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A decade has passed since Delta launched its "Brand inauguration" in 2010. How time flies! In the past decade, we have successfully transformed from a component supplier to a provider of system integration solutions with a persistent commitment to innovation and energy efficiency. Even more impressive is Delta's agile response to the challenges arising from the epidemic by investing more in digital marketing, community management and integrating online and offline platforms to strengthen brand communication. We are proud to announce the tenth successive selection as Best Taiwan Global Brand. Delta's brand value has increased remarkably over eight consecutive years with an 11% growth from 2019 to 2020, reaching US\$331 million. We'd like to share this glorious achievement with all the colleagues whose endeavor made it happen.

In line with Delta's global brand deployment, the reorganized Delta Greentech has established the "Strategic Marketing Department?" which combines former Marketing Communication Department, Service Hotline Center, and Sales Admin Department. In this issue's "Brand People", Ms. Vivien Feng, marketing director of Delta Greentech, shares how she unleashed brand synergy by utilizing her marketing capability of the three units, and her insight and experience in Delta over the years.

We have introduced the highly valued smart WELL buildings in the previous issues. Now, it's time for you to have a real-life experience by simply paying a visit to the Taipei headquarters! A "people-oriented" smart and healthy space integrating a Digital Management Center, U-Office, WELL-Office, Standard Meeting Rooms, Relaxation Area, and Mobile Meeting Rooms has been realized on the 2nd floor by BABG. There are more smart and considerate designs in this issue's Special Report. Please don't miss out!

Amid the increasing competition to accelerate digital transformation to Industry 4.0, Delta enters the alliance led by the Singapore Polytechnic to jointly build Singapore's advanced manufacturing ecosystem. To help enterprises transform flexibly and enter the brand-new world of smart manufacturing, "IoT Smart Solutions" reveal how Delta Research Institute support the digitalization of smart manufacturing by offering AI, edge and cloud computing for effective data analysis, and virtually and physically integrated security solutions for man-machine systems etc.

Have you ever observed coral reefs at close range? We sincerely invite you to work with Delta Foundation volunteers, to restore the endangered coral reefs from the marine environment devastated by climate change. Our volunteers contributed their effort to categorize corals, study the habitat environment and plant corals to inspire more people being aware of carbon reduction. Stay tuned with "Delta Green Life" for more wonderful contents.

Brand Management Office



Delta headquarter in Taipei launches brand new Smart WELL office

Delta headquarter in Taipei launches brand new smart & healthy office space

Building automation realizing human-oriented WELL buildings

Text by BABG

Delta's Smart WELL Office is finally here! The interior, designed by the well-known JJP Architects & Planners, is based on the concepts of energy efficiency, smart technology, and health. With its business philosophies incorporated in the physical space, Delta has created a futuristic office building characteristic of the WELL Building Standard.



A smart & healthy space that is human-oriented

Delta has accumulated its rich experience in green building by constructing 27 green buildings, including Delta's offices and plants, buildings donated to academic institutions, and two LEED-certified green data centers. Recently, Delta has taken the lead in combining building automation solutions and technologies in accordance with the latest WELL Building Standard. By incorporating "human-oriented" architectural concepts into its energy-efficient green building design and focusing on health and comfort, Delta has created a convenient, intuitive office space in response to the physical and spiritual needs of users.

Delta's Smart WELL Office was officially completed in November, 2020. It is located on the second floor of Delta headquarters—the LEED-certified Ruiguang Building. Overcoming the limitations of the formerly unused space, the design transforms the entire layout by dividing it into six major areas: Digital Management Center, U-Office, Standard Meeting Rooms, WELL-Office, Relaxation Area, and Mobile Meeting Rooms. According to the different needs of each area, a corresponding automation management and control solution is provided. Not only is the goal of a smart, energy-efficient, and safe working environment achieved, but the wholesome concept of "a human-oriented office" is also instilled in this Delta green building.



The floor plan of the second floor of Delta headquarters



Automatic environmental control creates a human-oriented healthy working space

As Delta's first shared space, the project has kept its employees' well-being in mind while prioritizing air quality. The whole space is equipped with UNOnext Indoor Air Quality Monitors to continuously monitor the levels of CO₂, PM_{2.5}/PM₁₀, formaldehyde, TVOCs, and ozone, so that employee health is protected. When the levels are too high, the energy recovery ventilator (ERV) is activated to bring in filtered clean air. Meanwhile, the human-centered indoor lighting design in particular attends to the needs of employees returning from abroad. The WELL-Office adopts designer-grade lighting brand Amerlux's Linea series. While the interior aesthetics is enhanced, the gentle, evenly emanating natural lighting, combined with L-DALI lighting controllers, can achieve circadian lighting, which mimics the diurnal variation of solar color temperatures to reduce jet lag and enhance work efficiency.



The open working zone at the shared office has motorized curtains and constant lighting control installed to provide users with comfort and achieve energy efficiency



UNOnext Indoor Air Quality Monitor detects CO₂, PM_{2.5} and PM₁₀ levels, and the connected ventilation system is activated to maintain air quality



The vast area of floor to ceiling windows makes full use of natural lighting to achieve constant lighting control. As luminance is measured in real time, the electric window shades and brightness of the lights are automatically adjusted. Either the areas near the windows or those away from the windows can maintain a light intensity of 600 Lux in accordance with the CNS standards for offices to reduce eye strain due to drastic changes in light. The corridors are also equipped with an automatic light intensity adjustment system that detects human motions, realizing both comfort and energy efficiency.



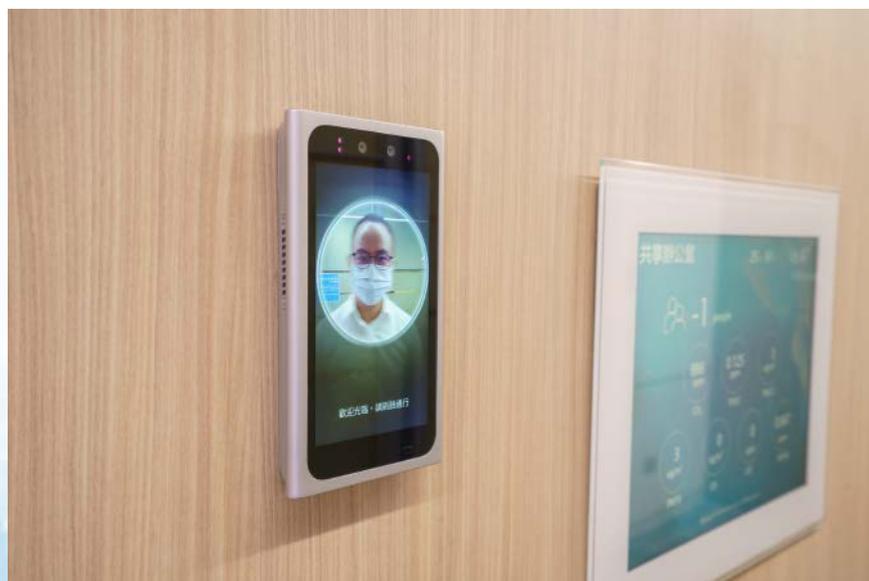
Energy-saving and smart control technologies lead to efficient meetings

Apart from the work space, the standard meeting rooms cater to users' needs to enhance both work and energy efficiency. The elegant L-VIS glass touch panels are installed in every meeting room. IoT is used to integrate relevant equipment with multiple scenario modes. With only one touch, the room application scenario can be easily set up to enhance the smoothness of a meeting. The O3-HUB, combining multiple sensors into one sensor hub, is installed on the ceiling and interacts with users with sounds and lighting feedback, which enhances the user experience. It can also automatically turn off all the devices in the room by precisely detecting when the room is not in use based on infrared light and sound detection, so as to reduce unnecessary energy consumption.



Spatial design that pays attention to the privacy and safety of employees

At the entrance of the WELL Office, there is a facial recognition access control system, and employees can choose whether or not to be a part of the system. The system also works when the user is wearing a mask. The people-counting cameras can also instantly calculate the number of people in the space to avoid over-crowdedness and help contain the COVID-19 pandemic. In addition, smart lockers with facial recognition support allow employees on business trips to store their luggage while avoiding the trouble of keeping cards or keys. To ensure the safety of working mothers, lactation rooms are equipped with an extra fall detection system that guarantees privacy using mmWave sensors instead of cameras—once an accident is detected, notifications are sent to the infirmary and security guards for immediate assistance.



Access control and locker management with facial recognition technology support can reduce contact in the post-pandemic era



Visualize environmental information to optimize space management

Placed right at the entrance of Delta's Smart WELL Office, an information wall gives users an overview of the real-time information on energy management, the levels of comfort/health, space utilization, and more. The administrator of the space can also keep track of the operational status and energy use of equipment in each area.



The shared meeting rooms provide ready-to-use meeting space, in which the system can analyze the usage rate and energy consumption as a reference for future space planning

In line with the latest shared-office trends, employees must register for using the three meeting rooms and mobile meeting rooms of U-Office next to the information wall. To avoid rooms being left unused after registration, individual power meters and motion detectors are installed to automatically analyze the space utilization rate and energy use. This not only facilitates the management of the rooms, but also reduces energy consumption. It also serves as a reference for future space re-planning.

The implementation of this project again demonstrates that Delta's Building Automation Solution is not only about intelligence or technology, but also about human needs such as health, safety, and sustainability. The quality work space was created to optimize both the health and productivity of employees.



Interview with head of Delta Greentech strategic marketing management - Ms. Vivien Feng

Create market-oriented operation excellence in marketing planning and strategic marketing

Interview with head of Delta Greentech strategic marketing management - Ms. Vivien Feng

Text by Delta Greentech

Delta Greentech established its Strategic Marketing Office, including a Marketing Communication Department, Service Hotline Center and Sales Admin Department, on July 7, 2020. Mr. Yi-Zhong Tan, the general manager of Delta Greentech, noted that the strategic marketing office must understand the development of market orientation and business operations, integrate internal resources and maximize brand impact. Ms. Vivien Feng, the former marketing director of the enterprise marketing office, is responsible for leading and integrating the aforesaid three units. She said, "2020 has been full of challenges not only for me but for our entire team. With the brand-new market positioning set out by general manager Tan, I have to rapidly adjust and maximize the power of the team. We have quickly adapted our strategies and developed online communication tools to meet the challenges of the pandemic."



Pandemic Accelerates Establishing Digital Platform



Confronted with the pandemic, marketing colleagues are on high alert, preparing for upcoming challenges

"Due to changing daily habits, digital media is drawing a lot of traffic. Establishing a digital marketing platform has been a key effort at Delta Greentech in recent years". Vivien indicated that due to the pandemic, Delta Greentech has introduced the Zoom platform for online training of channel distributors. "Live stream" online training is conducted to promote IA products, and each webinar has achieved almost 2,000 views. The MCIS online channel conference is also gaining in popularity. Working with the Delta Research Institute, Delta's "Cloud Classroom" was set up on its official website, with the number of courses topping more than 400. Delta's industrial products channel on Alibaba is also opening, which will include live streaming, training courses and online shopping.



Enhancing system efficiency for a more considerate hotline service

The marketing team introduced an online customer service that records all calls and analyzes data to adjust labor deployment and relevant evaluation standards to further increase the call answer rate. The online platform can connect cell phones, so remote colleagues can also receive calls and deal with enquiries during the pandemic. With the progress achieved at the hotline end, the online platform further extended its services to offer FAE technical Q&A and has become a follow-up window for business opportunities. The platform records the customer response rates of Delta's respective units. The recordings are used to optimize responses and raise overall customer satisfaction for better customer call experience.

Vivien said, "Users can give their feedback and requirements through the hotline service, official website and WeChat which can be connected with the hotline platform. We hope the hotline platform can connect with Delta's CRM system as soon as possible to create an integrated system which combines customer service, marketing and sales, and supports repeat purchases."



Enhanced efficiency through the system offers more considerate hotline services



Improving the cross-unit process so the system serves business needs

Delta Greentech is a comprehensive business platform. Products, solutions and services of different business units vary in terms of types of organizations, business models and targeted customers. The comprehensive planning office serves the purpose of integrating the requirements set out by respective business divisions and realizing systematic management by using a unified platform.

"Now, the key task is to re-examine, integrate and simplify all the forms and processes used in the past. As of 2020, we will also re-sort all of the CRM development processes with the CRM team so supervisors can better manage processes". Vivien further stressed, "By ensuring processes are maximally streamlined, a comprehensive plan supports the business development mission. As a planning division, we need a real understanding of the market and a clearer idea of the business operating model before designing an effective system that meets every business need."



Group picture of colleagues in the comprehensive planning office



Localizing projects for smoother internal communication with Delta's business divisions

"We are glad to work jointly with Corporate and BU/BGs on project localization. This helps deepen collaboration across different regions and divisions and the cooperation raises our business professionalism." Vivien used the promotion of the 3D product management system as an example:

"3D" represents three dimensions of product management: product lifecycle, product vitality and product portfolio. Among these, product lifecycle covers the whole process from product concept formation, design and R&D, manufacturing and product realization, market launch and promotion, to post-sales service and product elimination. The front-end market report has to be included in the early stage of product planning. Product specifications should be developed through systematic market analysis. Product lifecycle management can be carried out with the help of IT tools as well. "As a marketing division, we are deeply aware of the importance of the GTM (Go to Market) strategy. Thus, we cooperate with the divisions of HR, DGC-IA, IABG Marcom and SMD. When introducing 3D, we demonstrate the entire process to colleagues of DGC-IA and draw up a suitable GTM strategy. At the market launch and promotion stage, we help them carry out prior planning and post evaluation. By doing so, we effectively increase the business division's product marketing capacity and achieve precision marketing for the new product launch. This allows us to deliver more accurate assessment results and continue to achieve true optimization."

"After developing customer service and comprehensive planning, I had the opportunity to deal with businesses, directly communicate with customers, set up optimal strategies based on many years of accumulated experience, and create market-oriented operation excellence. Many thanks to members of my team for always keeping their enthusiasm for learning, their willingness to take on new tasks and challenges, and continuing to enhance their personal growth in an ever-changing marketing environment." When talking about her marketing team, Vivien's face was full of confidence.

Vivien shared her story and work experience at Delta. "Delta is a family with opportunities everywhere. You are always gaining experience in marketing and business operations from interaction with other divisions and supervisors. At the same time, Delta has a culture of innovation. As long as you have a good idea, you can always count on support to try it. That is why I have had so many unforgettable first-time experiences that have helped me achieve personal breakthroughs year after year."



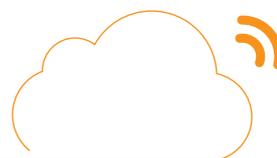
Delta's smart manufacturing solutions support Singapore's First-of-its-Kind Advanced Manufacturing Ecosystem

Delta's smart manufacturing solutions support Singapore's First-of-its-Kind Advanced Manufacturing Ecosystem

Text by DRC

As the Industry 4.0 Transformation is gathering speed around the globe, Delta has joined the 15-partner consortium led by Singapore Polytechnic to provide end-to-end solutions package that will empower Small Medium Enterprises, Local Large Enterprises and Multi-National Corporations in the local manufacturing sector to accelerate their adoption of I4.0 technologies and upskill their workforce.

On October 14th Delta signed an MOU with Singapore Polytechnic (SP), German global testing, inspection, certification and training company TÜV SÜD, and Singapore's Smart i4.0 Transformation Alliance (SiTA). Delta and SiTA will supply Smart Manufacturing solutions while TUV SUD will provide assessments. SP will conduct the relevant workforce upskilling programmes.





Joint Efforts to facilitate I4.0 Progress

With the support from Enterprise Singapore, these four partners have developed a unique one-day Advanced Manufacturing Learning Journey (AMLJ) programme. Through the AMLJ, business leaders will have the opportunity to visit SP's facilities such as Advanced Manufacturing Centre as well as the manufacturing facilities of the ecosystem collaborators to gain first-hand experience on applying i4.0 technologies to plants, equipment and systems so as to improve production productivity.

Delta Chief Technology Officer Thomas Li said, "In Singapore, we have been actively participating in Enterprise Singapore and SkillsFuture's program to support Industry 4.0 enhancement initiatives. By the design of AMLJ, each and every participating in the learning journey can see, touch and feel not only the technical ingredients, but also learn how to apply the solution to real scenarios. We believe, through collaboration, we can all advance further into the new world of smart manufacturing."

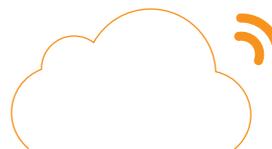


Delta signed MOU with partners in Singapore to jointly build the Advanced Manufacturing Learning Journey in Singapore Polytechnic, sharing knowledge and expertise with business leaders



Solutions to Enhance Flexibility in Transformation

Delta will focus on digitisation and intelligence solutions for smart manufacturing, including AI, edge and cloud computing for effective analytics, and interconnected cyber-physical security across man, machine and system.





IoT SMART SOLUTIONS

For instance, the Auto Defect Classification(ADC) solution is to tackle the challenge of high overkill rate which is often seen in some existing Auto Optical Inspection(AOI) practices. By leveraging Deep Learning to optimize the AOI performance, Delta Research Center's ADC solution can lower the overkill rate and the double check-up needs by labor. Based on the implementation result in Delta's factory, the accuracy rate is higher than 99.7% with zero defect leakage while the error rate is less than 0.3%.

Meanwhile, the Predicative Maintenance Solution applies AI in analysing data from product line machines. It enables the real-time monitoring of machines and predicts when the machine needs maintenance. It frees factories from the traditional routine of scheduled maintenance and enhance the flexibility of companies. Hence the maintenance cost can be further saved. As seen in the case of Delta's factory, the solution can achieve 95% and above in terms of anomaly detection accuracy.



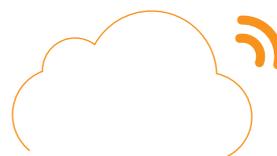
Delta demonstrated the Auto Defect Classification Solution. It can automatically detect and classify what type of defect it is to support production process



Also demoed in the Advanced Manufacturing Learning Journey is the Transformable Intelligent Machine developed by Delta Research Center. It enhances flexibility of machine through intelligent, modular and standardized approaches

Through these solutions deployed in SP's Advanced Manufacturing Center, visitors attending the learning journey will be able to discover how their existing equipment, processes and systems can be converted to be I4.0 ready with minimal resources and disruptions to current operations.

In addition to AMLJ, Delta also joins the Global Technology Innovation Village (GTiV) platform that is led by Asian Development Bank (ADB) and SP. Together with 19 organizations including SkillsFuture Singapore and JTC, Delta will share knowledge and expertise in advanced manufacturing with regional government and business leaders at GTiV site in SP campus.





Mr. Bruce Cheng, founder of Delta Electronics, Inc. was awarded honorary doctorate degree by NTU

Text by Corp. comm

"The collaborative effort made by all the colleagues and partners was definitely the cause that earned us public recognition and identification from the society," Mr. Bruce Cheng, founder of Delta, expressed his gratitude at the honorary doctorate degree awarding ceremony held at NTU on November 15.

Among all the industry-academia cooperation projects between Delta and NTU, Mr. Cheng recounted the solar and electric vehicles developed by Delta foundation and NTU's Department of Mechanical Engineering in which excellent talents were recruited by Delta, paving Delta's technological foundation in the fields of renewable energy and electric vehicles. In addition, the "Green Capitalism" course was jointly organized in 2006 by Delta and NTU's College of Management in which Dr. Amory Lovins, former U.S. president Clinton's consultant on energy, and his technology team were invited to deliver lectures. Other on-going projects also include a wide variety of fields, such as smart manufacturing, deep learning algorithms, motor design for industrial automation, electric vehicle power systems and test platforms, as well as optical & medical lab equipment etc.



Bruce Cheng, founder of Delta, received honorary doctorate degree from Mr. Zhong-min Guan, president of NTU

Delta recognized as a Best Taiwan Global Brand for the 10th consecutive year

Text by BMO

Delta has been honored as one of Taiwan's top 25 global brands in the prominent Best Taiwan Global Brands survey for the tenth consecutive year. Delta's brand value reached USD 331 million in 2020, a surge of 11% year-on-year. Delta's brand value has increased for 8 consecutive years.

Ms. Shan Shan Guo, Delta's chief brand officer, said, "2020 is the tenth anniversary of Delta's brand inauguration. Over that period of time, our endeavors have focused on realizing Delta's brand promise of 'Smarter. Greener. Together.' and on fostering corporate social responsibility. We are truly honored to have received this prestigious external recognition over these ten years in which our brand has grown steadily while Delta has evolved from a components manufacturer into a provider of IoT-based smart energy-saving solutions. This year has been enormously challenging, especially due to COVID-19. But Delta quickly mobilized various online communication channels, such as digital marketing and social media, to offset the impact of restricted physical activities. During the pandemic, a new lifestyle boosts our demand for digital services and online communication that requires extra ICT infrastructure and datacenters. Healthy living and working spaces are also paramount. Delta will endeavor to continue providing state-of-the-art solutions for eco-friendly data centers, 5G communications, smart and healthy buildings and clean energy, to fulfill society's needs in the pandemic and post-pandemic era."



Delta has been honored as one of Taiwan's top 25 global brands in the prominent Best Taiwan Global Brands survey for the tenth consecutive year, Ms. Shan Shan Guo, Delta's chief brand officer, accepted the award on behalf of the company



Delta sweeps the board by bringing home 10 awards at 2020 TCSA and GCSA

Text by Corp. comm



Delta's CSR team poses for a photo with the HR teams at the ceremony

Delta won a total of 10 awards in 2020 TCSA (Taiwan Corporate Sustainability Award) and GCSA (Global Corporate Sustainability Award), including 9 awards in the category of corporate comprehensive performance - Top 10 Domestic Companies Sustainability Model Awards (Manufacturing Industry), and the GCSA 'Sustainability Reporting' Award. In addition to recognizing its greater emphasis on the practical aspect of corporate sustainability, information transparency and effective communication and data intelligibility, the jury panel also had a high opinion of Delta's introduction of Task Force on Climate-related Financial Disclosures (TCFD) framework, the exclusive method for the development and application of the framework, as well as cultivation of new generation of talents.

Mr. Jesse Zhou, Delta's sustainability director, stated that Delta aligns its business development with the strategic goal of CSR which is based on the corporate mission of "To provide innovative, clean, and energy-efficient solutions for a better tomorrow." In addition to continuously improving product energy efficiency, developing energy-saving solutions and promoting green buildings, Delta has also set a science-based target (SBT) to reduce CO2 concentration by 56.6% in 2017, and has increased the proportion of renewable energy use to 44.1%. The expected stage goal of reducing CO2 concentration by 29% has also been achieved in 2019. Furthermore, Delta has also promoted its experience globally to be in line with the UN's Sustainable Development Goals (SDGs), and has been responding actively to international initiatives.

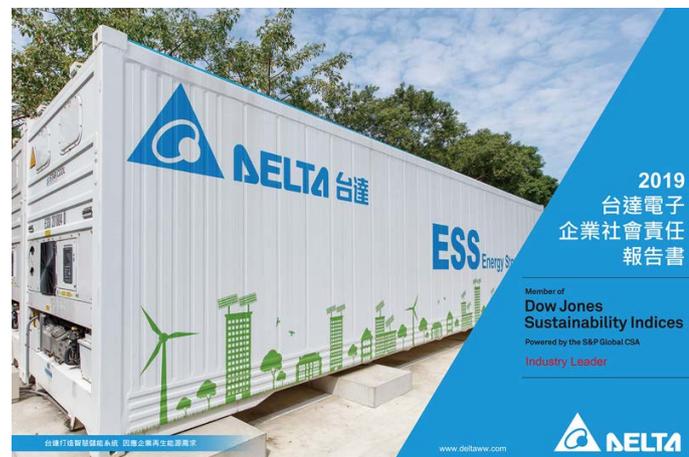
Delta selected for DJSI World for the Tenth Year in a Row Named industry leader

Text by Corp. comm

Delta has been selected for several of the 2020 Dow Jones Sustainability Indices (DJSI). Delta was named to DJSI World for the tenth consecutive year, as well as industry leader in electronic equipment, instruments, and components for the fifth time in three consecutive years, and also selected for the DJSI Emerging Markets for the eighth consecutive year. In 2020, Delta continues to be highly competitive in the DJSI's evaluations of the world's leading companies.

Mr. Jesse Chou, Chief Sustainability Officer of Delta, said that Delta actively implements its corporate mission: "To provide innovative, clean, and energy-efficient solutions for a better tomorrow." Delta invests around 8% of its total revenue every year in innovative research and development (R&D), continues to develop more eco-friendly products and solutions based on the core technology of power electronics, and strives to conserve energy and reduce carbon emissions.

Delta's various efforts have received high recognition by the outside world. In the latest DJSI evaluation, Delta obtained the highest scores for seven items in the global electronic equipment industry, including four full scores in "Innovation Management," "Environmental Reports," "Social Reports," and "Climate Strategy" as well as the highest scores in "Code of Conduct," "Product Responsibility," and "Human Rights Management."



Delta was named to DJSI World for the tenth consecutive year, as well as industry leader in electronic equipment, instruments, and components for the fifth time in three consecutive years



Delta-NTHU research center inaugurated for joint research and talent development

Text by IABG MKT Dept.

Delta and National Tsing Hua University (NTHU) have announced the inauguration of the Delta-NTHU Research Center. This research center will serve as the headquarters for industry-academia cooperation between Delta and NTHU.

Mr. Yancey Hai, chairman of Delta Group, indicated that Delta plans to invest around NT\$50 million within the next five years on the development of advanced smart manufacturing technologies. The new research center will foster cooperation between the two parties through joint development projects and talent cultivation. The joint development projects will focus on new technologies and speeding up the R&D process, and participating professors and students will have the opportunity to learn about the most up-to-date products and industry trends. If students join Delta after graduation, they will also get on track more easily and quickly.



(From left to right) Research Center Director Jang-Ping Sheu, NTHU Vice President Sinn-Wen Chen, Delta Chairman Yancey Hai, and Delta IABG GM Andy Liu inaugurated the Delta-NTHU Research Center

Delta and SCG chemicals sign MOU to collaborate in innovative industrial solutions

Text by Delta Electronics (Thailand)

SCG Chemicals and Delta Electronics (Thailand) signed the MOU to explore possibilities for joint business collaboration in innovative industrial solutions for integrating hardware and advanced analytical software. Representatives from both companies signed the MOU at the Delta Thailand head office in Bangpoo Industrial Estate. Mr. Tanawong Areeratchakul, President of Chemicals Business and Mr. Charoenchai Prathuangsuksri, Managing Director of Rayong Engineering and Plant Service Co., Ltd. signed on behalf of SCG Chemicals and Mr. Jackie Chang, Delta Thailand President, and Mr. Curtis Ku, Delta's Regional Business Director, signed on behalf of Delta Thailand. Mr. Roongrote Rangsiyopash, SCG President and CEO, witnessed the signing.

Speaking on the occasion, Mr. Roongrote Rangsiyopash, SCG President and CEO, said, "I am delighted to witness the formalized and deepened collaboration between Delta Thailand and SCG Chemicals. With this collaboration, I believe they will significantly contribute to the advancement of industrial practices and I look forward to seeing future business partnerships together."

Mr. Jackie Chang, Delta Thailand President, said, "We are excited to sign this milestone agreement with industry leader SCG Chemicals as the first step towards creating a more advanced industrial sector in Thailand and the region. This is only the beginning of greater cooperation to facilitate SCG Chemicals as we support their implementation of more energy-efficient and automated operations."



Delta Electronics (Thailand) and SCG Chemicals Co., Ltd., signed an MOU for joint business collaboration in the development of innovative industrial solutions



Delta and Brandenburgische Technische Universität worked jointly for smart grid of eMobility

Text by EMEA Marketing



Brandenburgische Technische Universität and Delta pave the way for a future Smart Grid for eMobility

Delta, a global leader in power and thermal management solutions, today announced it is collaborating with Brandenburgische Technische Universität on an on-site proof-of-concept designed to test the feasibility of enabling a smart grid capable of balancing the power demand/supply between grid operators and electric vehicle (EV) owners. Delta's EV charging infrastructure solutions, which include six 150kW Ultra Fast EV chargers and three vehicle-to-grid (V2G) bi-directional EV chargers, provide the foundation technology required for a viable end-to-end power management system that tightly couples the EV's storage to a realistic simulation of the main electricity grid on the distribution network operator (DNO) level.

Prof. Dr.-Ing. Harald Schwarz from Brandenburgische Technische Universität stated, "We appointed Delta Electronics as an industry partner for this collaboration because of its diverse range of hardware and software EV charging solutions plus its ability to manage a project of this nature to a very high standard. Our choice has been more than justified."

Vincent Lin, senior director of e-Mobility & Smart Energy Solutions business development, Delta EMEA, added, "Delta is proud to have been selected for this project by Brandenburgische Technische Universität. It is an honour to help lead such an important and innovative development and one which will help move the world to a more productive use of renewable power supplies."

Delta again awarded the Energy-efficient Streetlight PFI project from New Taipei City

Text by BABG

Delta, after being awarded the energy-efficient streetlight replacement and maintenance private finance initiative (PFI) project in northern New Taipei City in 2014, has again been awarded the 10-year phase two project in the same districts, which has commenced in October this year. More than 110K units of streetlights will be replaced, which is expected to save approximately NTD150 million in electricity expenditure within ten years. In the project, 8,500 units of streetlights will be upgraded with network connecting functions, and some have smart pole designs that can be expanded to allow multiple applications, establishing sound infrastructure for the development of a smart city.

Mr. Bill Lo, General Manager of Delta's Building Automation Business Group, said "we're very pleased that after completing six years of service in the previous phase, Delta's product quality and project management capabilities have been recognized, and that we can once again provide our service to the New Taipei City Government and its citizens for the next ten years. With the integration of IoT devices and ICT, these streetlights are able to provide many innovative value-added services other than illumination, such as surveillance cameras, charging piles, micro-weather stations, signs, and interactive touch screens, allowing streetlights to become important nodes for data transmission and reception in the smart city. We believe that our LED Smart Streetlight Solutions can lay the good foundations for building a smart city."



Photo taken at Huangqing Road, Jinshan Dist



Delta's robotic screw locking workstation optimizes multilayer PCB manufacturing

Text by IABG

Delta recently introduced its articulated robots and machine vision systems to a PCB plant in China for multilayer PCB screw locking. The multilayer PCB production requires labor-intensive screw locking to inspection, taking long working hours and resulting in low quality with frequent errors. Delta implemented its Articulated Robot DRV90L to the production for screw locking. The dual screw locking workstation features manual and robotic work, lowering the error rate. It enhances the workflow and improves PCB manufacturing productivity.

Delta's Articulated Robot DRV90L can be combined with multiple feeding units, quick changing units for lenses, and a servo screwdriver for real-time torque monitoring. During the process, the feeding units automatically elevate and feed the materials. The Machine Vision System DMV2000 Series identifies materials and screw locking points with auto calibration, then transmits the info to the Compact Modular Mid-range PLC AS Series for quick positioning. The AS Series commands the Articulated Robot DRV90L to execute stable and quick pick-and-place and screw locking.



Delta implemented the Articulated Robot DRV90L and a machine vision system to the production line of multilayer PCBs for precise and high-speed screw locking

Saving cost for frozen food with Delta's energy saving solution

Text by IABG

Delta recently introduced a smart energy saving solution for a food manufacturer in China. The client features an automated quick-freezing production line and high standard plants. However, there is only one general power meter and a few 2nd level power meters, making it difficult to perform a detailed analysis of the electricity bills. In the beginning, Delta installed its Multifunction Power Meter DPM Series to monitor the energy consumption data of the equipment in real-time and set up a complete energy management system. It transmitted the collected data to the DIAEnergie Industrial Energy Management System via the PLC and Ethernet for auto recording, and uploaded to the DIAView SCADA System for visualized analysis. The analyzed data can be further used as a basis of an energy saving strategy.

Delta's smart energy saving solution for food manufacturing integrates the equipment, controller and communications in the factory for a complete system. The visualized data analysis offers managers equipment operation and energy consumption information in real-time, ensures operation stability, and system safety. The analyzed data can be used as reference for an energy usage strategy that saves production costs.

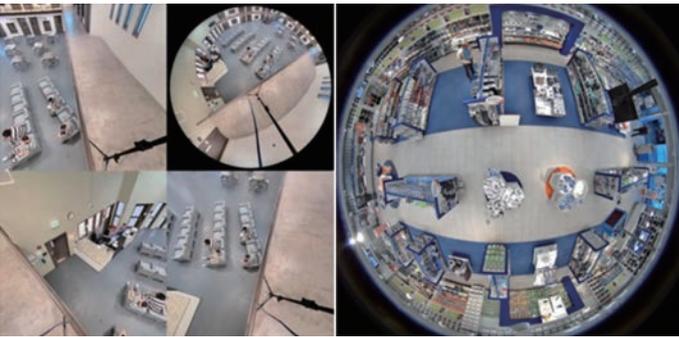


Delta recently implemented a smart energy saving solution for a food manufacturer in China



AIoT video surveillance upgrades medical environmental security protection

Text by BABG



AIoT video surveillance upgrades medical environmental security protection

According to Frost & Sullivan, the IoMT is expected to reach \$72 billion by 2021. The IoMT already plays a vital role in transforming the healthcare industry and will clearly continue to do so. Going beyond traditional surveillance, in the era of IoT IP surveillance systems have implemented Artificial Intelligence (AI) and been transformed by powerful edge-computing devices. VIVOTEK offers a Crowd Control Solution for businesses to maintain maximum occupancy as well as a safer and healthier environment. Its 3D stereo counting camera designed with dual lens provides precise tracking and a counting accuracy up to 98%, making it ideally suited for hospital entrances, operation rooms and restricted areas.

AIoT has transformed network and information technology in Smart Healthcare, but its rapid rise has made it a target for cyber-attacks. There is also an increasing number of cyber-attacks involving healthcare extortion and stolen medical records. Medical professionals are able to access databases and medical records in a very short time, however, such highly connected devices and data increase the need for cybersecurity. Highly attune to such developments, VIVOTEK's network cameras and video recorders are embedded with Trend Micro's anti-intrusion software with multi-layer protection allowing security managers to respond faster to threats and minimize cyber-risks in smart healthcare.

Delta's all-inclusive solutions for smart medical environments improve operation efficiency

Text by BABG

The requirements of medical institutions in different areas vary from one to another. Business operators are primarily focusing on meeting the needs of users in different areas through intelligent control and management while integrating the management of various systems. In post-pandemic times, in particular, people will pay more attention to the health and safety of the overall healthcare environment. In view of this, Delta provides the corresponding automation solutions for the environmental control and safety requirements of different spaces in the healthcare environment. When the building facilities and systems of the medical institute need to be replaced or expanded, Delta's building automation system is equipped with various network protocol support. This can seamlessly integrate various old and new systems and update monitoring systems without interrupting the normal operation of the hospital.

In addition to monitoring the operation of building equipment, Delta Energy Online offers energy monitoring functions that can convert the energy consumption data of a single building or multiple buildings into valuable analytics. This helps hospitals identify major energy consumption points and find the best energy-saving potential options to further implement energy-saving strategies.

To learn more about Delta's solutions for smart medical institutions, please check out Delta's related Building Automation Solutions.



Delta's All-Inclusive solutions for smart medical environments improve operation efficiency



Delta helps a publishing group build a cloud-based smart logistics system

Text by Delta Greentech

Recently, Delta worked with a large publishing group to create a new data center for its cloud-based smart logistics system. The publishing group needed to build a smart distribution system to carry out its digital transformation, in which both the storage and distribution nodes are connected to set up a seamless distribution and logistics network. The storage and transportation resources were efficiently integrated to enable cloud-based smart logistics. The publishing group hope the new data center can meet the demand for the dynamic development and reduce the cost of future expansion and operation.

Delta provides a complete service of design, construction, and smart operation and maintenance. The Dynamic series micro-module datacenter solution enabled tailor-made high reliability, high scalability, stability, and energy efficiency to the data center infrastructure. Users are able to reduce operation and maintenance costs and fully address their needs of business growth over the next 5 to 10 years. After establishment of the publishing group's cloud-based smart logistics system, it is expected to process an annual transaction value of 10 billion yuan, the transaction of 300,000 products per year, a stock on hand of 100,000 products, and the delivery of 8 million packages. In addition to serving the needs of the publishing group's business operation, it can also offer logistics services to other partner companies, in which Delta's data center can also ensure the IT security of the logistics information system.



Delta helped a large publishing group to build a new data center which enabled its cloud-based smart logistics system

Delta's newly dynamic-beyond series micro-module datacenter made its debut

Text by Delta Greentech

Jinghua Zhong, deputy chief engineer of China Electronics Engineering Design Institute (CEEDI) and head of the China data center task group, affirmed the application prospects of Delta's new Dynamic-Beyond series micro-module datacenter. He was pleased to see that a manufacturer like Delta is committed to serving users by providing reliable solutions that can reassure customers, and building a green and high-performance data center that meets the present requirements.

Nan Li, Director of the Division for Key Infrastructure Solutions Products of Delta Greentech, said: "We saw an continuous increase in the demand for micro-module datacenters. Greenness and smartness are the mainstream of datacenter in the future. With steady accumulation of experience, the officially released Dynamic-Beyond Series offer better scalability, better space utilization and energy efficiency performance. Within the precious floor space of the data center, it maximizes net benefits, and increases the ratio of space and equipment utilization where the infrastructure is built."

In contrast to traditional micro-module datacenter solutions, the Dynamic-Beyond series not only enable seamless expansion from one to multiple racks, but its backplane air-conditioning solution can also achieve rapid cooling. Secondly, the distributed power supply makes simple and easy assembly possible, which saves time, enables easy assembly that creates greater flexibility. These differences have given Delta Dynamic-Beyond Series noticeable advantages, namely, server rack cooling, integrated design, and distributed power supply.



Nan Li, Director of the Division for Key Infrastructure Solutions Products of Delta Greentech made the conference speech



Delta Singapore showcases smart and green solutions for factory, building and farm automation at its ITAP 2020 Virtual Event

Text by Delta Singapore & DET

Delta launched an innovative 3D virtual showcase of its smart and green and automation solutions for factory, building and vertical farm operations at the Industrial Transformation ASIA-PACIFIC (ITAP) 2020. The online showcase featured products and solutions which enable industrial automation, building automation, data centers, Electric Vehicle (EV) charging, mobile power, display and projector and vertical farming.

Commenting on Delta Singapore's innovative digital exhibition, Mr. Jackie Chang, President of Delta in Southeast Asia, India and Australia, said, "As an innovative solutions provider, Delta is excited to leverage digital technology to reach our audiences despite COVID-19 challenges. We welcome visitors to explore our new Singapore office on the online platform and see how Delta's automation, data centers, EV charging, mobile power, display and projector and vertical farming will enable more energy efficiency and productivity in the next normal."

Ms. Cecilia Ku, General Manager of Delta Electronics (Singapore), said, "Due to the pandemic, business outlook and behaviors have changed tremendously. Smart automation can enable Singapore businesses to stay competitive in the region. Delta Singapore is looking forward to collaborate with the industries and bring new ideas and solutions to local businesses."

ITAP 2020 was both the first trade event for Delta Singapore to attend since the COVID-19 pandemic and its first launch of a 3D virtual exhibit and tour experience. Visitors could get an exclusive look at Delta Singapore's offerings at a virtual model of the new company building located at 17 Kallang Junction. Visitors to Delta's ITAP 2020 virtual exhibition freely explored Delta's latest solutions including automation solutions, infrastructure and smart living.

Another highlight at the event was the signing of MOU among Singapore Polytechnic, TUV SUD, Delta Electronics Inc. and Singapore's Smart i4.0 Transformation Alliance (SITA) to provide end-to-end Industry 4.0 (I4.0) solutions to small medium enterprises, local large enterprises as well as multinational corporations in the manufacturing cluster.

There was another signing of a MOU among Singapore Polytechnic and the Asian Development Bank for strategic collaboration to jointly establish Singapore's first Global Technology Innovation Village (GTiV). Delta is one of the 19 selected organizations that will support the GTiV which aims to allow more players in the region to step up on I4.0 adoption and push ahead with its business transformation plans. In addition, Delta hosted a series of online training seminars about Delta's industrial automation, building automation, infrastructure and vertical farming solutions. The seminars on building automation and vertical farming received the most positive feedback from attendees.

Visitors can experience Delta virtual showcase at <https://www.deltaonlineshowroom.sg/>.



An interactive experience of Delta Singapore's energy-efficient and innovative portfolio for the smart city



Official trial run of Delta's first CT Café flash lab

Text by EISBG



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

Delta officially launches the "CT Café flash lab" tour. Starting late November, the 20-foot container retrofitted flash lab that is equipped with Delta-made DELab series micron-scale "μCT-100 live small animals CT scanning system", and the "μCT-100X high-resolution desktop CT scanner" will be stationed at Chih-Teh Building of Taipei Veterans General Hospital, the Humanities and Social Sciences Building in Academia Sinica, Yangming University and NTU. Free trial (on-line reservation is required) will be offered to researchers in Life Sciences, Biotechnology, Biomedical Sciences, Agriculture, Geology, Materials Science and other related fields who are interested in micro-CT technology.

Mr. Jian-zhong Zhang, general manager of Delta's energy infrastructure and industrial solutions business group, said that since 2011, Delta has invested in the development of high-tech X-ray power supplies, and further ventured into the development of clinical veterinary, pre-clinical and industrial X-ray imaging equipment in 2015. The

successful development of human medical X-ray power supply, DELPet veterinary X-ray machine, DELInspect industrial non-destructive testing CT detector, and DELab series of micron CT scanners have various patents and have won consecutive recognition with the Taiwan Excellence Gold Award.

The tour will be made at Chih-Teh Building of Taipei Veterans General Hospital, the square in front of the Humanities and Social Sciences Building of Academia Sinica, Boya Center Building of Yangming University and NTU. For more information, please visit our website at <https://www.deltaww.com/event/ctcafe/>

Delta joins Energy Taiwan 2020, shares one-stop energy storage technology and experience

Text by EISBG

In response to the Regulations Governing Large Power Consumers that will be implemented and enforced next year and the resulting demand for helping corporations make smooth renewable energy transition, Delta hosted the Delta Smart Energy Competitiveness Forum at Energy Taiwan 2020 and invited the Industrial Technology Research Institute, Taiwan Electric Research & Testing Center, Taiwan Power Research Institute, and experts with extensive experience in asset utilization planning at international insurance companies to discuss applications and critical technologies of energy storage, as well as the safety verification of large power equipment.

JJ Chang, General Manager of EISBG, stated that after the government's policy on large power consumers are implemented, with vast experience in the development of energy technology and its international participation in green energy transformation, Delta could help large power consumers to discern problems of implementing the policies through online and physical events, and marketing communication. When considering the key technologies of energy storage, companies can explore the versatile energy control applications of the integration of battery cells, battery systems, and energy storage systems through four major aspects: "energy regulation," "energy management," "power conversion," and "battery management." Delta has an internal "Battery Quality Engineering Laboratory" that can perform battery system verification, and continuity and reliability testing. It also assists customers in battery life prediction and calculation by using databases and simulation tools for determining optimal configurations.



Delta joins Energy Taiwan 2020, shares one-stop energy storage technology and experience



Delta showcases industrial automation solutions at Automation Expo 2020

Text by DET

Delta Electronics Thailand (DET) showcased its latest energy efficient and precise industrial automation solutions for smart manufacturing and industrial cloud control at the Automation Expo 2020 held at Pattaya International Convention And Exhibition Center (NICE). The Delta booth, at in B1-B4 Robotics Zone, highlighted Delta's Articulated Robot and showcased Delta's Smart Manufacturing Solutions, Integrated Factory Control and Ethernet/IP Solution.

Visitors at the Delta booth explored an extensive display of Delta's Industrial Internet and Cloud Solution which leverages the Delta Industrial Cloud Router and Industrial Wireless LAN (WLAN) integrated with HMI, PLC and AC Motor Drives for precise and flexible control.

Mr. Kasemson Kreuatorn, Delta's Senior Regional Manager for industrial automation, presented the product demonstrations and explained how Delta's Integrated Factory Control, Ethernet/IP Solution and Smart Manufacturing Solutions integrate the full range of Delta industrial automation offerings.

About Delta's Automation Expo 2020 : <https://www.youtube.com/watch?v=51k3zPQ9SXg&t=5s>



Delta showcases industrial automation solutions at Automation Expo 2020

Delta unveils latest efficient e-mobility, renewable energy and data center solutions at ASEAN Sustainable Energy Week 2020

Text by DET

Delta Electronics Thailand (DET) unveiled its latest additions to its renewable energy and energy efficiency products and solutions including Power Conditioning System, Energy Storage, Solar Inverters (PVI), Electric Vehicle (EV) Chargers and the Point of Delivery (POD) Datacenter Solution at the ASEAN Sustainable Energy Week 2020.

Speaking at the Delta Booth No. E1, Hall 102 at BITEC, Mr. Curtis Ku, Delta's Regional Business Director, said, "As we enter the new normal, businesses and homeowners in Southeast Asia can choose to save energy and cut costs. Green solutions offer us the advantages of cleaner air and a smaller carbon footprint while supporting sustainable development in ASEAN. Today Delta Thailand is proud to add two exciting new EV chargers to our lineup and a new PV inverter for the Southeast Asia market."

This year Delta's new lineup of EV chargers and renewable energy solutions included DC City Charger, AC Max Charger and M70A Inverter. In addition to the new products, Delta highlighted its Hybrid Energy Storage System that enables solar energy storage and EV charging at home. Visitors also explored Delta's power management, renewable energy and data center solutions.



Delta unveils latest efficient e-mobility, renewable energy and Data Center Solutions at ASEAN Sustainable Energy Week 2020



Delta participates in the 53rd China Electronics Intelligent Automation Summit Forum

Text by Delta Greentech



Ying-long Yang indicates that Delta will continue to provide valuable services and help customers carry out industrial upgrading

In a speech delivered at the 53rd CEIA Summit Forum (China Electronics Intelligent Automation Summit Forum) held in Xiamen, Ying-long Yang, Marketing Director of DSM Dept. of Delta said that the future development of automation market will be driven by the smart manufacturing optimization, which also brings rapid market growth in the sectors of 5G, integrated circuits, hardware infrastructure and other emerging industries. To provide valuable services and help customers perform industrial upgrading, as a major electronics manufacturer, Delta has been continuously strengthening its technology expertise and service capabilities over the years.

Facing the era of digital manufacturing, Delta endeavors to combine core power electronics technologies with industrial know-how, and integrate its own experience in factory development with smart production lines, production management and data analysis to provide smart solutions. In the electronic assembly industry, for example, Delta proposes digital management solutions which integrates a wide range of products and advanced technologies, including automation equipment, industrial control components, equipment networking, visual management platforms, and manufacturing execution systems, thereby realizing production transparency, improving production line efficiency, and reducing the number of reworks to successfully achieve IT/OT convergence, and to create a smart factory with a complete smart-manufacturing system.

Delta attends the 2020 CeMAT ASIA with exclusive solutions

Text by Delta Greentech

In recent years, Delta has integrated industrial automation products and key technologies to develop intelligent logistics solutions, and vigorously promoted the construction of smart factories. It attends the 2020 CeMAT ASIA to exhibit the tailor-made solutions for smart factory logistics and assist in building modern smart factories for the future.

Xianrong Pan, manager of Department of Logistics Industry, Delta Industry Automation Business Units, said that since the outbreak of the coronavirus epidemic, intelligent and efficient logistics system has brought high-quality and reliable guarantee for the anti-epidemic work and people's livelihood. With the rapid development of new infrastructure, new businesses in logistics industry is bound to benefit from the construction of new infrastructure, such as 5G network, data center, artificial intelligence, the Industrial Internet of Things (IIoT), the Internet of things (IoT) and so on, which further facilitates rapid upgrading. Based on the needs of customers, Delta introduces advanced Industrial IoT technologies such as equipment networking and cloud management platform, which can help the users from logistics industry perform the overall digital upgrading ranging from sorting, transportation and warehousing, as well as the factory logistics, so as to increase the value of logistics industry.

The highlights of this exhibition mainly include: Delta's overall solution for intelligent warehousing, separating system solution for single express parcels, heavy duty stacking solution for warehousing, overall AGV system solution, swing arm and balanced wheel sorting system solution. In addition, Delta also exhibits a wide variety of logistics solutions, such as the conveyor line, pallet shuttle system, modular belt, industrial wireless router, etc.



Delta attends the 2020 CeMAT ASIA to exhibit the tailor-made solutions for smart factory logistics

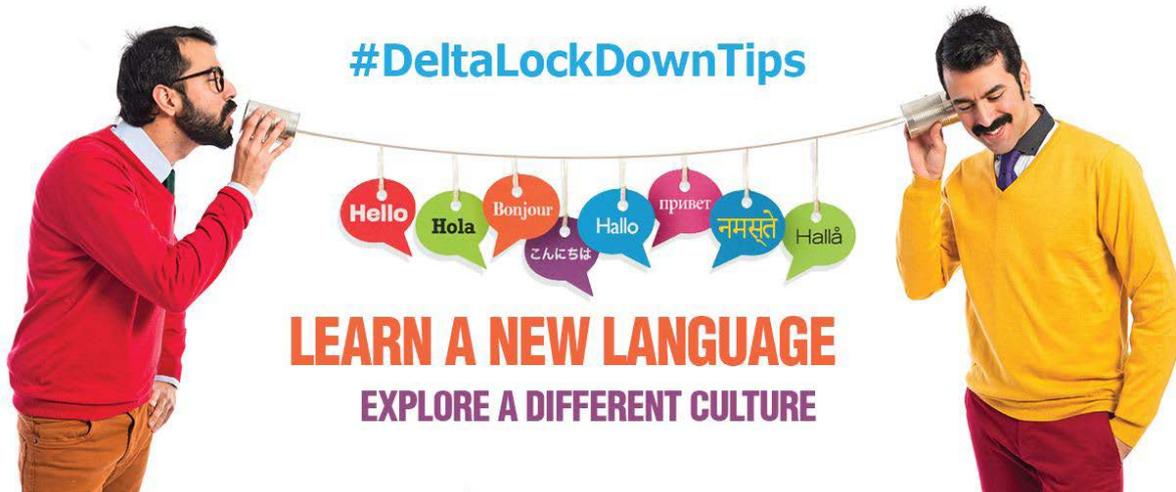


Delta India launched #DeltaLockDownTips campaign – Brand Communication During Covid-19

Text by Delta Electronics India



www.deltaelectronicsindia.com



Delta India launched #DeltaLockDownTips campaign – Brand Communication During Covid-19

Brand communication should have an Empathy dimension especially during current uncertain times.

The COVID-19 pandemic is unprecedented, creating havoc around the world, and we all are adjusting to the new ways of living and working in these challenging times. There is much uncertainty around, and there is no doubt that this will stay for at least some time in the near future.

This has also brought a lot of changes in the way brand and marketing communication is evolving, and we need to see how brands can be and should be leveraging the resources to better connect with their audience. The narrative needs to have a sense of caring and the ways and means used to manage the brand communication effectively. Brands need to be thoughtful, and communication during this period will require creativity and messaging done tactfully. Outdoor activities are limited these days, and more businesses are still operating remotely via the internet. People, too, are continuing to stay indoors and are spending more time online.

Social Media channels in these times play an integral role, and the communication, more specifically on these media platforms needs to be more humane in their messaging and communication strategy. All this makes social media's role very important, and brands need to navigate this situation in a very balanced manner. Brands need to be more empathetic to their audience. As the pandemic and lockdowns are difficult on each one of us and with many countries implementing the lockdowns again the necessity of the tone and pitch of the brands to empathize becomes all the more important.

In this scenario and knowing that we all are learning to live the new normal in this lockdown, Delta Electronics India had launched a campaign aptly titled #DeltaLockDownTips on Social Media. The campaign emphasis is on how people can make the best use of their time with outside movement limited and while staying indoors. The intent is to be a part of people's life during these unprecedented times and connect with them in an endearing manner. The endeavor of the content strategy is crafted to reflect this aligning with the communication and messaging strategy. #DeltaLockDownTips campaign focused on topics, subjects and activities that can help people in keeping them engaged and also entertain them.



Delta Greentech strategic marketing team

PEOPLE

Delta Greentech strategic marketing team

Text by Delta Greentech



Qin Zhe He, Marketing Communication Department

As a senior staff of 25 years at Delta Green Tech, I have witnessed the history of departmental change and the development of the company. And the change in marketing strategy has always been the driving force behind the Delta brand in the China market. Although the marketing team mainly offers the services to the Delta Green Tech sales team, the marketing of brand image, product and solutions all adhere closely to the core beliefs of Delta.

In the earlier days of marketing, our core purpose was to promote products, create product catalogs and communicate relevant price-performance ratios to the customers. Nowadays, the Delta Green Tech team focuses on product variation. The sales team puts increased emphasis on cooperating with another department and changes its method of communication from one-way to two-way communication. As a result, marketing has been incorporated in various businesses of the sales team, and the marketing team also works closely with the sales team in a wide variety of fields, including industry analysis, market research, brand elevation, and product branding. The marketing department redefined its role and started helping the sales team develop new businesses and explore new industries. In the digital era, we will actively adopt appropriate measures to promote and raise the value of our products and brand.



Wei Luo, Marketing Communication Department

My two daily tasks at the new media team of the PR department are to develop effective communications and tell stories effectively. After gaining an in-depth knowledge of the advantages and highlights of the product, I will tailor it into words, images, video clips and so forth, and disseminating these information through all types of media, websites and emerging media channels. Stories ought to be organized and presented in suitable ways in order to reach our customers and be of use to our colleagues.

At the present time, emerging media is becoming more and more powerful. We have promotion contents on social, short video and video platforms such as Weibo, WeChat, Bilibili, Youku, and Tik Tok. While responding to current issues, we create our own topics to increase social media engagement and align the promotion content with the features of emerging media. To achieve two times the impact of effective communications, we leverage the advantages of new media during the launches of new products, high-profile projects and hot topic events. Currently, we have plenty of active fans on WeChat. The number of followers and page views on Bilibili are also catching up. I look forward to having our colleagues follow us on every platform so that they can make suggestions and provide more theme ideas for promotions.



Shen Yuan, Marketing Communication Department

Since the pandemic, all offline activities have come to a standstill. After taking on an "Online Journey", my focus of work has shifted from offline to online activities. There are two major factors that affect online activities: one is a fast and stable Internet connection; the other is the platform. Platforms are the key factor in determining the result of the activities. Not only do we need to increase traffic on social media, but we also have to find the right platforms.

In this day and age, our living and working conditions have been changed in the post-pandemic era. The ideas of operating online and offline continue to merge in our heads. As a marketer, we need to try out new things more than ever. Be it on or offline, there is no absolute answer. All we can do is to find the right target audience or platforms, try our best to understand their way of thinking and what they have in common. Then, we may be able to seize the opportunity and accelerate work progress and equip ourselves with more strength and wisdom to overcome the challenges ahead. Keep Moving forward! Let us work hard, cherish this life-changing experience, and live a colorful life



Jing Meng, Sales Admin Department

Being with the Integrated Planning Team for five years, my main responsibilities are system optimization and SOP improvement. For example, I assisted in improving the SOP of Rolling 5.0 system; the improvements include a complete approval process, a new function of variance analysis of the difference between Rolling and Actual, real-time reporting, and root cause analysis & reporting system for projects with low completion rates. This year, to create a system interface that is user-friendly, clear and concise, we have commenced on the project of integrating DGC forms.

For me, system integration is very challenging and interesting. It provides me with a comprehensive understanding of the business process at Delta Green Tech. I think being "curious" and exploring the meaning behind why things happen is very fascinating. Delta is like a big family where everyone supports one another. My superiors trust me completely and give me room to find solutions, allowing me to make my success and demonstrate my abilities without any worries.



Min Hua Sun, Service Hotline Center

Hotline Service Center is the customer-facing point of contact for the company. We insist on serving our customers with a smile and helping them solve the problems. Having a good temper is a must for this position. Hotline Service Center has been established for 15 years. The staff size of the center rose from 2 staff to the current scale, and the number of calls answered also increased from only 20+ calls a day to 500+ calls now on a daily basis. In response to the growing number of calls at an ever-increasing rate, the hotline equipment has also been upgraded. Officially operated in 2018, UDESK Call Center used automation systems to reduce part of the workload for call agents, which greatly increased work efficiency in the center.

UDESK platform has integrated customer services of the hotline center, official website, and WeChat public account. Customer who gives feedback via any of the above channels will be connected to the system. Hotline operators only need to open UDESK to pick up calls and can respond to customer's requests on time. This platform helps to pass on work requests smoothly and disseminate information quickly. Be it pre-sales or after-sales requests, the system is able to deliver messages to relevant personnel, which greatly increases processing efficiency. Furthermore, every call is recorded; the course of information handling and the outcomes from the handling are registered as well, making every single customer enquiry trackable.



750W MEB series for medical, ITE and home appliances

Delta Electronics announces a new 750W output power supply to MEB Series of medical enclosed power supplies. The MEB-750A24 comes in a compact size at 4"x 7"x 1.6" and provides a single 24V output with 5V/2A standby output. The product can deliver full power from -20°C to 50°C without de-rating. Additional features include $\pm 10\%$ voltage trimming, current sharing, conformal coating, and electric shock protection complying with 2 x MOPP suitable for type BF Medical products. The MEB-750A24 provides 2 connector choices either US Terminal (MEB-750A24T) or C14 Inlet (MEB-750A24B). It is certified to medical, ITE and home appliance safety approvals, including UL/CE/CSA/CCC and CB certification.



90W compact AC/DC ITE adapter



Delta ADT-090A24AA is the newest model in ADT Series up to 30% reduction in overall size. With an efficiency up to 91.5%, the ADT-090A24AA meets Efficiency DoE Level VI and no-load power consumption $< 0.15\text{W}$ @ 115Vac and 230Vac input. The product offer single output voltage of 24Vdc with 90W output power and is suitable for general applications such as POS equipment and office equipment. It conforms to major international safety standards according to IEC/EN/UL 62368-1 and IEC /EN 60950-1 approval for ITE including BSMI, CCC, PSE and KC. In addition, it also meets the EMI approvals to EN 55032 Class B.

Delta Controls launches enteliCLOUD for cloud-based BMS

Text by BABG

Delta Controls is currently launching new product: the enteliCLOUD, a cloud-based BMS service. The enteliCLOUD is a cloud service that securely acquires, transfers, and stores building automation system data to improve organization, management and savings. With enteliCLOUD, our customers can monitor, operate and control their portfolio buildings across geographies with a computer or smart device. The enteliCLOUD is a more user-friendly version of enteliWEB. It has many features that are automatically built-in and set up, such as deployment, HTTPS/SSL Installation and Public DNS. With enteliCLOUD, users can subscribe monthly to the licensing and can manage their site from the portal. With enteliWEB, the above features are user-managed and configured.





Increasing energy efficiency and switching to the right type of refrigerant can effectively help reduce the electricity use and carbon emissions of air-conditioners

Turning on air-conditioners will aggravate global warming! How can we avoid this vicious cycle during summer?

Text by Delta Electronics Foundation

This summer had been a very hot one, and the air-conditioners had been on longer accordingly. This led to a bigger electricity bill as well as an increase in greenhouse gases emissions due to the electricity consumption of the air-conditioners, thus aggravating global warming, which in turn resulted in greater consumption of electricity because of longer hours of using air-conditioners. So, how can we avoid such vicious cycle?

The "Cooling Emissions and Policy Synthesis Report" released by the International Energy Agency (IEA) this year pointed out that if the current rate of carbon emissions does not change, it will lead to an increase of 3°C in global temperature and increasing demands for air conditioning systems. In addition, even though there are 3.6 billion units of air conditioning systems in use currently, there are still more than one billion people in need of air conditioners. In an increasingly warm future, these people will be at risk.

To cut down on carbon emissions from air conditioners, we can start from the refrigerant that contributes to global warming

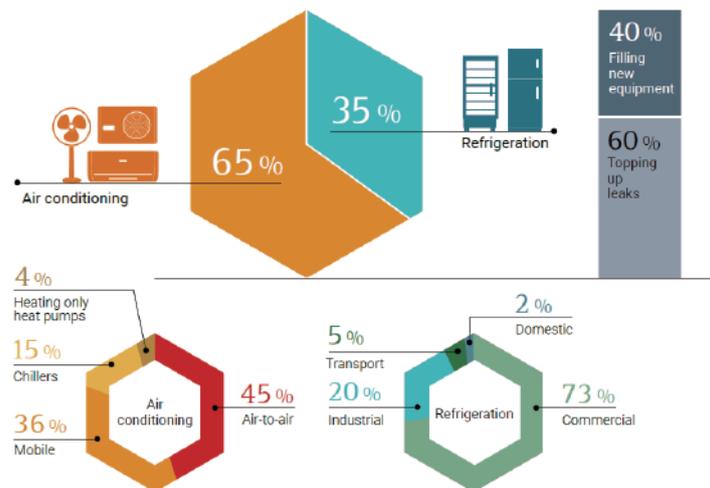
If the air conditioners or cooling systems can be changed, it can meet most of the UN Sustainable Development Goals (SDGs). For example, providing refrigerating equipment to farmers allows them to deliver their produce that requires refrigeration to places of greater demand. This will prevent the produce from going bad and reduce the proportion of farmers who are financially disadvantaged.



Then, how are we going to reduce the greenhouse gas emissions from air conditioners? Firstly, start with the refrigerant. The Montreal Protocol drawn up earlier was aimed to substantially cut down on the global use of chlorofluorocarbons (CFCs), which are the substances responsible for ozone depletion, and instead use hydrofluorocarbons (HFCs) as the refrigerant. However, scientists later discovered that HFCs are powerful greenhouse gases! The global use of HFCs related to refrigeration accounted for approximately 86% when calculated based on the Global Warming Potential (GWP). 65% of the HFCs are used in air conditioners, and 35% in refrigeration appliances such as refrigerators.

Hence, the Kigali Amendment was passed in 2016 by the international community to phase out HFCs. IEA estimated that this could avoid up to 0.4°C of global warming in this century. At this moment, potential replacements of HFCs with lower impacts on global warming have been available (e.g. R32 refrigerant). These changes have been proven technically and economically feasible.

Figure 2.1: Global HFC use as share of total on GWP-weighted basis for stationary and mobile refrigeration, air conditioning, and heat pump sectors in 2012.



Source: UNEP 2015c

65% of HFC refrigerants are used in air conditioners (Figure: Cooling Emissions and Policy Synthesis Report)

As future demands will triple, we have to rely on higher efficiency cooling for mitigation

In addition to refrigerants, the electricity used by air conditioners and cooling systems indirectly results in carbon emissions. As global warming worsens nowadays, demands for air conditioners are rapidly increasing in every country. Energy demand for air conditioning systems more than tripled in 26 years (1990-2016). We can lower the electricity usage by raising the energy efficiency of air-conditioners. Experts predicted that in the coming four decades, if everyone uses highly efficient cooling systems, we will reduce approximately 4-8 years of the global greenhouse gas emissions (210-460 gigatons). We can also use new products and designs, replace old refrigeration and air conditioning equipment, or build more green buildings to reduce the demand for cooling. Moreover, regular maintenance and repair is required to enable electrical appliances to work with maximal efficiency.

Besides, air conditioning for the transportation sector also needs a serious revamp. The air conditioning systems in the global transportation means emit approximately 420 MtCO₂e of greenhouse gases per year (approximately 70% from fuel combustion and 30% from refrigerants). Even though the number of transportation means is likely to increase continuously, IEA believes that there is still a chance for us to reduce the annual emissions by 20% through improving efficiency and switching to eco-friendly refrigerants.



Energy conservation is one of Delta Electronics Foundation's long-term core values. Its volunteers are committed to leading the public and schoolchildren to learn about the issues of climate change, energy conservation, green buildings and low-carbon transportation.



A head-on encounter with the impact of climate change: Delta volunteers trained at the marine conservation workshop to aid climate adaptation

Text by Delta Electronics Foundation

The IPCC pointed out in recent years that at the current rate of warming, the global average temperature increase will exceed 1.5°C in about ten years, resulting in the disappearance of 70-90% of the existing coral reefs! In response to this crisis, this year, the Foundation held a special cross-regional marine conservation workshop. On September 26 and 27, Delta volunteers visited the Northeast Coast, the first scene where the ecosystem suffered from the impact of climate change. They witnessed the changes to the coral reef ecosystem, explored the mechanism of carbon sequestration in coral reef systems and the diverse organisms cultured under the protection of the habitat, and personally participated in the physical work and research of coral reef conservation.

The volunteers learned about how to classify corals and their growing environment, and actually worked on the Coral Health Charts to determine their health status. The data collected during the workshop were uploaded to the platform of the nonprofit organization CREON (Coral Reef Ecological Observation Network) and will be monitored by using the big data approach. Aspiring to be the pioneers in optimizing coral conservation tasks, the volunteers hope to complement Taiwan's insufficient manpower in ocean carbon reduction and climate change adaptation.



Observing the status of coral growth

On the second day, the volunteers visited the exhibition held at the National Museum of Marine Science and Technology. By showing environmental images, the museum illustrated the impact of global warming on the reproduction of marine species. They found that the increased proportion of female sea turtles caused by the rising sea temperature may result in imbalanced population between male and female sea turtles in the future. In addition, ocean acidification and warming are not only detrimental to the growth of corals, but can also alter the chemical composition of seawater, which has become a major problem to the interactions between species. All of these courses helped volunteers to gain a further understanding of the ocean and the

ecology of coral reefs. The workshop also included a DIY activity of making a coral reproduction handbook and an experimental learning activity to simulate corals' preying process.

Equipped with the basic knowledge, Delta volunteers began to take on the challenge of coral restoration work. In the afternoon, they went to the Reservation Association of Mountain and Sea Angel at Longdong Bay in the Northeast Coast and started using different methods to fix the coral branches to the carriers by the coral restoration pool. Nevertheless, the weather turned bad, the rough seas affected their original plan, but it also gave them more time to tie corals and use underwater drones to observe the status of coral bleaching.

The spirit of Delta volunteers was especially impressive. They came from Taoyuan, Hsinchu, Taichung, and Tainan plants respectively. Not only did they learn the basic knowledge in the two-day marine conservation workshop, but they also helped support the marine conservation work in the rain. We all shared the same lamentation that we humans, when facing with climate change, are more capable of adapting to a changing environment than many marine organisms. Many marine species lack our flexibility and intelligence; they might gradually disappear from the planet. It's imperative that we should take more positive actions to protect them.

By personally experiencing the severity of the problem at the first scene, the volunteers gained a deeper understanding of the tremendous power of the ocean's capability in carbon sequestration and the difficulties of carbon reduction. Looking at their hands and recalling the regenerated corals capturing the carbon we emit, some volunteers said that this was akin to the foolish old man in the ancient Chinese fable who removed the mountains, as well as the analogy to an old saying "Every drop makes an ocean". Hopefully, the knowledge of marine conservation and energy conservation taught by Delta volunteers will raise more public awareness of carbon reduction, and the public awareness will eventually branch and grow like the coral reefs protected by these conservation efforts.



Volunteers are fixing the coral branches

