The Chartered Institute of Logistics and Transport

November 2024

CILT Buzz

THE CHARTERED INSTITUTE OF LOGISTICS AND TRANSPORT SINGAPORE

HOLIDAY TRAVEL

Behind the Scenes
Challenges & Opportunities
Emerging Trends

Volume 5, Issue 11

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CHAIRMAN'S MESSAGE

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Dear Colleagues,

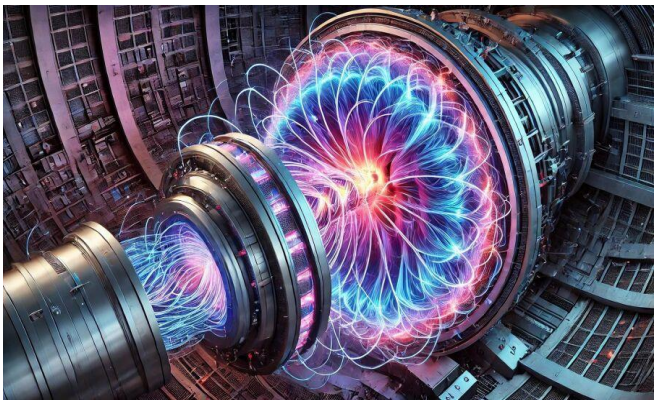
The global geopolitical tensions and wars in **Ukraine and Mid East (Gaza and Lebanon)** have not abated. The potential for further escalation involving Iran, after its unsuccessful ballistic missiles against Israel, and, given the massive and continued degradation of its main proxy militias, Hamas (Gaza) and Hezbollah (Lebanon), cannot be ruled out.

The **ASEAN and related ASEAN+ summits in Laos** continued the usual consensus-driven jawboning on regional issues: the unresolved multi-country South China Sea disputes, the intransigence of the military junta in Myanmar despite their deteriorating humanitarian crisis.

The new and heightened tensions between **North Korea and South Korea** arising from North Korea's bombing of the inter-Korea roads, could spiral out of control if calls for restraint by its allies, China and Russia, are not heeded. Hence the volatility and reliability of regional and global supply chains bear close monitoring with overarching focus on continued resilience.

FREE TRADE AGREEMENT — Both **South Korea and Singapore** have announced plans to deepen and widen economic cooperation by upgrading the Korea-Singapore Free Trade Agreement to better meet the needs of the digital age. The trade pact eliminates over 90% of tariffs for Singapore's EXPORTS to South Korea. The proposed Strategic Partnership will also consider expanding the existing Air Services Agreement, apart from forging cooperation in Defence, Education, Climate Change, Artificial Intelligence, Cyber Security and the Digital Economy.

ENERGY SECURITY/SUPPLY CHAIN — Under the **UK-Singapore Strategic Partnership** programme, both countries are exploring strong partnership in an emerging form of nuclear energy generation: NUCLEAR FUSION ENERGY. The UK Atomic Energy Authority (UKAEA) is in discussion and exploring collaboration with A-Star and ST Engineering.



Singapore is also exploring how it can contribute to the **Fusion Supply Chain** by identifying local capabilities that are 'Fusion-Relevant". A-Star has been keen to contribute to the project in the area of diagnostics - which functions as the "eyes and ears" of the fusion reaction. Developing a Fusion Industry could allow Singapore to hedge for the long-term should Fusion concepts prove commercially viable as it would be an "Informed Buyer" of Fusion Power Plants and related technologies.

GREEN PLAN — EV/Electric Buses - LTA has announced the purchase of a total 420 Electric Buses, including 60 buses on options. 240 buses will be supplied by BYD and 120 buses by Cycle & Carriage Automotive (with its Chinese bus maker partner Zhongtong). All 420 buses are expected to be deployed for service progressively by end-2025. A new 5-storey depot will be built in Seletar West Road 1; it will have the capacity to accommodate 500 electric and conventional buses.

The voluntary **Carbon Market** activity is essential to Singapore's Green Plan 2030 and it could, in future, help position Singapore as Asia's **Carbon Services and Trading Hub**. The market has been in the doldrums for two years amid doubts among buyers over the integrity of the PROCESS, given past scandals on phantom carbon credits, absence of an accepted regulatory framework and with countries opting for a Carbon Tax instead of Carbon Credits.

The Singapore LNG Corporation (SLNG) has announced agreements with Mitsui O.S.K. Lines (MOL), Jurong Port and Engineering Company Wood to advance development of the **Second LNG Energy Facility**. It will charter from MOL a FLOATING STORAGE & REGASIFICATION UNIT (FSRU) to transport and store LNG in tanks on board as well as the conversion of LNG back into gas that is then piped back onshore. The Existing SLNG Terminal and the new FSRU, to be constructed by South Korean shipbuilder Hanwha Ocean, will have combined LNG regasification capacity increased from 10 million tonnes to 15 million tonnes annually. As at end September 2023, the SLNG Terminal had received 430 shipments of LNG totalling 26.6 million tonnes. SLNG will continue to strengthen Singapore's Energy Security.

SUSTAINABILITY — Meanwhile, around 1,000 Small and Medium enterprises (SMEs) in Singapore will get targeted sector-specific help to go green in the next 5 Years. SMEs will get to use AI Tools that help them assess their carbon emissions since they lack the capacity to generate their sustainability reports.

Under a pilot project involving 21 FOOD manufacturers, the majority have been helped to establish their GHG Emissions Baselines for the first time in their decarbonisation journeys. The AI Tool was developed by SBF and BAIN to help SMEs make their sector-specific assessments and help them in developing decarbonisation strategies with minimal expertise and effort.

E-WASTE SUPPLY CHAIN — Under Singapore's extended **Producer Responsibility** scheme introduced in 2021, electronic goods producers and retailers are required to RECYCLE their products when they are disposed of. The total amount of e-waste collected for recycling has increased from 3,500 tonnes in February 2022 to more than 22,300 tonnes in September 2024. Singapore generates an estimated 60,000 tonnes of e-waste a year. The recycling rate target in 2025 is to be doubled to 20%.

The **e-waste collection points** have been increased from 300 in July 2021 to about 870. Recycling is an important way to manage the growing e-waste problem as it helps ensure the proper end-of-life handling and extraction of resources. Residents will be able to get their bulky electronic waste (refrigerators, washing machines, TV sets) collected from their doorsteps for FREE from 2025.

WATER SUPPLY CHAIN SECURITY — To strengthen water resilience and to meet the anticipated Increase in demand, Singapore will boost its **production of NEWater** by 50 million gallons a day with the expansion of the upcoming Tuas NEWater factory.

Singapore's water demand is expected to double by 2065. The nation uses about 440 million gallons of water a day. NEWater can meet about 40% of Singapore's water needs; the remainder supply is mainly from desalination plants and imported water from Malaysia.

PUB is also transitioning to a **new USED Water Management System**, where used water will be sent to 3 water reclamation plants in northern, western and eastern Singapore via the DEEP TUNNEL SEWERAGE SYSTEM - a 206km-long network of deep tunnels.

Singapore has meanwhile highlighted that water scarcity is not only a local resource problem but also a global common good, and, hence water crisis requires multilateral mechanisms and cooperation between countries. Just like monitoring the carbon footprint and decarbonisation efforts, companies need to also track the WATER FOOTPRINT as the **Global Hydrological Cycle** is an integral part of the Climate Change/GHG Emissions.

SEA/MARITIME — Port operator PSA broke ground on a new $647.5 million Tuas warehousing facility equipped with advanced robotics and automation systems, as part of its efforts to sharpen Tuas Port's competitive edge.

Spanning more than 185,000 sqm and located within the limits of Singapore's new mega port, the new PSA supply chain hub is expected to be completed in the second quarter of 2027.

Home-grown shipping line **Pacific International Lines (PIL)** is rolling out a $2.6 billion plan to replace part of its fleet with 13 dual-fuel container ships that can run on both liquefied natural gas (LNG) and conventional marine fuel.

The move comes after PIL received a US$600 million lifeline from Singapore investment company Temasek's wholly owned Heliconia Capital Management in 2021 to help it stave off bankruptcy. The bailout involved Heliconia taking a majority stake in the liner.

The first two PIL dual-fuel ships, the Kota Eagle and Kota Emerald, were delivered in Shanghai on Oct 15.

AIRPORT/AVIATION — Singapore will build a Second Airport Logistics Park from 2030 to increase the capacity of the existing park and strengthen Changi Airport's role as a regional Air Cargo Hub. The Airport Logistics Park is a dedicated trade zone that optimises the flow of air cargo and reduces the costs and transit time for processing goods.

The new logistics park will complement the planned industrial zone in Changi East and will be part of the Changi Aviation Park that also includes the Changi Airfreight Centre. When completed, Changi Airport's total cargo handling capacity will increase from 3 million tonnes to 5.4 million tonnes per annum.

As part of Changi Airport's Annual Emergency & Incident Management Plan, the Changi Airport Group (CAG) recently conducted **Exercise Bobcat**: a drill simulating an aircraft 300-pax crash in the sea off Changi Airport. The simulation exercise involved 500 people and almost 20 agencies, including CAAS, MPA, Police Coast Guard, SCDF and MOT. The Airport Emergency Services (AES) retired its older sea rescue fleet and deployed 4 new rescue/fire-fighting vessels - a command craft, 2 fast crafts and a landing craft.

Karmjit Singh
Chairman

CILT MACAO VISIT & MOU 16 OCT 2024

We warmly welcome our international CILT counterparts from Macao, who were in Singapore on a study visit last month. CILT Singapore and Macao took the opportunity to seal an MOU on CILTS' Supply Chain Professional Development (SCPD) programmes for CILT Macao's members.

From left: CILT Macao President Alfred Ng and CILTS Chairman Karmjit Singh

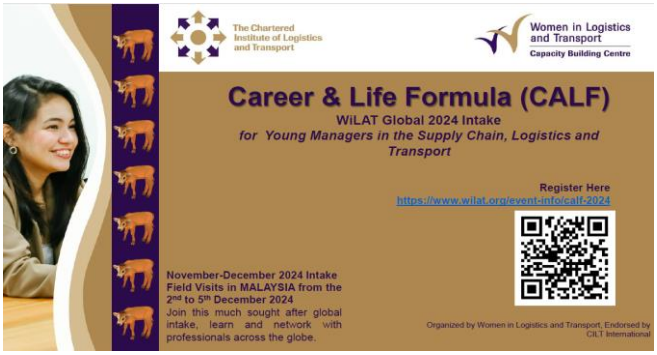
MORE PHOTOS

CILT GLOBAL DAY OF CELEBRATION

This year marks an extraordinary milestone for the CILT as we celebrate **105 years** of shaping the logistics, transport, and supply chain industries. As part of this landmark occasion, we are thrilled to announce an upcoming Global Day of Celebration, which will take place on **3 Nov 2024**.

READ MORE ABOUT IT

WiLAT CALF PROGRAMME 5 NOV – 5 DEC 2-024



The Career and Life Formula (CALF) training programme is designed for young managers in the supply chain, logistics and transport sectors. The programme runs for 5 weeks, with online and hybrid classes scheduled from 5 Nov to 5 Dec 2024.

CALF BROCHURE

SEE THE BUZZ: CILTS, Members & Friends

CILTS RETIRING DIRECTORS APPRECIATION DINNER

Retiring Directors Prof Chin Hoong Chor (seated first from right), Dr Teo Chee Cheong (standing fifth from left) and Mr Thomas Ng (standing third from left), with Chairman Karmjit Singh (seated fourth from right) and other Board Directors and Secretariat staff.

We deeply appreciate the commitment and dedication of five outstanding Directors who retired from the CILTS Board this year, namely **Prof Chin Hoong Chor, Dr Teo Chee Cheong, Mr Thomas Ng, Mr Low Chow Kuang and Dr Seyed Mehdi Zahraei.**

An Appreciation Dinner was held in their honour on October 4. Mr Low and Dr Zahraei, who were overseas due to work commitments, were not able to be present for the function.

Chairman Karmjit Singh, on behalf of the Board, thanked the Directors for their deep passion, untiring efforts and steadfastness in furthering the interests of the Institute over the last two decades. He also presented mementos of appreciation to the retiring Directors.

CILTS & KAPLAN SIGN AGREEMENT

15 Oct 2024

CILTS and Kaplan have signed a Partnership Agreement aimed at benefiting Kaplan students' professional development through industry talks, forums and workshops.

From left: Kaplan Dean Academic Partnerships Dr Sam Choon-Yin and CILTS Chairman Karmjit Singh

Speaking on the partnership, CILTS Chairman Karmjit Singh said, "CILT Singapore is pleased to welcome Kaplan Higher Education Academy as an esteemed Corporate Member. The CILT-Kaplan collaboration will also benefit Kaplan's students pursuing Supply Chain and Logistics courses as part of their future, lifelong professional development journey."

AA SINGAPORE HOSTED DINNER PRESENTATION ON ROAD SAFETY

On 10 Oct, the Automobile Association of Singapore (AA Singapore) hosted a dinner presentation to the key stakeholders from various logistics, transport, and fleet organisations in Singapore, including CILTS Chairman Karmjit Singh.

Mr Luca Pascotto, Head of Road Safety and Global Advocacy at the Federation Internationale de l'Automobile (FIA), was invited to share with the attendees on the FIA Road Safety Index. The insightful presentation highlighted the benchmarking tool designed to help organisations evaluate and improve their road safety initiatives. This index aligns with the United Nations Sustainable Development Goals, focusing the importance of road safety as a global priority.

Mr Luca Pascotto emphasised that the FIA Road Safety Index can be seamlessly integrated into sustainability reporting, allowing organisations to showcase their commitment to road safety. By utilising this rating system, companies can not only enhance their safety practices, but also contribute positively to community well-being and sustainable development.

CLICK HERE for the FIA Road Safety Index presentation.

WiLAT SINGAPORE NETWORKING

22 Oct 2024

On 22 Oct, the WiLAT Networking Night held at the CILTS office offered its 27 guests, comprising CILT members and friends, an evening filled with insightful discussions, networking opportunities and a delightful dinner and wine session.

Guest speaker **Michelle Lee, Chief Sustainability Officer of Singapore Post Ltd**, spoke on "**Sustainability in Transportation and Logistics**".

PHOTOS

LOGISTICS DISRUPTION UPDATE

US Ports Brace for Delays Despite Tentative Labour Agreement

With recovery times expected to take weeks, logistics experts warn that disruptions could extend into early 2025.

On 1 Oct, nearly 50,000 members of the International Longshoremen's Association (ILA) went on strike against the nation's East and Gulf Coast ports. While there is a sense of relief sweeping over the United States supply chain, following a tentative agreement struck late yesterday by the ILA and the United States Maritime Alliance (USMX), port operations will not immediately return to normal.

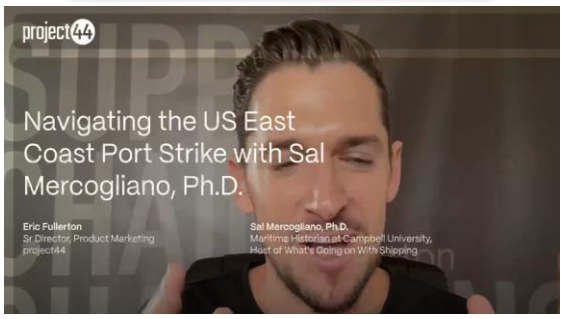
With the strike lasting only the better part of three days, current levels of port congestion, vessels at anchor, and increasing dwell times resulting from the brief strike need to be addressed. This is especially important considering that one week of port disruption typically leads to at least one month of delays, which increase as cargo moves inland.

SOURCE	Supply Chain 247

Maritime historian and host of "What is Going on With Shipping", Salvatore Mercogliano PhD, discusses the ongoing International Longshoremen's Association port strikes that are currently disrupting shipping operations across the U.S. East and Gulf coasts.

Sal shares expert insights into the reasons behind the strikes, their immediate impact on global supply chains, and what this means for the future of shipping and logistics.

WATCH VIDEO (15 min)



SOURCE	Project 44

MY CAREER PORTAL

Click on image for details:

UPS ASIA GROUP PTE. LTD.
Supply Chain Solutions Senior Marketing Manager
East | Permanent ... | Manager | Logistics / Supply Chain ...
$10,000 to $19,000 *Monthly*

COGENT INTEGRATED SUPPLY CHAIN PTE. LTD.
Senior Manager / Manager - Supply Chain & Freight
West | Full Time | Senior Management | Logistics / Supply Chain
$4,500 to $8,000 *Monthly*

UNILEVER ASIA PRIVATE LIMITED
Supply Chain Manager - Personal Care - Unilever International
South | Full Time | Manager | Logistics / Supply Chain
$15,000 to $24,000 *Monthly*

KINGSFORCE MANAGEMENT SERVICES PTE LTD
Senior Supply Chain Executive (Pharma | North | SME)
South | Contract | Senior Executive | Logistics / Supply Chain ...
$7,000 to $7,500 *Monthly*

APPLE SOUTH ASIA PTE. LTD.
Regional Supply / Demand Planner
South | Permanent ... | Senior Executive | Logistics / Supply Chain
$8,500 to $9,500 *Monthly*

For more career search:

SOURCE	My Careers Future

THE FUTURE OF HOLIDAY TRAVEL

Listen to this article 6 min

The landscape of vacation travel is evolving rapidly, driven by technological advancements, changing consumer preferences, and a heightened focus on sustainability.

This article explores the future of vacation travel across air, land and sea transport, as well as hotel accommodation, highlighting emerging opportunities and trends.

Air Travel

1. Sustainable Aviation

The aviation industry is under increasing pressure to reduce its carbon footprint. Airlines are investing in sustainable aviation fuels (SAFs), which can reduce greenhouse gas emissions by up to 80% compared to traditional jet fuel. Electric and hybrid aircraft are also in development, promising quieter and more eco-friendly flights.

2. Supersonic Travel

Supersonic jets are making a comeback, with companies like Boom Supersonic developing aircraft that can cut travel time in half. These jets aim to offer faster transcontinental flights, making it possible to travel from New York to London in just over three hours.

3. Personalised Experiences

Airlines are leveraging artificial intelligence (AI) to offer personalised travel experiences. From tailored in-flight entertainment to customized meal options, AI is enhancing passenger satisfaction.

Additionally, biometric technology is streamlining the check-in and boarding processes, reducing wait times and improving security.

Land Travel

1. Autonomous Vehicles

Self-driving cars are set to revolutionise road travel. Companies like Tesla and Waymo are leading the charge, with autonomous vehicles promising safer and more efficient journeys. These vehicles will also enable new forms of travel, such as autonomous RVs, allowing travellers to explore destinations without the need for a human driver.

2. High-Speed Rail

High-speed rail networks are expanding globally, offering a sustainable and efficient alternative to air travel for shorter distances. Countries like China and Japan are pioneers in this field, with trains reaching speeds of up to 350 km/h.

The development of hyperloop technology, which uses magnetic levitation to propel pods through low-pressure tubes, could further revolutionise land travel.

3. Micro-Mobility

Urban travel is being transformed by micro-mobility solutions such as electric scooters and bikes. These options provide convenient and eco-friendly ways to navigate cities, reducing traffic congestion and lowering emissions.

Shared mobility platforms are also gaining popularity, allowing travellers to rent vehicles on-demand.

Sea Travel

1. Eco-Friendly Cruises

The cruise industry is embracing sustainability, with new ships designed to minimize environmental impact. Innovations include LNG-powered vessels, advanced waste management systems, and the use of renewable energy sources. Cruise lines are also offering more eco-friendly excursions, promoting responsible tourism practices.

2. Luxury Yachting

Luxury yachting is becoming more accessible, with companies offering fractional ownership and yacht charters. This trend allows travellers to experience the opulence of yachting without the high costs of ownership.

Additionally, advancements in yacht design are focusing on sustainability, with solar-powered yachts and eco-friendly materials.

3. Adventure Cruises

Adventure cruises are gaining popularity, offering unique experiences such as polar expeditions and wildlife safaris. These cruises cater to travellers seeking immersive and off-the-beaten-path adventures.

Smaller expedition ships are designed to navigate remote areas, providing access to pristine natural environments.

Hotel Accommodation

1. Smart Hotels

Hotels are integrating smart technology to enhance guest experiences. From voice-activated room controls to AI-powered concierge services, smart hotels offer convenience and personalisation. Contactless check-in and digital room keys are also becoming standard, improving efficiency and safety.

2. Sustainable Stays

Sustainability is a key focus for the hospitality industry. Hotels are adopting green practices such as energy-efficient lighting, water conservation measures, and waste reduction programs. Eco-friendly accommodations, including eco-lodges and green hotels, are attracting environmentally conscious travellers.

3. Experiential Travel

Travelers are increasingly seeking unique and immersive experiences. Hotels are responding by offering themed stays, cultural workshops, and wellness retreats. Properties are also partnering with local communities to provide authentic experiences, such as farm-to-table dining and guided tours.

4. Co-Living Spaces

The rise of remote work has led to the popularity of co-living spaces, which combine accommodation with co-working facilities. These spaces cater to digital nomads and remote workers, offering flexible living arrangements and a sense of community. Co-living hotels provide amenities such as high-speed internet, meeting rooms and social events.

The future of vacation travel is bright, with numerous opportunities and trends shaping the industry. From sustainable aviation and autonomous vehicles to eco-friendly cruises and smart hotels, the travel landscape is evolving to meet the demands of modern travellers.

As technology continues to advance and consumer preferences shift, the travel industry will continue to innovate, offering exciting and transformative experiences for vacationers around the world.

REFERENCES:

McKinsey & Company: What is the future of travel?
World Economic Forum: What next for travel and tourism?

The digital aircraft: How technology is reshaping air travel

Listen to this article 8 min

Not only has Covid-19 disrupted the lives of people worldwide, it has also transformed the way airlines operate. Changing travel advisories, border restrictions, pre-flight health screenings and documentation have all added new levels of complexity and compliance.

In response, many airlines have rapidly introduced new technology innovations. In the case of Singapore Airlines, even before the pandemic, innovation has been central to its operations, supporting pilots in the cockpit, flight planning, aircraft maintenance, and now as a way to safeguard the wellbeing of passengers and crew.

While only essential travel is currently allowed, Singapore Airlines continues to reshape air travel through digital ingenuity on board all its flights.

Safeguarding staff and passengers

Due to the rapidly changing nature of the pandemic, Singapore Airlines uses its cabin crew mobile app to ensure that its crew are prepared for each flight and notified about any updates. Information provided includes the necessary personal protective equipment to wear on particular routes, such as N95 masks and protective aprons, and the procedures to follow both enroute and at their destination. The app also allows crew members to submit a health declaration before every flight, registering their temperature.

Singapore Airlines has introduced digital dining menus aboard all its flights, which passengers can view using mobile devices. Hardcopy inflight dining menus have been removed in an effort to reduce high-contact items and reduce close contact between crew and passengers when explaining dining options.

Singapore Airlines also extends holistic care for the wellbeing of their staff outside of the aircraft cabin. The airline's internal communication platform is used to raise awareness about self-care and provide useful tips so that staff can learn about them on the go.

Beyond the pandemic and the "new normal" for travel, Singapore Airlines is looking at other long-term developments driven by technology, such as flight piloting and planning.

Paperless pilots

In the cockpit, the control tower and on the runway, paperwork has largely been replaced by tablets and mobile apps, helping improve processes, safety and efficiency.

Captain Raj Kumar, deputy chief pilot of the Boeing 777 fleet at Singapore Airlines, says the airline started a big push towards "a real paperless environment and looking at digital transformation initiatives" in 2015. One of the projects involved distributing iPads to all Singapore Airlines pilots to move towards a paperless flight-deck environment.

"Before digitisation, a flight briefing package on a 13-hour flight from Singapore to London would constitute 90 sheets of paper – covering our flight plan, any weather information and additional operational information," Captain Raj says. But the weather

during such a long flight can change dramatically – so even that paper "will not really give you a completely accurate representation of what you're going to have. But it was the best of what we had at the time."

Now with an internet-connected tablet, pilots can review the latest weather updates, including any information about turbulence enroute. The data is recorded and fed to a centralised server so that all flights have access to it ahead of time. Thanks to this technology, pilots are better able to plan with bad weather in mind, Captain Raj says. Sudden severe turbulence encounters that can cause injuries are much rarer now than a decade ago.

Augmented vision

Head-up displays now augment primary flight displays in many planes, enabling pilots to see exactly what they need to without having to refocus between what's happening inside the cockpit and outside beyond the windscreen.

These displays show pilots the speed and navigation information right in front of their eyes. "We have a little pull-down glass combiner which projects all the information ahead of you," says Captain Raj. And with fourth and fifth-generation head-up displays there are LED-based or laser-based projectors that are able to combine synthetic information from a 3D database with infrared cameras to show the pilot a detailed view of the outside world. "Imagine flying and approaching bad weather, or late at night when you can't see anything outside, it looks completely dark and featureless to the naked eye. But if you look through a synthetic vision system, you are able to see a composite image of the world, including ground features and terrain with great fidelity," says Captain Raj. "This is a huge game-changer."

The advancements in head-up displays have led to reduced diversions due to weather, as well as fewer operational disruptions due to the increased information and visibility available to pilots. It also provides a better environment for the flight crew, says Kaiser Siddiqui, lead technologist (systems) at the Aerospace Technology Institute – requiring a collaborative design process involving operational and engineering staff to understand each other's limitations and strengths.

Enhanced training simulations

Flight simulators are now more realistic than ever. Virtual reality experiences have developed to the point that pilots can see their hands in front of them in the headset and interact with everything inside the virtual cockpit. For physical simulators, data on every aspect of a pilot's actions can now be recorded and analysed, which is used for "evidence-based training".

Previously, Singapore Airlines purely used competency-based checks that were primarily a skills test. This means that pilots would practise a fixed set of drills in a simulator to ensure they could fly a given set of manoeuvres, testing both normal and non-normal situations, such as engine failures.

Today, "when pilots fly modern, highly automated aeroplanes, it now becomes more important for the pilot to first understand what the automatic systems are doing, and how to recognise when the automatic systems are not behaving as they should," says Captain Raj. Using data from line operations and enhanced training performance data

available from simulators, trainers can easily identify areas for improvement and better equip trainees with the resilience to handle any situation that may happen during a flight.

The aircraft of tomorrow

Looking ahead, there are already concepts for the next generation of flight decks, where most instruments are presented via digital touchscreens, and information is consolidated from a multitude of sensors onboard, as well as from other aircraft and ground sources. Touchscreens will replace or supplement traditional instruments, allowing users to customise their display presentation, such as a computer desktop. Some organisations envision artificial intelligence-powered flight management systems that can take the autopilot functionality to the next level, optimising flight paths and cruise speed for on-time arrival.

But will this technology take us all the way to the point where we fly in pilotless planes? Captain Raj thinks it might not happen so soon, at least not in the next 25 years or so – and if so, perhaps at least one pilot may be required, as a fully automated system may not be able to cope with the compounding failures that can occur. David Debney, chief engineer at the Aerospace Technology Institute, agrees. "While single-pilot operation may become a reality in the 2050 timeframe, it is unlikely that fully autonomous aircraft, without a pilot, will be flying commercial passenger operations in this timeframe. This is partially related to the technology, regulatory and legal challenges, but also due to manufacturer product timescales."

So, while pilots will continue to fly us to our destinations for the foreseeable future, the technology they rely on will continue to transform, enabling pilots and cabin crew to provide seamless and efficient journeys, wherever we are heading.

SOURCE	BBC

SMOOTH SAILING

The Role 3PLs Play in Cruise Ship Supply Chain Logistics

Listen to this article 17 min

Learn how 3PLs help deliver seamless and efficient supply chain solutions for the cruise ship industry.

Cruise ships are a marvel of modern engineering and logistics. They offer an unforgettable experience to passengers by offering amenities such as fine dining, entertainment, and comfortable accommodations. Behind the scenes, complex global supply chains ensure that these floating cities have everything they need to function properly. For instance, cruise ship supply chain needs can include ordering routine products, such as engine parts. They can also include securing a supplier for products that are new, such as entertainment costumes.

As the industry continues to grow, cruise lines are increasingly partnering with third-party logistics providers (3PLs) to optimize their supply chain operations management. In this blog, we'll explore the vital role that 3PLs play in the cruise ship supply chain and how they help cruise lines navigate the high seas of logistics management.

Getting Products Onboard

The cruise ship value chain model necessitates a constant supply of products to ensure a smooth journey for their passengers. Cruise ships cater to thousands of people per journey, offering a diverse range of meals, activities, and events. Each of these requires different products to ensure a positive customer experience for each passenger.

3PLs employ various strategies and technologies to make sure that each cruise ship they service has the correct inventory on-board. Here are some key ways 3PLs achieve this:

Demand Forecasting and Planning

Demand forecasting and planning are crucial components of cruise ship supply chain management, as they enable cruise lines to optimize inventory levels, procurement processes, and logistics operations. Various technologies are utilized to improve the accuracy and efficiency of demand forecasting and planning in the cruise ship industry.

Artificial Intelligence (AI) and Machine Learning (ML)

AI and ML algorithms can process vast amounts of historical and real-time data to identify trends, patterns, and relationships that might not be apparent through traditional methods. By continually learning from new data, these algorithms can adapt and improve their forecasting accuracy over time.

Historical Data Analysis

Historical data on passenger consumption patterns, seasonality, and previous cruise itineraries are analyzed to predict future demand. Advanced statistical techniques and time-series models, such as exponential smoothing or autoregressive integrated moving average (ARIMA), can be applied to historical data to generate accurate demand forecasts.

Procuring Products for the Journey

The procurement process for cruise ships is a business operation that requires close coordination between the cruise line, third-party logistics providers, and suppliers to secure raw materials and final product for each voyage. 3PLs play a vital role in the procurement process by:

Identifying reliable suppliers

3PLs maintain an extensive supply chain network that can not only offer high-quality products at competitive prices, but also make sure that those products are sustainably sourced.

For example, Royal Caribbean has developed a sustainable seafood sourcing initiative that its 3PL partners implement. The goal of this initiative is to source 90% of wild-caught seafood and 75% of farmed seafood from suppliers certified by the Marine Stewardship Council and the Aquaculture Stewardship Council.

Negotiating contracts and pricing

3PLs leverage their buying power to negotiate favorable contracts and pricing with suppliers, resulting in cost savings for the cruise line.

Managing order placement and scheduling

Cruise ship requirements can vary significantly depending on the itinerary, season, and passenger preferences. 3PLs work closely with cruise lines to manage order placement and scheduling, ensuring that the right products are procured at the right time in the right amount.

Coordinating delivery schedules

Cruise ships have strict schedules, making it essential that deliveries are timely and well-coordinated. 3PLs work with suppliers and port authorities to schedule deliveries in line with the ship's itinerary.

Coordinating customs clearance and import/export regulations

3PLs handle the complexities of international imports and exports, navigating customs clearance procedures, ensuring compliance with relevant regulations in different countries.

Managing bunker fuel inventory

Cruise ships need to maintain an optimal level of bunker fuel inventory to ensure uninterrupted operations. 3PLs monitor fuel consumption rates and work with cruise lines to plan and manage their bunker fuel inventory effectively.

For example, the fuel used in cruise ships is vital for engine performance and emissions control. 3PLs collaborate with fuel suppliers to ensure that the fuel meets the required specifications and complies with international regulations.

Storage and Warehousing Solutions

Strategically Located Warehousing Facilities

One of the key challenges in cruise ship supply chain logistics is the limited storage capacity on board. 3PLs strategically locate their warehousing facilities near ports to facilitate quick and efficient access to products as needed. By having multiple warehouses in different geographical locations, logistics providers can ensure that cruise ships can receive their supplies promptly, regardless of their itinerary.

Inventory Management Strategies

Warehouses are typically equipped with highly sophisticated warehouse management software (WMS) systems that enable 3PLs to manage the entire warehousing process more effectively, from storage and order fulfillment to inventory control and value-added services.

WMS systems play a significant role in inventory management for cruise ship supplies. The software enables real-time data on stock levels, enabling 3PLs to maintain an optimal balance of products and reduce supply chain risks associated with wastage.

Just-in-Time (JIT) Inventory Management

The JIT approach focuses on reducing inventory holding costs and minimizing waste by aligning inventory levels with actual demand. 3PLs implement JIT inventory management strategies by closely monitoring demand patterns, coordinating with suppliers for timely deliveries, and streamlining the procurement process. This approach ensures that cruise ships receive the required supplies just before they are needed.

Vendor Managed Inventory (VMI)

In a VMI arrangement, 3PLs take on the responsibility of managing inventory levels for their cruise ship clients. They continuously monitor stock levels, analyze demand patterns, and coordinate with suppliers to ensure timely replenishment. By leveraging their expertise and resources, 3PLs can optimize inventory management and improve efficiency.

Value-Added Services

3PLs also offer a range of value-added services to support cruise lines. These services may include:

Packaging and labeling

3PLs can offer customized packaging and labeling solutions to meet the unique requirements of cruise lines, ensuring that products are stored and transported in a safe and efficient manner.

Quality control and inspection

3PLs may perform quality control checks on incoming shipments, verifying that products meet the required specifications and are in good condition. This helps to identify any potential issues before products are shipped to the cruise ship.

Cross-docking

Cross-docking is a logistics strategy where incoming shipments are directly transferred to outbound transportation without being stored in the warehouse. This approach is particularly useful for perishable items and high-demand products, ensuring that cruise ships receive fresh supplies as quickly as possible.

Kitting and assembly

For certain products or supplies, 3PLs may perform kitting and assembly services, combining multiple items into a single package or assembling components into a finished product. This can save time and space on board the cruise ship.

Transportation

Transporting the massive amounts of products required by cruise involves coordinating with multiple parties, including suppliers, carriers, and port authorities. 3PLs are experts in handling these challenges, utilizing their expertise in transportation management to ensure timely deliveries and minimize disruptions.

By employing advanced transportation management systems (TMS) and leveraging their network of carriers, 3PLs can optimize routes, consolidate shipments, and manage last-mile deliveries effectively.

Multi-Modal Transportation

Cruise ship supplies often need to be transported across vast distances and through multiple countries, which requires the use of various modes of transportation such as air, sea, road, and rail. 3PLs specialize in coordinating multi-modal transportation, ensuring that products are moved swiftly and safely.

Consolidation and Distribution

3PLs can consolidate shipments from multiple suppliers, reducing the number of overall shipments and simplifying the loading and unloading process at ports. They also manage the distribution of products, ensuring that each ship receives the required products on time. This streamlined approach results in cost savings and operational efficiency for cruise lines.

Last-Mile Delivery

Last-mile delivery of products from warehouses and distribution centers to cruise ships can be particularly challenging due to tight delivery windows and limited access to port facilities. 3PLs leverage their expertise and networks to manage these last-mile deliveries.

Cruise Supply Chains Sail Smooth with Technology

Technology plays a crucial role in enhancing supply chain resilience within the cruise ship supply chain industry. As the cruise ship industry evolves, technological innovation has become crucial for effective supply chain management.

By adopting advanced technological solutions, cruise lines and their 3PL partners can ensure smooth operations to meet customer expectations for an unforgettable experience. Key technologies include:

IoT Devices for Real-Time Tracking

Internet of Things (IoT) devices offer real-time tracking of shipments in transit. These devices, such as GPS trackers and RFID tags, enable 3PLs to monitor the location and condition of shipments continuously, enabling them to identify potential issues or delays. Cruise lines can also access this data to adjust their supply chain operations and ensure seamless delivery of products to their ships.

Cloud-Based Collaboration Platforms

Platforms powered by cloud computing facilitate seamless collaboration between cruise lines, 3PLs, and suppliers, enabling efficient communication and information sharing across the supply chain. These platforms offer a centralized source of supply chain data, improving visibility and ensuring that all stakeholders have access to the information they need.

Maintaining The Cruise Ship Logistics Cold Chain

The cold chain relies on maintaining consistent temperatures throughout the entire supply chain process, from the moment perishable products leave the supplier until they reach the cruise ship. Let's take a closer look at how 3PLs manage cold chain logistics to maintain the cruise ship food supply.

Temperature-Controlled Transportation

Temperature-controlled transportation requires the use of refrigerated trucks, containers, and cargo ships. 3PLs coordinate and manage these specialized transportation modes, ensuring that temperature-sensitive items make it to cruise lines under the appropriate conditions.

Cold Storage Facilities

Cold storage facilities are used to store perishable products before they are delivered to the cruise ship. These facilities, often located near major ports, are designed to maintain the optimal temperature and humidity levels required for different types of foods and beverages.

Real-Time Temperature Monitoring

To maintain the integrity of the cold chain, it is vital to monitor the temperature of perishable products continuously throughout their journey. 3PLs utilize IoT devices such as temperature sensors to track the temperature of food products in real-time.

Rapid Order Fulfilment and Last-Mile Delivery

To minimize the time that perishable products spend outside of the cold chain, 3PLs focus on rapid order fulfilment and last-mile delivery. This involves closely coordinating with cruise lines to align the delivery schedules with the ship's itinerary and ensuring that products are loaded onto the ship as quickly as possible upon arrival at the port.

Compliance with Food Safety Regulations

Cold chain logistics for cruise ships must comply with strict food safety regulations, both at the international level and in the countries where the ship is docking. 3PLs play a crucial role in ensuring compliance by:

- Adhering to the guidelines and best practices set forth by relevant regulatory bodies, such as the International Association of Refrigerated Warehouses (IARW) and the World Health Organization (WHO).
- Conducting audits and inspections of their cold chain operations to ensure compliance with food safety standards.
- Implementing training programs for employees to ensure they are knowledgeable about cold chain best practices and regulatory requirements.

Conclusion

A few years ago, the COVID-19 pandemic grinded the cruise line industry to a halt. However, today it is back running in full force thanks in part to third party logistics providers and their expertise in supply chain management. 3PLs manage the cruise ship supply chain model by providing a comprehensive range of services that help cruise lines meet customer demands. These services help facilitate a supply network that ensures the timely delivery of essential products for each journey. 3PL expertise in navigating the intricacies of the distribution channel is vital to the smooth operation of the entire logistics system.

Embracing digital transformation, 3PLs leverage cutting-edge technologies to optimize modern supply chains, from IoT devices for real-time tracking and visibility to AI-driven analytics for data-driven decision-making. These technological advancements not only streamline business processes but also contribute to increased supply chain resilience, enabling cruise lines to better adapt to disruptions and challenges.

3PLs also play a significant role in enhancing the sustainability and social responsibility aspects of cruise ship supply chains. They help minimize the environmental impact of business logistics, while also ensuring compliance with international regulations and ethical standards. This commitment to sustainability and social responsibility aligns with the growing customer demands for environmentally conscious travel experiences.

SOURCE	Datax

Singapore to build second Airport Logistics Park

Singapore will develop a second Airport Logistics Park (ALPS2) from 2030 onwards to boost cargo handling capacity and help cement the country's role as a regional logistics hub. Along with the planned Changi East Industrial Zone and remodelling of the Changi Airfreight Centre, ALPS2 will support the increase in Singapore's air cargo handling capacity from three million tonnes a year to 5.4 million tonnes a year.

The new park will allow Singapore to host more logistics companies and their activities, which could include regional distribution centres and freight-forwarding. ALPS2 is being planned as a free-trade zone, like the first Airport Logistics Park (ALPS). This allows third-party logistics services to receive and redistribute cargo quickly.

The first Airport Logistics Park opened in 2003 to cater to regional demand for third-party logistics services. Operated by JTC Corporation, the 26-hectare site is at full capacity, with occupants such as DB Schenker, DHL, FedEx and UPS. Singapore is the busiest transhipment hub in the world, and 22 of the top 25 global third-party logistics service providers have established a presence here.

SOURCE	The Business Times

Passport-less Immigration at Changi Airport

Travellers at Changi Airport can soon clear immigration without presenting their passports.

From Aug 5, Singapore residents will be able to get through selected automated lanes at Terminal 3 simply by using their facial and iris biometrics.

It is part of a trial for the new passport-less clearance system, which will be progressively rolled out across all terminals in Changi Airport by the end of September, and at Marina Bay Cruise Centre in December.

Such a clearance process reduces the time taken by travellers to clear immigration by 40 per cent, the agency said in a press release.

The initiative is part of ICA's plan to digitalise border clearance, in order to enhance each traveller's experience and strengthen border security, it said.

ICA added that the QR code clearance system at Singapore's land checkpoints with Malaysia will also be extended to motorcyclists. The system had been introduced for cars on Mar 19 this year, before being extended to bus drivers on Apr 15.

NO NEED TO PRESENT PASSPORTS

Under the ICA's New Clearance Concept, there are two types of passport-less immigration clearance to make the process faster and more hassle-free.

The first does away with the need for any tokens of identification at all.

Singapore residents will be able to clear immigration at the country's air and sea checkpoints without their passports at both arrival and departure, while the same applies to foreign travellers only at departure.

All travellers will be able to use the automated lanes for clearance. However, this does not include children under six years old, as the physical features and biometrics of this group are still developing and may not provide a reliable means of authentication.

The second type of clearance is with the QR code system, which has so far been rolled out for cars at Singapore's two land checkpoints in Woodlands and Tuas.

"Token-less clearance is possible at the air and sea checkpoints as ICA would know beforehand, the travellers who are coming through the checkpoints, from the advance manifests submitted by airline and ship operators," the agency said.

"At the land checkpoints, such traveller information is not available beforehand."

The QR code was hence introduced as a form of identification in lieu of the passport itself, to speed things up at the land checkpoints, said ICA.

Timeline: Passport-less immigration clearance initiatives to come

There are 2 types of passport-less clearance: 1) **Token-less clearance** which uses a traveller's biometrics and 2) **QR code clearance**

2024

- **Aug 5** — Token-less clearance trials for Singapore residents at Changi Airport Terminal 3
- **Aug 15** — QR code clearance for motorcyclists and pillion riders at land checkpoints
- **End-Aug** — QR code clearance for cargo vehicle drivers and accompanying assistants at land checkpoints
- **End-Sep** — **Token-less clearance across all Changi Airport terminals**
- **Dec** — QR code clearance for bus passengers and those crossing on foot at land checkpoints
- **End-Dec** — Token-less clearance at Marina Bay Cruise Centre

2025

- Token-less clearance at Seletar Airport and Tanah Merah Ferry Terminal

2026

- Token-less clearance at Singapore Cruise Centre and smaller checkpoints, such as West Coast Pier
- Fully automated passenger clearance for all cars at Tuas Checkpoint

2028

- Fully automated passenger clearance for all cars at the redeveloped Woodlands Checkpoint

Infographic: *Clara Ho*
Source: *Immigration and Checkpoints Authority, Jul 31, 2024*

cna

SOURCE	Channel News Asia

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THE FUTURE OF TRAIN TRAVEL

A Journey through Time and Technology

The age-old romance of train travel remains on track, now powered by technology.

Train travel has always held a certain allure, a romance that captures the imagination and spirit of adventure. One of the most iconic symbols of this romance is the Orient Express. Launched in 1883, the Orient Express connected Paris to Istanbul, offering luxury and intrigue. It became synonymous with elegance, mystery, and the golden age of travel, inspiring countless stories and films. The train's opulent carriages, gourmet dining and scenic routes through Europe epitomized the grandeur of rail travel, making it a legend in its own right.

Current and Future Technology in Train Travel

Today, train travel is undergoing a technological revolution. Modern trains are faster, more efficient, and environmentally friendly. Here are some key advancements:

1. **High-Speed Trains:** Countries like Japan, France, and China lead the way with their Shinkansen, TGV, and CRH trains, respectively. These trains can reach speeds of over 300 km/h, drastically reducing travel times between major cities.

2. **Maglev Trains:** Magnetic levitation (maglev) trains, such as those in Shanghai, use powerful magnets to lift and propel the train, eliminating friction and allowing for speeds exceeding 600 km/h.

3. **Digitalisation:** The integration of digital technologies, including real-time tracking, automated ticketing, and advanced signalling systems, enhances safety, efficiency, and passenger convenience.

4. **Hydrogen-Powered Trains:** As the world seeks sustainable alternatives, hydrogen-powered trains are emerging as a promising solution. These trains produce zero emissions, using hydrogen fuel cells to generate electricity.

Challenges and Opportunities

While the future of train travel is bright, several challenges and opportunities lie ahead:

1. **Infrastructure Investment:** Developing and maintaining the infrastructure for high-speed and maglev trains requires significant investment. Governments and private sectors must collaborate to fund these projects.

2. **Environmental Impact:** While trains are generally more eco-friendly than cars and planes, the production of hydrogen and electricity must also be sustainable. Green hydrogen, produced using renewable energy, is essential for truly eco-friendly trains.

3. **Technological Integration:** Integrating new technologies into existing rail networks can be complex and costly. However, advancements in AI and IoT can streamline operations and improve efficiency.

4. **Passenger Experience**: Enhancing the passenger experience through comfort, connectivity and convenience is crucial. Innovations such as onboard Wi-Fi, personalized services, and seamless ticketing systems can attract more travellers to rail.

Benefits to Passengers

The benefits of modern train travel to passengers are manyfold:

1. **Speed and Efficiency:** High-speed trains significantly reduce travel times, making them competitive with air travel for short to medium distances.
2. **Comfort and Convenience:** Trains offer spacious seating, the ability to move around, and amenities such as dining cars and restrooms, providing a more comfortable journey compared to other modes of transport.

3. **Environmental Sustainability:** Trains have a lower carbon footprint than cars and planes, contributing to a greener planet.

4. **Accessibility:** Train stations are often centrally located, making them more accessible than airports. Additionally, trains can serve remote areas, enhancing connectivity.

Pioneering Hydrogen-Powered Trains

Several countries are at the forefront of developing hydrogen-powered trains:

1. **GERMANY:** Germany launched the world's first hydrogen-powered train, the Coradia iLint, in 2018. This train operates on regional lines and has proven the viability of hydrogen as a clean fuel source.

2. **UNITED KINGDOM:** The UK is testing hydrogen trains as part of its plan to phase out diesel trains by 2040. The HydroFLEX train, a converted diesel train, is a key prototype in this initiative.

3. **FRANCE:** France has ordered hydrogen trains for several regional lines, with operations expected to start in 2025. These trains are part of France's broader strategy to reduce carbon emissions in the transport sector.

4. **UNITED STATES:** The US debuted its first hydrogen-powered train, the Zero Emission Multiple Unit (ZEMU), in California. This train is set to go into full service in early 2025, marking a significant step towards sustainable rail transport.

5. **CHINA:** China debuted its first hydrogen-powered intelligent intercity train, CINOVA H2, at InnoTrans 2024, a leading international trade fair for transport technology, held in Berlin in September 2024. The train boasts an ultra-long range of 1,200 kilometres at a cruising speed of 160 km/h, with full refuelling taking only 15 minutes.

Watch this video for the futuristic features found on the CINOVA H2:

The future of train travel is poised to be faster, greener, and more passenger-friendly. With advancements in technology and a growing focus on sustainability, trains are set to play a crucial role in the global transport network.

As countries continue to innovate and invest in rail infrastructure, the romance of train travel, much like the legendary Orient Express, will endure, blending the charm of the past with the promise of the future.

Listen to this article 12 min

12 Technology Trends in Airline and Airport Operations

Robotics and automation

A continuing and overriding trend this year and beyond will be increasing implementation of robotics and automation, using technology to streamline operations and offset rising labour costs. There has been a big acceleration of robotics and automation on the ramp and there is now quite an advancement in personal assistant robots. Emirates is already utilising Sara, an innovative portable robotic check-in system, who can match faces with scanned passports, check-in passengers, and guide them to the bag drop area, at its City Check-in and Travel Store.

Autonomous technology is also being used to future-proof operations. Schiphol Group, for example, has plans to achieve a fully autonomous airside operation by 2050, while Avinor's EU-funded autonomous baggage transport project has a big focus on robotics. Meanwhile, autonomous robots are increasingly prevalent at airports for the delivery of retail and food & beverage.

Artificial Intelligence and Machine Learning

We're approaching an era of pervasive AI, in which these technologies transform our everyday lives in potentially unpredictable ways, including in commercial aviation. These transformations will impact the passenger experience, as well as airline and airport operations.

Among the myriad examples of the implementation of AI, Etihad Airways recently became one of the first airlines to use the technology to enhance safety management systems; airBaltic is using AI to drive business efficiency; Shanghai Hongqiao International Airport is enhancing the passenger experience and operational efficiency with AI and ML powered solutions; Amsterdam Airport Schiphol and Pangiam are commencing the next-stage trials of Project DARTMOUTH, using AI to enhance inspection of carry-on bags; and International Airlines Group has AI firmly at the top of its innovation agenda, which will we report on in more detail in the coming weeks.

Digital displays reinvented

A new trend this year is transparent displays. LG has already made transparent OLED screens for business and its newest OLED T model is designed to blend seamlessly into the surrounding room when not in use. Samsung also unveiled its Transparent MICRO LED display, which is anticipated to have commercial applications in the near future and make "the line between content and reality virtually indistinguishable".

Biometrics and digital identity

The post-pandemic preference for contactless technologies has only served to accelerate biometric adoption and its acceptance by travellers. IATA's 2023 Global Passenger Survey indicates that: "Confidence in biometric identification is on the rise. In the last 12 months, 46% of passengers used biometrics at the airport, up from 34% in 2022. Furthermore, 75% of passengers prefer using biometric data over traditional passports and boarding passes."

Implementation of biometric and digital identity technology continues at pace globally. ANA Aeroportos de Portugal and Vision-Box recently partnered to launch the "Biometric Experience by VINCI Airports" at Lisbon Airport, with plans to expand the project to four additional Portuguese airports.

Personalisation

Lufthansa took personalisation to a new level last year with the launch of Allegris – its new long-haul travel experience. At its heart, it is about individualising travel and doing so in a way that is simple for customers. The individuality comes in passengers' ability to create their own travel experience according to their personal needs, with choices in seats, meals and other elements of the journey.

Urban Air Mobility

We feel Urban Air Mobility (UAM) is a trend set to accelerate rapidly in 2024. The Lufthansa Group and Lilium have signed a Memorandum of Understanding to explore a strategic partnership on eVTOL aircraft operation in Europe; flynas and Eve Air Mobility are exploring the future of eVTOL aircraft operations in Saudi Arabia, aiming to launch in Riyadh and Jeddah in

2026; and Delta Air Lines and All Nippon Airways have both signed agreements with Joby Aviation, with plans to start commercial eVTOL flights in 2025.

While there are developments globally, the U.S. will be the epicentre of where UAM really happens and we expect real progress to come out of the U.S. in the years to come.

Collaboration with startups

Last year, collaboration with startups was firmly back on the agenda after inevitably taking a back seat during the pandemic. It remains a challenging environment for some startups to raise funds and it is an important moment for the industry to support them.

Many progressive airlines and airports are increasingly collaborating with high potential startups and scaleups. Aeroporti di Roma will soon launch its third 'Call for Ideas' from startups as part of its "Runway to the Future" acceleration programme.

Pegasus Airlines also recently announced it is establishing a Technology Innovation Lab in Silicon Valley – a key part of which will be evaluating collaboration opportunities with startups.

Sustainability

A common theme throughout the majority of innovation projects taking place across air transport is sustainability, which remains a key priority with the global industry's commitment to reaching net zero carbon emissions by 2050.

Net zero will be reached through a combination of initiatives, including Sustainable Aviation Fuels, new aircraft technology, more efficient operations and infrastructure, and the development of new zero-emissions energy sources such as electric and hydrogen power.

Another interesting initiative is the 'Hydrogen Hub at Airports' network. Hamburg Airport became the latest member in December 2023, joining Airbus and airports including Paris CDG and Singapore Changi.

Indeed, it is ultimately only through such collective, industry-wide efforts that net zero will be achieved.

Private Networks and Internet of Things

Private wireless remains one of the hottest opportunities for air transport stakeholders – a foundational core enabling technology that provides the connectivity needed for an "internet of everything" to support anything from autonomous vehicles on the ramp through to optimised operations at the gate for airlines, and that is just the beginning of the possibilities.

Last year, DFW announced a partnership with AT&T to deploy a private 5G network to meet the rising demand for Internet of Things (IoT) uses cases and the digitisation of airport operations. Brussels and Frankfurt airports are also among those to innovate with private 5G networks.

A technology trends report wouldn't be complete without a mention of the Internet of Things (IoT). In fact, IoT is what can tie together a number of technologies and help to create a simpler and more seamless end-to-end travel experience. It looks more likely than ever that in the

future all "things" will be connected – from airport assets to IFE systems and sensors integrated into seating – providing the industry with a constant stream of data which, if used correctly, could deliver new levels of operational efficiency and enable personalisation like never before.

Airlines' journey to becoming fully-fledged digital retailers

Progressive airlines are transitioning away from legacy approaches, navigating the tech landscape on their journey to becoming fully-fledged digital retailers.

Icelandic low-cost airline PLAY is doing just that with progressive, customer-centric solutions designed to both enhance the passenger experience and increase ancillary revenue. This includes selecting MOST to provide it with onboard retailing and payment solutions. Finnair and Amadeus are also collaborating with the aim of transforming airline retailing, bringing personalisation and real-time insights.

Metaverse, Augmented Reality and Extended Reality

Lufthansa's launch of its new Allegris long-haul travel experience last year was perhaps the most impressive use of the metaverse FTE has seen. The airline teamed-up with Meta Reality Labs to leverage the metaverse with Virtual Reality (VR) and Extended Reality (XR), blending the physical and digital by utilising Lufthansa's new metaverse event location in the launch.

The metaverse – essentially an immersive virtual reality experience where people can interact with digital objects and digital representations of themselves and others. While realising the full potential of the metaverse is some way away, there are clearly opportunities to be utilised in the near-term and we feel it deserves a spot on our trends list.

Changi Airport Group (CAG) the metaverse last year following the unveiling of ChangiVerse, with the aim of revolutionising the online airport experience. "With our customers becoming more digitally savvy and interacting in the digital space, ChangiVerse is about engaging our customers and serving them better through innovation and experimentation, in line with our belief of customers being at the heart of everything we do," said Ms Hung Jean, Group Senior Vice President of CAG's Enterprise Digital Ecosystem & Business Division.

Accessibility

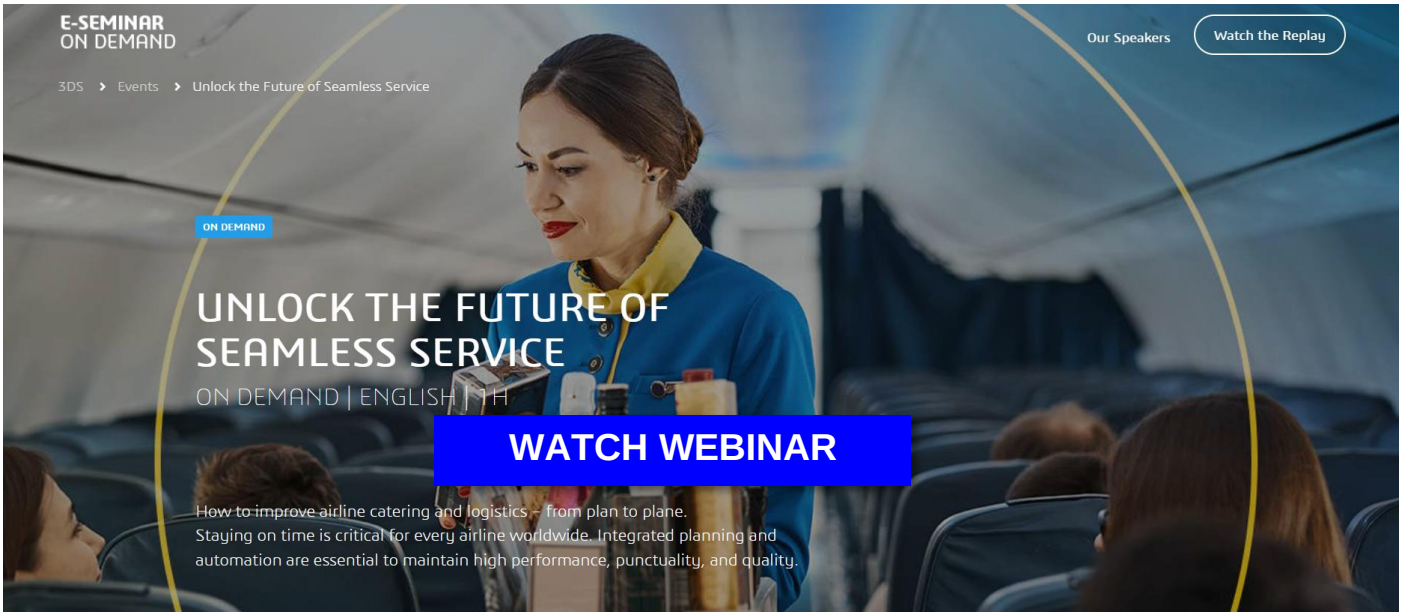
Accessibility and making travel more accessible for all remains an important trend.

Vienna Airport and Austrian Airlines are also implementing measures to make their services more accessible for all travellers. Now, passengers who are blind or have low vision can be guided through the airport utilising the Aira App. Meanwhile, as part of the Hidden Disabilities Sunflower programme, passengers with invisible disabilities can call attention to their needs by wearing a lanyard, badge or bracelet in the Sunflower design.

A number of progressive airlines and airports are also exploring robotics in the accessibility space. One example is United's collaboration with WHILL, with the aim of making airport terminal transport more accessible using autonomous personal mobility devices.

SOURCE	Future Travel Experience

VIDEO / AUDIO RESOURCES



How to improve airline catering and logistics – from plan to plane.

Staying on time is critical for every airline worldwide. Integrated planning and automation are essential to maintain high performance, punctuality, and quality.

Join our webinar, Airline Catering Planning & Logistics, to discover cutting-edge strategies that drive efficient execution, enable better disruption management, and increase planner, crew member, and passenger satisfaction.

Here's what we'll cover:

1. **Driver and Resource Planning:** Dive into the heart of airline catering logistics and the intricacies of efficient driver and vehicle planning. Discover how airlines ensure their meals reach passengers on time, every time.
2. **Equipment Planning and Positioning:** Streamline and optimize equipment allocation. Learn how airlines can tackle the logistical challenges of planning and positioning their galley carts and other catering equipment and supplies across their networks.
3. **Galley Planning:** Gain insights on how airlines can manage the scale and complexity of galley planning and distribution by leveraging automation to provide more efficiency and better visibility for crew members.
4. **Expert Insights:** Hear valuable insights from industry experts and thought leaders who have successfully navigated the complex world of airline catering logistics. Learn from real-world case studies and best practices that you can implement immediately.
5. **Interactive Q&A:** Engage with our panel of experts to get personalized advice and insights from those at the forefront of the industry.

EDUCATION

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To keep up with the latest developments and sharing in the Supply Chain, Logistics and Transport industry, check out the **EVENTS** section of our website, which includes the following insightful webinars:

- **INCOTERMS 2020**

  13 NOV 2024

  In this session you will learn how Incoterms 2020 split responsibilities and costs between seller and buyer. We will discuss the major differences with the previous edition (Incoterms 2010) and highlight where potential issues might arise.

  Crucial for your sales team but also important for the supply chain and/or logistics departments. Make sure you are aligned with the new Incoterms 2020 - you can't afford to miss this session!

- **UNLOCKING ROUTING EFFICIENCY - A CUSTOMER SUCCESS STORY - PEPIN AND DESCARTES**

  20 NOV 2024

  What you will learn:

  1. Achieving Real-Time Visibility for Optimized Operations Learn how real-time tracking of fleet, delivery, and field teams can drive better decision-making and improve service levels.
  2. Boosting Productivity Through Data-Driven Insights Discover how analyzing route performance data helps optimize scheduling, resource allocation, and team productivity.
  3. Enhancing Communication for Improved Customer Service Understand how improved transparency and collaboration across departments lead to better customer satisfaction and operational efficiency.

- **LEVERAGING LIDAR, WI-FI, CAMERAS, AND SENSORS TO CREATE EFFICIENT AND RELIABLE PASSENGER FLOW MONITORING**

  12 DEC 2024

  This virtual panel will explore the transformative role of smart technologies—including Lidar, Wi-Fi, cameras, and sensors—in revolutionising how airports monitor and manage passenger movement.

  Airports are continuously seeking innovative ways to improve passenger flow, reduce bottlenecks, enhance overall operational efficiency and increase commercial revenues. This virtual panel will explore the transformative role of smart technologies – including Lidar, Wi-Fi, cameras, and sensors – in revolutionising how airports monitor and manage passenger movement.

  Our panel of experts will discuss how these technologies are being deployed to provide real-time data, enabling airports to anticipate crowd patterns, optimise staffing, and ensure seamless passenger experiences. From Lidar's precision in spatial tracking to Wi-Fi's ability to gather anonymised movement data, this session will highlight case studies and best practices for integrating these systems into existing airport infrastructure.

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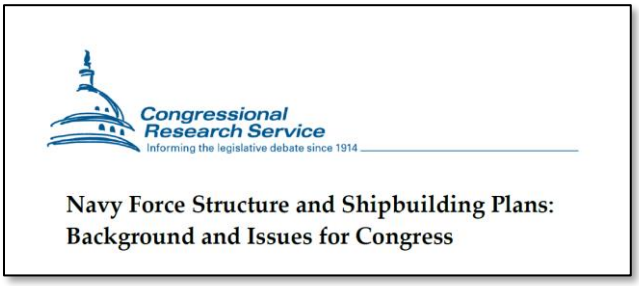
PUBLICATIONS

Click on image to read:

Smart Airports are airports that rely on the use of connected technologies such as Internet of Things (IoT) devices, GPS and sensors to perform planning and operations tasks digitally and support operational staff, optimising passenger flows and the activities of the airport staff across the airport.

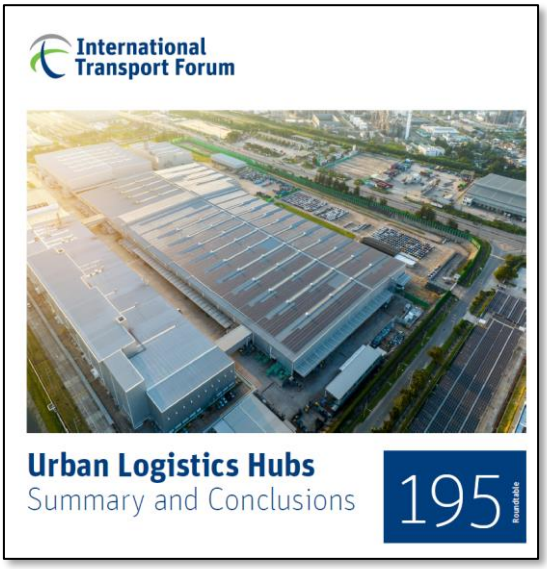
The long-term development of Smart Airports may include the use of more autonomous solutions, thus increasing and optimising airport hours of operations and enhancing safety.



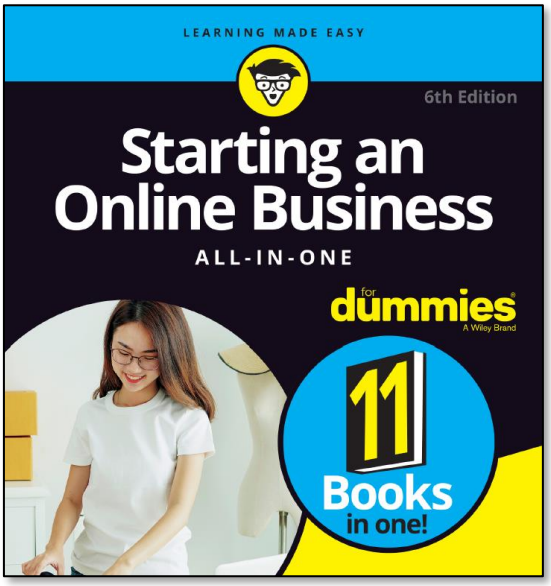
The current and future size and composition of the Navy, the annual rate of Navy ship procurement, the prospective affordability of the Navy's shipbuilding plans, the capacity of the U.S. shipbuilding industry to execute the Navy's shipbuilding plans, and Navy proposals for retiring existing ships have been oversight matters for the congressional defense committees for many years.

Congressional focus on these matters has been heightened over the past decade by the increasing size and capabilities of China's navy, and by the capacity of China's shipbuilding industry compared with the capacity of the U.S. shipbuilding industry.

The Naval Science and Technology (S&T) Strategy is a *global call to service* for scientists, engineers, inventors, and innovators from academia, industry, and government to work with us in solving naval problems to ensure our freedom and way of life. Guided by the North Star of delivering capabilities to American warfighters and our allies, it provides a spectrum of technological choices to the Navy and Marine Corps for future operations that create enduring advantage.

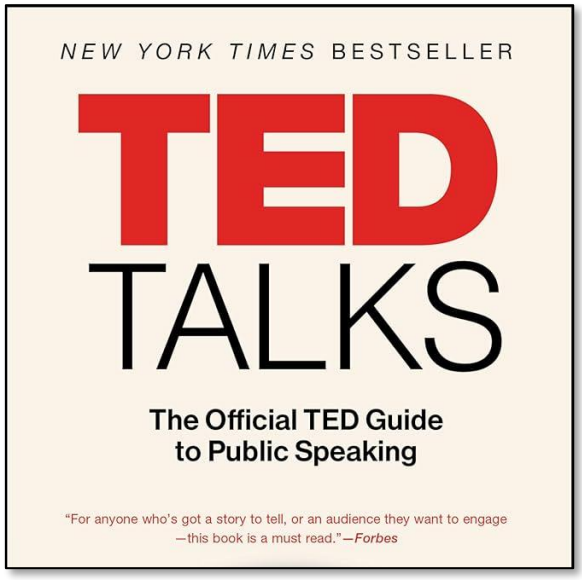


Urban logistics includes deliveries, distribution, returns, collections and servicing. A wide range of stakeholders with consumer and business demands are involved in the logistics ecosystem. Thinking about improving logistics started in e-commerce and now drives developments in the other segments.

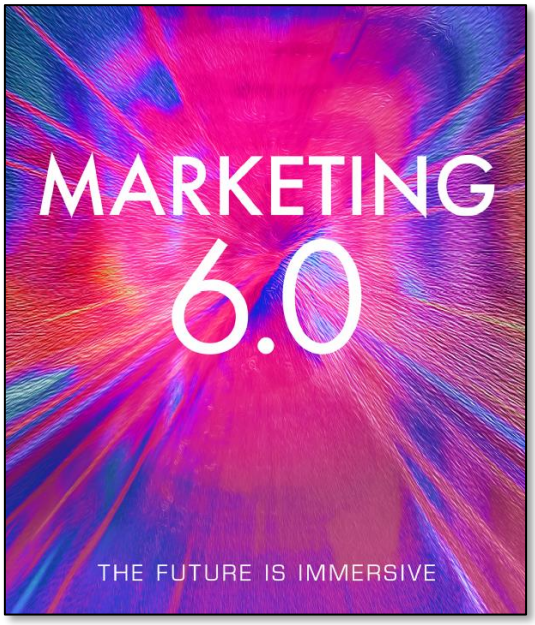


Online businesses have finally found a permanent foothold in today's marketplace, leaving little doubt that the Internet is not only the conduit for a viable online business model, but is often a necessary tool for building, managing, and growing any type of business.

Read this 875-page 11-books-in-one guide on how to start an online business!



TED Talks Book Summary is an encouraging and relatable guide on how to give a good talk, a great read for anyone that has to talk in front of others, whether its 4 or 5 people in a meeting or in front of a large audience. Anderson examines the importance of public speaking and the joy it brings to both the speaker and the audience.



This *Marketing 6.0* book explores the shifts in the business landscape and how those shifts would change how marketers approach marketing.

Who We Are

The Chartered Institute of Logistics and Transport Singapore is part of the leading, global professional body for those engaged in supply chain, logistics and transport – covering all sectors of the industry, namely air, land and sea, for both passenger and freight transportation.

Our primary objectives are to support our members in continuous professional development to future-proof their careers, as well as to work in close collaboration with the public and private sectors, Government agencies and the academia to develop opportunities and synergy for industry transformation and growth, underpinned by strategic thrusts in digitalisation and sustainability.

Contact Us

The Chartered Institute of Logistics and Transport Singapore

5 Jalan Kilang Barat
#06-03 Petro Centre
Singapore 159349
Email: secretariat@cilt.org.sg

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