



Delta Revolutionizing Digital Infrastructure For Thailand's New Normal

Delta Thailand
Innovation Review

Part 2 of 2

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3. Delta Thailand: From Power Supply Manufacturing to Solutions

Established in 1988, Delta Electronics Thailand began as an electronics manufacturer for Delta Group's global OEM customers and now we've grown to become the biggest electronics company listed company on the Stock Exchange of Thailand (SET). By capitalizing on local strengths and our global group networks, Delta Thailand has successfully introduced a full portfolio of Uninterruptible Power Supplies (UPS) solutions and has worked with local partners to integrate modular data center solutions into localized offerings.

Delta's core competencies in producing ultra-efficient power supplies, puts us in a unique position to offer world-class solutions tailored to the Thai market. Because of the diversity of our in-house products, we have a lot of control when implementing our solutions and can offer our customers excellent TCO. For example, customers can get a Delta data center



Figure 8: Delta Thailand Market Segments and Offerings for Thailand 4.0 Development



installed with our original UPS portfolio (1kVA-1200kVA), precision cooling (5.6kW-180kW), power and environment management, security and even racks and accessories solutions. Basically, everything comes from Delta, and that helps our customers save time and money on installation and servicing.

As our reputation as power protection and energy-saving experts in Thailand grows, Delta installs more and more UPS and cooling systems in the mission critical systems of key companies in Thailand's telecom, finance, medical, infrastructure and manufacturing industries. In recent years, the company's information and communications technology (ICT) partner development has enabled steady expansion into Thailand's Infrastructure, Medical, Manufacturing and Education business verticals.

The COVID-19 pandemic, has caused more Thai decision-makers to think beyond their purchasing and installation costs and consider maximizing their TCO with Delta's reliable solutions that strike a great balance in capital expenditures (CAPEX) and operating expenses (OPEX). The arrival of 5G technology, internet of things (IoT) for Industry 4.0 and smart city development and growth in edge computing makes this a particularly high-growth sector for us in Thailand and Southeast Asia.

3.1 UPS Solutions

Nationwide pandemics like COVID-19 not only disrupt our regular life patterns, they also put tremendous stress on mission critical systems at hospitals and key infrastructure like telecommunications and data centers. For example, sudden surges in caseloads can stretch the capabilities of hospitals, putting medical professionals and patients at risk. That's why hospital directors and mission critical systems managers must engage with power experts to prepare their power backup systems for a sudden spike in demand and major power issues including brownouts.

Since 2018, Delta installed UPS solutions at over 50 hospitals around Thailand, including the Bamrasnaradura Infectious Diseases Institute, a key hospital in Thailand's COVID-19 defense. Delta UPS solutions guarantee continuous operations and long lifespan for critical hospital equipment and facilities including computed tomography (CT) and magnetic resonance imaging (MRI) scan machines, Cath labs, X-ray rooms, emergency rooms (ER), hospital data centers and various general and specialized facilities.

With the stakes higher than ever for mission critical systems, managers must first identify the correct output power and





output power factor for the UPS that backup their systems. Next, they must confirm the product's installation standard, which specifies important factors such as the sizing of cables and the circuit breaker. System integrators may use lower grade, smaller size or even improper materials for installation to cut costs.

In addition, medical UPS products must comply with international safety standards such as IEC62040 and or Thailand's TISI1291. Choosing a low quality UPS puts hospitals at greater risk of fire and most UPS fires happen when the attached battery catches fire. To prevent this, decision-makers must be careful to choose UPS solutions with the proper fuse type and protection breaker.

To meet a wide range of applications and specific requirements for mission critical systems in Thailand, Delta has a portfolio of single and three-phase UPSs with true online double conversion technology in three product series based on load type.

- **Amplon Family, single-phase UPS (1-10kVA):** This UPS series has best-in-class size, efficiency, and flexibility and provides consistent pure sine-wave power to critical equipment. It supports personal computers, networks, servers,

VoIP and healthcare. The Amplon UPS family features an output power factor up to 1.0 and excellent ACAC efficiency up to 94% for greater energy savings.

- **Ultron Family, three-phase UPS (20-200 kW):** An innovative UPS solution for small and medium size data centers and mission critical applications. Its design incorporates low iTHD (<3%), 96% AC-AC and 99% ECO mode energy efficiency for increased Total Cost of Ownership (TCO) savings. It has fully-rated power (kVa=kW) without de-rating and offers leading AC-AC efficiency that doesn't sacrifice any available power requirements.
- **Modulon Family, modular three-phase UPS (20-600kVA):** A UPS solution achieving industry-leading power density of 20/25/50kW per module, which means an ultra-small footprint for ideal space utilization. This UPS is the ideal modular power protection for MW data centers to achieve total cost of ownership (TCO) optimization. It provides the answer to customers' who demand high power density, high power performance and ultimate availability.



Figure 9: Delta Thailand UPS Solutions



3.2 Data Center Solutions

Delta is a solid partner for data center companies eager to tap into Thailand's new normal opportunities. Our four module InfraSuite Data Center Infrastructure Solutions can help businesses maximize operating efficiency at the lowest cost, maintain a high level of flexibility and control for IT managers, quickly scale to meet demand and monitor data center solutions. Delta resilient edge data centers designs allow growth, with limited resources, have superior power protection and power usage effectiveness (PUE) and quickly deploy modular additions as the business expands.

Whether you're looking for an indoor or outdoor solution, our team of local data center experts can help with on-site survey and consultation and work with you to find the best solution for your needs and growth vision. For indoor applications, Delta has single rack micro data centers in several sizes, single row micro data centers (2-6 racks each) and the Point of Delivery (POD) data center solution (6-20 racks). This year, our POD solution won the TIER III Ready Award from the Uptime Institute, a prominent advisory organization for the global IT industry. Each Delta micro data center is a self-contained unit with air

conditioning, power distribution, a UPS, system monitoring and a cabinet for IT components like network, storage and server parts. And you can easily arrange devices in various configuration in the rack and pair it with modular power, cooling or even protect it with an IP55 enclosure with attached condensing units. For outdoor applications, Delta has both single rack and dual rack data centers and containerized data centers. Our prefabricated containerized data centers are useful as either an all-in-one solution or a modular addition to a large-scale data center.

One example is our successful completion of an eight-month project to build Vietnam's first 2N (two times the amount required for operation) Tier 3 Uptime (99.982% uptime) certified data center for HTC-ITC, a subsidiary of Hanoi Telecom. The new green data center in Hoa Lac offers users in Vietnam with better connectivity and provides excellent service for HTC-ITC's customers. Compared with traditional data center installations, Delta's cutting-edge modular data center design enabled a more easy and efficient installation.

The data center comprises 300 square meters of white space for IT equipment, including server racks, and gray space that includes the power room for power and battery solutions. It has 150 racks and features 750KW + 750KW for redundant protection. As a green data center, it has a PUE value of 1.4, which is lower than other data centers in the Vietnam market.





4. Summary

While COVID-19 may set back the digitization plans for some businesses, it won't stop the march of technology and the goals of the Thailand 4.0 policy. It's clear that IoT-driven Industry 4.0, 5G and automation have set the wheels in motion for a snowball effect in big data growth and resulting demand for data center, telecom and ICT mission critical systems infrastructure. As a leader in sustainable business and smart green solutions pioneer in Thailand, Delta supports national recovery with innovation that adds value for customers, empowers local enterprises and uplifts our communities.

Delta's prefabricated and containerized data centers can offer a perfect solution for businesses ready to make the investment in digital transformation and take the lead in Thailand's new normal digital economy. These highly mobile and flexible data centers fulfill the goal of standardization which makes mass production and rapid deployment possible for both edge and collocation data centers. By working with our ICT partner network, SIs and customers, Delta can offer greater value for stakeholders, contributes to Thailand 4.0 development and accelerates national recover and sets the stage for a more prosperous, healthy and happy society in the new normal.

5. References

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