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SUPPLY CHAIN SYMPHONY

TMS and WMS leading the orchestra

CONTENT

The logistics industry and the various service providers it encompasses are facing challenges such as supply chain disruption, changing consumer behaviour and workforce issues in the post-Covid era. To remain competitive, the industry is embracing three megatrends: digitalisation of business processes, transparency in the supply chain and the crucial role of data analytics.

Transport Management (TMS) and Warehouse Management Systems (WMS) are pivotal in addressing these trends. The TMS and WMS markets are witnessing rapid growth driven by accessibility, technological progress and cost-reduction benefits. Projections indicate robust growth, with the TMS market expected to reach USD31.2 billion and the WMS market projected to grow to USD13.3 billion by 2030. In Europe, TMS and WMS adoption is soaring, driven by cloud solutions, especially in Eastern Europe. France stands out for extensive WMS use, especially in large warehouses. While TMS is widespread among carriers with a penetration rate above 60%, adoption by shippers stands at circa 25%, indicating significant growth potential. TMS and WMS play a vital role in enhancing efficiency, reducing costs, improving shipping accuracy and increasing client satisfaction.

The competitive landscape in the French and European TMS and WMS markets is dynamic, made up of both global giants and emerging local players. The industry is witnessing the rise of specialised digital solutions provided by TMS/WMS editors and niche players, enhancing their software offerings.

M&A trends in the TMS/WMS market reflect distinct investor motivation types. Financial investors are attracted by recurring revenue and generous EBITDA margins, while strategic investors are focused on international expansion, moves to complete offerings, and market share consolidation. These M&A strategies are shaping the competitive landscape and creating value for investors and the broader logistics and supply chain ecosystem.

DIGITALISATION OF LOGISTICS, DELIVERING HIGHER EFFICIENCY AND PROFITABILITY

SECTION 1

QUICK OVERVIEW OF THE **LOGISTICS SECTOR**

For Stifel* IRIS, logistics refers to the process of planning, implementing and controlling the efficient flow and storage of goods, services, and information from the point of origin to the point of consumption. It involves various activities such as procurement, transportation, warehousing, inventory management, packaging, and distribution. Logistics ensure that the right products are delivered to the right place, at the right time, and in the right condition, while minimising costs and optimising overall supply chain performance.

Logistic services providers encompass a wide range of players involved in various aspects of the logistics industry:

- **Freight forwarders (DHL global forwarding, C.H.Robinson, Sinotrans, Kuhne + Nagel, etc.):** intermediaries that arrange the transportation of goods on behalf of shippers. They coordinate shipments, handle documentation and negotiate rates with carriers. Freight forwarders often provide multimodal transport solutions, including air, sea, road, and rail.

- **Warehouse operators (DHL fulfilment, Amazon, UPS Supply Chain Solutions, FedEx Supply Chain, etc.):** Warehouse operators own or manage storage facilities where goods are stored before distribution. They handle inventory management, order fulfilment, and often provide additional services like kitting, labelling, and packaging.

- **Carriers (DPD, D.B.Schenker, LCM Group, UPS, TNT Express, C.H.Robinson, etc.):** Carriers are companies that physically transport goods from one location to another.

- **Third-party logistics (3PL, XPO, Geodis Group, Bolloré Logistics, Expeditors, Kerry Logistics, etc.)** Providers: 3PL providers offer comprehensive logistics services, including transportation, warehousing, distribution, and often value-added services. They act as outsourced partners for businesses, managing various aspects of the supply chain on their behalf. 3PL providers can specialise in specific industries or offer general logistics solutions.

- **Third-party logistics providers (3PL, XPO, Geodis Group, Bolloré Logistics, Expeditors, Kerry Logistics, etc.)** 4PL providers act as consultants or coordinators, overseeing the entire supply chain and managing multiple 3PL providers. 4PL providers focus on optimising logistics processes, leveraging technology, and providing end-to-end visibility and control over the supply chain.

- **Courier and express delivery services (LaPoste, Otto Group, Geodis Group, FedEx Group, etc.):** Courier and express delivery companies specialise in time-sensitive, small parcel deliveries. They provide fast and reliable door-to-door delivery services for urgent shipments, typically using dedicated networks and vehicles.

- **Customs brokers (CEVA Logistics, ILG Logistics, TOC Logistics International, Noatum Logistics, etc.):** Customs brokers assist in facilitating the smooth flow of international trade by managing customs clearance processes. They handle documentation, tariff classification and compliance with customs regulations, ensuring that goods comply with import and export requirements.

- **Last-mile delivery providers (Start, Coursier.fr, Glovo,Trusk, Paack, etc.):** Last-mile delivery providers focus on the final leg of the delivery process. They specialise in efficient and timely delivery, often utilising technology and crowd-sourced or independent delivery drivers.

Logistics encompass the efficient flow and storage of goods, services, and information. Various logistics service providers, including freight forwarders, warehouse operators, carriers, 3PL and 4PL providers, play essential roles in managing different aspects of the supply chain.

However, in the post-Covid era, logistics service providers face new challenges due to changing market dynamics, disrupted supply chains, increased customer expectations, and the need for enhanced health and safety measures. These challenges require adaptation, innovation and the integration of technology to ensure resilience and agility in the face of evolving logistics requirements.

FIG 1: THE LOGISTICS SECTOR INCLUDES A WIDE RANGE OF PLAYERS AND CONNECTS VARIOUS SECTORS TO END CLIENTS

Source: BG IRIS

NEW CHALLENGES FACED BY PROVIDERS IN THE POST-COVID ERA

Logistics service providers are facing several challenges in the post-Covid era as the pandemic disrupted global supply chains and prompted significant changes in consumer behaviour. Here are some of the key challenges they are facing:

- **Supply chain disruption:** Covid-19 and the Ukraine crisis have caused disruption in global supply chains, with restrictions on movement, manufacturing facility closures and reduced transportation capacities. Logistics service providers are grappling with issues such as delayed shipments, a shortage of goods and the need for alternative sourcing options.

- **Changing consumer behaviour:** The pandemic accelerated the shift towards e-commerce and changed consumer expectations. There is increased demand for fast and reliable deliveries, contactless deliveries and efficient returns management. Logistics service providers need to adapt to these changing demands while ensuring the safety of their employees and customers.

- **Capacity constraints:** With increased demand for certain goods and reduced capacities due to health and safety measures, logistics service providers are facing challenges to meet the surge in demand. They need to manage capacity constraints, optimise transportation routes, and find alternative solutions to ensure timely and efficient deliveries.

- **Workforce challenges:** Logistics service providers are facing workforce issues such as labour shortages, increased absenteeism and difficulties in recruiting and retaining employees. They need to ensure proper staffing levels to meet customer demands and maintain operational efficiency.

- **Cost pressures:** The pandemic has led to increased costs for logistics service providers. Fluctuating fuel prices, rising transportation costs, additional safety measures, and the need for alternative sourcing options have put pressure on their margins. They need to find ways to manage costs while maintaining service quality.

- **Regulatory changes:** Governments have implemented various regulations and restrictions such as ESG reporting requirements. Logistics service providers need to be up-to-date with changing regulations, customs procedures and border restrictions to ensure compliance and smooth operations across different regions.

- **Business continuity planning:** The pandemic highlighted the importance of business continuity planning. Logistics service providers need to develop robust contingency plans to mitigate future disruptions, build resilience in their supply chains and ensure the continuity of their operations in the face of unforeseen events.

To address these challenges and remain competitive, the logistics industry is expected to experience three key megatrends:

- Firstly, digitalisation of business processes will become crucial. Warehouse managers and transporters are set to increasingly adopt technology-driven solutions, such as Warehouse Management Systems (WMS) and Transport Management Systems (TMS). These digital tools optimise operational efficiency, automate processes, and provide real-time visibility on inventory, order fulfilment and transportation, helping logistics providers cope with cost pressure and enhance overall productivity.

- Secondly, transparency in the supply chain is becoming extremely important. In an inflationary environment, logistic services providers must have end-to-end visibility on the business process across the entire value chain. This includes tracking and monitoring shipments, managing inventory, and sharing relevant information with customers and stakeholders. Transparent supply chains facilitate better decision-making, improve customer satisfaction, and enhance operational efficiency, as data visibility enables logistics providers to identify bottlenecks and make informed adjustments.

- Lastly, data analytics will play an essential role in the logistics industry. With increasing volumes of data generated throughout the supply chain, logistics providers can leverage analytics to gain valuable insights. By analysing data related to demand patterns, inventory levels, transport routes, and operational performance, warehouse managers and transporters can optimise their processes, reduce costs, and enhance customer service. Data analytics also enables predictive modelling, allowing logistics providers to anticipate future demand and optimise their operations accordingly.

3 MEGA TRENDS IN THE SECTOR

Business process digitalisation crucial for efficiency

The end-to-end shipment process in logistics involves various stakeholders, including shippers, consumers, and carriers. This process encompasses both core business processes and back-office applications, all of which contribute to the successful delivery of goods.

There are eight key steps in the shipment business process: order placement, order processing, picking & packing, labelling & documentation, carrier selection, shipment & tracking, delivery confirmation, and post-delivery support. Furthermore, these eight steps could all be digitalised to some extent, leveraging technologies such as digital platforms, cloud-based systems, and automation. TMS and WMS are particularly important tools across all processes:

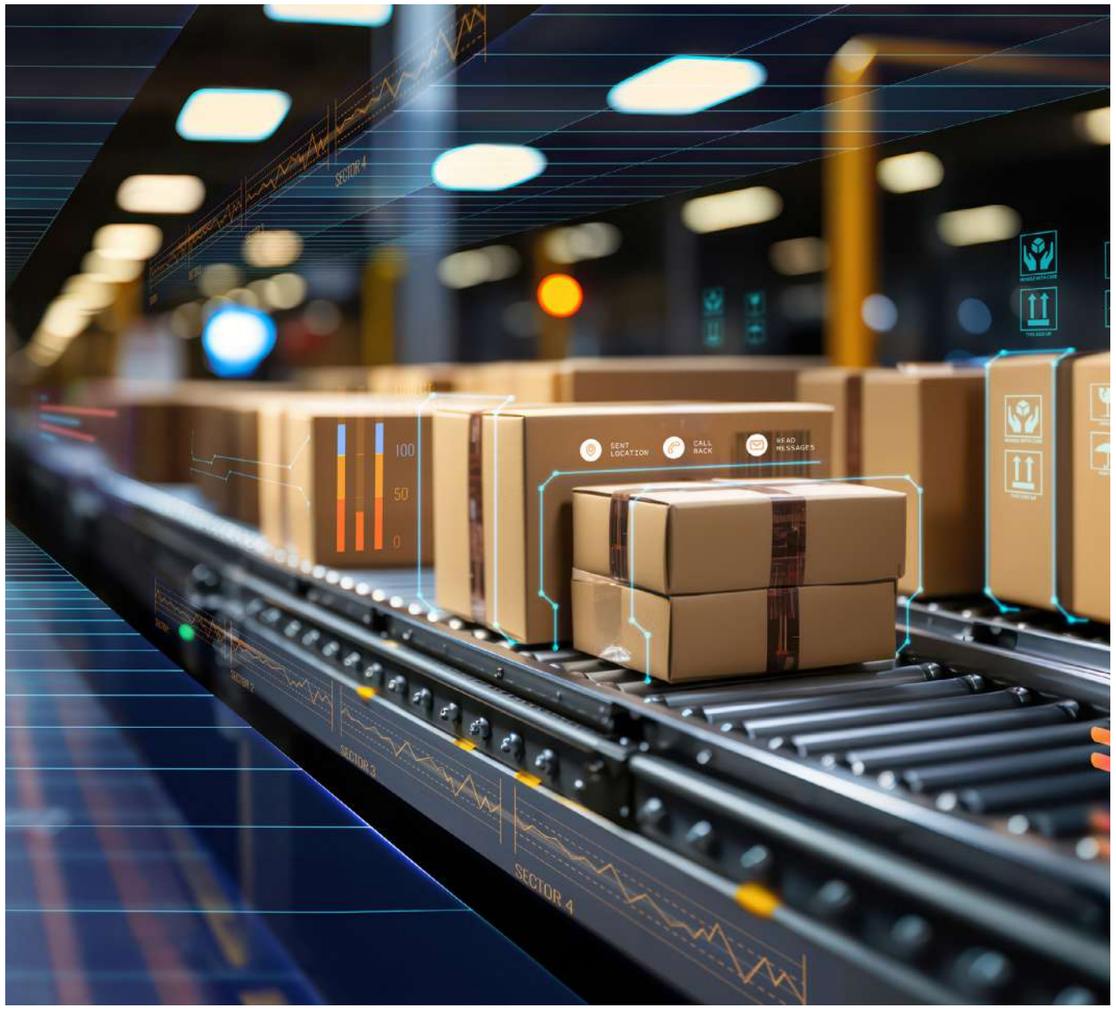


FIG 2: TMS AND WMS ARE IMPORTANT TOOLS TO DIGITALISE EIGHT KEY SHIPMENT BUSINESS PROCESSES

Order placement → Order processing → Picking & packing → Labeling & documen-tation → Carrier seletction → Shipment & tracking → Delivery confirmat-ion → Post-delivery support

	Definition	How TMS/WMS can boost digitisation
Order placement	• Shippers receive orders from consumers, whether through online platforms, phone calls, or other channels. • This step involves capturing the order details such as product specifications, quantity, and delivery address.	TMS can help in managing the order placement process by integrating with e-commerce platforms, capturing order information, and automatically creating or updating transportation orders.
Order processing	• Upon receiving the orders, shippers process them by verifying the details, confirming payment, and ensuring stock availability. • This step involves coordinating with inventory management and financial systems to ensure a smooth transition from order placement to fulfillment.	WMS plays a crucial role in order processing by providing real-time inventory visibility, enabling accurate order allocation, and facilitating seamless coordination between order processing and warehouse operations.
Picking & packing	• Shippers proceed to pick the items from the warehouse inventory based on the order specifications. • While this step can be partially digitised, advancements in technology have also led to the potential for automation and robotization of picking and packing processes.	WMS can provide real-time visibility into inventory locations and optimise picking routes using algorithms. Digital picking lists can be generated, guiding warehouse staff through optimised paths to pick items, reducing errors, and increasing picking efficiency.
Labeling & documen-tation	• Shippers generate shipping labels and prepare the necessary documentation for the shipment, including invoices, packing lists, and customs documentation for international deliveries. • Emerging technologies such as robotic process automation can aid in automating these tasks.	TMS and WMS can integrate with labeling systems and automate the printing of shipping labels, reducing manual effort and improving accuracy.
Carrier seletction	• Shippers select the appropriate carrier or shipping method for the shipment. • This step involves considering factors such as cost, service level, and delivery requirements	TMS can leverage digitised carrier databases, including rates, transit times, and service levels, to facilitate automated carrier selection. Shippers can use TMS to compare carrier options and select the most suitable one based on predefined criteria.
Shipment & tracking	• Shippers hand over the packed goods to the selected carrier for transportation. • Tracking technologies, such as GPS and IoT devices, play a crucial role in providing accurate and up-to-date shipment information.	TMS can integrate with carrier systems and track shipments in real-time. This allows shippers and consumers to access accurate and up-to-date tracking information, including estimated delivery times, milestone updates, and any potential disruptions.
Delivery confirmation	• Once the carrier delivers the goods to the designated location, the recipient acknowledges the receipt of the shipment. • This step involves confirming the delivery and potentially obtaining a signature or proof of receipt to ensure accountability.	TMS can facilitate delivery confirmation by capturing delivery events and proof of delivery information from carriers, ensuring accurate and timely confirmation of deliveries.
Post-delivery support	• Shippers may engage in post-delivery support to ensure customer satisfaction. • This can include follow-up communication with the consumer, addressing any inquiries or issues, and facilitating returns or exchanges if necessary.	TMS can support post-delivery support processes by capturing customer feedback, managing returns and exchanges, and integrating with customer support systems

Source: BG IRIS

Digitalisation of core business processes can help both shippers and carriers save money and time in several ways:

- Automated processes: digitalisation allows for the automation of manual tasks and processes, reducing the need for human intervention. This automation minimises errors, improves efficiency, and eliminates time-consuming activities such as manual data entry, paperwork and document processing. By automating processes such as order placement, order processing, labelling & documentation, both shippers and carriers can save valuable time and reduce operational costs.

- Enhanced communication and collaboration: digitalisation enables seamless communication and collaboration between shippers and carriers through integrated platforms and systems. Real-time updates, alerts, and notifications ensure timely information sharing, reducing delays and improving overall responsiveness. This leads to more efficient coordination, fewer miscommunications, and faster problem resolution, saving both time and money for all parties involved.

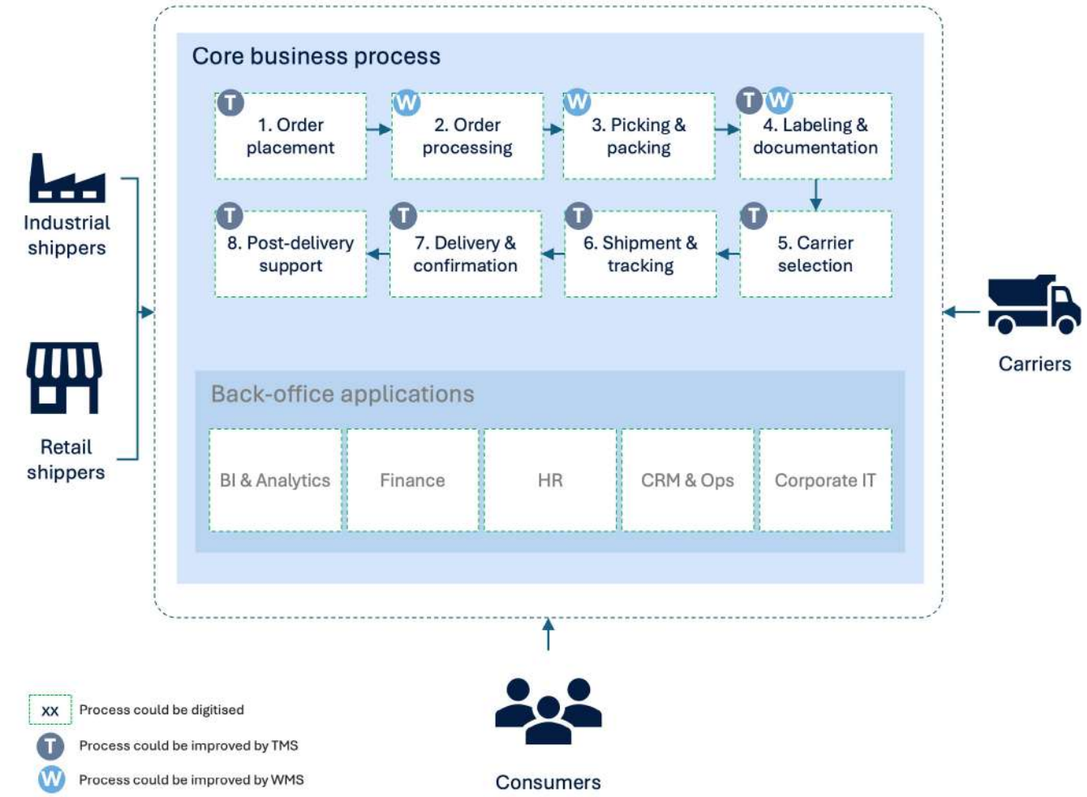
- Efficient resource utilisation: digitalisation allows for better resource utilisation, whether warehouse space, fleet capacity, or human resources.

By leveraging digitalisation, shippers and carriers can streamline operations, improve communication, and optimise resource utilisation, benefiting both parties and contributing to overall competitiveness in the logistics industry.

Moreover, the steps of picking & packing, as well as labelling & documentation, can be enhanced through the adoption of robotics and automation. Robotic systems can assist in automating these labour-intensive tasks, improving speed, accuracy, and overall efficiency.

In addition to the core business process, back-office applications are essential for supporting the shipment process. These applications include business intelligence and analytics, finance systems, human resources management, customer relationship management, and corporate IT infrastructure. Digitalising these back-office applications can bring numerous benefits, such as data-driven insights, streamlined financial processes, optimised HR operations, enhanced customer service, while improving overall organisational efficiency.

FIG 3: DIGITALISATION COULD BE APPLIED ACROSS ALL BUSINESS PROCESSES, WHERE TMS AND WMS PLAY AN IMPORTANT ROLE



Source: BG IRIS

Example: Rayonnance

Rayonnancein a nutshell

Created in 2002, Rayonnance is a French specialist in mobile applications for business mobility and traceability on mobile devices. Through its two entities Rayonnance Software and Rayonnance Hardware, the Rayonnance Group integrates the entire value chain of mobility and can address specific issues as well as all stages of project from custom mobile application design to the supply of software and hardware associated services. The Group has also developed its own middleware platform "harmonie" which allows clients to manage their fleets of devices.

Today, with a team of over 80 employees, Rayonnance generates close to €40m revenue.

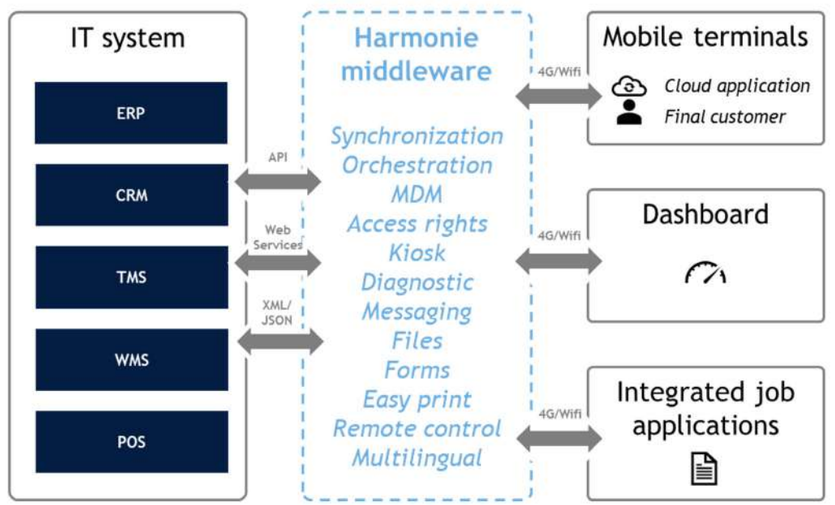
Expertise across 4 core sectors with a continuous diversification ambition

Rayonnance has a strong presence in transport and logistics, retail, maintenance and audit, and healthcare sectors. For each sector, the company offers modulable software (front and back-office application) and hardware (mobile terminals) catering to different needs. The company has a clear ambition to diversify in other subsectors in healthcare and other sectors where mobile terminals could play an essential role to detect business flow.

Harmonie middleware: the bridge between mobile terminals and information system

Harmonie is the software platform connecting all Rayonnance devices and aggregating all the data from their activities. Once all the necessary information is collected, Harmonie will share it with the client's information systems including ERP, CRM, TMS, and POS.

FIG 4: HARMONIE MIDDLEWARE BRIDGES THE CONNECTION FROM CLIENT'S IT SYSTEM TO FINAL CUSTOMER



Source: Rayonnance

Interview with Arnaud Affergan, founding partner of Rayonnance

Q: How did the breakthrough in the retail sector from 2010 onward alter your company's initial vision, and what specific challenges did you face when adding the hardware component in 2006, initially less emphasized but later proved to be a key development sector?

A: Our journey began with pioneering projects, introducing vibrators for parcel scans targeting delivery drivers in France and Europe. Steve Jobs' iPhone launch prompted us to expand into retail in 2010, initially underestimating the need for an offline application as we used to develop in other sectors' network. Realizing the importance of offline applications, particularly in inventory management and customer service, we shifted focus to become leaders in seller mobility.

In 2006, we strategically added the hardware component to our offering, responding to demands from major transport clients like Heineken, OCP, and France Boisson. Thanks to our DNA as an engineering company, integrating hardware proved a lucrative development sector, providing daily client interaction. Today, led by three partners, our company with around a hundred employees generates a turnover of 36 million Euros. Our primary sectors are logistics and retail, offering packaged solutions for luxury brands and specific projects. Initially emphasizing mobility and ERP integration during our company's launch, we opted not to depend on third-party platforms. Creating Harmonie, our flagship solution, evolved into a vital part of clients' information systems. We've developed expertise in business solutions, differentially synchronizing massive data volumes for clients like Galeries Lafayette. Our unique software and hardware approach, established in 2006, distinguishes us in the market, meeting diverse needs in transport, logistics, and retail.

Q: Can you explain how your company positions itself against competitors, considering your involvement in various areas such as frameworks, middlewares, and inventory management?

A: It addresses challenges related to OMS, industry, and production, with complexity much higher than a simple Wal stock. However, the goal remains the same, but its application focuses on customer issues in the retail sector. Rayonnance's distinctive feature lies in its agility and ability to integrate into all parts of the information system. Our diagnostics focus on functional complementarity and connectivity, a real strength in extremely varied IT schemes.

Q: Does Harmonie's functionality require the use of mobile terminals?

A: We primarily market Harmonie for its order orchestration capabilities, emphasizing mobility. Although our initial offering focuses on mobility, we are now credible in this area and position ourselves to win bids focused on mobility. A concrete example is our collaboration with a French supermarket, where we started with a specific application, but today, we manage their entire logistics, including their TMS and WMS.

Our approach is to start with mobility, our initial expertise, and then expand our scope. Even though mobility may seem insignificant compared to other aspects of the solution, we remain relevant when mobility is at the forefront, especially from a business perspective. Regarding our strategy, it's not just about developing the WMS, OMS part. The idea is not to limit ourselves to mobility but to also enter through this aspect directly.

Q: What is your business model?

A: In the software business, the cost structure includes various elements such as the product, license, maintenance, and subscription, depending on the type of solution sold.

The second important item includes all hardware-related services and support: installation, outsourcing, maintenance, and on-site interventions.

The third item concerns the supply of hardware and its accessories, which we sell as a comprehensive subscription, integrating both software and hardware subscriptions, thus creating a complete offering.

Q: Is Harmonie considered a SaaS solution today?

A: We talk about Harmonie, a technological platform accompanied by a dedicated application. Harmonie then extends to different business verticals such as Harmonie Retail, Harmonie Delivery, Harmonie Logistics. These solutions can be entirely based on the SaaS or on-premises model. We respect our clients' choice because some prefer not to adopt the SaaS model, and we do not force them to choose exclusively SaaS.

Thus, we offer the flexibility to be entirely in SaaS mode or hosted on cloud, providing a solution with a complete subscription that encompasses both the technological component of Harmony and the business component. However, some clients prefer to have the on-premises platform, and we also respect this preference.

Q: Why do some clients choose the on-premises model?

A: In terms of security, some clients initially opted for cloud hosting but are now returning to the on-premises model. They found that cloud-based solutions led to longer latency times in warehouses. It is essential to note that for carriers, the transition to 4G generally allows trouble-free use of the cloud. However, for environments like warehouses or stores, where everything is in a closed network, we still have clients who prefer the on-premises model.

In the retail sector, we observe a different trend, with most clients initially choosing on-premises but, at the signing moment, increasingly opting for the SaaS model.

Q: For Harmonie, you mentioned several axes; does this solution remain modular under each axis?

A: We have a complete set of building blocks, and from there, we activate the blocks our clients need, with pricing per block. Take Harmonie Retail Suite as an example: in inventory management, a client can choose to activate in-store receipts and inventories. Similarly, in the mobile cash register part, a client can decide not to activate the payment function, allowing more targeted communication. Each module is available individually, with separate pricing per module, specific to the retail part.

In the delivery domain, we offer different blocks. For instance, if a client doesn't need to check the vehicle, the delivery person can load their truck by choosing only the necessary modules. This also applies to logistics applications. It's an approach on the technological platform, not specific to a particular business, offering the flexibility to activate or deactivate different features.

Q: Do all retail players today have a solution similar to Harmonie in place?

A: Not yet, surprisingly, some clients still manage their operations. In the retail part, we focus on three aspects: inventory management, omnichannel, and the mobile cash register. For the mobile cash register, surprisingly, many clients have not yet adopted this solution, and there are still many devices to implement.

Regarding inventory management, one might think that all clients use PDAs, but that's not the case. Some brands still prefer to use their computers to receive their packages.

As for omnichannel, some clients adopt various approaches with their websites, and we are not yet completely reassured about it. Our platform is designed to handle all these issues. It is a significant advantage because often clients can resort to three different editors, varied interfaces, online and offline solutions. Our approach is to offer a single user interface for all seller issues. Thus, the seller doesn't have to worry about connecting to different interfaces, as everything goes through our centralized platform.

Q: Do you have strong potential for organic growth to achieve?

A: What is advantageous is that sometimes we sell only one block to clients. Then our approach is to look for clients who are not yet equipped or have been but are not satisfied.

Q: As of today, is Rayonnance 100% in France or international?

A: Currently, most of our clients are French. For example, L'Oréal is present in Europe, the United States, and Canada, and we are now expanding in Asia. LVMH Parfums & Cosmetics has subsidiaries in Japan, and we also have many international clients. We have not undertaken specific initiatives towards the international market. We signed international clients somewhat by chance, during chance encounters. We have covered almost all countries, including destinations such as the United States, Australia and Singapore.

Q: What major initiatives do you have planned in the roadmap for innovative products in the coming years?

A: We are considering exploring new subsectors in healthcare. Before taking initiatives, our first step is to identify if there is a real need in these areas. Regarding mobility, our current approach aims to further enrich what we already do. For example, in the field of mobility, we introduced “Tap to Pay,” allowing payments directly from Android without requiring a traditional electronic payment terminal (TPE). By integrating this solution, we seek to increase the digitisation of transactions for sellers. Given the emergence of many new technological players in the payment field, our challenge is to determine who the most relevant partners and actors are for our company.

Significant importance in supply chain transparency

The pandemic underscored the vulnerabilities of global supply chains, revealing disruptions caused by lockdowns, travel restrictions and demand fluctuations. These challenges led to delays, shortages and logistical issues. In response, transparency in supply chains became paramount. It allowed stakeholders to track goods, monitor delivery schedules and proactively manage challenges, thereby ensuring efficient operations.

Transparency not only facilitated timely access to critical information but also nurtured trust and confidence among shippers, carriers and consumers. Shippers could oversee their products’ movement, carriers could meet delivery requirements, and consumers gained insight into their purchases’ origin and safety measures. Brands prioritising transparency and ethical practices gained consumer trust, leading to stronger relationships and repeat business.

In the post-Covid era, regulatory compliance gained prominence, especially in social responsibility, traceability, and sustainability. Transparent supply chains played a crucial role, enabling compliance with evolving regulations. Detailed information on product origins and certifications satisfied regulatory requirements, averting penalties and reputational risks.

To achieve transparency, effective communication, tracking systems and collaborative platforms were key. Integrated data-sharing systems and digital portals facilitated communication between shippers and carriers. Real-time tracking using GPS or RFID, automated notifications and centralized tracking platforms ensured efficient monitoring. Collaborative platforms became central hubs for communication, documentation and tracking, providing a unified view of the shipment process.

Carriers and shippers closely monitored every step, using tools such as TMS, WMS, visibility platforms and mobile applications. These measures not only enhanced efficiency but also contributed to seamless operations, fostering resilience against disruptions. Transparent supply chains therefore became the backbone of resilient and efficient global trade, promoting trust, collaboration and compliance in the supply chain ecosystem.

Supply chain visibility platforms play an essential role in enhancing transparency in supply chain management and are used extensively in managing inventory levels and distribution services. Visibility platforms act as a bridge, connecting and integrating data from TMS and WMS to provide a comprehensive and real-time view of the entire supply chain. By leveraging the information from TMS and WMS, visibility platforms offer insights into the location, status and condition of goods as they move through the transportation and warehouse networks. This integration enables stakeholders to make informed decisions, anticipate potential disruptions and optimise the overall supply chain performance.

The synergy between visibility platforms, TMS, and WMS results in a more transparent, responsive, and streamlined supply chain, enhancing efficiency and reducing uncertainties in the logistics and distribution processes:

- **Real-time tracking:** in collaboration with visibility specialists, TMS integrates with carrier systems and provides real-time tracking of shipments. Shippers, carriers and consumers can access accurate and up-to-date information on the location, status and estimated delivery times of goods. This visibility allows for better planning, improved communication and proactive management of exceptions or delays. Both TMS for shippers and TMS for carriers allows clients to track the status of delivery and transportation efficiency.

- **Inventory Visibility:** WMS offers real-time visibility on warehouse inventory levels, location and stock movements. Shippers can track the availability of products, monitor stock levels and optimise inventory management. This transparency helps prevent stockouts, improve order fulfilment and meet customer demand.

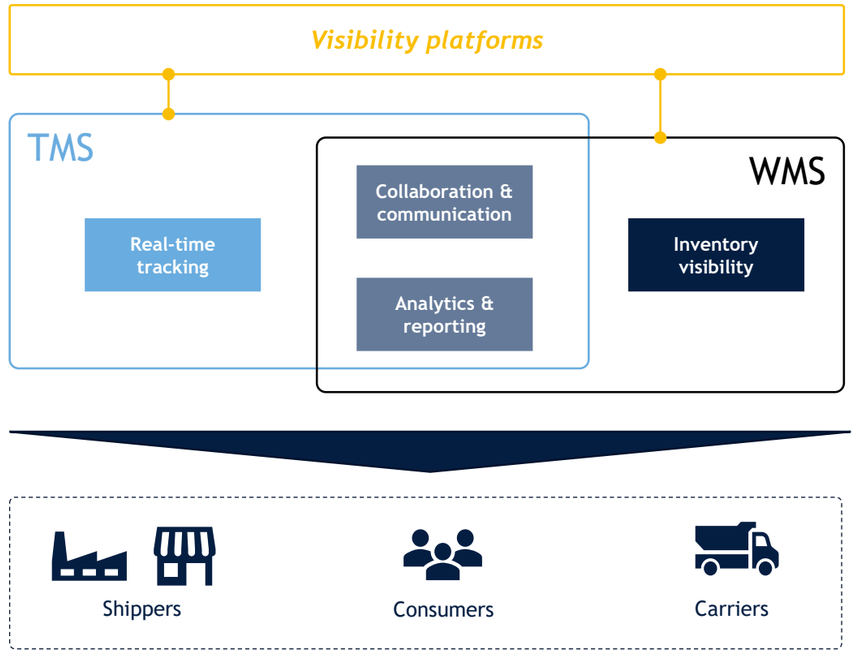
- **Collaboration and communication:** TMS and WMS facilitate seamless collaboration and communication between shippers, carriers and other supply chain partners. These systems enable data exchange, automate notifications and provide a common platform for sharing information. Effective collaboration ensures accurate and timely communication, enhancing transparency across the supply chain. (For example, Sinari Group is launching Sinari Network, a platform facilitating communication across the whole ecosystem, more details on page 55).

- **Analytics and reporting:** TMS and WMS generate valuable data that can be analysed to gain insights into supply chain performance. Shippers and carriers can use analytics tools to monitor key metrics, identify trends and address any issues. Performance reports and dashboards provide a comprehensive view of operations, allowing stakeholders to make data-driven decisions and continuously improve transparency and efficiency (For example, ShippyPro added advanced analytics and reporting functions, more details on page 26).

Measuring carbon emissions has become a focal point due to increasingly stringent regulations. Shippers can either gather expedition data from freight forwarders or receive carbon emission reports directly from them. However, challenges remain such as varying emission measurements, unorganised data and the absence of TMS among smaller transporters who are often subcontractors. Shipper TMS aims to address these issues by standardising data and assisting clients in integrating carbon emissions into their carrier selection process. Various TMS are proposing this function such as MyTower, Generix, Akanea, Dashdoc, etc. Other players are actively developing this solution in their offerings. We estimate that in a year or two, carbon emission reporting will be a basic function for a major TMS.

By leveraging TMS, WMS and visibility platforms, shippers, carriers and consumers can benefit from enhanced transparency in the supply chain. They can access real-time information, monitor performance, manage risks and collaborate effectively. This transparency fosters trust and enables proactive decision-making, thereby ultimately leading to improved customer satisfaction and operational efficiency.

FIG 5: TMS AND WMS PLAY AN IMPORTANT ROLE IN ENHANCING TRANSPARENCY



Source: BG IRIS

Example: MyTower

MyTower snapshot

A spin-off from the Crystal Group, MyTower digitally addresses the complexities of transport and international trade by offering three services: TMS and GTM (Global Trade System), professional services, consulting and expertise.

"MyTower confirms its unique positioning on the French market and joins the very select circle of publishers to offer this relevant combination at European level" - Jean-Christophe Cuvelier, CEO and co-founder.

Unrivalled integration and transparency

In an era where globalisation is at its peak, efficient and streamlined transport and trade systems are more essential than ever. MyTower's solutions are part of an interconnected system, designed to effortlessly connect transport and trade systems across all modes of transportation within the supply chain.

Environmental responsibility in a dynamic configuration of priority

MyTower goes beyond merely reporting carbon emissions - it actively integrates environmental impact considerations into its client's carrier selection process. Clients may now compare not only lead time, cost and CO2 emissions across different transport modes but also within the same mode of transport. For instance, clients can analyse estimated time, cost and CO2 emissions across various airlines such as China Airlines, Air France, Emirates, Asiana, etc.

At the forefront of innovation, MyTower has developed a dynamic configuration system that allows clients to define their priorities, whether cost, CO2 emissions or lead time. The platform empowers clients to make informed decisions aligned with their environmental goals.

MyTower's ambitious mission extends to assisting clients in reducing carbon emissions directly through carrier selection. Moreover, it provides comprehensive reporting functions, offering insights into the improvements achieved and the return on investment for each initiative. By calculating the reduction in EUR/Ton of CO2, MyTower helps clients track their environmental progress and encourages sustainable practices within the transportation industry.

Example: Shippeo

Shippeo snapshot

Shippeo is the European leader in real-time multimodal transportation visibility with a global presence. The company offers multimodal visibility network to help major shippers and logistics service providers to build more resilient, sustainable, and customer-centric supply chains. This is made possible with highly accurate real-time operational visibility and Transport Process Automation™ to streamline transport processes, reduce latency and improve operational efficiency.

Shippeo is trusted by hundreds of customers, including renowned global brands such as Ahold Delhaize, AkzoNobel, Amazon, Avery Dennison, Bosch Siemens Hausgeräte, Carrefour, Coca-Cola HBC, Jaguar Land Rover, Heineken, Kuehne+Nagel, L'Oréal, LVMH, Renault Group, Sabic, Saint-Gobain, TotalEnergies, Forvia, Siemens Energy, and XPO Logistics. These companies rely on Shippeo to monitor over 32 million shipments annually across 110 countries.

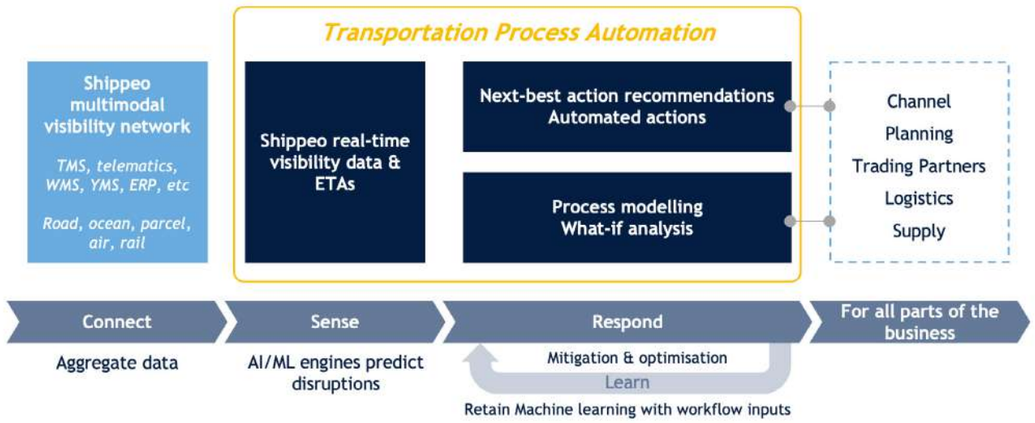
Fully integrated within the supply chain ecosystem, Shippeo's solutions connect with more than 1,000 TMS, telematics, Parcel APIs, and more than 200,000 carriers.

Future Shippeo: from data to automation

In recent years, Shippeo has become remarkably successful and should continue to lead the visibility industry, bridging the gap between raw data and seamless automation. The company has significantly expanded its tracking capabilities, evolving from tracking road shipments (FTL & LTL) to encompassing various modes of transport, including FTL, LTL, parcel, ocean, rail, and air.

Looking ahead, Shippeo is on a trajectory to transform its services further by integrating AI-based recommendations across all aspects of business operations. In addition to real-time tracking of multimodal shipments, Shippeo is actively investing in acquiring comprehensive, contextualised, and highly accurate data to enhance predictive tracking capabilities. Moreover, the company is pioneering actionable engagement systems and AI-empowered Transportation Process Automation (TPA), affirming its position as a trailblazer in the industry.

FIG 6: SHIPPEO TPA INTEGRATES AI-BASED RECOMMENDATIONS ACROSS ALL PARTS OF THE BUSINESS



Source: BG IRIS

Renault x Shippeo

In 2022, Renault Group announced the set-up of the first control tower in the automotive industry, in collaboration with Google and Shippeo. Renault's digitalisation project handles data from 6,000 supplier sites, 38 plants, 6,000 shipping containers, 2,000 car carriers, and 22,000 destinations in 130 countries. This amounts to 300,000 reference points. Implementing accurate tracking and integrating supplier and carrier information took six months in Renault's inbound supply chain.

In 2023, leveraging the triumph of the Supply Chain Control Tower, a joint endeavour of Renault Group, Shippeo and Google, Shippeo introduced a TPA solution. This advancement empowers supply chain organisations to foresee and mitigate risks, enhance team collaboration and automate transportation processes comprehensively. The aim is to enhance performance, resilience and customer satisfaction.

"Our TPA-powered control tower dramatically reduces stress levels for our staff and removes anxiety over the prospect of making a wrong decision. We have also reduced expedites, line stops, and unfinished vehicles by 50% since implementing the control tower, which equates to EUR260m in inventory savings as well as millions more in unanticipated costs" – Jean-François Salles, VP Supply Chain at Renault Group

Interview with Pierre Khoury, CEO of Shippeo

Q: How do you view the development of the supply chain traceability sector in Europe?

A: The discussion begins with a highly complex activity due to its significant fragmentation. To put it into perspective, Europe currently boasts 500,000 carriers, 1,000 telematics, and 1,000 different TMS. Additionally, there are 20 distinct use cases, 100 events to aggregate and 10 levels of data to consider. The key challenge lies in consolidating all these scenarios into a unified platform. As for recent developments, visibility has become more mainstream, with both shippers and carriers demonstrating increased maturity.

Q: In mapping the major industry players, is there a recent dominance by American players in the European market, particularly concerning visibility?

A: The market is very consolidated, with Shippeo taking the lead in Europe. Usually, US players face challenges due to complexities specific to the European market, and some players have either withdrawn from the European market or been acquired. Unlike other sectors, such as the notably fragmented TMS market, this industry demonstrates significant concentration.

Q: How will the sector evolve in coming years?

A: Shippers will persist in their demand for increasing data quality and tracking. There is a focus on the expected level of quality and requirements, coupled with an emphasis on amplifying actions. These two focal points represent the primary strategic directions the market will follow.

Q: From the client's perspective, what steps should be taken to address these issues in the future?

A: Two main aspects emerge: the technological front, which entails continued investments in technology and selecting the best provider. On the carrier management front, adapting to the growing shortage of drivers and capacity in the road freight market is crucial. With a decreasing number of drivers and reduced capacity, shippers are increasingly inclined to establish long-term contracts with their carriers and foster partnership relationships.

Q: How do you view the situation of small carriers that have not yet adopted TMS?

A: Small carriers are less well equipped, although solutions like DashDoc in France are available. Outsourcing is more common among large carriers (freight forwarders). In other words, large carriers tend to rely more on outsourcing than small carriers, as demonstrated by DHL and Geodis.

Q: Compared to your competitors, what are Shippeo's competitive advantages?

A: Shippeo stands out for the exceptional sophistication of its product, specifically tailored to address the unique complexities of the European market. The company excels in service and implementation, addressing the distinct characteristics of the European market such as linguistic and cultural diversity. Transparency and strong values are deeply ingrained in the company's culture.

Q: How do you foresee changes in Shippeo's partnerships in the future, especially with TMS and WMS providers?

A: Shippeo positions itself as the transport operating system, enabling collaborative efforts within the ecosystem without being exclusively defined as a TMS, TMS shipper, or TMS carrier. The strategy involves maintaining partnerships with TMS providers, focusing on executing one task exceptionally well. Currently, Shippeo has more than 100 partners.

Q: Are there disparities between European countries concerning the TMS market: is France is better equipped than Spain or Italy?

A: Overall, Northern Europe is more advanced than Southern Europe in terms of equipment, with high adoption rates in France, Germany, Benelux, and the Nordic countries. Spain, Italy, and Greece are still in the process of adoption. From our estimates, as TMS is a core control system for carriers, the rate in France might be roughly described as follows: 80% for medium to big businesses (> 100 drivers) and 50% for smaller businesses. Germany exhibits a similar situation, while in Italy and Spain, there are estimated adoption rates of 70% for medium to big businesses and 30% for small businesses. On the shipper-side, Shippeo's equipment rate is currently around 20% in France, but this is expected to increase by 80% within five years, anticipating a growing universal need. Additionally, companies have invested enormously in automation inside the warehouse, in WMS and robotics, and now this should turn to outside the warehouse with the ecosystem. Indeed, this is SAP's strategy, having equipped companies with ERP, and it now aims to look at the ecosystem around companies with its SBN (SAP Business Network) based on software solutions and working the ecosystem around SAP.

Q: What identified issues led to the development of Transportation Process Automation (TPA)?

A: Real-time challenges like what to do if a truck is delayed with how to handle carrier issues with and what actions to take if the supplier faces problems.

Q: What Shippeo strengths do you believe will make TPA a commercial success?

A: Shippeo has a unique position with a strong focus on data quality. The platform is inherently collaborative, involving everyone's participation, setting it apart from data lakes that merely accumulate data. Shippeo stands out as the only player to have implemented Advanced TPA and offers real-time issue management processes.

Q: Can all stakeholders communicate with each other from the platform?

A: Yes, if authorised by the order giver. For example, Renault has white-labelled its platform and opened it to Faurecia, enabling collaboration for everyone on the platform.

Q: What economic model does the TPA product have?

A: An annual subscription based on volume. We will continue to be the specialist in the domain of visibility and will not look for product diversification.

Q: Who are your competitors in the TPA market? Do you see similar initiatives?

A: There are no other similar initiatives or competitors. Shippeo holds a solid leadership position.

Q: How do you see TPA in five years?

A: TPA will be the go-to reference in transportation, managing daily transport challenges and incorporating all means. The primary challenge is to continue growing while ensuring profitability and continuously enhancing service quality.

Smarter Logistic service providers through data analytics

Data analytics empowers logistics service providers to extract meaningful insights from their data, optimise their operations and deliver enhanced services to their customers. By leveraging data analytics capabilities, providers can drive efficiency, cost savings and collaboration throughout the supply chain, ultimately improving customer satisfaction and gaining a competitive edge in the market.

Predictive analytics and demand forecasting: by harnessing data analytics, logistics service providers can capitalise on historical data and market trends to achieve precise demand forecasting. This capability empowers providers to strategically plan capacity, allocate resources and manage inventory levels effectively, leading to streamlined operations, reduced costs and prevention of stockouts or overstock situations. Supply chain planning solutions serve as robust instruments for optimising short, medium and long-term planning, employing advanced features such as machine learning and intelligent algorithms to elevate their overall effectiveness. FuturMaster, a leading supply chain management software provider, delivers a demand planning system that enhances forecasting processes throughout a product lifecycle (for more details refer to our case study at the end of this section).

Route optimisation and fleet management: with data analytics, logistics service providers can optimise transport routes by taking into account real-time data for traffic and weather conditions, as well as other factors. By making informed decisions regarding route planning, load optimisation and fleet management, providers can reduce fuel consumption, enhance delivery efficiency and achieve cost savings. In Europe, there are various specialists in route optimisation: Mapotempo, AntsRoute, PTV Group, Antsway, AxioRoute, Kardinal, etc.

Supply chain collaboration: Data analytics provides end-to-end visibility across the supply chain, enabling logistics service providers to track shipments, monitor inventory levels and proactively identify potential disruptions or delays. This visibility facilitates effective collaboration with partners, suppliers and customers, leading to transparency, timely problem-solving and improved decision-making. Sinari Group is launching its Sinari Network solution, an interconnected platform for carriers, sub-contracted carriers and shippers to exchange information easily directly from their TMS.

To enhance data analytics capabilities, logistics service providers will need to act in the following segments:

- Data collection and integration: implement robust data collection processes across the organisation, capturing relevant data from various sources such as transport systems, warehouse management systems, customer databases, and IoT devices. Integrate data from different systems to create a comprehensive view of the supply chain.

- Data quality and cleansing: ensure data accuracy and integrity by employing data quality and cleansing techniques. This involves removing duplicate or erroneous data, standardising data formats and validating data against defined rules or criteria.

- Advanced analytics tools and technologies: invest in advanced analytics tools and technologies, such as machine learning, predictive modelling, and data visualisation tools. These tools help analyse large datasets, identify patterns, and generate actionable insights.

- Talent and skill development: build a team of data analytics professionals with expertise in statistical analysis, data modelling and visualisation. Provide training and development opportunities to enhance their skills and keep up with the latest trends and technologies in data analytics.

- Collaboration and partnerships: collaborate with technology providers, industry associations and research institutions to remain up-to-date on emerging trends and best practices in data analytics for logistics. Engage in partnerships that offer access to data-sharing platforms or advanced analytics capabilities.

Both TMS and WMS are undergoing accelerated advancements to incorporate more analytical functionalities. In today's rapidly evolving logistics landscape, the ability to leverage data for informed decision-making has become crucial. TMS and WMS are no longer just operational tools but are evolving into powerful analytical platforms. These systems now offer advanced analytics capabilities that enable logistics professionals to gain deeper insights into their operations, optimise processes and drive efficiency.

In the case of TMS, the integration of data analytics allows for comprehensive analysis of transportation data, including route optimisation, carrier performance and cost management. TMS platforms can leverage historical and real-time data to identify patterns, trends and areas for improvement. This empowers logistics professionals to make data-driven decisions when it comes to route planning, load optimisation and carrier selection. By analysing data from various sources, TMS can provide valuable insights into transport operations and help reduce costs, enhance customer service and improve overall efficiency.

Similarly, WMS platforms are evolving to include more analytical functionalities. These systems can capture and analyse data related to inventory levels, labour management, warehouse utilisation, and order processing. By leveraging data analytics, logistics professionals can optimise warehouse layouts, streamline picking and packing processes, and improve overall inventory management. WMS platforms can also generate reports and dashboards that provide real-time visibility into warehouse operations, enabling proactive decision-making and efficient resource allocation.

Logistics service providers could also leverage TMS and WMS:

- Data integration and centralisation: TMS and WMS act as central repositories for logistics data, consolidating information from various sources such as transport systems, warehouse operations and inventory management. By integrating data from these systems, TMS and WMS provide a unified view of the supply chain, enabling comprehensive data analytics.

- Real-time data capture: TMS and WMS capture real-time data on transportation activities, order processing, inventory levels and warehouse operations. This real-time data is vital for accurate and up-to-date analytics, enabling timely decision-making and proactive management of logistics processes.

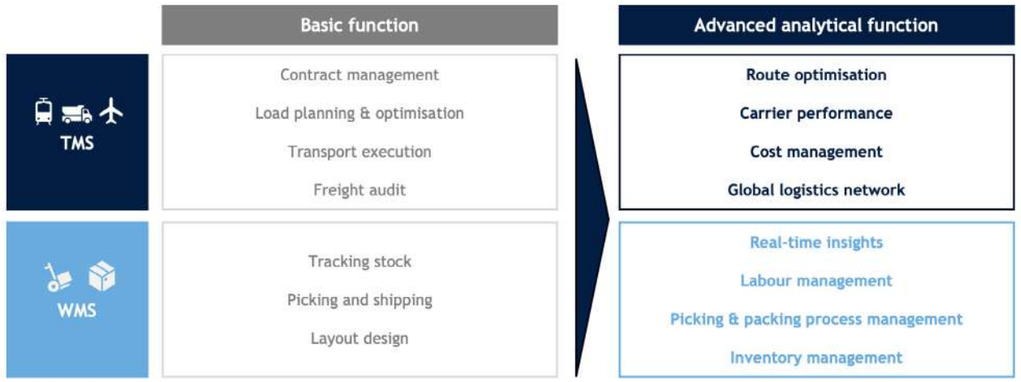
- Performance measurement and KPI tracking: TMS and WMS offer built-in performance measurement tools that track key performance indicators (KPIs) such as delivery times, order accuracy, warehouse productivity, and transportation costs. These systems generate reports and analytics dashboards that provide insights into operational performance, highlighting areas for improvement and enabling data-driven decision-making.

- Advanced analytics capabilities: many TMS and WMS platforms incorporate advanced analytics functionalities, such as data visualisation, predictive analytics and machine learning algorithms. These capabilities allow logistic services providers to analyse large datasets, detect patterns, forecast demand, optimise routes and identify opportunities for cost savings and operational efficiencies.

- Automation and process optimisation: TMS and WMS automate and streamline logistic processes, reducing manual effort and improving accuracy. Automation enables data collection and updates in real-time, minimising the risk of errors and delays. By optimising processes through TMS and WMS, logistics service providers can capture more accurate and granular data for analytics, improving the quality of insights generated.

- Integration with external data sources: TMS and WMS can be integrated with external data sources, such as weather data, market trends and customer feedback. By combining internal and external data, logistic services providers can gain a comprehensive understanding of factors influencing their operations and make data-driven decisions based on a holistic view of the supply chain.

FIG 7: TMS AND WMS ARE UNDERGOING ACCELERATED ADVANCEMENTS TO INCORPORATE MORE ANALYTICAL FUNCTIONALITIES



Source: BG IRIS

Example: ShippyPro

ShippyPro snapshot

Founded in 2016, ShippyPro is a universal multi-carrier shipping platform connecting e-commerce merchants' OMS, WMS and POS to more than 165 carriers and more than 80 sales channels. ShippyPro helps omnichannel brands and logistics players increase delivery speed and efficiency, automate tracking and returns, manage the complexity of cross-border shipping, and also provides shipping analytics & reporting.

"The global logistics network is still highly fragmented, with many geographic and cultural barriers. We have designed ShippyPro to cater to the needs of a complex and evolving market by enabling our customers to drive efficiencies across their logistics operations processes, from initial order intake through to tracking and returns… Our technology provides any brand with a complete shipping solution that optimises order & transportation management, tracking and reverse logistics, enabling our customers to offer the delivery experience consumers expect when they shop online." – Francesco Borghi, Founder and CEO of ShippyPro

New analytical function to highlight shipping data

In the user-friendly interface of ShippyPro's dashboard, clients can effortlessly gauge shipping key performance indicators and identify emerging trends at a glance. The platform's analytical function meticulously evaluates transportation and e-commerce performance, allowing clients to delve into specific countries or time periods. Moreover, it provides real-time monitoring of the shipping budget, ensuring financial control. For a deeper understanding, clients can easily filter down to intricate details and even download customised reports, making the analysis process both comprehensive and tailored to their specific needs.

BRIEF INTRODUCTION TO **TMS** AND **WMS**

SECTION 2

BRIEF INTRODUCTION TO **TMS** AND **WMS**

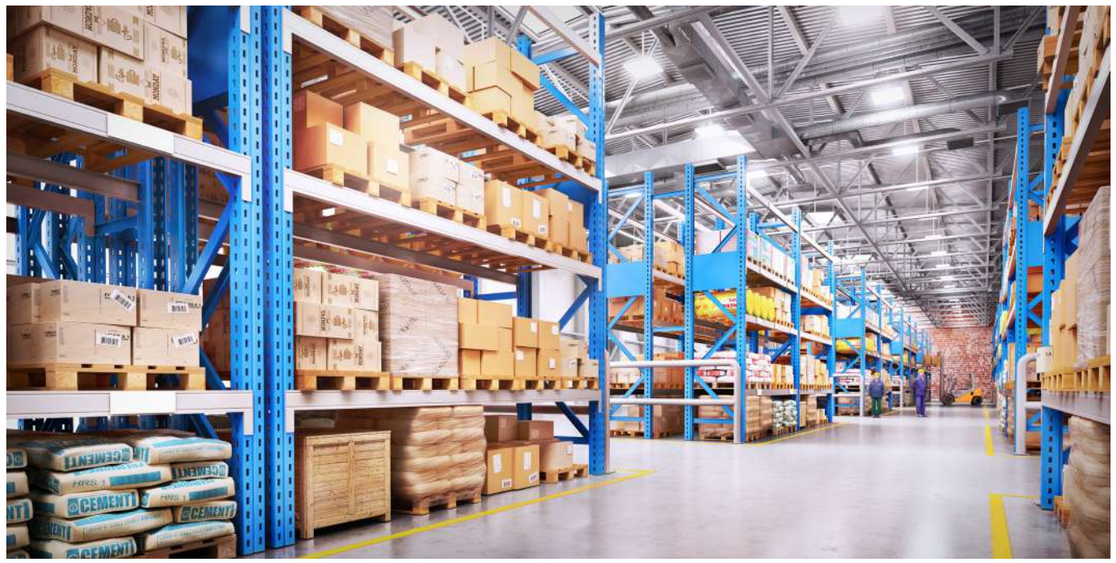
A Transport Management System is a comprehensive software solution designed to optimise and streamline transport operations within the logistics industry. It plays a pivotal role in planning, executing, and tracking the movement of goods from origin to destination, ensuring efficiency, cost-effectiveness, and timely deliveries. There are two primary types of TMS:

- TMS for carriers, dedicated to carriers, freight brokers and 3PL logistics providers. The system enables carriers to manage their fleet, assign routes, track shipments, and optimise load planning.

- TMS for shippers, catering to a wide range of industries for carrier selection, transport order distribution, evaluation of transport costs, carbon emission reporting and monitoring shipments in real-time with visibility platforms.

TMS for Shippers and TMS for Carriers have similar goals: to reduce transport costs, provide visibility, and automate processes. The difference lies in their functionalities. TMS for Shippers focuses on optimising transport orders, carrier selection, cost evaluation, and real-time tracking. TMS for Carriers serves as a control tower, optimising tours, managing costs, considering social constraints, and fleet management. Both TMS solutions are essential for efficient transport management and improving operations for shippers and carriers alike.

A Warehouse Management System is a software solution designed to efficiently manage and control warehouse operations. WMS addresses a diverse and expansive client base. WMS clients typically include e-commerce companies, retail chains, automotive companies, electronics manufacturers, pharmaceutical companies, and third-party logistics providers, etc. It oversees various tasks within a warehouse, including inventory tracking, order fulfilment, and optimising storage. WMS helps businesses enhance accuracy, improve productivity and streamline their supply chain processes. By providing real-time visibility on inventory levels and warehouse activities, WMS enables businesses to make informed decisions, reduce operational costs and deliver better customer service. Overall, WMS plays a crucial role in modernising warehouse operations and ensuring seamless logistics management.



DOUBLE-DIGIT GROWTH ACROSS GLOBAL TMS MARKETS IN THE **COMING YEARS**

Historically, the global TMS and WMS markets have both witnessed remarkable growth rates, with TMS running at 10% and WMS at 14%.

The TMS and WMS markets have experienced substantial growth in the past, and this growth is expected to accelerate further in the coming years.

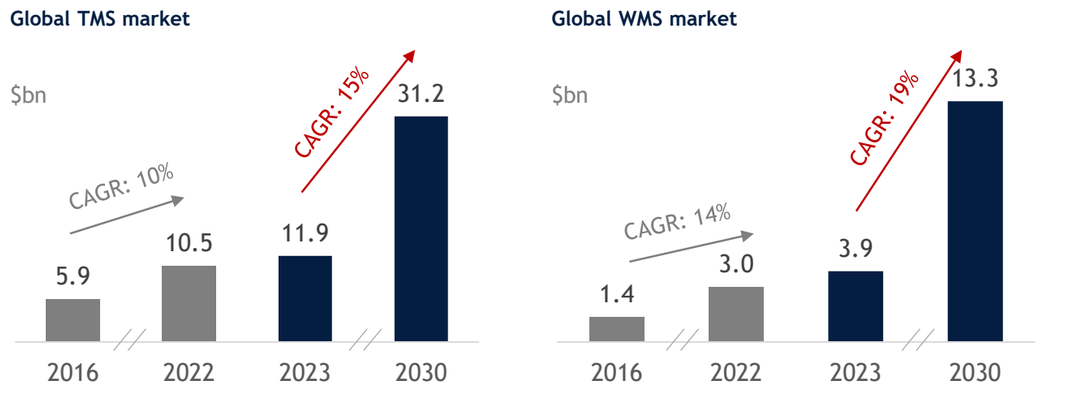
One of the primary drivers of this robust growth is the increased accessibility brought about by technological advancements. As technology continues to evolve, TMS and WMS solutions have become more user-friendly and accessible to a wider range of businesses, which in turn has enabled logistics service providers to leverage these systems and enhance their operations.

Additionally, the introduction of new functionalities within TMS and WMS platforms further fuels their growth. The systems are continuously evolving to meet the changing needs of the logistics industry. New features and capabilities are being developed, allowing businesses to optimise their supply chain processes and improve efficiency. As a result, more companies are recognising the value of implementing TMS and WMS solutions, thereby contributing to overall market growth.

The growing need for cost savings is another driving force behind expansion in the TMS and WMS markets. Businesses across industries are increasingly seeking ways to optimise their supply chain operations and reduce costs. TMS and WMS solutions provide efficient management of transportation and warehousing processes, enabling companies to streamline operations, minimise errors, and achieve significant cost savings. As demand for cost-effective solutions continues to rise, the adoption of TMS and WMS systems is expected to grow correspondingly.

Looking ahead, market projections indicate stronger growth in both the TMS and WMS sectors. The global TMS market is forecast to expand from USD11.9 billion in 2023 to USD31.2 billion by 2030, representing a CAGR of 15%. Similarly, the global WMS market is expected to grow from USD3.9 billion in 2023 to USD13.3 billion by 2030, reflecting an impressive CAGR of 19% (Grandview Research, Statista).

FIG 8: THE GLOBAL TMS AND WMS MARKETS ARE SET TO POST DOUBLE DIGIT GROWTH OVER 2023-2030



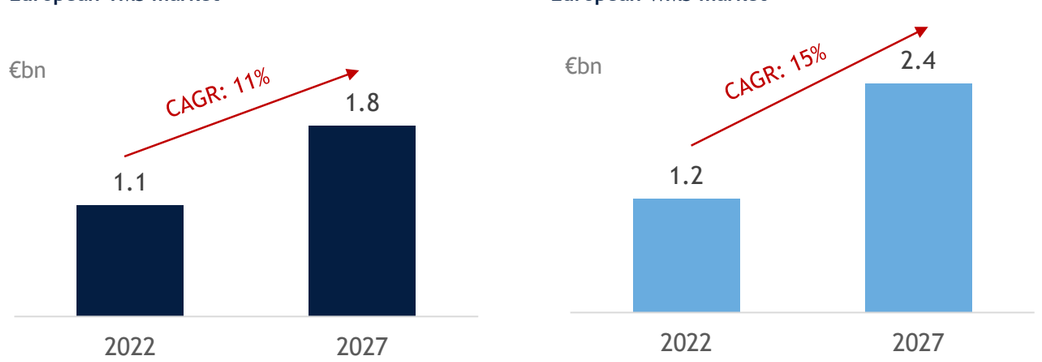
Source: BG IRIS, Grandview Research, Statista

IN EUROPE, **TMS SHIPPER RIDING THE NEXT WAVE**

The landscape of European logistics is undergoing a transformative shift, with the burgeoning adoption of advanced technologies reshaping the TMS and WMS markets. Projections for 2027 paint a vivid picture of this development, with the European TMS market set to surge to EUR1.8 billion, posting a CAGR of 11%. Simultaneously, the WMS market is expected to reach EUR2.4 billion, propelled by an impressive CAGR of 15% (BG IRIS, The Insight Partners, Berg Insight).

As the European market is a combination of different maturities (Western Europe is far more mature than Eastern Europe), the expected growth rates of the TMS and the WMS markets are lower than the global level. Beyond the global factors influencing these sectors, such as increased accessibility of TMS and WMS solutions among smaller businesses and cost-saving pressure, the European TMS and WMS markets are notably steered by the substantial expansion of Cloud-based solutions across the continent. This digital migration is not only redefining logistics paradigms but also fostering a new era of connectivity and efficiency. Additionally, the rapid development in Eastern Europe is emerging as a significant catalyst. This infusion of innovation and technology is not only bridging gaps but also propelling both the TMS and WMS markets towards unprecedented growth, making Europe a vibrant hub of technological innovation in the realm of logistics management.

FIG 9: THE BURGEONING ADOPTION OF ADVANCED TECHNOLOGIES RESHAPING THE TMS AND WMS MARKETS



Note: TMS market refers to the integrity of both TMS for shipper and TMS for carrier
Source: BG IRIS, The Insight Partners, Berg Insight

A noteworthy case in point is France, where virtually all warehouses exceeding 5,000m2 have already integrated WMS into their operations. On a broader European scale, the WMS market is undergoing a transformative upgrade, with traditional on-premises licensing solutions gradually giving way to more agile hosted-licensing options such as SaaS and cloud-based systems. This shift underscores the industry's adaptability to evolving technology and business needs, ensuring greater efficiency and scalability for warehouse management.

While the WMS market flourishes, the TMS landscape presents an intriguing contrast. It is a multifaceted domain, with one side significantly more mature than the other. TMS adoption among carriers has already achieved a high level of penetration, with rates exceeding 60% in various regions, including France.

In stark contrast, the TMS market for shippers tells a different story. In France and its neighbouring countries, the penetration rate for TMS among shippers is just 25% or even lower. This disparity emphasizes a substantial growth opportunity for TMS adoption within the shipper segment. As businesses increasingly recognise the value of streamlined transportation logistics, the potential for TMS adoption among shippers is immense.

Facilitating this shift is the well-established infrastructure that many companies have developed to support their ERP systems and other corporate IT applications. This robust infrastructure provides a solid foundation for seamlessly integrating TMS shipper into existing operations. The synergy between TMS and ERP systems empowers companies to optimise their supply chain management, achieving greater visibility, control, and efficiency in their transportation processes. As a result, the barriers to entry for TMS shipper adoption are lower than ever, encouraging more businesses to explore these transformative solutions.

Several compelling factors are driving growth in TMS adoption among shippers:

- Foremost among these is the persistent need for cost reduction, especially in the face of an inflationary economic environment. Businesses are increasingly turning to TMS solutions to trim transport expenses, optimise shipping processes and enhance resource allocation.
- Tightening regulations on supply chain operations and carbon emissions reporting are compelling companies to seek TMS systems that can help them meet compliance requirements efficiently. These regulatory pressures, combined with the imperative to reduce environmental footprints, make TMS for shippers an essential tool for modern businesses navigating complex logistical challenges while remaining economically and environmentally responsible.

Looking ahead, we anticipate a significant shift in the TMS shipper landscape. Over the next five years, we expect the penetration rate of TMS among shippers to catch up and rise above 60%. This projection reflects growing recognition among businesses of the advantages of TMS in enhancing efficiency, reducing costs, and ensuring compliance. As this transformation unfolds, we can anticipate further advancements in transport and warehouse management, ultimately leading to more streamlined, efficient, and sustainable supply chains.

FIG 10: TMS SHIPPER IS RIDING THE NEXT WAVE

Markets	Maturity	Trends
WMS	Mature market Iterative upgrade	Transforming to hosted-licensing options such as SaaS and cloud-based systems Ongoing consolidation Development in the international market
TMS Carrier	Mature market Iterative upgrade	
TMS Shipper	High growth market Low penetration	Market penetration is expected surge from 20% to over 60% in the next 5 years Technologically developed products (SaaS) French companies are going international in Europe

Source: BG IRIS

NEXT-GENERATION TMS AND WMS: DELIVERING HIGHER EFFICIENCY AND PROFITABILITY

TMS

TMS for Shippers and TMS for Carriers have similar goals: to reduce transport costs, providing visibility, and automated processes. The difference lies in their functionalities. TMS for Shippers focuses on optimising transport orders, carrier selection, cost evaluation, and real-time tracking. TMS for Carriers serves as a control tower, optimising tours and managing costs, considering social constraints and fleet management. Both TMS solutions are essential for efficient transport management, improving operations for shippers and carriers alike.

FIG 11: TMS SOLUTIONS ARE ESSENTIAL FOR EFFICIENT TRANSPORT MANAGEMENT FOR BOTH SHIPPERS AND CARRIERS ALIKE

TMS for Shippers	TMS for carriers
Selection of suitable carriers Distribution of transport orders Evaluation of transport costs CO2 emission reporting Real-time tracking	Control tower for road transporters Route optimisation Cost calculation Travelling distance management Delivery deadline Invoice billing

Source: BG IRIS

As TMS serves as a control tower for transporters from A to Z, the adoption rate of TMS among carriers is much higher than that among shippers.

Carriers face various significant costs in their operations, with some key areas accounting for a substantial portion of their total operating expenses. The primary expenses include the driver's salary and benefits, fuel costs, truck and trailer costs, and repair and maintenance. Driver's salary and benefits alone constitute approximately 44% of the total operating costs, followed by fuel costs at 21%, truck and trailer costs at 20%, and repair and maintenance at 11%.

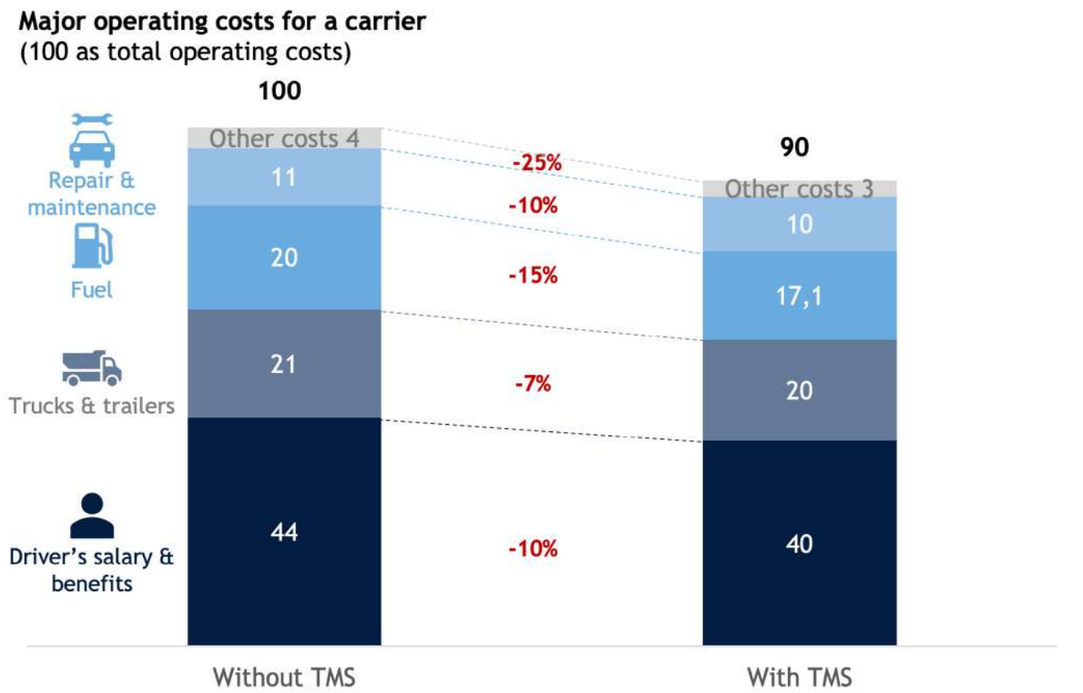
Implementing a TMS can play a crucial role in helping carriers reduce these major expenses. One of the significant cost-saving benefits of a TMS is the ability to optimise fuel consumption. By providing efficient route planning, load consolidation and real-time visibility, TMS enables carriers to minimise fuel consumption and optimise their fuel expenditure, thus reducing overall fuel costs.

Moreover, TMS can significantly enhance delivery efficiency. By optimising route planning, load scheduling, and load optimisation, carriers can improve their overall delivery operations. This leads to reduced transit times, fewer empty miles, and improved resource utilisation, resulting in cost savings and increased operational efficiency.

Another advantage of using a TMS is the ability to predict and manage maintenance based on detailed travel information. By tracking vehicle performance data, such as mileage and engine diagnostics, TMS can proactively schedule and manage maintenance activities. This proactive approach helps prevent breakdowns, reduce repair costs, and extend the lifespan of trucks and trailers, ultimately lowering maintenance expenses for carriers.

Based on our analysis and interviews with companies, TMS can save a company up to circa 10% on transportation spending.

FIG 12: TMS CAN HELP REDUCE TRANSPORTATION SPENDING BY 5-10%



TMS can save circa 10% transportation costs for a company

Source: BG IRIS

The TMS landscape is undergoing a transformative shift, thanks to new platforms, Amazon-like real-time visibility, social and environmental reporting and "uberisation" options.

These developments are giving rise to a new generation of TMS that is revolutionising the user experience. With enhanced visibility, users can track their shipments in real-time, like the level of transparency offered by Amazon. This empowers businesses and individuals with greater control and faster decision-making capabilities.

Furthermore, the integration of social and environmental reporting within TMS platforms brings a heightened focus on sustainability and responsible practices. Companies can now better understand and manage their carbon footprint, social impact, and sustainability initiatives, leading to more environmentally conscious operations. This not only benefits the planet but also enhances a company's reputation and builds stronger relationships with customers who prioritise sustainability.

In addition, the concept of uberisation in the TMS space is reshaping logistics operations. Similar to the disruptive impact of Uber in the transportation industry, TMS platforms now provide options that directly connect shippers with carriers and logistics providers. This eliminates intermediaries, streamlining the shipping process and delivering faster, smoother experiences. Shippers have access to a wider pool of carriers, enabling them to compare rates, select the most suitable options, and optimise their supply chain operations. New platforms, Amazon-like real-time visibility, social & environmental reporting, "uberisation" options are building a new generation of TMS, creating a more visible, faster and smoother user experience.

TMS developers are also expanding integration capabilities to include not just traditional enterprise systems like ERP, but also manual data (voice, email, and text), self-service portals, web services and other application programming interfaces (APIs). This makes TMS more flexible and adaptive to the way business is done today.

Example: Shiptify

Shiptify snapshot

Created in 2016 by former logistics operators, Shiptify is a transport management platform provider offering TMS for shippers, multi-transporation management system, and Yard Management System (YMS). Headquartered in France, Shiptify also has an office in Poland. Following the development of a diversified client base in almost all end markets, Shiptify's solution is present in 65 countries across 5 continents. For example, Shiptify accompanied Somfy, Yoplait and Lyreco's footprint worldwide. Moreover, Shiptify is connected to over 10000 carriers.

Shiptify is not only for small businesses!

As Shiptify propose a billing scheme 100% based on the number of shipments made by clients without set-up fees, there is also the false notion that Shiptify is dedicated to small business. However, it is not the truth. Shiptify has a balanced client portfolio of SMEs, ETIs, and global leaders such as Alstom, Safran, Bic, etc.

The solution to leverage technology advancements in whole ecosystem

Thanks to its universal APIs, Shiptify is a part of the whole ecosystem in supply chain management connected with visibility platforms like Shippeo, Project44, etc., WMS, and TMS carriers, etc. Clients could access advanced technologies developed and provided by Shiptify's partners such as CO2 emission tracking, real-time route optimisation, predictive ETA and Geo-location.

Interview with Romain Codron, CEO and founder of Shiptify

Q: What is your opinion on the current TMS shipper market in France, and how does Shiptify adapt to the specific needs of this market?

A: The leader in TMS Shipper in France, Europe, and globally is... Microsoft with its Outlook and Excel modules. The communication internally within the shipper or with external carriers remains extremely manual and depends a lot on Excel and Outlook. Shiptify offers the best alternative to see and manage key elements in an efficient way. To achieve this, there is no need to go out into the field and observe how people work: we use to be these people ourselves!

Q: Compared to the adoption rate of TMS carrier, which is estimated to be over 60%, the adoption rate of TMS shipper is far behind at about 25% in France. How do you explain this difference, and how do you see the adoption rate in 5 years?

A: I will estimate the current adoption rate of TMS shipper is currently below actually 25%. In 10 years, we project an adoption rate of 70% to 80%, becoming a necessity in many respects. The number one ROI is the team's working comfort. TMS editors haven't understood customer needs. So, if you ask me how Shiptify adapts to market needs, unlike other TMS editors, Shiptify focuses on one thing, which is end-user satisfaction and their needs.

Q: How do you see the trend in the shipper TMS market?

A: There are true SaaS and false SaaS. Conversely, the market for established editors will be those that are there tomorrow; they will be acquired by each other. There are mergers between some TMS and WMS editors. But for me, the added value for this type of merger is questionable. It's more like a 1+1=1.5 game rather than 1+1=3. Because doing WMS and TMS is not the same job; it's two different businesses.

Q: How do you see the evolution of this ecosystem: will the players consolidate horizontally, or will each specialist focus on what they know best?

A: There will inevitably be consolidation effects with large groups interested in specialists, but those trying to build this system today get lost. There will be 10 to 20 leaders in regions like Europe and the US. Perhaps among the European leaders one of those will become a leader in the Americas. There won't be a need for a global TMS; a regional French TMS is sufficient because a global TMS will cost a lot. Global companies often have their domestic TMS to manage domestic distributions in major countries. However, according to my observation and estimation, the e-commerce TMS, which is completely different, has an equipment rate of 95% to 98%.

Q: Where is the YMS (Yard Management System) market in France and Europe? I see several actors offering solutions.

A: There are very few providers because the market is held by people who do TMS. Shiptify is one of the leaders in Europe on this subject.

Q: How did you come up with the idea of democratizing the TMS solution and creating Shiptify?

A: Because I was one of the users of TMS shipper and very dissatisfied with how the problem was addressed. The conclusion was to create their solution since other solutions were expensive and complex to highlight. So, we wanted to create an affordable and easy-to-highlight solution.

Q: How do you offer 0 setup fees to clients while maintaining your profitability?

A: For some other solutions, the setup fee could start at around €50k per year. We decided to create the first TMS with €0 setup fees. There are two strategies I can share. For us, customer satisfaction is key. Firstly, we pool all our developments and act as a former logistics operator who spends more time in a warehouse than an investment fund looking for investor money. Secondly, we are always very strict and refuse all requests that do not seem legitimate to serve the Shiptify community.

Q: Compared to your competitors, what are the other competitive advantages of your TMS?

A: Our competitive advantages are based on 3 elements: 1) industry expertise: I was a former operator. It's not a company of engineers but rather a company of logisticians. 2) We are here to serve our clients: we are independent, not financially supported by funds pushing us purely in the financial KPIs. 3) We like to do things simply, and what makes the difference between Shiptify and historical solutions is simplifying access to the TMS and its usage.

Q: As Shiptify's TMS can interface with an old existing TMS at clients with 0 setup fees, Shiptify's potential market consists of both companies that don't have a TMS and companies looking to renovate their existing TMS. Is this something unique to Shiptify?

A: Since the market is quite limited, they generally remove everything to put Shiptify in its place. Still, there is the possibility to overlay Shiptify on a historical TMS, but it's rare. It's not mainstream, given the low equipment rate, and there is a low probability that they won't find everything they want in Shiptify.

Q: People sometimes think that Shiptify is intended for small businesses, but you do have many international enterprises in your client base. How would you describe your clientele?

A: We want to be functionally precise enough to meet the needs of very large groups and at the same time very simple to meet the expected ROI of a small business. We have a ratio of 1 to 150 between our smallest client and the largest client in terms of revenue, and we are profitable on both client types. How is this possible? Because we seek simplicity in small businesses and functional richness in large ones. Then we offer functional richness for small businesses and simplicity for large companies. Our solution is highly modular according to clients' needs.

Q: What is your sectoral presence? Are there priorities in your current market? Are you diversifying your final market?

A: We are universal, so we do not have a diversification plan in our client base. For example, Shiptify has clients in dairy, luxury handbags, aerospace, defense, and pharmaceuticals.

Q: Do you have internationalization projects? If so, how do you choose your next geographical market?

A: Shiptify is based in France and Poland. We are very European, but we already have more than 15% of TMS clients outside Europe, all with very little marketing effort, just word of mouth. There is no market that is particularly interesting for Shiptify. We are in a customer satisfaction strategy, not an international expansion strategy. We are not a company who follows whatever the others are looking at. While others might be looking at the Americas, Shiptify might be interested in Africa for example.

Q: What's your commercial strategy in France and in your international market?

A: Customer satisfaction is the best and most economical way to get known; it's word of mouth, and it's something we build. It's a wave that grows and grows every day; it's a stronger investment than buying advertising from Google, and then it stops. We were nominated as "Customers' Choice" in 2022 by Gartner, and the other two nominees were SAP and Oracle.

Q: On your site, you talk about "Pre-connected Technologies," such as predictive ETA, AI, CO2 reporting, etc. Are these developed by Shiptify or provided by Shiptify's partners in the ecosystem?

A: They are provided by Shiptify's partners. For example, visibility solutions like Project 44 or Shippeo handle AI and predictive ETA. CO2 reporting is done with Ecotransit. Shiptify aims to offer a universal solution, allowing clients to choose neutrally, thanks to the strong interconnectivity of Shiptify.

Q: According to you, which technology will contribute the most to the future of the TMS shipper market?

A: AI, blockchain, and others will play a role, but the reality is we lack data in transport. The next 10 years will focus on facilitating data collection and making it collaborative.

Q: What is your strategy regarding R&D?

A: We keep it in-house. It's the core of our value and Shiptify's innovation.

WMS

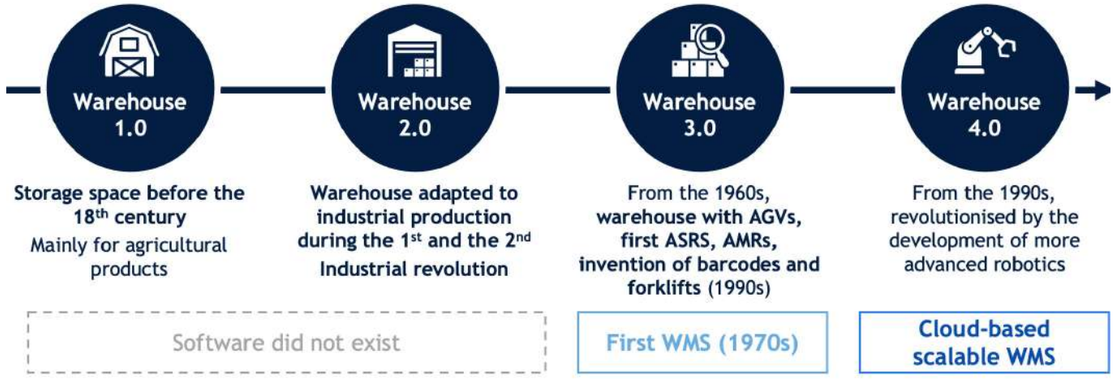
Contrary to TMS carriers, which work mainly for transporters, WMS addresses a diverse and expansive client base. WMS clients typically include e-commerce companies, retail chains, manufacturing units, logistics and distribution centres, wholesalers and third-party logistics providers. These businesses rely on WMS to optimise their inventory management, streamline order fulfilment processes, enhance accuracy and improve overall operational efficiency. Moreover, industries such as healthcare, automotive, electronics, and food and beverages also leverage WMS to ensure the seamless movement and tracking of goods within their supply chains. Large enterprises, small and medium-sized businesses, as well as start-ups, benefit from WMS solutions tailored to their specific needs, emphasising the system's adaptability and scalability.

FIG 13: WMS SERVES A DIVERSE AND EXPANSIVE CLIENT BASE

Source: BG IRIS

As warehouses evolve from basic storage rooms to sophisticated automated hubs driven by robotics, the Warehouse Management System has become paramount. With increasing scale and complexity, WMS acts as the digital backbone, ensuring seamless coordination of inventory, orders and resources. By leveraging real-time tracking and intelligent algorithms, WMS optimises operations, making it indispensable in today's intricate logistics landscape.

FIG 14: WMS IS BECOMING ESSENTIAL AS WAREHOUSES EVOLVE

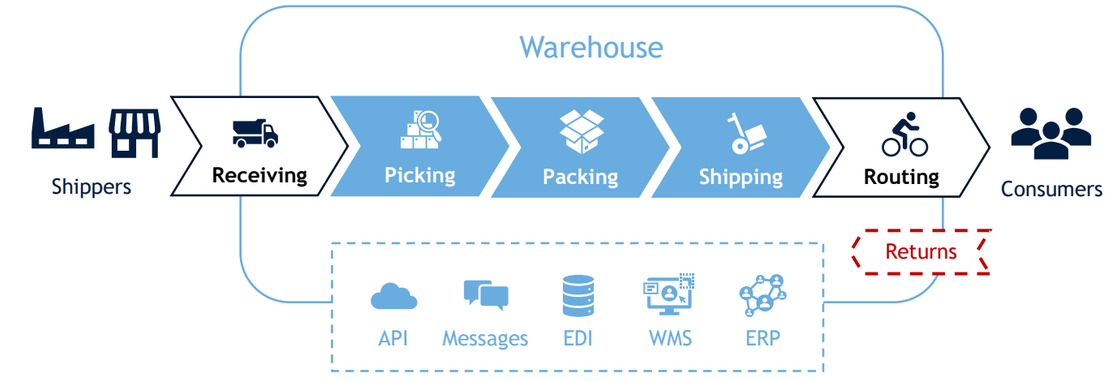


Note: AGV refers to Automated Guided Vehicle; AMR refers to Autonomous Mobile Robots: ASRS refers to Automated Storage and Retrieval Systems
Source: BG IRIS

WMS has been a common tool for large companies and the European and North American markets are mature. Asia and Latin America are the most rapidly expanding markets.

WMS is essential to manage complex activities in distribution centres, including receiving goods from shippers, classifying and placing goods, picking & preparing goods according to orders received, packing goods, and dispatching.

FIG 15: WMS IS ESSENTIAL TO MANAGE COMPLEX ACTIVITIES IN DISTRIBUTION CENTRES

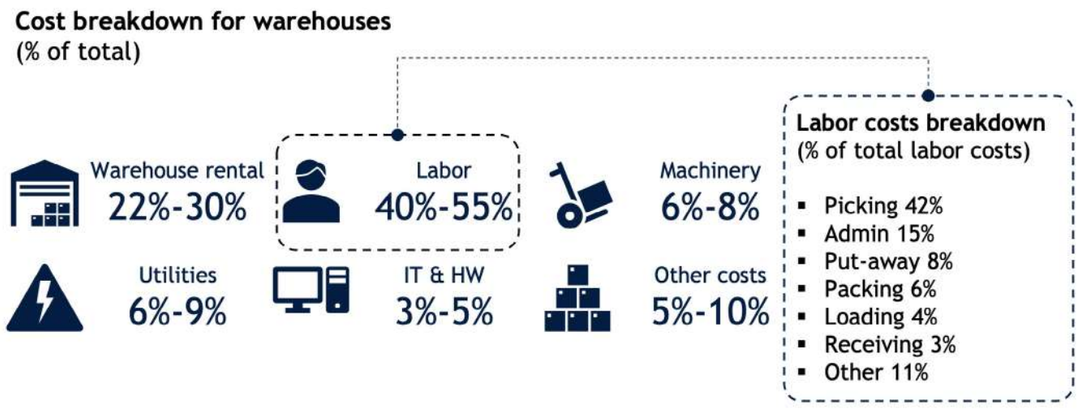


Source: BG IRIS

In a warehouse, the main source of spending concerns labour costs, which typically account for 40-55% of total costs. Additionally, warehouse rental costs contribute significantly, representing approximately 22-30% of overall expenses. Other costs, including machinery, utilities and IT & hardware, individually make up 3-9% of total costs.

When examining labour costs more closely, the picking process emerges as the most expensive step, representing 42% of total labour costs. Moreover, picking is also the most time-consuming operation within the warehouse. Administration tasks follow, comprising 15% of total labour costs, while put-away activities account for 8% of total labour costs.

FIG 16: COST BREAKDOWN FOR WAREHOUSES (% OF TOTAL)

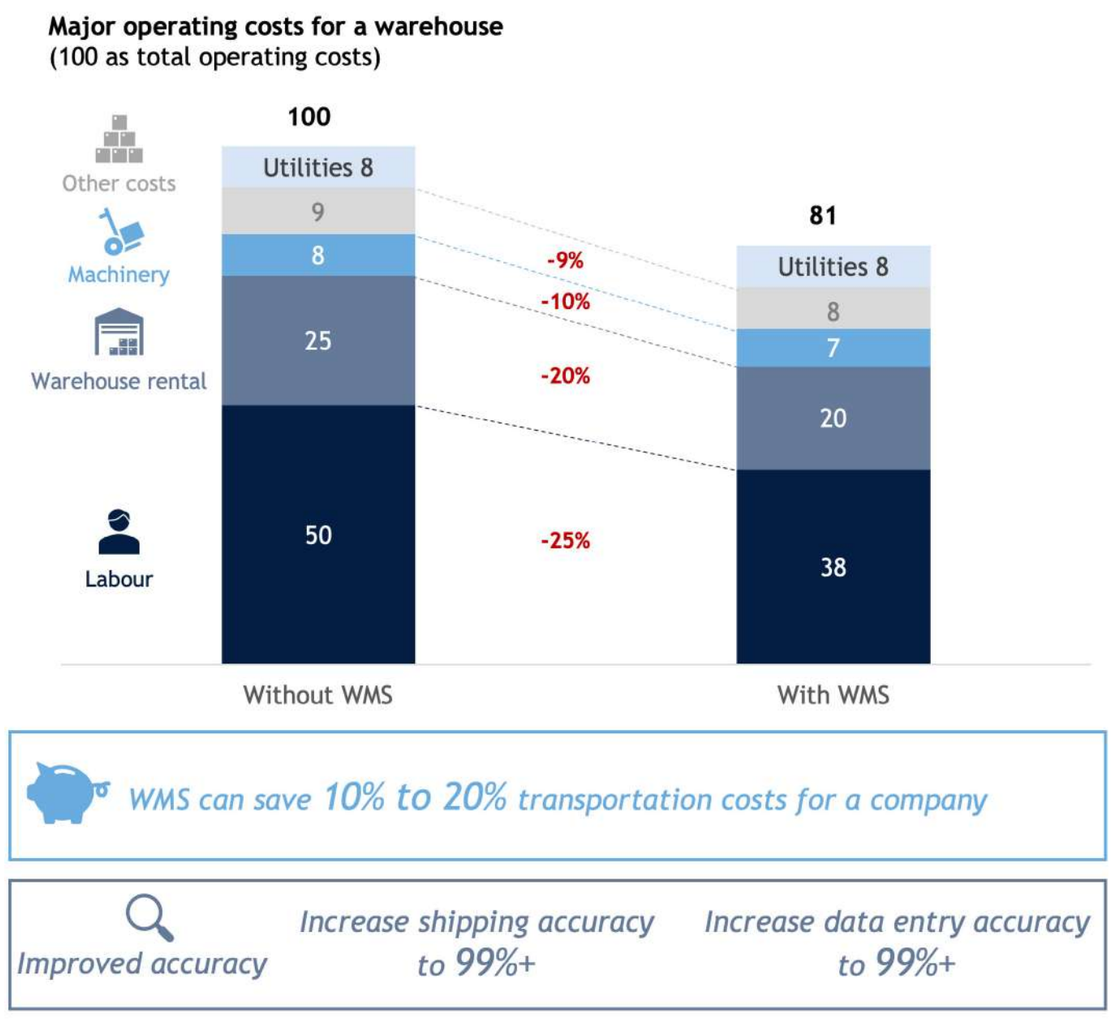


Source: BG IRIS, Beroe

Implementing a WMS yields significant benefits by enhancing accuracy and reducing costs. According to JDA Software Group, WMS implementation can lead to shipping accuracy and data entry rates surpassing 99%. By digitising business processes, WMS enables greater efficiency and improved visibility, resulting in smarter inventory management. In turn, this generates potential savings such as labour utilisation reductions of 10-35% and floor space utilisation improvements of 10-30%.

Specifically for shippers, WMS plays a crucial role in inventory management by reducing inventory levels by 5-30%. It also helps mitigate stock shrinkage by 50-75% and minimises rolling stock requirements by 10-20%. Overall, the implementation of WMS enhances operational accuracy, reduces costs, optimises inventory control and improves efficiency in warehouse management.

FIG 17: WMS CAN HELP TO REDUCE COSTS AND IMPROVE ACCURACY



Source: BG IRIS

Example: Zalando

Zalando snapshot

Founded in 2008 in Berlin, Zalando is a leading European online platform for fashion and lifestyle offering more than 7,000 brands and delivering to customers in 25 countries.

Logistics is an essential part of Zalando's DNA

Logistics infrastructure is the backbone of Zalando's platform strategy. In 2021, Zalando announced EUR1bn+ in logistics investments in an Amazon-like strategy for the coming years. Zalando currently has 12 logistics hubs and satellites across Europe and there are four new fulfilment centres under construction until 2025.

In-house technologies driving digitalisation

Zalando has an in-house developed WMS and other analytical tools for data evaluation and insights. Thanks to these cutting-edge solutions, Zalando successfully coordinates its logistics and continuously improves the customer experience by expanding its scalable logistics infrastructure.

Fulfillment, a significant operating cost on the P&L

In FY 2022, Zalando reported EUR10.3bn in revenue, and fulfillment costs amounted to EUR2.7bn, the second-largest cost following the cost of sales at EUR6.3bn. We estimate the fulfillment cost per order (before return) at EUR8.5 for an average basket size of EUR57. Fulfillment is crucial for Zalando to maintain or even improve its margin and the company will continue to invest in its logistics network with the pace adjusted to the current macro environment.

E-commerce is booming like never before. Optimising logistics for order returns is becoming a major supply chain challenge and is putting more pressure on warehouse management. According to FEVAD, 24% of goods sold via e-commerce are returned, whereas the return rate is 10% in other sectors. Moreover, among these returns, 70% are made for subjective reasons (colour, material, etc.)

Managing returns that are by nature very random represents a high cost: The logistical cost of managing a return currently averages EUR10 per product, excluding transport. Returned goods also place severe constraints on the supply chain. Receiving returns, checking them, sorting and storing them before putting them back on sale requires numerous manipulations and mobilises operators who travel considerable distances. In addition to ensuring the reliability of returns processing, logisticians must ensure that items are "correctly" reintegrated into their inventories.

Returns logistics have a dual mission: to reduce costly storage and to give products a second life as quickly as possible. The main levers for optimising reverse logistics are to:

- Separate the responsibilities of physical restocking and accounts payable. This division enables faster processing of returns and associated payments.
- Implement a "returns authorisation" process by utilising customer-facing portals to generate tracking numbers and document the return process in real time. This approach reduces the risk of fraudulent returns.
- Organise incoming merchandise in a similar way to the handling of vendor/supplier incoming merchandise. This practice ensures accurate inventory management and minimises instances of overstocking caused by returns.
- Utilise automated technologies to track unsaleable or "salvage" merchandise. By employing automation, the likelihood of reshipping unsaleable products to customers is reduced.
- Embrace handheld scanners, voice-controlled technologies and emerging solutions like augmented reality glasses. These technologies minimise errors in documentation and streamline the overall reverse logistics process.
- Integrate reverse logistics with existing supply chain systems, such as a WMS and TMS. This integration enhances visibility and enables just-in-time stock management.
- Return damaged merchandise or items with manufacturer defects to the respective supplier or vendor for credits or recycling. Proper documentation must accompany credit submissions to verify legitimate reasons for returns.

Certain WMS and TMS have return management functions, but there are other specialists focusing on return management solutions. These specialists' solutions have API integration with various third-party platforms. The WMS, together with the return management solution, serves as a tool for managing return processes, enabling distributors to have real-time visibility on their inventory when dealing with returned goods. By using the WMS, distributors can quickly allocate available stock or directly pick items from the returns zone. Damaged goods can be promptly isolated for repackaging or disposal, while reusable stock can be easily identified and relocated for order fulfilment. This ensures that stock is not left unused for extended periods.

Europe & Middle East	North America
Please refer to your BG contact for further information	Please refer to your BG contact for further information

Source: BG IRIS

Example: Revers.io

Revers.io snapshot
Established in 2009, Revers.io originated in the cloud and has since become a leading SaaS software editor dedicated to after-sales services. Revers.io offers returns management, repair management and second-hand resell, all within its platform.

Its solution can help clients reduce 70% of relevant costs and 50% of precession times. Revers.io is deployed among the largest retail brands such as Fnac, Darty, Boulanger, Carrefour, Auchan, Leclerc and La Redoute.

"Our return management platform that has been on the market since May 2018 is aimed at all merchants regardless of their product type, size or country. For example, a seller on a marketplace can centralise their complaints and manage them easily from our platform. The great strength of our platform is that it is connected to the entire return chain - that is to say, both buyers and stores, marketplaces, relay points, carriers, logistics centres, technical centres and suppliers. It also allows the buyer to personalise their return journey!" – Vincent Torres, CEO of Revers.io

Fnac & Revers.io: 40% reduction in the administrative cost of processing returned items
Since 2015, Fnac has used Revers.io's solution to manage returns of consumer electronic products. Before adopting Revers.io's solution, Fnac grappled with tedious and manual re-sale procedures at stores, warehouses and suppliers. The lack of traceability post-warehouse departure led to management challenges, while the manual exchange processes with repairers were time-consuming and costly. These hurdles hindered operational efficiency and increased logistics expenses significantly.

After implementing Revers.io's solution, Fnac achieved remarkable results. Repair times halved, reducing customer wait times significantly. The company also slashed return processing costs by 40%, leading to substantial savings. Additionally, Fnac experienced a 5-point increase in its Net Promoter Score (NPS), indicating higher customer satisfaction. Furthermore, the system eliminated costs related to creating quotes and exchanging information with suppliers, streamlining operations and reducing expenses. Revers.io's solution proved highly effective, delivering faster resolutions, cost savings, and improved customer experience for Fnac.

Moreover, integrating the WMS alongside an ERP solution streamlines returns processing further. It enables automatic stock adjustments and credit issuance based on well-defined return processes. For instance, sellers can perform quality checks by analysing the proportion of returned goods compared to original orders. They can also anticipate incoming returns and conduct inspections upon arrival. By processing returned goods through an integrated ERP/WMS solution, human error is significantly reduced, thereby speeding up the credit process and ultimately enhancing customer satisfaction.

Besides return solutions, visibility platforms and TMS, WMS collaborates with other software and services to optimise and orchestrate supply chain networks and logistics flows: Warehouse Control System (WCS) for coordination of warehouse automation and robotics, Order Management System (OMS) for inventory management, and Labour Management System (LMS).

In coming years, we expect WMS to integrate intelligent technologies and become more scalable.

The rise of Industry 4.0 has introduced advanced technologies like IoT devices and robots to warehouses. As a result, WMS must establish connections with this new equipment. WMS developers are actively designing interfaces to accommodate IoTs, wearables, vision-picking devices, forklifts, and robots.

Scalability presents a fundamental challenge as conventional approaches to modifying WMS can lead to a significant increase of 50% or more in the overall solution cost. Even when a company opts for a single WMS vendor, each new facility installation requires custom bolt-ons. This challenge becomes more complex when implementing WMS sequentially across multiple warehouses. By the time the 21st warehouse is reached, the accumulation of bolt-ons makes it difficult to manage global updates or perform system refreshing efficiently.

Example: Reflex Logistics

Reflex Logistics snapshot
Part of Hardis Group, Reflex provides software and services to optimise and orchestrate supply chain networks and logistics flows. The offerings include WMS, Labour Management System (LMS), Warehouse Control System (WCS) Master, voice picking system and transportation management features. Reflex serves a client portfolio of more than 480 clients across 25 countries.

100% customizable, scalable and robust SaaS WMS is the backbone of omnichannel logistics management

Reflex's advanced WMS is a multi-site and multi-activities associated with an open data platform to centralise data from all the solutions in the ecosystem: ERP, TMS, OMS, web applications, e-commerce platforms, and POS management systems. With Reflex' modulable offerings, it is possible to build a logistics control tower, achieve end-to-end order visibility, and have a unified view of logistics stocks in diversified sectors including e-commerce, retail, spare parts, industry, pharmacy, and cosmetics.

The Raja Group x Reflex: a WMS for 15 distribution centers (400,000 m2 in total) across Europe

The Raja Group, European leader in the distribution of packaging, supplies and equipment for businesses, deploys Reflex WMS warehouse management software in its distribution sites in Europe. This deployment is part of a process of optimisation and harmonisation of the group's logistics tools on a European scale, with a view to keeping its two main promises: the guarantee of stock availability of 300,000 products marketed associated with delivery within 24 to 48 hours throughout Europe.

There are 2 goals to achieve by adapting Reflex's WMS:

- Networking the group's 15 distribution centers in order to be able to ship products from the right logistics platforms.

- Harmonisation of IT tools: a single Order Management System (OMS) and ERP will be deployed across the group, while Warehouse Management (WMS) and Transport Management (TMS) tools and route management will be streamlined.

Reflex WMS, initially used in France, Belgium, and the UK, continues to meet the Raja Group's needs. The group, confident in Hardis Group's support, expands Reflex WMS to new sites in Poland, Sweden, and Spain, upgrading existing platforms and incorporating advanced features like automated scheduling and the Exlabel module for label publishing. This expansion establishes a standardised model across the group.

"Reflex responded well to our current and future needs. And we were reassured by the ability of the Hardis Group's teams to offer us both global and local support. After Poland, Spain and Sweden, we plan to deploy Reflex in a new warehouse located in the south of France, and in new warehouses that could emerge in Europe." Anthony Saussaye, Group Logistics Director at the Raja Group.

Interview with Nicolas Odet, CEO of Hardis Group

Q: How do you perceive the current state of the warehouse management industry in France and Europe?

A: Concerning the European market, in our opinion, the leader is an American player, closely followed by a German player. As always, SAP is also playing an important role, especially in Germany and mostly for some of their ERP customers. We are seeing ourselves in third place, with a notable presence in France, Spain, Poland, and the Netherlands with a clear ambition to reinforce our position across Europe.

The market structure highlights a few major players, who are expanding their presence from one country to others. Hardis, through its subsidiaries and selected partnerships, covers multiple European countries and is on track to become the undisputed leader in terms of geography. Hardis, with an ambitious plan, aims to be the international leader, maintaining its leading position in each country. The ability to provide solutions on a European and global scale is crucial in a mature market, especially in Germany, France, and the UK, where transformation drivers remain. In Spain and Italy, a trend is emerging towards more robust solutions to strengthen existing logistics components, indicating a relatively stable market. WMS market dynamics are more influenced by new markets than Europe, which remains a consolidation market where corporate leaders seek to master their solutions, either by deploying them directly or through logistics providers.

Changes in solutions are mainly driven by a few major themes: productivity, efficiency, mechanisation as well as data analytics or acceleration in B2B commerce.

Q: What is the adoption rate of SaaS solutions in France and Europe?

A: This year, the impact of SaaS on sales has been three times more significant than initially anticipated, highlighting a real market transition to the SaaS model. It's certainly also connected with our availability on Google Cloud. In France, the SaaS model prevails, demonstrating significant adoption of this approach. In the Netherlands as well, there is almost only SaaS. In Southern Europe, the preference for SaaS is lower compared to other regions, reflecting diversity in the adoption of this model. In some Eastern Europe countries as well, there is less use of SaaS, emphasising variations in market preferences for software solutions.

Q: What challenges are your clients facing post-Covid? And how could Reflex help them?

A: Clients are facing several major challenges post-Covid, including operational efficiency, workforce shortages, robotisation, and a trend towards mechanisation. Reflex offers solutions that directly address the three main market acceleration drivers, which happen to be major challenges for our clients. In terms of operational efficiency, our expertise optimises processes in a context where labour shortages are increasingly prevalent. Additionally, our approach includes easy integration with large-scale robotisation, providing solutions tailored to modern warehouses. Regarding the trend towards mechanisation, we understand specific challenges, as seen in the warehouse in the luxury sector, where product handling requires special attention. We are aware that the mechanisation trend is currently hindered by operational challenges, especially the lack of resources of pure players, especially integrators. Reflex is committed to working closely with our clients to overcome these obstacles and implement innovative solutions to optimise their operations.

Q: Compared to your competitors, what are the competitive advantages of your WMS?

A: We have three distinct competitive advantages over our competitors: adaptability and interconnectivity, the SaaS model, and wide functionalities range (workforce management solution, WCS, visibility, etc.). Moreover, we have an outstanding service team. In terms of historical advantage, our initial creation was oriented towards logistics service providers. Therefore, our solution was designed to be potentially configurable and to explore all market sectors, offering finesse that allows a logistics service provider to differentiate its processes from peers. Our strength lies in a deep understanding of logistics and associated processes, as well as the ability to adapt our solution to market specificities, which can be considered the most crucial asset in the logistics field. From 2014, we underwent a strategic shift by verticalising our solution. This means that we turned to logistics service providers to put an end to siloed developments. Today, we offer the most functionally comprehensive solution for each industry segment, and we are leaders in many sectors. Another significant advantage is our competent team to deploy the solution. When we collaborate with partners, it is crucial for us that they are competent. Additionally, in the peripheral domain, we offer a new range of solutions called "Reflex Visibility," entirely cloud-based, well-connected to Google Cloud. This range addresses logistical collaboration issues, extending beyond the strict scope of our WMS. We have the ability to integrate many WMS and TMS markets to promote collaboration within the supply chain and potentially develop applications connected to logistics.

Q: In March 2023, Hardis Group launched "Reflex Visibility." What is the business model of this solution? And what are the differences from other visibility platforms like Shippeo?

A: Compared to other solutions, we offer an innovative solution called Unified Inventory, designed to assist our clients in decision-making, unified inventory management, order tracking and much more. We are also thinking about carbon footprint management. In terms of business strategy, we plan to market this solution by first offering it to our existing clients, then selling it as a standalone solution in the form of separate modules. We are still in the early stages of this approach, with a future-oriented vision that we plan to realise. It is a comprehensive approach, with an underlying platform designed for the development of logistics applications. We will establish connections between applications based on this platform, while addressing the many aspects related to scalability development. It is important to note that while we have not defined this platform as directly comparable to visibility platforms. We are committed to continuing to shape this platform to meet the diverse needs of our clients and play an essential role in their logistics operations.

Q: Today, Reflex's WMS holds a strong position in execution; does the group have the ambition to extend to supply chain planning (similar to Futurmaster, E2Open) for end-to-end control?

A: There are no specific players covering both execution (WMS, TMS, etc.) and origination (planning, demand estimation, etc.). Paradoxically it's a very strong complementarity between supply chain planning and WMS - the seemingly direct connection between these two systems doesn't exist. Thus, our strategy of expanding our software portfolio is based on the idea that we have the supply chain but with a trajectory that passes through the extension of the WMS. This will cover the entire control tower part, as well as collaboration in the supply chain. Our approach starts with a WMS used in warehouses, then extends this WMS to transport and management functions within factories for the industrial sector. We see this as a natural evolution of our solutions, providing seamless integration between different stages of the supply chain.

Q: Hardis Group has a strong inclination for acquisitions (Sislog, Carrenet, Cloudity, etc.). What is your strategy for external growth?

A: We recently acquired a Sislog WMS in Spain, developed by Atos. We took over this solution, along with the associated team. With this acquisition, we gained a leading position, and we consider the challenge the European mid-market. Regarding visibility and collaboration, we have integrated transport features into the WMS. However, we do not rule out the possibility of making other acquisitions to complement our capabilities especially in data or AI. It is also conceivable that we may look for unified commerce solutions or other software companies allowing geographic expansion. We also bet on strong partnerships with global system integrators. The underlying idea is to gain positions in many countries by relying on existing logistics consultants and support our growth through dedicated service centers. It will also allow us to serve international customers in the best way. Our next step will be to establish a subsidiary in the United States to support our local integrators and collaborate with these major global integrators to strengthen our presence and establish our brand in the United States.

Q: Scalability is a major challenge in the sector, and Reflex's WMS has been successfully deployed in over 50 Renault factories as well as E-commerce leaders. How did Reflex achieve this great scalability?

A: For Renault, the plan is to deploy our WMS solution in more than 50 factories. Reflex offers them the high performance

combined with the flexibility that they need. Renault's team has even become autonomous to deploying Reflex worldwide. Technologically, it offers great possibilities, and in terms of order volumes, especially when in contact with the client Bol.com in the Netherlands, a leading e-commerce retailer. At that time, we adjusted to ensure its scalability, and we continued to work constantly to improve it. We have a two-year plan to make it even more efficient, scalable, and cost-effective.

Furthermore, our deployment approach often relies heavily on structured methodology, with a core model developed in collaboration with designated clients in different countries. Then we have "flying teams" that support deployment with very few functional changes. In several European countries, we have collaborated with many companies like Renault, and currently with some leading 3PL players.

Q: How do you see the WMS market in Europe in 5 years, and how does Reflex plan to contribute to shaping that future?

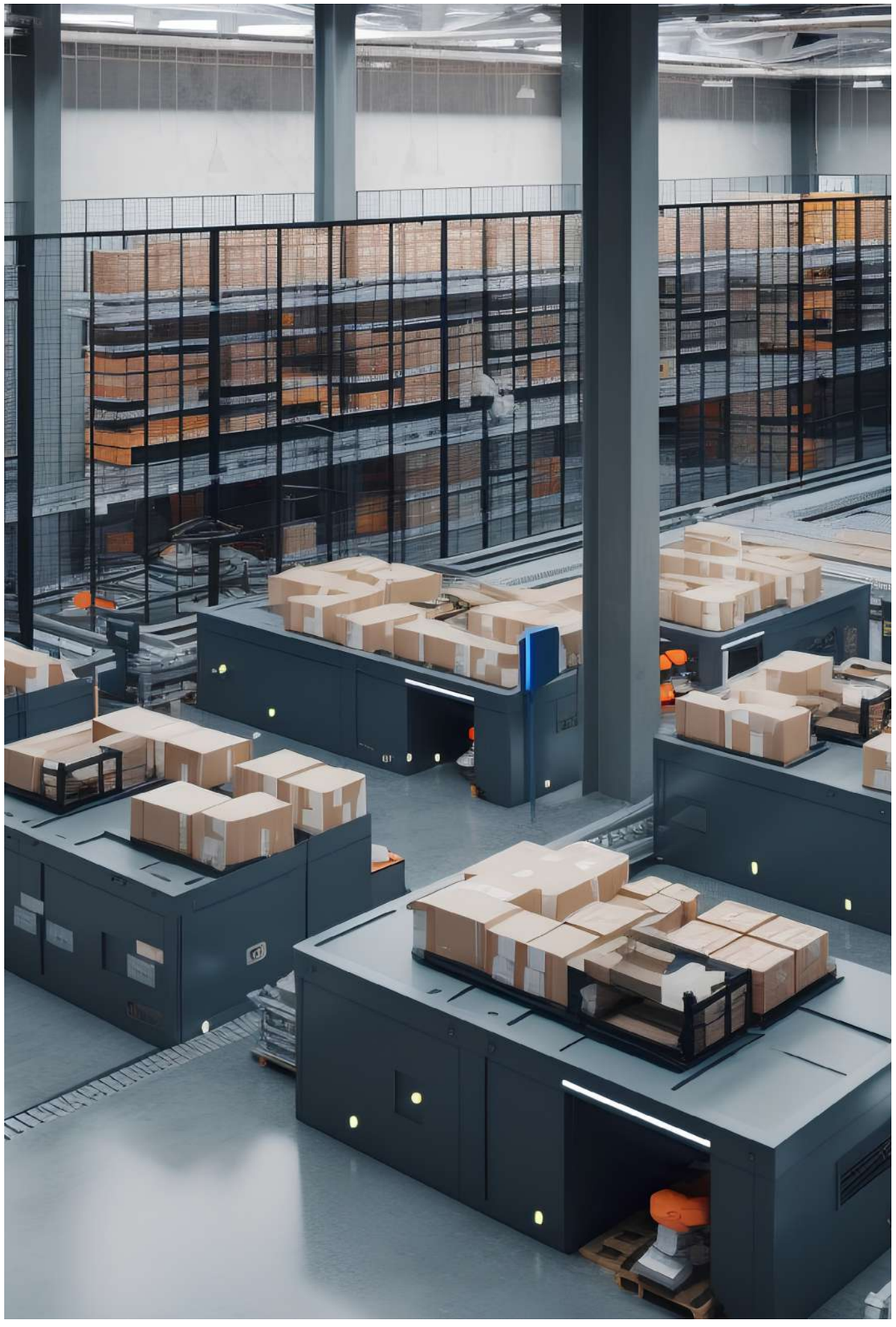
A: I believe that major challenges of mechanisation and automation will always be relevant. Therefore, I think our solutions will be increasingly used by robots. European markets show some heterogeneity, although the basic functions of WMS will eventually form a community somewhere. Thus, differentiation must revolve around the operational aspect of WMS and its integration into the involved ecosystem.

For example, a client may consider a solution to be technically very scalable but may need a global player with factories to deploy it. The globalisation of solutions is still ongoing, and the internalisation of solutions remains a trend that will continue to animate the market. In a context of highly fragmented logistics, a collaborative approach should emerge. Thus, we believe that the WMS market will be driven by exogenous elements. Again, building a value creation model and performance improvement on data and AI will be the source of competitive advantage through all the industries.

Q: How do you plan to improve your position in AI for intralogistics, especially by exploring external collaborations to enhance your overall operational efficiency?

A: We have already made significant advancements within our product and in terms of productivity optimisation even if we didn't sufficiently highlight our expertise in integrated data mechanics towards the market. This approach positions us as market leaders in terms of operational efficiency, enabling recalculation and re-optimisation of routes within the warehouse. The purely data-related aspect, especially AI applied to intralogistics, has been experimented through POC since 2017. Nevertheless, additional value compared to costs wasn't so well demonstrated. It's certainly also connected with our already excellent accuracy level in operational processes. What we observe in the field of AI seems to focus more on global supply chains, intercontinental aspects, and is more oriented towards upstream, especially planning.

While our operational efficiency is satisfactory, we believe that at the chain scale, it would be interesting to explore multi-editor initiatives, with a particular focus on operational aspects. The idea would be to create value together on this subject. I would like to closely follow this track. Internally, we take many initiatives that are quickly integrated into the product. The team currently responsible for AI and supply chain is working on this perspective.



A DYNAMIC COMPETITIVE LANDSCAPE WITH **GLOBAL** SOFTWARE GIANTS ALONGSIDE AGILE **LOCAL** PLAYERS

In both France and Europe, the competitive landscape in the TMS and WMS market is characterised by a dynamic interplay of global software giants and emerging local players. The dominance of renowned global software editors such as SAP, Manhattan Associates and BlueYonder is a defining feature of the market. These industry giants leverage their extensive resources, global reach and established reputation to cater to diverse client needs across both regions. However, an interesting counterbalance has emerged in the form of prominent local players that are rapidly ascending the ranks by focusing on expanding their offerings to smaller enterprises.

One of the notable trends in this landscape is the rise of big local players like Generix Group and The Sinari Group. These companies recognise the potential within the market and are strategically positioning themselves as comprehensive solution providers. By extending their offerings to smaller players, they address the unique challenges faced by these businesses, such as limited resources and scalability concerns. This approach not only helps smaller enterprises grow but also allows local players to capture a significant share of the European market.

Within this dynamic context, the influence of new entrants is palpable. A prime example is The Sinari Group, which has entered the market with an aggressive stance, marked by new product launches and acquisitions. This reflects a trend whereby emerging companies are keen on disrupting the status quo with innovative solutions and strategic moves. The injection of new energy is driving established players to enhance their product portfolios and customer engagement strategies, sparking a cycle of healthy competition that benefits end-users.

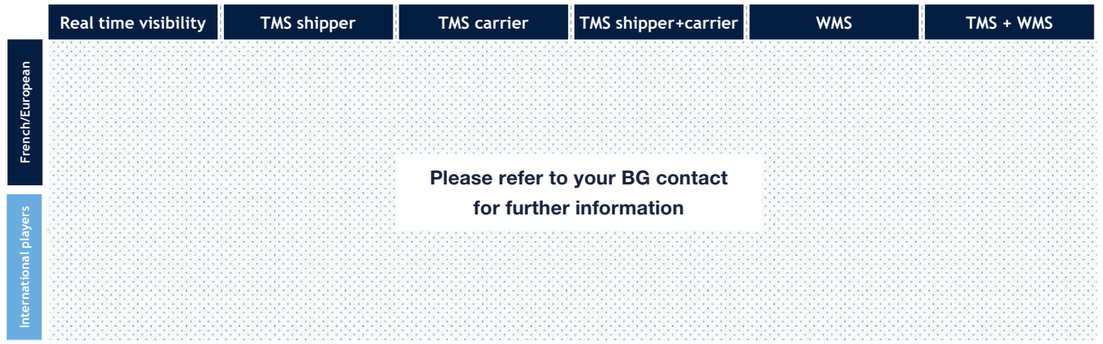
Foreign competition is intensifying, especially in France, where international leaders are expanding their operations. Project44's entry into France serves as a testament to this trend, as global players recognise the market's potential and aim to capitalise on it. As foreign competition escalates, local and regional companies are motivated to strengthen their positions and innovate more aggressively to maintain their market relevance.

Hidden in this crowded landscape are also in-house developers, such as Zalando (in-house WMS) and DHL (In-house TMS - EVO, WMS from Manhattan Associates). These solutions are not only used internally but also offered to business clients, for example, marketplace merchants on Zalando.

At the same time, the ongoing consolidation trend is shaping the competitive landscape. Strategic acquisitions, such as E2open's acquisition of Logistyx Technologies (2022), and Sinari's acquisition of Optilogistic and TAS-tms (2019), are reshaping the industry landscape. These moves allow companies to strengthen their portfolios, integrate complementary strengths, and expand their market reach. This consolidation strategy is not just a response to changing competitive dynamics but also a proactive approach to align resources and capabilities for sustained growth.

Furthermore, the consolidation trend extends beyond local companies and also concerns industry leaders. Transporeon's acquisition of Tracks (2022) demonstrates that even well-established players are embracing consolidation as a means of bolstering their positions and ensuring long-term success. This ongoing consolidation trend reflects the industry's adaptability and strategic foresight to navigate the evolving market landscape.

FIG 19: COEXISTENCE OF GLOBAL SOFTWARE GIANTS AND AGILE LOCAL PLAYERS



Source: BG IRIS, Management of Mytower

From their inception, TMS and WMS were designed to meet the requirements of large corporations. Global corporations choose TMS and WMS solutions from global players because these providers offer scalable solutions, integration capabilities and more customisable solutions that are essential for managing the complexities of modern supply chains on a global scale.

Example – L'Oréal & Manhattan Active Warehouse

Early in October 2020, Manhattan Associates announced that L'Oréal, the global beauty industry leader had opted to implement Manhattan Active® Warehouse Management, a versatile, scalable SaaS solution. The initial deployment was slated for mid-2021, marking the beginning of a phased rollout across L'Oréal's distribution centres worldwide, scheduled to be completed by late 2023.

"L'Oréal's global network of distribution centres plays an important role in ensuring that the right products reach consumers at the right time, with as little impact on the environment as possible. With Manhattan Active Warehouse Management, we have a solution that will improve our agility through the digitalisation, efficiency, and productivity of our distribution centres." - Francisco Garcia Fornaro, LATAM COO, former Supply Chain Director of the L'Oréal Group .

"The global deployment schedule starts with Europe. With the support of the Manhattan services team who will ensure large-scale implementation, we will demonstrate the unrivalled capabilities of the end-to-end solutions we can provide to multinationals and leading brands like L'Oréal." – Henri Seroux, SVP EMEA of Manhattan Associates.

This landscape remains consistent, although there is a rising trend whereby start-ups and smaller providers are offering TMS and WMS solutions tailored for smaller businesses. Furthermore, specialised providers focusing on specific functions like CMS, traceability and reverse logistics management have gained attention from major corporations such as CAC40 companies and are becoming additional functionalities integrated into client TMS and WMS systems.

Example: TDI

TDI snapshot

Founded in 1999 and rooted in the transport sector, TDI provides SaaS solutions that could generate shipping labels and transmit data, in electronic data interchange (EDI) format, from any national or international carrier to individual shippers. TDI could be connected to more than 260 French and international carriers and has more than 300 clients of all sizes in e-commerce, retail, industrial and transportation sectors, such as L'Oréal, Leroy Merlin, Saint Gobin, Showroom Privé, Legrand and Schneider.

"TDI is a forward-thinking partner for anyone who uses carriers, helping you optimise and consolidate your national and international shipping management." – Didier Guichard, Founder and CEO of TDI.

A CMS with expertise in label generating and data transmission

TDI's multi-carrier management system (CMS) helps clients to centralise and manage shipments on a single shipping software. TDI also has different modules offering stronger traceability. These modules cover the edition of certified shipping labels, branded tracking and customised notifications, alerts on delivery issues and analysis of delivery KPIs.

Managing omnichannel logistics with more efficiency and lower costs

TDI's solution helps its clients manage multi-carriers, multi-sites and multi-senders (from a store, a supplier or reverse logistics) through a single interface. Thanks to TDI's extensive connection with carriers and process automation especially in complicated label printing and management processes, clients can save 5-15% on transportation costs and achieve higher satisfaction from receivers.

AN ECOSYSTEM FOR **PARTNERSHIPS** AND **CONSOLIDATION**

SECTION 3

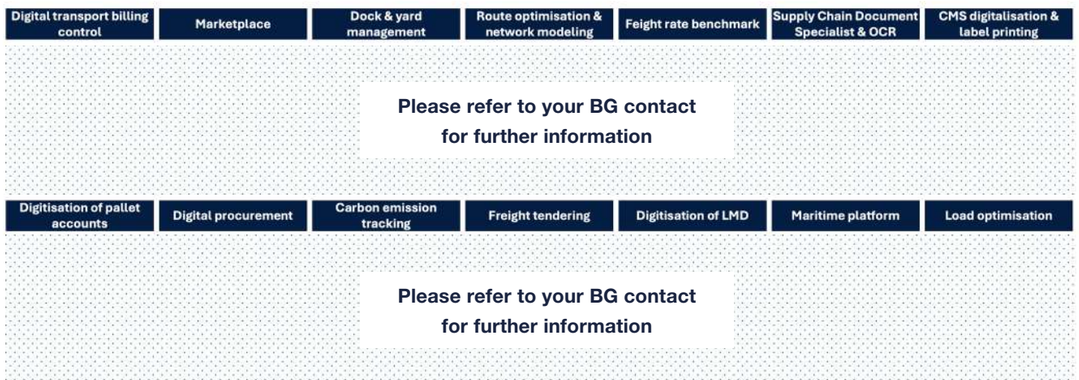
The constantly evolving landscape of supply chain management is witnessing the emergence of specific digital solutions provided by TMS/WMS editors and niche players. Within this ecosystem, TMS, WMS, and real-time visibility providers are enhancing their software offerings by incorporating specialised functions.

An illustrative example is Mytower, which, in addition to its TMS designed for shippers, has integrated a dock and yard management feature for warehouse managers. This innovation streamlines the management of vehicles within warehouse yards, thus optimising operations.

Similarly, TDI offers a web-based solution catering to shippers' needs by allowing seamless label editing for integrated carriers. This not only significantly boosts efficiency but also mitigates the risk of errors in the labelling process. These niche players focus on providing highly specialised digital solutions spanning the entire supply chain, encompassing processes such as freight tendering, yard management, load optimisation, document digitalisation, digital procurement and transport billing, and many others.

It is important to note that TMS and WMS providers are less likely to diversify their offerings extensively, as their core functions remain pivotal to the supply chain. Consequently, we anticipate the coexistence of these niche players alongside established TMS and WMS providers within the ecosystem. Moreover, there is a notable potential for partnerships and consolidation among these players, as they collectively contribute to the ongoing evolution and optimisation of supply chain management solutions. This collaborative approach promises to further enhance the efficiency and effectiveness of supply chain operations in the future.

In the future, clients could have the opportunity to seamlessly integrate all these digitalised solutions as modular components into a highly flexible and open corporate IT infrastructure. The key to unlocking the full potential of this integrated approach lies in ensuring robust connectivity among all these solutions. This interconnectedness will be instrumental in achieving scalability, allowing businesses to adapt, expand and optimise their supply chain operations more effectively. As the supply chain ecosystem continues to evolve, it is clear that a cohesive and interconnected digital infrastructure will play a central role in delivering the agility and efficiency that businesses require to thrive in an increasingly dynamic marketplace.



Source: BG IRIS

Example: The Sinari Group

The Sinari Group snapshot

The Sinari Group is the French leader in software for the Road Freight Transport and Logistics sector. The group is made up of expert companies with over 30 years of experience: AxioRoute, Cofisoft, CJM, Eliot, ITEM, IT2000, ICARE, GPI, OMP, Stock-it, TAS-Tms, Negsys and Xyric. These expert companies offer their customers TMS, FMS, WMS TMS, Optimisation, Social Management, pre-payroll and On-board Computing. Currently present in France and Benelux, the Group is looking to develop internationally.

Surging need for an efficient way to exchange information across the supply chain

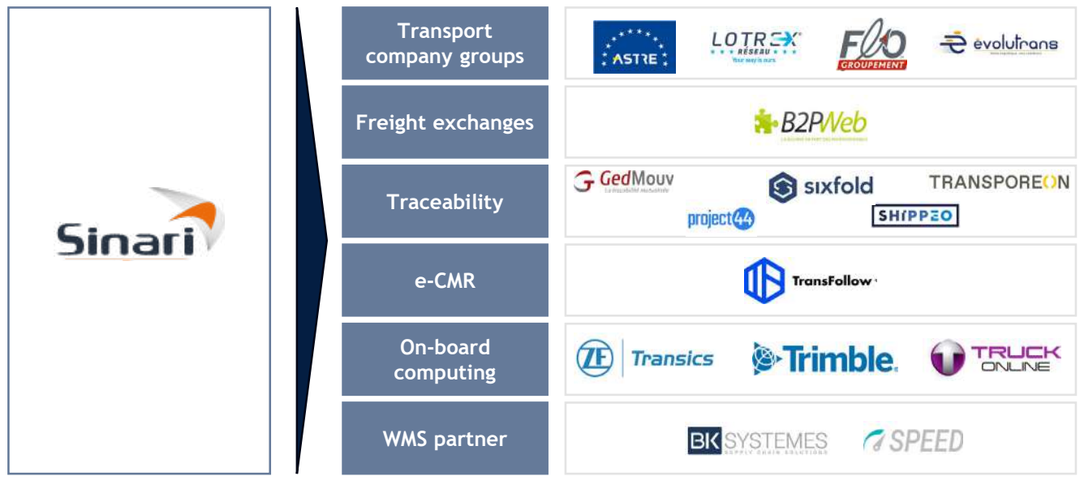
Today, there is no central platform or industry protocol for supply chain participants to exchange information easily. Most industry participants still use traditional communication means (e-mails, telephone, fax, Excel), due to the low rate of equipment in TMS or visibility platform of shippers.

Carriers subcontract part of their missions to other smaller carriers, who often (i) do not use the same solutions and (ii) are not equipped, hence limiting transportation traceability for shippers. Shippers lack full information tracking capabilities on their goods transported and want access to the same information as their carriers.

Connectivity: uninterrupted value chain into a complete ecosystem

Sinari actively participates in the global digital solutions ecosystem within the supply chain's value chain. Sinari's TMS plays a central role in facilitating efficient interactions between its clients, their customers, partners, and suppliers. Sinari's TMS are interconnected with most of the platforms that complete Sinari's value proposition:

FIG. 21: INTEGRATION INTO A COMPLETE ECOSYSTEM



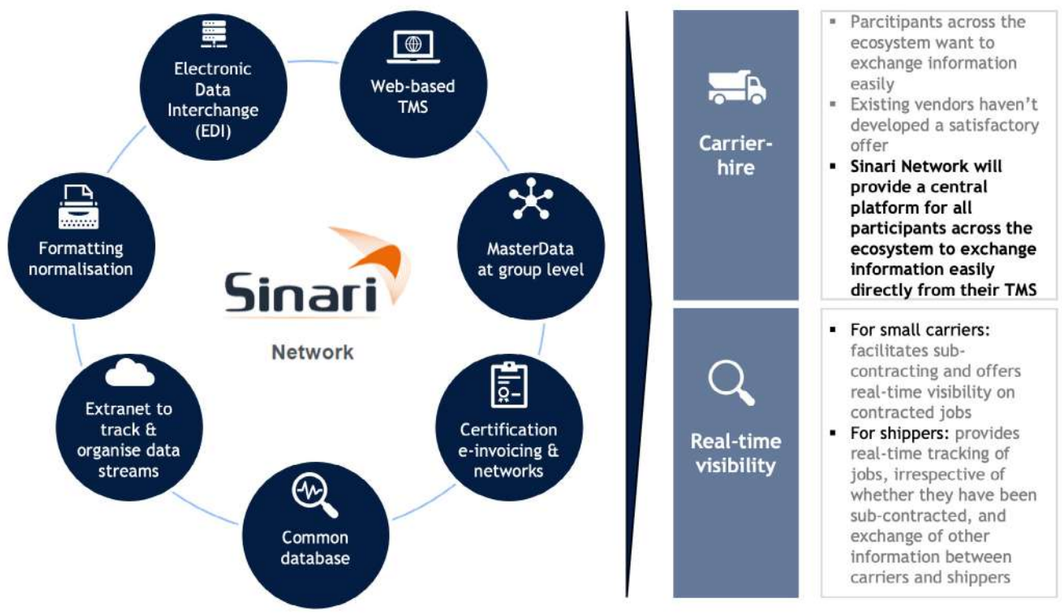
Source: BG IRIS

Additionally, Sinari is in the process of building its groundbreaking network on a group-wide scale, positioning it as the focal point of the interconnected supply chain.

Sinari Network will serve as a centralized platform where various participants, including carriers, 3PL/4PL providers, shippers, and other logistics entities, can directly share information from their TMS. The primary goal is to establish seamless connections among all stakeholders in the logistics industry, enhancing traceability and automating transport orders. This innovative solution addresses significant market gaps related to carrier hiring and communication, bolstering Sinari's position as a market leader. It achieves this by creating a real-time transportation visibility tracking system.

The Sinari Network is designed to serve as a cloud-based platform, integrating the various solutions within the group. The new features and the innovations will be incrementally rolled out on the Sinari Network. Over time, customers will progressively expand their usage of Sinari Network across different scenarios, eventually transitioning their entire operations to this new cloud platform. The Sinari Network is set to be gradually introduced starting from Q3 2023, with ongoing enhancements planned for 2024 and 2025.

FIG. 22: SINARI NETWORK, AN INNOVATIVE PLATFORM AT THE CENTRE OF THE CONNECTED SUPPLY CHAIN



Source: BG IRIS

Interview with Sébastien Ruffle, CEO of The Sinari Group

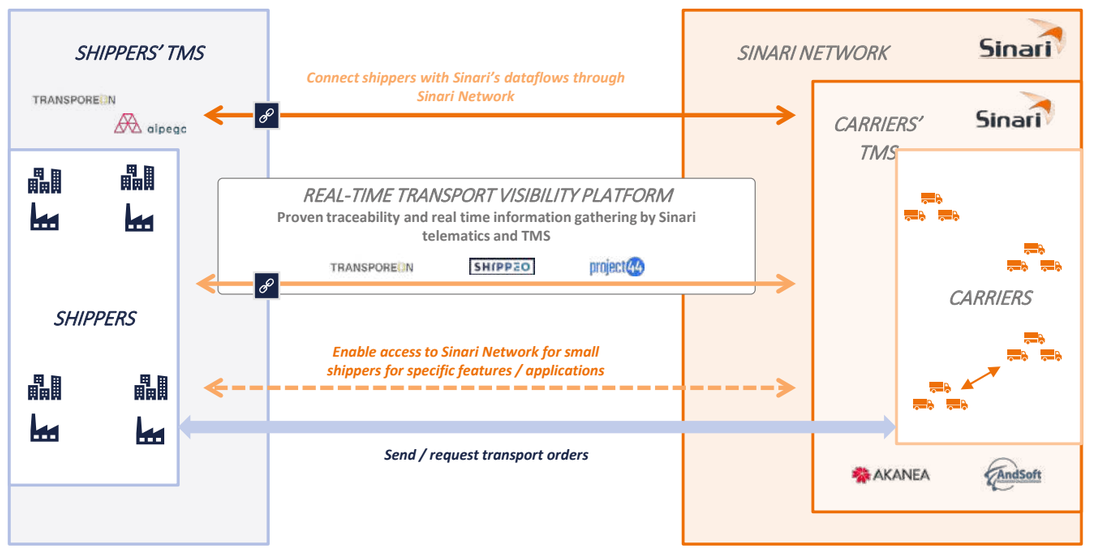
Q: What are the identified issues that led to the creation of Sinari Network?

A: The need for freight carriers to communicate and exchange information with their clients, shippers, and colleagues is crucial. However, these exchanges are often time-consuming. Among the clientele of freight carriers, there are clients who may not have sufficient volume to justify such investments, and they can be quite unpredictable. Sinari Network's concept is to create a system that democratises the ability to exchange information among different players in the transportation and supply chain industry. Sinari is well positioned to achieve this because it covers a significant number of carriers in the French market, adding substantial value. This approach facilitates faster communication between these various systems.

Q: What is the value proposition of Sinari Network?

A: As clients, transporters and shippers are all connected to Sinari, there is simplified access to data sharing with the third party. Communication is always a pain point among carriers as well as between shippers and carriers. Sinari Network provides a central platform, which allows all these stakeholders to exchange information directly from their TMS. Thanks to Sinari Network, it has become something simple. There are 2 major pillars to achieve this: connection to all carriers and collection of dataflows from both carriers and sub-contractors; and collaboration with shippers and real-time visibility platform so that they can leverage carriers' dataflow collected by Sinari Network.

FIG 23: SINARI NETWORK WILL BE A CENTRAL PLATFORM TO CONNECT ALL CARRIERS, COLLABORATE WITH REAL-TIME VISIBILITY PLATFORMS, AND PROVIDE SHIPPERS WITH CARRIER DATAFLOWS



Source: BG Corporate Finance

Q: In your opinion, what are the competitive advantages of the group that will make Sinari Network a commercial success?

A: Sinari Network's success is attributed to several factors. The most essential factor lies in the extensive penetration of Sinari's products in the French market, where approximately 70% of carriers utilise at least one solution from the Sinari Group. Sinari facilitates extensive connections among various carriers, managing a multitude of transport orders that flow through these carriers. This process involves intricate operations, including grouping, degrouping, and managing relationships among partners. Sinari effectively links these components and provides tailored data to the clients of these carriers, meeting their specific requirements. The information undergoes scrutiny and validation through TMS to ensure traceability. Notably, carriers themselves oversee this information. The primary focus remains on the current market and clients, particularly in the realm of road freight transportation. As of now, there is no diversification from this core focus.

Q: What will be the business model of the Sinari Network?

A: Sinari Network will function as a Software as a Service (SaaS) platform, linking carriers and various participants in the supply chain, such as freight forwarders and shippers. The business model will involve subscriptions and fees based on the volume of transactions processed on the platform, with the goal of making exchanges more accessible to all. The platform targets small and medium-sized enterprises (SMEs) in the road transport industry. With Sinari, smaller carriers can utilise the platform, providing support to transporters of modest size. These smaller carriers play a pivotal role in ensuring thorough traceability. Sinari does not intend to directly compete with Real Time visibility platform's primary services; instead, it emphasizes collaboration.

Q: What is the positioning of Sinari Network in the ecosystem?

A: In a way, within the industrial sector, to manage its transport flows according to its needs and nature, an industrial entity will engage a TMS. This could be a system like Acteos or transportation modules from its Enterprise Resource Planning (ERP). Potentially, concerning traceability, it might enter contracts with companies such as Project 44, Shippeo, etc. Sinari Network will feed information into these systems regarding the execution of transport, acting as an intermediary between the TMS (the operational tool for carriers, sometimes just a mobile application for small transport businesses). Sinari positions itself in the middle to qualify complete end-to-end information and make it available to information systems, shippers, or industrial entities.

Q: How could Sinari Network contribute to the Group's growth and profitability?

A: Sinari Network will undoubtedly be a driver of the Group's growth and profitability in the future. The offering will be gradually implemented from Q3 2023. We are expecting strong penetration of this solution in our existing client base, thus the revenue generated via Sinari Network will grow very quickly. Additionally, Sinari Network will extend its offerings to shippers, creating new revenue growth opportunities for the Group.

Q: Today, scalability is a significant challenge for TMS and WMS. Is the Sinari Network solution scalable?

A: Yes, it is designed to be international. Sinari is a French company and is already established in the Benelux region, providing support to international clients. It was conceptualised from the beginning to be international because traceability information is essential for disseminating data to freight forwarders, shippers, and industrial clients who operate globally and need solutions.

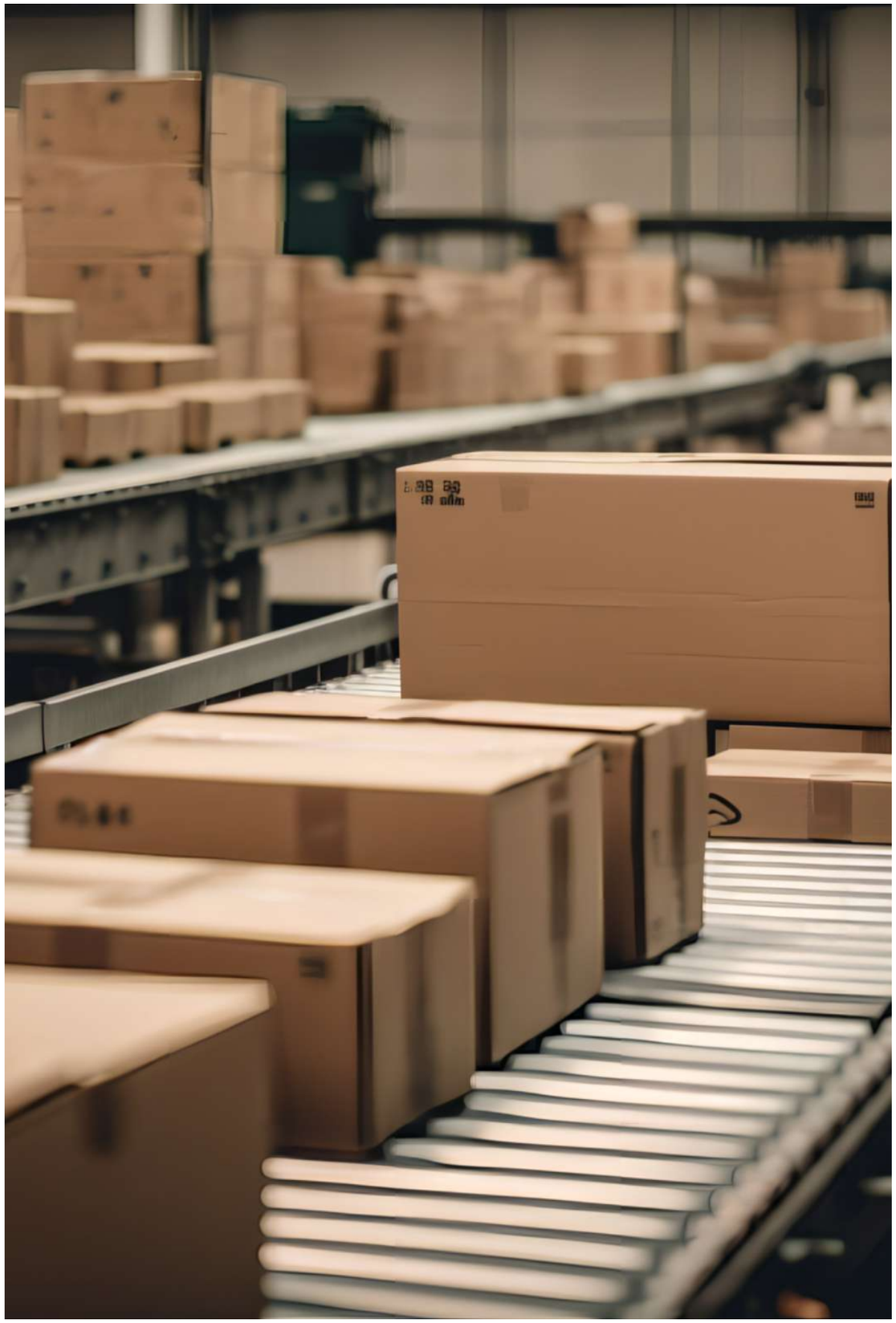
Sinari is particularly interested in other geographic areas, especially the Eurozone. There are synergies in data transfers, including the collection of all group TMS data and the ability to incorporate data from other fellow companies, whether French or international. This data sharing ensures a comprehensive set of traced information available for industrial clients.

Q: Who are the competitors of Sinari Network? Are there similar offers?

A: There are no direct competitors; however, TMS software developers, visibility platforms, and EDI platforms could be considered as potential competitors. Sinari holds a hybrid position, making it distinct. While Sinari doesn't have direct competitors, TMS providers can be seen as competitors, serving both shippers and carriers. As for similar initiatives in the market, there are none.

Q: Do you believe Sinari Network will transform/modernize the Sinari group, which still carries the legacy of its historical build-ups?

A: Yes, Sinari serves as an accelerator for traceability exchanges for TMS. This aspect is highly anticipated and welcomed by the market. In this sense, Sinari is poised to modernise the Sinari Group, bringing its historical legacy in line with contemporary industry needs.



RECURRING REVENUE + ATTRACTIVE EBITDA MARGIN + STRONG CASH GENERATION CAPACITY = **DISTINCT INVESTOR MOTIVATION**

SECTION 4

M&A trends in the TMS/WMS market are marked by distinct sources of investor motivation. Financial investors are drawn by the sector's high percentage of recurring revenue and attractive EBITDA margins whereas strategic investors are pursuing acquisitions for international expansion, completion of offerings and market share consolidation. As the industry continues to evolve, these M&A strategies contribute to shaping the competitive landscape and creating value for both investors and the broader logistics and supply chain ecosystem.

PE and VC investors are notably attracted to this sector for its alluring combination of high recurring revenue and robust EBITDA margins. The recurring nature of TMS/WMS solution revenues, often based on subscription models, ensures a stable and predictable income stream, making it an appealing prospect for investors seeking consistent returns. Additionally, the sector's high EBITDA margins reflect its profitability, making it an attractive investment opportunity for those aiming to capitalise on financial gains.

Concurrently, strategic investors are embarking on acquisitions within the TMS/WMS market for numerous reasons. One prominent motive is international expansion. As the global supply chain becomes increasingly interconnected, strategic investors recognise the value of having presence in multiple geographic regions. Acquiring established players in different markets allows them to rapidly expand their footprint and capitalise on cross-border trade, catering to the diverse needs of a global client base.

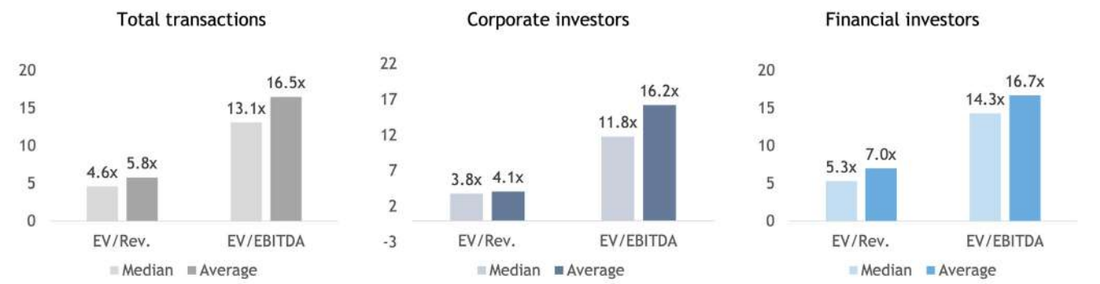
Furthermore, acquisitions are being pursued to bolster and round out offerings. In the rapidly changing landscape of logistics and supply chain management, companies are seeking to provide comprehensive end-to-end solutions. Strategic investors are acquiring companies with specialised expertise to enhance their product portfolios, ensuring they can cater to a wide spectrum of client requirements. This approach not only improves the value proposition for existing customers but also positions the acquiring company as a one-stop shop for a range of logistical needs.

Market share consolidation is another significant driver behind strategic acquisitions in the TMS/WMS sector. With competition intensifying and customer demands evolving, companies are actively seeking to solidify their positions in the market. Acquiring competitors or complementary players enables strategic investors to achieve economies of scale, strengthen their market presence and gain a competitive edge. As the market becomes more saturated, market share consolidation serves to retain or enhance market leadership.

Many players are actively considering acquisitions in international markets as a strategic move to accelerate their expansion efforts. By acquiring existing businesses or assets abroad, companies can often navigate regulatory hurdles more efficiently, leverage local expertise and establish presence with established infrastructure and customer relationships. This proactive pursuit of international acquisitions underscores the growing importance of global reach and market diversification in today's highly competitive business landscape as companies seek to secure their positions and unlock new growth opportunities on a global scale.

After analysing transactions over the past five years (only transactions with available financial information, the list is included in the appendix), we noted that corporate acquirers are more cautious while private equity firms pay higher multiples.

FIG. 24: PE FIRMS PAY SLIGHTLY HIER MULTIPLES (TRANSACTION LIST IN APPENDIX)



Source: BG IRIS, BG Corporate Finance, Mergermarket, Press

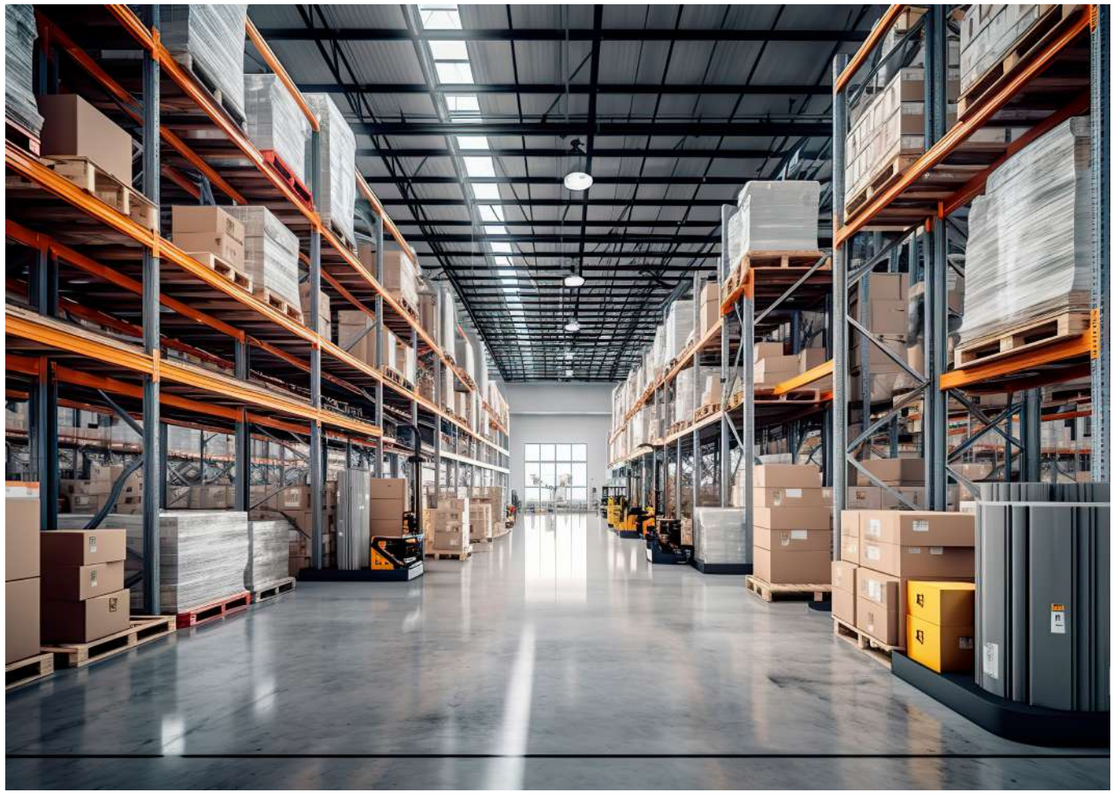
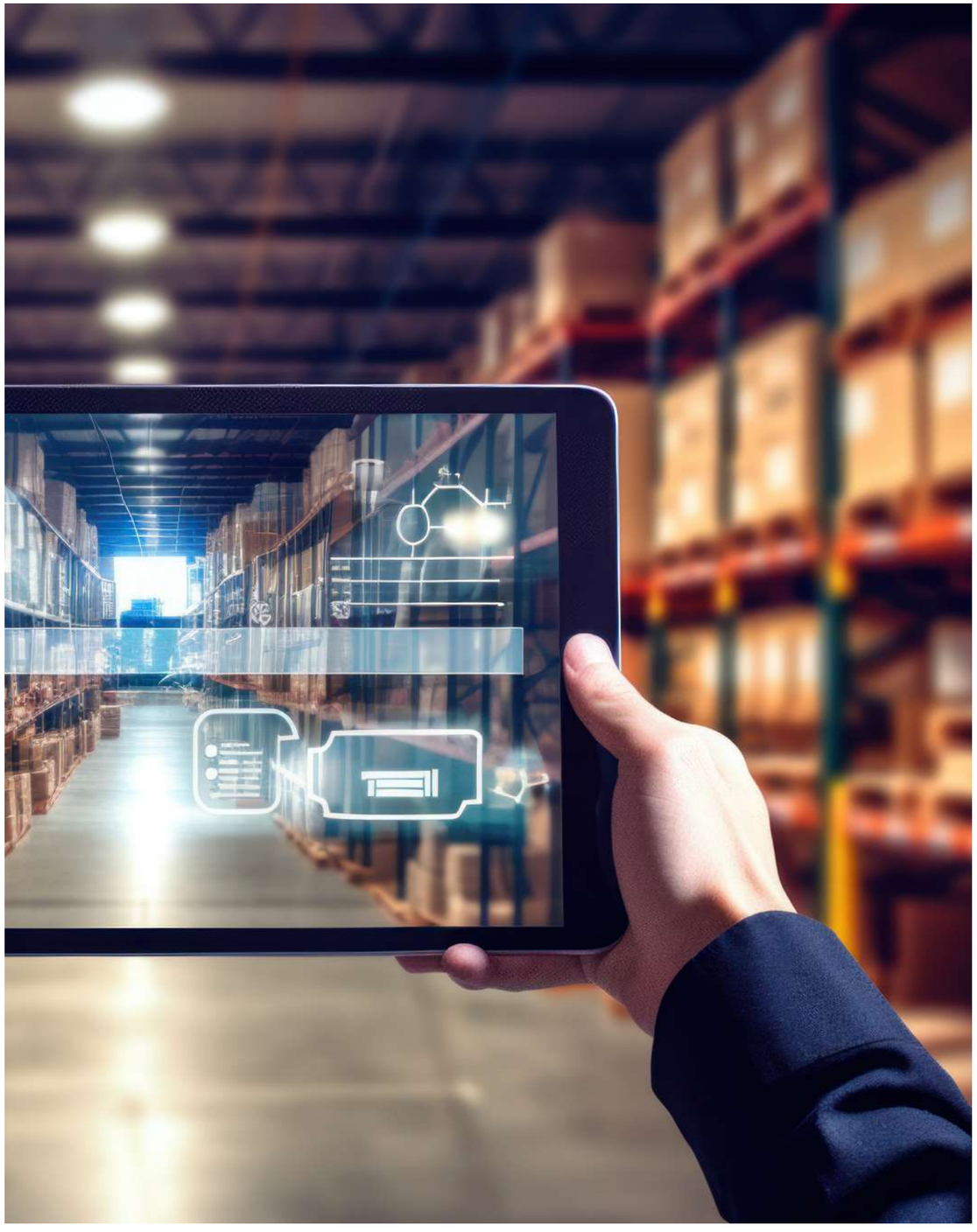


FIG 25: APPENDIX 1 – LATEST TRANSACTIONS

Date	Target	Country	Business	Acquiror	EV (M€)	Transaction Multiples EV / Rev.	Transaction Multiples EV / EBITDA
Nov-23	Enterprise Software Systems	UK	TMS	Microlise Group	10		
Nov-23	Aplus Informatique	FR	TMS	Sinari Group	n.a.		
Jul-23	Sinari Group	FR	TMS	Bridgepoint	n.a.		
Mar-23	Vita Software	UK	TMS & WMS	Microlise Group	2		
Mar-23	Negsys Developpement	FR	WMS	Sinari Group	n.a.		
Feb-23	TDI Group	FR	CMS	BNP Paribas Developpement	5		
Dec-22	Transporeon	DE	Visibility	Hg Capital	1 867		
Dec-22	Traxgo	NL	TMS & WMS	Clifford Electronics Benelux	n.a.		
Nov-22	Project44	US	Visibility	Sapphire Ventures, Emergence Capital partners, etc.	82		
Oct-22	Altana Technologies	US	Visibility	Amadeus CP, GV Management, Omers Ventures, etc.	101		
Sep-22	FourKites	US	Visibility	Mitsui	10		
Jul-22	Vizion	US	Visibility	Sumsung Venture, Valuestream Ventures, Maersk Growth, etc.	14		
Jul-22	WebEye	HU	Telematics	WAG payment solutions	61		
Apr-22	Generix	FR	TMS	Montefiore Investment	231		
Mar-22	Logistyx Technologies	US	Other	E2open	167		
Mar-22	Cloudleaf	US	Visibility	Intel Capital, Celesta Global Capital Managers, etc.	23		
Mar-22	Synfioo	GE	Visibility	Project44	n.a.		
Feb-22	Spireon	US	Telematics	Solera Holdings	267		
Jan-22	Project44	US	Visibility	TPG Capital, Thoma Bravo, Goldman Sachs AM	165		
Dec-21	Opheo Solutions	GE	TMS	Solvares Group	n.a.		
Dec-21	Arvento Mobile Tracking & Fleet Management Systems	TR	Telematics	Brisa Bridgestone	18		
Sep-21	ITEM Informatique	FR	TMS	Sinari Group	n.a.		
Oct-21	PTV Group	DE	TMS	Bridgepoint	360		
Jul-21	Transplace	US	TMS	Uber Freight	2 070		
Jul-21	GreenMile	US	TMS	The Descartes Systems Group	34		
May-21	BluJay Solutions	UK	TMS	E2open	1 332		
Apr-21	Blue Yonder (80% Stake)	US	TMS	Panasonic	7 049		
Mar-21	Matrix Telematics	UK	Telematics	Bridges Fund Management	70		
Mar-21	Trackunit	DK	Telematics	Hg Capital	403		
Mar-21	Base Logistics	NL	TMS / WMS	Staci Group	n.a.		
Jan-21	Made4net	US	WMS	Thomson Street Capital Partners	49		
Dec-22	Project44	US	Visibility	Insight Venture, Sapphire Ventures, Emergence CP, etc.	82		
Nov-20	Rainkine Thompson	UK	Telematics	Connexas	n.a.		
Oct-20	E2open	US	TMS	CC Neuberger Principal Holdings I	2 565		
Sep-20	Shipper-TMS	US	TMS	Accel-KKR	n.a.		
Sep-20	SmartDrive	US	Telematics	Omnitracs	382		
Sep-20	Optidev	SE	Telematics	Techstep	19		
Jan-20	Kuebix	US	TMS	Trimble	181		
Dec-19	Optilogistic	FR	TMS	Sinari Group	n.a.		
Dec-19	TAS-tms	FR	TMS	Sinari Group	n.a.		
Dec-19	Softeon	US	TMS	Warburg Pincus	n.a.		
Sep-19	frameLOGIC	PL	TMS	Vehco	n.a.		
Jul-19	Sinari Group	FR	TMS	New Alpha	29		
May-19	Masternaut	UK	Telematics	Michelin	n.a.		
May-19	Amber Road	US	Other	E2open, Inc.	340		
Apr-19	3Gtms	US	TMS	Sumeru Equity Partners	77		
Apr-19	BSM Technologies	CA	Other	Geotab	72		
Apr-19	GlobalTranz Enterprises	US	TMS	Providence Equity Partners	828		
Jan-19	Transporeon	DE	TMS	HG Capital	706		
Jan-19	TomTom Telematics	NL	Telematics	Bridgestone	910		
				Median		4.6x	13.1x
				Average		5.8x	16.5x

Please refer to your BG contact for further information

Source: BG IRIS, BG Corporate Finance, Mergermarket, Press



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