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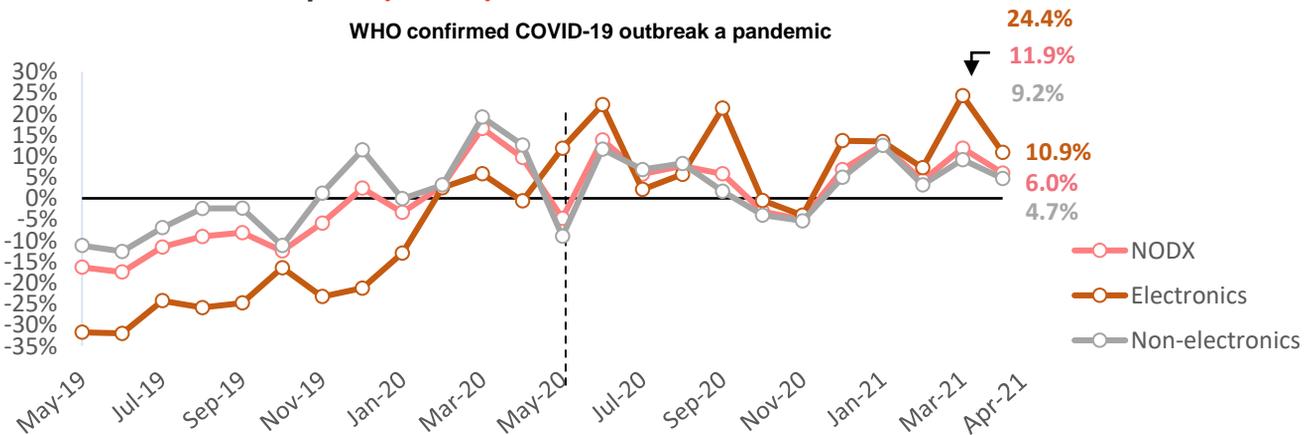
March and April saw Singapore's initial transition from government-supported economic recovery back to market-driven growth engines. Nonetheless, the government continues to provide both monetary and guidance-based support for firms to help manage present challenges. This includes subsidies for hotels that are reskilling staff and recommendations for financial institutions to manage remote-working risks.

/APR

2021

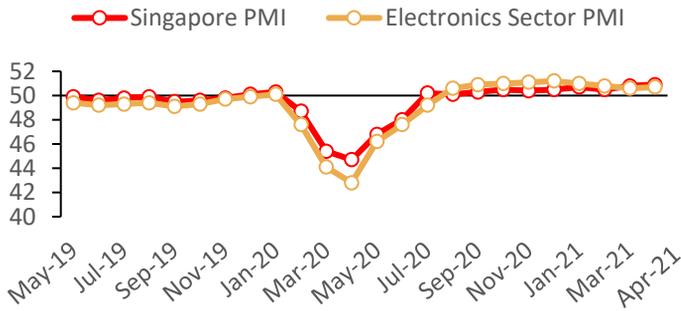
However, both the public and private sector have also made investments to build the foundations for Singapore's future economic growth. A key focus for the government is the digitalisation of sectors such as construction, maritime industry, and agriculture. Singa, an infrastructure bill, has also been instrumental in funding infrastructure beneficial across multiple generations. The private sector, on the other hand, has been active in investing in sectors such as medical technologies, wealth management and sustainability. Outside of domestic growth, Singapore is also well-positioned to continue serving as a regional and global centre for intellectual property protection, digital connectivity and cross-border banking.

Non-Oil Domestic Export (NODX)



- Trend:** Overall NODX, electronics and non-electronics exports all increased in Mar 21 and Apr 21, maintaining the 5-month positive recovery since Dec 20. On a Y-o-Y basis, growth rates of all 3 categories are lower in Apr 21 compared to Mar 21:
  - NODX changed by 11.9% and 6.0% in Mar 21 and Apr 21 respectively
  - Electronics changed by 24.4% and 10.9% in Mar 21 and Apr 21 respectively. The slowed growth of electronics may be due to the Suez Canal blockage in March, which may put a strain on the supply chain for the months ahead.
  - Non-electronics changed by 9.2% and 4.7% in Mar 21 and Apr 21 respectively
- Main contributors to growth (electronics):**
  - Mar 21: ICs, PCs and diodes & transistors, which expanded by 19.2%, 66.1% and 44.4% respectively.
  - Apr 21: PCs, diodes & transistors and ICs, which expanded by 39.9%, 54.5% and 3.2% respectively
- Main contributors to growth (non-electronics):**
  - Mar 21: Petrochemicals, specialised machinery and pharmaceuticals, which expanded by 51.4%, 35.1% and 25.5% respectively
  - Apr 21: Specialised machinery, petrochemicals and primary chemicals, which expanded by 54.3%, 63.3% and 104.6% respectively.
- Going forward:** There are mixed expectations for future export growth. Externally, global vaccination roll-outs support a positive outlook for global economic recovery. While NODX to the United States, the European Union and Japan decreased by around 30-40%, NODX to China, Malaysia, Hong Kong, South Korea and Thailand increased. However, COVID-19 cases have recently spiked in ASEAN, a key trading bloc. Domestically, the recent declaration of Phase Two Heightened Alert (HA) measures may moderate NODX growth. Nonetheless, compared to last year's "circuit breaker", the restrictions are limited to a month and primarily restrict food and beverage services.

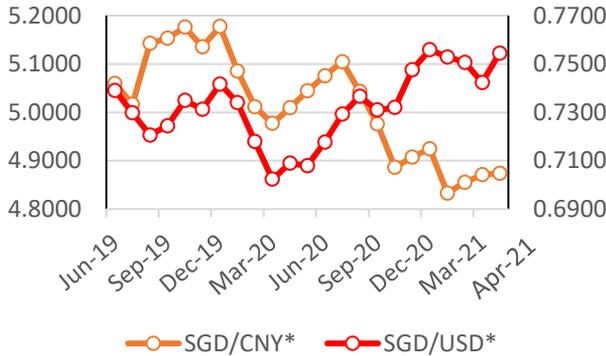
## Purchasing Managers Index (PMI)



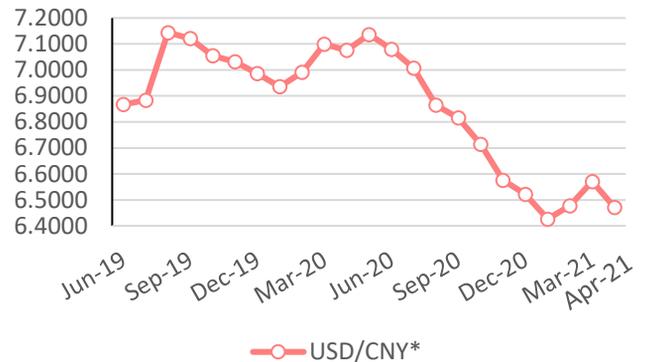
- Trend: PMI remains stable above the 50-point mark in Mar 21 and Apr 21.
- Going forward: The near-term outlook for the manufacturing and electronics sector would depend on how Singapore responds to the semiconductor shortage. Manufacturers are also **concerned about future labour shortage due to the entry ban on long-term WP & SP holders**

## Foreign Exchange Rates (FX)

SGD/CNY

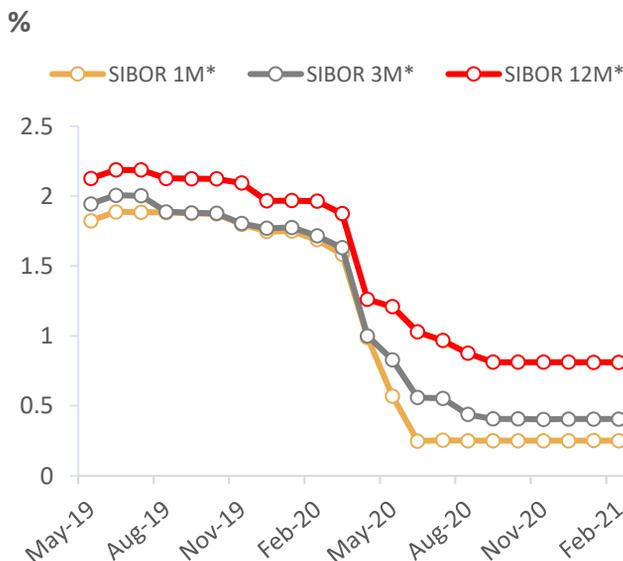


USD/CNY



- **SGD/USD:** SGD depreciated against USD in Mar 21 (at rate of 0.7424) but then continued the general trend of appreciation in Apr 21 (at rate of 0.7545)
- **SGD/CNY:** Counter to the trend of depreciation against CNY from Aug 20 to Jan 21, SGD continues to strengthen steadily against CNY throughout Mar 21 (at rate of 4.8710) and Apr 21 (at rate of 4.8741).
- **USD/CNY:** USD appreciated against CNY in Mar 21 (at rate of: 6.5710) but continued general trend of depreciation in Apr 21 (at rate of 6.4712).

## Singapore Interbank Offered Rate (SIBOR)

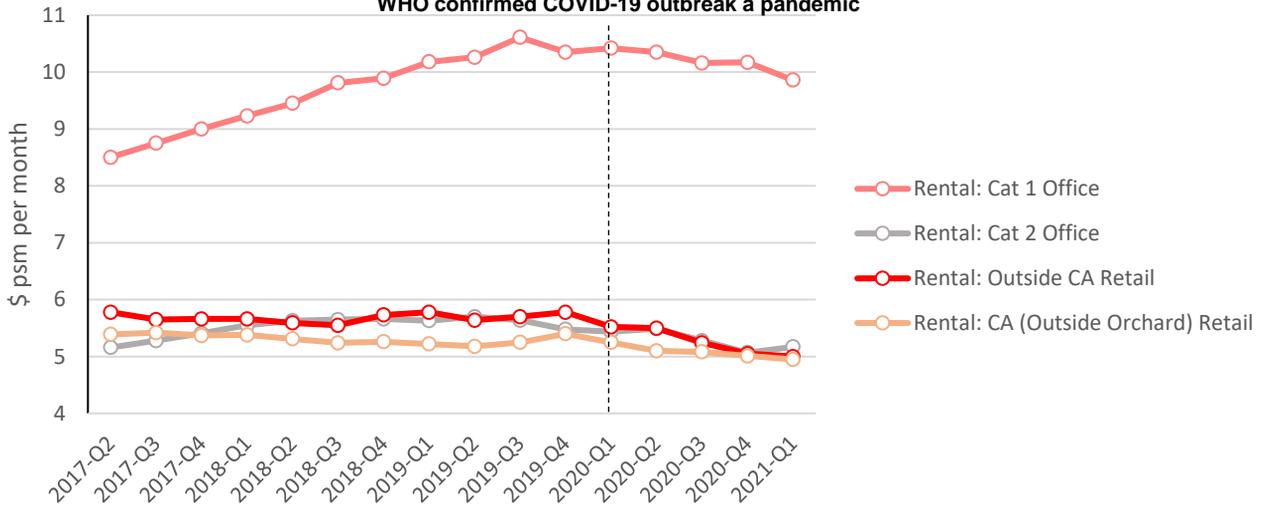


- **Trend:** Since the dip in Apr 20, the 3-months SIBOR and the 12-months SIBOR has gradually stabilised to 0.437 and 0.811 respectively for both Mar 21 and Apr 21. The 1-months SIBOR continued to dip until Jun 20 before stabilising. It remained at 0.281 for both Mar 21 and Apr 21.
- **Going forward:** US Consumer Price Index for April rose 4.2%, higher than the 3.6% expected (which already accounts for low-base effect), raising concerns that the Federal Reserve may increase Fed funds rate due to inflationary pressures. This may then cause SIBOR to rise. The Fed so far maintains that inflation is transitory and has not revised its interest rate target range.
- Meanwhile, the Steering Committee for SOR and SIBOR Transition to SORA (SC-STTS) has recommended that financial institutions cease issuing SIBOR-linked financial products by end of September 2021.

# Median Rentals and Vacancy Rates for Offices and Retails

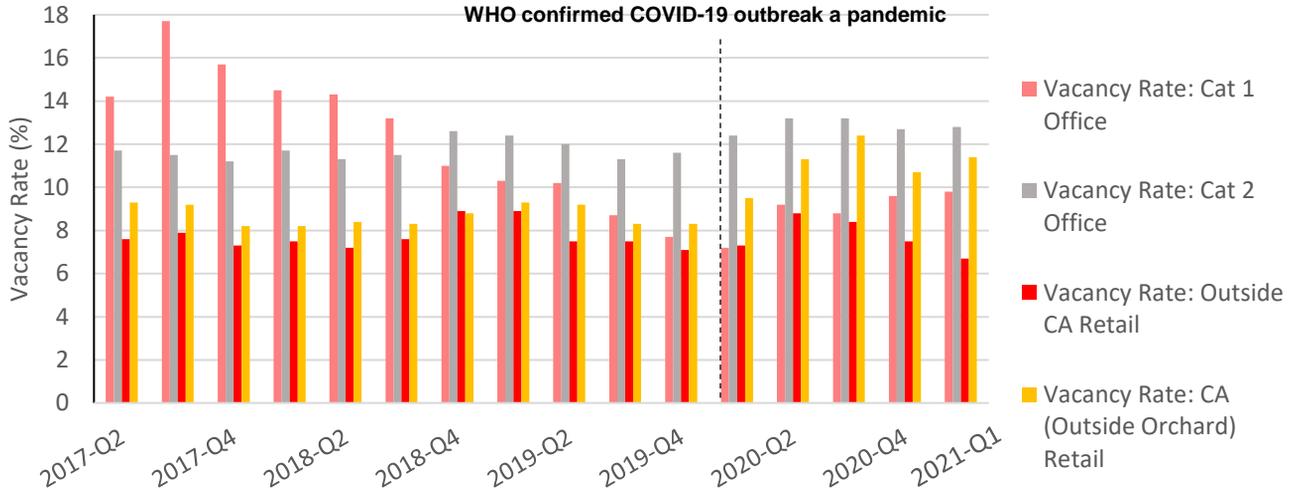
## Median Office and Retail Rental

WHO confirmed COVID-19 outbreak a pandemic



## Vacancy Rate of Offices and Retails by Locality

WHO confirmed COVID-19 outbreak a pandemic



- **Median rental:** Median rental of Cat 1 offices (located in core business areas in Downtown Core and Orchard Planning Area), Cat 2 offices (localities not included in Cat 1) and retail space in outside Central Area (CA) all exhibit a decreasing trend after the COVID-19 outbreak. Retail space in CA (outside Orchard) median rental remains largely stable.
- **Vacancy rate:** In the months after COVID-19 outbreak, vacancy rate of Cat 1 offices has a slight increasing trend, while vacancy rate of Cat 2 offices remains largely stable. Vacancy rate of CA (Outside Orchard) Retail increased from 2020-Q1 to 2020-Q3 but decreased in 2020-Q4. It then increased again in 2021-Q1. On the other hand, vacancy rate of Outside CA Retail faces generally strong decreasing trend.
- **Analysis:** The decrease in median rental fee has encouraged firms to leverage on lowered rents to upgrade their offices to a better quality and location. However, **though median rental fees have generally decreased across both categories of office space, only vacancy rate for Cat 1 offices has increased.** This agrees with the persistence of hybrid working as the new work arrangement trend. Key office occupiers such as financial institutions have already begun scaling back their office spaces in the core area.
- COVID-19 travel restrictions and increased entrenchment of e-commerce as an alternative shopping medium may account for the prolonged decrease in both tourists and local shoppers, leading to a continual increase in CA vacancy rate. Outside CA retail on the other hand are more resilient as more turn to shopping at places in proximity to their homes, providing a more stable footfall for these retailers.

# ECONOMY

## 1<sup>st</sup> QUARTER 2021

- Economy recovery overview:** Singapore's GDP grew by **0.2% in the first quarter of 2021**, the first quarterly growth since 2019. Monetary Authority of Singapore (MAS) estimates that the GDP will exceed the upper bound of the 4%-6% range. Manufacturing sector performed the best due to resilient global demand for semiconductors and electronics products while construction and services sectors shrank. For construction, it is because of restrictions on the inflow of migrant workers which have increased labour costs, as well as compliance with safe distancing measures resulting in lower productivity. For the service sector, mobility restrictions due to safety measures have affected consumption.
- Labour market recovery:** Long-term unemployment rate among residents rose to 1.1% in 2020, hinting at a structural change in the economy. For non-residents, employment decreased in all sectors, primarily in construction and manufacturing, because of the reduction in work permit and work pass holders. Manpower Minister Josephine Teo highlights three risk factors for the recovery of the labour market: i) Continued closure of most international borders, ii) Transition of wage subsidy scheme from Jobs Support Scheme (JSS) to the Jobs Growth Incentive (JGI) and iii) jobs-skills mismatch. Refer to Fig 1 for summary of the labour market report.

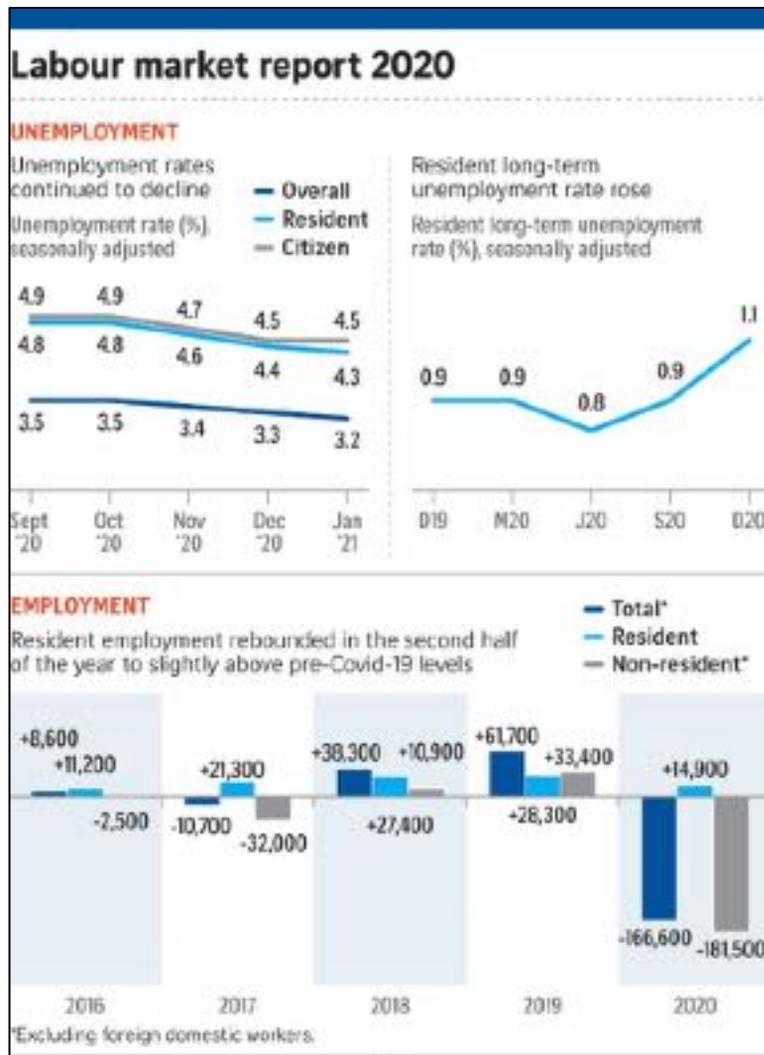


Fig 1: Labour market report 2020

Source: Straits Times

- Business recovery:** Government support for businesses and individuals have tapered off after 31st March except for COVID 19 hard-hit sectors identified by the government (Refer to Fig 2). According to a survey by Singapore Business Federation (SBF) in March, Small and Medium-sized Enterprises (SMEs) are still facing challenges for recovery. 63% are unconfident of seeing business recovery in the next 6 to 12 months in contrast to the 31% of large companies. However, 54% of surveyed companies perceive Budget 2021 measures as sufficient for mitigating the impact of COVID-19 on businesses.

<h2>Easing of support schemes</h2>		<p>Several schemes intended to help tide companies over the Covid-19 crisis tapered off or reverted to their original measures yesterday. <b>The Straits Times</b> takes a look at these initiatives.</p>
SCHEME 	HOW IT WORKS 	AFTER MARCH 31 
 <b>Jobs Support Scheme</b>	<ol style="list-style-type: none"> <li>Tier 3A and 3B firms will receive 10 per cent wage support on the first \$4,600 of gross monthly wages per local employee for September to December 2020.</li> <li>Tier 3A firms will receive another tranche of payouts for wages for the January to March period, which will be paid in June.</li> </ol>	Tier 3B firms will receive their last payouts from March 31, while Tier 3A firms will get further support to be paid out in June.
 <b>Credit relief on loans (Extended Support Scheme – Standardised)</b>	Firms from Tier 3A and 3B sectors were able to apply to defer 80 per cent of principal repayment on loans until March 31.	Debtors have to resume principal repayments.
 <b>Deferred premium payments for life and health insurance</b>	Policyholders could apply to defer their premium payments for up to six months for policies with renewal or premium due dates between April 1 last year and March 31.	Policyholders can no longer apply to defer premium payments.  Those who remain unable to pay the deferred premiums should approach their insurers to find out about available payment options.
 <b>SME Working Capital Loan</b>	Intended to help small and medium-sized enterprises (SMEs) with working capital needs.  The maximum loan quantum was raised from \$300,000 to \$1 million and risk share was increased to 90 per cent, for applications starting from April 6 last year to March 31.	The scheme reverts to its original parameters of \$300,000 maximum loan quantum and risk share of 50 per cent for most firms and 70 per cent for young companies formed within the last five years.
 <b>Loan Insurance Scheme</b>	Enterprises can apply to secure short-term trade financing for several purposes, such as stock financing or overseas working capital loans.  Support for the scheme's insurance premium was increased to 80 per cent, up from 50 per cent, until March 31.	The scheme will be streamlined into the Enterprise Financing Scheme – Trade Loan from April 1, in which the Government takes a 70 per cent risk share and a maximum loan quantum of \$10 million applies.  The trade loan scheme had been previously extended to Sept 30 this year.
 <b>SGUnited Traineeship, SGUnited Mid-Career Pathways programme and SGUnited Skills</b>	The maximum duration for traineeships, company attachments or training courses is 12 months.  Training allowances for ITE graduates range from \$1,000 to \$1,500, while allowances for polytechnic diploma or professional qualification holders range from \$1,300 to \$1,800.	The maximum duration for traineeships, company attachments or training courses is lowered to six months.  Training allowances are raised. For ITE graduates, they range from \$1,600 to \$1,800. For polytechnic diploma or professional qualification holders, they range from \$1,700 to \$2,100.
<small>NOTE: Tier 3B firms refer to those from sectors such as biomedical sciences, financial services, and information and communications technology and media. Tier 3A firms refer to those from all other sectors excluding Tier 3B, as well as Tiers 1 and 2 which refer to industries which are more affected by Covid-19, such as aerospace and tourism.</small>		
<small>Sources: MINISTRY OF FINANCE, MONETARY AUTHORITY OF SINGAPORE, ENTERPRISE SINGAPORE STRAITS TIMES GRAPHICS</small>		

**Fig 2: Updated support schemes**

Source: Straits Times

A top-down view of a wooden conference table with several people's hands and arms visible. They are working with laptops, tablets, and various documents, including charts and graphs. The scene is brightly lit, suggesting a professional meeting or collaborative work environment.

# BUSINESS ENVIRONMENT

- **Upholding anti-corruption efforts:** Corrupt Practices Investigation Bureau (CPIB) announced that graft-related reports in Singapore decreased by 31% in 2020 compared to 2019 due to decreased economic activities in the private sector. Bank transfers are increasingly used as a medium for transfer of money, but the adoption of technology such as data analysis and regulation of transfer systems in banks and financial institutions ensures that a digital trail is left behind. Therefore, CPIB is able to achieve a conviction rate of 97%.
- **Preventing scams:** Singapore Police Force's Anti-Scam Centre (ASC) launched Project Frontier in 2020. Through this initiative, it has brought banks, telcos, online marketplaces and other agencies involved in consumer payment to work together to identify online scams. The close working relationship between these organisations combined with the digitalisation and automation of key transaction activities allows suspected bank accounts to be frozen within a day. Robotic Process Automation (RPA) technology allows the streamlining of these information from ASC to banks. The project has helped recover \$57.6 million. This initiative has helped Singapore to manage the rise in online fraud which rose due to increased e-commerce activities during the pandemic.

A collage of Singaporean banknotes in various denominations (5, 10, 20, 50, 100 dollars) and colors (green, purple, blue, red). The notes are overlapping and slightly blurred, creating a sense of movement and financial activity.

# KEY POLICY UPDATES

- **Singapore as an IP hub:** Singapore IP Strategy 2030 was announced in April. It is a 10-year blueprint to bolster the intangible assets (IA) and intellectual property (IP) sectors in Singapore and builds on the previous masterplan updated in 2017. The masterplan has 3 key targets which are
  - i. Strengthen Singapore's position as a global hub for IA/IP through IP linkage agreements with ASEAN countries. Singapore is currently involved in 2 work-sharing agreements which are the ASEAN Patent Examination Cooperation (ASPEC) and the Global Patent Prosecution Highway (GPPH) network
  - ii. Attract and grow innovative enterprises using IA/IP such as the launch of IP Grow, an online platform that provides IA/IP services to enterprises
  - iii. Develop jobs and skillsets for IA/IP industry such as working with stakeholders to develop a set of recognised standards and certifications that can be adopted by the industryFor more details, refer to: <https://tinyurl.com/SG-2030-IP-Strategy>
- **Employment policy for senior workers:** Statutory retirement age and re-employment age will be raised to 63 and 68 respectively on July 1, 2022. CPF contribution rates for workers aged 55 to 70 will also be raised by 0.5% or 1%. The CPF Transition Offset scheme and Senior Employment Credit, which is a part of the Senior Worker Support Package announced under Unity Budget 2020, will subsidise half of the CPF contribution increase and offset to 8% of wage from the start of 2021 to the end of 2022 respectively. For more details, refer to: <https://tinyurl.com/SWSP-Updates>
- **Work pass policy:** Ministry of Manpower (MOM) has announced that dependent's pass holders will need a work pass and letter of consent to work in Singapore from 1<sup>st</sup> May 2021. For more details, refer to: <https://tinyurl.com/SG-DP-Factsheet>
- **Reskilling in the hotel industry:** The Job Redesign Reskilling (JRR) Programme has been revamped; the adoption of technology is now a compulsory criterion. Pre-approved training plans for hotels to implement new technology/systems are now available and eligible hotels may receive up to 90% of course fee funding and salary support of up to 3 months of the programme. For more details, refer to: <https://tinyurl.com/JRRP-for-Hotels>



# FINANCE

- **Managing remote-working risks for financial institutions:** Monetary Authority of Singapore (MAS) and the Association of Banks in Singapore (ASB) jointly issued a recommendation paper “Risk Management and Operational Resilience in a Remote Working Environment” for Financial Institutions (FI) to manage risks due to extended remote working conditions amid the COVID 19 pandemic. The paper recommends FI to develop risk assessment processes and safeguards to address challenges in remote working such as staff welfare, legal implication, and security risk. The recommendation also includes establishing guidelines on remote work practices and technology infrastructure. For more details, refer to: <https://tinyurl.com/FI-Remote-Working-Risks-Paper>
- **Singapore to be wealth management centre for banks:** HSBC Holdings has opened an institutional family office in Singapore to provide affluent clients with direct access to its investment bankers and assist with wealth management. The firm will invest \$4.6 billion and hire more than 5000 wealth planners in Asia. Citigroup has also announced similar plans. It aims to add 2300 employees in Singapore and Hong Kong, where 1100 will be relationship managers and private bankers under its newly merged wealth unit Citi Global Wealth (CGW).
- **Singapore Stock Exchange (SGX) market growth :** Total market turnover value increased by 50% in March from \$25.78 billion in February. This was due to increase in various activities such as:
  - Total fundraising (equity fundraisings and from bond listings) increased by 63% to \$121.5 billion (QoQ)
  - Derivatives volume increased by 13% to 60.6 million contracts (QoQ)
  - Trading volume in the FX markets increased by 20% to 7.3 million contracts (QoQ)
  - Commodity derivatives volume increased by 17% to 6.4 million due to economic recovery in China led by the dry-bulk marketIn March, the USD/SGD, INR/USD and USD/INR (USD) futures volume also rose to a monthly high.



# MANUFACTURING & TECHNOLOGY

- **Digitalisation and robotics in construction:** Hubble, a platform that allows stakeholders in the construction value chain to manage and collaborate on projects digitally, was launched in March. More than 1000 companies and about 15 000 contractors are registered. Hubble is developed by Delphi, co-funded by the Infocomm Media Development Authority, and supported by the Building and Construction Authority (BCA). The digitalisation of the construction industry has been a focus under the Construction Industry Transformation Map released in 2017. Government tenders, which will contribute to more than 50% of the total value of construction contracts in 2021, are increasingly including integrated digital delivery as a criterion. HDB and A\*Star have also agreed on a research collaboration to actualise the use of robots and drones to improve site safety and digital rendering of construction projects, with the intent to commercialise the results in the future.
- **Digitalisation in the maritime industry:** MPA is promoting the wider usage of digitalisation in the marine industry such as adoption of Electronic Bills of Lading (EBL) to increase efficiency in the documentation process of shipments. EBL has successfully reduced the process from 6-10 days to less than 1 day. MPA is currently inviting proposals from industry players to trial EBLs. In addition, phase 2 of digitalPORT@SG (<https://tinyurl.com/SG-DigitalPORT>), a digital platform that provides stakeholders in maritime trade with real-time updates on the estimated time of berthing of their ships and other ships, was launched in April. The project allows port stays to be reduced for more than 2,000 shipping companies through the effective coordination of arrival between calling ships.

- **Singapore to be key for Dyson's venture into intelligent tech:** Currently, about half of Dyson's employees in Singapore are engineers and scientists. As part of its \$5.1 billion global investment in developing intelligent technological products, Dyson will hire 250 more engineers and scientists in Singapore. Singapore has been designated as the firm's global headquarters and also hosts its manufacturing facilities and supply chain operations. Its original Science Park 1 centre will be converted into a cyber fusion centre focusing on R&D in operational technologies, Internet of Things etc.
- **Launch of power asset management tech start-up:** NaviX Solutions, a company jointly incubated by Schneider Electric and EDB New Ventures, was unveiled in April. It will create 100 jobs in customer service, technical support, logistics etc. This venture demonstrates successful public-private collaboration in building start-ups and job creation. Both parties will co-invest to provide NaviX Solutions with capital and provide continual support throughout its growth. NaviX Solutions provides management of critical power assets (e.g. medium-voltage switch gears) to businesses, cutting down capital costs for them.



### Singapore – Global Data Centre Hub

- Singapore is ranked **2nd and 5th in terms of idealness to build data centres by the Arcadis Data Centre Location Index 2021 and Cushman & Wakefield's 2021 Global Data Centre Market Comparison Report** respectively. Singapore's drawing strengths are i) attractiveness for technology investment due to a well-educated workforce and stable government, ii) ecosystem advantages, iii) competitive tax rates, and iv) absence of environmental risk.
- Digital Realty (a US data centre operator) has officially opened its 3rd data centre in Loyang, Singapore which is capable of carrying an IT load of 50 megawatts. Its total investment in data centres in Singapore is \$1.3 billion till date.
- The **Bifrost Cable System** (a subsea cable system) has begun development and will link Singapore, Indonesia, the Philippines, Guam and the west coast of North America and provide high-speed transmission to these regions (refer to Fig 3). It is developed by Keppel Telecommunications & Transportation, Facebook and Telekomunikasi Indonesia International while Alcatel Submarine Networks (ASN) will complete the supply and installation works. It is expected to be completed in 2024.

**Fig 3: Bifrost Cable System**  
Source: Straits Times



- **Robot delivery service for residents:** A 1-year trial has commenced to enable 700 Punggol households to use robot “couriers” for free on-demand delivery. IMDA will lead the trial and will work with HDB, the Land Transport Authority (LTA), Urban Redevelopment Authority, CM Logistics, FairPrice and robotics company Otsaw. This test pilot aims to ease the manpower crunch in the logistics sector and to testbed autonomous robots for commercial applications. Safety precautions have been taken by limiting the robots to a speed of 5Kmh and each robot will be accompanied by a safety officer.
- **Speedy cross-border payments:** Singapore's PayNow has partnered with Thailand's PromptPay to facilitate cross-border payments of up to \$1000 daily with similar procedures as normal PayNow transactions and can be completed in under 5 minutes. Both MAS and the Bank of Thailand hope to expand this bilateral partnership to a multi-lateral retail payment system in the future. Partior, a company jointly established by DBS, JP Morgan and Temasek, also aims to speed up cross border transactions through an open industry blockchain platform.

## Strong incubation and investment landscape:

- World Bank Group published that Singapore start-ups attracted \$5.5 billion funding in 2020. This is lower than the \$8.5 billion in 2019 but demonstrates that the investment landscape still holds strong despite the pandemic's impact. Singapore accounts for more than half the total aggregate value of VC deals in Southeast Asia since 2014. It was also highlighted that the Singapore government has taken steps to reduce overdependency of start-ups on the public sector and enhanced the regional and global connectivity of the local ecosystem.
- **Maritime Innovation and Technology (MINT) Fund** which was established by Maritime and Port Authority (MPA), has been made available for maritime tech start-ups seeking funding support of up to \$50,000 for piloting projects and up to \$100,000 for scaling up. The grant will also be used to connect maritime and VC companies with start-ups as well as to develop a start-up guidebook on the local start-up ecosystem. It aims to foster an ecosystem that facilitates experimentation and to increase the number of maritime tech start-ups from 30 to 100 by 2025. For more details, refer to: <https://tinyurl.com/MINT-Fund>



# BIOMANUFACTURING & MEDTECH

- **Sanofi Vaccine Centre:** Sanofi Pasteur will invest \$639 million to build a vaccine production centre in Singapore. It will produce 3-4 types of vaccines simultaneously by using single-use systems in the manufacturing process and can manufacture both cell culture-based vaccines and mRNA vaccines. The facility will be fully operational in the first quarter of 2026 and will supply vaccines to Asia. Singapore is already Sanofi's Asia headquarters and hosts its regional export centre as well as a pharmaceutical product manufacturing plant. The vaccine plant will add one of the most technologically advanced vaccine production centres on a global scale to Singapore.
- **MOH establishes Healthcare Insurance Committee:** Ministry of Health (MOH) announced the 12-member Multilateral Healthcare Insurance Committee (MHIC), which comprises representatives from Academy of Medicine, Singapore (AMS), Consumers Association of Singapore (Case), Fee Benchmarks Advisory Committee (FBAC), Life Insurance Association (LIA), Singapore Medical Association (SMA) and private hospitals. MOH designates this as the platform for the government, doctors, insurers, and hospitals to collaborate. Its specific objectives are to recommend actions for managing the rising costs of healthcare insurance, help establish conflict resolution platforms for healthcare insurance claims, and improve the claims pre-authorisation process for treatment. For more information, refer to: <https://tinyurl.com/MOH-MHIC>
- **Telemedicine Growth:** In the start of the year, 36 000 patients consulted with their doctors virtually. Both private telemedicine and public healthcare institutions have expanded efforts to support video consultations in the past year. A total of 600 direct telemedicine providers have also listed with MOH. In addition, 125 public healthcare institutions held more than 7500 video consultations in Jan 2021 compared to 407 in Jan 2020. Private healthcare institutions such as Speedoc, Doctor Anywhere and Raffles Medical Group reported a rise in demand for their telemedicine services since the pandemic. A total of 59 medical specialties have been applied for telemedicine by January 2021, more than doubling the 23 from 2020.
- **MedTech Expansion:** The number of local MedTech companies has grown to 300 in 2020 with the majority being start-ups. An example is Incubator NSG Biolabs which has incubated 21 firms in Singapore. Another example is ImmunoScape, a local start-up that conducts immune system related research, which has received a capital injection of \$18.7 million in April. The fundraising was led by EDB's corporate investment arm EDBI and drew upon EDBI's Special Situation Fund for Start-ups. This fund helps mitigate the lack of funds new firms face during the pandemic. With this funding, ImmunoScape is able to increase capacity for in-house R&D and partnerships expansion.



# SUSTAINABILITY

- **Sustainable Agriculture:** In line with Singapore's plan to achieve 30% self-sufficiency in nutritional needs by 2030, tenders have been awarded for a 20-year lease for two farms: a vegetable farm in Sungei Tengah (awarded to NextGen Farms and LivFresh) and a general agriculture farm in Lim Chu Kang (awarded to Hay Dairies). Both farms will integrate technology to improve sustainability and productive capacity of the farm. Singapore's government aims for agriculture technology to be key in increasing Singapore's food resilience, especially against climate change. The \$60 million Agri-Food Cluster Transformation (ACT) Fund (available until 31 Dec 2025) is part of the larger effort to give funding support to help local farmers utilise more technology in food production.

## Sustainable Meat Consumption:

- Over 15 alternative meat start-ups, such as Gaia Foods (focuses on cell-based meat), Karana (focuses on plant-based meat), and Float Foods (focuses on plant-based milk), have been established in Singapore within the past 2 years. Local food manufacturers such as Tee Yih Jia and Growthwell have also begun investing in R&D and production of plant-based meat. Archer-Daniels-Midland Company (ADM), a multinational food processing and commodities trading firm, has launched its plant-based innovation lab in Biopolis in April. The lab will focus on orienting products to the Asian taste preferences.
- Singapore is promoting for continued growth in the alternative proteins sector: Local consumption of plant-based pork and chicken products have increased 7 times in 2020 compared to 2019. Enterprise Singapore (ESG) has partnered 5 accelerators to support 100 agri-food tech start-ups. Singapore also has a responsive regulatory system to alternative product innovations—it was the first country to approve the sale of a cell-cultured product in December 2020. In addition, Singapore's established biomedical industry provides a technological basis for the country to become a hub for alternative protein innovation in Southeast Asia.

## Clean Energy

- **Opening of Battery Recycling Facility:** TES B, a battery recycling facility was set up by Singapore-based e-waste recycler TES, in Tuas on March. The facility is able to recover more than 90% of precious metals such as lithium and cobalt, at a purity level of near 99%, from 14 tonnes of lithium-ion batteries per day. Reuse of recovered metals is expected to be 5 to 10 times more energy-efficient than virgin ore metals. The opening of the facility supports compliance of manufacturers or importers of electrical/electronic products with the Producer Responsibility Scheme (PRS), which requires these companies to finance the treatment of e-waste through licensed e-waste recyclers in which TES is one of the appointees. The PRS will be put into effect from July 1, 2021. For more details, refer to: <https://tinyurl.com/EPR-System>
- **Clean Energy Generation:** Tenaga Nasional Berhad (TNB) (a Malaysian electrical utility state-owned enterprise) and Singapore-based solar energy firm Sunseap Group will form a joint venture to trial a total of 100MW of renewable energy imports (which could account for around 1.5% of Singapore's peak electricity usage) from Malaysia into Singapore. The trial is expected to start at the end of 2021. The results will be used to improve technical and regulatory frameworks for power imports into Singapore. Sunseap Group has agreed to supply renewable energy for Facebook's Singapore operations. In addition, it has signed a long-term agreement to export 62 MWp of solar energy, harvested from its aggregated mobile solar system installed at JTC's solar farms, to Amazon. In March, the company has also completed the installation of the world's largest floating solar farm capable of producing around 6 million kilowatt-hours of energy per year for Singapore. According to the World Economic Forum's Energy Transition Index 2021, Singapore currently ranks 21st globally in the transition to a more sustainable energy system.

## Green Financing:

- **UOB's U-Solar scheme** has added 3 EPCC firms to its partner network with a total of 14 partners. The scheme, which offers business and consumer-facing financial solutions such as cash management, end-to-end contract-based financing for EPCC contractors, has facilitated the production of around 16GWh of solar power across ASEAN.

- Singtel Group Treasury Pte. Ltd. has launched a \$750 million sustainability-linked credit facility. The Olives programme offers 3-year loans, provided by DBS, OCBC, and UOB, with interest rate discounts fixed to environmental, social and governance (ESG) goals. Singapore Power Group, has secured an initial loan from the above 3 banks of \$100 million to support projects in energy efficiency, renewable energy, and green buildings.
- Razer Inc, has launched Razer Green Fund (of \$66 million) that focuses on supporting companies involved in renewable energy, carbon and plastic management. The firm will also provide seed investment for The Nurturing Co., a start-up known for creating bamboo pulp toilet rolls under BAMBOOLOO.
- BlackRock and Singapore's Temasek Holdings has formed Decarbonization Partners to create one of the largest venture-capital funds that will invest in start-ups offering solutions in reducing global fossil fuel dependency such as battery storage, autonomous driving, and green hydrogen. A total of \$804 million would be invested. The firm will focus on late-stage VC and aims to help reduce the cost curves of start-ups to be competitive with non-green options so that they can be commercialised.



- **Train Testing Centre:** The new Integrated Train Testing Centre (ITTC) has begun construction in March and will be fully operational by end-2024. South Korean firm GS Engineering is responsible for designing and building it. The ITTC will have 3 tracks to test endurance, performance, integration and speed. It facilitates the growth of Singapore's rail engineering capabilities by providing a common platform for LTA engineers, rail operators and original equipment manufacturers (OEMs) to collaborate closely.
- **Greening Public Transport:** 2 diesel-powered public buses have been fitted with solar panels that weigh less than 20kg and can supply 1000 watts of power by bus operator Go-Ahead Singapore. The buses will be used in daily operations for a 6-month proof-of-concept trial. This aligns with the government's vision of a greener public transport system, who has aimed to replace all diesel buses with electric or diesel-electric buses by 2040.

#### **Greening Private/Commercial Transport:**

- By 2025, no new registrations for diesel cars and taxis will be allowed. Diesel cars currently make up 2.9% of passenger cars and 41.5% of taxis in Singapore. Road taxes for electric cars and mass-market electric cars will be lowered from 2022. The tax bands of 30-90kW and 90-230kW electric cars will also be merged and the \$5000 minimum additional registration fee (ARF) for electric cars will be removed by January 2022.
- By 2030, the government aims to make every HDB town EV-ready, while an EV Common Charger Grant is available for the first 2000 chargers installed at non-landed private residences from July 2021.
- In April, the new Commercial Vehicle Emissions Scheme (CVES) and enhanced Early Turnover Scheme (ETS) has taken effect. Both schemes will incentivise the conversion to light-goods vehicles that emit less pollution and CVES will impose a surcharge of \$10,000 on heavier-polluting vehicles. The ETS update will allow existing Euro 4 Cat C diesel vehicles to be eligible for discounts when converting to Euro 5 vehicles.



# INFRASTRUCTURE

- **Singa Infrastructure Bill:** The Significant Infrastructure Government Loan Act (Singa) was introduced in April. It enables Singapore's government to borrow up to \$90 billion to fund infrastructure that is critical for Singapore's long-term development in economic, environmental or social sustainability or for increasing national productivity significantly. The bill requires that the project to last at least 50 years and costs a minimum of \$4 billion. Through the Bill, the government can borrow at a favourable interest rate, but there will be an annual interest threshold of \$5 billion that prevents more borrowing under Singa in the next financial year once reached. Currently, the raised funds will be used to finance the Cross Island and Jurong Region MRT lines. For more details, refer to: <https://tinyurl.com/Singa-Bill>
- **Deep Tunnel Sewerage System for Singa Funding:** The Deep Tunnel Sewerage System (DTSS) is a 100Km long "network of deep tunnel sewers that makes use of gravity to channel used water to centralised treatment plants for purification and reuse". It is a \$10 billion infrastructure project that will be eligible for funding through the Singa Infrastructure Bill. It is expected to last 100 years and will be completed by 2025. The construction will take place in phases, with the first in the north and east parts of Singapore (completed in 2008) and the second phase in downtown and west parts of Singapore (a quarter of the work has been completed in April). By facilitating the recycling of water, DTSS will help increase Singapore's resilience to water shortages due to climate change and will also free up land of about 214 football fields.

\*Description quoted from: <https://www.straitstimes.com/singapore/environment/underground-sewerage-network-eligible-for-financing-through-borrowing>

**FOZL** 福智霖



**FOZL GROUP**

Address: 6 Raffles Quay, #14-06, Singapore 048580  
Tel: +65 6717 0088 Email: [enquiry@fozl.sg](mailto:enquiry@fozl.sg) Web: [en.fozl.sg](http://en.fozl.sg)  
Registration No.: 201101725E

**FOZL SPACE**

Address: 6 Raffles Quay, #14-02, Singapore 048580  
Tel: +65 6717 3377 Email: [space@fozl.sg](mailto:space@fozl.sg) Web: [space.fozl.sg](http://space.fozl.sg)