
SCHNEIDER ELECTRIC: OPTIMISING BUSINESS OPPORTUNITIES FROM ITS REGIONAL HQ IN SINGAPORE

In November 2019, Tommy Leong, Zone President, East Asia & Japan (EAJ), of Schneider Electric, a French multinational corporation (MNC), led his guests on a tour of the company's regional headquarters in Singapore. Post-meeting tours had become commonplace due to the situating of the on-site innovation hub within the facility. The journey showcased many of the company's integrated products and culminated in a live demonstration of how they worked from the control command centre.

Global demand for energy had been increasing due to urbanisation, population growth, and the proliferation of electrical devices. Simultaneously, climate change concerns had led to a push for lower carbon emissions and a switch to renewable energy. Digitisation and connected devices had allowed energy usage to be managed more efficiently. Microgrids could be established in rural areas to augment national power networks. Schneider Electric had become the global leader in energy management and industrial automation and was at the forefront of these trends.

In 2011, Jean-Pascal Tricoire, CEO of Schneider Electric, decided to diversify its geographical presence away from Europe and North America and relocate a third of the global management team to Hong Kong. In 2018, a decision to consolidate all Singapore business entities under one roof was taken and all employees were relocated to Kallang, which had now become the EAJ headquarters. Singapore's educated workforce, pro-business environment and connectivity to other major cities was attractive to many MNCs. Tricoire elaborated on the headquarters choice,

We chose Singapore as our regional hub because it's a very efficient platform for us at Schneider, and because we feel very aligned with the agenda of Smart Nation... It's one of the major control towers on the global scale for our supply chain, and it's our research and development centre for data centres and digitisation, as well as Industry 4.0.¹

Schneider Electric believed that a hub strategy would enable them to pursue growth opportunities in Southeast Asia. In addition, the urbanised city-state was an ideal test bed for smart city projects due to its high level of economic development.

Visitors continued to inspect the latest energy saving products and solutions in the building. Innovations created in the new research and development hub would allow the

¹ Eugenia Lim, "Schneider Electric Launches East Asia and Japan Research and Development Hub in Singapore", Channel News Asia, March 29, 2018, <https://www.channelnewsasia.com/news/business/schneider-electric-launches-east-asia-research-hub-edb-10087674>, accessed May 2019.

refurbished building to be carbon neutral in the near future. At the end of the tour, Leong's team was available to provide detailed proposals on customised solutions tailored to suit the requirements of clients.

Trends in the Energy Sector

The demand for energy would be driven by population growth. Increased urbanisation and economic development would increase the energy demand for transportation, lighting and home appliances. Leong spoke about how changing consumption patterns would increase the demand for electricity,

At the end of the day, the world is electrifying. One of the biggest shifts in the world in power consumption that is happening now is the move to electrical vehicles. Electricity has become even more important. We estimate that over the next thirty to forty years, electricity consumption will increase by a hundred percent.

Businesses and households relied on electricity provided by a power grid that was connected to generating stations. Traditionally, thermal power stations had been used,² but natural gas was fast gaining popularity as a low-carbon alternative to coal as prices began to drop. The dangers of climate change had forced governments to impose stricter environmental regulations, and consumers and businesses to search for sustainable solutions.

Advances in information technologies had enabled renewable sources of energy such as wind, water and solar to become commercially viable. Leong highlighted the trend of digitisation and how the entire grid was changing,

Ever since electricity was invented more than a hundred years ago, nothing much had changed until about five to ten years ago. It has always been about big power plants, creating a lot of heat and energy and a lot of wastage, transmitting through a grid, through a distribution network to the consumption point, which is usually a building - whether it is commercial, industrial or residential. What has changed over the past few years is that this entire infrastructure is transforming beyond recognition. Because we are moving into a world where it is not about a one-way flow of production and consumption, it is moving to a world where it is a multi-spoke model, where a consumer can be a producer, and you can organise it in micro-scale, mini-scale or mega-scale, depending on the requirements of the application.

Technology improvements had created interconnected assets and resulted in intelligent grids. Due to digitisation, data transmission had become almost instantaneous while instruments could be monitored in real-time through added sensors and meters. Grids had also become bi-directional in that households that installed solar panels were able to sell surplus energy back to the grid. Leong commented on how digitisation held the key to the future of energy,

Digitisation makes energy or power more efficient. If you are able to manage your energy production, distribution and consumption using digital tools, you reduce everything to bits and bytes, and then you can manage the grid as you would manage the Internet. So, basically, we do believe that the path of sustainability lies within the interaction between power and digitisation.

² At a thermal power station, coal was burned in a boiler. The combustion would then produce steam to rotate propellers in a turbine. A generator would then convert the kinetic energy into electricity.

Schneider Electric

Established in 1836, Schneider Electric began operations in the steel and machine industry before entering the electricity market. With 200 plants and 90 distribution centres globally, Schneider Electric was among the top five Controls and Automation (C&A) firms worldwide. Its energy management business was segmented into Medium Voltage, Low Voltage, Secure Power, Digital Energy and Home & Distribution.

Schneider Electric's growth was driven by megatrends such as urbanisation, the industrialisation of new economies and the digitisation of industries and society. These had put in motion a significant transition of the energy world, boosting electricity consumption while driving the decentralisation and decarbonisation of energy generation. Leong spoke about how the business had evolved,

Traditionally, our business was organised based on the type of products that we sell. In recent years, we have focused more on domains where we offer a holistic solution that combines power and digitisation. We call it the three layers of innovation, where you have products that talk to each other, you have controls that manage these products, and you have software and analytics where you pull the data into the cloud enhanced by machine learning and artificial intelligence to benefit the entire ecosystem. In the six domains that we focus on - power, buildings, data centres, grids, plants and machines - we provide solutions to customers based on connected products, edge controls and software.

Schneider Electric conducted business in Europe, North America, Latin America, Middle East and Africa and Asia Pacific. Within Asia Pacific, the China and India markets were designated as standalone markets while EAJ was managed as a single administrative region. In 2018, Schneider Electric achieved an annual revenue of €25.7 billion³ (S\$38.8 billion) and net profit of €2.3 billion (S\$3.5 billion).

East Asia & Japan

The EAJ administrative region was a practical heterogeneous grouping that included 14 different countries.⁴ Many countries in Southeast Asia had about half of their populations residing in urban areas. These populations would continue to rise in the coming decade, with investments in urban infrastructure development required. Schneider Electric's business exposure in emerging markets had risen from 18% in 1998 to 42% in 2018. Its people footprint in Asia Pacific had risen from single digits at the turn of the century to 31% in 2018.

The EAJ strategy was to reduce dependency on mature markets and build relationships with developing countries in the region that had plenty of room for growth. The region had to deal with increasing urbanisation and many infrastructure projects were expected to be undertaken. The diversity of the region meant that countries would adopt digitisation technologies and green solutions at differing rates. Schneider Electric would hence need to provide high-end and more affordable product offerings.

³ €1=US\$1.10 as at October 15, 2019. €1=S\$1.51 as at October 15, 2019.

⁴ Ten ASEAN countries, South Korea, Taiwan, Mongolia and Japan

Singapore Headquarters

In 2018, the 719-square kilometre Singapore had a diverse population of six million residents.⁵ Companies that did business in the country could hire from a highly educated workforce and benefit from political stability and the strong rule of law. The city provided an easy cultural transition to Asia due to its cosmopolitan nature and the use of English as the business language. Leong spoke about an added benefit,

Singapore is the place where it's easier to attract top quality talent. When you have global talent, you can attract them to Singapore for family reasons. Families are typically more receptive to stay in Singapore than to elsewhere in the region.

Leong requested the relocation of EAJ headquarters to Singapore when he was appointed zone president for EAJ in 2015. Singapore was chosen as the regional hub due to its geographical location closer to the centre of the business opportunities. Leong elaborated,

My predecessor was located in Hong Kong, but you should always be located in the region you are in charge of. When I took on this role, I insisted that headquarters be in Singapore. This is not just about managing the commercial part of the regional business. We have global supply chains here, and we manage one of the largest distribution centres in the world, supplying countries across the world, including the Middle East, Australia, and sometimes even the United States. We have some global R&D people here too.

Schneider Electric had multiple hubs globally and Singapore was one of the regional headquarters with mandates to develop new products, ensure excellent service delivery to its business to business (B2B) clients, and hire inter-disciplinary talent to support the business.

Damien Dhellemmes, Country President of Schneider Electric Singapore, discussed the country's role within the organisation,

Singapore has become a key hub for us in many areas since we started operations around 47 years ago. We had a manufacturing footprint here, a small factory. But then in the early nineties, when Singapore started to promote and create this free trade zone and industrial estate park in partnership with Malaysia and Indonesia⁶, we decided to move the factory to the island of Batam in Indonesia. We set up our logistics hub in Singapore, which is one of our global hubs and is connected to the other global hubs in Europe and in the US. It's also a key competency centre for us in the data centre area and in the process automation field.

Considerations for Schneider Electric's Regional Hub

The domestic market in Singapore was growing as the government invested in digital infrastructure to help the country become a smart city. Local projects within the hub could serve as test beds for the regional in-market spokes. Leong described the

⁵ The World Factbook, Singapore, <https://www.cia.gov/library/publications/the-world-factbook/geos/sn.html>, accessed October 2019.

⁶ This was the Singapore-Johor-Riau (SIJORI) growth triangle, an agreement between Singapore Johor (in Malaysia) and Riau (in Indonesia) for economic collaboration. The Straits Times, "Spore, Batam and Johor Can Form a 'Triangle of Growth'", December 21, 1989, <https://eresources.nlb.gov.sg/newspapers/Digitised/Article/straitstimes19891221-1.2.9.5>, accessed May 2020.

domestic situation,

Incidentally, the market has shifted more towards government-led projects; a lot of major projects are now government-led and less private sector-led. We had more active engagement with EDB on how to collaborate so that Schneider could be better positioned in Singapore. They help indicate the right stakeholders and help us understand the ecosystem. Some of our recent projects include renovating the zoo, building new military facilities and transportation infrastructure. There has been a lot of investment in the transport system and in the airport - so if you're not in government projects, you're not in the game.

Lim Chee Kiang, VP, Safety, Environment & Real Estate, Global Supply Chain, East Asia, Japan & Pacific, described working to reduce Singapore's carbon emissions,

When we designed the Schneider Electric HQ building, we were still looking at variable refrigerant volume (VRV), which is not as efficient as the chiller system. To be energy-efficient, we had to invest millions to switch our air-con system, one of the biggest users of energy, from VRV to chiller. Fortunately, we were able to make use of an energy-saving activity grant from the government.

However, rental costs, labour costs and the cost of living in Singapore were high. Leong discussed how the company coped with working in an expensive location,

You have to be discerning in terms of what resources to put here. I use a decentralised operational model and prefer to put more people in the countries and less people in the centre. Of course, you need to have the expertise as the centre of excellence, and the more strategic activities where you coordinate transversally. So, if Indonesia is, potentially, the biggest growth story, and Vietnam is the next biggest growth story, we should be putting more people there. Singapore, because it is a more expensive location, is not a place where you want to put all your people and have them fly around to do everything.

Leong added that his team could mitigate the problem by using a regional approach to optimise its operations,

The strategy should be to look at the entire ASEAN ecosystem, and see how we can use Singapore as the commercial headquarters with the rest of the territory for manufacturing and other operations. You need to build that ecosystem of what I call that 'Asia-mentality'. It has to be a win-win relationship, where whatever you do in Singapore benefits the other countries. So, for instance, what we have done is to build a smart factory in Batam, where we bring all our technologies into the factory to show people what is possible in terms of a smart factory.

Still, Singapore had built a synergistic local business ecosystem by attracting MNCs from diverse industries. Leong spoke about how Schneider Electric could collaborate in this business ecosystem,

Two years ago, we started engaging with the start-up community on how we can work together to have solutions that integrate their ideas. We conceptualised setting up a co-innovation hub in the building. When we talk about digital solutions, we actually do not sell the complete solution. We sell building blocks and modules that people use to build the complete solution. The office itself was not built by us, it was built through partners who we had given our building blocks and modules to. They design, they help us to finish the complete solution and architecture of the digital interface. This is a place to inspire people. It's not just for the end-users, it's for system integrators. It's

for contractors. It's for partners to come in here and discuss with us, "How do we tailor the solutions for specific applications?"

Regional Plans and Processes: Enabling Innovation & Customer-Centricity

Relocating the hub to Singapore allowed Schneider Electric to meet with businesses, including other MNCs with similar geographic footprints, from the region. Singapore was a good location for Schneider Electric's suppliers and customers alike to organise their resources and talent. Decision-makers could meet in Singapore to learn about the latest product offerings before rolling them out regionally. Stephane Nuss, VP Business Development EAJ of Schneider Electric, commented on the business opportunity,

Singapore, I think is the perfect laboratory for the company to see how we can address those developing areas better. And then this will be scaled up, deployed in the region, in countries like Cambodia and Myanmar, where we are even less mature. Our medium offers, which are good quality products at affordable prices, are a big part of the business in those countries. However, optimum offers, which are the top-quality products, are also very important for those countries.

The noteworthy state-of-the-art projects had helped the company develop best practices and business solutions for developing countries. The HQ building was also used to develop products to be launched globally. Nuss spoke about how the company had to adapt to the changing business conditions as the region was increasingly digitised,

We had built the success in this region on electrical distribution. The objective is to keep our strong foundations and traditional business, but digitisation as a whole is a business opportunity and is a strategic development for us in the sense that it's opening completely new landscapes and new potential opportunities for the coming decades. Our relationships with some of our competitors (for example the IT industry) have also changed. In this new ecosystem, sometimes we cooperate, sometimes we compete.

Countries assigned to the EAJ cluster were expected to benefit from sharing an ecosystem that facilitated knowledge sharing and benchmarking. Leong expanded about how this knowledge sharing would benefit all the countries,

The nature of our business in Northeast Asia is that we are stronger there on managing the industry ecosystem than energy management. Industrial automation is the largest part of our business. In Southeast Asia though, we are much stronger in energy management. Our penetration and understanding of the industrial ecosystem for when a new factory comes and invests, and how do we support the factory in building and running a factory, is not at the same level in Northeast Asia. It's something I'm in the process of building up.

Schneider Electric could conduct its commercial activities from the Singapore hub. The digitisation trend had made the company shift towards connected products, smart controls, and software analytics tools. Schneider Electric developed its proprietary EcoStruxure platform, which utilised smart technology to optimise engineering and maintenance costs and the user's carbon footprint. Leong used the innovation hub to keep customers updated on the latest trends,

Every country I go to in the region, I invite customers to come over to Singapore to see our hub. It's not just a showroom. It's actually a living lab where we are using everything that we are showing. Everything is real and we work continuously to improve it.

Energy Management in Buildings

Buildings were considered the foundation of cities. With digitisation, Schneider Electric's connected buildings, including the 11 factories in the EAJ region, could be monitored centrally. Structures were upgraded with automated sensors that enabled the aggregation of data from multiple systems. Lim shared the example of how the headquarters was modernised,

The real estate strategy for the company is to transform our offices and factories into the workplaces of the future. With our regional headquarters, the goal is to be carbon neutral by next year. By installing energy-saving devices and equipment such as LED lights and chiller systems, we reduced the energy needed by 25 percent. We installed solar panels on our own premises and produce two percent of our energy needed onsite; we also use solar panels from the rooftops of eight other external sites round Singapore to produce the rest of the energy we need during the day. The cost of the installation was less than what we would have paid to buy from the grid. Afterwards, we began the tedious task of leveraging our software to drive energy savings. So we are now able to monitor if the lights or air-conditioning systems are not efficiently used.

The software helped us move more towards predictive-based maintenance. With our software, we are now able to use the cloud system to analyse the data, and tell you when things are going to fail. We are kept aware of the building's condition and can work to prevent breakdowns. Our proprietary EcoStruxure Workplace Advisor tracks the energy usage where people are located in order to enhance their comfort.

The real estate team would be able to replicate the process across Schneider Electric's building portfolio. Building management systems were integrated with other locations and stakeholders, and managed from the Singapore hub to achieve operational excellence. The platform would provide real-time information to enhance decision-making in energy management.

Demonstrating how buildings could achieve carbon neutrality would provide another business opportunity. Climate change concerns had led to stricter environmental regulations and the public demanding greener solutions. Potential customers from around the region were invited to evaluate the energy solutions showcased in the innovation hub. Leong commented,

We let our customers experience what the future looks like. That is the genesis of the innovation hub, which is our latest and I would say the best innovation hub we have now worldwide, which is able to give customers a real illustration of what it looks like. We are able to then bring everything we do into the showcase to show people how we are managing our own building.

The HQ was a 30-year old building. We retrofitted the entire building with Schneider Electric solutions, so everything that we sell is in this building. We included all the software tools that we have in terms of being able to manipulate the power, manipulate the building efficiency. We even have a solar powered micro grid on the rooftop. We are actually already at 50 percent solar; our daytime consumption is

already almost 100 percent solar. So, we've put everything that we know and everything that we sell into this building and we continue to improve it.

Business Development

As a trading bloc, ASEAN had over 600 million people with economic growth of 4.7% per year.⁷ With 35% of the population under 20 years of age, the region was poised to have welcome a large number of middle-income consumers.⁸ However, it was not a monolithic entity. Member countries were at different stages of growth and presented cultural and linguistic challenges for businesses. Nuss spoke about the growth strategy for SEA,

We have five strategic pillars. The first is to grow our core business in energy management and industrial automation. Even though we have the highest market share in our industry, we see potential to grow our core business. The second pillar is to address a new market segment, which is what we call medium. Right now, we are positioned in the optimum segments, with high quality offers. We see competitors offering types of products or solutions in price ranges where we are not present, and that's where we want to accelerate. The third pillar is around digitisation and what we call EcoStruxure, using software, advisors, leveraging artificial intelligence to support our customers in their digital transformation journey. The fourth pillar is our focus on services to expand our installed base and digital services, emphasising on people and partners to accelerate its contribution to our business.

The fifth pillar is around the new energy landscape, Today everything is based on the grid, managed by those large national utilities, but we see more and more decentralisation with batteries coming, solar panels coming, electrical vehicles coming - meaning that the energy is more and more decentralised and individual companies will become more independent. We will need more solutions to connect those sources of production to the grid.

In the past we have built the success of the company on what we call the transactional business model. Now what we see, especially if you want to accelerate the digital transformation, we need to generate the demand at the end-user level. That means, more and more, we need to interact with those big global accounts – not just the likes of Nestle and Procter & Gamble, but also those big national accounts like the PUB (Public Utilities Board of Singapore). We need to find all those big accounts where we are not so well known.

Working from the hub meant that employees had to understand the individual country needs and customised solutions according to requirements and price points. Leong said,

When you go to a more unsophisticated market in the emerging markets, obviously the focus is more on the energy efficient hardware and not so much on the control systems or the software. But you also need the efficient hardware to begin with. So, in terms of ambition, it's the same; in terms of the maturity of approach, it's different.

Success in any specific country could be leveraged to make sure that it can be scaled up and shared with other countries. At the regional level, a glocal strategy - one that combined local and global considerations - would help take into account the different maturity levels of individual markets. Nuss was unequivocal that they did not want a one-size-fits-all solution,

⁷ HSBC Website, The ASEAN Opportunity, <https://www.business.hsbc.com.sg/en-sg/asean>, accessed October 2019.

⁸ Ibid.

We do not want to lose our local footprint; we should protect our strong local roots like diamonds. What we do not want is to develop one single offer serving all the countries in the world. This means creating a common platform that allows late differentiation to adapt solutions to each country's specificities and standards. We have built our success on those local specificities. This has become an entry barrier for potential competitors.

The company was also very aware that the success of its business strategy depended on the talent on the ground. Nuss elaborated on the issues the company faced,

When it comes to execution of our strategy in the different countries, it becomes challenging to find global talents being able to speak those local languages and also understand the local dynamics. All these different countries have their own culture, their own religion, and their style of business practices. So we need local people. But to find the right level of local people is really the challenge. We need to embark with new competencies, new people, new mindsets, new DNA - and this is where it's really challenging. While we need most of those people to continue to support us in our traditional business, some of them will also need to be able to develop software and enable digital transformation. But we also need to build a talent pool and the objective is to rotate them in order to expose them to different cultures and different business dynamics.

Indonesia

Demographically, Indonesia had the most potential to become a major market. Schneider Electric's state-of-the-art Batam factory utilised high-end smart sensors to transmit data captured at the production line. Managers had become more proactive and have increased productivity by 17%.⁹ The factory was proof that the country could succeed in its digital transformation journey. However, Indonesia had its challenges. The country needed to realise its plan to create capacity for 35 gigawatts of energy.¹⁰ Leong commented,

I'm extremely optimistic about the future of Indonesia, though it is not an easy market. The whole country spans three time zones. It takes one month to ship something from one end to the other end, which means that a lot of the strategy for running the company in Indonesia in the future cannot be running the country from Jakarta, or Kalimantan. You need a strategy for Java, you need a strategy for Medan, and you need a strategy for Surabaya. Just like in China, you cannot have one strategy for whole country. I believe that today we are too highly centralised in Jakarta. As economic development occurs, I think we need to decentralise more in order to maximise our opportunities. Indonesia has a huge power generation opportunity. They've been talking about it for ten years, but the 35-gigawatt plan is going a bit slow.

Vietnam

Schneider Electric had been successful in penetrating the Vietnam market, almost tripling its business over a five-year period. It built an industrial plant in the Saigon Hi-Tech Park in early to showcase energy saving and smart buildings solutions. Leong said,

Vietnam is about the same size as Singapore now in terms of revenue and profit. It's not a huge market, but it has 100 million people. We are extremely strong in Vietnam

⁹ New Straits Times, "Making Factories Smarter", May 6, 2019, Via Factiva, accessed December 2019.

¹⁰ Rambu Energy, "Indonesia Govt Now Expects 35 GW Program Fully Completed in 2024", January 28, 2019, <https://www.rambuenergy.com/2019/01/indonesia-govt-now-expects-35-gw-project-fully-completed-in-2024/>, accessed December 2019.

on residential and commercial buildings. Our weak spot is actually industrial manufacturing, which I'm trying to address now because the factories are moving into Vietnam and they're not well positioned to go after them.

Emerging Market Cluster

At the other end of the spectrum, the smaller emerging markets gave Schneider Electric the chance to solidify its brand and influence the infrastructure story. Leong explained,

When I took on this role, I drove growth in my five emerging markets, which are Myanmar, Cambodia, Laos, Brunei, and Mongolia. We have more than 30 people in Myanmar. We have more than 20 people in Cambodia. Both Cambodia and Myanmar together have grown to become the size of where Vietnam was 10 to 15 years ago. So, the potential is great.

Looking Ahead

As a regional hub, Schneider Electric's Singapore office could display the firm's products and explain how these products could be implemented within the business operations of regional clients. The local team could also help coordinate the operations of suppliers and centralise the planning, ordering and distribution functions for clients.

Leong knew that several foreign visitors were keen to learn more about Schneider Electric's business solutions. He was pleased that the Singapore headquarters had remained relevant to its regional B2B customers with continued innovation and digitalisation, and made a mental note to get in touch with the respective country managers to put together detailed business proposals and schedule follow-up meetings in their home countries.