

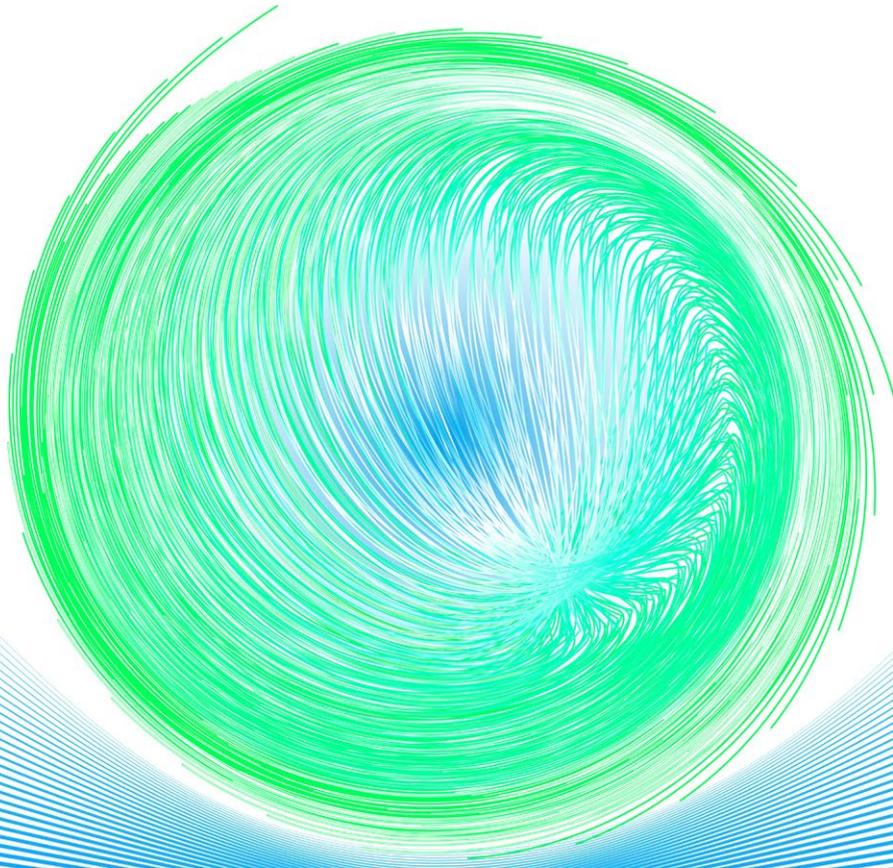
# DELTA BRAND NEWS

Vol.

# 56

April 2021  
DELTA BRAND NEWS

 DELTA  
台達  
五十周年



## 影響五〇

節用厚生  
INFLUENCING 50  
EMBRACING 50

## 迎向五〇

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## FROM THE EDITOR

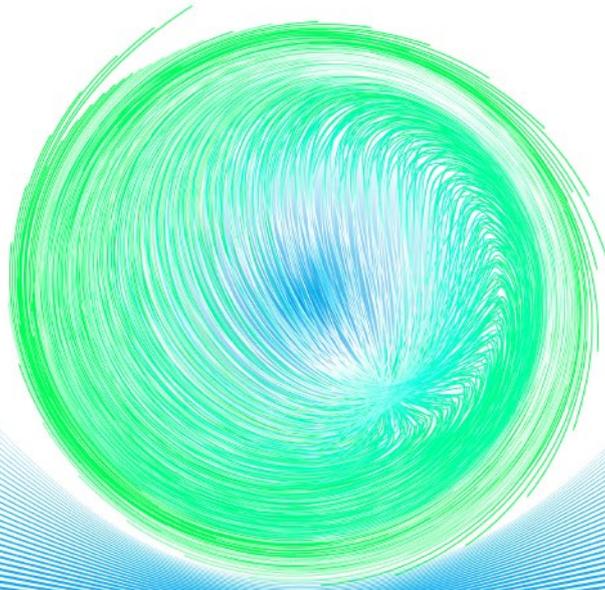
This year is a special year for us, Delta is 50 years old! To celebrate this new milestone and to showcase the experience and ability that we have accumulated over the past 50 years, we will introduce a whole series of activities. Themed on "Influencing 50 Embracing 50," the anniversary activities are created based on the concepts of "sustainable conservation, nurturing life", in which the Company expects not only to advance lower carbon emissions that help mitigate global warming, but also to spark public awareness on the protection of marine ecology. To kick off the anniversary activity series, we will present the "Blue Planet II Live in Concert" on 21st May, adopting BBC's eco-documentary to show the public the beauty of oceans and to attract their attention to marine ecology. In July, we will host the 50th anniversary exhibition in Taipei, sharing with the audience the experience and ability that we have acquired over the past 50 years and our plan for the next 50 years. For more information, please check "Special Report" in this issue.

Delta has spared no effort to become world-class corporate citizens. Recently, we joined the global corporate renewable energy initiative (RE100), demonstrating our commitment to achieving the goal of 100% renewable energy usage and carbon neutrality by 2030. The "Sustainability" column will provide an in-depth discussion on major international environmental initiative indicators, and illustrate how we employ scientific methods as the basis to conserve energy and reduce carbon. Likewise, "Delta Green Life" will introduce the Sustainability Development Office of Corporate Communication Division, revealing our behind-the-scene core team responsible for promoting environmental, social, and corporate governance.

The popularization of renewable energy and electric vehicle (EV) charging equipment has facilitated energy conservation and carbon reduction. We have successfully promoted solar inverters in Germany. Additionally, Delta Electronics Thailand has signed an EV cooperation memorandum with Mitsubishi Motors and the Thai Electric Power Authority, promoting the development of local EVs. Please see the "Brand Circle" to learn our achievements in improving product energy efficiency and preserving Earth's resources.

Over the past 50 years, we have gained a wealth of knowledge and skills ranging from component operations to system solutions. In recent years, we have even incorporated smart technology as well as related software and hardware equipment to realize different AIoT applications. By using AIoT ourselves, we are able to help our clients build and upgrade their AIoT. For more information, please don't miss out "IoT Smart Solutions".

Brand Management Office



影響五〇

節用厚生  
INFLUENCING 50  
EMBRACING 50

迎向五〇

## Delta celebrates its 50th anniversary - "Influencing 50, Embracing 50" theme. Echoes its commitment to 'sustainable conservation, nurturing life'

Text by Brand Management Division

This year marks a new milestone for Delta as it enters its fiftieth year. Power electronics is Delta's core technology and competitive advantage, and the company has accumulated a half century of experience and capability. Over the years Delta has transformed itself from a key-component manufacturer into a system integration and solutions provider, evolving from an industrial brand to a top commercial brand. This year, "Influencing 50, Embracing 50" is Delta's theme for a series of activities reaffirming its continued role as a world-class corporate citizen as it enters the next 50 years.



(From left) Mr. Ping Cheng, Delta's chief executive officer, Mr. Yancey Hai, Delta's chairman, Mr. Bruce Cheng, Delta's founder and honorary chairman, and Ms. Shan Shan Guo, Delta's chief brand officer attended Delta's 50th anniversary press conference

"Influencing 50, Embracing 50" is based on the concept of "sustainable conservation," which refers to energy efficiency as the core concept embedded in Delta product design. "Nurturing life" refers to treating all living creatures and the environment with care, conserving water resources, and protecting the marine ecology, thereby making the world a better place. Economization and life enrichment echo Delta's business mission, "To provide innovative, clean and energy efficient solutions for a better tomorrow." On May 21st, the "Delta 50th Anniversary Concert" will feature the BBC documentary "Blue Planet II Live in Concert" to highlight the beauty of the ocean and draw the public's attention to marine ecology. A special Delta 50th anniversary exhibition, along with forums and lectures, will focus on energy conservation and environmental protection, and share Delta's experience as it transitions to the next 50 years.

### "Delta 50<sup>th</sup> Anniversary Concert" kicks off a series of events

When recording Water with Life in Taiwan, the Delta Electronics Foundation discovered coral bleaching and began to advocate for protecting the ocean and restoring corals. The Delta 50th Anniversary Live in Concert together with the 4K natural ecological documentary Blue Planet II, presented by the influential David Attenborough of the BBC, will feature a score composed by the well-known soundtrack master Hans Zimmer. The score will be performed live by 80 musicians from the Taipei Philharmonic Orchestra and the Taipei Philharmonic Chorus. At the concert, Delta's 8K projection on an 800-inch large screen will offer a breathtaking visual experience that will allow the audience to explore the magnificence and beauty of the underwater world. This beautiful ocean documentary shines a light on why we need to protect the marine ecology. Blue Planet II is a popular nature documentary that has inspired governments, enterprises, and individuals around the world to appeal for marine conservation and take action. The film's eco-friendly message reflects Delta's business philosophy and long-term efforts to protect the environment.

The concert will be held on May 21st at the Taipei Music Center. The event is a charity ticketing event. The box office surplus will be fully and exclusively used for marine conservation by the National Museum of Marine Science & Technology to assist coral restoration efforts in ocean front conservation areas.



The "Delta 50th Anniversary Concert" kicks off a series of celebratory events. The concert features 8K projection with an 800-inch large screen that will provide a breathtaking visual experience to draw public attention to marine ecology



### The Delta 50<sup>th</sup> anniversary exhibition echoes the company's commitment to 'sustainable conservation, nurturing life'

In addition, the Delta 50th anniversary exhibition will be held in July. The themes of the exhibition are: the era, the environment, and Delta. The exhibition space is divided into three areas: Delta INTRO, a screening area, and a special exhibition on economization and life enrichment.

Delta INTRO comprises five themed areas, allowing viewers to experience Delta's stories from various time periods and to understand how Delta has: developed its strengths in power electronics and energy technology, become a provider of smart solutions and a creator of smart cities, used its products to influence the world, and emphasized environmental protection and climate change. The screening area offers forums, lectures, and multimedia activities to inspire discussion, thought, and reflection. The special exhibition on economization and life enrichment echoes Delta's business philosophy; presents stories about mountains, rivers, and the island; and integrates Delta's smart city solutions and 8K projection to express the foundation's initiatives, and promote environmental care.

### Delta celebrates its 50<sup>th</sup> anniversary globally

In addition to the series of events held at the Taipei headquarters, Delta Electronics Thailand (DET) will join the celebration and hold an 8K VIP special event in a large shopping center in Bangkok in April. At this event, an 8K Delta charity video will be played to let guests experience, visually and vividly, Delta's most important events over the past 50 years. The year 2021 marks not only Delta's 50th anniversary but also the 30th anniversary of Delta Electronics Japan (DEJ). DEJ will host a series of promotional activities for products and solutions coinciding with the Summer Olympics in Japan to strengthen the connection between customers and dealers and their brand identity.

Delta was founded 50 years ago. It has endeavored to enhance the energy efficiency of its products, and is grateful to all of its partners for their support. Over the next 50 years, Delta will continue to focus on challenges related to climate change and work with business partners to use advanced technology for product energy efficiency, thereby creating a sustainable value chain. With its core technology of power electronics, Delta hopes to contribute to mitigating global warming as it actively fulfills its role as a world-class corporate citizen.

Please visit the following website for more details on Delta's 50th anniversary events:  
<https://delta50.deltaww.com/>



Delta was founded 50 years ago. Delta is grateful to all of its partners for their support. Over the next 50 years, Delta will continue to focus on climate change and advance energy efficiency as it actively fulfills its role as a world-class corporate citizen



## Strategic planning makes Delta leading brand of energy infrastructure

### Interview with Kate Wang—Manager of strategic planning & marketing department of EISBG

Text by Brand Management Division

Delta's Energy Infrastructure & Industrial Solutions Business Group (EISBG) covers a wide range of products and solutions, including energy storage systems, renewable energy, electric vehicle charging solutions, and energy IoT. The Strategic Planning & Marketing Department under EISBG was established in 2019; this year is the third year after its official establishment. The team actively assists in the whole business group in strategic planning, planning & execution of product launches, and external communication activities. For Profile Feature of this issue, we invited Kate Wang, Manager Strategic Planning & Marketing Department (EISBG), to talk about EISBG's marketing strategies and brand promotion, as well as her experience and thoughts over the last 10 years of working at Delta.



EISBG strategic planning & marketing team



### Thorough implementation of strategies with diverse and flexibly-managed team

EISBG marketing team consists of a group of energetic members. Kate manages the team without imposing too many restrictions so that the team members can have more room for development and play up to their full potential. Kate said: "Each member has his/her own specializations and responsibilities. I don't actively delegate tasks after confirming the goals of a project; instead, the members will automatically divide themselves into different groups to finish the project, and this team chemistry is rarely seen elsewhere."



The team works in strategic planning, market intelligence, marketing communication, press relations, digital marketing, graphic and multimedia design, and industrial design. The marketing team works with EISBG business units according to their needs and product launch plans. The collaboration and hard work over the last two years have helped Delta gain much visibility in the energy industry.

### Combing marketing strategies and business goals to gain brand visibility

Kate considers marketing to be dependent on business development plans. When devising marketing strategies, there must be a deep understanding of the directions of the strategies as well as business

goals so that meaningful marketing plans can be devised and activities can be planned. EISBG devises marketing strategies from the customer's perspective. It communicates the notion of "highly efficient energy generation" with solutions for energy infrastructure, while taking into account the selling points of different products and systems. Take electric vehicle charging solutions for example. Apart from introducing charging stations and charging management, EISBG also includes elements such as renewable energy, energy storage, and energy management to create electric vehicle charging solutions unique to Delta. In several major expositions in Europe and Asia in 2019, EISBG exhibited its solutions in this manner. As to the marketing of commercial energy storage systems, EISBG introduces the multi-applications of energy storage, in combination with the integration of solar energy, electric vehicle charging solutions, and energy management, demonstrating Delta's expertise in providing energy infrastructure solutions.

The EISBG marketing team also makes use of Delta's internal resources and platforms to increase the depth and breadth of brand and product communication through cross-department collaboration from different angles. Kate added: "Marketing activities must be conducted in parallel with sales strategies. When discussing marketing plans, I always ask these questions: 'whom are we selling the products to and who is helping us sell the products.' One of the goals is to explore the possibilities of cross-business platforms." Last year, during the online forum aiming at large energy consumers in Taiwan, EISBG worked with CISBU's business unit in Taiwan to attract customers. This April, EISBG is set to participate in Delta's Smart Manufacturing Miracle 2021 and promote Delta's automation test systems and energy recycling system through the IABG platform.

Recently, the EISBG marketing team has been working with the Information Department and the Electric Vehicle Team to strengthen Delta's skills in manufacturing electric vehicles and its reputation in the electric vehicle supply chain. "We really appreciate our colleagues' support, which allows EISBG to give full scope to its role in marketing and communication with the backing of the Delta brand," said Kate.

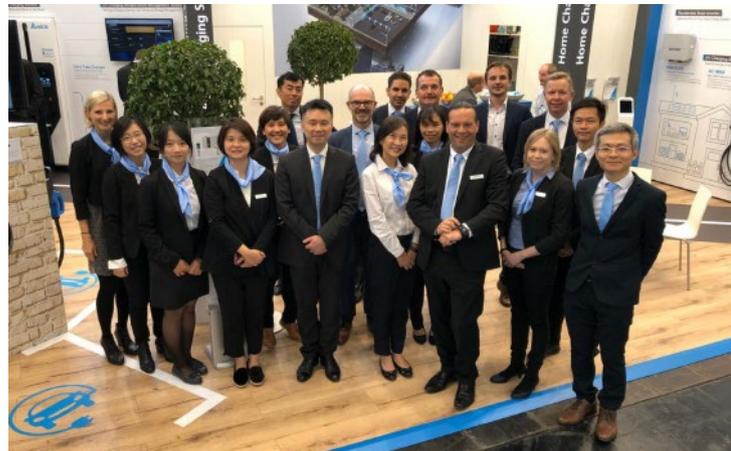


(R6) Delta EISBG GM JJ Chang and CT Café team members



## Localized marketing strategies formulated by “central kitchen”

It is not easy to create an international brand. Brand communication is affected by language, culture, and local market conditions. Kate defined BG as a global “Central Kitchen,” responsible for producing globally standardized materials for promoting consistent brand and product values. It also clearly determines the concepts of products/solutions, as well as the methods of promotion. Then, the results will be handed over to frontline sales agents and marketers for localization so that they can make adjustments suitable for the local environment to gain brand visibility. Kate further added: “If we want to combine our work more thoroughly, we must formulate more comprehensive Go-to-market (GTM) strategies, which take into account aspects including products, businesses, manufacturing, services, and marketing.” In addition to serving as a central kitchen, the marketing team needs to work with frontline marketing teams to launch promotional campaigns at local exhibitions and events. “Whenever we are informed of the timeline for the mass production of a product, the salespeople from BU will discuss with the frontline salespeople and us about the timeline for starting our work. We will use this information to pick the most indicative annual exhibitions or events in collaboration with our frontline sales teams and make plans in advance together with local marketing and sales teams. For example, EVCSBU launched several products primarily oriented at the European market at eMove360° Europe in 2019.”



Collaboration with EMEA EVCS and marketing team at eMove360°.

Kate said that regional collaboration often starts four to six months in advance to ensure that the communication for products/solutions can be smooth and without obstacles.

## Focus first on ideas before execution

Kate, working for almost 10 years at Delta, has undertaken positions at various units, including MCISBU, NBD MO, and EESU. From electricity to energy, she has gained experience in different fields. Apart from marketing, she once acted as NBD coach and worked in sales development. She said: “When I was a NBD coach eight years ago, I realized that energy transition would be an irreversible trend. I also developed strong relationships with a few NBDs I supervised, who later on became members of EISBG. Thus, one year after EISBG was established, I requested to be assigned to BG so that I could work with them and create a new energy future.”

Kate shared with us that she had recently come to a new realization about work when practicing Qigong (a traditional exercise involving slow body movements). Qigong puts emphasis on Qi (energy) and Yi (thoughts) instead of forms (movements), and it is said that “when Qi and Yi are good, the movements will naturally fall into place.” People expect marketing to be creative, so marketers often first focus on the execution of their creativity without considering business objectives. She applied this concept to marketing: “Don’t rush into executing ideas, but instead, think about motives and desired goals. And then you will be able to create something meaningful to the business.”



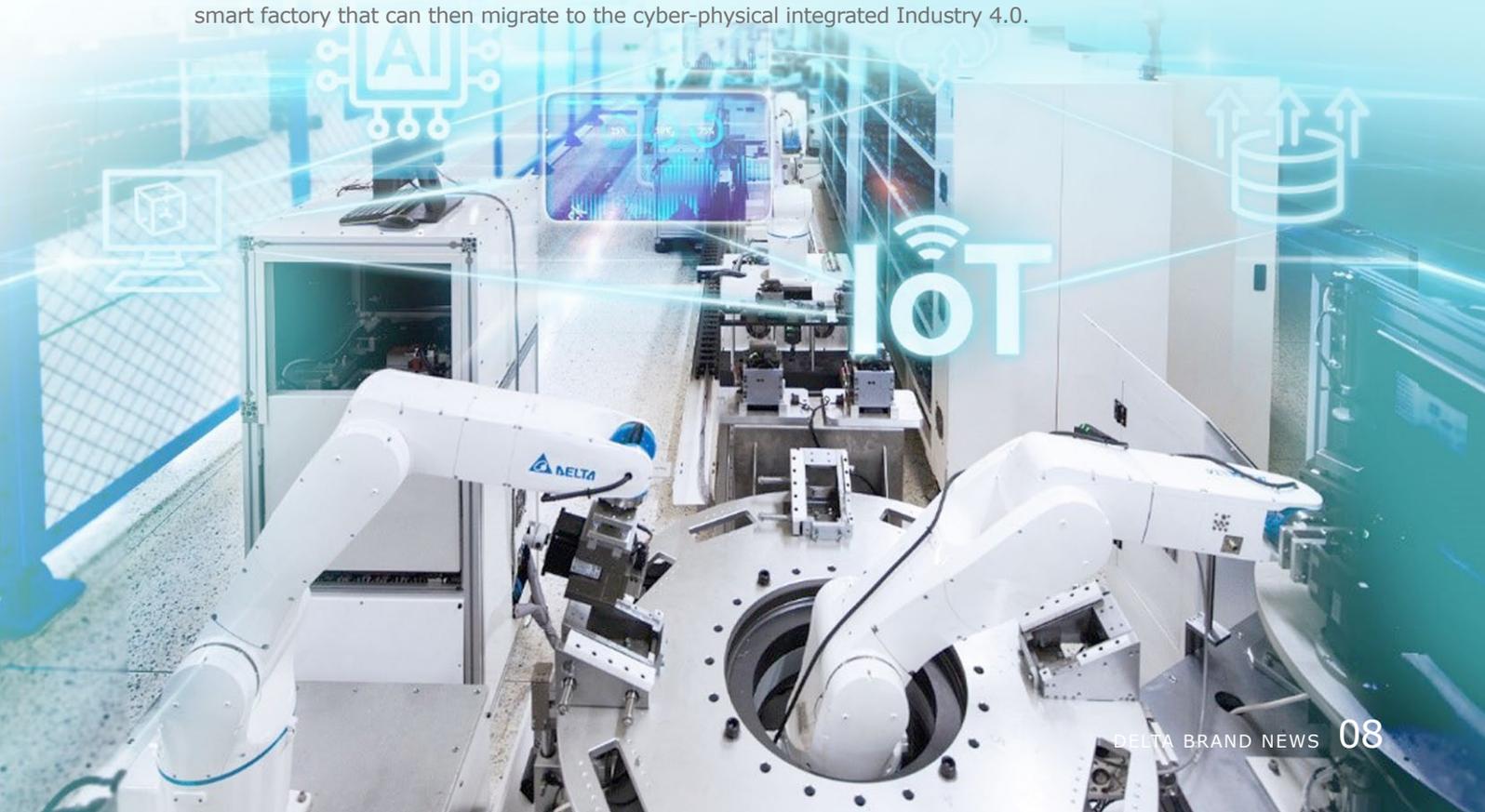
## Delta establishes AIIoT smart factories, starting from equipment connectivity with vertical OT & IT integration

Text by IABG

The Internet of Things (IIoT) is the foundation of the Artificial Intelligence of Things (AIIoT) and is known as the Industrial Internet of Things (IIoT) when applied in smart factories. IIoT requires higher system reliability and faster response compared with general IIoT, where the IIoT platform must meet stringent industrial specifications. No matter if it's the Computer Integrated Manufacturing (CIM) reference models dating back to 1989 or Industry 4.0 (Reference Architecture Model for Industrial 4.0, also known as RAMI 4.0) that arose in 2011, workshop digitization is always the fundamental first step to achieving a plant's digital transformation.

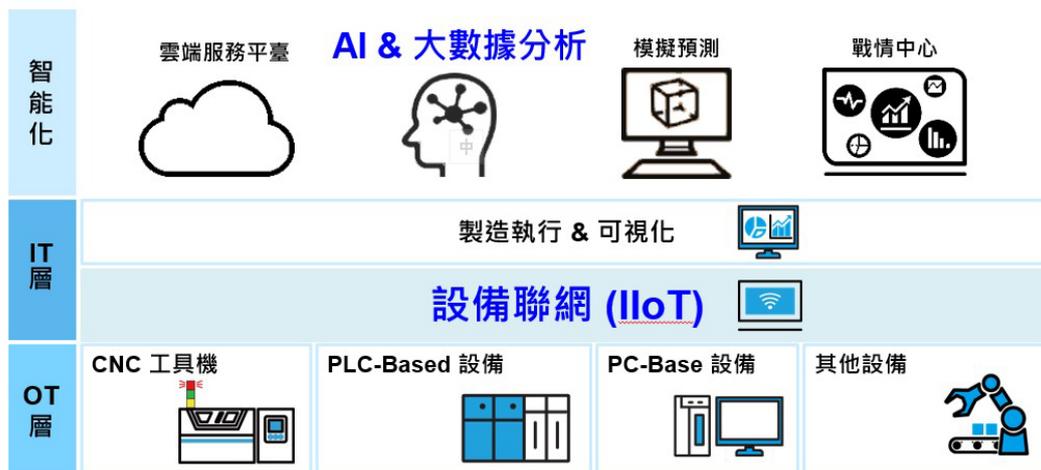
The digital transformation of manufacturing enterprises requires information flows that transmit through workshops vertically and horizontally. For the vertical level, industrial components and manufacturing equipment are involved, and all the data acquired is transmitted and uploaded to the Manufacturing Execution System (MES). The horizontal level encompasses the entire manufacturing process including collecting customer orders from ERP, converting customer orders to work orders for manufacturing, and to finishing the products. The IIoT (industrial Internet of Things) is the key crucial to successfully implementing data integration on both vertical and horizontal levels.

During the manufacturing process of factories, a large amount of information is generated from the equipment layer (a.k.a. Operation Technology layer, i.e. OT layer), including process data (e.g. traceable histories), equipment engineering parameters data, and asset data (e.g. tuning parameters and inspection of the work-in-process). Delta has been dedicated to the field of industrial automation for many years and has a thorough understanding that the connectivity of industrial components such as sensors, drives, motion controllers, and industrial communication modules must be standardized, modularized, and connected to the IIoT platform. This builds the cornerstone for a smart factory that can then migrate to the cyber-physical integrated Industry 4.0.





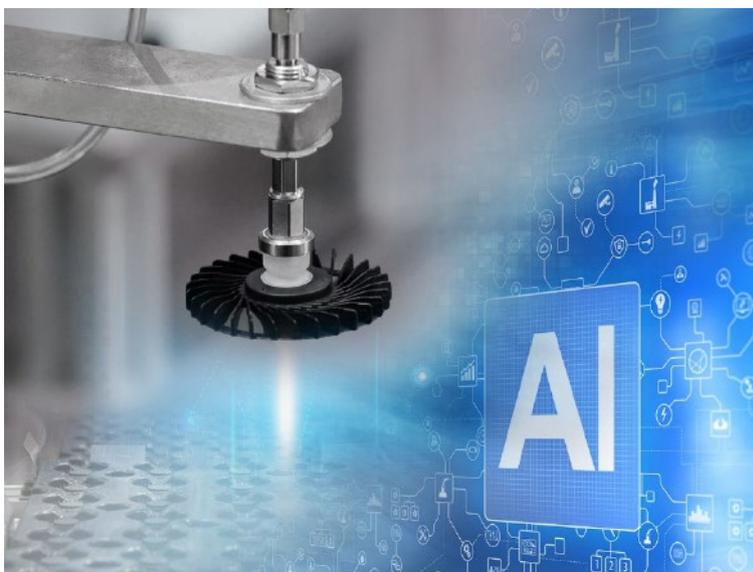
## 台達 IIoT & AI 整合方案



The framework for Delta's IIoT-AI integration solutions

### IIoT-AI integration for building smart factories

Delta has implemented AI and IoT technologies in its plants to achieve smart manufacturing. For example, automated optical inspection (AOI) implements an AI algorithm on an IIoT platform and is successfully applied to passive component inspection. The computation plus real-time online image recognition achieves self-learning with a high precision fast response in microseconds and an accuracy of over 99.5% with zero omission of defects. Delta makes further use of AI technologies to precisely identify over 50 kinds of defects during various manufacturing processes for display panels, replacing 60% of manual re-inspection and achieving high product quality. With its continuously expanding AI technology applications, Delta gets great results for anomaly sound inspection of fan/motor operations.



Delta applies AI technologies for fan inspection achieving both zero defects and customer satisfaction



### Vertical Integration of AIoT

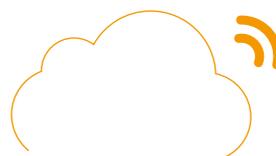
With its depth of experience, Delta has a different perspective on AIoT. While many enterprises tend to focus more on the management level of AI, data processing, and machine networking, Delta believes that the connectivity of sensors is the key to digitizing and optimizing field devices at the first layer. Sensors are installed on equipment and devices for data acquisition transmission to the Cloud or IIoT edge devices. The equipment with AI built-in computes and analyzes data, and the analytics generated is transmitted back to the motion controller for equipment self-learning and self-tuning for miscellaneous application scenarios.

Delta has successfully deployed AI technologies for manufacturing processes, decision-making, and preventive adjustment. AI helps to identify potential defects and facilitates equipment self-tuning to ensure product quality. To improve defect rates and prevent problems, real-time monitoring equipment is essential, but it may be costly to install hundreds of sensors/controllers on one piece of equipment or hundreds of pieces among workshops. It is also quite challenging and expensive to build an IIoT platform for overall equipment connection, acquisition of big data generated during manufacturing, and data computing. Hence, component connectivity is the top priority that Delta takes into consideration before AI can be implemented. The industrial controller connection is at the very beginning for component connectivity. This initial connection enables every single workstation to operate smoothly with maximized performance in both IT & OT layers. Self-learning and self-teaching AI facilitates the digitized operation. Delta leverages such expertise with self-developed technologies and hardware products as well as software to vertically expand factory management from the OT layer to the IT layer and to build smart factories with AIoT.

### Starting with basic science to implement down-to-earth AIoT with solid industry know-how

While constructing the AIoT framework, Delta understands to achieve the maximum value with data analytics, application scenarios must be considered based on a solid understanding of physical manufacturing characteristics.

For example, Delta's servo press for smart metal forming solution involves cooperating with the customer in an innovative spirit to turn the physical world into a virtual model. Through the Finite Element Method and Experiment Method, the metal pressing virtual model is simplified. The next step is to generate an AI predictive model with IIoT big data analytics and embed this model into Delta's AC motor drives. The Delta AC motor drives use the optimization method to calculate and adjust the pressing motion curve and enhance production capacity by 32% without any additional cost. During the manufacturing process, Delta implements Virtual Metrology and Predictive Maintenance with an AI Model on the IIoT platform to build a predictive production pattern with pre-arranged machine tuning and mold repair for the best equipment utilization.





## Delta ESG links up with the international initiatives Its headway towards sustainability from science based targets

Text by Sustainability Development Office

In recent years, corporate sales units must have been deeply impressed by the increasing demand for corporate ESG audit and investigation from the clients throughout the world. In case of failure to meet clients' requirements, their orders placed with Delta may be affected.

In response to climate change, Delta has long concerned about the development of a variety of international sustainability initiatives. It signed the "We Mean Business" initiative in 2015 to commit to fulfilling the international initiative by achieving "autonomous carbon reduction", "disclosure of climate change information" and "climate policy participation" on the climate change issue, establishing Science Based Targets (SBT) and disclosing the Task Force on Climate-related Financial Disclosures (TCFD) in the annual financial statement (note 1). Furthermore, Delta was more active in its commitment to EV100 in 2018 and RE100 this year in order to link up with international trends, specifically map out the future of Delta's Strategic blueprint for ESG and go step by step to apply it to corporate operating. The purpose of all the years of efforts is to be well-prepared for facing respective stakeholders.

Delta links up with international trends to specifically map out the future of Delta's Strategic blueprint for ESG and go step by step to apply it to the corporate. operating





## Commitment to SBT to take up the challenge of submission of a scientific approach within two years



Delta is the first one in Taiwan and 87<sup>th</sup> company in the world to pass SBTi's review

While echoing the needs of these international initiatives, Delta has often played a role as a pioneer. Whether it is methodological analysis or virtual actualization, every step taken by Delta has been very discreet with sturdy efforts.

As making its commitment to SBT, Delta had to follow the requirements to submit its science based carbon reduction approach within two years, i.e. to meet the target of no more than 2°C of global warming, Delta should assume the carbon reduction quota required for an enterprise. However, the Science Based Targets Initiative (SBTi) did not have any specific methodology at first. The difficulties encountered by the team included there was no precedent to follow, and the team did not know how to do it. As such, cooperation with external consultants and continuous study and analysis of the scientific approach were adopted.

It was not until 2017 that SBT proposed seven approaches. Delta selected one of them – Sectoral Decarbonization Approach (SDA), in which a concerted absolute carbon reduction range was set up based on the companies of the same industry, followed by calculating Delta's carbon reduction quota according to the allocation of the carbon reduction responsibility to be taken by Delta. With the determination of the management team for "doing what was said" and the support of input of more sources, Delta finally passed SBTi's conformity review at the end of 2017, with which 2014 was set as the base year and the target was set to be a 56.6% reduction in carbon intensity by 2025. As a result, Delta turned out to be the first one in Taiwan and the 87<sup>th</sup> company in the world to pass SBTi's review.

## Meeting major clients' concern for sustainability, Delta makes deployment beforehand to secure its business opportunities

All of the above have also served the purpose for global business deployment beforehand, so as to secure business opportunities.

For a practical example, a Delta's important brand client hoped that all of the suppliers could meet its ESG requirements in phases when managing its supplier chain in 2018, with which the final 5th phase was to pass the SBT review. Given that Delta already passed the SBT review in 2017, the client knew Delta's pass of the 5th phase when coming to make a request and investigate. Hence, by using the common platform and common standard of SBT, both sides could have seamless connection. It greatly helped Delta communicate with the client and further grab hold of business opportunities.

In the same year, another big brand client approached Delta's branch in Japan, wanted to audit Delta's commitment to carbon reduction target and expressed its intention to thoroughly understand how Delta made it to achieve SBT. As such, the team of the sustainable development office traveled to its Japan branch to present three briefings for the client and report on the actual items, reinforcing both sides' partnership. On the other hand, it made the client more confident in Delta. Later, the client awarded a specially established "supplier environment prize" to Delta to encourage and recognize Delta's long-term contribution to environmental sustainability.



Delta echoed international initiative, deployed ESG beforehand and had seamless connection with major brand clients, which greatly helped communication and business opportunities between both sides



### Team efforts to fulfill energy conservation and carbon reduction, achieving the SBT phase target for three years in a row

Delta has devoted its efforts to achieving its goal of energy conservation from three dimension of product/solution scheme, production and green architecture. While introducing green designs to its products and continuously improving its product efficiency, Delta has also promoted green product labeling and product carbon footprint accreditation. For production energy conservation, Delta has set up an energy management panel to proceed with cross-inspection and experience learning and aggressively develop innovative energy conservation and carbon reduction technology. At the same time, the panel has also introduced its self-developed energy online monitoring system to effectively grasp real-time information and transform energy conservation on production and equipment, so as to attain the goal of carbon reduction.



Delta achieved the SBT phased carbon reduction goal for three consecutive years and the intensity of major plants' electricity consumption dropped by 32% in 2020 compared to the base year of 2014

In addition to practical efforts to save energy and reduce carbon, Delta has also continued to expand its solar photovoltaic system at its plants and increase the use of renewable energy by purchasing renewable energy vouchers and directly buying green electricity. It contributed Delta's achievement of the SBT phased carbon reduction goal for three consecutive years (2018 to 2020). The intensity of electricity consumption of Delta's global major plants dropped by 32% in 2020 compared to the base year of 2014.

Delta has long been dedicated to playing the role as a world-class corporate citizen. In the face of the issues related to climate change and global warming, Delta took the lead to give its autonomous commitment and put forth its aggressive carbon reduction goal. With the practical experience and outcome committed to SBT, Delta has used the science based approach to gain a toehold in energy conservation and carbon reduction, make headway towards carbon neutrality (note 2) and usher in the new phase challenge of RE100 deployment.

#### Notes :

1. G20 central bank governors have called for attention to the possible impact of climate change on the global economy, prompted a TCFD proposal and provided a framework for a business to manage climate related risks and opportunities, including governance, strategies, risk management and indicators.
2. Carbon neutrality refers to company-related greenhouse gas emissions, of which the target is to have the net increase of the greenhouse gas emission volume in the atmosphere finally come to zero through internal volume reduction and acquisition of external volume reduction quota.



## EnBW chooses Delta inverters for solar farm in Kenzingen

Text by Delta EMEA

EnBW Solar GmbH has operated the 4.4-hectare solar farm in Kenzingen, Germany since 2016. The roughly 9,900 photovoltaic modules and the powerful Delta-M50A inverters provide 2.62 megawatts of peak power and supply enough electricity to power an average of 850 homes.



### Solar farm puts brownfield site to good use

The French military used this 4.4-hectare parcel of land not far from the small town of Kenzingen as a demolition range from 1950 to 1988. Since the area is contaminated with the remains of explosive ordinance, the city was forced to change its plans to allow agricultural use of the land. In 2013, members of the electrical co-op from Kenzingen and surrounding communities decided to reclaim the property and use it for the construction of a photovoltaic installation. Now the parcel can serve a valuable, long-term purpose by producing green electricity. The project is also helping a rural area make progress towards its energy transition and has even involved local residents through its ownership structure.

Solarpark Kenzingen GmbH hired EnBW Solar GmbH to build the 2.62 MWp photovoltaic system. When it came time to select the inverter, the most important factors to the wholly-owned EnBW subsidiary were product quality in addition to the reliability and financial stability of the manufacturer. "We're pleased that Delta and our powerful M50A string inverter fulfilled the high standards set by EnBW. With its high-density performance and 98.6 percent efficiency, the M50A ensures that PV arrays can deliver the maximum yield possible," said Andreas Hoischen, Senior Director Delta Electronics.

Proceedings were required to allow this deviation from the planning objective specified in the zoning plan, a process which took some time. Due to contamination, the town of Kenzingen and the district government also had to develop a reclamation plan. These measures involved dumping two meters of fill onto the area and capping it with a sealed layer to prevent water seeping into the contaminated ground. Due to heavy rainfalls, the road to the property was at times impassable, delaying construction. During this phase of the project, Delta proved to be a flexible and reliable partner for EnBW, adjusting inverter delivery dates multiple times in response to changing circumstances.

### Positive financial and environmental results

Electricity has been flowing from this solar farm in Germany's Baden region with annual yields of 3,000,000 kilowatt-hours or more. For the environment, that's 2,100 tons less CO<sub>2</sub> emitted each year. In 2018, the solar farm actually delivered more electricity than expected. The forecast yield was exceeded by 10 percent. That equates to 290,000 kilowatt-hours more solar electricity than planned and 200 fewer tons of CO<sub>2</sub> in the atmosphere.



## PEA, Mitsubishi Motors and Delta join hands to elevate EV experiences

Text by Delta Electronics (Thailand)



The Provincial Electricity Authority (PEA), Mitsubishi Motors (Thailand) Co., Ltd. and Delta Electronics (Thailand) signed a Memorandum of Understanding (MOU) for cooperation between the three parties in Electric Vehicles (EV), EV charging stations and the PEA's mobile application for EV charging.

Mr. Lertchai Kaewwichian, Assistant Governor (Business and Marketing) of Provincial Electricity Authority said that PEA will adopt the government's policy on electric vehicles by developing EV Charging Station Infrastructure every 100 km on the main transportation routes across the country with total 62 EV Charging Stations by 2021 in order to promote the use of EVs and facilitate EV users travel all over Thailand.

Mr. Morikazu Chokki, President and CEO of Mitsubishi Motors (Thailand) Co., Ltd. said that Mitsubishi was very much honored to sign the Memorandum of Understanding (MOU) among Provincial Electricity Authority and Delta Electronics (Thailand). We are confident that this collaboration will drive forward the rapid expansion of charging station for electric vehicle including PHEV in Thailand and increase convenience to encourage electric vehicles deployment in Thailand.

"Recently, Mitsubishi Motors Thailand has launched New Mitsubishi Outlander PHEV which is not only the world's first Plug-in-Hybrid SUV but also the world's best-selling PHEV, running by flexible energy sources, both fuel and electricity. We aim to provide our customers with safety reliability and worry-free ownership experience," added Mr. Morikazu Chokki

"We're excited to partner with both the Provincial Electricity Authority and the Mitsubishi Motors Thailand to lead Thailand's drive towards electrification and offer a more convenient and safe ownership experience for Thai EV drivers to enjoy. Delta's core competencies in power conversion and management, help us develop ultra-efficient charging solutions with international safety and operating standards," said Mr. Jackie Chang, Delta Thailand President.

This monumental collaboration between PEA, Mitsubishi Motors Thailand and Delta supports the Thai government's energy blueprint target to have 1.2 million EVs (PHEV and BEV) on the road by 2036. The three partners will also collaborate to educate Thai drivers on basic knowledge in electrical systems and EV charging infrastructure safety requirements.



## Delta's inverter-driven solution for hydraulic power units

Text by IABG

Delta has developed an inverter-driven hydraulic power solution for a client in central China. The solution keeps the strength of the hydraulic power unit while increasing energy efficiency with a fast pressure response. To meet the specific needs of hydraulic power units, the solution adopts and customizes Delta's Vector Control Drive. Users can read the voltage, current, and power consumption data on the Power Meter DPM Series. They can also easily adjust parameters and monitor system data through the Human Machine Interface DOP-100 Series.

It is worth noting that the Vector Control Drive, actuating the permanent magnetic motor, can automatically change the rotation speed for different pressures to meet the needs of transient states and the pressure holding process as detected by the sensor. Compared to variable pumps, this feature provides higher stability and better energy efficiency.

The solution brings the following benefits for the client:

**Advanced multi-stage PID control automatically adjusts motor rotation speed:** The Vector Control Drive has a built-in PLC to perform multi-stage PID control in response to the constantly changing pressure level. This feature of high controllability can not only provide fast pressure response, but it can also slow down the motor's rotation speed during the pressure holding process.

**Production costs reduced by avoiding unnecessary energy waste:** The Vector Control Drive can automatically control the motor rotation speed to operate at a lower speed when the condition allows for minimizing energy consumption. Reducing the unnecessary high-speed operation of the motor minimizes temperature rises and extends motor lifespan.

**Built-in PLC reduces solution costs:** The built-in PLC of the Vector Control Drive saves the costs of adopting an external PLC.

This solution provides the advantages of hydraulic power units while overcoming the challenges of pressure response. By controlling the motor rotation speed, the Vector Control Drive can perform fast pressure response with high stability to allow higher energy efficiency. By avoiding unnecessary high-speed operation, the lifespan of the power unit can be extended. Overall, the solution allows a significant increase in machine performance with reduced costs.



The Human Machine Interface DOP100 Series allows onsite parameter setting and uploads key data to qualify the management system for real time monitoring



## Delta's PCB conformal coating dispensing and inspection solution

Text by IABG

Recently, Delta provided a PCB conformal coating dispensing and inspection solution for an electronic automotive component manufacturer in Tianjin, China. The solution integrates Delta's motion controller and machine vision system to precisely control the amount of conformal coating and the dispensing positions and it can implement using automated optical inspection (AOI) with direct UV ring light. It shows fast results, enables high precision of the dispensing effect, and integrates the necessary processes, including dispensing coatings, bake-out, and inspection for high manufacturing efficiency.

The solution features the following advantages:



Recently, Delta provided a PCB conformal coating dispensing and inspection solution for an electronic automotive component manufacturer in Tianjin, China

### Highly efficient and precise positioning for dispensing coatings

Conformal coatings can be flawlessly applied onto PCBs through precise positioning with the machine vision system, and it can quickly identify the dispensing and non-dispensing areas. The Multi-axis Motion Controller DVP-50MC Series conducts 3-axis gantry operations to dispense coatings at a high speed with adequate amount, and this prevents over- or intermittent dispensing.

### Easy operation for flexible changeover

The electronic automotive component manufacturer can control the processes of PCB coating dispensing, baking and inspecting directly on the Human Machine Interface DOP-100 Series. With the user-friendly and editable interface, the customer can save time developing different interfaces for various operations and implement fast changeover by only exchanging the positioning modules and photomask areas for dispensing.

### Seamless integration with one-stop-shop service

The key components involved in the solution are designed and manufactured by Delta for seamless integration and operation guarantee. This saves maintenance costs and time and reduces anomalies and product line shutdown.

The machine vision system helps the customer inspect the coatings with high efficiency and quality, and the secondary inspection only requires a little time and manpower.



## Delta's offered assurance for power for the "most powerful brain"

Text by Delta Greentech

Recently, the Chengdu Supercomputing Center, located in the core area of Luxi Intelligent Valley in Chengdu Science City with a total investment of about 2.5 billion NT dollars and a total construction area of about 60,000 square meters, was officially opened and inaugurated. Honored as the "most powerful brain" in western China, this supercomputing center aims to be the first in western China and will actively strive to be included in the system for the national supercomputing center. Delta provided 48 sets of HVP-336V/37A series high-voltage DC power supply systems for this supercomputing center, including AC power distribution units, rectifier units, DC power distribution units, and system monitoring units to provide reliable assurance for power.



Rendering of Chengdu Supercomputing Center

As an ultra-large-scale and high-density data center, the Chengdu Supercomputing Center demands higher reliability, lower energy consumption, and lower investment when planning the power supply and distribution system, so it chose the high-voltage DC power supply system that enjoys more advantages in energy efficiency and costs of operation and maintenance. Compared with UPS AC power supply, the high-voltage DC power supply solution offers three obvious advantages:

1. The system offers high efficiency, with the high-voltage DC power supply used to directly supply power to the IT equipment in the data center. Under the condition of the same load, the energy efficiency can usually reach up to over 10%.
2. With a performance management feature that controls the sleeping of the rectifier module, the load rate of the rectifier module can be increased by making some of the rectifier modules sleep when the system load rate is low so that it works under the state of highest efficiency.
3. Since there is no requirement for synchronization of potential, frequency, phase, etc. for AC power supply, expansion of capacity with machines in parallel is also simpler.

The Delta HVP Series 240V high-voltage DC power supply system favored by the Chengdu Supercomputing Center has been successfully applied to many large-scale and ultra-large-scale IDCs such as the three major operators and large Internet companies, with the excellent performance in energy efficiency having been highly recognized by customers.

In addition, Delta's high-voltage DC system is more outstanding in its solution-oriented capabilities and can provide a complete set of end-to-end solutions according to different scenarios, so that customers can truly enjoy a one-stop service that helps reduce costs in management and operation while achieving high reliability, thus making it trusted by large IDC service providers.



## Delta controls helps Wanda implement a "smart anti-epidemic" hotel

Text by Delta Greentech



Wanda Vista Kunming adopts Delta Controls' building control solutions in establishing a healthy hotel for the "post-pandemic" era. Through digitized building management, it uses air-conditioning control for individual zones, and remote contactless operation to raise the hotel's "anti-epidemic" capability. Its "healthy, safe, comfortable and creative design" has also made it a finalist in the two categories, "Best Resort" and "Best Suite", of the 40th US "Gold Key Awards" in 2020, the only Chinese hotel to be nominated!

### Individual air-conditioning control creates a healthy breathing environment

Coronavirus can be spread through air alone. Hence, ensuring the safety of the air environment is very important, and Delta Controls' ORCA building automation system is most suited for this purpose. It can target different requirements in implementing different air-conditioning control, and at the same time integrate with the engineering features, providing comprehensive remote program control methods for the hotel's control personnel. It can also base on the different temperature and humidity preference in different regions, conduct one-to-one customized control of constant temperature and humidity.

### Reduce personnel turnover, improve management efficiency

Delta Controls' products use BACnet protocol from top to bottom, which enables seamless integration of equipment from different brands and information sharing. Staff can carry out remote system administration across systems on the same operating platform, which substantially reduces personnel flow and personnel allocation. While aiding pandemic prevention, it significantly reduces manpower expenditure for the hotel.

### Reduce expenditure with meticulous management

Delta Controls' building automation and guestrooms control system allow users to implement automatic control system in remote monitoring and administration for the entire hotel through a single workstation internet. The administrator is able to know the malfunction status, trend record, data report, etc. of various equipment, thereby effectively identifying potential energy saving nodes, and hence attain the goal of "broaden source and reduce expenditure".

With the help of Delta Controls' smart building automation system, Wanda Vista Kunming carried out comprehensive upgrade and deployment in terms of health and safety aspects, which not only improves the hotel's administrative and control capabilities, but also injects confidence in the guests.



## Delta Greentech's Electromechanical & Information and Communication conferences

Text by Delta Greentech

### The "cloud" annual conference of Delta Greentech's Electromechanical Department

On March 19, a special conference was held online. Nearly 400 people from Delta Greentech's Electromechanical Department and related functional departments gathered in five places respectively including Hangzhou, Zhuhai, Jiangxi Sanqingshan, Yangzhou and Qingdao to participate in a unique "cloud" conference. This annual conference adopted the mode of executive officer. Yi-Zhong Tan, General Manager of Delta Greentech (China) Co., Ltd., Min-Ren Chen, General Manager of Delta Greentech's Electromechanical Department, Zheng-Bin Lin, Human Resources Officer of Delta (China), De-Yu Zou, Manager of Delta (China) Supply Chain and Administration Department, and Huang Xin, Human Resources Manager of Delta (Shanghai), served as the executive officer of each conference venue respectively; they gathered together with colleagues from different areas.



Colleagues of Delta Greentech's Electromechanical Department in five places participate in a unique conference in the form of "cloud" gathering

### The channel conference of Delta Electromechanical (China) is held in Kunming

The Channel Conference of Delta Electromechanical (China) is held in Kunming on March 23. A total of over 180 representatives including Yi-Zhong Tan, General Manager of Delta Greentech Co., Ltd., Min-Ren Chen, General Manager of Delta Greentech's Electromechanical Department, Jing-Hao Yu, Director of Delta Wujiang Production R&D Base IA Plant; supervisors of Product Development Department, Department of Industry, and business regions; responsible persons of relevant functional departments, and channel operators of Delta Electromechanical gather together in Kunming to summarize the achievements made in the channels in 2020 and to discuss the development plan in 2021.



The Channel Conference of Delta Electromechanical (China) is held in Kunming

### The channel conference of Delta Greentech Information and Communication Department is successfully held in Guiyang

On March 26, just as spring returns, nearly 100 representatives from Delta Greentech Information and Communication Department's channel operators as well as leaders and team elites of Delta and Delta Greentech gather together in the national forest city Guiyang to participate in the 2021 Channel Conference of Delta Greentech Information and Communication Department with the theme of "integration, breakthrough and surpassing". In addition to understanding the new strategies and new products of Delta and Delta Greentech, in-depth exchanges on the topics of concern to channel partners are made, and additional activities which aim at self-challenge and team training are also specially arranged by the conference. The strongest team can be built together with the colleagues of Delta Greentech through a variety of ways and channel partners understanding the company's strategic planning.



Nearly 100 channel partners attend the annual conference with leaders and team elites of Delta and Delta Greentech



## Delta's 8K projection creates immersive experiences

### Delta interprets "Beijing Chorus" meticulously with 8K projection and 5G live broadcast

Text by Delta Public Affairs Department (SHANGHAI)



Delta interprets "Beijing Chorus" meticulously with 8K projection and 5G live broadcast

The first 8K live broadcast in 2021 at the National Centre for the Performing Arts (NCPA) - "Beijing Chorus" was 8K HD live broadcasted synchronously at [ncpa-classic.com](http://ncpa-classic.com), major network platforms and 8K Film Hall Large Screen Terminal of China National Film Museum on January 16th. Through Delta's high-brightness 8K DLP laser projector, the magnificent performance of "Beijing Chorus" was meticulously showcased to the audience at China National Film Museum, showing historical buildings and surrounding cultural customs of Beijing's central axis line, and fully reflecting the cultural connotation and the spirit of the times of Beijing. This is the first 8K live broadcast in 2021 at NCPA.

Mr. Fu Jie, General Manager of Delta Video Business Department, says that Delta is honored to participate in the 8K live broadcast of the performance of "Beijing Chorus," the art feast performed by many outstanding artists together is presented with advanced 8K projection technology. As an ultra-high-definition image technology, 8K's resolution can reach 7,680\*4,320, and can present a

dynamic picture of up to 33.17 megapixels, truly making the audience have an immersive feeling. With 5G transmission technology, it is an innovative form integrating science and technology with art performance.

Delta's 8K ultra-high-definition projection technology has been widely used in many important events around the world, such as the Integration Systems Europe 2018, the re-broadcasting of the Winter Olympic Games by the Japanese NHK, the premiere of the 8K environmental documentary of "Water with Life in Taiwan" at Taiwan's National Museum of Natural Science and the special show of the documentary at Akihabara Theatre in Japan.

### Delta Foundation hosts the charity premiere of "Whale Island," urging people to pay attention to the impact of global warming on the ocean

Text by Delta Electronics Foundation

The Delta Foundation hosted the charity premiere of the documentary "Whale Island" on Mar. 28th, inviting scholars, volunteers, and museum members who have worked with the Foundation to promote the "Nurturing the Ocean" project, and teachers from partner schools in the northeastern Taiwan, to watch the documentary together.

Cheng expressed when attending the charity premiere event that Delta has been concerned about climate change for many years. In the past few years, we have paid special attention to the impact of global warming on the ocean, only to find out that it is really crisis-ridden. Therefore, we hope that through these images, the public can be better informed of the current situation of the ocean. He said, "Taiwan is an island surrounded by the ocean. While embraced by the ocean, many people, unfortunately, know little about the ocean. If we want to strengthen on conservation of the ocean in the future, it's crucial to increase the awareness and participation of people."

The premiere of 8K ultra-high-definition ecological documentary "Swim with the Humpback Whale" at the same event was filmed by the former NHK Japanese photographer Hiroyuki Nakagawasai who was commissioned by the Delta Foundation and traveled to the equatorial Kingdom of Tonga. Video played via Delta 37,000-lumen 8K ultra-high-definition projector led the audience to appreciate the spectacular figure of the humpback whale at close range. In the future, the film will be shown in the 8K Ocean Theater of the National Museum of Marine Science and Technology in Keelung on the largest 1,300" giant screen in Taiwan.



Delta Foundation hosts the charity premiere of "Whale Island," urging people to pay attention to the impact of global warming on the ocean



## Delta shows MOOCx online teaching and Namasia LEED certification outcomes

### The new book of DeltaMOOCx shows online smart manufacturing teaching outcome

Text by Delta Electronics Foundation



The new book of DeltaMOOCx shows online smart manufacturing teaching outcome

Founded by the Delta Electronics Foundation, DeltaMOOCx platform has long been promoting "smart manufacturing" online courses. In 2021, in response to the pandemic, the Foundation published the book "New Horizons in Online Learning: University" to share platform and curriculum creation experience with the public.

Through interviews with teachers and students, co-sharing the teaching and learning experience; and discussing the impact of online learning on future higher education on the experience of platform operation and course management, with suggestions for implementing the teaching of the teachers.

In 2014, Delta Foundation has co-founded the DeltaMOOCx platform with National Taipei University of Technology, National Taiwan University of Science and Technology, and National Yunlin University of Science & Technology. It has convened outstanding professors from local universities to

produce university automation teaching materials, shoot in studios, make repeated corrections, and finally produced the most excellent series of courses, to disseminate the principles and new knowledge related to industrial automation. Over the past 6 years, covering high school/industrial vocational high school core basic science courses, and has accumulated over 10 million views.

### Delta Namasia Minquan Elementary School obtains LEED Platinum certification for existing buildings

Text by Delta Electronics Foundation

The Namasia Minquan Elementary School, which the Delta Foundation donated and helped rebuild after Typhoon Morakot, obtained LEED Platinum certification for existing buildings this February. It is currently the first LEED V4 certified elementary school in Taiwan. Since 2015, the library of Namasia Minquan Elementary School has achieved "net-zero energy consumption." Compared with other elementary schools in Taiwan, the average energy saving performance was higher by 93%. Currently, the application for "LEED Zero Energy" has been submitted to the U.S. Green Building Council.



Delta Namasia Minquan Elementary School obtains LEED Platinum certification for existing buildings

The construction techniques maximize natural lighting and guide the wind flow into the building to naturally reduce energy consumption. Additionally, many pieces of energy-saving equipment have been installed. Upon initial completion, the School has been certified as a "Diamond Green Building," the highest credential for green buildings in Taiwan. In 2019, Delta further introduced a distributed energy system on campus, integrating multiple functions like energy generation, energy storage, and energy management to enhance renewable energy use and the tribe's disaster prevention resilience. In recent years, the School has also served as an emergency shelter during the flood periods, accommodating more than 5,000 evacuees. It is an exemplary case for green building disaster prevention campus and has been published in prestigious international journals.

In response to the local need for the children to "stay away from disasters, not the hometown" and learn in safe, energy-efficient green buildings, Delta in 2019 announced that it would devote particular care to preschoolers by continuing to sponsor the construction of school buildings for the affiliated kindergarten of the School, so that the next generation of newborns can grow and thrive in healthy and energy-saving green buildings.



## Delta awarded 2020 China Outstanding Corporate Social Responsibility Award

Text by Delta Public Affairs Department (SHANGHAI)

Echoing the goal of “carbon neutrality,” Delta actively implements enterprise carbon reduction and innovative energy-efficiency technologies, and is recently awarded “China Outstanding Corporate Social Responsibility Award” in “2020 China Corporate Social Responsibility Cloud Summit,” organized by Xinhuanet and co-organized by China Enterprise Reform and Development Society. Adhering to its business mission, “To provide innovative, clean and energy-efficient solutions for a better tomorrow,” Delta continues to strengthen sustainable development in three major aspects: environment, society and governance. It has now attained the interim goals for three consecutive years, and achieved a 32% reduction in carbon intensity in 2020, gaining recognition from the judges.

Delta’s outstanding performance in sustainable development has benefited from the integration of corporate social responsibility strategy and business development. It faithfully implements energy conservation and carbon reduction from three major aspects: products, plants and green buildings. Besides paying attention to climate change over the years, Delta also actively participates in global initiatives, and commits itself to “Enterprise Voluntary Carbon Reduction,” “Disclosure of Climate Change Information,” and “Participate in Climate Policy” by signing “We Mean Business” in 2015. It actively implements the Task Force’s Climate-Related Financial Disclosures (TCFD), and assesses the risk and opportunities Delta faces due to climate change, and adjusts corporate strategies and goals accordingly, so as to promote the Company’s health and sustainable development.



Delta awarded “2020 China Outstanding Corporate Social Responsibility Award”

In addition, Delta set up “Delta Sustainability” WeChat Official Account in 2020, and regularly publishes the information related to ESG (environment, society, governance), building a convenient exchange platform for stakeholders. Delta also encourages employees to submit their writings to “I met sustainability in Delta” to raise employees’ sustainable development awareness and capabilities. 2021 marks the 50th anniversary of Delta’s establishment. The Company will formulate more ambitious energy-saving and carbon reduction goals, and strive to contribute to the fight against climate change.

In recent years, Delta’s effort to fulfill corporate social responsibilities has received much recognition both at home and abroad, including: selected for Dow Jones Sustainability Indices (DJSI World) for the 18th consecutive years, and awarded 2020 Industry Leader in Electronic Equipment, Instruments & Component; obtained “A” List in “climate change” and “water security” categories of 2020 CDP (formerly the Carbon Disclosure Project); and selected as one of top 10 in “China’s Top 100 Foreign-Funded Enterprises CSR Development Index” of “Corporate Social Responsibility Bluebook” for 6 consecutive years since 2015.



### Delta controls awarded 2020 Best Commercial Building Automation Systems

Text by BABG

We are thrilled to announce that just before the end of 2020, it was announced that Delta Controls was named Best Commercial Building Automation Systems Company 2020 by Corporate Vision (CV) Magazine.



Delta Controls was named Best Commercial Building Automation Systems Company 2020 by Corporate Vision (CV) Magazine

Launched in December of 2014, CV Magazine is a well-known digital platform with a mission to deliver insightful features from across the global corporate eye. With a vision towards bettering business practices across the board, CV Magazine aims to recognize and reward the hardworking individuals and firms from across the world's business landscape with their Global Business Awards.

To be named among other great businesses and recognized as a market leader in Building Automation Systems was a great way not only to end the year but to begin 2021. CV Magazine noted our dependable and user-friendly control solutions for buildings in the commercial, healthcare, hospitality, education and leisure markets. Delta Controls stood out as a candidate and winner because of how global and approachable our business and products are, and how as part of Delta Electronics, we are committed to leading building automation into a sustainable future.

The Global Business Awards noted the work we are doing in light of the COVID-19 pandemic changes and how Delta Controls is, as ever, one step ahead, developing products and systems designed to give clients peace of mind by ensuring safe work environments. We are working hard to provide touchless technology to create better business practices, and that will only continue to develop and improve in 2021.

You can read the full article about our achievement in CV Magazine.



## Delta launches M250HV inverter and MEG-700A3 power supply

### Delta launches M250HV 250kW string inverter for large-scale solar power plants

Text by EISBG

The M250HV's capacity of 250kW more than doubles the 100kW offered by typical commercial inverters, giving the immediate benefit of requiring less than half of the number of inverters that would typically need to be installed. This not only makes site design more flexible and reduces the cost of equipment, materials, and installation, but it also simplifies subsequent inspection and repair procedures. These factors reduce the cost while improving on the capacity of centralized systems.

Delta's M250HV is a three-phase string-type inverter that can connect in parallel to the grid. Designed specifically for megawatt-level large-scale PV sites, it is equipped with 12 wide-voltage MPPT sets, supports Y-connection input, and can be connected in series with more solar panels to improve the DC/AC ratio for enhanced power generation performance. In addition, the M250HV adopts solid-state and thin-film capacitors, which are of higher quality and have a longer life span compared to conventional aluminum electrolytic capacitors.

Unique EL image testing mode—Save time and effort in daily maintenance and operation

The M250HV has built-in SUB\_1G wireless communication functionality. When paired with Delta's DC1 Data Collector and MyDeltaSolar cloud management platform, operators and business owners can monitor their site status at any time. When needed, firmware updates can be performed over the air, eliminating the need for on-site visits.



Delta launches M250HV 250kW string inverter for large-scale solar power plants

### Delta Electronics's newest 700W MEG-A configurable power supply series is now available

Text by DET

Delta Electronics's newest 700W MEG-A configurable power supply series is now available! The MEG-700A3 comes with 3 slots in compact size power density of 14.5W/in<sup>3</sup> and efficiency up to 93%. The 3 individual modules allows a maximum output of 180W, 300W and 700W respectively. The output voltage can be configured between 2-60V with up to 6 different outputs. Additional features include current sharing, and intelligent fan speed control.

Major approvals include IEC/EN/CSA 60601-1 (Medical), IEC 60950-1, and IEC/EN/UL/CSA 62368-1 (Industrial). The MEG-700A series is certified for EMC standards EN 55011 for industrial, scientific and medical (ISM) radio-frequency equipment, and EN 55032 for Industrial Technology Equipment (ITE) radio-frequency equipment. Full compliance with RoHS Directive for environmental protection.



Delta Electronics's newest 700W MEG-A configurable power supply series is now available



## 10 New insights in climate science you must know in 2020

Text by Delta Electronics Foundation

The international climate thinktank Future Earth publishes the report, 10 new insights in climate science. The difference between the report in 2020 and the previous report in 2019 arises mainly from the impact of COVID-19. Countries have issued lockdowns, resulting in a 6-8% carbon reduction last year, which aligns with the annual carbon reduction requirement of 1.5°C target recommended by the scientific community. This also shows that we must continue to reduce carbon emissions vigorously on this basis. Otherwise, the consequences of climate change in the future may not be any less than that of the pandemic.

CLIMATE CHANGE



Let's take a look at the ten insights listed by the scientist.

**01. More efforts should be made to reduce carbon emission to meet the Paris climate target**

If we do not achieve drastic emission cuts, it would be less likely to meet the Paris temperature target of limiting the temperature rise to be below 2°C.

**02. Emissions from the thawing permafrost may be larger than earlier expected**

As nearly half of the peatlands in the northern hemisphere are covered in permafrost, the sudden thawing may turn the northern hemisphere peatland carbon sinks into a source of global warming that releases methane, lasting several centuries.

**03. Deforestation is destroying the tropical carbon sink**

The land ecosystems currently absorb 30% of human-caused carbon emissions, but the tropical forests are gradually approaching their carbon sink capacity, which means that they cannot absorb any more carbon.

**04. Climate change will severely exacerbate the water crises**

New research shows that climate change has caused extreme precipitation events (floods and droughts) that contribute to the migration and displacement of millions of people.

**05. Climate change can profoundly affect our mental health**

Maintaining blue and green spaces in urban planning policies, as well as protecting ecosystems and biodiversity in natural environments can bring greater health co-benefits.

**06. Governments have yet seized the opportunity to make a green recovery from COVID-19**

Pandemic-induced lockdowns have led to a significant reduction in global greenhouse gas emissions. Therefore, whether countries can take the opportunity of a green recovery will become a turning point in climate protection.

**07. COVID-19 and climate change signal the need for a new social contract**

Whether nationally or internationally, the increasing number of bottom-up actions and initiatives around the globe is a solid testament of heightened awareness. These actions and initiatives include the Green New Deal supported by EU nations, C40 collaborations developed between cities around the world and Transform to Net Zero.

**08. Stimulus that focuses on growth would jeopardize the Paris Agreement**

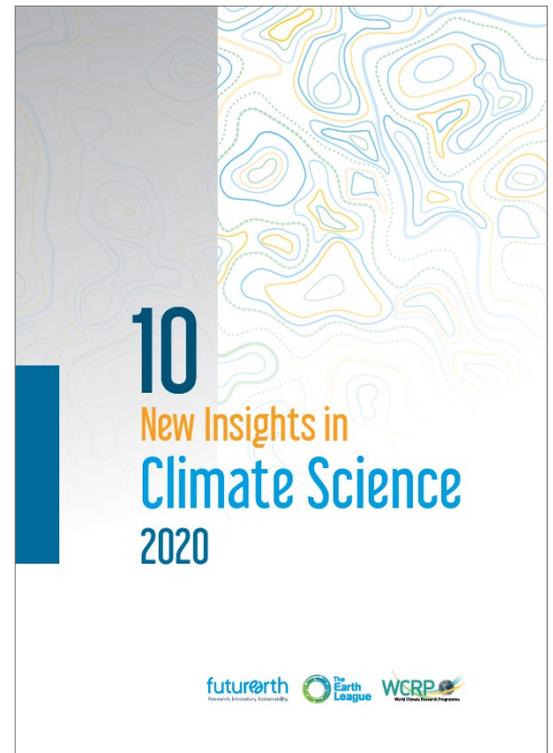
The transformation of a system requires investment, but all investments must contribute to emission reductions that are in line with the Paris Agreement.

**09. Urban electrification is crucial for a sustainable transformation**

Urban electrification is a powerful way to achieve an equitable energy transition. More than one billion people who lack access to electricity will benefit from it.

**10. Defend human rights in the court can be a necessary climate action**

Climate cases have been gaining attention. Through climate litigation, the public can understand from the legal perspective that the rightsholders of the earth should include future generations.



The international climate thinktank Future Earth publishes the report, 10 new insights in climate science



## Delta's ESG think tank - The Sustainability Office

Text by Delta Corporate Sustainability Office



Faye Hsu / Project Manager of Corporate Sustainability Office

I am currently the team leader of Delta's Sustainability Office. I am in charge of planning and promoting the strategies and projects pertaining to the company's ESG development. The Sustainability Office is Delta's ESG think tank. It is responsible for the development and implementation of new sustainability projects, and it often requires to collaborate with various units around the world and communicate with internal and external stakeholders about Delta's sustainability development through various channels, such as ESG reports, international appraisals, and advocate activities.

Promoting sustainability projects in Delta is full of challenges and meanings. We participate in international coalitions, promise to do what we said, and pursue excellency in each aspect of ESG. Sustainability issues develop rapidly, which requires quick responses and is challenging as well. With the support of executives in the company, the cooperation of all units, and a group of team members who are passionate and have the idea about ESG, we can work hand in hand for sustainability of Delta and the earth.





## DELTA GREEN LIFE - PEOPLE



Mona Yang

I am in charge of international initiatives (such as RE100) and climate change related issues (such as TCFD). In addition to paying attention to the pace of international sustainability, I also endeavor to implement benchmarking practice in Delta through all kinds of internal communication. I always feel that our team is a team that operates great tacit understanding, has members that are energetic and passionate about ESG. They not only have their own specialties either to attack or defend, but share with each other happiness and pain, encourage each other, and tell each other new information without hesitation. It is their open-minded attitudes that encourage me to face the challenges that come in waves.

It's a blessing to do climate change projects in Delta. While issues of climate change are still caviar to the general, there is actually a business founder in the world who is willing to spend its lifetime to urge the world to pay attention to climate change. The president of this company takes the initiative to mention the influence of climate change in investor conference, and its CEO actively promote 100% renewable energy. They make me feel my responsibility is heavy and there is a long way to go, but it's full of expectancy.



Ken Chung

I am mainly in charge of the promotion of energy saving management issues and internal ESG training. My main task at present is to purchase green power in Taiwan, for which I need to delve into Taiwan's green power development trend and the signing of green power purchase PPA contract. I am very grateful to the management team for their support on international sustainable initiatives and their promises to reach the goal of RE100 by 2030, which makes Delta, one of the large Taiwan companies that operate cross multiple countries, the first company that promises to reach RE100 .

I am honored to implement ESG projects in the leading enterprise that operates across multiple countries from Taiwan. I even have a group of wonderful colleagues who not only have the same ideal as mine but equip with ESG specialties. With whom, we share each other the knowledge and experiences. Although the first half of the year is always the hardest every year, with colleagues that stand by me in times of trouble, that can discuss and make ESG action plans together, we can gather the spirit for mutual benefits and work together for Delta's ESG.



Bonnie Liu

I am currently in charge of international sustainability evaluations, such as DJSI, and the promotion of Delta's carbon emission reduction strategy, such as SBT and internal carbon pricing. Since the evaluations are just as the company's health examination reports for sustainability, to improve the items written in red on the reports, we not only need to strengthen the communication and discussion with internal and external units, study and analyze international sustainability index and benchmarking practices but consider to integrate the mission of "environmental protection, energy saving and love the earth" to make the performance of sustainability one of Delta's soft power.

Since the issue of corporate sustainability is always a fresh and big topic, the team of ESG motivates each other to grow and are willing to share what they know with each other. We play both the roles of "knowledge seeker" and "navigator" and inspired together many leading ESG strategies and practices in Delta. We look forward to continuously leading more of forward-looking trends and assisting the company in entering a practicable and sustainable future.



## DELTA GREEN LIFE - PEOPLE



Tim Lien

I am mainly in charge of the promotion of water resources and waste issues, and I have many chances to contact the colleagues in the factory of the company in the process of implementation. I also need to study and analyze the content of the trends, standards and cases and introduce them to the factory for implementation. Although that requires many changes and adjustment, through communication and collaboration with internal units and external supply chains, and through internalization of education, the colleagues can really feel the difference and take further action to change their behaviors and stimulate a good result in reductions.

At Delta, the success of various projects requires the support of the management and collaboration of colleagues in various units for implementation. Although everyone has its own duties, we work together toward the same goal, learn and grow through working on various projects and the collaboration of the colleagues. Working in such an environment, we not only can broaden our visions but continuously improve our abilities.



Wendy Shih

I've been working as a team member in the PR team of Delta's Corporate Information Office since I joined Delta. I am in charge of press release, media activities, internal and external propaganda, guest receptions, etc. for headquarters, BGBU and Region. ESG team and we are good partners for a long time. Since people are paying more and more attention to corporate ESG issues recently, and the demand for ESG promotion internally and externally has increased greatly, I, a good partner, became one of the members of Corporate Sustainability Office seamlessly and am now taking care of ESG related PR jobs.

Although the daily work of PR is in hot haste as usual, in the area of ESG, everything has to be learned from the beginning, such as what ESG stands for and how to integrate various international initiatives with Delta's business development goal, not to mention the technical terms that takes over my eyeballs and brains every day. However, I have these honest and clear-thinking colleagues who are willing to give me advice every now and then without complaining. I hope the positive energy of the team can continue to promote Delta's ESG and become a force for sustainable development.

