THE KEY TO INNOVATION

FROM THE ENIGMA MACHINE TO THE RISE OF VIRTUAL CURRENCY, CRYPTOGRAPHY HAS UNLOCKED INNOVATIVE BREAKTHROUGHS THAT CHANGED THE COURSE OF HISTORY AND PROPELLED TECHNOLOGY TO NEW FRONTIERS. LIKewise, WE CONSTANTLY FIND WAYS TO DELIVER WORLD-CLASS PORT SERVICES ALONGSIDE OUR CUSTOMERS AND PARTNERS, AS WELL AS DEVELOP INNOVATIVE CARGO SOLUTIONS AND COLLABORATIVE PLATFORMS TO CO-CREATE AN INTERNET OF LOGISTICS.

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C N Q L H T F E A

A L O N G S I D E
SOUTHEAST ASIA

Volumes at PSA Singapore grew 8.9% in 2018 to reach a record throughput of 36.3 million TEUs. PSA Singapore achieved a significant milestone with the completion of Pasir Panjang Terminal’s (PPT) final phase in the first quarter of the year. The city terminals continued their focus serving intra-Asia trade and providing dock depot and automobile logistics services.

Joint venture operations at PPT were also boosted throughout the year, with COSCO-PSA Terminal adding two new berths, while MSC-PSA Asia Terminal started operating its seventh berth in November 2018. In the following month, PSA and Ocean Network Express (ONE) signed an agreement to launch a four-million TEU capacity terminal in 2019.

PSA Singapore launched ACE™, a digital platform that enhances productivity and partnerships through collaboration and co-creation of new capabilities that bring value to customers. Beyond that, a range of ICT solutions was also developed to streamline internal processes and enhance operational efficiency.

In line with its sustainability goals, PSA Singapore converted several rubber-tyre gantry (RTG) cranes to Electric Automated RTGs. They went on trial in November 2018, handling volumes at terminals alongside automated rail mounted gantry (RMG) cranes.

In recognition of the scale and complexity of operations, PSA Singapore won the “Port Infrastructure Development of the Year” Award at the Lloyd’s List Asia Pacific Awards 2018, and the “Ports and Terminals Award” at the Seatrade Maritime Awards Asia 2018 for high standards of operational efficiency and customer service. It also bagged two other awards for its environmental efforts.

The development of the future Tuas Port is on schedule with the first two berths at Phase 1 expected to be operational in 2021.

New Priok Container Terminal One in Indonesia, which had commenced commercial operations in August 2016, achieved its first-millionth TEU milestone in February 2018. It continued to collaborate with various logistics players to improve customer service experience.

In Thailand, Eastern Sea Laem Chabang Terminal attracted new shipping services from several lines, while Vietnam’s SP-PSA International Port continued to explore other container and non-container opportunities.

Beibu Gulf-PSA International Container Terminal, Fujian Jiangyin International Container Terminal and Guangzhou Container Terminal commenced operational trial of four automated electric RTGs and two automated prime movers while LYG-PSA Container Terminal successfully implemented a smart gate system that significantly reduces gate processing time. Fuzhou Container Terminal (FCT) and GCT added a new yard while FCT also commissioned a cold chain warehouse.

Dalian Container Terminal received the “Terminal Innovation Award” at the 5th China Shipping Industry Innovation Conference and Dongguan Container Terminal picked up several productivity awards from China Ports Association.

As part of the International Land-Sea Trade Corridor, PSA extended its reach into the hinterland with several intermodal corridors that connect China United International Rail Containers Co., Limited’s (CUIRC) inland railway terminals such as Chengdu, Chongqing, Kunming and Zhengzhou to PSA’s coastal terminals in 2018.

In addition, PSA China set up two companies, PSA Fujian Supply Chain and Beibu-Gulf Port Community Systems, to offer supply chain solutions to shippers. Guangzhou Port Logistics was appointed as ExxonMobil South China’s logistics supplier.

Over in South Korea, PSA Busan Terminals recovered container volumes following the reshuffling of mega alliances. Pusan Newport International Terminal successfully automated 12 RMGs. Incheon Container Terminal received a commendation from President Moon Jae-in for its contribution towards the industrial and economic development of the nation’s port industry.

MIDDLE EAST SOUTH ASIA

2018 heralded PSA’s 20th year of operations in India – a major milestone that was celebrated by PSA India staff and stakeholders at commemorative events across the country.

The region registered 13% year-on-year growth, in part boosted by record throughput at Chennai International Terminals (CITPL) and Bharat Kolkata Container Terminals (BKCT).

The reopening of shuttle trains between CITPL and Concor’s Inland Container Depot in October 2018 helped to reduce trucking time, adding to savings in logistics costs and environmental benefits.

Following its official opening by India’s Prime Minister Narendra Modi in February 2018, Bharat Mumbai Container Terminals (BMCT) increased its equipment fleet
to a total of nine quay cranes and 36 RTGs, with more to be delivered in 2019. In its first year of operations, BMCT achieved high level of productivity and attracted the largest shipping service in Jawaharlal Nehru Port.

Meanwhile, India’s first Containerised Digital Exchange Platform (CODEX) was successfully implemented at Tuticorin Container Terminal in October 2018. Jointly developed by Tuticorin Customs, V.O. Chidambaranar Port Trust and the Tuticorin chapter of the National Association of Container Freight Stations, the Platform automates and digitally streamlines container movements at the port.

CITPL was awarded “Container Terminal Operator of the Year” for the third time at the 10th South East Cargo & Logistics Awards 2018. BMCT was named “Upcoming Terminal of the Year” by Jawaharlal Nehru Port Trust, while BKCT was conferred the “Smart Container Terminal Award” at the Smart Logistic Awards 2018.

In Saudi Arabia, Saudi Global Ports enjoyed its highest annual throughput and garnered two awards – “Best Container Operator of the Year - Saudi Arabia” and “Fastest Growing Port of the Year - Saudi Arabia” at the 5th Annual International Finance Awards.

EUROPE & THE MEDITERRANEAN

In Belgium, PSA Antwerp welcomed numerous deep-sea and feeder shipping services at its terminals. Throughput at MSC PSA European Terminal (MPET) hit a new record, clocking about 7% growth. In October 2018, Antwerp Terminal Services (JV between PSA Antwerp and MPET) centralised barge planning and monitoring operations, hence simplifying and optimising the planning cycles of barges in the Port of Antwerp.

Noordzee Terminal successfully rolled out the Global Terminal Operating System in September 2018. Besides acquiring two new quay cranes, the terminal added 150 metres of quay length through conversion works.

Over in Italy, PSA Voltri-Pra commissioned 21 new electric RTGs as part of the terminal’s infrastructural modernisation program. PSA Sines in Portugal moved nearly 1.8 million TEUs, setting a new benchmark. The terminal welcomed the 20,568-TEU vessel Madrid Maersk in August 2018 – the largest to call at the Port of Sines. It also concluded trials for a pre-booking system where hauliers could check container authorisation and coordinate their arrival at the terminal with the containers’ release.

Mersin International Port in Turkey grew by 8.2% to turn in a record throughput for 2018. It also expanded its fleet of terminal equipment during the year.

THE AMERICAS

PSA marked its first foray into Canada with a 60% acquisition in Ashcroft Terminal to provide inland terminal services.

Exolgan Container Terminal in Argentina continued to enjoy strong market share, registering a 24% throughput increase to reach a new high in container volume in 2018. Construction of a new warehouse is ongoing and expected to be completed by end 2019. The terminal clinched an innovation award for its “Future Port” project at the 2018 National Technology Forum held in Buenos Aires. The winning initiative facilitates the enrolment of drivers and trucks through a mobile app, speeding up gate processing ahead of arrival.

Further north, PSA Panama International Terminal posted good growth with the completion of its Phase 2 expansion. It also welcomed Mediterranean Shipping Company (MSC) on board as a new customer.

Over in Colombia, Sociedad Puerto Industrial Aguadulce welcomed new shipping services and invested in new infrastructure, including expansion of the container yard.

PSA MARINE

PSA Marine developed the ONEHANDSHAKE™ digital solution to provide real-time communication and alerts to stakeholders operating in Singapore. ONEHANDSHAKE™ was rolled out in phases from March 2018 to oil terminal operators, shipping agents and surveyors. There are plans to engage other stakeholders in subsequent stages. To provide a seamless user experience, ONEHANDSHAKE™ will be integrated into PSA Marine’s existing order systems and app suite.

In October 2018, PSA Marine was awarded a long-term contract from Siemens Gamesa Renewable Energy for the charter of a purpose-built 35-metre Service Accommodation Transfer Vessel (SATV), to serve the Formosa 1 offshore wind power plant in Taiwan. The SATV offers a new logistical mode that accommodates technicians offshore and transfers them directly onto offshore turbines without the need for a motion-compensated gangway system. The new contract expands PSA Marine’s presence significantly in providing logistical support in the international offshore wind market.
INNOVATION INITIATIVES
INNOVATING AND BEING ALONGSIDE

INNOVATION@PSA
PSA has had a long history of innovation, from its early days as a Singapore statutory board decades ago to a post-corporatisation multinational. Today, innovation is especially relevant as the commercial marketplace continues to undergo rapid and structural changes that directly affect how we serve customers. In response to a more competitive global business environment, here are some of PSA’s innovation efforts in recent years.

INNOVATION VISION 2022
In 2018, PSA put in place its Innovation Vision 2022 as an aspiration of what innovation@PSA should be in the future. We envision the hallmarks of such a truly innovative organisation, where our employees spontaneously improve upon one another’s ideas, develop interdisciplinary collaborations and produce innovative breakthroughs without fear of failure; where our leaders are exemplary in promoting innovation as a culture and a game changer, while ensuring PSA’s innovation funnels are value-focused and good for its business in the long term; and where enterprise PSA is recognised as a thought leader in innovation and whose corporate performance is intricately linked with its ability to innovate.

Various initiatives have been rolled out to facilitate our journey towards Innovation Vision 2022.

iCAN – OUR INNOVATION PLATFORM
iCAN is an innovation platform adopted by over 10,000 PSA employees across 23 business units, spanning many nationalities and cultures. An ideas e-platform, it effectively allows employees Groupwide to ask questions, share, vote for and build up ideas that improve PSA’s workplace processes or extend its business boundaries. Since its launch in 2016, iCAN has received over 2,000 entries covering a broad range from engineering, technology and IT; to HR and health, safety, security & environment-related topics. Around 10% of iCAN submissions are adopted, developed or implemented within PSA. Top contributors are singled out for reward and recognition yearly.

INNOVATION FUNDING – REALISING IDEAS
To support the test-bedding of innovative ideas, PSA also established the Group Innovation Fund in 2013, setting aside US$1 million annually to conduct trials and encourage experimentation.

KUA HONG PAK INNOVATION AWARDS
In 2013, the annual Group Innovation Awards (GIA) was rolled out to supplement PSA’s innovation activities with recognition and reward of PSA employees – those who dare push the boundaries with new ideas, enjoy the rigours and thrill of experimentation and try new ways of doing things. In the six years it has been running, the annual GIA has received a total of 649 entries, of which 30 winning contributions have been adopted for implementation.

In 2019, in honour of the late Mr Kua Hong Pak, one of PSA International’s longest-serving board directors, GIA was renamed the Kua Hong Pak Innovation Awards.

PSA unboXed – INNOVATION FROM THE OUTSIDE
PSA ventured into the startup space with the launch of its external innovation and corporate venture capital arm, PSA unboXed, in 2016.

PSA unboXed supports PSA’s businesses by harnessing technology and innovation from the startup ecosystem to seek solutions with a focus on ports, maritime, logistics and containerised cargo flow.

Considering the varied technology needs of PSA, PSA unboXed has chosen not to be defined by the traditionally narrow scope of corporate venturing; it has instead tailored sensible approaches to engage startups at different levels of maturity, with unique strengths or features that can add value to PSA’s current and future operations.

In an effort to source technology across a broad range of technology domains, from artificial intelligence to cloud computing and robotics, PSA unboXed is currently plugged into a global network of over 50 innovation ecosystem players, including hubs in Silicon Valley and Israel.

Through a focused screening process, PSA unboXed has contributed to dozens of successful proof-of-concepts, trials, and commercial arrangements with start-ups within PSA. In June 2018, PSA unboXed also signed an MOU with CMA-CGM Ze Box to drive innovation efforts through collaboration and co-creation of solutions to address industry problems.

KUA HONG PAK
Mr Kua was a board member of PSA International for almost 15 years, from 2002–2018. He was Chairman of the Audit and Southeast Asia Supervisory Committees and also a member of the Executive Committee. In addition, he was a member of the PSA Corporation board between 2002-2018.

From 2003-2017 he helmed Singapore-listed ComfortDelGro as its Group Chief Executive Officer, growing the transport company’s footprint across seven countries and nearly trebling its profit during his 14-year tenure. He passed away on 31 Oct 2018 at the age of 74.

Mr Kua was a discerning, thoughtful leader, with balanced guidance and insights. PSA will remember him for his exemplary stewardship, unwavering dedication and outstanding contributions to PSA.
CARGO SOLUTIONS – CREATING VALUE FOR THE GLOBAL SUPPLY CHAIN
In response to the evolving and increasingly complex demands of the global supply chain, PSA established a Group Cargo Solutions unit in June 2018 to drive higher levels of business innovation and increase service levels and offerings.

Cargo Solutions seeks to create value for the global supply chain by focusing on four key verticals of Advanced Manufacturing, E-commerce, Energy & Chemicals, and Cold Chain. Besides seeking to provide stakeholders with differentiated services that allow them to take advantage of PSA’s extensive connections for faster time to market and wider outreach to global destinations, we also offer a comprehensive mix of inland container depots, cold stores and reefer services.

In addition, PSA offers a range of multi-modal solutions in different locations for shippers seeking fast and cost competitive cargo connections. These include sea-air solutions leveraging Singapore’s hub position, and sea-rail solutions that link Southeast Asia to China’s western provinces via the International Land-Sea Trade Corridor (ILSTC).

CALISTA™ – EVOLVING THE INTERNET OF LOGISTICS
In addition to offering complementary port solutions to supply chain stakeholders, PSA in collaboration with Global eTrade Services Asia Pte Ltd (GeTS) – a subsidiary of CrimsonLogic – launched CALISTA™ in April 2018.

CALISTA™ (Cargo Logistics, Inventory Streamlining & Trade Aggregation) is an open supply chain platform to help shippers better manage the physical movement of goods, trade financing and compliance. The platform facilitates global and regional interactions between supply chain users through interconnected networks of supply chain, port community and shipping lines.

On a macro level, CALISTA™ is an integral part of an Internet of Logistics (IoL) – the future of supply chain. An ecosystem of connected and interoperable logistics nodes across the physical, regulatory and finance dimensions, IoL will enable smarter and more visible cargo flow, drive standardisation, efficiencies and cost savings, and promote collaboration of innovative solutions.

To-date, CALISTA™ has cargo owners, shipping lines, financial institutions and ports participating in its ecosystem. PSA will continue to drive its global adoption as well as co-develop more innovative products with partners to provide an enriched customer experience and orchestrate supply chain excellence.

TECHNOLOGY – INNOVATION IN ACTION
PSA set up the Technology Action Group (TAG) in August 2018 with a key objective to forge convergence on automation projects and steer them to successful implementation, as well as facilitate swift cascade of CP4.0™ technologies – PSA’s blueprint and vision for its Container Port of the Future. TAG comprises a diverse composition of representatives from PSA headquarters and its two flagship terminals in Singapore and Antwerp.

The TAG has in turn appointed scores of Technology Scanning Leads across the PSA Group to monitor technological trends and to harness their applications for the benefit of PSA and its customers.

PSA will continue to actively reinvent itself, continually re-examine the way we operate, improve processes and innovate beyond traditional port boundaries to deliver higher value to the global supply chain.

CATFISH – INNOVATION COMPETENCY-BUILDING
Developed in-house, Catfish Innovation is a program designed to kickstart and fuel our individual innovation engines, by honing our focus on how we innovate, unleash creativity, evolve ideas and lead the innovation journey. Imparted are tools and techniques to create an environment conducive to creativity by coaching on the attitudes and actions that help innovators succeed within an organisation. Multifaceted and multisensory, this experience was designed to bring out the innovator in everyone and grow the spirit of creativity at PSA.