

**Sj**

building cities  
shaping lives

**AN ASIAN  
POWERHOUSE  
IN URBAN AND  
INFRASTRUCTURE  
DESIGN AND  
ENGINEERING**

IN ASSOCIATION WITH





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02





# BLENDING SUSTAINABLE DESIGN AND TECHNOLOGICAL INNOVATION IN NORTH ASIA

03

WRITTEN BY  
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**ALEX PAGE**

# Surbana Jurong's motto 'Building Cities, Shaping Lives' is a meaningful one for North Asia CEO Michael Ng. He reveals how the firm is combining sustainable design, technological innovation and partnerships to make this happen.

**S**urbana Jurong has established itself as a powerhouse in the architecture and engineering and masterplanning sectors. As cities seek more environmentally-conscious and hi-tech designs, the Singapore-based firm has risen to the challenge and today stands as one of the largest Asia-based urban and infrastructure consultancy firms in the world. Combining sustainability-focused design with cutting-edge technology, CEO of Surbana Jurong North Asia, Michael Ng, says that the company's unique approach makes it a standout force in the market.

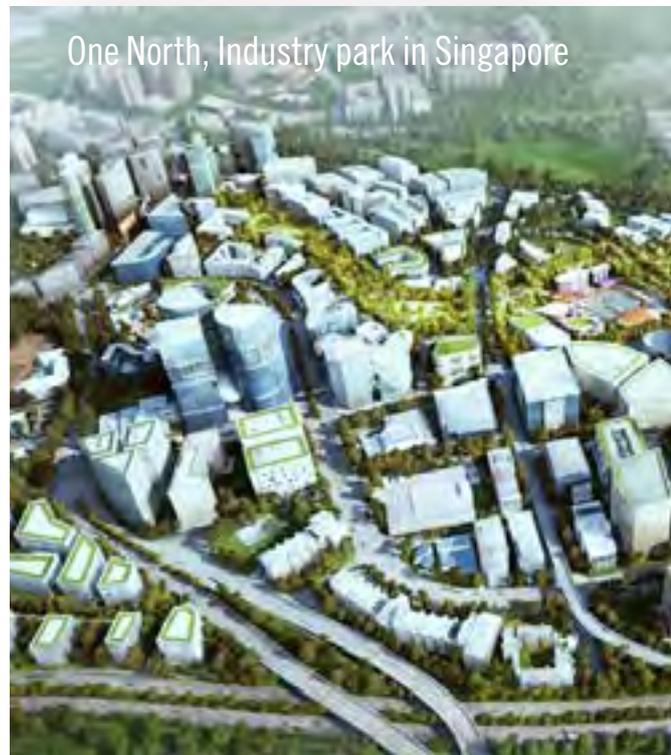


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Health City Novena Singapore



One North, Industry park in Singapore





Tianjin Ecocity, Aerial perspective of the government administrative centre



“Surbana Jurong’s motto ‘Building Cities, Shaping Lives’ reflects its belief that development is more than just steel and concrete,” observes Ng, “Surbana Jurong creates spaces and designs infrastructure where people live, work and play, shaping cities into homes with sustainable jobs where communities and businesses can flourish.

“The company has a track record of close to 70 years and has built more than a million homes in Singapore, crafted master plans for more than 30 countries, and developed over 100 industrial parks globally,” he adds.



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# SMART CITY, DIGITAL BUILDING

Dedicated to the excellence in architectural design, ARCPLUS has been ranking among the top three in China. The past 60 years has witnessed its profession, persistence and progress. Today, ARCPLUS has accomplished thousands of consultancy and design projects, and designed vast of landmarks across the globe. It was honored by Engineering News-Record (ENR) as one of the “Top 150 Global Design Firms”.

Arctron Data & Innovation Technology Co. Ltd is a wholly-owned subsidiary of ARCPLUS which devotes to the digital transformation of ARCPLUS. Now, Arctron has become one of the finest integrated services providers of full life cycle digital engineering and digital transformation for engineering & construction companies.

## Convergence of following technologies:

- Internet
- Cloud Computing
- Internet of Things
- Big Data

## Integrated Industry technical solutions:

- BIM (Building Information Model)
- FM (Facility Management)
- GIS (Geographic Information System)
- Artificial Intelligence



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**Mr Michael Ng** heads up the North Asia division of Surbana Jurong Consultants Pte Ltd, Asia's leading engineering, construction and infrastructure multi-disciplinary consultancy. He is responsible for the overall delivery, leadership and development of the division across Mainland China, Hong Kong, Macau, Taiwan and other parts of North Asia including Korea, Mongolia and Russia.

He sits on the boards of five of Surbana Jurong's subsidiaries and associated companies, including SMEC Asia Ltd, Sino-Sun Architects & Engineers and Arcplus SJ Digital Ltd.

Before Surbana Jurong, Ng had spent the initial 20 years of his career in the Information and Communications Technology (ICT) industry with portfolios ranging from telecommunications, Managed Services, Smart City solutions to emerging technologies such as Machine to Machine (M2M) and the Internet of Things (IoT).

Michael had held several senior appointments in SingTel Group and StarHub Ltd, heading up business units for Managed Services, Global Enterprise Sales, Solution Sales, Enterprise Mobility, Partnership & Alliances, Product, Delivery and Operations. He has accumulated vast experience in managing global teams of diverse background and competencies in more than 20 countries.

Ng holds a Bachelor of Science (BSc)(Hons) from the National University of Singapore. He also holds several technical design certifications in Network and Unified Communications from Avaya, Nortel and Cisco.

Ng enjoys jogging and soccer. He is married with three children.



Ng speaks passionately about the company's rapid growth and rich heritage, but the numbers also speak for themselves: boasting a global workforce of over 14,000 employees, Surbana Jurong Group is now present in over 40 countries across Asia, Australia, the UK, the Middle East, Africa and the Americas, generating an annual turnover of around \$1.09bn (S\$1.5bn).

In North Asia alone, Surbana Jurong has successfully completed over 2,000 projects and three government-to-government projects in China – Suzhou Industrial Park, Tianjin Eco-city and Chongqing Liangjiang New Park.

In its North Asia operations, Surbana Jurong is a gleaming example of a technologically-driven firm. To remain at the forefront of the industry, the business sees technology as an enabler and embarked on its digitisation journey years ago, leveraging technology to enhance performance within the company and to provide better solutions for its clients. It is also a pioneer in designing and implementing precast technology in Singapore's public housing programme, as well as one of the first multidisciplinary consultancies to harness the Building Information Modelling (BIM) system in planning and design. Additionally, Ng highlights how Surbana Jurong is leveraging emerging technologies like artificial intelligence (AI) and data analysis in



VR centre





smart city solutions. This has allowed the company to provide predictive solutions for clients, leading to better cost and schedule estimation.

“In the building industry, technology helps to take the guesswork out of design, brings more efficiencies into work processes, improves productivity, brings about long-term cost savings and alleviates manpower crunch,” Ng notes.

“Going forward, we will continue to integrate technology into our processes and as part of our solution offerings,” he adds. “Technology will play a key role in our growth as we continue to adopt new technologies such as BIM, Virtual Design and Construction (VDC) and Virtual Reality/ Augmented Reality (VR/ AR) to add value to our clients and improve productivity. We are also working with research and technology partners to ensure we stay at the forefront of the industry.”

One such partnership helped to set up the SJ-NTU Corporate Laboratory with Singapore’s



Architectural Residential-  
Baoshan Yunan province China

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National Research Foundation and Nanyang Technological University, which develops next-generation sustainable solutions to tackle industrial and complex urban challenges. The lab's key objectives are to translate research outcomes into practical and viable solutions based on three core themes – digitisation; green and sustainable urban solutions; and future of industry and productivity.

Tracing its roots to government agencies synonymous with Singapore's early township and industrialisation

efforts, Surbana Jurong has played an instrumental role in the development of Singapore's urban, industrial and infrastructure landscape for more than five decades, which explains its unique in-house capabilities from master planning to township, coastal reclamation and industrial parks. By keeping environmental issues and citizens at the forefront of its vision, Ng highlights how the company has earned a reputation for sustainable design.

“Surbana Jurong infuses sustainability into all our projects and into our



corporate DNA,” he says. “A dedicated team of specialised professionals is tasked with driving a global group effort to ensure urban solutions that are economical, socially and environmentally sustainable are always delivered. We take a holistic approach, analysing all physical, social, economic and regulatory aspects, to ensure a piece of land is properly developed to its full potential, remains relevant and rejuvenates itself for generations to come.

“Sustainability isn’t part of our work – it’s a guiding influence for all our work.

Smart city solutions, sustainable design, and technologies like AR and VR are the keys to our vertical competencies. As one of the largest Asia-based urban and infrastructure consultancies, we believe in the development of attractive, liveable and sustainable environments for future generations.”

Surbana Jurong has grown from strength to strength to become Singapore’s largest engineering firm and one of the largest Asia-based global urban and infrastructure



**“In the building industry, technology helps to take the guesswork out of design, brings more efficiencies into work processes, improves productivity, brings about long-term cost savings and alleviates manpower crunch”**

Michael Ng, CEO of Surbana Jurong North Asia



consulting firms offering best-in-class solutions. As a group (comprising member companies AETOS, KTP, Robert Bird Group, Sino-Sun and SMEC), it can now offer end-to-end services, and tap into niche, higher-end markets. Zeroing in on the growing China market, Ng highlights that local cooperation has been pivotal to the company's expansion.

"We believe that by working with local partners, we are better able to apply our expertise and experience in the local market. Partnerships augment each other's capabilities and allow us to grow together," he notes.

"There have been numerous collaborations so far. For instance, in 2015 we formed a strategic partnership with China's CITICC (Africa) Holding which will see us potentially developing 30,000 affordable homes in Africa in the next five years; while last year, we formed a joint venture with China Highway to provide design and consultancy services for highway and municipal projects. This joint venture allows us to pursue



highway and infrastructure-related projects globally as well as to undertake projects under China's Belt and Road initiative."

"Our collaboration with Vanke to jointly develop Industrial New Town projects in China's Midwest regions aims to create sustainable cities for the residents to live and work in, focusing on developing the city while supporting industries and the government," Ng adds. "Not forgetting the memorandum of understanding (MOU) with Zhejiang Communication Investment Real Estate Group Co. Ltd, to develop a new township as well as commercial and residential



**“We understand that through our design, we are not simply designing and building a city, but with some of these technologies such as smart city solutions and sustainable design technologies, shaping the lives of those who dwell within the city”**

**Michael Ng, CEO of Surbana Jurong North Asia**

properties in China. We will explore the development of the masterplan for the township and development management services for the project.”

Surbana Jurong also embarked on a joint venture with ADIT to provide cutting-edge facilities management digital solutions using BIM technology.

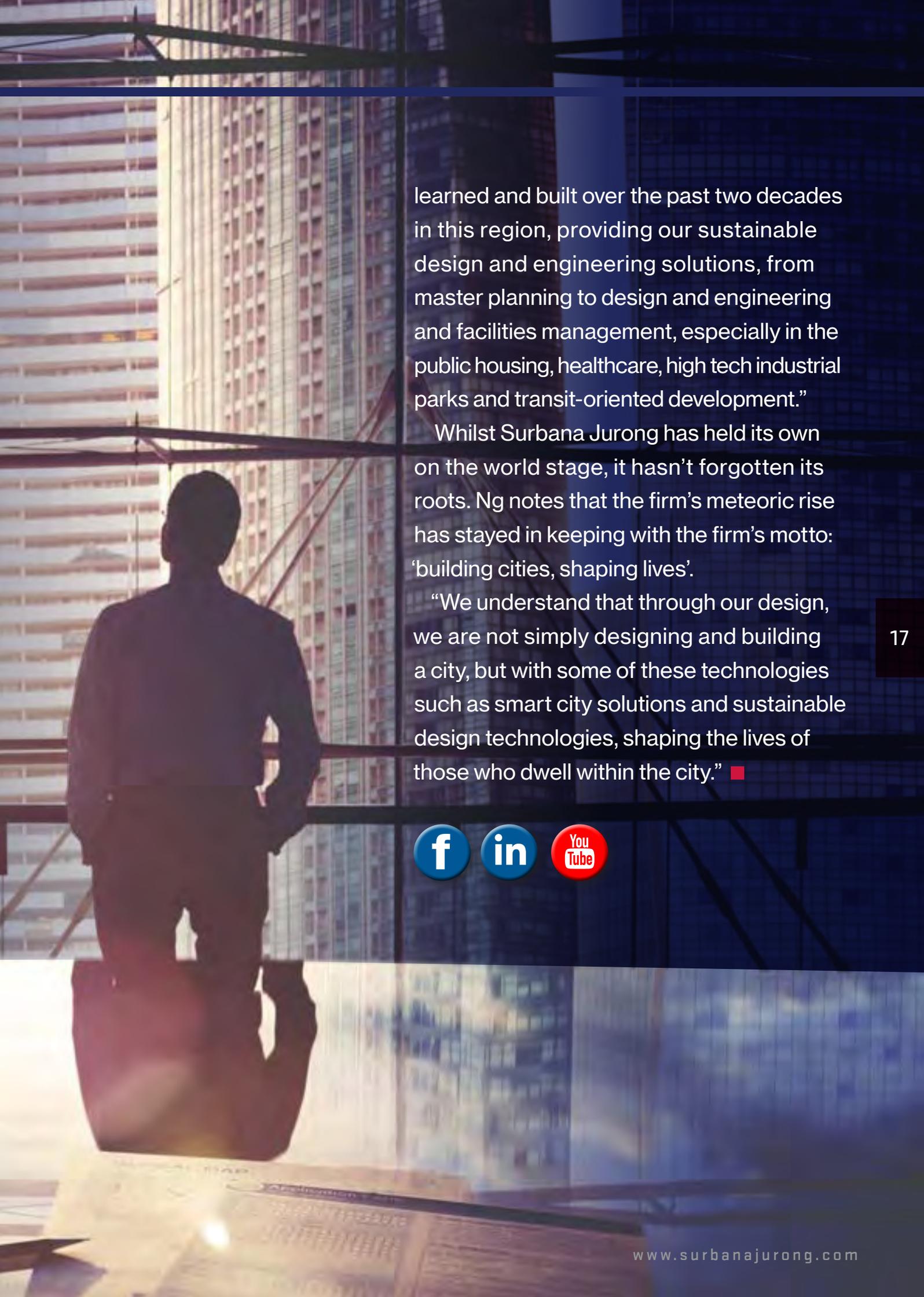
“This collaboration will put us ahead of the digital curve which aligns with Surbana Jurong’s digital transformation to introduce

digital tools across our services to raise productivity and performance of manpower-intensive businesses such as FM for our customers,” comments Ng. “Our sterling track record in managing operationally-ready facilities testifies to our capability and experience.”

Surbana Jurong has established itself as a world player in the industry – with the firm securing 25th place in ENR’s ranking of Top 225 International Design Firms – and this can doubtless be credited to how it addresses the need for sustainable design with a blend of innovative technology and partnerships. Nowhere can this be seen better than at the company’s operations in China, where the firm has celebrated steady growth.

“In recent years, China’s focus on sustainable cities and buildings have seen demand for our solutions increase, and we expect that we will continue to contribute our expertise in this area,” Ng says. “China’s growth will increasingly be tied to consumer-led economies, such as in healthcare, retail, tourism, education and so on. Stable consumer-led growth is an important anchor for China’s economic transformation. Infrastructure construction is also expected to play a key role in stabilising growth for China, with the rising emphasis on environmental regulations and sustainability. To that end, Surbana Jurong has deep domain knowledge, experience and expertise which we have both brought with us to China but also





learned and built over the past two decades in this region, providing our sustainable design and engineering solutions, from master planning to design and engineering and facilities management, especially in the public housing, healthcare, high tech industrial parks and transit-oriented development.”

Whilst Surbana Jurong has held its own on the world stage, it hasn't forgotten its roots. Ng notes that the firm's meteoric rise has stayed in keeping with the firm's motto: 'building cities, shaping lives'.

“We understand that through our design, we are not simply designing and building a city, but with some of these technologies such as smart city solutions and sustainable design technologies, shaping the lives of those who dwell within the city.” ■





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