



## Delta collaborates with Groupe PSA to build EV charger infrastructure across Europe and beyond

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Diverse and innovative Delta EMEA marketing team

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## FROM THE EDITOR

As we enter the second half of 2020, Delta continues to establish itself firmly in various regions and deepen customer relations despite the impact of the global pandemic. For the “Special Report” in this issue, we will be sharing with you some good news from EMEA. In response to the increasing popularity of electric vehicles, Delta has collaborated with Groupe PSA, the second-largest car manufacturer in Europe, to promote EV charging infrastructure solutions. We are providing single-family homes and multi-family complexes across all 27 EU states with a complete range of AC and DC charging solutions, giving Europe high efficiency charging facilities and more convenient charging service. Please do not miss out on other exciting content.

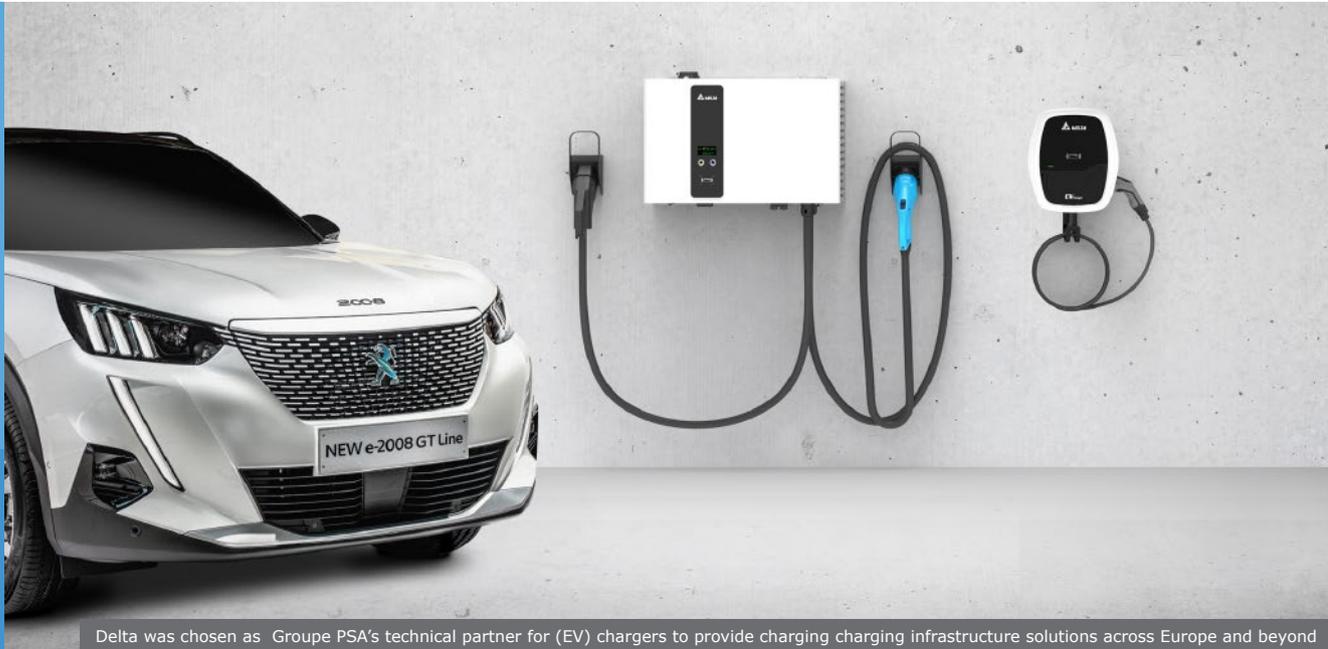
In addition to business development, energy management is another key indicator of Delta’s achievements in reducing costs and increasing production capacity. In this issue’s “IoT Smart Solutions”, we will introduce how the factories use OT and IT systems to combine green energy and smart manufacturing, increasing the factory’s management efficiency, to realize the vision of a smart and green factory.

“Brand People” continues to introduce marketing teams in different regions. In this issue, we interviewed Yalin Tsai, the EMEA Marketing Head, to understand how she organized a diverse yet professional team in Europe that consists of multiple countries and cultures as well as how she promoted the brand and formulated marketing strategies according to locations. Yalin also shared openly with us her decade long journey in Delta and her work with her team to link up with the business division to enhance internal and external communication.

“Brand Circle” shares the example of the million watts energy storage system by the National Changhua University of Education. This demonstrates that industry-academia collaboration can not only enhance academic research, but also improve the development goal of environmental sustainability. Introducing equipment networking and practical experience, Delta helps the printing industrial chain to create a win-win situation. Recently, Delta won the “2020 Red Dot Design Award” with its extended motion controller DXMC series, improving its brand competitiveness in the smart manufacturing industry.

As the season enters summer, electricity conservation is gaining more attention. The “Delta Green Life” in this issue documents the ways in which the National Museum of Marine Science and Technology adjusts the time for turning on the water chiller by referring to microclimate data, so as to achieve energy conservation. Not only does this maintain a comfortable indoor temperature, but it also saves energy. Do not miss out on more tips!

Brand Management Office



Delta was chosen as Groupe PSA's technical partner for (EV) chargers to provide charging infrastructure solutions across Europe and beyond

## Delta collaborates with Groupe PSA to build EV charger infrastructure across Europe and beyond

Text by Delta EMEA

Delta announced today a collaboration with Groupe PSA to foster e-mobility across Europe and beyond. Under this collaboration, Delta was chosen as one of Groupe PSA's technical partners for Electric Vehicles (EV) chargers as it offers a complete range of AC and DC charging solutions capable of meeting the wide range of requirements of various charging scenarios, as well as the evolving needs of dealers and EV drivers. Delta's EV charging infrastructure solutions will be made available via the Group's specially selected EV charger installation partner list. Under the initiative, Groupe PSA-approved charging infrastructure solutions will be available as an accessory for single-family homes and multi-family complexes across all 27 EU states, and there is also the possibility of expanding to other countries around the world.



Commenting on Groupe PSA's decision to standardise Delta's range of AC and DC chargers, Vincent Lin, senior director of e-Mobility & Smart Energy Solutions business development, Delta EMEA, stated: "Delta is proud to be associated with this collaboration, which is set to bring simplified EV charging to many more Groupe PSA customers. As the EV revolution accelerates across Europe, Groupe PSA is setting a trend in helping to bring the benefits of EVs to many more customers, through an extensive range of products. Its latest initiative will further boost the popularity of its EVs, by making charging easy and convenient for all of its customers."

As a leading provider of smart green solutions leveraging its unique prowess in high-efficiency power electronics and system integration, Delta continues to develop a comprehensive range of highly versatile AC and DC EV charging solutions with power output up to 200kW as well as energy conversion efficiency as high as 96%. Compact size and compatibility with all charging standards for operational efficiency facilitate an optimised charging experience. These features were decisive factors in Groupe PSA's selection of Delta as a technical partner for e-mobility. Solid industrial excellence, the scalability of its production capacity, and Delta's ability to adapt to its needs in terms of volumes and product specifications while meeting a high-quality standard and stable supply chain management were also strengths that Groupe PSA identified in Delta.

The collaboration with Delta underpins Groupe PSA's strategy to increase the number of EV chargers available to their customers, while delivering a single point of contact, one-stop-shop EV solution. An online audit is available for customers to help confirm the feasibility of the installation, before the most suitable charger from Delta is installed by qualified experts. To further optimise the customer experience, they will be supported by a dedicated call centre and after-sales services.

With different power ratings, interfaces, OCPP protocol support, and authorisation management, Delta's EV chargers are suitable for all charging sites and applications, providing better features for the growing number of EV drivers.



Delta was chosen as Groupe PSA's technical partner for (EV) chargers to provide charging infrastructure solutions across Europe and beyond



Ms. Yalin Tsai, Marketing Head of EMEA

### **Building an innovative brand with a diverse team** Interview with Ms. Yalin Tsai, Head of EMEA Corporate Marketing Management

Text by Brand Management Office

In this issue's "Brand People", we interviewed Ms. Yalin Tsai, Head of Corporate Marketing Management of Delta Electronics (EMEA) in an attempt to find out how EMEA promoted its brand under a geographic condition of multiple countries, and understand how Delta EMEA Marketing Team has realized the innovation of brand localization through the cooperation with a diverse team. In the interview, Yalin also shared her experiences and thoughts accumulated from more than 10 years' service at Delta.



## Quickly adjust the pace and steadily make headway facing the pandemic

There is no doubt that COVID-19 disrupted the marketing plans and promotional activities of the EMEA Corporate Marketing team. In response to this, the EMEA marketing team acted swiftly to accommodate the changes it would bring to the team's plans, its activities, and – critically – how it communicated, given that remote working was being encouraged to stop the virus spreading further. One major change the team had to adapt to, was the move from physical events, to virtual exhibitions. This was made easier by the flexible and optimistic mindset adopted by the EMEA Marketing team, as Yalin explains: "The team maintained a calm mindset, and one that was centered around cooperation, trust and self-motivation. We conducted regular virtual meetings and set clear goals and responsibilities. We enjoyed closer and more frequent interactions, which helped us to maintain our established levels of performance, even though we were working remotely."

With exhibitions across EMEA cancelled, the team also addressed the challenge of how best to action external communications. The team quickly developed a strategy to maintain brand exposure as well as customer relationships, in which physical exhibitions were replaced by digital exhibitions for showcasing new highlights. This brand-new concept also enabled the EMEA team to see the potential that digital held. "As there are no limits on the exhibiting time or space at online exhibitions, customers can browse the website anytime, and we can add new products whenever necessary," she explained. Despite the initial disruption caused by the pandemic, Yalin is enthused by how the EMEA team responded to it, and also by the exciting opportunities that digital platforms now present.



## Encourage open-minded discussions, respect diversity and embrace multiculturalism

The regions covered by EMEA are vast, with more than one hundred countries, which can present its own challenges when communicating with people from different cultures with different backgrounds speaking multiple languages. Yalin noted that, because of this, everyone has different working styles. However, she believes it is possible to unite them as a team, explaining that: "First, you have to give the team clear definition of their roles and responsibilities, and help each of them to understand their tasks. Second, you have to encourage them to contribute proactively and communicate frequently in order to build both relationships and mutual understanding within the team." Yalin believes open discussion and brainstorming are highly effective for attaining the team's goals, for demonstrating their professional skills and ideas, while also helping the team to learn and accommodate various viewpoints. This, ultimately, enhances the team's innovation and competitiveness.

Yalin shared the following with us: "It is a lot of fun working with the EMEA team, precisely because of the rich cultural diversity between nations and individuals. For instance, the different colleagues may differ in how they deal with the same project, which provides fascinating insights. Some colleagues are very target-oriented and head for the target step-by-step. Others prefer to go through a multi-party discussion before establishing a goal. Whatever path they take, what underpins the success of these collaborative activities is our consistent attitude in our mutual respect for each other, and the open mindedness with which we listen to and reflect on all of their opinions without any preconceptions."



Yalin stress a specific point with respect to outcomes. "What really matters though – to us, to our customers and to our partners – is quality. That is the most important thing of all, in all that we do." She added: "Instead of doing lot of things at the same time, we care more about the quality of the final results rather than the quantity. The EMEA team's discussions help us to achieve that goal, while bringing further innovation to our offerings, which ensures that our customers are even more impressed by the solutions offered by Delta."



2019 Delta EMEA Partner Event in Tenerife – Team Building



### Applying professional know-how and cooperation to succeed

With its rich diversity in people and products, marketing solutions across EMEA can pose many challenges. Each language is different, each markets' needs are different and each country has different marketing requirements. To help address these challenges successfully, Delta's EMEA's marketing team is divided into separate parts; the corporate marketing team, and the product marketing team, with additional marketing support provided by the business units. When discussing what makes Delta EMEA's model work so successfully, Yalin believes that: "Once again, it's about agreeing the goal and individual responsibilities. Then the corporate marketing team, and the product marketing team work closely to synchronize their efforts in order to achieve the goal together."

The EMEA Corporate Marketing team is responsible for integrating the marketing activities across business units and across product lines, to consolidate different product lines' solutions, into an integrated solution promotion through activities like events, PR, media, digital marketing and social media activities.

Meanwhile, the product marketing team is in charge of individual product line promotions into their focused countries and focused applications. They assist the business units in developing promotional plans that are in line with each markets' requirements. With this cooperation, two parties jointly promote the localized image and the brand's innovation across EMEA.



2019 Hannover Exhibition – showcased Delta Integrated Solutions across all business units



## Team work is the only way to the target

Yalin also shared her experiences and thoughts on the subject of team work based on more than a decade's experience at Delta. She stated: "No matter what you're trying to achieve, you cannot reach the goal on your own. I compare it to trying to scale a mountain. It isn't possible without having a fabulous team around you." Her enthusiasm for team work means that, even with restricted headcounts, she is excited about the many projects that still need to be executed. As someone who is dedicated to her job, although she is in charge of managing activities, she is always prepared to work side-by-side with the team as an equal. To do so, she encourages open discussion to cultivate an environment of understanding and tolerance, thus building a diversified and innovation-driven team who are able to bring their individual strengths to each task.



Delta EMEA Marketing Team – Team activities after workshops

Looking back at her career at Delta, Yalin states she's extremely grateful to have had the chance to work at Delta at a corporate level and also an EMEA level, for all of the experience and knowledge that it has given her. Reflecting on her time at Delta, she said: "Delta has presented me with many opportunities to learn from and contribute to the business. I have learnt to have an open mind at all times, to embrace change and consider problems and opportunities from all perspectives." She added: "More than anything, I have learned to value team work, to encourage open communication, to embrace the differences that diversity brings to a team, and to appreciate the outstanding results achieved by my friends and colleagues at Delta. Just like I have been able to do, I hope everyone at Delta is able to achieve the career of their dreams."

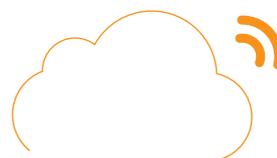


Delta's smart, green technology and solutions enhance energy efficiency

## Delta brings smart equipment and energy management to digital factories with IT & OT integration

Text by IABG

Energy management is one of the key indicators of energy savings and production capacity in many high-tech and semiconductor industries. According to Forbes, the best energy management deployment relies on precise energy monitoring of every section in the factory. Managers make energy strategies based on energy usage information and data. In the past, the importance of energy management was ignored in traditional factories, causing excessive energy consumption or uneven power distribution. Delta's Smart Manufacturing System Integration Manager Patrick Yen pointed out that digitalization is the best solution for factory data visualization and smart energy management; however, it's just not possible to evolve from manual recording on paper to a digital management system in one step.





## OT & IT integration is the key to highly efficient energy management

The equipment in factories can be divided into manufacturing machines and factory operation equipment (a.k.a. the OT layer). Factory management systems are in charge of monitoring and handling water, electricity, gas and other energy during production (a.k.a. the IT layer). To achieve a digital factory, it is crucial to upgrade and integrate the OT and IT layers, so as to provide factory managers with real-time operation monitoring and valuable data analysis.

Aside from production efficiency and control, IT and OT integration also helps to realize factory energy management. In a traditional factory, managers receive an electricity bill every month telling them how much power the factory consumes; but the question of "which equipment / facility / production line consumes more electricity" remains.



## Smart, green manufacturing relies on standardized communication

Building smart, green manufacturing systems is never easy, and it usually starts from production line design. Power meters for power measurement, sensors for machine information collection and diagnosis, and industrial switches / cloud routers for communication and data exchange need to be included for all equipment and process design on every production line.

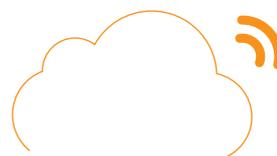
Communication standardization is another critical issue for implementing smart, green manufacturing systems on production lines and in factories. The components and equipment of different brands adopt different protocols, making machine integration difficult.

With standardized communication, energy consumption data can also be collected for monitoring and management. In new factories, energy monitoring and management for each piece of equipment can be achieved at the design stage by installing power meters and sensors.

"From design to implementation of smart, green manufacturing, we faced different challenges and realized how complicated and difficult this path could be. We had to set a goal and be well prepared for whatever might come our way. If not, it was very likely that we could have delayed the production schedule or even failed," said Patrick.



Most Delta factories have implemented smart manufacturing solutions. Delta's real practice and experience bring outstanding support and benefits to customers



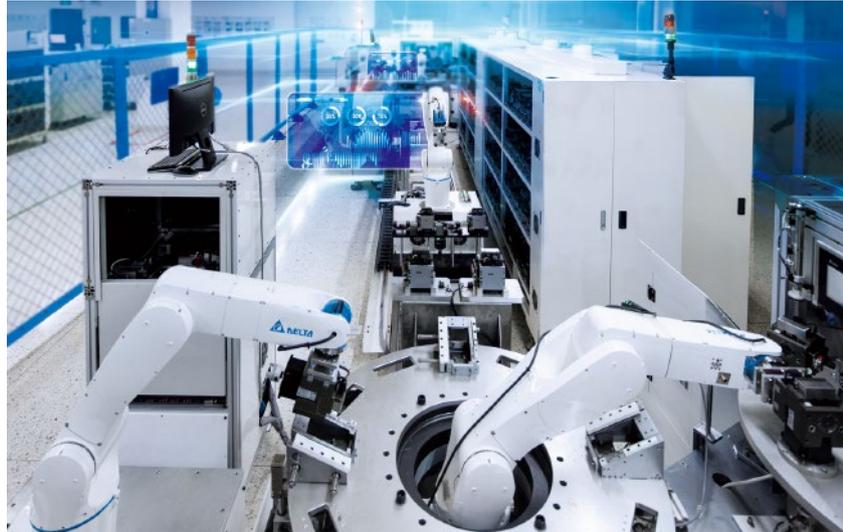


### Smart, green manufacturing brings visualization to managers

To achieve digitalization, a company needs to seamlessly integrate OT and IT to acquire operation data for analysis and visualization to help managers' strategies. Patrick said, "Delta provides a one-stop-service that covers consulting, design, implementation and after-sales / maintenance service. It satisfies customer needs for smart production and factories while reducing both cost and all the troubles encountered going from one supplier to another."

The key to achieving smart manufacturing is IT and OT integration based on standardized communication between equipment and a management platform. Delta's DIALink platform can connect equipment to the management platform and perform edge computing and data exchange. The DIAMMP platform can analyze equipment and production data and provide visualized information for different users, such as alarms for equipment engineers, PQM panels for production line managers, production information for factory managers, and a control center at headquarters.

For now, most Delta factories have implemented smart manufacturing solutions based on standardization, rationalization, automation, and intelligence. Delta's real practice and experience bring outstanding support and benefits to customers.



Delta's smart, green technology and solutions bring visualization to real-time equipment operation and enhance energy efficiency for factories



### The benefits of bringing "Smart & Green" to factories: automation reduces labor and 30% of energy cost

Delta recently offered its one-stop-shop service and smart green solutions for a global footwear manufacturer. Footwear manufacturing processes have always been complicated and hard to automate. The company's factory in Vietnam used to rely mainly on labor for production. However, it is difficult to precisely control the foaming formula for every batch.

After implementing Delta's smart machines, the quality control issue was solved with automated, precise material feeding according to formula. The automated material delivery by AGVs—which adopt Delta's automation products—helped to enhance production efficiency as well. Delta also installed sensors, measurement meters and industrial Ethernet switches to all machines at this factory to collect and upload operation data to Delta's management platforms in real-time. In this case, four operators were reduced and the production cycle time was shortened. Patrick concluded, "These solutions also helped another customer in the traditional manufacturing industry by saving 30% on their energy costs and reducing quality issues to a remarkable degree."





## Delta's one-stop solution helps NCUE build a megawatt energy storage demonstration system

Text by EISBG

In recent years, the environmental awareness is increasing, Taiwan has amended its Renewable Energy Development Act to encourage the adoption of green energy for large electricity consumers. Delta collaborates with Ørsted and National Changhua University of Education (NCUE) to promote the intelligent energy and development of smart grids. The 1MW/1MWh energy storage system created by the one-stop service can not only stabilize the grid and regulate electricity, but also to optimize contract capacity while deepening academic research on microgrid and intelligent energy.

Delta proposed the bi-directional power conversion for power dispatching, automatic fire suppression system, energy management system (EMS), and customized service according to NCUE's requirements. This collaboration with NCUE advances academic research in areas that are essential for Taiwan's sustainable future, such as microgrid infrastructure as well as renewable energy generation and storage.

Christy Wang, Taiwan General Manager, Ørsted Asia Pacific, said, "Ørsted is going all out in supporting Taiwan's energy transition. We began promoting academic-industry collaboration as early as during the grid allocation period for the Greater Changhua offshore wind projects and actively helped the academic communities and industries in Taiwan take the first step in energy storage study."

"The campus can provide demonstrations for institutions or business entities with high power consumption to integrate renewable energy storage systems during the process. Also, this energy storage system Delta helped us install will serve as a source of backup power for the campus and it will utilize the variation in peak and off-peak loads of the campus' electricity demand for load shaving, reducing contract capacity to save the cost and optimize energy efficiency," stated Dr. Guo Yen Guang, president of NCUE.

JJ Chang, general manager of Delta's Energy Infrastructure & Industrial Solutions Business Group, said, "In line with its corporate mission, 'To provide innovative, clean and energy-efficient solutions for a better tomorrow', Delta aims to develop smart energy solutions by seamlessly integrating its renewable energy and energy storage systems, as well as IoT technology, to optimize energy efficiency, one of the pillars of sustainable development. With the support of Ørsted, Delta is pleased to participate in this project and assist NCUE. We look forward to cooperating further with Ørsted and other stakeholders to contribute to the transformation of Taiwan's energy sector."



Delta provided Ørsted a total energy storage solution for NCUE's on-campus academic research & development of smart grids. Dr. Guo Yen Guang, president of NCUE (left), gave special thanks to Delta EISBG GM Mr. JJ Chang



## Delta Electronics Thailand to establish Vietnam subsidiary

Text by Delta Electronics (Thailand)

Delta Electronics (Thailand) PCL. announced via the Stock Exchange of Thailand (SET) that it will establish a new subsidiary in Vietnam. Mr. Jackie Chang, President of Delta Electronics (Thailand), said, "Delta is eager to tap into the vast potential of the Vietnam market and work with our local partners to support the country's development. Delta's solutions for manufacturing automation, data centers, renewable energy and e-mobility are critical to smart city transformation and can add great value for local customers while boosting their competitiveness. We expect Vietnam to play a key role in driving regional development, and Delta is ready to take an active role in the country's growth story."

In Vietnam, Delta works with HTC-ITC, a subsidiary of Hanoi Telecom, to provide users in Vietnam with better connectivity by creating an innovative data center that offers reliable, flexible and green operations. The milestone project with Delta and HTC-ITC marks the first data center installation in Vietnam with Tier 3 Uptime build standard.

Delta works with partners in the telecom and manufacturing sectors to create high performance, energy-efficient, flexible and sustainable solutions that deliver on the company's brand promise: Smarter. Greener. Together.



Delta Electronics (Thailand) works with partners in the telecom and manufacturing sectors to create high performance, energy-efficient, flexible and sustainable solutions

## Delta creates energy-saving and efficient automation solution for Sinco Technology's plastic blow moulding machine

Text by Delta Electronics (Thailand)

Delta Electronics (Thailand) PCL. created its first ever all-electric blow moulding solution for Thailand's leading plastic blow moulding machine manufacturer-Sinco Technology. With Delta's custom-designed automation solution, Sinco Technology gets a major boost in energy savings, lower costs and added control features that offers a more advanced and competitive plastic blow moulding machine solution for customers. Delta's automation solution offers DMCNET-based motion control, RS485-based temperature and Variable Frequency Drive control and is easier to wire which saves owners time on installation and optimization.

"We're happy Sinco Technology chose Delta over other top global leaders because of our specialized experience in designing and implementing automation solutions for plastic manufacturing machinery in Asia," Mr. Stan Li, Delta Sales Director of Industrial Automation, said. "Delta works with customers to find the best solution and offers total service that includes installation, integration and operations training. We welcome the opportunity to be a global partner for leading Thai manufacturers and deliver on our brand promise: Smarter. Greener. Together."

Mr. Suravut Kosinthanon, President of Sinco Technology, said, "The new all-electric blow moulding solution is a great addition to our offerings because it allows our customers to lower the cost of maintenance compared to legacy hydraulic systems. Customers can use the all-electric solution to produce food-grade containers and other quality plastic products that they cannot make with hydraulic systems. This solution is great for Industry 4.0 manufacturing that requires machines to deliver real-time production data to office-level management while supporting remote control and monitoring from different locations."



The all-electric blow moulding solution can save time of installation and lower cost of maintenance



## Delta Greentech successfully holds "2020 Network Energy Dealers Conference"

Text by Delta Greentech

Delta Greentech(DGC) successfully held "2020 Network Energy Dealers Conference" with the theme of "Great Internet, New Ecology and Welcoming the Future". Due to the COVID-19, this year the conferences adopted online sharing how to seize opportunities, provided three major ways, "MDC3.0, brand new HIFT and new RT", and one major protection, "channels support two-wheel drive". Channel partners and DGC colleagues have taken part in the event.

General Manager Tan Yi-Zhong said that Delta still achieved good results even in the difficult conditions of 2019. These gains from the efforts and contributions of channel partners. In 2020, it is hoped to get the opportunity of new infrastructure construction and make great achievements again through the efforts of channel partners and DGC.

Director Cai Jie of Delta Greentech Network Energy said, "DGC will empower channel partners in "regional distribution platform" and "solution sales in the next five years,". Li Song-Lin, Channel Director of Network Energy, reviewed the performance in 2019, and presented specific strategies to help the growth of channel business in 2020. Finally, Director Li Song-Lin also announced the 2019 Winner List of Outstanding Channel Dealers Awards to be commended.



General Manager Yi-Zhong Tan makes a speech in the Channel Dealers Conference, hoping that the opportunity of new infrastructure construction can be seized to make great achievements again

## Delta participated in the launch of "Advanced 8K Projection Technology Showcase" on International Museum Day

Text by DGC

"Advanced 8K Projection Technology Showcase", which is promoted by Delta Group, National China Film Museum, and CineHello.com was held online press on the International Museum Day in Beijing. Delta's 8K DLP Laser Projector used for demonstration enables fine yet moving images. It was set up in cinema V4 of the Museum. The 8K environmental documentary "Water with Life in Taiwan" will also be played during the event.

Director Xie Ye of the China National Film Museum said that the Museum was honored to work with CineHello.com and Delta. Delta has the world-class 8K projection technology and based on the joint effort with the three organizations, he hopes that the launch of this project can promote the development of the 8K technology market.

Mr. Zhu Li, the Director of Video Conferencing System Business Group of Delta Greentech, said that the brightness of Delta's high brightness 8K DLP laser projector can reach up to 36,000 lumens and it is suitable for 300 X 100 inch large screen display, allowing the audience to be fully engaged with the show. The Delta 8k projection technology has been used in various important events around the world, including the Integrated System Europe 2018, NHK Winter Olympics broadcasting in Japan, the 2019 premiere of the 8K environmental documentary "Water with Life in Taiwan" in National Museum of Natural Science of Taiwan as well as its special screening at Akiba Theater in Japan. He hopes to collaborate with various parts of the film and television industry chain to promote the development of ultra-high-definition 8K technology market.



Three Generations of filmmakers gathered to participate in this event



## Delta Human Resources has won 3 awards

Text by Public Affairs Dept.

Delta dicates to crate the "Best Company to work" and sets its goals advanced technology, stable development, and work-life balance. This effort in human resources has been recognized by three consecutive awards, namely, "2020 Human Resources Management Excellence Award", "2020 Candidate Experience Gold Award", and "2019 South China Excellent Human Resource Implementation Enterprise".

The awards can be attributed to the focus on human resource management placed by Mr. Rock Huang, the Global Manufacture GM, Mr. Guang-Po Wang, the Huanan Regional GM, and Mr. Zheng-Bin Lin, the Human Resource Director for the China Region. They continue to adjust the recruitment strategy and procedure to hire amazing talent for the Company. The employer brand is created with three main directions, namely innovative electrical and electronic technology, table career development, and work-life balance. In terms of employee development management, we emphasize the learning development of employees, creating a stable work environment, and providing a clear path of development and a rich curriculum for training. We also value employee work-life balance, and strive to realize occupational health management, and maintain the physical and psychological well-being of employees.

Mr. Zheng-Bin Lin, the Human Resource Director for the China Region, said that the business concept of "Smart, Greener, Together". Delta is working on corporate social responsibility meanwhile pursuing business growth,. In terms of employee care, Delta provides a comprehensive career development plan, job skill training, and training courses, allowing the employees to grow with the company. In addition, Delta also focus on the physical and psychological well-being of its employees, creating a comfortable and healthy working environment and establishing various groups.

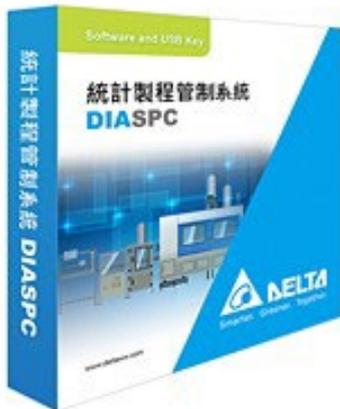


Mr. Zheng-Bin Lin, the Human Resource Director for the China Region, represents Delta to receive 2020 Human Resources Management Excellence Award



## Delta's big data analytics and cross-factory management enhances process control for semiconductor manufacturing

Text by IABG



The DIASPC system can be integrated with a manufacturing execution system (MES) to collect and upload big data to the Cloud, increase yields, and manage multiple factories

Delta recently introduced a semiconductor manufacturer in northern Taiwan to a statistical process control (SPC) system for better control of processes. The manufacturer owned multiple factories for wafer and die testing and IC packaging. Delta set the machine-to-machine communication specifications and instructed the manufacturer to install and operate the SPC system. With the integration of the SPC system and a manufacturing execution system (MES), users can monitor all the big data in real time by simply operating the user-friendly interface. All manufacturing processes are under control and problems can be immediately resolved.

This case adopts Delta's Statistical Process Control System DIASPC, which integrates with the customer's MES system to collect and upload the big data for IC manufacturing to the Cloud via standardized communication protocols. The DIASPC systemizes the IC production process, presents the analyzed data in various reports, and significantly reduces the time for manual data acquisition and analysis to increase yield.

The Delta's DIASPC system can analysis the big data and cross-factory management via the web-based platform and diversified reports to increase yields, and manage multiple factories.

## Delta's equipment IoT solution is mutually beneficial to printing machine Manufacturers and printing houses

Text by IABG

In this case, the printing machine manufacturers have the problem of lease installment management and maintenance services. To improve the problem, Delta adopts the Hot Swappable Mid-range PLC AH Series with multiple I/O terminals. The AH Series can effectively monitor production status, and connect with human machine interfaces for in-line staff to adjust parameters such as paper feeding, color printing, and paper discharging. With the 4G cloud router quickly transmitting the production data to the cloud platform, the processed data can be displayed on the DIAView SCADA System. The engineers and managers of the manufacturing company can monitor the equipment status on their global customers' sites. Delta also customizes a financial monitoring system for equipment leasing status. The manufacturer can remotely stop the machine operation under specific circumstances (delayed payment or breach of contract) to prevent losses.

In actual application, Delta's help the printing machine supplier reduce maintenance cost and optimize the system compatibility. Delta help the printing houses achieve the real-time equipment monitoring and parameter setting to enhance management efficiency with less labor. With abundant practical experience with equipment IoT applications, Delta offers the printing machine supply chain a complete solution including consultation, assessment and implementation. The integrated solution assures system compatibility for the entire supply chain and creates mutual benefits for printing machine manufacturers and printing houses.



Delta's Equipment IoT Solution adopts self-developed software and hardware. The integrated solution assures system compatibility for the entire supply chain and creates mutual benefits for printing machine manufacturers and printing houses



## Security AI and learning technology caters to both pandemic prevention and retail business opportunities

Text by BABG

The COVID-19 pandemic has affected the whole world and “social distancing” become the globally standard of public health. People need to maintain appropriate distance in places like schools, restaurants, gyms and hair salons and even supermarkets have launched various policies to ensure safe distancing. Meanwhile, there is a significant trend in retail, health and medical, banking, and hotel industries toward adopting smart systems for network security and commercial activities to reduce interactions among people and the risk of infecting customers or the staff.

### Extending the application of video content analysis from creating business opportunity to preventing the pandemic

The new generation of network cameras is equipped with high-performance computing capability and video analysis, allowing users to transmit real-time images and convert them into big data analysis. This helps retailers to increase operational efficiency and the 4 common preventive measures adopting AI Video Content Analysis (VCA) include queue management, people counting, crowd detection, and personal protective equipment detection. VIVIOTEK Crowd Control Solutions can optimize retailer operations using a smart and safe method.



“Social distancing” becomes the globally standard of public health. Adopting smart systems for network security and commercial activities can reduce the risk of infecting

## A New Normal: Touchless offices in the post-pandemic world

Text by BABG

In the post-pandemic world, the healthy workplace is required to have good air quality and ventilation so that we should strive to build a touchless office, allowing even hundreds of employees to work together in their offices at ease.

Building access systems, meeting room booking systems, indoor temperature control systems, lighting control systems and automatic blinds commonly found in offices are controlled separately by various controllers or touch panels, which are risky infection points. The building automation system integrates the central communication hubs of the facilities via IP communication and utilizes the user-centric design to allow only dedicated individuals access to the systems via mobile app, so as to avoid contacting those risky infection points. With the prevailing IoT protocols such as MQTT, the building automation system can also use the communication protocols to control devices which are used every day but rarely integrated into the system such as a television. Other communication protocols such as Bluetooth, IR communication and API can also be integrated to create an even more comprehensive touchless work environment.



Delta Controls smart building automation solution build up the touchless offices

With the right building system, corporations need to be working on touchless offices as for the core of their return-to-work strategy. Welcome to the new normal.

Source: Work Design Magazine



## Delta's Building automation solution plays a vital part in the construction of green data centers

Text by DGC



Smart building automation solution builds up the green construction and improves the quality of management and efficiency

The Delta building automation team joined with the data center team to provide a building control solution in Henan Province, offering real-time monitoring and improving efficiency in management. Context awareness, control components, and smart management platforms are consolidated in one system. Electromechanical equipment such as air conditioning, ventilation, water supply and drainage, and elevators are also integrated into the system. The control and operation platform helps to improve the overall quality of management and efficiency.

### Reducing energy consumption to build a green data center

By improving the efficiency of management to reduce energy consumption of the HVAC, it flexibly deploys cold and heat sources to enhance the equipment use efficiency and improve the PUE value.

### Intelligent management increases operational convenience

Unified monitoring and management of electromechanical equipment and electrical loads enable operating and maintenance personnel to solve problems in a timely manner through use of the remote operations interface.

### Precision control to achieve stable operation of the equipment

With full TCP/IP for IoT architecture, it can carry out a switch mode to build up a daisy chained network, forming two-way communication to improve the stability and security of the server room.

### Reasonable use of natural cold sources, attaining true energy efficiency

The solution utilizes the control logic of an expert system for programming. With temperature of cooling water calculated and appropriate adjustments made, the system energy consumption is easily decreased.

## Delta helps a park layout its new digitization plan to achieve platform-based management

Text by DGC

Recently, Delta built a smart building for a park in Hefei, utilizing the cross-building and cross-system ORCA system as a platform, to manage electromechanical equipment for air conditioning, ventilation, water supply and drainage, etc. in eight buildings, which improves operation and energy use of the equipment, reduces operational cost, and achieves information-based management. The property management eventually decided to introduce the Delta Controls building automation system after considering comprehensive factors such as the brand, product quality, technical capability, and level of services.

Delta Controls employs BACnet network communication protocol, which is compatible with devices of different manufacturers and different subsystems and features decent openness. With a clearly layered network structure that controls areas, systems, and equipment in hierarchy, it meets the requirement of "centralized management and distributed control" for advanced building systems. Through centralized allocation of power consumption for all equipment, under the premise of satisfying comfort, the building automation system minimizes the building's operating costs through reasonable control.



Delta Controls ORCA employs the BACnet network communication protocol, with open architecture that perfectly connects with various subsystems, provides a basis for data management and analysis



## Delta assists Sunshine Social Welfare Foundation in improving air quality and providing a comfortable environment for burned patients

Text by Delta Electronics Foundation



Delta Electronics Foundation donated wall-mounted PM2.5 DC variable frequency ERVs to the Sunshine Foundation for building a healthy and comfortable rehabilitation environment

To help the Sunshine Social Welfare Foundation through the long-term fight against the pandemic and provide a healthy and comfortable rehabilitation environment for burned patients, Delta employed UNO air quality monitoring solution together with a series of energy-saving renovations for office space to help them reduce indoor electricity consumption, concentration of carbon dioxide, PM2.5, PM10, and other harmful components for a healthier and more comfortable rehabilitation environment. In addition, Delta donated 25 sets of wall-mounted energy recovery ventilators (ERV) to the Sunshine Foundation, so as to extend the services to patients and improve the environmental quality.

Guo Shanshan, deputy chairperson of the Delta Electronics Foundation, said that when the Kaohsiung Gas Explosion took place in 2014, Delta helped the Sunshine Foundation quickly set up a reconstruction center in Kaohsiung. After the outbreak of the pandemic this time, the Delta Electronics Foundation observed that, in order to prevent the pandemic, the Reconstruction Center had to open windows while having the air conditioner on, which made the burden of electricity bills even greater. Shanshan said: "Energy-efficient building solutions could bring fresh air with smart energy-efficient technology, which can alleviate the difficulties faced by the Sunshine Foundation and create a more favorable environment for the rehabilitation of injured friends."

The equipment included a ceiling-hidden and wall-mounted PM2.5 DC variable frequency ERV, which performs heat exchange and humidity, thus reducing the loading for the air conditioning equipment. Together with high-performance triple filter, it can effectively filter out the harmful PM2.5. In addition, Delta offered a UNO indoor air quality monitoring solution, which, together with UNOnext IAQ sensors and ERVs, not only adjusts the basic ventilation required, but also helps the building environment move toward the international WELL standard for healthy buildings. The values of CO<sub>2</sub>, PM2.5, PM10, etc. of the indoor air are well controlled, making the injured patients safer, healthier, and more comfortable during their rehabilitation.

Furthermore, in terms of renovating space for energy efficiency, Delta Electronics Foundation also cooperated with Green Comfort Health Architecture Association to help the Sunshine Foundation to install double-layer glasses, effectively eliminating external heat sources and reducing noise. At the same time, they helped with the separation of cold and hot aisles in the computer service room to avoid mixing of winds, and utilized Delta's duct fan to extract the heat of the computer service room, reducing the operation and energy consumption of the air conditioners. With the combination of the fresh air ventilation system and the renovation with insulation, the effort is expected to save 30% of the power consumption for the air conditioner.



### Delta expands CSR program in the Americas by collaborating with San Jose State University to advance renewable energy research

Text by DAL

Delta collaborated with Silicon Valley-based San Jose State University (SJSU) to advance renewable energy research and talent. The project underscores Delta's corporate social responsibility (CSR) commitment to partner with universities and institutions in the United States to nurture talent capable of developing next-generation renewable energy technologies, an initiative in line with Delta's corporate mission, "To provide innovative, clean and energy-efficient solutions for a better tomorrow." Through the SJSU project, researchers who received funding from Delta developed a prototype power converter for PV panels that captures more than 30 percent more energy than conventional technologies.

"Collaborating with renowned research institutions like San Jose State is critical for our industry to unlock further synergies in advancing energy-efficient technologies for a more sustainable future," said President Kelvin Huang of Delta Electronics (Americas). "Delta's expertise in developing solar PV inverters with efficiencies as high as 99.2% and in integrating smart green solutions has been instrumental in furthering the project. This initiative also reflects Delta's focus on CSR, which entails cultivating long-lasting partnerships with key stakeholders for further sustainable development."

"The overarching purpose is to develop new photovoltaic configurations that can extract as much energy as possible, while using low-cost interfacing systems to convert the harvested energy to usable levels," said Dr. Mohamed Badawy, assistant professor of electrical engineering at SJSU who led the project. "We are extremely grateful to Delta for providing the funding and the technical expertise to make this project a success." Badawy said. "They were always presenting their work during the SJSU-Delta meetings, which helped develop their professional skills. They also learned how to build partnerships, which is an important career skill."

"This experience has proved extremely rewarding for our staff, as we bridge the gap between industry and academia," said Peter Barbosa, director of Delta's Milan M. Jovanovic Power Electronics Lab in Raleigh, N.C. "The fresh perspectives we gained are invaluable as we solve some of the energy industry's biggest challenges."

The SJSU collaboration caps an impressive year for Delta's CSR program in 2019, when the company worked with a dozen academic institutions throughout the San Francisco Bay Area to educate nearly 1,000 students about the importance of energy innovation, sustainability and protecting the environment. For 2020, the company plans to increase its outreach to underserved communities by launching new classes and workshops.

To learn about Delta's renewable energy solutions, visit <https://www.delta-americas.com/Products/RenewableEnergy>



Delta expands CSR program in the Americas by collaborating with San Jose State University to advance renewable energy research



## Delta online seminar on smart energy: renewable energy solutions for large electricity users

Text by EISBG

Taiwan now is in the “energy transition” phase and its amendment of “Renewable Energy Development Act” affects the energy plans and response strategies of corporate end users.

In light of this, Delta’s Energy Infrastructure & Industrial Solutions (EISBG) hosted three online seminars with Smart Energy, Energy Storage Elements, and Solar Inverters. These teams shared solutions for deploying alternative energy sources and energy storage to help large energy consumers plan the strategies. The three seminars were content-rich and attracted almost 1000 participants.

The first seminar was “How to Choose the Alternative Energy and Energy Storage in Terms of Big Electricity Consumers.” and pointed out finding the best strategies from the perspective of “energy allocation”. The second seminar expatiated on the characteristics of energy storage batteries, types of applications, configuration, set-up processes, and considerations for users and purchasers. The theme of the final seminar was “Upgrade Solar Energy and Storage: Evolution of Renewable Energy in Offices and Factories”. The seminar introduced how the solar power system and energy storage system complement can strike a balance, and how they optimize the renewable energy consumption and efficiency of energy distribution.

## Delta’s smart energy solution introducing the interactive demo program

Text by EISBG

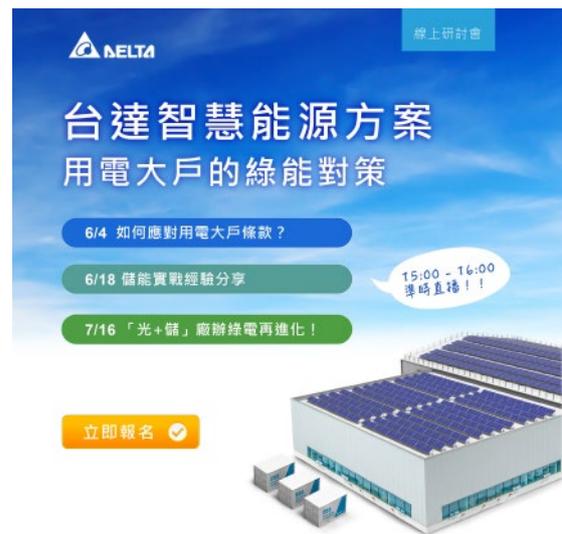
Delta’s smart energy solution is to improve energy efficiency and help reduce carbon emissions. Users can easily understand the roles of Delta’s Smart Energy Solution (EISBG) in the journey of power from the 3D interactive demo program. For wind power and solar plants, Delta offers wind turbine converters to make the output voltage and frequency of the turbines consistent. Delta offers solar inverters to convert the current output of a solar panel into alternating current, which can be utilized by a grid and ensure conversion efficiency.

On the power consumption side, Delta’s EV Charging Solutions provide AC and DC chargers, as well as backend management systems. The DeltaGrid® Smart Street Light Solution includes wireless gateways, wireless lighting controllers, and an IoT platform to create a street light system that is highly efficient and can be controlled remotely. The Bi-directional EV Charging Solution can turn electric fleets into virtual power plants, allowing them to discharge electricity back to the grid, homes, and buildings, thus stabilizing the grid and acting as emergency backup power.

The power regulation and energy storage systems can be widely used in traditional power plants, renewable energy power plants, and power grids, and also by consumers, promoting the efficiency of power conversion and consumption and the utility of backup power sources.

Download the interactive demo program file:

- ▶ Projector version
- ▶ Touch panel
- ▶ See how to present Delta’s Smart Energy Solution with the interactive demo program



Delta online seminar on smart energy: renewable energy solutions for large electricity users



Delta’s Smart Energy Solution Interactive Demo Program



## Delta joins fight against COVID-19 with donation of 1,000 N95 masks to healthcare heroes

Text by DAL



Delta joins fight against COVID-19 with donation of 1,000 N95 masks to healthcare heroes in Fremont

United States are facing a severe shortage of personal protective equipment (PPE), which is critical to keeping them safe and healthy. PPE is especially essential due to the highly infectious nature of COVID-19, which is spread through respiratory droplets. Unfortunately, PPE has been in short supply.

As a longstanding business in Fremont, Delta contributed to community-wide efforts to better equip the frontline heroes in the fight against COVID-19. Alameda County, in particular, has been hard hit by the virus. Delta Electronics (Americas) heeded the call to action by donating 1,000 N95 masks to frontline healthcare workers at Washington Hospital in Fremont. Fremont Mayor Lily Mei officiated during a handover ceremony for the masks outside Washington Hospital, praising Delta for stepping up to the plate. Mei said, "We want to ensure that all the workers are given the opportunity to help serve us but at the same time to protect those frontline workers who are essential for our community."

Angus Cochran, chief of community support services at Washington Hospital, expressed gratitude for the donation. "Thank you to Delta for this generous, generous gift," he said. "It means the world to our doctors and nurses that the community is standing behind them."

## Delta's Americas headquarters green building wins the 2020 Commercial & Industrial Generation Award

Text by DAL

Delta has been recognized as the winner of POWER Magazine's Commercial & Industrial Power Generation Award for its LEED Platinum Americas headquarters green building. The award recognizes Delta's excellence in integrating its own smart energy-efficient solutions and other eco-friendly technologies in the Fremont, Calif. facility. The 178,000-square-foot building features a 616kW rooftop PV system that currently generates 70 percent of the building's annual energy consumption. With a new 506kW bi-facial carport PV system, which utilizes Delta's inverters and energy storage systems, the campus is projected to achieve net-zero energy consumption in the near future. An innovative geothermal heating and cooling system, as well as Delta's EV chargers, building automation systems and data center solutions also enhance the energy efficiency of this state-of-the-art facility.

"Our Americas headquarters green building embraces the highest level of sustainability and is one of the many ways we are creating a future that is Smarter. Greener. Together," said President Kelvin Huang of Delta Electronics (Americas), referring to the company's brand promise. "This latest award is a testament to the hard work of the project team that transformed our ambitious idea into a beacon of sustainability."



The appearance of Delta's Americas headquarters green building



## Cross-strait Songs of Whales competition smoothly wrapped up with contestants' ardent response

Text by BMO · DEF



"Whale Call" and "Songs of Whale Surprise", the first prize winners from the adaptation category of China and Taiwan

The competition of Songs of Whales dialogue and film adaptation ended with a "perfect exclamation mark" simultaneously across the straits. The total number of received entries was up to 1,266. It is hoped that the film will convey carbon capture potential of whales, which will help alleviate the global warming crisis and arouse the public's attention to marine ecology conservation as well.

Guo Shan-Shan, Delta's Chief Brand Officer and an important prime mover of this competition, said that she was pleased with the resonance triggered by the competition. Just like Delta's brand commitment "Smarter – Greener – Together", we promote environmental education with images, representing our expectation for the public's understanding of environment issues while combining more like-minded partners to jointly dedicate their share of effort to environmental protection. We are convinced that care and even action can only be driven from understanding. In so doing, we can then have hope for life, and more lives on the earth can therefore have a greater hope.

With online teaching films and seven online environment forums, Delta, for the first time, stepped into the campus to promote the competition, which successfully drew a variety of excellent copywritings and ultra-high-definition image production contributed by multimedia hotshots. Zhu Li, Director of Delta Greentech, even led the audience to experience the 8K HD era. The diverse and rich topics attracted more than 800 participants to join the activity.

The competition in China is fierce. The first prize of the dialogue category is "what we eat". By associating food with garbage, it is full of resourceful imagination. The cute Q&A between whale mother and daughter deeply strikes a chord of many people. The first prize of the adaptation category is the "Wale Call", starting off from environmental care. Other than aesthetics, it is also easy to transmit its concept. From text, editing, to musical score, the work has excellent aesthetic performance and role clarity. With a high level of integration, it presents its originality from the soundtrack, and hides the ambition in the production.

In Taiwan, the first prize of the dialogue category is the "Gift of Life", which elaborately elucidates the ecological concept in a poetic way, so the audience does not feel condemned. The first prize of the adaptation category is the "Songs of Whale Surprise", which uses animation to show the mutual evolution of whales and the Earth sphere by presenting whales' contribution of their life from birth to death to the Earth. The story is complete and fluid, and the editing skills are virtuoso. The combination of originality with the image technology shows high integration with environmental care materials, which deeply touches the judging panel, and therefore stands out of many other competitors.

The winning works will be used as important environmental education materials in the promotion of Delta Electronics Foundation's environmental education in the future, so more people can be attracted to the issues relating to climate emergency, biodiversity, etc. They will also become a crucial partner in the teaching of Delta volunteer advanced classes.

- ▶ About "Wale Call" video
- ▶ About "Songs of Whale Surprise" video



## Congratulations! Delta extended motion controller DXMC series wins Red Dot Design Award

Text by IABG



Delta's Extended Motion Controller DXMC Series won the Red Dot Design Award 2020 for excellence in industrial design

Delta has just announced that its Extended Motion Controller DXMC Series has won the Red Dot Design Award 2020! The DXMC Series, awarded for excellent industrial design, is an advanced multi-axis motion controller that is ideal for a wide range of applications, such as packaging machines, printing machines, winding machines and industrial robots. It was recognized by the judges for its outstanding motion control functions, elegant exterior design and highly protective case, and was chosen to be one of the award winners.

The DXMC Series, as an advanced multi-axis motion controller, provides a maximum of 32 real axes and 64 virtual axes control. Its tension control, rotary cut, flying shear and E-CAM function modules fulfill the requirements of a wide range of applications. The DXMC Series feature a modular design for excellent scalability and stability. The host controller can operate independently, while also allowing a quick module extension. The external case adopts PBT material compliant with international eco-friendly and recycling standards, and features outstanding weather resistance, mechanical strength and electrical insulation.

## Delta EtherCAT bus motion control card is awarded the EM Asia Innovation Award

Text by Delta Greentech

Delta's EtherCAT bus motion control card PCI-L221-B1D0 won the 2020 EM (Electronic Manufacturing) Asia Innovation Award for its powerful performance in motion control. The award ceremony was held at the Productronica China show. "The new infrastructure has brought in opportunities of development in many industries, including the booming electronics industry," said Li Wenjian, director of motion control products for Delta-Delta Greentech. Delta is well aware of the know-how for industry upgrades and can meet the requirements for high-precision and high-speed production in electronics manufacturing with its leading technology in industrial automation. The award-winning products this time can greatly enhance the capabilities of processing equipment in motion control, give the equipment greater performance, and meet the ever-changing market needs in the electronics manufacturing industry.

Delta's EtherCAT bus motion control card PCI-L221-B1D0 is an important part of Delta's PC-Based motion control solution, featuring simple wiring, good synchronization, and easy operation. It can help customers connect various devices speedily and supports bus verification software, so that customers do not need to write software themselves. Instead, it can immediately verify the requirements of the communication and hardware architecture and adjust the motion path or command at any time according to the needs of use, allowing customers to easily integrate the requirements of their equipment.



EtherCAT bus motion control card PCI-L221-B1D0 won the 2020 EM Asia Innovation Award with excellent characteristics in motion control



Diverse and innovative Delta EMEA marketing team

## PEOPLE

### Diverse and innovative EMEA marketing team

Text by Delta EMEA



Arno de Ruyter / Marketing Manager EMEA - Telecom Power Systems

Delta's EMEA region covers a massive spread of countries. I see myself as a 'translator', making sure that Delta's communications are tweaked and polished to the needs of our customers and sales people. The Covid-19 has brought new challenges in its wake. Events are out of the question of course, and the face-to-face contact has taken of digital communications. We still have to make sure that our contact retains the 'human' face. I love the contact with other people and the opportunity it brings me to help them make a difference. This applies to all, whether it's service partners, the head office or the EMEA team.



## PEOPLE & PRODUCT

What I really love about Delta, is that it feels like family. Colleagues help each other when people need it, without questioning their ability to manage their tasks. I've been here six years and, as an experienced member of the team, I sometimes find myself in the role of a coach. I have been trusted and given the freedom to act. The work is fulfilling, its scope is broad, and it has meant meeting, collaborating with and even befriending many great people across many different and fascinating nations.



Denise Futterer / Social Media Manager and Digital Marketing Specialist

Today, I'm responsible for the social media and website activities that surround all of our products and events, both digital and physical. Without question, one of the best things about my job is working with such fundamentally nice colleagues. We are close, even though we don't all work in the same office. Over time, some of them have become good friends, too. They also come from different countries and with different cultures, which means that we all have different ways of thinking and that we can learn a lot from each other.

The Covid-19 slammed the brakes on all of offline events. Our response was to create an online exhibition which is the theme of "Pioneering Energy-efficient Infrastructure Technologies". But two recent events illustrate the fulfilment and satisfaction I still get from my work. I spoke to an audience of 250 partners on the importance of social media – my first public speaking event. I also presented a Delta Influencer Award at the same event, which – much like the rest of my job – I found really rewarding and fulfilling.



Judy Wu / Marketing Communications Planner

I am responsible for marketing communications and public relations. I'm part of the corporate marketing team, which serves all Delta business units in EMEA with PR, events, social media, website and internal communications services. Each business unit also has its own product marketing managers. My colleagues are more like friends and family. We sit near each other, allowing us to share knowledge and experience as we work together. This means we can be very direct and very open with each other. Disagreements will arise from time to time because we have different perspectives, but we know we can talk it out together.

Another part of the appeal is the diversity of the company. I'm already in my eighth year, although it doesn't feel like it! Last year I had the opportunity to moderate the panel discussion in front of 150 partners from all over EMEA. It was a great challenge, but with the great support from the team and the trust from the managers, we manage to pull it off and delivered a great panel discussion. The opportunities and the challenges are what keeps me motivated and enthusiastic at work.



## PEOPLE & PRODUCT



Monique Appeldoorn / Marketing and Communications Manager, Industrial Automation Business Group

Our team is responsible for marketing the industrial equipment and software solutions that facilitate automated manufacturing. The Covid-19 forced us to change our way of working and thinking. That's why we launched our first digital exhibition. This rapid transition from physical to digital events highlights the flexibility of the Delta workplace. I also look forward to working with my colleagues here in Eindhoven. They are all so nice as well as being diverse. In my immediate vicinity there are people from Taiwan, Syria, Italy, Belgium and, of course, from the Netherlands. I enjoy working with these people in particular and with our wider international contacts in general. It makes life very interesting.

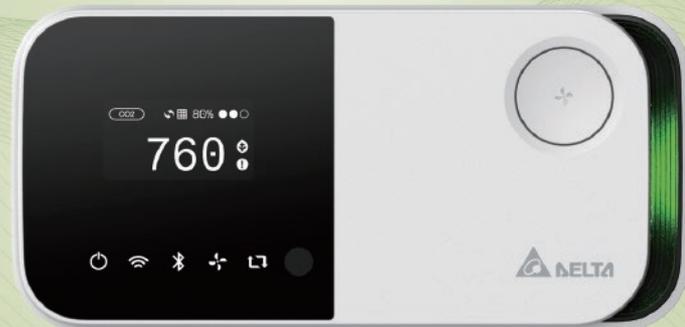
Delta treats its employees as people, not faceless assets in a human capital ledger. While it's important to hit the sales targets, it's also important to properly listen to each other when issues arise. We are very open with each other and we aren't afraid to ask for help or willingly give it when asked.



Sara-Kristin Friedrich / Event manager

I have a terrific job at Delta – organising shows and events, both physical ones and online. Some examples of these include our booth at Hannover Messe, our Digital Exhibition that opened recently and our periodic partner events. I feel there is a big family feeling at Delta, and some of us have friendships which go beyond the workplace. It's as if the external suppliers sense this about Delta too, and are only too happy to be a part of our bigger family. Therefore, I feel that I'm working in a very special place.

I also get huge satisfaction from working with my marketing colleagues to create new ideas and concepts, helped by Delta being a very cooperative and supportive environment. Delta also provides everyone with opportunities to grow. Over the seven years I have been encouraged to extend myself and develop new skills. Furthermore, I also find myself in complete harmony with the Delta's values; 'Smarter, Greener, Together', has been the company's focus for a long time and it is good to work for a company where we are all moving in this direction.



Delta's latest-generation UNO Smart IAQ Solution optimizes air quality control

PRODUCT

## Delta's latest-generation UNO Smart IAQ Solution optimizes air quality control

Text by BABG

With abundant experience in green buildings, Delta provides solutions for user-friendly environments. The concept of Delta's UNO Smart Indoor Air Quality (IAQ) solution aims to provide people with a comfortable, healthy building environment. It ensures IAQ by thorough air quality monitoring, delivering visualizations and statistics, and adjusting air conditioners and ventilation systems in real time.

UNOnext can connect with Energy Recovery Ventilators (ERV) or positive pressure ventilators to turn the real-time air quality status into trigger conditions for an auto start-stop function or adjusting ventilation systems. It can meet user demand for an immediately comfortable environment. UNOnext can turn passive monitoring into active control, thanks to the seamless integration of the Delta Building Management and Control System. UNOnext incorporates functionality from the previous air quality sensor and integrates various built-in sensors for temperature, humidity, PM 2.5 and PM 10, CO<sub>2</sub>, and brightness. Other sensors, such as CO, TVOC, and HCHO, can be flexibly expanded. UNOnext can provide real-time air quality results through UNOCentral, an IAQ server with edge computing functionality on the embedded display panel. In addition, the UNO app can send users real-time notifications of IAQ status through Bluetooth so that they can switch to ERV mode manually. The app can also send maintenance notifications to replace filters to ensure more efficient operations and management of air conditioners. UNOnext's LED indicator can change light colors based on the IAQ status so that users immediately know whether the current air quality is good, moderate, or poor.

The UNOnext solution for air quality also helps to obtain WELL certification, a building standard that ensures occupants' health and well-being. UNOnext can provide solutions that meet WELL requirements. UNOnext has been calibrated through standard gas tests and equipment in third-party labs to ensure its consistency and accuracy and provide calibration data tracking. Moreover, companies can reduce installation costs at the early stage and increase return on investment.

As people are paying more attention to the influence of the ambient environment on human health, smart buildings are now expected to achieve smart IAQ monitoring and automated adjustment of air conditioners and ventilation systems. Delta's latest-generation UNO solution for air quality has forward-looking functions that are in line with international building standards. It not only satisfies users' needs, but also helps companies to improve building management efficiency.



VIVOTEK's Crowd Control Solution provides safer and healthier social space

PRODUCT

## VIVOTEK's Crowd Control Solution provides safe and healthy social space

Text by BABG

Network security provides additional assistance in enterprise management during the time of a pandemic. As a global network security solutions provider, VIVOTEK launches Crowd Control Solution, which ensures environmental safety and health while maximizing business opportunities.

VIVOTEK's Crowd Control Solution facilitates the monitoring of the number of people entering or leaving a store or place, providing customers and employees a safer environment. Its smart stereo counting camera and crowd analysis system are suitable for installing at entrances of places with high social interaction such as shops, supermarkets, pharmacies, banks and restaurants.

In post- pandemic time, this solution can continue to be a smart commercial solution that optimizes retail operation. For example, the people counting cameras will be able to help the administrator of a shopping mall identify which stores have the highest inbound number, and based on the analysis results, arrange the best shopping route. The built-in 360° fisheye camera can identify the number of people gathering in a specific area. Shop owners can easily manage the social distance among customers and help reduce the pressure of overcrowding.

For more information about VIVOTEK Crowd Control Solution:  
VIVOTEK Retail Solution  
VIVOTEK Crowd Control Solution



Delta's smart security applies edge computing to improve car park management efficiency

PRODUCT

### Delta's SmartPASS applies edge computing to improve car park management efficiency

Text by BABG

With the rapid progress of smart building, various smart security management solutions have been developed in response to the varying control requirements in different regions and inside the enterprises, rise to. Through a smart security platform, enterprises can effectively integrate network cameras, image analysis module software and storage image analysis host, as well as its internal systems, to attain smart building management.

The platform provided by Delta's smart security solution, SmartPASS, is able to link up real-time images gathered from monitoring cameras in various regions, achieve global administration, access management, industrial safety monitoring, etc. It can also couple with security application software such as facial recognition and license plate recognition, to integrate the enterprise attendance system, conference room management system, etc. Among them, Delta's car park management solution provides license plate recognition range that is higher than industrial average standard, increasing the flexibility of field installation and the convenience of installation. Through continuous learning, it also increases detection rate and accuracy.

Through "centralized management, distributed control", Delta's SmartPASS platform analyzes the regions' network cameras and links up equipment real-time, which reduces manpower management cost and security vulnerabilities. The big data analysis of the images can make use of machine learning to enable smart security to be closer to users' actual application.

For more information, visit [Delta's SmartPASS](#)



Extreme small 65W power supply adapter for medical and industrial applications

PRODUCT

### Extreme small 65W power supply adapter for medical and industrial applications

Text by Delta Electronics (Thailand)

Delta has added the new 65W output to MEA Series of Medical AC-DC desktop type adapter. MEA-065A offers four single output voltages of 12V, 15V, 19V and 24V in an extremely compact size 50 x 115 x 29 mm (1.97" x 4.52" x 1.14") suitable for various types of portable equipment such as home health care equipment, test and measurement equipment. Key features include 0.1mA low earth leakage and electric shock protection complying with 2 x MOPP.

The MEA-065A has both medical and ITE safety approvals including IEC 60950-1 / IEC 62368-1, CCC approval and EMC standards according to EN 55011 / EN 55032 for radio-frequency equipment. The design meets DoE Level VI efficiency standards and are fully compliant with RoHS for environmental protection. Risk management report can be provided upon request.

#### Highlights & Features:

- ▶ Extreme compact size
- ▶ Meet Efficiency Level VI
- ▶ Safety Approvals to IEC 60601-1 Ed. 3.1 & IEC 60950-1 / IEC 62368-1
- ▶ Compliant with IEC 60601-1-2 Ed. 4 Requirements
- ▶ Low touch current ( <0.1mA Normal & 0.3mA signal fault )
- ▶ 2 x MOPP isolation



New 75W DIN Rail Power Supply at 27mm wide

PRODUCT

## New 75W DIN Rail Power Supply at 27mm wide

Text by Delta Electronics (Thailand)

Delta introduces the slimmest model in the Lyte series of DIN rail power supply. It is a 75W DIN rail at 27mm wide. It comes with 12V (DRL-12V75W1AZ), 24V (DRL-24V75W1AZ) and 48V (DRL-48V75W1AZ) output voltages, which can easily fit into a space-constrained control panel. Based on a convection-cooled design, the Lyte series operates between -20°C to +70°C, with full power available from -10°C to +50°C at 230Vac. It allows cold start at -30°C even in extreme condition. The overcurrent protection is designed to operate in constant current mode, which makes the product suitable for inductive and capacitive load applications.

The 75W Lyte series is certified according to safety standards IEC 60950-1, IEC/EN/UL 62368-1 and IEC 61010-1. In addition, they also meet the EMI approvals to EN 55032 Class B and are fully RoHS compliant for environmental protection.

### Highlights & Features:

- ▶ Universal AC input voltage range
- ▶ Built-in constant current circuit for reactive loads
- ▶ Up to 90% efficiency
- ▶ Full power from -10°C to +50°C @ 230Vac with -30°C Cold Start
- ▶ Compliance to SEMI F47 @ 200Vac
- ▶ NEC Class 2 / Limited Power Source (LPS) certified (DRL-24V75W1AZ & DRL-48V75W1AZ)



## National Museum of Marine Science and Technology maximizes energy savings based on weather forecast

Text by Delta Electronics Foundation

In Taiwan, many tend to shy away from the topic of “energy conservation” as they feel that it is an extremely difficult task. For example, not turning on air-conditioning in the hot summer or increasing its temperature might make one very uncomfortable.



Striking a balance between the comfort of the human body and energy-saving puts one in a dilemma. However, it does not mean that turning off air-conditioning is the only way to conserve energy. Sometimes, simply adjusting the operation of these energy consuming equipment can also produce some effect, and the National Museum of Marine Science and Technology (NMMST) is a good example of what could be done.

NMMST is located in Keelung's Badouzi, close to the sea and has a climatic condition that brings plenty of rainfall. In fact, this factor poses a big challenge to NMMST in terms of energy-saving as it has to turn on the air-conditioning both during good weather due to the high temperature, and during bad weather due to nearby fog and high humidity. Hence, the museum's electricity bills for the entire year can hit an astonishing NT\$24 million.

In the past, the museum mainly relied on replacing old equipment to save energy. However, in the long run, if the operation model of energy consuming equipment remains unchanged, it is difficult to reduce further energy consumption. Hence, last year, Delta Foundation suggested to NMMST to adjust the time for turning on the water chiller by referring to microclimate data, so as to achieve energy savings. The museum then started to refer to Badouzi Weather Station's climate data and turned on the water chiller at an earlier time of 7 am during summer to cool the museum in advance. This will not only make visitors feel comfortable after they enter the museum, the full operation of the water chiller during the peak demand time at noon to reduce temperature is not required too. Electricity consumption during the peak period reduced significantly by 10%, and the excess capacity charge also decreased by 20%!

Coincidentally, the month during which the water chiller was replaced also saw the highest number of visitors to NMMST since its establishment. However, during the entire month, there were no complaints from the visitors about the air-conditioning not being cold. In addition, as 7 am is an off-peak period, the rate of electricity was lower, and less excess penalties were incurred, which made the overall electricity bills and consumption decreased by 11% and 5% respectively.

Similarly, during spring and autumn, NMMST adjusts the operation of the water chiller based on climate data. As it is cooler during this period, the decision is not about turning on the air-conditioning in advance, but the choice of chiller in terms of tons of chiller capacity. The museum has long been using an energy-intensive 500 tons chiller. After examining climate data, they realized that a 200 ton chiller is sufficient to achieve cooling effect during autumn. With these adjustments, both electricity consumption and bills can be reduced by 30%!

From this example, we can see that electricity consumption and carbon emission can be reduced just by following to the weather forecast closely, thereby saving the cost for the museum. Most importantly, NMMST does not trade off indoor comfort to yield energy savings during peak periods. On the contrary, it even improves the comfort of visitors.



The existing mini weather station outside NMMST captures microclimate data of the building's surrounding at all times



Sales of electric vehicles have slipped this year, but in the long run, a rebound is still expected

## Sales of electric vehicles still remain undimmed although currently impacted by pandemic

Text by Delta Electronics Foundation

Bloomberg New Energy Finance Media (BNEF) recently released its Electric Vehicle Outlook 2020. As impacted by Covid-19, global passenger car sales are expected to plummet by an unprecedented 23% this year, while sales of electric vehicles are also expected to fall by 18%. The short-term decline, however, does not result in detract from the future trend of continuous growth of electric vehicles. Why?



Attack of Covid-19 hits sales of electric vehicles with shorter-term pain for long-term gain

Checking the current sales of global electric vehicles, there are over 7 million electric passenger cars and 500,000 electric buses, nearly 400,000 electric delivery vans and trucks and 184 million electric motorcycles, most of which have grown “explosively” over the recent years. Due to outbreak of pandemic, sales of electric vehicles saw a double-digit decline this year. Nevertheless, the backlog of orders, presentations of new model vehicles and support from Europe and Chinese government will always make sales of electric vehicles better than those of fossil fuel vehicles.

Figure 1: Global short-term EV share of new passenger vehicle sales by region

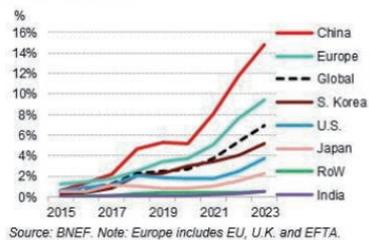
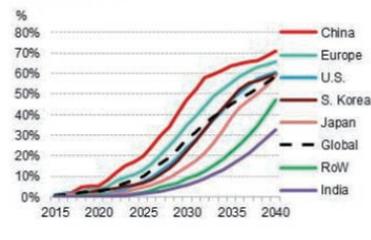


Figure 2: Global long-term EV share of new passenger vehicle sales by region



Annual sales of electric passenger cars will continue to grow around the world

As analyzed in the Bloomberg report, by the middle of the year, prices of electric vehicles and conventional fossil fuel vehicles will come to the same level in most markets, and sales of electric vehicles is very likely to triple in three years (2023). Currently, about 13 countries and 31 cities or regions have announced the goal of phasing out fossil fuel trucks. With the policy support, annual sales of electric passenger cars can be expected to surge to 58% by 2040.

With reduction of fossil fuel use, electric vehicles turn out to be the low-carbon choice for consumers

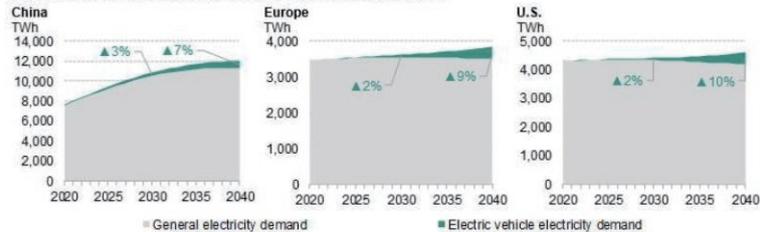
The Covid-19 has seriously punched fossil fuel consumption of passenger cars, making the demand hard to return to last year’s level. As such, the current use of electric vehicles has reduced about 1% of fossil fuel consumption and carbon emissions. When it comes to 2040, electric vehicles are expected to reduce the demand for 18 million barrels of crude oil!

Electric vehicles can reduce oil combustion, but they can also increase electricity consumption. As estimated by the report, the global electric passenger cars will consume 1,290 TWh in 2040.

Together with other electric vehicles, such as electric commercial vehicles, buses and two-wheelers, the total global electricity demand will merely increase by 5.2%.

The report’s analysis covers the data of shared transport, electric vehicle batteries and power charging stations. According to current ends, shared miles will account for 16% of the total driving mileage in 2040 (it was only 5% last year). By having gradually introduced new battery chemistry and manufacturing technology on equipment over the years, the battery pack price will be likely to reduce to a milestone of less than US\$100 per kilowatt-hour in four years (2024). Most importantly, while nearly a million public charging stations have been installed worldwide, 290 million charging stations will still be needed throughout the world by 2040 to support the growing number of electric vehicles. Hence, when promoting electric vehicles, the government shall also reinforce relevant infrastructures, so as to reduce the plight of “mileage anxiety”.

Figure 19: Electricity demand outlook for selected regions by segment



Source: BNEF. Note: See respective section for details. Percentages refer to the increases in electricity demand caused by EVs in 2030 and 2040.

Electric vehicles only cause a slight increase in global electricity demand

