DELTA BRAND NEWS

Vol. 53
October 2020
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Delta integrates EV charging stations into shops and reshapes Idemitsu Showa Shell gas station in Yokohama Japan

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Delta Brand News Bi-Monthly December 1, 2011 founded
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FROM THE EDITOR

wo years ago, Delta combined the functions of energy management with shopping and recreation to build a compound EV charging station at Computex Taipei. Today, this idea is truly realized in Yokohama, Japan! Delta recently collaborated with Idenmitsu Showa Shell, the second-largest petroleum company in Japan, to renovate a gas stations in Yokohama as an EV charging station. It integrates Delta's energy storage systems and EV charging solutions into a Smart Grid solution. Meanwhile, Delta's sub-brand, Innergie, setup the world's first Innergie Café to provide the market applications of IoT retail solutions and a new business model of green EV charging station. More exciting details are available in the "Special Report".

The successful case of Yokohama EV charging station has been widely reported in the media in Japan, for which the marketing workforce of Delta Japan (DEJ) marketing team, deserved all the credit. For this issue's "Brand People", we specifically interviewed Mr. Sakaguchi Tomohide, the head of DEJ marketing management, and asked him to share his experience of his ten years working in Delta and how DEJ marketing team responded to the challenge of this year's epidemic, how they co-work with business units to develop digital marketing and integrate activities to continuously enhance brand exposures. As DEJ's 30th anniversary coincides with next year's Tokyo Olympics, Mr. Sakaguchi Tomohide hopes that such event will be a platform for the public to better understand Delta's green energy solutions and bring the brand synergy into full play.

Exhibitions have been an important channel for Delta's external brand communication and get in touch with the media and customers. Nevertheless, affected by the coronavirus pandemic this year, many exhibitions around the world have been canceled or made with the online form. In addition, due to restrictions on aviation and traffic, physical meetings and business trips have become more difficult. To cope with such change, Delta has adjusted its exhibition form and promotion strategy since the beginning of this year. As such, in the post-epidemic era, this issue's "IoT Smart Solutions" will show you how we use digital technology to market our products at the COMPUTEX Taipei, Hannover Messe in Germany and China International Industry Fair, and how we combine online and offline platforms to promote our brand and develop a new exhibition model.

Renewable energy has apparently become the trend of the future. This issue's Delta Green Life introduces the report of Renewable Power Generation Costs published by IRENA. It indicates that the cost of green power is falling and is now comparable with coal-fired power and we are heading towards a low-carbon and energy-efficiency way of living. By cooperating with IMF, IEA has released the "Sustainable Recovery Report", in which a number of green actions that can protect environment, boost economic growth and create jobs have been proposed in the report. We hereby invite you to care for the issue and play an active role in protecting the environment.

Brand Management Office

Shan Shan Guo

Delta renovates traditional gas stations and integrates IoT, V2X and Smart Grid to realize Utility 3.0 objectives

Delta integrates EV charging stations into shops and reshapes Idemitsu Showa Shell gas station in Yokohama Japan

Text by EISBG, DEJ marketing

Facing major trends in green energy, energy-saving, carbon reduction, and digital transformation, many petroleum companies have started exploring new business directions and service structures following the growing popularity of electric vehicles (EVs). A global leader in power management, Delta has cooperated with Idemitsu Showa Shell, the second-largest petroleum company in Japan, to renovate the Idemitsu Showa Shell gas station (which operates gas stations all over Japan) in Yokohama as an EV charging station.

This demonstration station integrates IoT (Internet of Things), V2X (Vehicle to Everything) and Smart Grid technologies to provide not only charging services, but also café services and retail IoT applications. From planning, reconstruction to operation, it were completed through coordination between Delta and Idemitsu Showa Shell. This innovative business model helps traditional gas stations find new directions to promote businesses such as department stores, marketplaces, parking lots, and even theaters, all of which will make EV charging services more convenient in the future.

Transforming gas stations into charging stations and cafés

Given Delta's experience implementing complete charging and energy storage solutions and their ability to develop smart energy management systems, the company has a proven track record in providing complete one-stop-shop solutions. When Idemitsu Showa Shell decided to transform its gas station, they sought to cooperate with Delta to transform their older gas station in Yokohama into an EV charging station. Reconstruction involved removing all the oil tanks originally located under the building and converting the vehicle maintenance and oil change rooms into commercial power conditioning systems (PCSs) and battery energy storage systems (BESSs). Additionally, aboveground refueling equipment became parking spaces for an unmanned parking system with three Delta DC Wallbox EV chargers and one V2B (vehicle-to-building) bi-directional EV charge and discharge charger. The carwash was transformed into the Innergie café with high ceilings and bright spaces, and retail IoT solutions such as large projection equipment and air quality management were introduced. The small retail store attached to the gas station was transformed into a multifunctional exhibition space for art exhibitions, and the offices on the second floor were transformed into a monitoring center. This allowed managers to remotely monitor operations including the electricity usage of chargers and operation status of environmental equipment. After the gas station was transformed into a charging station, the electrical facilities were also changed to 400 V. For safety, Delta equipped the station with various sensors to monitor for water leakage, water levels, and earthquakes in the electrical room. This was configured so that in the event of a natural disaster, such as flooding, tsunamis, and earthquakes of magnitude 5 or higher, the electrical system will automatically cut power to avoid accidents.

IoT + V2X + Smart Grid create a new generation of charging stations

The café is equipped with Delta's Innergie One-For-All power adapters, allowing customers to charge their mobile devices while waiting \ their EV to charge

When entering the charging station area, drivers will receive an automatic prompt from Delta's patented EZQC App payment system, which has simple registration and verification processes that do not collect personal information. Only three simple steps to perform charging or electricity-selling, and payment can be settled with a credit card or service such as Apple Pay. It takes approximately half an hour for each charge, giving EV owners an opportunity for rest at the café to also recharge themselves both physically and mentally. While waiting, they can use the E-coupons provided by the EZQC App payment system and enjoy a cup of coffee at the café, or shop at nearby cooperative stores.

Mobility + Utility five major solutions with modular integration

Delta's energy infrastructure solutions, including PCSs, BESSs, and EV chargers, the DeltaGrid® energy IoT management platform was integrated with the EZQC payment system to provide an improved user experience and innovative services that together have created a new business model where mobility and the utility of power infrastructure are compatible. This demonstration station consists of five major solutions designed by Delta.

Modularize five major solutions to integrate "Mobility" and "Utility"

1. EV Charging and Payment System Solutions :
   This includes charger installation, EZQC App mobile phone application development, and payment mechanism integration. This demonstration station has three 25-kW DC output DC Wallbox wall-mounted chargers and one V2B EV bi-directional charge/discharge charger.
2. Energy Storage Solution (ESS) :
   Through the deployment of Delta's commercial PCS, BESS, and control equipment, peak-shaving and optimized contract capacity were achieved. When multiple vehicles enter the station and use the quick charge service simultaneously, this places pressure on the power grid. In such instances, Delta's ESS will allow the station to keep within the optimal contract capacity plan and achieve economical operating results.
3. Emergency Power Supply System :
   Should a disaster interrupt the power supply, the station can provide power supply services for "refuge-like facilities." Because the station is equipped with a V2B bi-directional EV charge/discharge charger, EVs can be used to supply power back to the grid. Furthermore, because the EV charging station is equipped with a portable battery, it can be used to serve surrounding residents during a power outage, supplying emergency power to achieve business continuity planning for post-disaster communications and life support.
4. Retail IoT Environmental Management System :
   This enables automatic monitoring and adjustment of environmental conditions in the café, including temperature, humidity, lighting and air-conditioning, thus achieving optimal environmental comfort and energy conservation.
5. Digital Projection Solution :
   High-lumen projectors display high-quality images for stores to project anything from advertisements to movies. They can also be used for retail digital signage or even to display paintings or other artwork, thus enhancing the customer experience.

Delta's leading technologies provide comprehensive solutions

Faced with the prospect of extreme climate disasters resulting from the greenhouse effect, countries around the world are pushing green energy and carbon reduction strategies to reduce dependence on traditional petrochemical energy. The promotion of EVs is among this effort, and the convenience of charging is a key factor as to whether EVs can become more popular in the future. Delta has accumulated a wealth of experience in power products for over half a century and has complete product lineups, system development experience, and Energy IoT technologies, making them able to provide customized one-stop solutions.

Delta's Yokohama EV charging station demonstrates a new operation model that combines charging services and mall functions. This model could easily be copied to other cases or different industrial fields to help realize Utility 3.0 objectives.

Interview with head of Delta Electronics Japan marketing management Mr. Sakaguchi Tomohide

Building brand awareness through total integration

Interview with head of Delta Electronics Japan marketing management Mr. Sakaguchi Tomohide

Text by Brand Management Office

In our Brand People interviews of previous issues, we have featured the marketing heads of Southeast Asia, the USA and EMEA. In this edition, we spoke with Mr. Sakaguchi Tomohide, the marketing head of Delta Electronics Japan (DEJ). Mr. Sakaguchi-san shares the experience and knowledge that he has gained at Delta for more than ten years, and how he has promoted the Delta brand and developed key businesses in the Northeast Asia region.

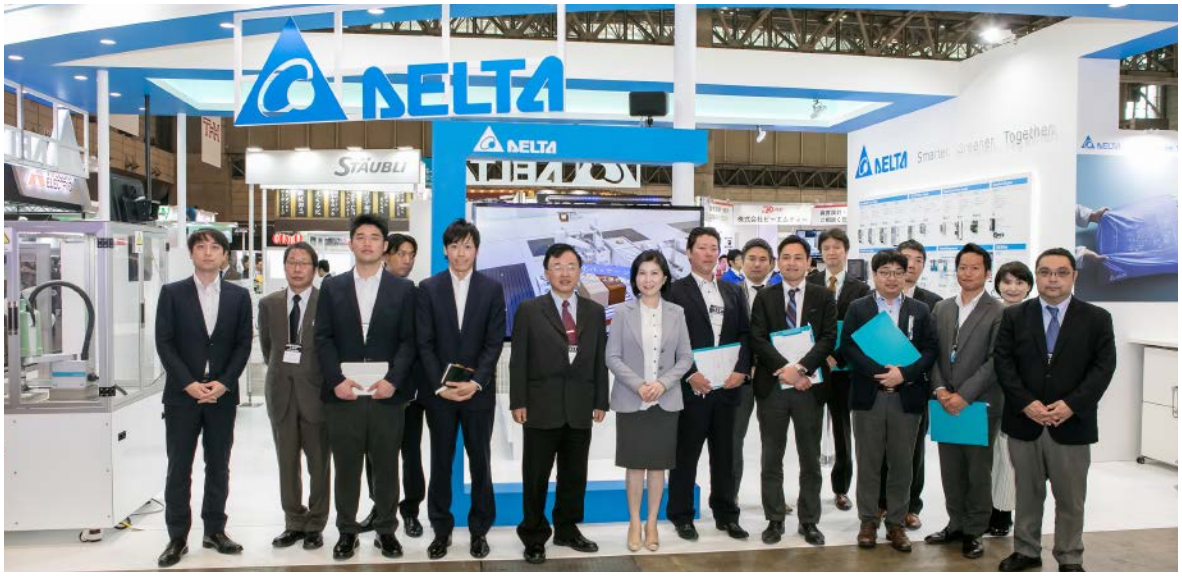
Flexibility in adjusting the organization, professionally dividing the work

The DEJ marketing team was established long before it achieved success, which started gradually from joining exhibitions. At the time, Mr. Sakaguchi-san had received support from General Manager Mr. Jing-Xing Ko (Ko-san) of the Japan Branch. The team steadily recruited new members, expanded its scope and was responsible for brand promotion in the Northeast region. The current marketing team consists of six team members from Taiwan and Japan, including Sakaguchi-san. The team is responsible for product marketing, brand promotion, PR campaigns, digital marketing, exhibition planning and legal affairs. Everyone adopts a work model based on flexible coordination and self-discipline, and works with other business units to promote the Delta brand and sales.

Join hands with business units to formulate diverse strategies for collaborative work

The DEJ marketing team collaborates with individual business units to develop synergies. Due to the severe impact of COVID-19 in Japan this year, the team has flexibly adjusted its strategies to using online platforms as it continues to promote the brand. Sakaguchi-san pointed out that, "The pandemic accelerates the application of digital tools. Recently, we have modified our official website, developed a landing page, and organized webinars and learning courses for specific customers. All of these efforts allow us to break through the limits of distance and to help business partners understand our products. Currently, the team has been working with the Photovoltaic Inverter Business Unit (PVIBU) and is actively extending this collaboration pattern to other business units."

Other than the activities held on the digital platform, Sakaguchi-san also shared the successful case of setting up an EV charging station in Yokohama, Japan, in which they worked with the EISBG. Collaborating with their local marketing colleagues of the EISBG to promote basic energy infrastructure, Delta and the Showa Shell Sekiyu team were able to carry out all the planning, renovation and operations on their own.



The DEJ marketing team worked with business units attending Techno Frontier 2019. The photo includes DEJ General Manager Mr. Jing-Xing Ko (L5), Delta Chief Brand Officer Mrs. Shan-shan Guo (L6) and DEJ Marketing Manager Mr. Sakaguchi Tomohide (R1)

Build an integrated business model to increase Delta brand awareness

Delta and Japan's second largest oil and gas company Idemitsu Kosan joined hands to renovate a traditional gas station to a demo compound EV charging station. The EV charging station has received widespread reporting by Japan's media, and was specified by the Yokohama City Government as a partner disaster emergency response base. Delta also opened the world's first Innergie CAFÉ under Delta's sub-brand Innergie at this charging station. The collaboration has not only developed a new business model for EV charging stations, but has also successfully promoted brand synergy. Sakaguchi-san humbly expressed the business units put much effort into this collaboration project. The DEJ marketing team worked mainly on realizing the integrated physical retail store. The idea of the store actually came from the exhibition booth of a compound electric vehicle charging station at Computex Taipei two years ago, where Delta combined the energy management with recreational shopping. There were constant communications and coordination with various business units during the implementation process. At the same time, Ko-san's support was also a key factor that enabled the smooth execution of the huge project. In the future, it is likely that the model can be applied to other industries.

The DEJ marketing team collaborated with business units to set up a demo compound EV charging station

Uninterrupted by the pandemic, steadily promoting brand growth

In the face of the COVID-19 pandemic, many exhibitions around the world have been either postponed or cancelled. One of the major international sports events, the 2020 Tokyo Olympics, was also postponed to 2021. To DEJ, it has not only changed their original plans, but has also challenged its ability to handle emergency situations. "Japan is greatly affected by the pandemic. Besides opportunities for exposure during athletic activities, we hope to obtain other resources and opportunities to increase online brand exposure and publicity. Due to the pandemic, we have adjusted our marketing strategies. Delta is the only 8K projector provider for live broadcasts of sports events. When the broadcast takes place, we turn to the internet to carry out a series of promotion activities. Although there are many uncertainties due to the coronavirus outbreak, we will co-plan with the video conferencing unit to energize the status quo."

Unlike the brand promotion strategies of other business units, DEJ has not only worked out 8K promotion strategies for the product channel, but also has devised brand strategies for 8K related industries, such as movie theaters, art museums, museums, film production companies, media and more. Sakaguchi-san mentioned that: "In terms of brand promotion, the DEJ marketing team extends the core marketing concept of the brand management department and adjusts our language to local audiences for brand communications. This adjustment has helped deepen Delta's brand image in Northeast Asia. Over the past two years, we have focused on sales promotion of 8K projectors and worked hard to create an 8K projector business eco-system."

Next year, there will be 8K live broadcast of the Tokyo Olympic sports events in Japan. Coinciding with the 30th anniversary of DEJ, the team will also roll out a series of marketing campaigns to increase the public's understanding of the Delta brand.

Encourage communications and willingness to take on responsibilities, blending the Europe, USA and Japan systems

Having worked at Delta for more than ten years, Sakaguchi-san shares his work experience and knowledge, "The DEJ is different from other Japanese companies and their inflexible systems. We were able to gain a balance between the operating cultures of companies in Europe, the USA and Japan. Our organizational flexibility makes room for effective vertical communications, and team members feel more energetic and have a sense of achievement from their work."

Sakaguchi-san mentioned, "I am very thankful to Ko-san's support. Actually, I often follow Ko-san's work values when I interact with my own team– to allow failure, encourage the willingness to bravely take on responsibilities, and provide colleagues with sufficient space to apply their expertise."

The management philosophy of respect and openness at DEJ has nourished Sakaguchi-san and encouraged his marketing team to develop endless possibilities. We look forward to hearing about more success and achievements from the team over the next ten years.

"Allow failure and encourage the willingness to bravely take on responsibilities" is not only Sakaguchi-san's own work value, but also the management philosophy at DEJ

Delta launches the digital exhibitions to enrich online visitor experience and overcome social distance

Digital exhibitions overcome social distancing in post-pandemic era Online platform for a fantastic experience

Text by Brand Management Office

The 2020 Covid-19 outbreak has significantly influenced every industry. Exhibitions around the world have been cancelled or delayed. In the face of such challenge, Delta has responded swiftly and coordinated its business units to adjust its approach to holding exhibitions. Using online technology to overcome restrictions brought on by physical distance and time differences, Delta launched a live streaming event for Computex Online Talks as well as an online virtual tour this June. In July, Delta hosted a 360° interactive virtual exhibition in Europe. In September, Delta's virtual exhibition for China International Industry Fair took place in Shanghai.

Delta's Computex Online Talks live streaming

The organizer of Computex Taipei—an international technology exhibition that is about to celebrate its 40th anniversary—decided to delay the event due to Covid-19. This would be the second time that Computex was postponed as the first time happened during the SARS outbreak in 2003. Delta has participated in Computex for almost ten years. Each time, Delta had a theme that matched the issues of public concern at the moment and its business highlights. Last winter, the brand management team worked to develop the theme for the exhibition, and the idea of "Smart Well Being" was chosen, which was meant to continue Delta's philosophy. Coincidentally, the theme echoes the global pandemic this year, making the concept even more meaningful.

Delta joined the Computex Online Talks in June. (From right)Representing Delta were: Senior Director of Delta's Building Automation Solutions Business Unit Mr. Wen-hsing Chiang, Chief Brand Officer Ms. Shan-shan Kuo, and Senior Director of IWBI™ Asia Richard Chang, talking about how to construct smart buildings using IoT. The presentation generated more than 170,000 views online

Originally scheduled to take place this June, Computex was downscaled due to postponement. The organizer, Taiwan External Trade Development Council, decided to live stream online talks and invited a number of enterprises including Delta to present their exhibitions online. For this event, Delta's Chief Brand Officer Shan-shan Kuo introduced the headquarters in Taipei, which was awarded LEED Platinum Green Building Certification, and showed Delta's rooftop microgrid and 8K projection technology. Richard Chang, Senior Director of IWBI™ Asia, shared the concept of smart and healthy buildings, which places importance on not only green architecture but also the physical and psychological well-being of the users. Wen-hsing Chiang, Senior Director of Delta's Building Automation Solutions Business Unit, also demonstrated how to combine smart energy conservation, health, and comfort in buildings with the integration of energy control technologies and IoT platforms when making green buildings in accordance with WELL Building Standard.

Through Computex Online Talks, Delta provided thorough explanations of its exhibition theme and the highlights of the company's business development. Delta's presentation was generally well-received on social media, generating more than 170,000 views, which was also the most popular among all participating companies.

Lifelike virtual tour for an immersive experience

In the face of the global impact of Covid-19 and the adjustment made by the Computex exhibition, Delta quickly responded and changed its physical exhibition design into an online tour to display its IoT smart solutions and a smart green building that cares for people's health and happiness. From the 8K projection at the lobby, the building automation solutions introduced in the work area, the plant factory & health bar, the outdoor energy infrastructure, to the B2C Innergie charging experience, the graphic planning of each business unit were included in the virtual tour, and viewers could "visit" the exhibition anytime using their mobile devices.

Delta's Computex Virtual Tour "SMART WELL BEING" builds a booth to introduce green buildings

Delta EMEA launches a brand new 360° virtual tour guided by the virtual character Eva, inviting viewers to step into the virtual booth

Visit trade fair at Home - 360° Virtual Tour for Hannover Messe

Hannover Messe is one of the world's most important trade fairs for industrial technology. Due to the pandemic, it was cancelled for the first time in its 70 years of history. Delta EMEA launched a 360° Virtual Trade Fair on the original opening dates of the event. Extending from different themes, the tour laid out all the solutions provided by Delta EMEA. With the detailed explanations offered the virtual character Eva, viewers were able to click on menus to know more about Delta's products and solutions.

This time, Delta EMEA used "Pioneering Energy-efficient Infrastructure Technologies" as the theme and demonstrated innovative and energy-efficient smart solutions in the fields ranging from 5G, IoT edge computing, electric cars, to smart manufacturing, including industrial automation, building automation, telecom power and edge data center solutions, solar inverters, EV charging infrastructure, LED lighting, and thermal management solutions.

Combine physical and virtual exhibitions at China International Industry Fair. All-rounded communication online and offline

China International Industry Fair is an indicative fair for China's industrial automation. It was also one of the few large fairs that could still be held in the second half of 2020. In addition to building a physical booth at the venue, Delta also set up a virtual booth online for customers that could not attend the event personally. With proportional 3D models, online participants were able to know about Delta's products and major themes using their mobile devices. Through this platform, Delta was also able to collect customer data, explore business opportunities, and promote its brand image. The themes of Delta's exhibition resonated the concept of "IoT Smart Solutions," which focused on smart factories, smart building, and infrastructure, and demonstrated "new infrastructure" that would accelerate smart manufacturing and create a promising future for smart cities.

Delta 2020 Online Tour for China International Industry Fair combines the physical and virtual worlds to highlight the concept of "IoT Smart Solutions" and improve viewers' experiences

The new-normal for exhibitions - combine physical and virtual worlds online

The Covid-19 outbreak has changed the way we interact with one another as well as our lifestyles. It has been a crisis yet a turning point. As we are changing the way we work, the development of the Internet and digital services has progressed, and new opportunities have occurred. With the impact brought by the pandemic, hosting exhibitions online has become an important consideration for enterprises in the future. This new approach has allowed exhibitions to overcome geographical limitations and time differences; participants can visit every exhibition booth at home as they want.

At the same time, developing online exhibitions can also help increase the depth and breadth of brand communication and maintain the connections with customers. In terms of breadth, diverse audiovisual materials and social medial live streaming strengthen the effects of conveyed messages. With regard to depth, immersive 3D virtual booths enrich viewers' experiences together with audio tours. While online technology will make the content of exhibitions even more flexible, the combination of digitalized and physical exhibitions will become the norm in the future and augment brand communication.

About Computex Online Talks：
https://www.youtube.com/watch?v=wF2PLBMJKac

About Delta Computex 2020 Virtual Tour：
https://www.youtube.com/watch?v=PJQpVDvjyxY&t=18s

About 360° Virtual Tour for Hannover Messe
http://digitalexhibition.delta-emea.com/

About China International Industry Fair
https://ias.plant360.cn/vtour/tour.html

Delta's automated inspection solutions ensure notebook cooling fan quality and increase reliability

Text by IABG

Delta has recently integrated its machine vision system with automated industrial robots on its own production lines in Wujang, China, to inspect the welding of laptop cooling fans. The automated inspection solution implements fast welding inspection during cooling fan production and ensures fan quality.

Delta adopts the Machine Vision System DMV2000 Series and two Selective Compliance Assembly Robot Arms (SCARA) for high-performance inspection. The DMV2000 Series accurately positions the iron cases on a tray, and the robot controller DCS Series drives one SCARA robot DRS60L to load iron cases of laptop fans with vacuum suckers and unload them onto the welding inspection machine.

Delta's automated inspection solutions ensure rapid workpiece positioning with the machine vision system, improve efficiency for welding inspection of laptop cooling fan shafts and iron cases, and enhance fan quality. The solutions are suitable for various applications and for workpieces or products without angle variation such as screw holes.

Delta recently implemented welding inspection of laptop cooling fans on its own production lines in Wujang, China

Delta's highly efficient extrusion blow molding machine solutions optimize the forming process and wall thickness control

Text by IABG

Blow molding machines are common in plastic container production. A conventional blow molding machine usually operates with hydraulic pressure. It cannot produce precise wall thickness and consumes much energy. In addition, it fails to inject plastic consistently into clamp molds with a stable force, which results in an uneven wall thickness of a container.

Delta controls the extrusion pipe diameter with its Hybrid Energy Saving System (HES) and servo systems. With the integration of the All-electric Injection Molding Machine AOP Series which provides a control interface for parameter setting and the PC-based Host Motion Controller MH2 Series which has a built-in EtherCAT, users can easily perform synchronous multi-axis motion control including the core pin axis, wall thickness control axis, and mold clamping axis.

Delta's highly efficient extrusion blow molding machine solutions provide the following benefits:

- Flexible programming
- A PAC platform for quick response
- Integrated wall thickness control
- All electric and hybrid operation


Delta's extrusion blow molding machine solutions integrate all-electric controller, servo systems, and the HES system for high accuracy and stability, and powerful hybrid mold clamping

Delta launches the newly micro-module datacenter – Dynamic-Beyond series

Text by DGC

As data centers continue to upgrade and expand, the large amounts of data as well as land prices needed also increase accordingly. To meet the expanding demand, IDC providers all hope to have more server racks set up in a limited space when building new data centers. In the long run, reducing energy consumption and utility costs for operation and maintenance will also be important considerations for IDC providers when selecting data center infrastructure solutions.

In response to these market needs arising from users of medium and large data centers, Delta has launched a new Dynamic-Beyond series Datacenter which is developed from the Dynamic series of micro-module solutions. The new series focus on the actual needs of IDC users and provide more efficient and low-power options. Taking one of Delta's IDC project built for the operator of a large-scale video website with bullet screens as an example, it offers the following distinctive advantages:

1. Server rack cooling: efficient heat dissipation, energy-efficient and environmentally friendly
   · The server rack utilizes the backplane air conditioning solution, which makes the server quickly cool down to an average of 22°C
   · The utilization rate of the cooling capacity can reach up to 100%
2. Integrated design: reasonably planned to save space
   · Built in with backplane air conditioning and a busbar-design for the whole server room; with 50 more racks installed compared to conventional solutions
   · The storey height of a traditional solution requires up to 2.5m, while that of Delta requires only 2.2m
   · Saving 30% of space compared to conventional server room, and 20% compared to micro-module server room
3. Distributed power supply: easy to assemble, saving you time

Delta Dynamic-Beyond series micro-module datacenter offers you a more efficient and low-power option

Built-in with backplane air conditioning and a busbar-design for the whole server room, this new IDC created by Delta has 50 more racks installed compared to the conventional solution

In addition to the above three advantages, Delta, as a provider of all-in-one data center solutions, also offers fully integrated smart management solutions when planning and designing the data center. By utilizing DICM data center operation and maintenance management system, each row of racks is intelligently managed through a 10-inch touch screen that integrates four core systems - racks, power distribution, cooling system, and access control in the same interface. The system is simple and clear, easy to operate, making it convenient for day-to-day operation and maintenance by management personnel.

Inheriting the successful application know how of Delta's Dynamic series in many industries and the reliable experiences accumulated in the field of data centers, the Dynamic-Beyond series have been successfully deployed to build a level-A datacenter with a total area of 1500m² and about 500m² of server room, which is already put into use, making the new series a more sustainable and smart solution than solutions of similar class.

Delta LOYTEC helps build smart campus with IoT

Text by DGC

Delta LOYTEC helps build smart campus with IoT

Delta LOYTEC's IoT-based smart building solutions have yet again been adopted by a campus. A unified system platform realized the intelligent management of the electromechanical equipment in the eight campus buildings. And an IoT architecture platform was built to integrate 3 major systems, namely building automation, smart lighting, and energy management.

In this solution, Delta's LOYTEC building automation system significantly improved management efficiency by incorporating large electromechanical equipment on each floor of the eight campus buildings, including AC, indoor environment monitoring, ventilation, plumping, VRV air conditioning, elevator, and power distribution systems, onto a unified platform for management and monitoring. Delta's smart lighting software, LWEB, can easily perform local or remote lighting control of individual areas based on outdoor lighting, electricity demand, etc., to ensure pleasant yet energy-efficient lighting of the building. Additionally, Delta's energy consumption system provides real-time energy consumption status with visualized energy consumption data from all pieces of equipment, so that schools can take appropriate measures to save energy by accurately analyzing data. In this solution, the all-IP architecture of the platform also enables precise management of equipment and systems. The platform equipped each floor of every building with a DDC module with CPU, making multi-story control impossible and ensuring devices work independently without interfering with each other.

With an IoT-based smart building solution, Delta's LOYTEC brought about greater integration of equipment and IoT in the entire building through an open platform, promoting "smart campuses" by helping schools with digitalized and intelligent management.

Delta's micro-module datacenter transforms taxation bureau's server room

Text by DGC

Delta's Dynamic Series micro-module data center transforms the taxation bureau's server room

This example is a server room renovation project done by Delta for a taxation bureau in Central China. As the core server room of the entire regional tax system, it involves core tax data, network transmission, and core storage systems. The system necessitates reliable operation with high security level while meeting the requirements for energy efficiency set by the State Taxation Administration, and accommodating to the spatial constraints of office buildings.

Delta found that the overall floor-to-floor height of the old server building of the taxation bureau was too low for common micro-module solutions in the industry to meet the height requirement.

Delta's Dynamic Series of micro-modules data center has the following advantages:

High system reliability

In the event of a power module failure, the ModulOn DPH Series modular UPS was able to automatically synchronize and switch to backup modules to ensure continuous UPS operations

Low energy consumption

More precise cooling solves the problem of hot spots. Contained, isolated cold aisles make it impossible for the interference between cold and hot airflows, thereby preventing heat island effect caused by airflow cross-interference.

Intelligent management by the DCIM system

Dynamic environment monitoring, videotaping, and access control are integrated. Unattended operation is accomplished with the remote web viewing function that allows for accessing real-time operational information of the server room anywhere.

Hohhot Metro’s large-sized 4K command and dispatch monitoring screen built to ensure safety

Text by DGC

Hohhot Metro is an urban rail transit system serving Hohhot, Inner Mongolia. Its first line, Hohhot Metro Line 1, was put into trial operation at the end of December 2019. With its rich and successful experience in the rail transit industry, Delta cooperated with Hohhot Metro to provide 2 sets of laser DLP large-screen display systems for the Hohhot urban rail transit project.

The entire system utilizes Delta's DVCS3 distributed image control system. The DLP large-screen system for the Line 1 dispatch center mainly displays the train signal system, the integrated monitoring system ISCS, and the video CCTV system signals. The DLP large-screen system at the emergency command center is used for the emergency command of the entire rail transit system, where the system signal of Line 1, as well as the signal of other lines, can all be displayed. The two sets of DLP large screens can help realize interconnection and interaction, for the safe and orderly operation of urban rail transit in Hohhot.

Hohhot Metro has a large-sized 4K command and dispatch monitoring screen built to ensure safety of rail transit

The Delta DLP large screen system features the following:

Connection and display for multiple application systems

It supports signals from computers with mainstream operating systems such as Windows, UNIX, Linux, etc., signals for IP digital video surveillance, and high-definition video signals for flexibility in control and management.

Large area and high-resolution display

The advantages of ultra-high resolution, large full-screen display, and integrated display of screen views for multiple application systems help realize the centralized management.

Unified display and partitioned display

The entire display screen can be divided into multiple functional areas for management via partitioned displays according to business needs and can be used as a unified ultra-high-resolution display platform to display a certain signal.

Interconnection, sharing signal source

The signal sources between multiple DLP large-screen systems can be interconnected and shared, so that applications can be displayed on different sizes of large screens.

Capacity for system expansion

When the user upgrades the system in the future, he/she only needs to add the corresponding module and upgrade the software to meet the needs for future expansion.

Delta's automated testing solution improves development efficiency and product quality of EV chargers

Text by EISBG

Delta's automated testing solution improves development efficiency and product quality of EV chargers

EV charger equipment is characterized by precision and complexity. Traditional testing equipment has no built-in communication protocols, hence cannot enable communication between electric vehicles and chargers. It only tests power-related items, but not the performance of a charger while charging an EV. Nor can it simulate all possible usage scenarios, thereby creating testing gaps and underlying concerns for future products.

To test Delta’s own EV charger products, the manufacturing and testing equipment department specially developed an automated testing solution for chargers that is compatible with mainstream CHAdeMO, ISO15118, and DIN70121 communication protocols and capable of detecting whether a charger can communicate with electric vehicles on the market. Once communication is established, system functions or components such as panels and buttons can be further tested. It can even simulate various usage scenarios (such as simultaneously charging by using multiple connectors) to verify if chargers are able to maintain high efficiency under any usage conditions. Be it an AC or DC charger, the solution can thoroughly test out compatibility with various communication protocols and charging functions of chargers.

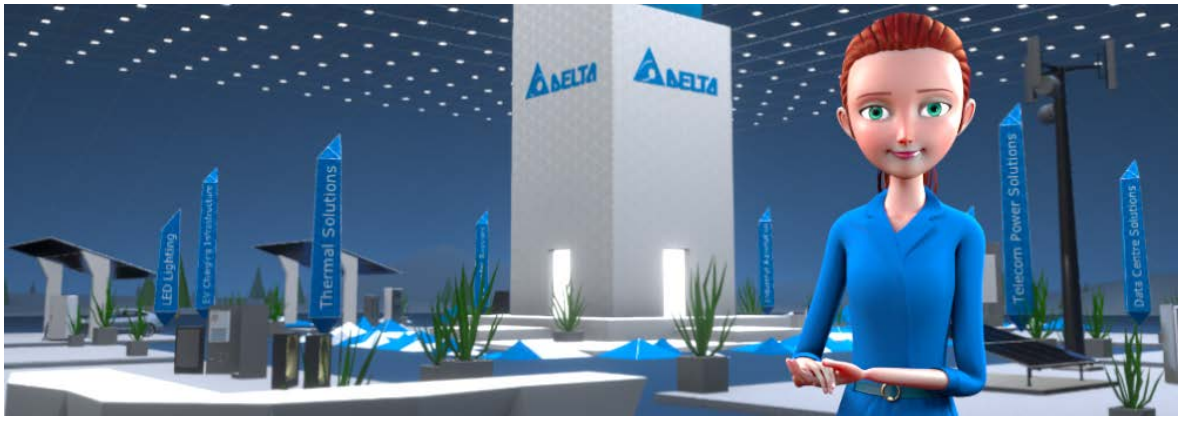
The system is equipped with Smart 1 integrated software testing platform that includes complete testing items. Once specific items are selected, a testing will be automatically activated, which considerably reducing the testing time in the past from one or two weeks to a few hours. Delta's automated testing solution significantly enhances the test efficiency of chargers during R&D and shortens market response time. Fast, plentiful, and accurate testing takes Delta's product quality of chargers and related development speed to the next level.

In addition to serving internal customers, the automatic testing equipment will also be promoted to a broad array of global manufacturers of electric vehicles and charging equipment.

Pioneering Energy-efficient Infrastructure Technologies - Delta EMEA launched an innovative digital exhibition

Text by Delta EMEA

An interactive experience of Delta's portfolio including energy-efficient solutions for 5G and IoT edge computing, e-mobility and smart manufacturing



Delta EMEA launched an innovative digital exhibition under the theme 'Pioneering Energy-efficient Infrastructure Technologies' to unveil new smart and energy-efficient solutions for 5G and IoT edge computing, e-mobility, as well as smart manufacturing. Through this experience, you can interact with a wide range of Delta products from various verticals, including industrial automation, building automation, telecom power solutions, edge datacentre solutions, PV inverters, EV charging infrastructure, LED lighting, thermal solutions and display solutions. As we strive to provide innovative, clean and energy-efficient solutions for a better tomorrow, in the post-pandemic environment, we're bringing you Delta's solutions and offerings in an innovative, green and efficient way.

Commenting on Delta EMEA's innovative digital exhibition, Mr. Dalip Sharma, president and general manager of Delta for Europe, Middle East & Africa (EMEA), explained: "During the current pandemic environment, we stay ahead of the curve by providing an innovative and sustainable platform to present our pioneering energy-efficient infrastructure technologies. In fact, our new modularised data centre solution, ultra-fast EV charger and digital system for smart manufacturing echo Delta's mission "To provide innovative, clean and energy-efficient solutions for a better tomorrow," by being able to meet the demands of our customers in an ever-changing world."

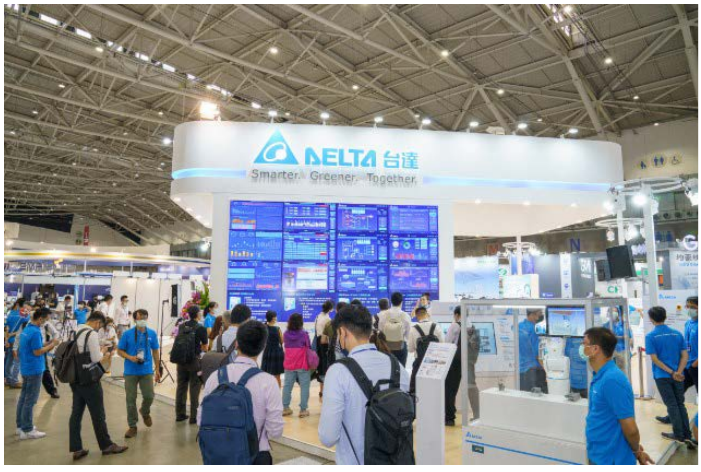
Throughout the experience, Delta would also like to invite the visitors to work together with Delta to build a greener world. Visitors are invited to seek out four small trees carefully hidden across the exhibition. Once all four have been collected, visitors are able to 'convert' them into one actual tree, planted by Delta in collaboration with One Tree Planted. Delta offers the visitors a chance to explore Delta's clean and energy-efficient solutions in an innovative approach and cooperate with Delta to make the environment better for tomorrow.

To see the full range of Delta's pioneering solutions including industrial automation, building automation, telecom power solutions, edge datacentre solutions, PV inverters, EV charging infrastructure, LED lighting, thermal solutions and display solutions, please visit the virtual exhibition at digitalexhibition.delta-emea.com.

Digitized automation for a changing world - Delta showcases cloud-based smart factory at Taipei automation show 2020

Text by IABG

Delta just participated in the Taipei Int'l Industrial Automation Exhibition 2020 (Automation Show 2020). Focusing on the theme of "Digitized Automation for a Changing World", Delta integrated cloud and IIoT technology, manufacturing platforms, smart equipment and advanced automation products to present a Factory Control and Monitoring Center, Smart Manufacturing Solutions, Industry-specific Solutions and Smart Machine Suite & Advanced Automation Products. Each of the topics covered Delta's latest solutions, equipment and products, including the highlighted edgeMES (MES and operation management for machine making), electronics assembly solutions based on Delta's real experience, and smart equipment including a robot grinding solution, loading / unloading robot workstation, and AI-based six-sided inspection machine.



Delta participated in the Taipei Automation Show 2020 from August 19th ~ 22nd and attracted many visitors with the theme of "Digitized Automation for a Changing World"

IABG GM Andy Liu introduced Delta's latest smart manufacturing solutions to the media and visitors

Andy Liu, the General Manager of the Delta Industrial Automation Business Group (IABG), pointed out that many industries have been severely impacted by the COVID-19 pandemic, yet some new businesses and opportunities have emerged. "Because of the coronavirus outbreak, the IABG expects a major sales increase coming from healthcare-related industries such as surgical masks, protective clothing, and respirators. We are also seeing an acceleration of automation and smart solution implementation in many industries due to the unpredictability of human and external factors," said Andy.

To showcase cloud-integrated smart manufacturing for customers, Delta is using a large-scale TV wall to demonstrate its digital control and monitoring center for manufacturing. Smart solutions for electronics and other target industries are also featured for upgrading equipment, production processes and factories. Andy affirmed, "We are helping our customers enhance their competitiveness and prepare for post-pandemic growth with Delta's smart manufacturing."

Smart Manufacturing Seminars & Live Streaming

Delta held two seminars per day at its booth along with live streaming on YouTube during the tradeshow. The seminars focused on topics such as Transformation for Factory Digitalization, Cloud-integrated Smart Factory, Smart Equipment, Electronics Industry Solutions and more. On August 20th, the announcement of the new edgeMES for Machine Making with Microsoft and Trend Macro during the seminars attracted many visitors onsite and a large audience on YouTube. Please feel free to go to Delta Industrial Automation's YouTube channel to watch the live streaming at: https://www.youtube.com/watch?v=OCxwslxdLxg , or search "Delta Industrial Automation" on YouTube.

Delta attends ISLE, releases "8K" as annual technology keyword

Text by DGC

Mr. Li Zhu, the Director of Video Conferencing System Business Group of Delta Greentech, announced "8K" as one of the annual technology keywords

Delta participated in the 2020 ISLE and was invited to the "Win-win Cooperation, Advanced-Professional—Informationized Audiovisual Industry Summit Forum" as a corporate representative to release one of the top ten annual technology keywords, "8K." With its technological maturity and market knowledge, Delta will join forces with the film and television industry to foster the industry growth for ultra-high-definition 8K technology.

Mr. Li Zhu, the Director of Video Conferencing System Business Group of Delta Greentech, stated that Delta's 8K laser projector, with up to 33.17 million pixels, made a breakthrough in rendering real images. The stunningly detailed image quality appears to be hyperrealistic to the human eye, providing a hypnotic, immersive experience. This technology is capable of revolutionizing public performances, broadcasting, planetarium, simulation, visualization, and other applications in various fields in the future. With the broadening of channels and the increase in transmission speed, the 8K industry enjoys a bright prospect in the 5G era.

Delta's 8K projection technology has been widely utilized in numerous important events globally, such as Integrated System Europe 2018, NHK's broadcasting of the Winter Olympics, and the 2019 premiere of the 8K environmental documentary Water with Life in Taiwan at the National Museum of Natural Science in Taiwan and its special screening at the Akihabara Theater in Japan. Funded by Delta and produced by NHK Enterprises in Japan, the 8K ultra-high-definition environmental documentary Water with Life in Taiwan has won a Gold Remi Award in the Shorts Documentary category at the 53rd WorldFest-Houston International Film Festival.

Delta and BOI join hands to support Thai suppliers with business matching event for new normal recovery

Text by Delta Electronics (Thailand)

Delta Electronics (Thailand) PCL. and the Thailand Board of Investment (BOI), collaborated to support Thai suppliers by holding a business matching event at Delta's Bangpoo headquarters.

Thai manufacturers are invited to discuss opportunities to become suppliers for Delta

Mr. Jackie Chang, Delta Thailand President, thanked BUILD for their support and welcomed ThaiSubcon with the 50 qualified Thai vendors and suppliers who joined the event after vetting by BUILD. At the showroom, Mr. Kasemson Kreuatorn, Delta's Senior Regional Manager for Industrial Automation, presented Delta's unique Industrial Internet of Things (IIoT) solutions which use DIACloud communications, control and field devices for factory processes and building management.

Delta works with the BOI and Thai research and industry partners to develop local solutions which protect medical personnel during the COVID-19 crisis. Delta welcomes local partnership as it leverages its industrial automation and ICT infrastructure solutions to support Thailand's economic recovery in the new normal. Delta fully supports this latest BOI initiative, which provides all parties a win-win arrangement and opportunity to build on advanced technology partnership among companies based in Thailand.

Established in 1992, the BOI Unit for Industrial Linkage Development (BUILD) supports industrial linkage and use of industrial parts manufactured in Thailand.

Delta Thailand joins Thaipat Institute's ESG100 Universe 2020 in sixth consecutive year of recognition for sustainability

Text by DET

Delta Electronics (Thailand) joins 100 of Thailand's best-performing public listed companies for Environmental, Social and Governance (ESG) aspects in the Thaipat Institute's ESG100 Universe for the 6th consecutive year. Among 803 SET and MAI listed companies assessed by the Thaipat Institute this year, Delta is one of the 100 leading companies chosen for the ESG100:2020 list.

Launched in 2015, Thaipat Institute's ESG Rating Unit compiles the ESG100 list based on the guiding principles of the Global Initiative for Sustainability Ratings (GISR). The Thaipat Institute divides the companies on the ESG100 list into eight categories with Delta among the top companies in the tech category.

To this day, Delta is in every one of Thaipat Institute's annual lists for most outstanding ESG performers on the Thai stock market. This year's inclusion in the ESG100:2020 is a testament to Delta's effective sustainable development strategy and excellent value-add for investor and stakeholders.

Since listing on the Stock Exchange of Thailand (SET), Delta has gained the trust of investors through its commitment to sustainable growth and corporate citizenship that brings lasting benefits to all its stakeholders. This commitment aligns with the company's brand promise: Smarter. Greener. Together.

Delta BIC Solution wins Alighting Award for technology excellence

Text by BABG

The Delta BIC Solution was recognized for its exceptional performance and won the Alighting Award for Excellence Technology

Delta's Bluetooth® Intelligent Control (BIC) has won the 2020 8th Alighting Award for excellence in technology. The BIC solution uses lighting fixtures to build a mesh network in a building. The solution is able to not only adjust the light brightness and color temperature, but also create a comfortable and healthy lighting environment.

The Delta BIC Solution is recognized for its excellence in technology for the following three important features:
1.The USB interface is compatible with different communication modules, which effectively shortens the product development and reduces the costs.
2.The solution can solve the location issues of communication and power supply via using lighting fixtures as communication nodes.
3.The BIC solution can enhance coverage of the network and accuracy of positioning, which ensures the maximum use of the remaining bandwidth of the wireless lighting control system.

The Delta BIC solution in Changhua Christian Hospital can dim and schedule control, delivering a total energy savings up to 76.9%. In addition of energy efficiency, the connected lighting mesh network can create a tracking system for medical equipment. The BIC solution was installed in general wards, intensive care wards, and ER observation rooms. Nurses can carry out automatic asset checks throughout the system without having to search everywhere for equipment. This reduces the workload for assets checking, and the manpower needed during handover, which further improves property security.

Delta Controls' exceptional growth diversification and technology development merit Frost & Sullivan Company of the Year Award

Text by BABG

Based on its recent analysis of the global building automation systems (BAS) market, Frost & Sullivan recognizes Delta Controls, Inc. with the 2020 Global Company of the Year Award. Its development and convergence of technologies, strategic partnerships, best-in-class technical support.

"The O3 Sensor Hub 2.0, Delta Controls' IoT-enabled solution, utilizes sensor fusion technology with standard built-in building automation protocols. It reports interior temperature, occupancy, humidity, lighting, heating" said Neha Tatikota, industry analyst. "Individual O3 Sensor Hubs and edge controllers can be connected via the cloud to Delta Controls' enteliWEB facility and energy management software to track and control building conditions and energy usage."

The company has taken system integration to the next level.The O3 Sensor Hub open platform supports multiple protocols to integrate with almost of system, including native BACnet, MQTT and REST API for third-party integration, and BLE API for custom app development. Adopting the Earthright ethos, the company practices and helps clients achieve sustainability through energy-efficient buildings.

"Delta Controls has ambitions to diversify its growth beyond its core markets. It has extended its reach to India through OEM partnerships and has established a footprint in the competitive market," noted Tatikota. "It also offers a cost-effective software-as-a-service option for commercial office space, retail, education, and healthcare customers that want a connected digital experience and bundled smart solutions. These solid expansion strategies, backed by visionary technology development and product leadership, have positioned Delta Controls as a serious contender in the global BAS market."

The O3 Sensor Hub 2.0 utilizes sensor fusion technology with standard built-in building automation protocols

Delta won dual awards in the 16th UPS Customer Satisfaction Survey

Text by DGC

Recently, at the 2020 16th Technology Summit for UPS Power Supply System and Infrastructure & Announcement for User Satisfaction Survey Results jointly organized by China Computer Users Association, Beijing Institute of Electronics, China Green Data Center Advancing Federation, UPS Applications Magazine and Jifang360, Delta won the dual awards of "2019 Top 10 Corporate Brands" and "Star of Technological Innovation". This is also the eighth year Delta has been listed on the industry's authoritative awards list. At the same time, the organizing committee also awarded Dr. Charles Wenyin Tsai, Chief Technology Officer of Delta's ICT Infrastructure Business Group, Outstanding Contributor to the Development of the Industry for 20 Years, affirming Dr. Tsai's unremitting efforts for the development of the power supply industry over the years.

Delta won the Star of Technological Innovation Award for its core competitiveness in R&D and innovation

The event organizing committee stated that "Delta has always regarded R&D and innovation as its core competitiveness, providing users with leading data center infrastructure solutions, including products such as UPS (uninterruptible power supply system) systems, communication power supplies, cabinets, and precision air conditioners that have won the awards of 'Top 10 Enterprise Brands' and 'Star of Innovation' this time, reflecting the recognition and affirmation of Delta products and technologies by users of the power supply system."

As expressed by Dr. Tsai, Chief Technology Officer of Delta's ICT Infrastructure Business Group, "We thank the organizing committee for affirming Delta's achievements and efforts to promote industry development. Under the current trend, with the explosive growth of global Internet big data and the implementation of 5G applications, the industry has put forward higher requirements on the energy consumption and reliability for data centers. Delta will utilize more than 40 years of its core technology capabilities in power electronics to develop product solutions that meet industry needs, and look forward to providing customers with green, smart, and high-efficiency power management solutions."


Dr. Charles Wenyin Tsai, Chief Technology Officer of Delta's ICT Infrastructure Business Group, was selected as Outstanding Contributor to Industry Development for 20 Years

Delta's robots have promising prospects. Industrial robots are regarded as an important piece of the Industry 4.0 puzzle

Text by IABG

Since the German government revealed Industry 4.0 strategy, global manufacturing has entered a new era of digitalization and smart manufacturing. In line with these business transformations, "flexibility of manufacturing" has become a primary goal of manufacturers, which is increasing the demand for industrial robots. Peter Peng, Director of Delta's Robotics Automation Dept., said, "We have seen the robotics market continue to grow with production values and shipments increasing since 2012. The market expansion reached a peak in 2017, when the shipment growth rate rose 40%. Although many external factors have had impacts on the market and resulted in a period of slow growth from 2018 to 2019, people are still optimistic about the prospects of the robotics market and anticipate a next wave of growth after 2020."

In response to market demands, Taiwan still implements small amount production with diversity, and has put special emphasis on flexible functions and a high ROI of robotics to catch up with fast changing industries. To improve the price-performance ratio and system efficiency of robots and to increase added value, domestic robot manufacturers need to simplify robot operations and integrate robots with various applications.

Peter Peng pointed out, "Delta's competitive advantage is that we have the electronics processing technology and years of experience in developing automated key components for integration with robotic solutions. In addition, Delta can learn from actual tests and production with its own electronic components and automated production lines to improve robotic solutions. We always test and verify every product and improve weaknesses per the user experience before launching on the market. In terms of market demand, both the automobile industry and the electronics industry require robotic automation. The experience we have accumulated is a great help for our business expansion into these industries."

Delta has developed Selective Compliance Assembly Robot Arms (SCARAs) and six-axis articulated robots for various industries and has designed dedicated functions including conveyor tracking and inspection on the fly for easy operation.

Delta has recently launched robot simulation software – DRASimuCAD – integrating CAD, CAM and robot simulation programs for smart manufacturing. DRASimuCAD allows users to simulate workpieces, the working environment, or equipment with the 3D modeling function, as well as import dozens of CAD files, and configure layouts by dragging and dropping icons built into the software library. The simulation consists of CAM processing path auto-generation, physical robot operation, a programming interface, processing time estimation, possible collision detection and prevention, and parameter optimization. The DRASimuCAD achieves smart design with the integration of virtual and real conditions.

With the simulation program, users can rapidly perform simulation programming of a workstation, robotic tutorials and auto-programming before system setup. There is no need to wait until the physical settings are complete. In the footwear industry, for example, this simulation program can help footwear manufacturers simulate the processes of gluing, polishing, path point teaching and multi-point teaching before production, which increases their inclination to adopt robots on production lines.

Delta integrates robots with motion control for automated production with high utilization rates and product yields for industries, including electronics, home appliances, packaging, food and beverages, automobile components and more. Delta's experience in diverse applications and industries contributes to its development of robotic solutions and products.

Peter Peng, Director of Delta Robotics Automation Dept., is optimistic about the development of the robot market in Taiwan

Taiwan has been playing an important role in the global machine tools industry. It has continuously improved the integration of machine tools and robot arms, and is now putting the emphasis on domestic brands of robot arms

Delta Electronics Japan marketing team

PEOPLE

Delta Electronics Japan marketing team

Text by Delta Electronics (Japan)

For Brand People of this issue, we interviewed Mr. Sakaguchi, Marketing Supervisor of Delta Electronics Japan (DEJ). Also, for this time of "People", we invited the DEJ marketing team to share their work experience. Located in Minato, Tokyo, the team promotes the brand in the publicity activities held in Northeast Asia with professional division of labor and flexible management mechanism.

Kouichi IKEDA / Assistant Manager

I have already joined Delta as well as its DEJ marketing team for seven years and nine months. The main content of my work is to plan exhibitions and publicity ads, ranging from pre-exhibition planning, activity execution to exhibition layout, in the hope of achieving the best brand publicity. In addition, I am also responsible for planning product promotional films and company's exhibition design. These are very precious experience for me. Other than requiring understanding all of Delta's products, I also need to do multi-unit communication and coordination. Although the process is not easy, I feel fulfilling at the same time. I would like to make every effort to try everything I want, and I always cherish the opportunities given by the company.

Alex CHUANG

I have worked for the DEJ marketing team for four years and three months. My job is divided into two categories of legal related affairs and organization of strategic reports as well as budget proposals. The legal task items include contract review, litigation cases and colleague legal consultation. Currently, we have tried to introduce artificial intelligence automatic review to enhance our work efficiency. On the other hand, DEJ has also provided legal related study program to reinforce colleagues' legal common knowledge and help business promotion. When handling legal related tasks, it is crucial to make any objective judgment and acquire important information in the position of third parties at any time. I think it is very important to deal with work with an "active and aggressive" attitude and find out the real meaning behind each case, so as to make the initiative to take on the challenge and not to have inertia affect my work motivation or life.

Aaron YANG

It has been three years and one month since I joined DEJ. I am routinely responsible for webpage management, digital marketing, and assistance in exhibition planning. Last year, we performed 10 exhibitions, but as affected by the pandemic this year, we have planned a digital platform to strengthen external brand communication. I have often been put in cross-cultural and cross-functional communication. However, with its cultural diversity, Delta is like a big family where colleagues coordinate with each other to meet their optimal balance. In addition, Delta has also offered its personnel the opportunity for diversified trial and development, so they can exert their forte on the stage as much as possible.

Marco HUNG

I have served DEJ for almost three years. My responsibility is to support business activities, such as preparing promotional materials and catalogues required by business promotion, assisting large format designs for exhibition, and organizing the company's exhibition planning and product introduction. Amid the cumbersome task atmosphere, I have devoted my effort to cultivating my enthusiasm to every task and confirming clear goals through continuous communication with our partners, although it is not an easy job. Nevertheless, I am convinced that if I make an all-out effort with an aggressive attitude to confront challenges, it will end up with good results.

Keina ISHIZAKI

I have been with DEJ for almost two years. I mainly support the PVI unit for the tasks such as exhibition and advertising poster production, etc. At the same time, I also take charge of Delta's brand promotion in Japan, such as film and webpage production, maintenance of SNS text, etc. The video production of the Yokohama Electric Vehicle Charging Station covered by "Special Report" at this issue was planned by me, and it was really a fantastic experience. The challenge I often face in task execution is to clearly express my ideas and thoroughly comprehend the message from the other side. DEJ's semiannual general conference helped me observe the way each colleague speaks and the point of view they wish to convey. On the other hand, the experience as an interpreter has also helped me understand varying ideas from everyone else.

Cost effective 35W - 350W PMT2 series in low profile design

PRODUCT

Cost effective 35W - 350W PMT2 series in low profile design

Text by DET

Delta PMT2 Panel Mount power supply series now offers power ratings of 35W, 50W, 75W, 100W, 150W, 350W single output and 75W dual output. A wide range of 12V to 48V outputs are available for 35W - 350W models, while the two 75W dual output models are available in 5V/12V and 5V/24V. This series is designed based on a common profile of ≤ 30mm height and can withstand shock and vibration requirements (in accordance to IEC 60068-2-27 and IEC 60068-2-6 respectively). Despite the smaller form factor, the PMT2 can still operate a wide temperature range from -30°C to +70°C. The lightning surge immunity meets IEC 61000-4-5, Level 4 (CM: 4kV, DM: 2kV).

Safety approvals includes IEC/EN/UL 62368-1 and IEC 60950-1 while most models meet IEC/EN 60335-1, IEC/EN 61558-2-16 for household electrical appliances safety approvals. EMI standard complies to EN 55032, Class B.

Highlights & Features:

- Household appliance approvals according to IEC/EN 60335-1, IEC/EN 61558-1 and IEC/EN 61558-2-16 (Except 350W models)
- OVC III and Pollution Degree 3 (Except 350W models)
- No load power consumption
  < 0.3W for 35W, 50W, 75W, 100W, 75W Dual models < 0.5W for 150W models < 0.75W for 350W models
- Low profile design: ≤ 30mm height
- Over voltage category III (Except 350W models)
- Wide operating temp -30°C to 70°C (Support -40°C cold start)
- Conforms to harmonic current IEC/EN 61000-3-2, Class A
- High MTBF > 700,000 hrs per Telcordia SR-332

New compact PMC series 24V 600W with remote sense

PRODUCT

New compact PMC series 24V 600W with remote sense

Text by DET

Delta's latest 24V 600W power supply is now 20% smaller. As part of the PMC Series of Panel Mount power supply, the PMC-24V600W1RW provides 24V output voltage with high efficiency > 92% @230Vac. Leakage current has been reduced to less than 0.75mA, whilst maintaining Power Factor levels up to 0.99. The product has a wide operating temperature of -20°C to 70°C, power de-rating from 50°C. Additional features include remote sense and remote on/off, built-in fan speed control with fan lock protection and conformal coating on the PCBAs to provide protection against dust and chemical pollutants.

The PMC-24V600W1RW is certified to IEC 60950-1, IEC/EN/UL 62368-1, GB 4943 of CCC, K 60950-1 of KC and EAC marks. EMI approvals to EN 55032 Class B. Suitable applications include machine automation, banking machine and showcase.

Highlights & Features:

- Universal AC input range
- Power Factor up to 0.99 with active PFC
- Surge Immunity IEC 61000-4-5, Level 4 (CM: 4kV, DM: 2kV)
- Wide operating temperature range -20°C to 70°C
- Built-in fan speed control and fan lock protection
- Conformal coating on PCBA to protect against chemical and dust pollutants
- Constant current circuit for reactive loads
- Design compliance with Japan PSE (DENAN)

2020 is the Key! Now is the time for global "sustainable" recovery plan

2020 is the Key! Now is the time for global "sustainable" recovery plan

Text by Delta Electronics Foundation

"It is estimated that the recovery plan proposed by IEA will require investment amount of USD1 trillion over the next three years (2021-2023). It can add 1.1% to economic growth for each coming year, create 9 million jobs and reduce 4.5 billion tons of carbon emissions, and even reduces air pollution by 5% as a result of the plan."

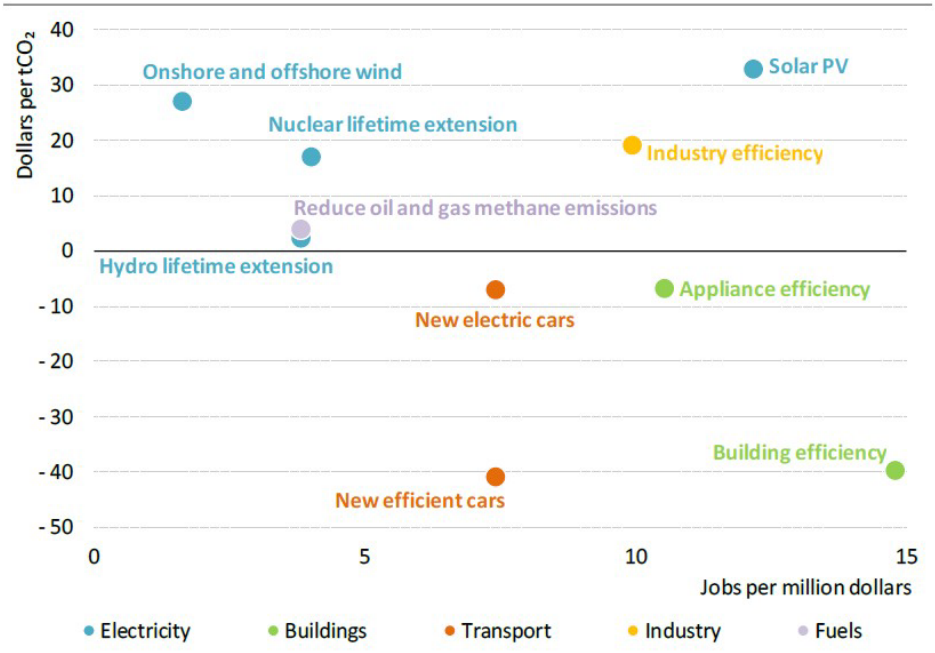
The International Energy Agency (IEA) and International Monetary Fund (IMF) jointly released the "Sustainable Recovery-World Energy Outlook Special Report" in an effort to provide action plans that are clean and cost-effective, making 2020 a year that is different from the past!

The International Energy Agency (IEA) released the "Sustainable Recovery Report" at end of June which provides details of many green actions that can increase economic values and job creation (Source: IEA)

The benefits of sustainable recovery? Covers both job opportunities and health

Firstly, there are three major goals for the IEA plan, namely, "boosting economic growth," "creating jobs" and "building more resilient and cleaner energy systems." The green actions developed from the plan require investment amount of USD 1 trillion in the coming three years. It is expected to bring economic growth of 1.1% each year, save or create 9 million jobs and reduce 4.5 billion tons of carbon emissions, and even reduce air pollution by 5%. IEA recommended six key sectors for targeted investments: electricity, transport, buildings, industry, fuels and emerging low-carbon technologies. Among which, because of its low abatement cost and the potential to create jobs, "improving the energy efficiency of buildings" is a valuable target that can be pursued by various countries!

Figure 3.2 ▷ Global average jobs created and cost effectiveness of emissions reductions for selected energy sector measures



The abatement costs required for implementing measures in selected energy sectors and the jobs created thereof (Source: IEA)

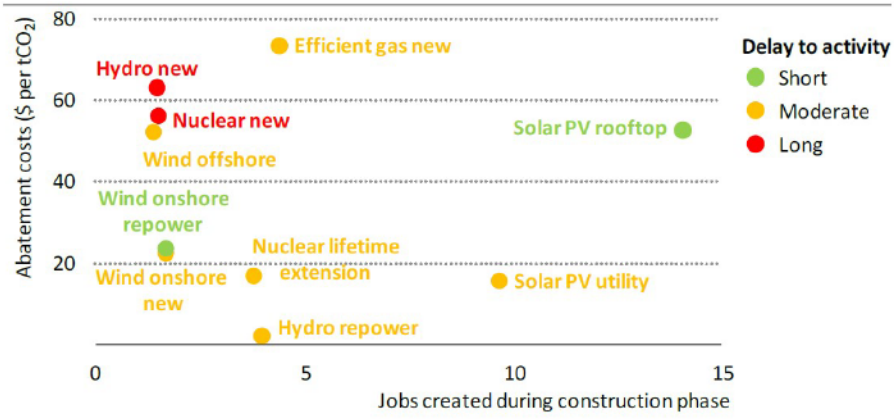
Aligning with the goals of sustainable recovery plan, energy and transportation go greener

Energy demand has shrunk by 20% during the COVID-19 crisis. However, renewable energy is performing well with around 40% of power contribution. In recent years, the costs of solar PV and wind is declining greatly (decreased by 80% and 30~40% respectively). Both are the rising stars in carbon reduction; they not only satisfy the demand of cost effectiveness, but also create many jobs in manufacturing and transportation sectors.

In the transportation sector, lockdown measures have reduced private forms of transport by 40%, and travel demands are 50% lesser than that of the previous year. At this moment, encouraging the public to substitute drives with cycling or walking will bring the greatest benefit to carbon reduction. Re-planning of bike and pedestrian lanes can also stimulate an increase of 500,000 jobs. In addition, rail travel also has a higher efficiency, as it requires 12 times less energy than aviation and automobiles for long distance travel (within 800km).

Currently, electric vehicles are universally recognized. In fact, over the past five years, the cost of battery electric car has reduced by 70% and will continue to decline in the future. However, whether the payback period of electric cars can be shortened mainly relies on the price of oil per barrel. At an oil price of USD 60/barrel, the payback period for electric vehicles is eight years; if the oil price level dropped to USD 30/barrel, this would add two years to the payback period of EVs.

Figure 2.3 ▷ **Job creation per million dollars of capital investment in power generation technologies and average CO_2 abatement costs**



New solar PV and wind have low abatement costs, as do nuclear lifetime extensions and repowering existing wind and hydro facilities; solar PV provides the largest boost to jobs.

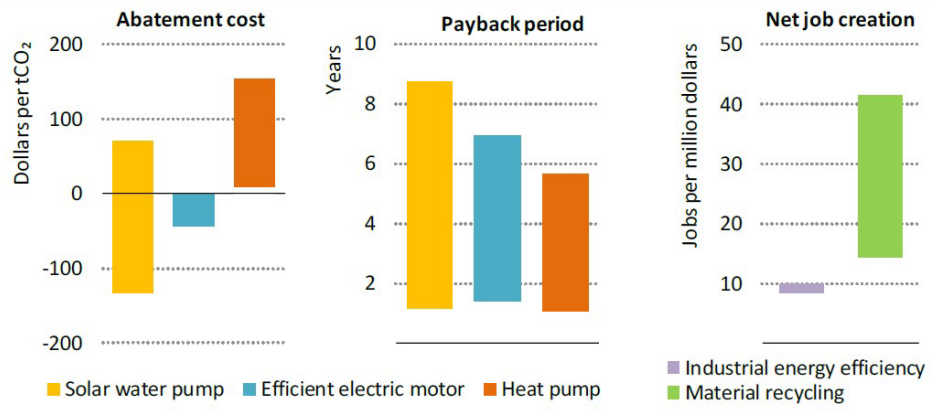
Solar PV and wind power have lower abatement costs, and a higher job-creation potential (Source: IEA)

Renovating buildings comes with benefits. Industry, fuels and innovative technology also have their magic

Due to demands such as remote working, video streaming and conferencing, online gaming and social networking, the internet traffic surged by 12 times than in 2010! Future home energy demands may increase between 7 to 23%. Electricity utility growth may be offset by improving the building exterior combining heat pumps and ways to use renewable energy.

In the industry sector, the most valuable measure is to adopt energy efficient motors that have attractive payback period and low abatement costs of carbon reduction. In addition, improving recycling rate of waste and material is also an important part. In addition to its large job creation potential, an improved recycling rate also generates great benefits: by adding 6% of recycling rate can significantly reduce carbon emissions by 20% from today.

Figure 2.23 ▷ **Performance of measures in the industry sector**



Investment in energy efficiency, material recycling and innovative technologies would help the industrial sector to create jobs and boost GDP while cutting CO_2 emissions.

Investment in improving energy efficiency and material recycling in the industrial sector can help to create jobs and boost economic growth (Source: IEA)

Lastly, in fuels and technology innovation sectors, the options available are reducing methane emissions from oil and gas operations and to develop hydrogen technology and batteries. Hydrogen technologies and batteries alone play a central part in technology innovation; the former is the new favorite of R&D in various countries. And batteries are the prerequisite for electric vehicles to develop rapidly. To realize the electrification blueprint, 10 GWh of battery manufacturing capacity would be needed by 2025.

There are already a couple of effective international recovery plans for a wide range of industries and sectors to choose from. However, in Taiwan, only economic relief plans are set out now. It is hoped that the government would convene cross departmental meetings soon to co-create a more comprehensive plan, so as to accelerate transformation to build back better.

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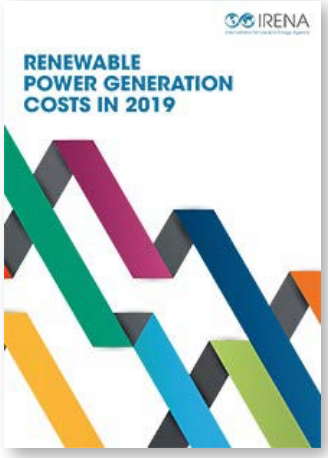
Cheaper than coal? An era of "Affordable Green Energy" is coming

Cheaper than coal? An era of "Affordable Green Energy" is coming

Text by Delta Electronics Foundation

"New solar PV power stations and onshore wind farms are most likely to replace coal-fired power plants to a great extent within the next one to two years, thanks to the reduced costs that would become lower than the marginal costs of existing coal plants."



Renewable Power Generation Costs in 2019, published by International Renewable Energy Agency (Source: IRENA)

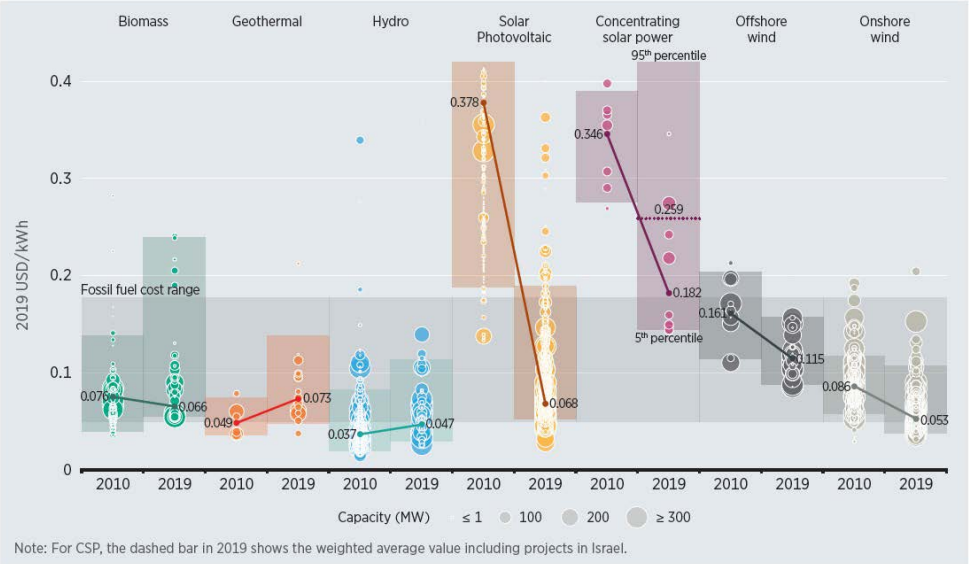
The International Renewable Energy Agency (IRENA) has just released the latest report on Renewable Power Generation Costs, indicating that the cost of green power is falling at a faster rate than predicted, and it has become comparable with coal-fired power plants. If renewables can become one of the backbones restarting the national economies at this moment, it can achieve two goals at once – bring about a low-carbon future and increase job opportunities.

Declining costs of renewable energy is pushing close to coal floor price

The reasons for the declining green energy costs are generally due to the advancement and maturity of technologies, expansion of scale of economy, competitive industry chain, and accumulated experiences of developers. According to the data on Levelized Cost of Electricity (LCOE), the cost of solar energy for utility-scale had fallen by 82% in 2019, which can be described as a "steep reduction." Its cost has reached USD0.068/kWh, pushing close to the cheapest fossil fuel cost. The cost of Concentrated Solar Power (CSP) ranks second, followed closely by onshore and offshore wind power.

On the contrary, the costs of hydropower, geothermal and bioenergy have fluctuated slightly. However, hydropower electricity remains very competitive. In 2019, the costs of close to 90% of the newly built hydropower generation capacities are lower than the cheapest newly built coal-fired plant. Geothermal power which has a higher capacity factor (normally between 60% to more than 90%), its costs is about USD0.073/kWh; in terms of bioenergy, the cost is at USD0.066/kWh. The cost can be much lower as long as "local" raw materials are acquired (for example: by-products from agriculture and forestry).

Figure 1.2 Global LCOEs from newly commissioned utility-scale renewable power generation technologies, 2010-2019



Source: IRENA Renewable Cost Database.

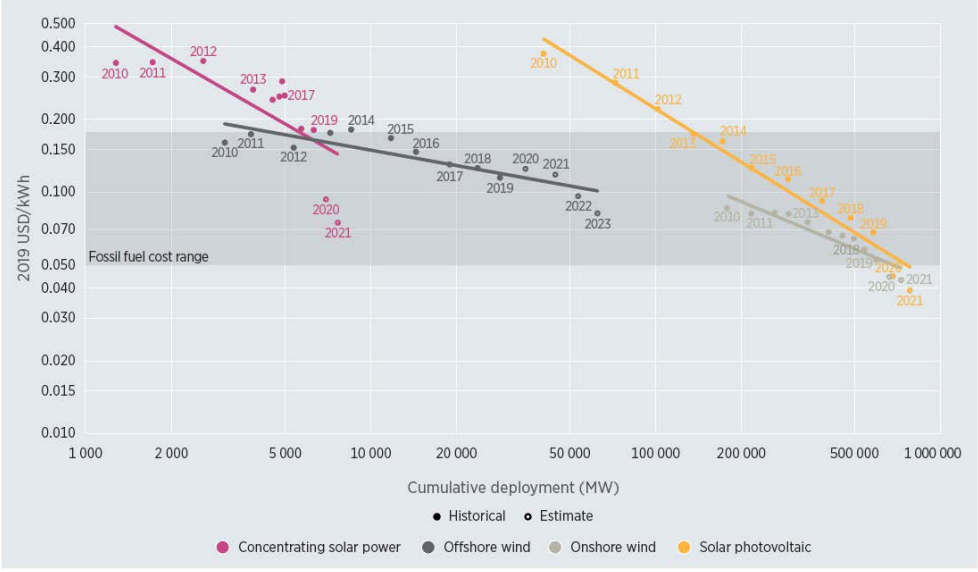
Global LCOEs from newly commissioned utility-scale renewable power generation technologies, 2010-2019 (Grey colored background represents costs range for coal-fired energy) (Source: IRENA)

Green energy on the rise despite the COVID-19 pandemic

Based on the current green energy trends, IRENA predicts that before the end of next year, Solar PV and onshore wind will most likely replace coal to a great extent. This is because their costs will be lower than the marginal cost of existing coal-fired plant. The report further estimates that by replacing 500GW of inefficient coal-fired plants, it can reduce annual carbon emissions by around 1.8 gigatons (5% of last year's global total). It would also lead to USD940 billion economic growth, the benefits are very impressive.

Furthermore, the performance of green energy during this COVID-19 pandemic is also worth mentioning. As the fossil fuel supply is greatly reduced due to the cease of work, green energy becomes supplementary, enabling hospitals to continue to provide its services and meeting the demands of learning and working from home, and online social. In addition, green energy helps to reduce air pollution. According to a study by Harvard University, the death rate from COVID-19 will increase by 8% for every 1μg/m3 increase in air pollution! Currently, more than 200 medical organizations have signed an open letter to the G20 leaders and their chief medical advisers, urging each country to consider the issues of air quality and climate at the same time, to ensure that public health and environmental issues are factored in when designing the green stimulus packages.

Figure 1.11 The global weighted-average LCOE and Auction/PPA price learning curve trends for solar PV, CSP, onshore and offshore wind, 2010 – 2021/23



Source: IRENA.

It is estimated that solar PV and onshore wind power cost less than coal power generation by 2021 (Source: IRENA)

References:
IRENA, Renewable Power Generation Costs in 2019
IEA, Global Energy Review 2020
Taiwan Environmental Information Center, "A Message to G20 Leaders, Calling for a Green Stimulus by Global Healthcare Workers"

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