

For Immediate Release

5 August 2021

Hactl takes first robotic step

(Hong Kong, 5 August 2021) Hong Kong Air Cargo Terminals Limited (Hactl) – Hong Kong's largest independent handler – has taken its first step into robotics with the opening of a new Automated Parts Store (APS) for its giant container- and loose cargo handling systems.

The new, robotically-operated parts dispensing system enables urgently-needed spares to be quickly accessed around the clock, both for routine maintenance and in the event of occasional breakdowns.

Hactl's automated and highly complex Container Storage System (CSS) has 11 levels, is 260 m long, features a giant ULD racking system that holds 3,500 units and stores and retrieves up to 8,000 tonnes of air cargo per day. Meanwhile, its automated Box Storage System (BSS) handles loose cargo, using 10,000 stillages that run on tracks between the cargo pick-up and build-up areas.

These giant machines are the beating heart of Hactl, working 24/7/365 to maintain Hactl's mission-critical operations, which often process over 100 wide-body freighters daily, and often 16 or more at the same time. Routine maintenance, as well as occasional breakdowns, employ an 80-strong team of engineers and technicians, who are constantly visiting parts stores to collect the components they need.

The previous, manual parts requisition process required technicians to visit the main parts store in the terminal to collect components such as sensors, switches and lamps for replacement. Outside the parts store's opening times, the technicians could sometimes obtain the parts they needed from a cabinet in the Maintenance Services Centre on level 3 of SuperTerminal 1; but this held only 60 or so of the most commonly-used spares. Requisitions were recorded in a logbook, which the parts store staff later used to update stock levels. These parts store staff also had to conduct manual inventory cross-checks every week: a time-consuming task with the potential for error or oversight.

The new APS features an automated robot that manages more than 200 multi-compartment bins, housing all of the most commonly-used spare parts. On visiting the APS, technicians simply scan the code for the relevant parts, and input quantities needed, via a user terminal. The robot then takes the shortest route to retrieve the parts and serve them to the waiting technician.

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The APS robot weighs around 270kg, and can lift up to 40kg. Although the APS is a “no-man” zone with 24-hour CCTV surveillance coverage, the robot is fitted with intelligent sensors to avoid any potential collision with personnel or property. The robot automatically re-charges itself at its home station whenever it is inactive.

The new APS system automatically updates stock levels after every pick, so no part stock is ever exhausted. When stocks do need to be replenished, the robot collects these from parts store staff at the counter, and places them in the correct location on the racking.

The new APS means technicians can collect any of the most frequently-needed spare parts at any time of day or night, and reduces the time taken to do so by around 50%.

Says Hactl Chief Executive Wilson Kwong: “Hactl is a mission-critical operation for its customers and the whole airport, so minimising downtime is vital in the daily operation of our core Cargo Handling Systems. The APS robot will immediately save more than 1,500 man-hours per annum, while a mobile app that enables technicians to order spare parts from any location will also be introduced in due course, further improving our efficiency.

“This is also an important technological step for Hactl. The experience we are gaining in designing, implementing and operating this facility will prove invaluable in enabling us to identify other suitable applications for robotics within our large-scale operations, and then produce tech-led solutions.

“This is yet another illustration of Hactl actively driving innovation and efficiency in its operations, through continuing investment in state-of-the-art solutions.”

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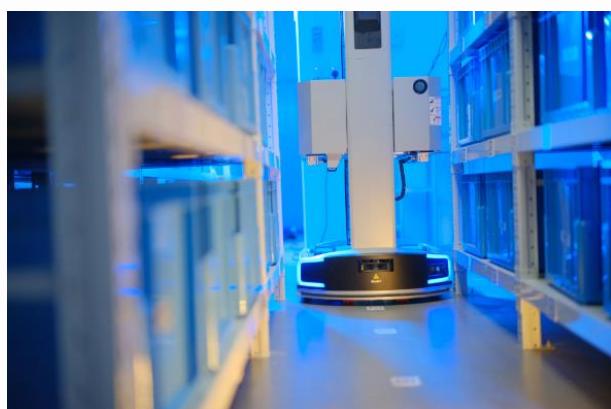
Watch Hactl Automated Parts Store video here:

<https://youtu.be/GANyaavl2ek>



Download pictures from:

<https://hactl.box.com/s/8szd8el401j30zy4xobo5x0z87d8vg3u>



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About Hactl

Launched in 1976, Hong Kong Air Cargo Terminals Limited (Hactl) is Hong Kong's largest independent cargo handler, serving more than 100 airline companies and 1,000 freight forwarders.

Its base, SuperTerminal 1, is Hong Kong's largest cargo handling facility, with an annual design capacity of 3.5 million tonnes.

Hactl's subsidiary Hacis provides scheduled road feeder services to/from 7 key points in southern China's important Pearl River Delta region.

Hactl's world-leading, self-developed IT system, COSAC-Plus, links it with airlines, freight forwarders, agents, shippers/consignees, Airport Authority, Civil Aviation Authority, Census and Statistics Department, and Customs and Excise Department.

Hactl's shareholders are Jardine Matheson & Co., Ltd (41.67%), Hutchison Port Holdings Ltd (20.83%), The Wharf (Holdings) Ltd (20.83%) and China National Aviation Corporation (Group) Ltd (16.67%).

SuperTerminal 1 at a glance

- Opened 1998
- 395,000 sqm floor area
- 3,500 bay, multi-level container storage system, served by 40 fully-automated driverless ATVs
- Additional storage for 1,573 empty units
- 10,000 bay automated stillage storage/retrieval system for loose cargo (box storage system)
- More than 466 pallet workstations
- 313 truck docks
- 2,400 staff
- Facilities for livestock/bloodstock, perishables (30 dedicated truck docks), valuables (dedicated zone for handling 9 armoured vehicles simultaneously), hazardous/radioactive cargo
- Over 1,000 CCTV cameras throughout; card-controlled access; personnel-free cargo storage zones
- Design capacity: 3.5 million tonnes per annum
- Record throughput in one day: 10,184 tonnes
- Initial investment: US\$1 billion

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