

LogiSYM

The Magazine for Supply Chain Executives

NOVEMBER 2024

WHAT'S NEXT FOR GLOBALISATION?

BY MARK MILLAR

LEAN WAREHOUSE DESIGN

BY DR. ALBERT TAN AND
ASSOCIATE PROFESSOR TAY
HUAY LING

GLOBAL MARKET PLACE PROPELS A GREEN FUTURE

BY TIMOTHY FOOTE

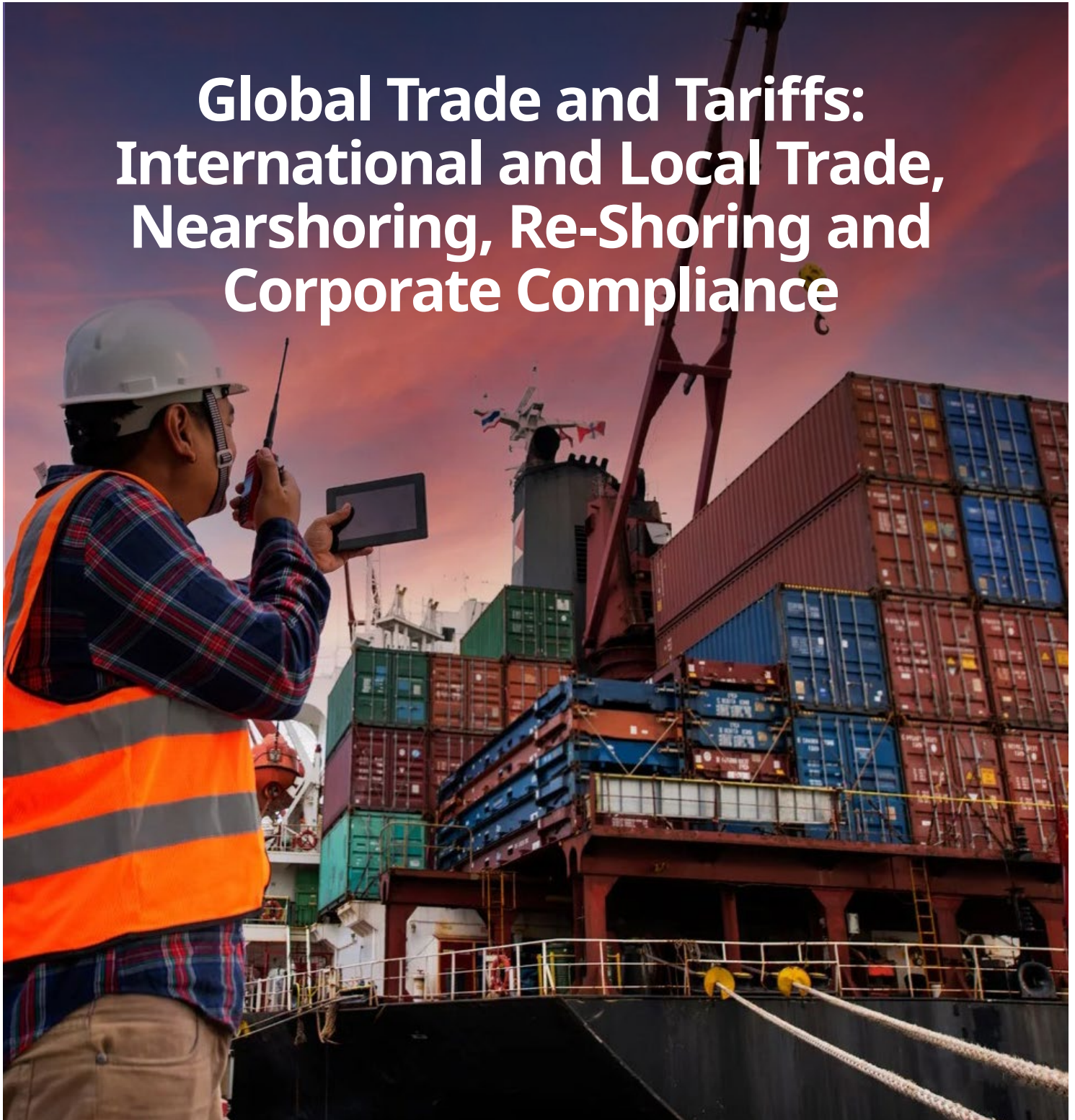
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Management Society
The Regional Professional Body
for Logistics Practitioners

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Logistics & Supply Chain
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Global Trade and Tariffs: International and Local Trade, Nearshoring, Re-Shoring and Corporate Compliance



NOVEMBER 2024

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EDITORIAL MESSAGE

Always More Work and Opportunities to Do Better.

Welcome to the November edition of LogiSYM magazine as we power into the end of 2024, knowing that agility has enabled resilience and helped us deal with the world of disruption, which has become the norm.

The topic on everyone's agenda this week is the outcome of the US Presidential Election and control of the US Senate (Republican) Congress (undecided) and what this will mean for supply chains globally, with discussion centring on projected tariff increases of 10-20% on all imports and a further 60% to 100% again for imports of Chinese origin. For Asia specifically, the interest is on whether such tariffs will accelerate the relocation of manufacturing and sourcing to elsewhere in Asia from China—a shift across many industries that began even before supply chains became a focus during the pandemic, with countries such as Vietnam, Thailand, and Indonesia expected to be key beneficiaries. Mark Millar's article "What's Next for Globalisation?" in this issue will explore this issue further.

An exciting last month for LogiSYM with the SAAA-LogiSYM Supply Chain Day at Marina Bay Sands in Singapore, drawing a large crowd of industry practitioners with sustainability the key topic and the growing involvement of SMEs in deploying decarbonisation strategies in Singapore. There were some excellent user-case studies discussed during the panels at this event. LogiSYM is a forum for sharing ideas on how to build traction in your sustainability journey and learning from peers and even competitors, and we encourage you to join us in our events around the region. 2030 is rapidly approaching, and the decarbonisation challenge is not going away. Tim Foote looks at this in more depth in his article "The Green Corridor: Global Market Place Propels a Green Future" in this issue.

Teaming up with LogiMAT for the LogiMAT-LogiSYM Cold Chain Conference in Bangkok, Thailand, the agenda focused on cold chain management techniques and strategies and sustainability. The LogiMAT automation and technology exhibition demonstrated a burgeoning range of solutions for warehouse automation, including high-density racking, 4-way shuttle in-racking pallet movement, robots, autonomous mobile robots (AMR), and automated guided vehicles (AGV). Such technologies will not be suited to all types of warehouse operations; it is critical to understand where the needs for efficiency improvement are greatest and then look at the options for a solution, and not the other way around—picking a technology then looking for how to use it to gain efficiency will result in a lot of pain! Dr. Albert Tan and Associate Professor Tay Huay Ling share with us their ideas on "designing warehouse layout" as a part of this issue.

As LSCMS President, Raymon Krishnan, often says, "Always more work and opportunities to do better."

Brett Marshall, CSCP
Editor-in-Chief, LogiSYM Magazine



LSCMS PRESIDENT'S MESSAGE

An Ending—And a New Beginning

As we approach the final months of the year, it's an opportune time to reflect on the accomplishments and challenges that have shaped the logistics and supply chain landscape in 2024. This year has highlighted the need for resilience, adaptability, and innovation as businesses navigate increasing complexity in global networks.

At LSCMS, we remain committed to empowering our community with the knowledge and tools needed to thrive in this dynamic environment through our multiple platforms and, in particular, our flagship magazine, LogiSYM. Our events and collaborations this year have emphasised the critical role of sustainability, digital transformation, and resilience talent in driving the future of supply chain excellence.

This November issue of LogiSYM Magazine explores these and other themes in depth, offering insights from thought leaders and practitioners who are shaping the industry's future. I encourage you to dive into the articles, share your perspectives, and continue contributing to the collective success of our sector under the new leadership of Brett Marshal in his inaugural issue as Editor-in-Chief.

Here's to learning, growth, and impactful innovation!

Raymon Krishnan, FALA, FCILT, CLP
President
The Logistics & Supply Chain Management Society



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LogiSYM



Shaping the Future of Supply Chains: Resilience and Sustainability



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EXHIBITION WITH LATEST
SUPPLY CHAIN MANAGEMENT AND
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Topical Issues



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Arvato: Successful implementation of the first Boston Dynamics robots

By Arvato

Arvato has successfully taken the next step in its automation strategy. As part of the cooperation with Boston Dynamics, a global leader in the development of highly mobile robots, the leading 3PL provider deployed the first two Stretch robots at its logistics campus in Louisville, Kentucky.

Arvato uses Stretch to automatically unload a wide variety of loose-loaded boxes from containers. Automating anything with variability is difficult, so finding a solution

that could gently handle the cartons was a real challenge. The implementation marks the next step in Arvato's Automation Strategy and adds another proven solution for the existing Automation Toolbox, which, when combined with smart data capturing, robotic palletizing and pallet transports by AGVs (automated guided vehicles) and AMRs, (autonomous mobile robots) completes the process chain for a fully automated goods receiving process.

The mobile robots are entirely self-contained, requiring no power or air lines for operation. This mobility significantly reduces infrastructure costs and training time for Arvato's employees. The system utilizes a vision system to detect the front of all boxes in a container. The robot then makes decisions in real time on which box or boxes to pick and how to do so. The single robotic arm is equipped with a gripper at the end consisting of several rows of suction cups, allowing it to grab boxes from various angles





and carefully places the boxes on a conveyor belt that will carry it further into the warehouse.

The implementation gives more consistency and the multipicking feature allows higher throughputs, especially with smaller, lighter cartons. It can also multipick some of the heavier cartons that the manual unloading teams wouldn't be capable of doing. It can handle packages of various sizes weighing up to 23 kilograms (50 lbs), and work continuously for up to 16 hours.

"Seasonal planning is very critical to Arvato operations," says Rachael Miller, Senior

Director of Operations at Arvato's Louisville campus. "There are often unknowns in the supply chain. With Stretch being very consistent on its unload rate, we can plan additional capacities where we need them. We can also plan for off hours where we may not have a scheduled shift in place, with just one operator putting Stretch into a truck."

"Stretch creates efficiencies in the warehouse by automating the task of unloading trailers and containers," says Marc Theermann, Chief Strategy Officer, Boston Dynamics. "Planning and predictability are essential for efficient

supply chain operations, and robots like Stretch can help Arvato maintain consistency in their unloading rate while alleviating the physical strain on employees. With Stretch, Arvato can continue its automation journey, reduce costs, and deliver increased efficiencies to its customers."

"Overall, the perception of Stretch has been very positive," explains Rachael Miller. "We made it clear from the first day, that Stretch won't replace our workforce, but not only relieves our colleagues in the warehouse of a physically demanding work, but also allows us to upskill them to perform more meaningful warehouse tasks."

The partnership with Boston Dynamics initially involves the implementation of a total of ten Stretch robots at various Arvato locations. Following the successful launch of the two models in Louisville, the next steps will be to equip additional sites in the US as well as in Europe.





arvato

Unlock Value and Improve Efficiency.

Arvato is an innovative and leading international service provider in the field of supply chain management and e-commerce. By combining deep industry expertise with the right technologies, Arvato develops innovative supply chain management and e-commerce solutions for its clients. Arvato focuses on Consumer Products, Tech, Healthcare, Automotive and Publisher industries and has aligned its organization to meet the needs of its global clients and their industries. More than 17,000 employees work at around 100 locations with state-of-the-art cloud technologies. This enables Arvato to provide its clients with the best possible support for their growth objectives.



A photograph of a man and a woman in a warehouse. The man, on the left, is wearing a grey jacket and an orange safety vest, looking upwards. The woman, on the right, is wearing a grey blazer over a peach-colored top, holding a tablet and looking at it. They are standing in front of tall warehouse shelves filled with boxes.

What's Next for Globalisation?

By Mark Millar

International Keynote Speaker, Commissioned Author, Trusted Advisor and Supply Chain Thought Leader

Globalisation Frenzy– three key drivers...

3 decades of Globalisation resulted in today's Global Supply Chain Ecosystems

1. Out-Sourcing: *Who*

2. Off-Shoring: *Where*

3. Un-Bundling: *How*



- Cross-border movement of goods ~40% of global GDP
- One-third of all Goods Produced are traded Cross-border

Source: Global Supply Chain Ecosystems, ICC

1

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Over recent decades, the story of globalisation has been one of ever-increasing complexity for global supply chains. Producers have shifted manufacturing from one low-cost location to the next, creating increasingly convoluted and complex global supply chain ecosystems. But ongoing disruptions and increasing uncertainty are now causing companies to rethink their supply chain strategies to adapt for the next chapter of globalisation.

Globalisation Context

The globalisation frenzy was fuelled by an unprecedented combination of three key drivers in the pursuit of lowest-cost manufacturing: the out-sourcing of business activities to third parties; the off-shoring of production to low-cost labour markets; and the un-bundling of vertically integrated manufacturing

clusters into dispersed specialist activities.

Capitalising on abundant supplies of low-cost labour, massive amounts of production were outsourced, unbundled, and offshored to emerging markets across Asia, empowering the region—in particular, China—to become the factory of the world.

Mass globalisation generated a substantial boost for international trade, resulting in huge increases in the volume of intercontinental freight flows and yielding a bonanza for logistics service providers and freight forwarders around the world.

Changing Landscape

Lately, however, several factors have combined to produce a perfect storm for globalisation, brutally exposing the profound interdependencies and inherent risks of

globalised supply chains and resulting in an ever-evolving and increasingly complex landscape for producers.

Black Swan events such as the COVID-19 pandemic, the crisis in Ukraine, and the unrest in the Middle East have caused massive disruption to goods flows and logistics networks.

Geopolitical tensions and domestic challenges are driving populist and protectionist government policies in the pursuit of 'economic nationalism'. The ever-changing morass of trade tariffs is resulting in the need to reconsider the configuration of supply chains.

Rising labour rates in China and elsewhere across Asia have gradually diminished the manufacturing cost advantage of these locations, further exacerbated by the increased complexity and cost of

intercontinental freight flows.

Supply Chain Reconfiguration

Many companies across the developed markets in the USA and Europe are now moving, or are considering moving, some of their off-shored production closer to home, known as 'Near-Shoring'.

Others are undertaking 'Onshoring' initiatives—also called 'Re-Shoring'—which is bringing production all the way home to produce locally within the domestic market.

Whatever the terminology, these initiatives involve the repatriation of manufacturing, production, and assembly activities from remote locations, such as China, to geographic regions located much closer to, or actually within, the end consumer market.

OFF-SHORING: moving manufacturing and/or assembly activities overseas to low-cost countries based on labour rate differentials.

NEAR-SHORING: moving manufacturing and/or assembling of products closer to the location of demand, where the products are consumed.

ONSHORING (re-shoring): moving manufacturing and/or assembling of products back into the country of demand, where the products are consumed.



Near-shoring typically involves lower-cost locations that are in closer proximity to the final consumption markets—for example, Mexico for North America and countries like Poland, Hungary, or Turkey to serve Western Europe. North Africa is now also on the agenda as a production base from which to serve the European markets.

Hence, for many businesses, there will be some production activities—though certainly not all—that migrate 'closer to home'. Implementing such near-shoring initiatives will result in supply chains that are configured as 'Made in North America for America', or 'Made in Eastern Europe for Europe'.

Logistics Consequences: Less Miles, More Moves, Modal Shifts

These supply chain shifts—beyond global to a more regional approach—are key drivers in the changing landscape of globalisation, with important implications for every company involved in global logistics.

Shorter supply chains, fewer cargo miles, more journeys

As trade shifts beyond the established global networks to more regional supply chain ecosystems, the related cargo movements and freight flows will also have to change. The result will be less long-haul transport and more short-haul carriage, potentially generating some significant benefits for shippers—through using less fuel, saving costs, and reducing emissions. As intra-regional trade flows grow, cargo

movements will tend to involve shorter transit distances but are likely to generate a greater number of actual journeys.

Increase in domestic freight moves

The shifting globalisation landscape, involving more onshoring and re-shoring, will also increase the volume of domestic freight movements.

According to logistics investment adviser Stifel, when goods are imported into a country from overseas production facilities, the number of domestic transport moves is an average of 2-3 freight movements.

However, when products are produced entirely within a single country or continent, the freight is typically moved 8-12 times domestically, some four times as many as the number of domestic transport movements for imported products.

Great news for the local transport providers!

Therefore, in the new regional landscape, localised production will generate many more domestic cargo journeys, at the expense of long-haul international freight transport moves.

Modal shifts reflecting reduced speed differential

With the continued growth in intra-regional trade, the shorter transit distances involved will reduce the relative speed advantage of premium air freight

over slower, cheaper modes of transport such as sea freight.

For example, in a global supply chain, transporting cargo across the trans-Pacific route would have substantial differences in door-to-door transit times between the air and ocean freight options—say, 5-7 days by air freight versus maybe 30-35 days by sea.

However, with the much shorter distances involved in a regional supply chain, the differential in transit time will be significantly less—a difference of maybe two-to-three days instead of two-to-three weeks. Compare a regional supply chain's transit time by sea freight of just 5-7 days with 3-4 days by air freight. Consequently, the lower-cost sea freight becomes a far more economically viable option in a regional supply chain.

Furthermore, many regional supply chains will involve large contiguous land masses—such as North America, western and eastern Europe, and some of the Intra-Asia region—in which case cost-effective ground-based transportation options such as trucking and rail freight will come into play as competitive alternatives to air and sea freight.

Regional supply chains drive business benefits.

These near-shoring strategies will reinforce the trend towards more regional supply chains, which can generate





substantial benefits for businesses—in terms of time, cost, and service—while also reducing risk.

Benefits of Regional Supply Chains

Shorter distances result in lower transportation costs. Closer to home is easier to manage (overcoming some of the challenges of managing across time zones, languages, cultures, business practices, and work standards).

Better control over product quality through proximity to suppliers

Mitigated impact of rapidly increasing labour rates in what were 'low-cost' environments

Improved ability and responsiveness to tailor products for local domestic consumer markets

Reduced supply chain risk: less distance, fewer borders, fewer complications, less risk.

The Next Chapter of Globalisation

Globalisation originally spurred enormous growth in international trade and a shift in business models as companies rushed to take advantage of lower-cost overseas locations by outsourcing, offshoring, and unbundling their manufacturing and sourcing operations.

Now the pendulum is shifting again.

Whether producers are reacting to the disruption arising from armed conflicts, applying lessons learnt from the pandemic, responding to trade barriers resulting from populist domestic politics, or seeking to alleviate rising labour costs in China and elsewhere in Asia, the shift towards regional supply chains is unmistakable.

Indeed, the benefits of near-shoring are plentiful. Yet the benefits of some low-cost

manufacturing locations also remain compelling, particularly as we witness the gradual economic development of many emerging markets.

While some manufacturing operations will migrate 'closer-to-home', speeding the shift towards regionalisation, numerous well-established and finely tuned global supply chains will remain in place, adapting over time to serve the expanding domestic market potential in many of the emerging economies across Asia.

In no way will there be a mass exit from Asia. Thirty years ago, the multinational companies came for the workers; now they stay for the shoppers!

The next chapter of globalisation for many businesses will likely involve a mix of multiple regional supply chains, with some ecosystems being near-shored closer to home, while others remain in place to serve the growth markets via 'Made in Asia for Asia' strategies.

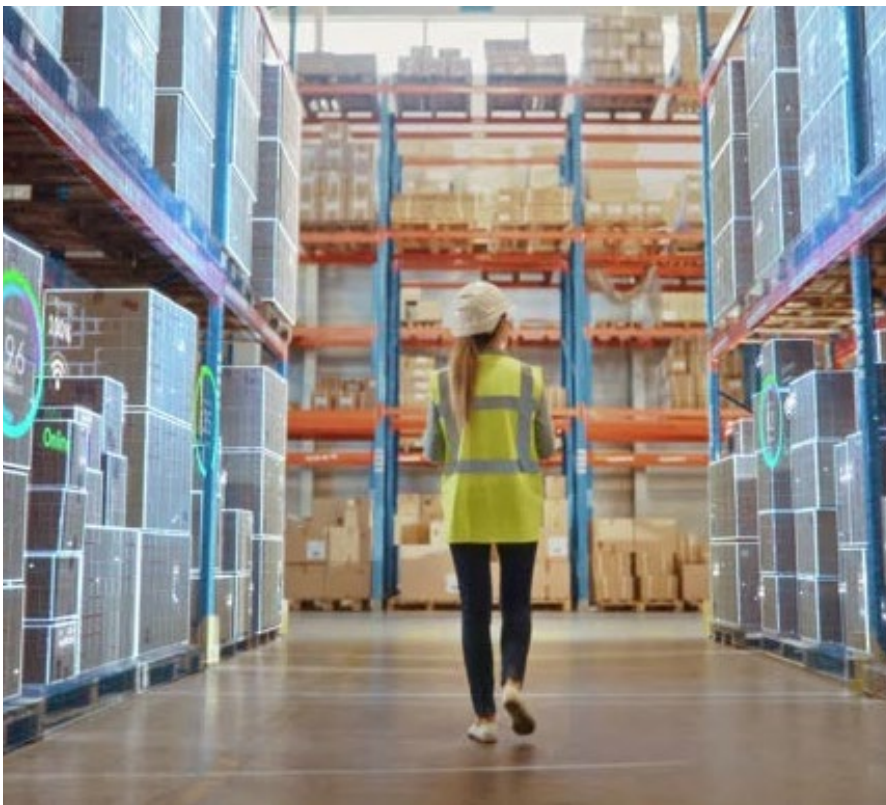
Through to 2030, there will continue to be considerable volatility and uncertainty for global supply chains. But one thing is certain. Supply chain evolution will never fail to be interesting and will present both opportunities and challenges as companies grapple with the ever-changing landscape of globalisation.



Mark Millar

*International Keynote Speaker,
Commissioned Author, Trusted
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*Mark Millar is an internationally renowned keynote speaker; a respected authority on supply chain and logistics; and author of the widely-acclaimed book *Global Supply Chain Ecosystems*. A LogiSYM Thought leadership Champion, Mark leverages 30+ years' global business experience to provide knowledgeable and independent perspectives that empower executives to make better-informed decisions. A Visiting Lecturer at Hong Kong Polytechnic University, Mark advises companies large and small - helping clients with their strategic growth objectives and supply chain strategies. He serves on Advisory Boards at the Logistics and Supply Chain Management Society and the Foundation for Future Supply Chain*





Lean Warehouse Design

By Dr. Albert Tan
Asian Institute of Management

By Associate Prof Tay Huay Ling
Singapore University of Social Sciences

Lean Warehouse Design Principles: Lean warehouse design focuses on eliminating waste, optimising space, improving material handling, and increasing overall efficiency. By reducing excess inventory, minimising transport times, and enhancing the flow of goods, businesses can increase productivity while maintaining high levels of service quality.

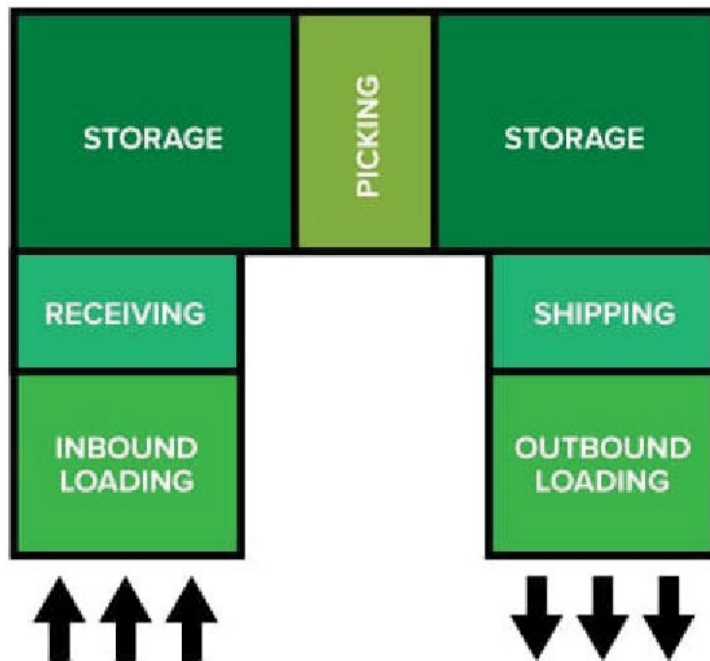
Some principles of lean warehousing design would be: Warehouse layout design is a critical aspect of warehouse operations that directly impacts efficiency, productivity, and overall performance. A well-designed warehouse layout optimises space utilisation, improves material handling, enhances safety, and facilitates better inventory management. This article looks at the fundamental principles of warehouse layout design,

exploring different layout types, factors influencing layout decisions, and best practices for creating an efficient warehouse environment.

Key Principles of Warehouse Layout Design
Space utilisation and lean improvement: Using kanban-controlled shelves for optimised space utilisation ensures items are restocked only when necessary, reducing excess stock and improving vertical space management. Effective use of available space is paramount in warehouse layout design and should be maximised using tall storage racks and shelving units, while horizontal space should be organised to minimise wasted areas. It is important to optimise storage density to reduce space wastage and improve operational efficiency.
Flow of Goods: Lean Improvement: Implement cross-docking strategies

to reduce storage needs by moving goods directly from receiving to shipping, minimising the time goods spend in the warehouse, and improving overall flow. Ensuring a smooth and logical flow of goods is essential for efficient warehouse operations. This involves designing the layout to facilitate easy movement of products from receiving to storage, picking, packing, and shipping.
Accessibility: All products should be easily accessible to warehouse staff. This can be achieved by strategically placing high-turnover items closer to the pick-up area in a warehouse to increase accessibility and reduce travel times and utilising appropriate storage methods such as pallet racks and bin shelving.
Flexibility: A flexible warehouse layout can adapt to changing business needs and inventory levels. Modular shelving units,

U-SHAPED WAREHOUSE



adjustable racking systems, and open floor plans can accommodate fluctuations in product volume and variety. **Safety:** Ensuring the safety of warehouse staff and goods is a crucial aspect of layout design. This involves clear aisle markings, adequate lighting, proper ventilation, and compliance with safety regulations.

TYPES OF WAREHOUSE LAYOUTS

Figure 1:
U-SHAPED WAREHOUSE
DIAGRAM

In a U-shaped layout, the receiving and shipping docks

are strategically located on the same side of the building. This design ensures that the storage and picking areas are situated in between the docks. By arranging the warehouse in this manner, the travel distance for goods is minimised, thereby facilitating efficient material handling. **Advantages** The U-shaped layout offers several benefits. First, it improves the flow of goods within the warehouse. Secondly, it allows for easy supervision of operations, as all activities are concentrated in a central area. Lastly, it promotes the efficient use of space, as the layout ensures that all available areas are utilised effectively. **Disadvantages** However, the U-shaped layout also has some drawbacks. It may require more floor space

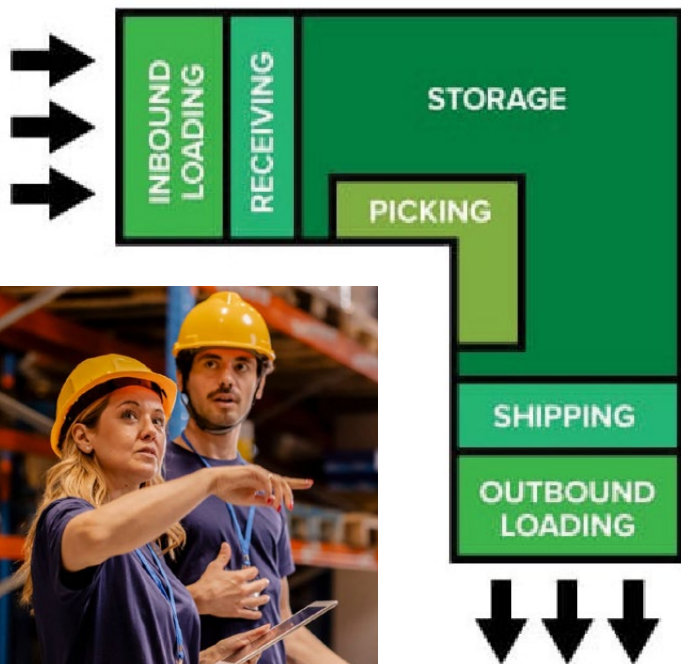
than other layouts, which could be a limiting factor for warehouses with restricted space. Additionally, this layout can be less flexible for future expansion, as the U-shape confines the areas where new sections can be added.

Straight-Through (I-Shaped) Layout A straight-through, or I-shaped, layout consists of receiving docks on one end of the building and shipping docks on the other. The storage areas are positioned between these two docks, creating a linear flow of goods from one end of the warehouse to the other. This design supports a streamlined flow of goods, thereby reducing handling times and improving overall efficiency. **Advantages** The straight-through layout provides several advantages. It ensures a streamlined flow of goods through the warehouse, minimising the need for excessive handling.

This layout also promotes a clear separation of receiving and shipping activities, reducing the likelihood of congestion and confusion. **Disadvantages** The straight-through layout also has some disadvantages.

It necessitates larger buildings, which may not be feasible for all warehouse structures. Additionally, this layout can lead to higher travel distances for staff, as employees may need to traverse the length of the warehouse to move between receiving and shipping areas.

L-SHAPED WAREHOUSE



L-Shaped Layout

In an L-shaped layout, the receiving and shipping docks are located on adjacent sides of the building, with the storage areas forming the "L" shape. This layout combines elements of both U-shaped and straight-through designs, offering a flexible and efficient use of space.

Advantages

The L-shaped layout provides several benefits. Its flexible design allows for efficient use of available space, accommodating various storage and picking needs. The layout also promotes a good flow of goods, ensuring that materials move smoothly through the warehouse.

Disadvantages, The L-shaped layout requires careful planning to avoid congestion and ensure that all areas of the warehouse are utilised effectively. Additionally, the layout may require more intricate supervision to maintain an efficient flow of goods. Table 1 is a comparison of each layout.

Factor: U-Shaped Layout, I-Shaped Layout, L-Shaped Layout
 Description Receiving and shipping docks on the same side with storage in between
 Receiving docks on one end and shipping docks on the opposite end
 Receiving and shipping docks on adjacent sides with storage forming an "L" shape
 Flow of Goods Improved flow due to centralised operations
 Streamlined linear flow from receiving to shipping
 Good flow

by combining U-shaped and I-shaped elements
 Supervision Easy supervision with centralised operations
 Clear separation of receiving and shipping activities requires more intricate supervision to avoid congestion
 Space Utilisation Efficient use of space but may require more floor space
 Efficient but needs longer buildings
 Flexible and efficient use of space
 Handling Times Minimised travel distance for goods
 Reduced handling times due to linear flow
 Efficient handling but requires careful planning
 Flexibility for expansion Less flexible for expansion due to the confined U-shape
 Limited flexibility due to the need for longer buildings
 Flexible design accommodating various needs
 Complexity Simple to manage with concentrated areas
 Simple to manage with clear separation
 More complex to manage and plan
 Travel Distance for Staff: Moderate travel distance for staff; higher travel distances for staff
 Moderate travel distance but requires planning to avoid congestion
 Example Suitable for warehouses needing centralised operations and easy supervision
 Ideal for large, elongated warehouses with clear separation of activities
 Best for warehouses needing flexible and efficient space utilisation
 Table 1: Comparison of the three warehouse layouts based on their characteristics

Factors influencing warehouse layout decisions

1. The Nature of Goods: The physical characteristics of the

I-SHAPED WAREHOUSE



goods, such as size, weight, and perishability, influence the choice of storage systems and layout design. For example, bulky items may require wide aisles and heavy-duty racking, while perishable goods may need refrigerated storage areas.

2. Volume of Goods:

Inventory volume and turnover rate determine storage capacity and layout requirements. High-volume warehouses need efficient space utilisation and robust storage systems to handle large quantities of goods.

3. Operational Workflow:

The workflow processes, including receiving, storage, picking, packing, and shipping, dictate the layout design. An optimised workflow

minimises handling times and improves overall efficiency. Experts in this area emphasise the importance of aligning warehouse layout with operational workflows to enhance productivity.

4. Technology Integration:

Incorporating technology such as automated storage and retrieval systems (AS/RS), conveyor belts, and warehouse management systems (WMS) can influence layout design. These technologies improve accuracy, speed, and efficiency in warehouse operations. 5. Future Growth: In warehouse layout design, planning for future expansion and scalability is crucial. Flexible layouts that allow for easy reconfiguration and expansion can accommodate business growth and changing needs. Designing warehouses with

future scalability in mind to support long-term business growth is a necessary prerequisite in any good design and operations process.

Best Practices for Warehouse Layout Design
Lean Best Practices: Conduct a thorough analysis. A comprehensive analysis of current operations, inventory levels, and future needs is essential before designing the warehouse layout. This includes evaluating space requirements, material handling equipment, and workflow processes. Make use of value stream mapping to identify bottlenecks and non-value-adding steps in your warehouse processes.

It is also recommended that a detailed operational analysis be conducted before implementation to assist layout design decisions. **Incorporate Lean Principles:** Applying lean principles to warehouse layout design can reduce waste, improve efficiency, and enhance productivity. This involves eliminating unnecessary steps, optimising space utilisation, and streamlining processes. With the use of the 7 lean principles (overproduction, waiting, transport, extra processing, inventory, motion, defects) and by applying 5S methodology to maintain organisation and cleanliness, improving safety and efficiency with the implementation of continuous improvement (Kaizen) by encouraging staff feedback and regular audits to enhance warehouse layout and operations over time,

COMPARISON OF THE THREE WAREHOUSE LAYOUTS BASED ON THEIR CHARACTERISTICS

FACTOR	U-SHAPED LAYOUT	I-SHAPED LAYOUT	L-SHAPED LAYOUT
Description	Receiving and shipping docks on the same side with storage in between	Receiving docks on one end and shipping docks on the opposite end	Receiving and shipping docks on adjacent sides with storage forming an "L" shape
Flow of Goods	Improved flow due to centralized operations	Streamlined linear flow from receiving to shipping	Good flow by combining U-shaped and I-shaped elements
Supervision	Easy supervision with centralized operations	Clear separation of receiving and shipping activities	Requires more intricate supervision to avoid congestion
Space Utilization	Efficient use of space but may require more floor space	Efficient but needs longer buildings	Flexible and efficient use of space
Handling Times	Minimized travel distance for goods	Reduced handling times due to linear flow	Efficient handling but requires careful planning

FACTOR	U-SHAPED LAYOUT	I-SHAPED LAYOUT	L-SHAPED LAYOUT
Flexibility for Expansion	Less flexible for expansion due to the confined U-shape	Limited flexibility due to the need for longer buildings	Flexible design accommodating various needs
Complexity	Simple to manage with concentrated areas	Simple to manage with clear separation	More complex to manage and plan
Travel Distance for Staff	Moderate travel distance for staff	Higher travel distances for staff	Moderate travel distance but requires planning to avoid congestion
Example	Suitable for warehouses needing centralized operations and easy supervision	Ideal for large, elongated warehouses with clear separation of activities	Best for warehouses needing flexible and efficient space utilization

organisations will benefit from the use of such lean principles to create effective and efficient warehouse layouts.

Engage Stakeholders:

Involving key stakeholders in the layout design process, including warehouse staff, management, and supply chain partners, ensures that all perspectives are considered and the design meets operational needs. Utilise simulation tools: Simulation tools can model different layout scenarios and assess their impact on warehouse operations. This helps identify potential issues, optimise layout design, and improve decision-making.

Conclusion

Warehouse layout design is critical to achieving efficient and effective warehouse operations. By considering key principles such as the few highlighted in this article, understanding different layout types, and incorporating best practices, businesses can create warehouse environments that optimise space utilisation, improve workflow, enhance safety, and support long-term growth. As technology continues to evolve, future warehouse layouts will increasingly integrate advanced systems and automation to streamline operations further and meet the demands of a dynamic supply chain landscape.





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Asian Institute
of Management

Albert Tan, PhD joined the Asian Institute of Management faculty in 2022 as an Associate Professor and Academic Program Director of the Online MBA program. He has a combined 32 years of industry practice and teaching experience in Australia, Singapore, China, Dubai, Indonesia, Malaysia, and and Vietnam. Most recently, he was a visiting professor at NUS-Singapore, MIT SCALE Network, Wollongong-Dubai, Mahidol-Thailand as well as in Indonesia and Vietnam. He has published his research works in numerous journals.



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Global Market Place Propels a Green Future

By Timothy Foote

Director Transportation and Network APAC at Asendia
and Founder of Susymbio





On October 5th, I attended a panel discussion at the Singapore National Library. The panel was part of Singapore's Design Week and was on the topic of coexistence by design. Can designers build our future world so that our human populations can coexist with nature in a more balanced way?

All of the speakers were conservation volunteers of the Jane Goodall Institute Singapore, and they also worked in fields that impact our future. One was an architect, one a food researcher, one a brand designer, and one a conservation leader.

Looking Outside Our Silos

A key message for the audience was that in order to design a future where coexistence is necessary, we need business and thought

leaders to look outside of their usual silos for inspiration. The brand designer Sid Dassanaik of Brand World Consultants illustrated that with a simple axiom.

Silo constructs in our brain can limit us. I struggle with this myself. In the world of e-commerce, it seems most of the news and environment is about using the same channels for moving products and pressing vendors to do it cheaper and faster. Truly new concepts of moving cargo and data more efficiently seldom get out of the existing moulds of moving shipments.

Taking a step back from the silos within organisations and industry, let's begin looking at the macro-level environment of nation states. It is here that societies and the governments that they support begin to influence the future shape of the world.

Nation states like organisations can either stifle innovation or support innovation. Through history, we can see that innovative nations have moved technology forward globally despite the fact that some nation-states work to stifle innovation internally. Time and time again, the reason for innovation's spread is global trade.

Global markets boost innovation.

The food researcher who was a panellist at Singapore Design Week's event is Nathan Laurenz of Insect Feed Technologies. He had a keen observation during the panel discussion at the library. He said that for innovation to develop, policies made by society need to support it.

For Nathan, Singapore is supporting it. Singapore wants to have as many food



GLOBAL MARKETS BOOST INNOVATION

technology companies as it can. The innovation part comes into play because not only does Singapore want to reduce its own reliance on imported food, it also understands that the regular land- and waste-intensive agricultural practices done overseas simply cannot work for Singapore. So, if it wants to make more of its own food locally and hopes to export unique technologies in the food industry, alternative methods for producing protein are needed.

Insect Feed Technologies promises a solution that can answer that need. It researches how to raise insect protein, which can produce edible protein that is many times less carbon intensive and resource hungry as traditional livestock. For the tropical areas around the world where land is being burnt to support cattle and crop industries, insect farming could radically reduce the amount of damage that is being done to the environment by replacing huge cattle farms with much smaller insect farms. Commercially producing insect protein and its edible products needs development, and it needs at least a few international markets in which to sell its new systems too.

Of critical note here, the state in the USA where Nathan started his study on insects did not support commercialising insect farming. It only wanted to support traditional agricultural industries.

Global Markets Negate Protectionist Zeal

Capitalism is often seen as the cure to state-controlled

monopolisation and, by connection, developmental stagnation. That can be the case up to a point. Capitalism itself is not without oligopolies, monopolies, and industry-created blocks to innovation. These structures seem to naturally evolve in capitalism, especially in “home markets,” and when this happens, they can block innovative ideas and startups.

If one reads the news today, there are many stories about how protectionist barriers are being erected. In the worst case, protectionist barriers go up simply to keep native industries from having to innovate their processes and products. In situations like this, the global marketplace is coming to the rescue for innovation.

Global marketplaces today exist in a multi-polar world. Investment in innovative technologies moves across

borders. In this way, money can still funnel to innovative projects no matter the location if there is a market somewhere for the final product. For Nathan's insect farm dream, that means there is capital to finance products that can change the world for the better.

Great Logistics Supports Innovation!

Selling and improving products created by innovators like Nathan is important to sustain our growing populations as well as preserve our natural environment. This is where we in the logistics industry come into play. We get to try and ship these new products to the final consumers in the most efficient way.

Be it via air or ocean, moving new products to expand the market for goods is what we do. Only our expertise can

navigate products into new markets so that companies can grow from being local ones to global ones. It's an aspect of our work that can get lost in the KPIs and internal company targets, but it is in a very real sense the true legacy left by our day-to-day logistics work. Perhaps successful market penetration for innovating companies should itself be a KPI! Now there is an innovative idea!



Timothy Foote

Director Transportation and Network APAC at Asendia and Founder of Susymbio

Tim has worked in management positions at multiple MNCs for more than 25 years, gaining expansive expertise in logistical operations. Tim continues to craft delivery solutions for many e-commerce clients at Asendia. Once a regional Head of Go Green at DHL eCommerce, Tim now works for customers to decarbonize their logistics by managing Asendia's 100% carbon-neutral network.

To further promote a net zero future for the logistics industry, Tim created MOVE GREEN. This is a movement committed to greening the logistics industry during this time of transformation. Please join the companies making a pledge to become net zero by going to Susymbio.com for more details.





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A photograph showing two ground crew members from behind, wearing high-visibility yellow safety vests and dark jackets. They are standing on an airfield, looking towards the tail of a large aircraft. The aircraft's tail fin is visible, with the registration 'L-761' partially seen. A red ground support equipment (GSE) vehicle is partially visible in the background.

Air Charter Service's Greater China Offices Thriving

By Air Charter Service

The Greater China offices of leading aircraft charter specialist, Air Charter Service, have had a remarkable first nine months of the year, with both the Shanghai and Hong Kong offices having their best years ever in terms of charter numbers.

Justin Bowman, Air Charter Service's CEO, commented: "This year has seen the growth plans that we put in place last year really start to pay dividends. Our revenue across the three offices has grown, most noticeably in Hong Kong—by 18% year-on-year. Charter numbers have also grown across the region, with

our Shanghai office up by an incredible 40% so far in 2024.

"Last year we identified that we needed to better focus on targeting the second largest economy in the world and so split our other Asia-Pacific operations from the Greater China market. Our leadership team of James Royds-Jones and Wanny Wu have together helped develop those plans and have managed our team of nearly 50 people in the region in achieving them."

James Royds-Jones, Regional Director for ACS Greater China, commented: "We opened our

first Greater China operation 16 years ago, here in Hong Kong, and have grown our presence substantially in that time to now include our two thriving Mainland China offices in Beijing and Shanghai."

Wanny Wu, Deputy Regional Director and head of the Mainland China offices, added: "We have been focusing on building the strongest and most experienced team here in Shanghai, and the expansion has obviously worked well, taking the Shanghai office to new heights over this past year."



About Air Charter Service:
Air Charter Service is a global aircraft charter broker with 35 offices worldwide, spanning all six major continents, and we offer private jet, commercial airliner, and cargo aircraft charters, as well as onboard courier solutions. We arrange over 28,000 charter flights annually, with revenue of more than one billion dollars for the past four years. We were formed in 1990 by Chairman Chris Leach and CEO Justin Bowman in the basement of a house, and we now employ more than 650 staff worldwide.





Asendia Signs a Strategic Partnership with Hubbed

By Asendia



Asendia Signs a Strategic Partnership with Hubbed, introducing innovative Out-of-Home and Returns Cross-Border E-Commerce Solutions to Chinese e-commerce companies

25 September 2024: Asendia, a leading global provider of international e-commerce

and parcel delivery services, proudly announces that its Hong Kong subsidiary has been appointed as the exclusive sales agency for Hubbed in China. This strategic partnership aims to offer Chinese e-tailers, marketplaces, and 3PL providers alternative delivery options such as out-of-home (PUDO) and returns for

their customers in Australia, enhancing the customer experience and supporting the global expansion of Chinese e-commerce companies.

Empowering Chinese E-Commerce with Enhanced Cross-Border Solutions



Asendia Hong Kong is well-regarded for its expertise in international logistics and a deep understanding of the Chinese market, making it a trusted partner for top-tier Chinese e-commerce companies. Collaborating with Hubbed, a leader in PUDO and return solutions in Australia, Asendia aims to provide a more comprehensive, customer-centric service for Chinese businesses expanding into the Australian market.

"We are excited to partner with Hubbed and bring their innovative delivery solutions to Chinese e-commerce businesses," said Mclarin Joshua, CEO of Asendia Hong Kong & North Asia. "This collaboration allows us to offer a seamless and integrated delivery experience that enhances customer satisfaction and supports Chinese retailers' global expansion goals. Together, we are creating a powerful synergy that will enable us to deliver end-to-end services that are unmatched in the

industry. Asendia Hong Kong's role as an exclusive sales agent ensures that Hubbed's offerings are promoted effectively to the right stakeholders in the Chinese market, further driving the growth and adoption of these solutions."

Introducing new product offerings for seamless cross-border logistics in China

The partnership introduces two key services tailored to the needs of Chinese e-commerce businesses:

e-PAQ Select Powered in Australia by Hubbed: Merging Asendia's cross-border delivery expertise with Hubbed's "Click and Collect" solution, this service allows Australian customers to collect parcels from a nationwide network of secure Parcelpoints, offering a flexible alternative to home delivery.

e-PAQ Returns Powered in Australia by Hubbed: Integrating Asendia's global reverse logistics network with Hubbed's "Responsible Returns" solution, this service provides an eco-friendly returns process that simplifies customer returns and supports sustainability efforts.

David McLean, Founder & CEO of Hubbed, highlighted the partnership's significance: "Asendia Hong Kong's market knowledge, relationships, and extensive network make them the ideal partner to promote Hubbed's solutions in China. Together, we are well-positioned to meet the needs of Chinese businesses eager to expand into Australia."

Strategic Alignment and Future Growth

This partnership marks a key milestone in Asendia's strategy to expand its global reach and enhance its service offerings. By integrating

Hubbed's last-mile solutions, Asendia Hong Kong can offer Chinese businesses more flexible and cost-effective ways to fulfil orders for Australian customers. The collaboration aligns with Asendia Hong Kong's commitment to delivering innovative solutions that address the complexities of international e-commerce.

"Asendia Hong Kong's strength lies in adapting to client needs," added Joshua. "This partnership not only enhances our capabilities but also strengthens our market position in China. We look forward to working closely with Hubbed to drive the growth of these innovative solutions."

Looking ahead, Asendia and Hubbed will explore opportunities to integrate their services further and expand into other key e-commerce markets, with an initial focus on driving growth in China.



asendia

Asendia is one of the world's leaders in international e-commerce and mail, delivering packages, parcels, and documents to more than 200 destinations across the globe. With a rich heritage from founding companies La Poste and Swiss Post, Asendia combines extensive international and local know-how. Asendia's expertise is broad-reaching, encompassing different aspects of e-commerce, from webshop software and marketplace management to international logistics.

Asendia's vision is to empower its customers worldwide with seamless access to global markets through our innovative and sustainable cross-border eCommerce logistics solutions. Asendia employs over 1,500 people in Europe, the UK, Asia Pacific, and the USA—a global network blended with a local presence.

HUBBED
PARCELPOINTS

HUBBED is a technology company transforming the logistics and e-commerce landscape. By providing alternative last-mile delivery solutions, HUBBED connects customers with over 2,500 convenient parcel pick-up and drop-off locations across Australia. Our parcelpoints empower consumers with alternative delivery options, reducing the inconvenience of being bound by business hours to collect or drop off parcels while simultaneously supporting local businesses.



At the heart of HUBBED's mission is a commitment to sustainability. We streamline the delivery process, minimising carbon emissions by reducing multiple delivery attempts and enabling consolidated shipments. Our partnerships with major retailers, carriers, and technology providers allow us to offer a seamless, integrated service that enhances the delivery experience.

As a trusted partner to e-commerce global brands such as Amazon, eBay, Shein, Temu, Zara, and Australia's largest fashion marketplace, The Iconic, we are dedicated to innovating the last mile, providing solutions that are not only efficient but also environmentally responsible.



DSV opened new built-to-suit warehouse facility in Silang, Cavite, serving the retail, industrial and technology industries

By DSV Solutions Philippines

Philippines—DSV, a global leader in transport and logistics, is proud to announce the grand opening of its largest warehouse facility in the Philippines on October 23, 2024, in Silang, Cavite. This strategic expansion underscores DSV's commitment to enhancing its service capabilities and supporting the growing logistics needs in the

Philippines and the Asia-Pacific region.

The new facility, located in the heart of Silang, spans over 34,800 square meters and is equipped with the latest technology to ensure efficient and reliable logistics solutions. The DSV Silang warehouse is designed to optimise storage capacity and streamline supply chain processes, making it

an ideal warehousing and logistics solution for customers in the retail, industrial, and technology industries.

"We are thrilled to open our new facility in Silang, which represents a significant milestone in our growth strategy," said Paul Rugman, Managing Director of DSV Solutions Philippines.

“Being one of the fastest-growing emerging markets in the world, the Philippines economy has shown strong recovery, and DSV is poised to meet the demand of the market with the new warehouse. The new warehouse facility will light up another beacon for the strategy we have planned for the APAC region, and this is indeed a proud moment for all of us to witness,” added Guillaume Burette, Executive Vice President, DSV Solutions APAC.

The grand opening event will feature a ribbon-cutting ceremony, guided tours of the facility, and presentations from the DSV team in the Philippines. Industry partners, clients, and media representatives are invited to join the celebration and witness firsthand the capabilities of the new DSV Silang Warehouse.





Global Transport and Logistics



At DSV—Global Transport and Logistics, we keep supply chains flowing in a world of change. We provide and manage supply chain solutions for thousands of companies every day. In 2016, DSV acquired UTi Worldwide Inc. and joined forces with Panalpina Welttransport in 2019. With the acquisition of Agility's Global Integrated Logistics business (GIL) in 2021, we became the global top three players in the transport and logistics industry. More than 75,000 employees in over 80 countries work passionately to deliver great customer experiences and high-quality services. We aspire to lead the way towards a more sustainable future for our industry and are committed to trading on nature's terms. DSV is a dynamic organisation that fosters inclusivity and diversity. We conduct our business with integrity, respecting different cultures and the dignity and rights of individuals.



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