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Get ready for Industry 4.0

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THE relentless march of technology, which has disrupted businesses worldwide, is sweeping across the manufacturing sector. It is in the midst of digital transformation, with the rise of automation, the Internet of Things, cloud computing, robotics, big data, cyber security and additive manufacturing (3D printing).

In the years to come, the push for “smart factory” or Industry 4.0 – defined as the fourth industrial revolution – will radically change the way that manufacturing companies operate and in turn, their requirements for industrial space will evolve.

With the aid of technology, companies will be able to integrate operational processes, from product design and development through to production, logistics and service delivery. These operations will be tracked in real time, and the data harnessed can be analysed for efficiency and quality management. Machines and equipment, which can be controlled remotely, will also be part of a seamless and integrated network.

High-tech for high-specs

To keep up with the changes and competition, manufacturers will have to review their business model and space requirements, which will likely benefit the business park and independent high-specification (high-specs) industrial space segment, according to the latest Radar report from Colliers International.

Colliers expects that the supply of such space could double from the current 37 million sq ft (representing about 7 per cent of total industrial stock in Singapore) by 2030. Several new independent high-spec industrial properties are slated to be completed in 2018 – including a single-user industrial development in Bulim Avenue; the Global Switch Data Centre in Woodlands Avenue 12; and Awan Data Centre in Tuas Avenue 4.

Meanwhile, three new business park developments are expected to come on-stream next year: Kingsmen Creatives’ new headquarters in Changi Business Park Central 2; a multiple-user business park development

in Mediapolis by **Boustead Projects** unit **BP-DoJo LLP**; and a build-to-suit facility in Pasir Panjang Road.

The trend towards high-tech, high value-add manufacturing should lend support to rents of business parks and high-spec industrial space. According to Colliers International’s research, as at Q3 2017, the average monthly rent of independent high-specs spaces stood at S\$3.04 per square foot (psf), 5.7 per cent below the recent peak in Q4 2015, outperforming the 9.2 per cent fall in the all-industrial rental index over the same period.

Based on Colliers International’s research, average monthly rent of business parks has remained relatively stable, standing at S\$4.18 psf as at Q3 2017. We project that average monthly gross rents of business parks and independent high-spec space will remain relatively stable in 2018 and 2019.

New spin to old industrial buildings

Besides new spaces in the pipeline, major private landlords have also taken the cue for increasing demand for better building specifications by redeveloping their existing properties. For instance, Soilbuild Group is redeveloping two of its developments in Kallang Way into Business 2 high-specifications projects.

Rejuvenation of science parks continued with redevelopment projects in Science Parks I & II too. With rising demand for more data storage, some conventional industrial spaces could be redeveloped into data centres. Based on Colliers’ research, an estimated total new supply of 42.6 million sq ft net lettable area (NLA) is expected to come on-stream by 2021. Out of this, at least 2.5 million sq ft and 2.3 million sq ft are for independent high-specification industrial spaces and business park developments, respectively.

New districts set to flourish

While longer-term plans for industrial supply are fluid, Colliers anticipates that the new districts such as Jurong Innovation District,

Woodlands North Coast and Punggol Digital District could grow at a similar pace as one-north.

Developed by JTC Corporation, the 200 ha one-north cluster – made up of predominantly business park spaces – now offers 6.6 million sq ft of industrial space. The first building in the cluster was constructed in 2001, and the area has undergone rapid transformation since, with Fusionopolis, Biopolis and the latest Mediapolis catering to information and communications technologies (ICT), media, physical sciences and engineering industries and the biomedical industry.

The evolution of one-north tracks closely with shifts in Singapore's industrial landscape – from traditional manufacturing to one that is led by innovation and knowledge. In the next decade, the government will continue to build on the current push for research and development (R&D) to steer the manufacturing sector towards embracing smart technologies as part of the Industry Transformation Maps programme announced in Budget 2016.

What the future holds

As the manufacturing sector morphs, industrialists' needs for space will change in tandem. Therefore, forward planning is essential to remain competitive and prevent constructing obsolete industrial spaces. Colliers' Radar report highlighted three qualities of industrial space of the future: the three A's – accessibility, affordability and adaptability.

- **Accessibility:** Ease of access to resources, including skilled workforce with suitable expertise and collaborative opportunities. For example, autonomous transport technologies are being actively tested at the CleanTech Park, which taps into the research capabilities of nearby Nanyang Technological University (NTU).
- **Affordability:** Firms must meet stringent requirements to utilise industrial space under JTC.
- **Adaptability:** Industrial spaces should be flexible for ease of adaptation to changing

business needs. For example, luxury e-commerce start-up Reebonz launched an e-commerce hub at Tampines which houses a warehouse and distribution centre, an office, a showroom and incubator space for local designers.

Occupiers will have to review the space requirements and consider options in the market. For example, a company that manufactures moulds and machinery parts in the precision engineering industry may want to shift to a multi-tenanted high-spec facility which allows it to collaborate with other occupiers, perhaps another firm specialising in 3D industrial product design, or be in closer proximity to National University of Singapore (NUS) and NTU which have research centres on 3D printing.

Reviewing space requirements will also help to drive business strategy. To spur greater efficiency and support its growth in the Asia-Pacific, Coca-Cola Singapore recently opened a S\$79 million automated storage and distribution centre in Tuas. The new facility utilises about half the space of conventional warehousing operations.

Apart from redeveloping the property, landlords can also consider refurbishing the space. Subject to the relevant authorities' approval, property owners can look at providing other supporting amenities such as gymnasiums, childcare facilities or retail spaces to offer a more conducive environment of "work, live, learn, play and create" elements.

Additionally, building specifications could also be improved – for instance, the upgrading of lift lobbies, toilets or the building's existing power supply to cater for possibly higher power consumptions of their tenants.

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