是愛好戶外運動的族群，都歡迎貴公司加入 EOCA。EOCA 可以為您的公司提供定制化的環境保護捐贈計畫，這也可為您的公司的實現企業社會責任，提供公司參與各種環保議題的機會。您不用想得很複雜，從很簡單地支付會員費，到贊助您公司願意投入的特定項目，EOCA 都可以透過其峰會 (summit) 會員計畫，為您的公司找到和管理這些項目。根據 Catherine Savidge 的說法，「這是一個獨一無二的協會，號召大家共同為維護自然生態。我們都喜歡和享受自然。透過大家的努力，相信我們可以比以前做得更多、更好。」

更多有關 EOCA 的資訊請上網：www.eocaconservation.org，或發送電子郵件至 info@eocaconservation.org 與我們聯繫



Angofa 草原保育地及自然林道

無線電變世代來臨

自行車的傳動系統，除了增加更多的飛輪齒數，近幾年高階傳動的主流，是導入了電子化以及無線通訊，在北展你可以看到這些無線電變帶來的全新體驗。



Shimano DA Di2 CS-R9200



Shimano DA Di2 RD-R9250

Shimano **M0814** 的 Di2 電變邁進第三世代，同時將創新科技導入 Dura-Ace 以及 Ultegra 套件。其中最為直觀的亮點，在於邁入 12 速以及更快、更精準的電變換檔。在軟體部分，使用者可下載 eTube 手機 APP，讓騎士客制化設定全同步、半同步變速、多重變速、變速速度和雙控把手快速按鈕等偏好選項，以及設定衛星按鈕等。而這兩套頂級傳動系統，不僅提供油壓碟煞的規格，也另外提供 C 夾制動的選擇，讓愛好經典風韻的層峰車友，一樣能與時俱進。

但是，如果您要完全享受第三代 Di2 的最大創新設計，也就是半無線電變科技，直上油壓電變系統是唯一選擇。Shimano 的半無線電變，其原理是煞變把與前、後變之間是透過無線訊號傳輸；而在前變、後變與座管電池之間則維持電線的配置。進入新世代，充電的方式也改變了，要替座管電池充電，只需要將充電線連接至後變即可充電；而搭載無線傳輸的煞變把，則是分別配置

Shimano DA Di2 FD-R9250



CR1632

鈕扣電池，

使用者可視電池

情況自行更換。在 12

速的飛輪齒數部分，提

供兩種齒比配置，分別

是 11-30T 以及 11-34T。這

兩款飛輪齒比，不僅涵蓋

了較大的齒比範圍，並且也兼

顧了變速換檔的綿密性，再搭配上雙

盤配置的前變系統。值得一提是，新

款飛輪一樣兼容於以往的 HG 棘輪座

系統。

而在專業登山車傳動套件部分，Shimano 針對 12 速系統使用了專屬 Microspline 棘輪座規格。但針對 e-MTB 部分，這間聞名全球的日本傳動大廠就採取了不同的方式：e-MTB 傳動系統只提供 XT 及 Deore 級數，並且使用 Link Glide 技術只配置 11 速或是更少的速別。Link Glide 重新設計的卡式飛輪齒片具備更厚的基底與獨特的凹槽，可大幅改善 e-MTB 中置馬達高扭力應用中的耐磨性。Link Glide 的定位可說是專為 e-MTB 而生，不同於 Shimano 最新的專業登山車套件，它更注重在經濟實惠以及持久耐用的性能。



SRAM Xplr Rival AXS



Classified Powershift

談到無線電變的發展，SRAM **M0612** 可說是後發先至、暫居領導者的地位，一步步地將其 AXS eTap 科技下放到級數更為入門的變速套件，目前在登山車部分，GX 級數也導入了 AXS 電變科技了。此外，近年來 SRAM 持續擴展事業版圖，讓這個美國品牌、台灣製造的變速器公司，積極投入持續蓬勃發展的 Gravel 市場，推出 XPLR 變速套件系列。XPLR 系列同樣提供包括 Red、Force、Rival 共三種級數，不同於標規版的是，其飛輪齒數加大到 10-44T，這樣的齒比足夠 1X 的配置去征服各種地型，而其直鎖式齒盤提供從 38 至 46T 的齒片規格。對於喜愛挑戰崎嶇路況、重口味的 Gravel 玩家，Rock Shox 推出 Ruby 短行程避震前叉，和一款名為 Reverb AXS XPLR 的短行程伸降座管。而同樣隸屬於 SRAM 集團的



SRAM Reverb AXS Xplr

SRAM Xplr Rudy

ZIPP，則帶來了相容於無內胎系列的胖胖框輪組，以及一款更注重舒適性的 Service Course SL 70 XPLR 鋁合金彎把。

正當 Shimano 和 SRAM 還在討論公路車是否需要前變速器，來自比利時的新創公司 **Classified Cycling M0910** 提出了創新的解決方案，將電子無線變速箱整合進入了後花鼓，這可以取代傳統前變速器的功能。這款名為 Powershift 的全新系統，不僅重量輕，而且提供兩段變速。控制器可安裝於公路彎把，並且透過無線傳輸將訊號傳送到後輪帶有接收器的貫通軸，再去控制後花鼓進行變速。

根據 Classified Cycling 的說法，換檔只需千分之 14 秒，並且因為不需要前變換檔，因此不再擔心會因為掉鏈而損傷了騎士寶貴的車架。而其變速齒比為 0.7:1，可模擬公路跑車的前變速檔位。在搭配使用現今主流的 11 速或 12 速系統，騎士可以得到 22 速或 24 速的完整及綿密的齒比，並且在外觀上更為簡潔及高級。為了方便讓消費者升級，Classified Cycling 提供一整套的升級套件，內容包括了一組空力碳纖維輪組，框高分別提供 35mm 或 50mm。在 2021 年的歐洲展，Classified Cycling 憑藉這一套 Powershift 系統獲得了設計金獎肯定。

彥豪金屬 **僅參加線上展** 是全球制動系統的重量級品牌，而其針對售後市場推出的 TRP 品牌，早在 2019 年即推出 G-Spec DH7 DH 下坡車用 7 速變速系統，零件包含了變把以及後變。2020 年再推出 G-Spec TR12，

也就是 12 速的 MTB 變速系統，適用於林道越野以及 Enduro 車款。來到 2022，Tektro 推出適用於電動自行車的 E-Drive 9 系統，以提升其在傳動系統的競爭力。並且該套件不僅包含變把以及後變，還包括



Tektro E-Drive 9 system

了專屬的 9 速鋼結構飛輪，齒速為 11-46T。為了提升飛輪的耐用性，提供了一個易於更換的 3 片齒輪組，以解決最常見的電動傳動系統的磨損問題。變把配備相同的棘輪式離合結構，以降低發生掉鏈的情況。Tektro E-Drive 9 傳動系統目前只提供 OE 選項，暫時不會在零售市場銷售。

傳誠技研 M0304 是另一個根基於台灣的傳動套件供應商，在目前自行車產業缺套件的背景下前景看好。多年

來，其 C-Drive 一直為城市通勤車和兒童自行車提供經濟實惠的皮帶傳動解決方案。而旗下另一個 Geardrive 品牌，更專注在入門級數的傳動系統，該套件已經搭載於美國 Walmart 的成車銷售三年以上。傳誠技研的零件主要在彰化生產，僅有變把是在中國製造。2022 年，擴展產品項目增加了鋼製曲柄組，齒片採用直鎖式設計，以及帶有錐度的 BB 心軸。由於 Geardrive 只提供 1X 單盤系統，因此不需要前變速器。

上述的傳動系統提供 8 速、9 速檔或 10 速，並且聚焦於對價格敏感而且量大的亞洲市場。根據傳誠技研創辦人陳柏誠的說法，這些系統不僅聰明，而且經濟實惠，可以透過簡單的改裝來將前齒盤升級為雙盤或三盤。談到關於 2023 及未來的新品，傳誠技研計畫進一步跨入 1x11 和 1x12 的高階傳動系統。近期其銷量大幅增長的品項，是 Geardrive 品牌的飛輪，主要需求來自於歐洲及北美的 OE 客戶。飛輪的規格可適用於公路車

8-11 速，以及登山車 8-12 速，具有耐用的鍍銀鍍表面。棘

輪規格採用 HG 系統，最小的齒數為 11T。最後一點也很重要，在目前自行車產業缺料及缺件的情況下，傳誠技研可為客戶提供較短的交貨期。

■ LvR



DTS Geardrive Rear Derailleur

DTS Geardrive 9s Sprocket

專訪：TBA 秘書長 張蕙娟

引領台灣自行車產業走向未來

中文

在過去兩年，自行車及其零件的需求旺盛，連帶讓供應鏈的訂單滿手，以及面臨原物料和運費上漲，讓自行車產業帶來了機會與挑戰。為此，Show Daily 採訪團隊有幸與 TBA 台灣自行車輸出業同業公會秘書長張蕙娟 (Gina Chang) 進行專訪，透過她的觀察及洞見來剖析疫情下的自行車產業表現。

Show Daily：過去兩年台灣自行車產業的表現，您怎麼評價？

張蕙娟：台灣的自行車產業在電動自行車領域又迎來了強勁增長的一年。即使是在新冠疫情的持續衝擊下，市場需求仍在繼續飆升。根據我們的出口統計數據，美國的增長速度超過了歐盟地區，這一點讓我們感到有些驚豔。截至第三季度末，台灣已出口近 75 萬輛電動自行車和 150 萬輛傳統自行車。

Show Daily：您認為台灣自行車產業面臨的主要挑戰在哪裡？

張蕙娟：由於新冠疫情的持續衝擊，使得市場端的需求及訊息一直在快速變化，並且改變的速度比我們想像的要快。大家都知道，電動自行車早已是發展趨勢，但這同時帶來了機會與威脅。可能的威脅在於開發電動自行車，需要更高的研發費用，這會讓中、小企業面臨更大的壓力。而另一方面，機會則表示這可能會推向另一波高峰，大多數的製造商都想在電動車市場佔有一席之地。

Show Daily：您怎麼評估全球最重要的市場？

張蕙娟：全球最大的自行車市場在歐洲，所以競爭也很激烈。為了在這個重要市場上持續增長，我們正極力發掘新生代族群及探索其興趣，以及後疫情時代可能帶來的轉變。另一方面我們也聚焦成長中的市場，例如美國（尤其是北美）的市場表現特別突出，預期前景看好。

Show Daily：目前 TBA 還關注哪些其他市場？

張蕙娟：澳洲最近發展迅速，所以我們肯定會關注這個市場。至於亞洲，區分為兩個獨特的市場，首先是北亞（包括日本、韓國、中國大陸和台灣），這些地區在消費力和專業知識上，與南亞國家呈現出不一樣的水準。為此，特別是對於南亞，我們需要推出適合的產品以及銷售通道。這意謂著在產品定位上要更為入門及經濟實惠，著重於實用功能以及簡易組裝、維護，並且在銷售上可能導入網路直購。



TBA 台灣自行車輸出業同業公會秘書長張蕙娟

Show Daily：除了關注市場發展，TBA 還為台灣自行車行業提供了哪些協助？

張蕙娟：隨著台北展和台中週的舉辦在疫情下顯得更複雜，如何掌握網路通訊來宣傳及溝通是一大關鍵。依我們的觀察及淺見，許多台灣品牌在線上銷售以及網路行銷上，仍有很大的進步空間。基於這個原因，TBA 推出了幾項線上培訓課程，來指導我們的會員，並為他們在面對現有和潛在客戶等，如何透過掌握鏡頭來替產品說故事。畢竟，線上展和線下展的差異很大，尤其是在產品展示部分。此外，TBA 還推出了一系列共三本書，幫助其成員包括規畫他們的業務、優化網路作業以及品牌和美學的設計提升等。

Show Daily：2022 年 TBA 主要關注哪些趨勢、可能面臨哪些挑戰？

張蕙娟：提高台灣廠商（尤其是中小企業）的網路形象是關鍵。另一方面，我們持續尋找降低碳排放的生產模式，讓製造變得更環保。為了要取得低碳生產認證，需要替整個供應鏈進行體檢，並提出可能的優化方案。

缺工也是一大挑戰，特別是要找到合適的工作同仁尤其難，這也因此大大地限制台灣自行車產業的增長力道。或許，透過導入自動化生產，可以緩解缺工的問題。 ■ LvR

2021 年台灣自行車出口數量

電動自行車出口額 首次突破 10 億美元大關

在過去幾年，儘管台灣自行車產業的整車出口總量略有下調，但在電動自行車的類別仍持續飆升且後勢看漲。根據 TBA 台灣自行車輸出業同業公會的統計數據，2021 年的電動自行車出口總值正式突破 10 億美元，首度超越傳統自行車的出口總值。

在過去一年半的時間裡，台灣對於新冠疫情的控制得宜，在全球可說是防疫模範生。但時間回到 2021 年的 5 月中至 6 月底，台灣面臨第一波嚴重的本土群聚感染事件。為此，疾管署陸續推動更為嚴謹的防疫措施，包括配戴口罩、嚴格的機場出入管制、保持社交距離等，這些防疫措施也對工廠的產能帶來了衝擊。與此同時，新冠疫情也打亂了全球物流和海運塞港，導致在工廠製造完成的产品，難以將貨物運往所需的市場。儘管有這些干擾及挑戰，台灣的自行車產業依舊全速前進地趕工。這主要是每間工廠都滿手訂單，必須加速生產的腳步，包括從代理商到經銷商都在 2021 年上調了訂購量，因為他們不想再冒險回到 2020 年面臨無貨可賣，也就是自行車缺料、缺件的窘境。

回顧 2021 年 1 月至 11 月的台灣自行車出口數據顯示 (2021 年的全年出口數據將在 2 月底於 TAITRA 貿協記者會上公布)，與出口強勁的 2020 年的數據相較，2021 年的出口量增長了 18%，出口值提升了 14%，一年比一年好。截至 2021 年 11 月，台灣共出口電動自行車 914,020 輛，遠遠超過 2020 年的 760,000 輛。以這兩年的 1 至 11 月進行比較，台灣電動自行車的出口總量躍升了 34%，平均出口單價增長 2% 至 1325.16 美元。整體出口總額增長 36.7% 至 1,211,220,985 美元。即便還未列入 12 月的出口值，台灣的電動自行車出口也首次突破 10 億美元大關。

來到歐盟國家，去年台灣的電動自行車出口量增長相對溫和，增長 15.5% 至 482,689 輛，出口總額增長 18% 至 6.254 億美元。對於 NAFTA 北美自由貿易協定地區，尤其是美國來說，成長力道相當強勁。對美國的電動自行車出口增長了 68% 至 255,332 輛，出口總額增長了驚人的 79.5% 至 3.524 億美元。至於電動自行車的出口平均單價，美國略高為 1380.13 美元，而歐盟國家為 1295.75 美元。縱觀亞洲和南半球的國家的電動車出口，出口至中國為 18,661 輛、澳洲的



12,020 輛和日本的 9,755 輛，上述是這些地區佔比較大的出口市場，儘管規模比起歐美要小得多，但也接近於瑞士的 8,416 輛。

歐洲和北美自由貿易協定市場，兩者加總就佔了佔台灣 2021 年電動自行車出口的 80% 以上，是出口市場的重中之重。目前歐盟頒布一套新政策 - 綠色新政，宣布降低各種自行車的增值稅；另外，美國也針對電動自行車推出聯邦稅收抵免的新政。藉由這些友善政策的落實，相信台灣的電動自行車出口在未來幾年，在這兩大市場的需求應該會維持強勁動能。值得一提的是，考慮到物流的方便性，在台灣組裝的多數電動自行車，其電機系統大多是使用亞洲品牌，包括 Shimano、Yamaha、Panasonic、Bafang、MPF 以及 TranzX。另一方面，歐洲品牌的電機系統包括 Bosch 或是 Brose，大多會選擇在歐

洲的組車廠進行組裝。在短時間內要改變這種模式並非易事。

雖然電動自行車擁有驚人的成長動能，但是台灣出口的传统自行車，依舊表現的可圈可點。從童車到城市通勤車，或是專業競賽運動的跑車以及登山車。對於传统自行車類別，NAFTA 北美自由貿易區是台灣最重要的出口市場。但值得說明是，雖然擁有較高的出口總額，但其平均單價卻較低。總體而言，传统自行車出口總額仍為 1,208,050,974 美元。統計 2021 年 1 月至 11 月，台灣共出口 184 萬輛传统自行車，約為電動自行車出口數量的兩倍。其中有多達 44.5% (820,065 輛) 銷往北美自由貿易協定地區，較前一年相比增長了 26.7%。此外，平均出口單價也提升了近 10% 至 671.80 美元，使传统自行車的出口總額增長了 39% 至 5.509 億美元，這是令人印象深刻的

表現。另一方面，出口至加拿大和墨西哥的自行車平均單價遠高於美國，因此美國對中國徵收的反傾銷稅確實產生影響。

來到對歐盟國家的传统自行車出口總量，以 505,810 輛的數量佔 27.5%。這一數字與前一年相比增長了 21.3%，出口總額為 2.873 億美元。雖然出口到歐盟的传统自行車的出口平均單價下降了 12.8% 至 568.05 美元，但在歐盟國家之中卻呈現很大的落差，從葡萄牙的 107 美元到愛爾蘭的 2336.65 美元不等。另一方面，亞洲及南半球仍是台灣自行車產業的重要市場，澳洲為 85,145 輛，日本為 59,874 輛，韓國為 29,122 輛，中國為 28,356 輛。在所有這些國家中，传统自行車的出口平均單價均略有下降。這原因可能是來自於東南亞國家的相互競爭。

最後也非常重要的，台灣的自行車零件出口也居於領導地位，以其高品質和多樣化規格而聞名全球。在這一類別，由於全球的需求一直在增長，也連帶拉升對於零件的需求。與前一年相比，出口自行車零件的噸位增長了 44.15%，達到 68,264.25 公噸。至於出口總值，58.2% 的增長令人驚豔，總額達到 2,259,668,545 美元，僅略低於传统自行車和電動自行車的出口總值。再細分各零件的佔比，最大佔比為車架和前叉的 37%。另一方面，成長放緩的類別是內胎和鏈條，這可能說明了其他國家也重視自行車產業，並導入在地化生產。■ LvR





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