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COVERSTORY

WAREHOUSING S PROGRESSING BUT SCOPE ABUNDANT FOR INTEGRATION

For the customer, the path to purchase is as quick as point and click. But when it comes to the supply chain, it's not that simple. Made up of people, components, processes and parts, the supply chain — and supply chain operations — is highly interwoven and immensely intricate. As part of the overall supply chain, warehousing and distribution plays a pivotal role to ensure that goods reach the end consumer at the right time in the right condition. Whether it's the personnel who are charged with ensuring inventory accuracy, or a management professional who oversees the distribution process, warehouse operation is, in many ways, a supply chain in and of itself. Today, the warehousing and distribution sector is advancing across fast-growing economies like India, however there are certain challenges that must be resolved to ensure further efficiency. Stakeholders are, therefore, building more capabilities to gain better control and enhance service value proposition, which will go a long way to make sure that any negative impact is mitigated promptly without sustaining any losses.

UPAMANYU BORAH

A crucial link in Modern Supply Chains

With the booming e-commerce industry and technological innovation, the warehousing and distribution business is expanding. Across developed economies, this important segment often remains under evolution due to the constant rise and renewal of infrastructure, thus giving way to efficiencies. However, in particular to India, the sector has evolved from a typical transportation and storage-focussed activity, only a decade back or so, to a specialised role that, today, includes end-to-end product planning and management, value-added services for last-mile delivery, and predictive analytics — by leveraging available resources and capitalising on the business apart from putting in place globally recognised warehousing norms and practices.

In the efforts that each company puts forth to improve overall efficiency and effectiveness, it serves well to make mention of the practical benefits that come with effective warehouse management. Businesses can boost their competitive advantage by improving inventory accuracy, curtailing labour expenses, increasing flexibility, and enhancing customer service as well as responsiveness. Through efficient operations, overall increases in efficiency, such as reductions in time wasted due to pickers crisscrossing the warehouse floor, improved inventory accuracy, decrease in hidden costs – can thus be expected. Additionally, with effective warehouse management models in place, supply chain

managers have the ongoing visibility they need to coordinate operations and logistics involved in getting products to retail stores or to customers' doors. All this makes for perfect complements to the concept of integrated warehousing and distribution operations.

Any manufacturing business knows how crucial inventory management is, for a healthy bottom-line. However, it is easier said than done, even with highly seasoned staff actively engaged in warehousing and fulfilment activity. For manufacturing businesses, it has become more than important to coordinate and plan warehouse operations and integrate the supply

chain and related processes with their warehouse or hub of warehouses. COVID disrupted the global supply chain in ways no one could predict. As the industry began to stabilise, manufacturers started re-valuating their processes, and trying their best to cut down various expenditures, including outbound delivery costs, shipping costs, transportation costs, etc. Apparently, there is an ever-prospering wish list for organisations in the new normal landscape considering warehousing services, to have a broader spectrum of predictability and maintain better control over the goods and items.

"Warehouses and logistics centres have undergone significant evolution in recent years. They are no longer merely perceived as storage sheds or godowns; they have transformed into multifunctional facilities that play a vital role in modern supply chains," **Sandeep Chanda, Managing Director – India, Panattoni** observes. "Warehouses often serve as distribution centres, responsible for order fulfilment and shipping. This makes it easy to coordinate the movement of goods from facilities to their final destinations, be it retail stores, wholesalers, or directly to customers through e-commerce channels. Therefore, value-added services like kitting, bundling, and customisation of products help meet specific customer requirements. Some warehouses also offer assembly services, where components are assembled into finished products before being shipped."

According to Chanda, while logistics and warehousing companies are working towards effective ways to address the bottlenecks, inadequate planning, and limited accessibility can lead to inefficient inventory management and delays in order fulfilment. "For example, insufficient parking space for trucks can hamper transportation efficiency and a shortage of docks may affect loading and unloading of shipments, leading to hurdles in the supply chain. Addressing these issues is crucial to enhance productivity, reduce costs, and ensure seamless movement of goods."

India Inc incentivising programmes

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India has made significant investments in modernising its infrastructure, including railways, roads, and ports. These infrastructural enhancements are crucial for the efficient circula-

tion of products and stand to benefit the warehouse industry as a whole.

In India, it is estimated that the warehousing stock would double by 2030 to cross 700 million sq ft as occupiers continue to expand across segments such as e-commerce, 3PL, and engineering & manufacturing. As a result, more than US\$20 billion in investment would be required to develop additional spaces by 2030 across the length and breadth of the country.

Amid a buoyant outlook, significantly due to India's rising importance in the global value chain, top-ranking global real-estate consultant CBRE's '2023 India Market Outlook' report

forecasts that warehousing and logistics supplies would exceed 2022 levels and touch 24-26 million sq ft in 2023.

The share of project completions by prominent global/ domestic developers is expected to increase to 40 per cent in 2023-24 from 37 per cent during 2021-22, the report said. The demand is expected to be predominantly driven by 3PL and engineering & manufacturing occupiers. The report points to anticipated heightened interest from FMCG, retail and electronics & electrical firms. Moreover, the share of large-sized deals ranging from 32-35 per cent is expected in 2023.

"In India, the warehousing sector has seen a surge and substantial development over the last few decades. It has evolved from unorganised godown structures to now being recognised as a prominent asset class. The market has displayed remarkable resilience in recent years, buoyed by industrialisation, 3PL



The need to cater to a high volume of orders has led to an increase in the number of docks and a rise in warehouse heights. Taller warehouses, with heights increasing from 9 mt to 12 mt, allow for better space utilisation and increased storage capacity. As such, e-commerce's emphasis on logistics efficiency and customer satisfaction has set industry benchmarks for other retailers. Companies across various sectors are adopting similar warehouse specifications, layout designs, and location strategies to stay competitive.

SANDEEP CHANDA, MANAGING DIRECTOR – INDIA, PANATTONI



activities, manufacturing, and retail expansions. And to meet the growing demand, industrial developers are rapidly diversifying their portfolios. Grade A warehouses have emerged as ideal solutions, catering to the increasing needs of e-commerce and 3PL players," says **Rajesh Jaggi, Vice Chairman – Real-Estate, Everstone Group**.

The CBRE report clearly outlines how the government's holistic approach to transform the logistics sector and bring it at par with global standards through a comprehensive logistics plan, supply side interventions (such as a unified policy framework, interconnected infrastructure, digital transformation and a skilled ecosystem) and a detailed policy on warehousing standards are aimed at capacity building across the sector and driving investments. This would ultimately enable India to figure among the top 25 countries on the Logistics Performance Index by 2030.

Growth levellers are even, and momentum is only likely to ramp up in magnitude. While the global real-estate industry

has seen a slump and sales plummet and warehousing leasing is likely to slow down to 32-35 million sq ft in 2023 due to global headwinds, as CBRE depicts, the Indian industrial real-estate sector serves as a fitting example of tiding over tumultuous times and show signs of growth consistency in the years to come.

"India has emerged as a stable trade and business economy, thanks to positive government policies. As the centre enhances its focus on infrastructure development and bolstering Indian exports through various schemes, the new normal for warehousing services has changed significantly, in fact it's evolving more than ever. The initiatives, starting with Make in India, followed by introduction of GST, infrastructure status to the logistics sector, and most recently, enactment of policies like PM GatiShakti – National Master Plan, National Logistic Policy, along with the thrust on infrastructure and highways build-up through dedicated freight corridors, signifies the emerging importance of the logistics and supply chain sector for the Indian economy," explains **Hemant**



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To meet the rising demand, IndoSpace is strategically utilising potential land reserves in India, especially around major consumption hubs. Recently, we announced the launch of two logistics parks in NCR, Haryana, near Palwal and Taoru. With our recent fundraising efforts, we aim to expand our portfolio by approximately 25 - 30 million sq ft within the next three to four years. These strategic initiatives highlight our commitment to operational excellence and delivering exceptional customer experiences.

RAJESH JAGGI, VICE CHAIRMAN – REAL-ESTATE, EVERSTONE GROUP



Prabhu Keluskar, COO, Greenbase Industrial & Logistics Park (part of Hiranandani Group).

In India, Prabhu attests, warehouses have definitely become a profit segment of the rapidly growing logistics industry. From just being a 'storage space' to being an integral part of the logistics chain, it has been a journey of change for Indian warehousing. Till a few years ago, warehousing in India had not kept pace with international trends, neither in terms of quality nor quantity. The scenario has entirely changed, organised players are not just ramping up their capacities, but also bringing in technology and automation. also grown YoY at 9 per cent in 2022 (vs 7 per cent Grade B)."

While the growth of the sector is noteworthy, there are some critical concerns that need to be addressed in order to derive maximum productivity. According to industry stakeholders, a primary problem that continues to be a challenge is identifying bankable land assets in strategic locations for warehouses. We all know that when it comes to the primary requirements of the real-estate business, land and location play an integral role.

Pooja couldn't agree more. "The reality is that there is a wide gap between the cost of doing business and development – and rental growth. This is compounded by the unavailability of adequate land



India has made significant investments in modernising its infrastructure, including railways, roads, and ports. These infrastructural enhancements are crucial for the efficient circulation of products and stand to benefit the warehouse industry as a whole. In India, it is estimated that the warehousing stock would double by 2030 to cross 700 million sq ft as occupiers continue to expand across segments. As a result, more than US\$20 billion in investment would be required to develop additional spaces by 2030.

for setting up warehouses within or near urban centres, and unnatural growth in land prices due to multiple Indian and multinational developers entering this asset class," she informed adding that even after identifying suitable land parcels for industrial and warehousing purposes, it takes several months to acquire or start building on that land, leading to potential revenue loss. "In the absence of a single nodal agency for land-related approvals, there are significant delays in the conversion of land for setting up of warehouses owing to multiple approvals, and liaison needed with multiple departments/authorities for the purpose of acquisition."

"Currently, the warehousing sector is driving value-added collaborations with the manufacturing sector apart from accelerating digital adoption and embracing greener practices that match international standards. Manufacturing warehouses no longer just provide confinement of goods but also serve various services such as packaging, sorting, blending, and processing. The warehousing needs of each manufacturer are unique, and different warehouses serve different purposes along the supply chain. Manufacturers of made to stock, made to order, and made to assemble goods all need warehouses at points along their supply chain," he adds.

Pooja Malik, Head of Leasing at **Horizon Industrial Parks** agrees that the growth of the industrial real-estate sector in India is at an all-time high. She quotes a latest report by JLL which indicates supply and demand in top eight cities growing in tandem at a CAGR of 20 per cent and 19 per cent respectively, between 2016 and 2022.

"At approximately 49 million sq ft, Grade A comprised 68 per cent of the net absorption in these eight locations, the report notes, adding that there is a clear preference for Grade A, as not only demand, the rentals for superior quality warehouses have

Tailor-made solutions for specific needs

A number of factors have played the catalytic role in this metamorphosis of India's warehousing sector. Growth in core demand sectors such as FMCG, FMCD, pharma, and automotive has been the key driver — further elevated by the rise of e-commerce and omnichannel retail. The pandemic particularly led to greater utilisation of purchasing channels, making shopping easier and typically one-stop in nature. This made supply chain management much more critical to satisfy buyers' expectations. About 80 per cent of the demand for warehousing is now generated by the e-commerce and 3PL segments and together they continue to garner the lion's share of Grade A warehousing properties, in the move to bring more efficiencies into supply chain operations, accounting for over half of all Grade A transactions. In the long-run, as rents rise and the demand for best properties

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To grow its portfolio of offerings, Greenbase is attaching great importance to the design, the layout, and infrastructure around the buildings as these elements will become increasingly important in the times to come. Its state-of-the-art parks at Oragadam, Chennai and Talegaon in Pune exemplify warehouses of the future. Both locations are dominated by industrial and manufacturing segment companies, and the developer claims to have delivered the units to its clients' complete satisfaction.

HEMANT PRABHU KELUSKAR, COO, GREENBASE INDUSTRIAL & LOGISTICS PARK (PART OF HIRANANDANI GROUP)



increases, it will lead to each and every occupier viewing Grade A warehousing properties as an investment avenue to bring efficiencies and save on costs. The ability of a developer to offer well-built infrastructure with limited risks will give such assets an attractive investment makeover and proposition.

"Grade A warehouses have emerged as ideal solutions, catering to the increasing needs of e-commerce and 3PL players, as they facilitate the adoption of modern automation tools, ranging from warehouse management systems to advanced storage and retrieval technologies and robotics-powered order fulfilment," informs Jaggi.

Rightly tagged as India's largest logistics and industrial realestate vehicle, IndoSpace has been at the forefront of anticipating the significance and demand for Grade A warehousing facilities driven by diverse sectoral demands. "Our objective is to bring

about an industry transformation by offering innovative and top-notch solutions and maintaining the highest standards of operational management," Jaggi boasts.

IndoSpace has created wellequipped spaces perfectly aligned with clients' needs and industry characteristics. As the developer continues to diversify and expand, IndoSpace today offers smart warehouses, built-to-suit (BTS) and temperature-controlled facilities, enabling swift last-mile deliveries across multiple locations. To meet the rising demand, IndoSpace is strategically utilising potential land reserves in India, especially around major consumption hubs. Recently, it announced the launch of two logistics

parks in NCR, Haryana, near Palwal and Taoru.

"With our recent fundraising efforts, we aim to expand our portfolio by approximately 25 – 30 million sq ft within the next three to four years. These strategic initiatives highlight our commitment to operational excellence and delivering exceptional customer experiences," Jaggi maintains.

"E-commerce has revolutionised the retail industry, forcing retailers to rethink their logistics and distribution network strategies. And as e-commerce set new standards for fast and reliable deliveries, other industries started adopting similar logistics approaches. The focus on quick fulfilment and lastmile delivery has now become a common expectation across sectors, further propelling the need for optimised distribution networks. Additionally, with the pandemic accelerating the shift in consumer behaviour has put even more pressure on retailers to streamline their logistics operations to meet the increased demand for online orders," Chanda puts across. "Towards the same to ensure quicker deliveries, retailers are now establishing larger warehouses and strategically locating them closer to highways, reducing transportation time and costs. In-city warehouses for last-mile delivery have gained prominence, especially for online grocery deliveries, enabling faster access to residential areas. E-commerce's influence not being limited to major cities has also spurred demand for warehousing and distribution facilities in tier II locations. This decentralisation helps in reaching customers in smaller cities more efficiently."

Further, Chanda mentions, "The need to cater to a high volume of orders has led to an increase in the number of docks and a rise in warehouse heights. Taller warehouses, with heights increasing from 9 mt to 12 mt, allow for better space utilisation and increased storage capacity."

About 80 per cent of the demand for warehousing is now generated by the e-commerce and 3PL segments and together they continue to garner the lion's share of Grade A warehousing properties. In the long-run, as rents rise and the demand for best properties increases, it will lead to each and every occupier viewing Grade A warehousing properties as an investment avenue to bring efficiencies and save on costs. The ability of a developer to offer well-built infrastructure with limited risks will give such assets an attractive investment makeover and proposition. "As such, e-commerce's emphasis on logistics efficiency and customer satisfaction has set industry benchmarks for other retailers. Companies across various sectors are adopting similar warehouse specifications, layout designs, and location strategies to stay competitive."

Panattoni India is designing parks that meet international standards to provide the necessary facilities and amenities that promote automation and hence, streamlined operations within the warehouses. The developer looks to strategically locate parks with good connectivity to multiple highways, offering a competitive advantage by facilitating easy access to transportation routes, reducing transportation

time, and enhancing distribution capabilities. Europe's largest developer of industrial and logistics properties, Panattoni made its debut in Asia with its first operations in India in July 2022.

"As warehouse developers, we pride ourselves on providing comprehensive solutions that cater to the unique requirements of retailers and businesses seeking warehousing facilities. We work closely with each client to understand their specific needs and preferences. Whether it's specialised storage requirements, unique layout preferences, or specific environmental conditions, our team is dedicated to tailoring the warehouse to suit their exact needs, allowing us to create a customised warehouse infrastructure that aligns perfectly with their operations," Chanda opens up.

He further adds, "To accommodate customer's growing needs, we offer future expansion options within our warehouse parks. This ensures a long-term partnership and the ability to scale up operations seamlessly as demand increases, providing

WAREHOUSING IS PROGRESSING

Horizon follows market trends and works closely with customers to understand their business/product roadmaps and supply chains, to expand proactively in markets where customers aspire to grow. Backed by Blackstone's global expertise and experience in delivering world class industrial and logistics real-estate solutions, we are confident of meeting our customer expectations in the future as well. The facilities that we are developing are large, BTS boxes with fully plug-and-play solutions. They are unique because it would be the first time these brands are investing in tailor-made units of this scale in India for their businesses.

POOJA MALIK, HEAD OF LEASING, HORIZON INDUSTRIAL PARKS



retailers with the necessary flexibility and room for growth."

Taking cue from Chanda's initial part of the statement, Pooja reveals, "Increasing business complexity, scale, and customer expectations are driving the shift to Grade A warehouses. Many new-age companies and global players who have set shop in India are also demanding warehouses which are at par with global benchmarks."

She continues, "Analysis of supply chain efficiencies over a period, clearly shows the benefits of investing in or running operations in Grade A industrial and logistics facilities, which provide more clear height (12 mt or above), greater floor strength (5 mt or above), comply with safety, health and environment regulations and supporting the implementation of technology, automation, and mechanisation," she highlights. "Further, Grade A warehouses allow greater optimisation of space, prevent wear and tear of MHEs, support higher throughput through well-designed docks, and offer a cleaner, cooler, safer, and hygienic environment for staff, resulting in higher manpower productivity."

Horizon, Pooja says, follows market trends and works closely with customers to understand their business/product roadmaps and supply chains, to expand proactively in markets where our customers aspire to grow. In line with this approach, she and her team have taken a strategic decision to construct speculative buildings with best-in-class Grade A specifications to cater to customer demand, on time, every time.

"Backed by Blackstone's global expertise and experience in delivering world class industrial and logistics real-estate solutions,

Warehousing REITs to gain eminence

Warehousing is poised to come to full terms in record speed. It is today where commercial real-estate was 10-15 years ago, but will reach maturity at a greater speed. With the warehousing sector in India expected to see a significant growth in the coming years, real-estate investment trusts (REITs) are poised to play a significant role in this growth. At present, warehouse developers in India are already looking at consolidating their holdings and not selling strata boxes. In the future, this will lead to large institutional holding of warehousing assets with the possibility of a future warehousing REIT on the horizon. Investors have today realised that warehousing is a stable asset as compared to commercial real-estate. Unlike the commercial office space, in the warehousing sector, the lock-in period is much longer and their exposure towards their investment is also much higher.

The expectation, thus, is for REITs in warehousing to provide investors with a steady stream of rental income, making them an attractive investment option. Furthermore, warehousing REITs hold the potential to offer significant benefits to the overall realestate sector in India by providing access to institutional capital, improving transparency,



and promoting best practices in property management.

"REITs are a good investment option along with potential capital appreciation. Contrary to many other asset classes, REITs tend to perform well during inflationary times as real-estate rentals and prices tend to go up. Fortunately, for Indian REITs, the inflationary times are coinciding with increasing activity levels in demand for the industrial and warehousing segment." feels Prabhu.

"Warehousing REIT seems to be an ultimate goal for all the organised developers operating in the country. Factors like strong domestic demand, improved efficiency, infrastructure development, better regulations, and more market players bode well for REITs to become a relevant instrument for investors."

"Also, in order to achieve higher growth rate of Grade A warehouses, the developers/ fund houses need to have quicker access to the availability of lands and faster execution of regulatory compliances. Unlocking of land parcels at strategic locations will definitely hold importance to the speed of launching Grade A warehousing REITS," Prabhu believes.

Specifically adding to the prospect of warehousing REITs in India, **Abhijit Verma**, **Founder and MD** of **Avinya Industrial & Logistics Park** said, "India is currently undergoing multiple levels of evolution, particularly from a warehousing infrastructure standpoint. The country is witnessing the rise of massive warehousing and logistics parks to facilitate large-scale movement of shipments to the mushrooming of smaller dark stores within cities. We at Avinya are aligned with the larger objectives of the country, and committed to empowering small and medium landowners to emerge as Grade A warehouse developers which will cater to the evolving demand of the industry."

"So, once the industry has achieved a certain scale with Grade A properties is when a REIT will be feasible. Having said that, the industry should be focussed on maintaining unit economics which will make the asset attractive for institutional investors, post which it would make sense for retail investors by way of a REIT."

India is currently undergoing multiple levels of evolution, particularly from a warehousing infrastructure standpoint. The country is witnessing the rise of massive warehousing and logistics parks to facilitate large-scale movement of shipments to the mushrooming of smaller dark stores within cities. So, once the industry has achieved a certain scale with Grade A properties is when a REIT will be feasible. Having said that, the industry should be focussed on maintaining unit economics which will make the asset attractive for institutional investors, post which it would make sense for retail investors by way of a REIT.

ABHIJIT VERMA, FOUNDER AND MD, AVINYA INDUSTRIAL & LOGISTICS PARK



we are confident of meeting our customer expectations in the future as well. As the fastest-growing institutional developer in this category, we are working on a variety of projects currently with sectors ranging from auto components to packaging, specialty (construction) chemicals, 3PL, and ecommerce. The facilities that we are developing for these companies are large, BTS boxes with fully plug-and-play solutions. They are unique because it would be the first time these brands are investing in tailor-made units of this scale in India for their businesses. And almost all of them would be utilising renewable energy for a part of their operations."

Greenbase Industrial and Warehousing Parks has a natural competitive edge due to the rich legacy of its parent company – Hiranandani Group and its expertise in land acquisition, approval liaison, construction and precision engineering, timely delivery, high credit and customer ratings, with pioneering capabilities in the development of mixed-use township.

Prabhu elucidates, "Our real-estate township is testimony to the exemplary civic and social infrastructure, integrated utility, and facility services along with the product innovation. Hiranandani Group's core competencies in the BTS model ensures quality, safety, structural stability, certification, and sustainability quotient."

To grow its portfolio of offerings, Greenbase is attaching



great importance to the design, the layout, and infrastructure around the buildings as these elements will become increasingly important in the times to come. Its state-of-the-art parks at Oragadam, Chennai and Talegaon in Pune exemplify warehouses of the future. Both locations are dominated by industrial and manufacturing segment companies, and the developer claims to have delivered the units to its clients' complete satisfaction. Greenbase is embedding additional features to its big-sized boxes which will enhance operational efficiency of the assets. The developer further attests that the value-added features in its logistics parks are something which no other developer has been able to deliver. "We always strive hard to stay ahead amongst our peers but at the same time encourage everyone's good work in order to promote the industry," says Prabhu.

3PLs synonymous to richer distribution logistics

In general, a warehouse serves as a place where companies organise their goods and creates a systematic supply chain, be it dispatching large-scale raw material or facilitating small-scale doorstep deliveries. At the warehouse, each dispatch must be in perfect shape so that the delivery is executed correctly. No matter how lean a company makes its supply chain, warehousing always remains an integral part of the bigger scenario. In fact, warehousing is such an important link in the overall supply chain, that without proper planning for warehousing capacities, companies could fail and incur heavy costs in terms of not being able to arrange raw material for production or inability to serve the end consumer market due to increased distance to market.

By outsourcing warehousing to third-party logistics (3PL) partners, manufacturing or retail companies gain better control of their inventory through improved visibility and traceability. They get to know precisely which inventory units are about to face shortage due to high demand or external pressures and which segments have a closer expiry date. These indications help organisations tweak their capabilities accordingly and make sure any negative impact is mitigated promptly without sustaining any losses. Such decisions go a long way towards managing a sustainable business. Any influence on warehousing decisions affects both the inbound and outbound supply chain, starting right from production, to distribution and transportation.

The traditional business model of in-house handling of most or all operations isn't always the most constructive. Focussing on all the activities simultaneously risks perfection and may Given the growing complexities in the overall supply chain ecosystem, more and more retail companies and brands are opting for 3PLs to leverage specialised service competencies. As such, the deliverables are steadily growing for 3PLs because of the heightened competition. Besides inventory management and distribution, retail brands demand value-added services like labelling, packaging, and importantly, guality assurance from their 3PL partners. Importantly, the growth of e-commerce is driving data analytics adoption. Going forward, data analytics will make distribution logistics smarter, agile and resilient.

SUSHIL RATHI, DIRECTOR, ALLCARGO SUPPLY CHAIN

compromise the quality of an organisation's core activities. This

can be particularly inapt for small e-commerce businesses that

don't have enough resources to carry out all the tasks on their

own efficiently, and even for larger enterprises that might profit

from outsourcing logistics activities. 3PL, in particular, enables

them to partner with professionals on such services, allowing

them to focus on growth, marketing, and customer satisfaction.

beyond simple storage facilities and have become essential in

managing diverse product supply chains and accommodating

increasing inventory demands," says Lakshmanan S, Chief

Operating Officer - Ecom Fulfilment Services, Ecom Express.

especially in sales logistics for e-commerce, requires a thoughtful approach. Companies have to adopt effective strategies to overcome these

obstacles and optimise the distribution

tioned statement, Stellar Value Chain Solutions' Chief Growth Officer

Amitabh Singh elaborates on a few

advanced technologies to gather

real-time data from various stages

of the supply chain. Implementing robust demand forecasting models that

take into account historical sales data, market trends, and customer insights.

Taking cue from the above men-

"Utilising data analytics and

of goods."

effective strategies.

"Addressing major supply chain management challenges,

"In the current business landscape, warehouses have evolved

COVER STORY WAREHOUSING IS PROGRESSING

of community warehousing, customers bring their products to a shared facility. This model holds significant importance as a revenue-generating product. Ecom Express, having recognised the limitations of fixed commitments without assured demand, opted for a demand-assured model from the beginning, which has proven successful overtime."

Complementing the statements made by the two experts, Mahesh Fogla, Executive Director at Patel Integrated Logistics notes, "Today's warehouses and logistics centres serve as dynamic hubs capable of accommodating diverse product supply chains and managing the ever-growing inventory capacity.

"E-commerce is actively revolutionising retailers' approach to their logistics and distribution network strategies. And

With the warehousing sector in India expected to see a significant growth in the coming years, real-estate investment trusts (REITs) are poised to play a significant role in this growth. At present, warehouse developers in India are already looking at consolidating their holdings and not selling strata boxes. In the future, this will lead to large institutional holding of warehousing assets with the possibility of a future warehousing REIT on the horizon.

Adopting modern WMS technology to streamline warehouse operations, automate inventory management, and optimise space utilisation. Collaborating closely with suppliers to implement VMI that can help to improve inventory turnover, reduce stock outs, and streamline the replenishment process. Implementing cross-docking strategies wherever applicable to minimize the storage time goods spend in the warehouse."

Above all, Singh says, continuous monitoring and adaptation to market trends and technological advancements will be vital to stay competitive and successful in the evolving business landscape.

"The warehousing business operates with margins typically ranging from 10 to 15 per cent, maintaining a steady state, underscoring the significance of demand-assured models in such scenarios," adds Lakshmanan. "Apart from incorporating effective strategies, companies have got to choose their e-commerce warehousing models wisely."

There are various warehousing concepts, says Lakshmanan, such as community warehouses and dedicated single-party, two-party, or three-player warehousing models. "In the case transformative shifts in distribution are further being actively propelled by key factors such as last-mile delivery, data analytics, and micro-fulfilment centres."

management narrative with the scaling up of just-in-time (JIT) delivery. Retailers leveraging popular e-commerce platforms are now focussing on building better linkages with their suppliers, developing smart inventory management mechanisms, boosting predictability in operations and quick response mechanisms to tackle sudden demand spikes, and achieving operational efficiency through process automation," explains Sushil Rathi, Director, Allcargo Supply Chain.

"Given the growing complexities in the overall supply chain ecosystem, more and more retail companies and brands are opting for 3PLs to leverage specialised service competencies, so that they can continue to focus on their core areas of operations." As such, Rathi believes, the deliverables are steadily growing for 3PLs because of the heightened competition. "Besides inventory

'E-commerce has in a way transformed the retail supply chain





Companies have got to choose their e-commerce warehousing models wisely. There are various warehousing concepts, such as community warehouses and dedicated single-party, two-party, or three-player warehousing models. In the case of community warehousing, customers bring their products to a shared facility. This model holds significant importance as a revenue-generating product. Ecom Express, having recognised the limitations of fixed commitments without assured demand, opted for a demand-assured model from the beginning, which has proven successful overtime.

LAKSHMANAN S, CHIEF OPERATING OFFICER – ECOM FULFILMENT SERVICES, ECOM EXPRESS



management and distribution, retail brands demand value-added services like labelling, packaging, and importantly, quality assurance from their 3PL partners."

Importantly, the growth of e-commerce is driving data analytics adoption for optimising operations and route planning, forecasting demand, and enhancing inventory management. Going forward, Rathi is sure about data analytics making distribution logistics smarter, agile and resilient.

"The impact of e-commerce on distribution logistics is projected to continue its assertive growth trajectory. Therefore, the integration of technology will be key to effectively meeting the demands of the modern consumer and remaining highly competitive in

the ever-evolving retail landscape," agrees Malay Shankar, MD and CEO, Proconnect Supply Chain Solutions.

"In response to the rapid growth of e-commerce, one prominent trend is the proactive emphasis on last-mile delivery solutions. Retailers are assertively investing in logistics technologies and leveraging supply chain partnerships to improve the efficiency and speed of deliveries," adds Shankar.

"Definitely, companies have got to prioritise adopting a technologyfocussed approach. Only by utilising advanced IT solutions, companies can ensure seamless coordination of inventory, transportation, and order fulfilment," conveys Shankar.

"We at ProConnect take immense pride in providing cutting-edge technological solutions that empower our clients to optimise their supply chains and meet the ever-changing demands of the market," he went on to add.

"A comprehensive approach is necessary," agrees **Pankaj Dubey, Country Head for Contract Logistics** at **Kuehne + Nagel India**. "At Kuehne + Nagel, we provide support for the full orchestration of all warehousing solutions along with end-to-end supply chain solutions and distribution services for a wide range of industries. By implementing supply chain optimisation and logistics strategies, we make the supply chain competitive and sustainable through predictive analytics, automation and smart localisation."

"The rise of e-commerce is not a new phenomenon, but the pandemic has undoubtedly accelerated it," Dubey continues.

"Nowadays, customers not only expect quick deliveries but also quick and simple returns. This has prompted both retailers and logistics players to reconsider their strategy. Logistics service providers are required to be more tech-savvy in order to meet the delivery needs of online retailers at competitive prices. Investment in advanced technologies such as WMS, TMS, RPA, and last-mile delivery solutions has become critical in order to optimise inventory, improve order accuracy, and expedite deliveries."

"As we move forward, emerging technologies like IoT, AI, ML, Blockchain, and advanced robotics will play an important role in supply chains. This data-driven intelligence will augment future supply chain leaders to make decisions and constantly evolve their logistics strategies," Dubey anticipates.

"The integration of automated goods-to-person technology



has significantly improved customer satisfaction by offering later order cut-off times, faster order fulfilment, real-time updates, and accurate product deliveries. As online shopping advances, the volume of shipments will further increase, putting pressure on logistics providers to deliver orders faster and more efficiently. To cope with this demand, we expect to see further advancements in automation and robotics, enabling even faster order processing and fulfilment," remarks Lakshmanan.

"Globalisation of e-commerce has resulted in more cross-border transactions, requiring retailers to establish international distribution centres, and navigate complex international logistics and customs procedures. Additionally, as orders become more unique and complex, e-commerce businesses may offer personalised products or customisations, which

can affect inventory management and distribution processes," interprets Singh.

"These trends are likely to lead to several key impacts on distribution logistics such as increased demand for warehousing as cross-border e-commerce continues to grow," he suggests. "Retailers will need larger, more efficient, and technologicallyadvanced warehouses to manage the high order volumes and cater to the market using a variety of delivery options. Subsequently, with multichannel fulfilment and faster delivery expectations, retailers will need robust tracking and visibility tools to monitor inventory and shipments in real-time throughout the supply chain. Hence, they will continue to invest in automation and AI-driven solutions to optimise warehouse operations and streamline the order fulfilment process," Singh emphasises.