

RELIABILITY, VISIBILITY AND QUICK DELIVERY:

BUILDING RESILIENCE INTO THE SUPPLY CHAIN



“LogiChem surprised me with the level of engagement and range of different interactive discussions. I particularly enjoyed the oxford-style debate and found the roundtable sessions very lively and constructive.”

– Ralf Pillep,
Head of Program Management
and Global Owner of Order Processes,
Covestro

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The New Supply Chain

Consumers in the modern world have the luxury of speedier deliveries and better visibility than many would have thought possible even 15 years ago. For chemical companies though, logistics has not entirely kept pace, and a wealth of complex factors can still wreak havoc. Supply chains need to be flexible enough to withstand the unexpected.

In Q4 of 2018 WBR Insights and Alpega surveyed 100 VPs of Supply Chain from chemical companies across Europe to find out more about the challenges they face and the innovative solutions they bring to the table.

The survey was conducted by appointment over the telephone. The results were compiled and anonymised by WBR Insights and are presented here with analysis and commentary by the LogiChem community.

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Foreword by Carolyn Hunt, Senior Segment Manager at Alpega Group

The market for chemical products is expected to double by 2035. This massive growth is creating a huge opportunity for chemical manufacturers, but it comes with two important caveats. Firstly, buyers are becoming more demanding and secondly, they are increasingly outsourcing to cheaper markets. That leaves business leaders with an interesting quandary: How to increase customer satisfaction without raising prices?

For Heads of Logistics in chemical companies, price, reliability, quick delivery and visibility are key. These are all areas where the sector has made relatively slow progress – unless you consider the lower prices being offered in emerging markets. In our joint survey with WBR Insights, two thirds of respondents expressed concern over international tariff wars, another factor that may significantly impact pricing in the future.

The rise of customer-focused business models has led to increased expectations for the chemical sector. Buyers want to see operations that give them not only full visibility, but also confidence that they have the best possible product at the best possible price, exactly when they need it. This shift to customer-centricity requires some upfront investment, especially in a sector hamstrung by legacy systems.

The fact that a third of respondents use ERP solutions for their customer-demand fulfilment

process reflects the industry's slow progress. ERP systems often propose a basic framework, and although they are a step in the right direction, they cannot meet the unique needs of the industry. Managing complex capacity, planning and handling requirements is simply outside of their scope. Not to mention dealing with the various safety and regulatory compliance procedures, which they simply aren't designed to facilitate.

Many of these issues can be tackled by implementing a Transport Management System (TMS) with live tracking features that provide visibility and incident reporting. This is particularly relevant as three quarters of respondents do not have full visibility across their supply chains.

Getting the talent needed to lead this transformation is another challenge. Finding innovative employees who are willing to take on a technology shift is critical. Attracting these people requires the sector as a whole to reconsider the image it projects and engage with more women and millennials, while making the most of the knowledge held in its current workforce.

It's an exciting time for the chemical industry and there are plenty of opportunities for forward thinking logistics managers. Especially those willing to embrace technology as an enabler for growth and promote better collaboration with their supply chain ecosystem.

Part One:
**STRATEGY
OVERVIEW**

How are you segmenting your supply chain to improve the customer experience?

38% ARE SEGMENTING THEIR SUPPLY CHAIN BASED ON DISTRIBUTION CHANNEL SERVICE-LEVEL AGREEMENTS TO IMPROVE THE CUSTOMER EXPERIENCE

Segmenting supply chains based on specific needs is usually a wise choice for chemical companies. It enables a level of customisation that delivers added value to all sides and I would expect to see more customer-based segmentation in the future.

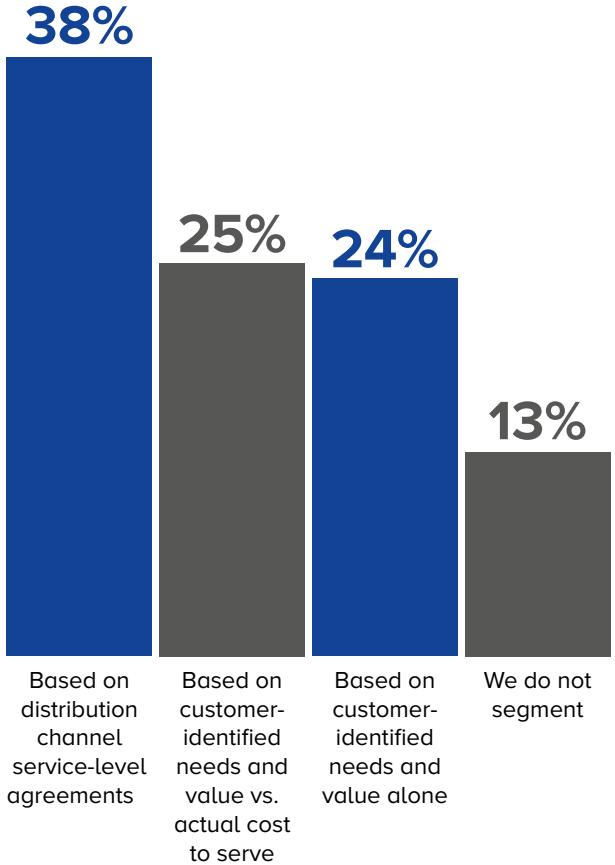
– Carolyn Hunt,
Senior Segment Manager at Alpega Group

Whether this really is the best way to improve the customer experience depends. First you need to understand your business – There is no one size fits all solution. My experience is that a combination of customer and product-based segmentation works well to correctly identify and apply SLAs.

– Fabian Gasczak,
Head of SCM Polyols & Oxidation Products, LANXESS

I agree segmenting based on customer SLAs is a good way to improve customer experience, however, this will often drive inefficiencies in transport leading to higher distribution costs, which will ultimately need to be passed on to the customer. Using SLAs requires a close alignment between supply chain and commercial teams to ensure that when SLAs are set up, they provide an opportunity to segment that enables efficiencies and improves customer experience.

– Graham Hall,
European Logistics Manager,
Air Products



We have segmentation according to the service-level agreement that we have with the customer, but it also depends on the value that the customer generates. Our segmentation allows us to manage customers according to their relative value. If we have a shortage, we can then prioritise the most profitable deals.

– Joan Manel Azuaga,
Global Demand Inventory Manager,
Clariant

What is the biggest hurdle to attracting the talent required to run a digital supply chain?

THE BIGGEST CHALLENGE TO RECRUITING THE BEST TALENT IS THE LACK OF ATTRACTIVENESS OF THE CHEMICAL LOGISTICS INDUSTRY

The sector clearly needs to work on its image and highlight the numerous factors that make it an exciting proposition for new and experienced workers. That said, leading businesses work hard to attract and retain the best talent and have reshaped working patterns to appeal to new generations. Flexible working, for example, appeals particularly to millennials and women – two key talent pools the sector needs to embrace.

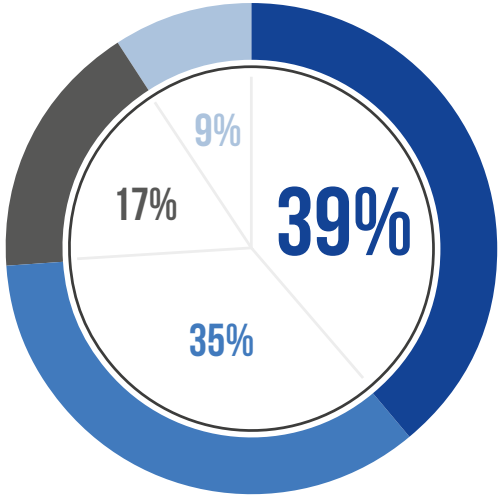
– Carolyn Hunt,
Senior Segment Manager at Alpega Group

Top-level talent is more likely to be attracted to other industries, like FMCG, as their supply chain methods are more advanced. The chemical industry is just starting to evolve from a logistics function to a supply chain function.

– Fabian Gasczak,
Head of SCM Polyols & Oxidation Products, LANXESS

The industry needs to be quicker to embrace new technology which will appeal more to the next generation. Many organisations are too focused on the short term. I believe this limits appeal to Millennials and Gen Z, which are our future. If you look at the success of online organisations such as Amazon, you can see how the whole customer interface is based around ease-of-use and making the most of online and mobile technology.

– Graham Hall,
European Logistics Manager,
Air Products



- The attractiveness of the chemical industry **39%**
- Catering to millennials / Gen Z **35%**
- Offering a competitive package **17%**
- Identifying internal talent to promote **9%**

Are you concerned about the impact of the global trade tariff wars on chemical supply chains?

71% OF RESPONDENTS ARE CONCERNED ABOUT THE GLOBAL TRADE TARIFF WARS

The global rise of protectionism is set to have significant consequences for the chemical sector. The uncertainty triggered by the back-and-forth between China and the USA highlights the need for agile supply chains which are able to adapt to changes quickly and decisively.

– Carolyn Hunt,
Senior Segment Manager at Alpega Group

The global tariff wars will affect supply chains by moving volumes from one region to the other. Market dynamics need to be better understood by VPs to adjust the physical flow of goods.

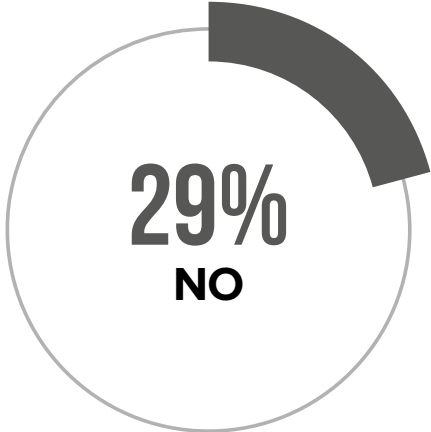
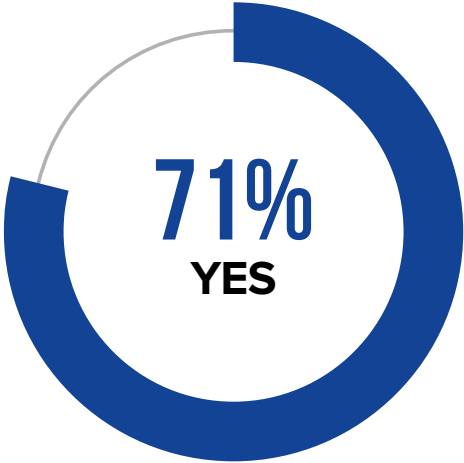
– Fabian Gasczak,
Head of SCM Polyols & Oxidation Products, LANXESS

I'm not really concerned, as all suppliers will be affected. It's difficult to predict, but there's not much that can be done to influence the tariffs.

– Graham Hall,
European Logistics Manager, Air Products

We're facing issues where we're producing in one country, and selling to a customer in the US. With the customs tariff, the customer is exporting to affected countries and they are losing competitiveness, and consequently losing business.

– Joan Manel Azuaga,
Global Demand Inventory Manager, Clariant



Part Two:
**RELATIONSHIPS
WITH 3PLs/4PLs**

What is your single biggest challenge within supply chain management?

THE BIGGEST CHALLENGE WITHIN SUPPLY CHAIN MANAGEMENT WAS DEVELOPING STRATEGIC RELATIONSHIPS WITH 3PLs AND 4PLs

Getting more strategic relationships with logistics partners is on the minds of many – and it's a key issue that can be aided by technology. Carrier scorecards and real-time feedback from analytics that come out of a TMS system can help guide the discussion and get to the heart of what needs to change.

– Carolyn Hunt,
Senior Segment Manager at Alpega Group

There are many important features we look for in a 3PL, including flexibility, cost, long-term agreements, professional processes, stability and the ability to attract employees in a difficult environment (e.g. lack of truck drivers).

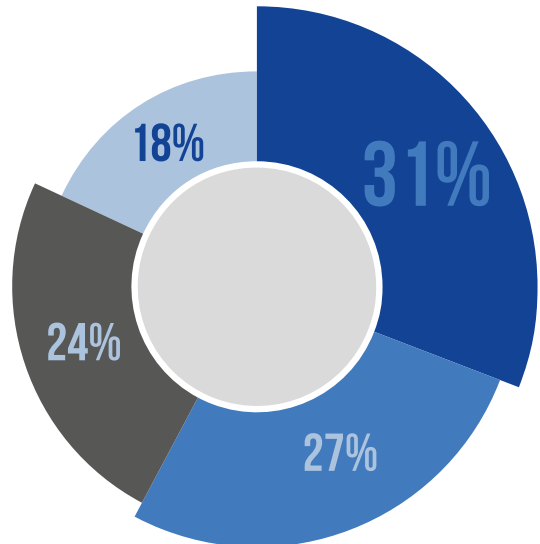
– Fabian Gasczak,
Head of SCM Polyols & Oxidation Products, LANXESS

Developing a strategic relationship is key, as the objectives of the two organisations need to be aligned.

– Graham Hall,
European Logistics Manager,
Air Products

We have different scenarios depending on the country. In some we manage everything, while in others we employ a third party to handle the storage and preparation of goods. However, the documentation is always handled by our central team who are in contact with the transport providers.

– Joan Manel Azuaga,
Global Demand Inventory Manager,
Clariant



- Developing strategic relationships with 3PLs/4PLs **31%**
- Developing and preparing a back up plan in case of logistics disruptions and capacity limitations **27%**
- Optimising the service provided in order to increase customer satisfaction and loyalty **24%**
- Strengthening internal relationships between planning, logistics and customer services **18%**

In the face of capacity constraints, how are your relationships with your suppliers?

40% OF RESPONDENTS REPORT THAT RELATIONSHIPS WITH 3PLs ARE STRAINED, AND THEY SPEND TOO MUCH ON LAST-MINUTE ALTERNATIVE TRANSPORT

Last-minute spending is often a symptom of poor planning and visibility, however, I'm pleased to see more than 60% of respondents have or are looking into diversifying their 3PL base. The ability to select the right option at the right time based on data analysis is central to best-in-class supply chains.

– Carolyn Hunt,
Senior Segment Manager at Alpega Group

Relationships have become strained as organisations are focusing more on cost reduction by minimising resources and maximising productivity. Diversifying can help increase options when facing capacity constraints, and it can also stimulate creativity and competition between your 3PL providers.

– Graham Hall,
European Logistics Manager,
Air Products

If VPs of Supply Chain are looking to diversify their 3PL base, it's necessary to prepare an in-depth analysis of the cost involved. Prepare one strategy with a timeline and have different offers on the table. Before deciding anything, revise the result considering all the pros and cons.

– Joan Manel Azuaga,
Global Demand Inventory Manager,
Clariant

Strained – we spend more than we would like on last minute alternative delivery options **40%**

Good – no issues with delivery **32%**

We are looking into diversifying our 3PL base **31%**

We have already diversified our 3PL base **31%**

Okay – we occasionally face bottlenecks and have to re-route **23%**

– Respondents were asked to select all that apply –

Do you believe your supply chain is structured to withstand a surprise disruption like Rastatt?

60% OF VPs OF SUPPLY CHAIN SAY THEIR SUPPLY CHAIN IS CURRENTLY VULNERABLE TO ANOTHER CRISIS SUCH AS THE RAIL FREIGHT DISRUPTIONS IN RASTATT

The disruption caused by the Rastatt tunnel collapse was unprecedented and underlines the importance of effective contingency planning and risk management. Having an agile supply chain is pivotal to dealing with this type of incident, as is having a sustainable Plan B. This type of preparedness often translates to a competitive advantage when something goes wrong.

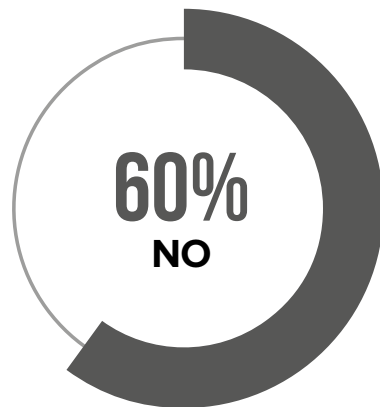
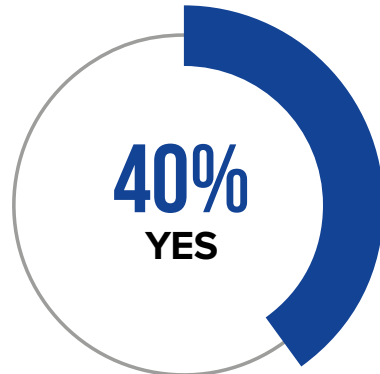
– Carolyn Hunt,
Senior Segment Manager at Alpega Group

In the future we plan to implement more intermodal transportation to compensate for bad infrastructure and/or truck driver shortage.

– Fabian Gasczak,
Head of SCM Polyols & Oxidation
Products, LANXESS

I don't think the rail industry will recover quickly following the disruptions at Rastatt, as this industry is painfully slow to respond to most things. The current level of high political and economic uncertainty as well as growing protectionism could greatly challenge future investment. However, if investment can be secured, making more of the environmental benefits of moving from road to rail – especially electrified rail – could help the industry thrive.

– Graham Hall,
European Logistics Manager,
Air Products



I'm convinced that the rail industry will recover. Transport by train is important as it's much less expensive than delivery via truck. Countries need to invest in an efficient rail network and maintain a thorough risk analysis. They need alternatives in place in case something goes wrong so that the supply chain can continue despite disruption.

– Joan Manel Azuaga,
Global Demand Inventory Manager,
Clariant

Expect the Unexpected: Freight Rail Providers are Improving Interoperability to Avoid Another Rastatt

In August of 2017, a small stretch of railway was closed down in the Rhine Valley, Germany, when a tunnel collapsed. The line closure cost more than €2 billion according to a recent study on the impact of the incident. The consequences were far-reaching as the closure continued for almost two months, bringing attention to the lack of reliable crisis management in the rail freight industry. Strikes in France and by the CGT union have exacerbated the situation by slowing down diversions.

To prevent another crisis, the intermodal community met in Dusseldorf last December at an assembly organised by Swiss intermodal operator Hupac. Their goal was to redesign the role of rail as a partner of the supply chain. 200 representatives discussed the weaknesses of the railway system and how they could be overcome to prevent crisis in the future. In an open letter to EU Commissioner Violeta Bulc, European Commission for Transport, Hupac outlined a plan to prevent disruptions like this in the future. Here are some of the points they raised:

#1. Risk management and contingency plans

Every rail line should have a plan B, which should be pre-determined and consistently updated so that if a line becomes ineffectual, at least 75% of the expected cargo can find an alternate route.

#2. Crisis management and a rail platform

There should be daily coordination between national infrastructure managers. In a crisis situation, a cross

border emergency coordination team should take charge. This way transport will be much better coordinated between countries. A fund should be set up for this purpose, and a platform established to discuss the learnings from Rastatt as a more long-term basis for coordination.

#3. International coordination of infrastructure works and operational cross-border management

Rail must work to strengthen interoperability at national and international levels. Infrastructure managers on rail freight corridors should cooperate to work around planned line closures. Incongruity between national rail systems has meant that available freight space couldn't be used on alternative routes.

#4. Incentives to minimise the impact of disruptions on rail services

Infrastructure managers should be incentivised to coordinate and minimise disruptions. Users shouldn't have to pay for diversions, and compensation should be given by the Infrastructure Manager for additional costs incurred during the disruption.

#5. Immediate relief for the sector

The rail freight logistics sector has become very vulnerable, and smaller companies are struggling to absorb the costs of the recent bottleneck. Affected logistics companies and their users should be offered financial relief.

Violeta Bulc responded to the open letter, addressing each point and keenly agreeing that lessons must be learned from Rastatt to keep the freight rail industry afloat. Previous directives are being reassessed too.

While the rail freight industry took a massive hit in August 2017, decision makers aren't content to slink off and lick their wounds. The next year will be a critical one for rail freight, and depending on how proactive it is, the industry will either simply survive, or thrive.



Part Three:
**VISIBILITY INTO
THE SUPPLY
CHAIN**

What statement best describes your organisation's current visibility into inventory and shipments across all modes of transport?

ALTHOUGH 30% OF VPs OF SUPPLY CHAIN SURVEYED SAY THEY HAVE COMPLETE VISIBILITY, 36% HAVE LIMITED MULTIMODAL VISIBILITY, AND A FURTHER 23% REPORT THEY HAVE VERY LITTLE VISIBILITY

Visibility is key to effectively managing a supply chain and it is alarming that for almost three quarters of respondents it is limited. Leading companies leverage real-time updates and dynamic ETAs to drive efficiencies, mitigate risks and provide the added value customers demand.

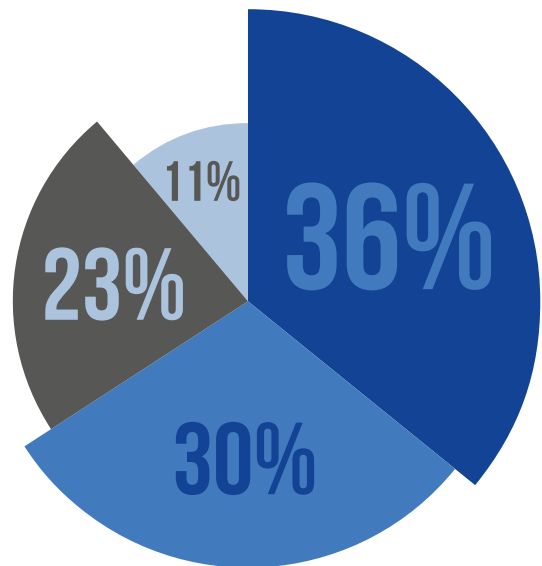
– Carolyn Hunt,
Senior Segment Manager at Alpega Group

Limited visibility generates costly uncertainty. Good visibility across all modes of transport limits risk and allows for better planning.

– Graham Hall,
European Logistics Manager,
Air Products

Organisations with limited visibility are vulnerable to selecting the wrong transport mode, increasing the use of expensive air freight, for example. Different shipments of the same product may end up going to the same destination, and master data issues such as wrong pallet size could result in unnecessary added cost.

– Joan Manel Azuaga,
Global Demand Inventory Manager,
Clariant



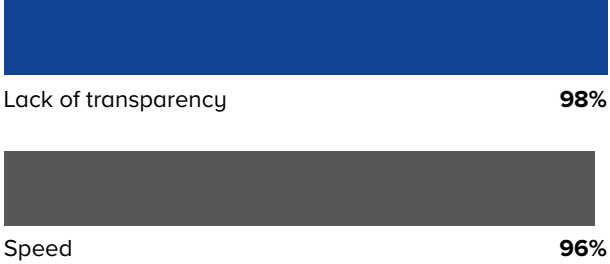
- We have some inventory and shipment visibility, but not across all modes of transport **36%**
- We have complete inventory and shipment visibility across all modes of transport: a real-time "data lake" **30%**
- We have very little inventory and shipment visibility across all modes of transport **23%**
- No opinion / I don't know **11%**

What issues arise when considering or working with marine transport providers?

WHEN USING MARINE TRANSPORT PROVIDERS, 98% OF RESPONDENTS CITE LACK OF TRANSPARENCY AND 96% CITE SPEED AS KEY ISSUES

Both lack of speed and lack of transparency can have a multiplier effect that leads to additional costs in port – if goods are waiting and you aren't aware in real-time, this can lead to some surprising charges on the final bill. Freight cost management tools can help mitigate these risks.

– Carolyn Hunt,
Senior Segment Manager at Alpega Group



Marine transport is often lower cost if goods are sent unaccompanied. This is where the issue of visibility and transparency arises. I think the answer is in the use of technology to track the shipments, detect damage, and ensure the safety of the product.

– Graham Hall,
European Logistics Manager,
Air Products



If you do not manage marine transport directly in your company and the service is externalised, you do not get a good overview. Because marine transported materials are difficult to trace, this often necessitates a service to handle imports and exports. Changes to tariffs, port costs, damages, etc. are often left unclear. To solve this, you need a central service that manages contact with the marine transport suppliers, ports and authorities. This will give more transparency.

– Joan Manel Azuaga,
Global Demand Inventory Manager,
Clariant

– Respondents were asked to select all that apply –

How good is visibility via the following channels?

WHILE THE MAJORITY AGREE THAT CARGO TRANSPORTED VIA AIR HAS EXCELLENT VISIBILITY, 43% REPORT THAT VISIBILITY ON CARGO TRANSPORTED BY SHIP IS POOR, MAKING IT THE LEAST TRANSPARENT CHANNEL

Limited data-sharing practices and a lack of communication are often cited as the culprits for poor visibility in marine transport. This trend could be reversed by embracing new digital technologies such as RFID scanners at ports and better collaboration between the carriers, terminal operators, vessel owners and other players.

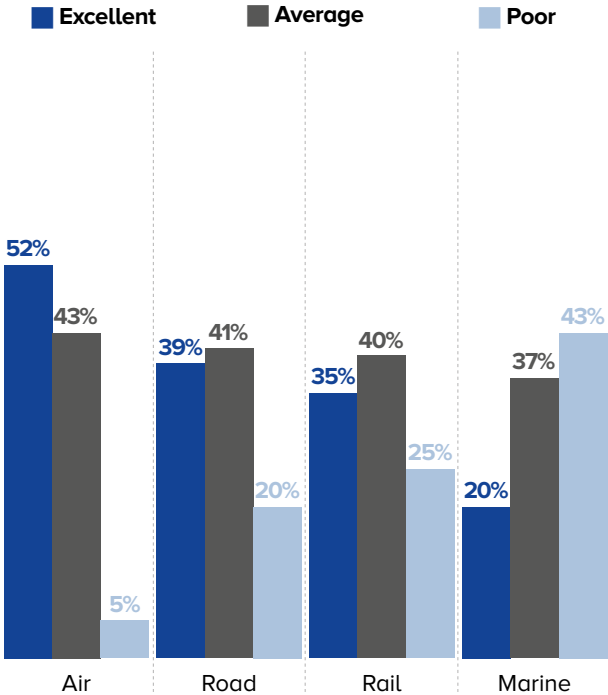
– Carolyn Hunt,
Senior Segment Manager at Alpega Group

Air transport requires a much higher level of security checks, goods are checked at several points during the journey. Again, I believe the answer for marine visibility will come in the form of tracking devices and damage detection.

– Graham Hall,
European Logistics Manager,
Air Products

Air shipments have excellent visibility, but require more attention as it's a much faster service. A specialist should be contracted to manage the supply.

– Joan Manel Azuaga,
Global Demand Inventory Manager,
Clariant



What technology do you expect to rely more on for supply chain visibility during the next five years?

IN ORDER TO INCREASE VISIBILITY OVER THE COMING YEARS, 63% OF VPS OF SUPPLY CHAIN WILL BE TURNING TO TECHNOLOGY FROM 3PLs AND 4PLs

In 2017, 90% of Fortune 500 US based companies were using 3PLs or 4PLs, up from 46% in 2001. These partnerships have led to improved cost-planner and efficiency improvements, and it's easy to see how that has led to increased reliance in terms of visibility. Ironically, many 3PLs and 4PLs, especially smaller ones, will be relying on transportation management software to provide this visibility!

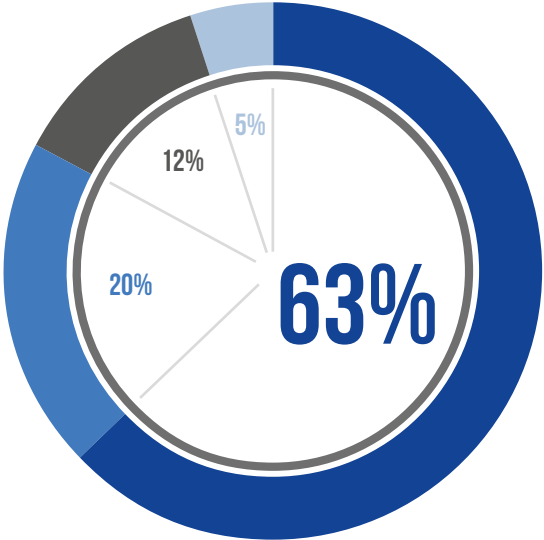
– Carolyn Hunt,
Senior Segment Manager at Alpega Group

The offerings of 3PLs will need to keep pace with the evolution of technology. More systems are moving to cloud-based solutions with improved connectivity across the supply chain. Procurement will also need to keep pace with this technology development so they know what to look for when they review what 3PLs can offer.

– Graham Hall,
European Logistics Manager,
Air Products

In order to organise shipments in advance according to demand, you need software that provides a high level of visibility by connecting the purchase to the final destination of the product. Companies are more and more likely to invest in a tool that integrates all the information to gain the competitive edge.

– Joan Manel Azuaga,
Global Demand Inventory Manager,
Clariant



- Visibility provided by 3PL/4PL **63%**
- Transportation management software (licensed) **20%**
- Cloud-based platform (on-demand) **12%**
- Point-to-point EDI connections **5%**

Part Four:
**HARNESSING
TECHNOLOGY**

What is your single biggest priority within the planning function stage?

RESPONDENTS ARE SPLIT BETWEEN THEIR BIGGEST PLANNING FUNCTION PRIORITY, WITH 29% AIMING FOR ADVANCED S&OP, 27% MANAGING DEMAND VOLATILITIES, AND 25% OPTIMISING PRODUCTION CAPACITY

Advanced planning and supply chain management has become much more of a science than ever before. Expectations are high and planning is critical to keep pace with demand. As more KPIs become measurable and big data is incorporated into the lifeblood of more and more companies.

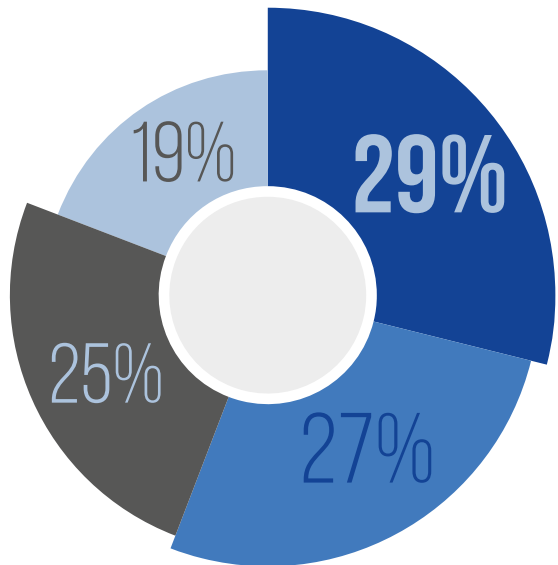
– Carolyn Hunt,
Senior Segment Manager at Alpega Group

The top priority should be advanced S&OP, but for this to work organisations need to have good visibility of their future sales activity – always difficult in a competitive market. Without good sales forecasts, organisations will revert to looking internally at their processes and trying to manage demand, production and planning, often gravitating to their areas of strength or weakness.

– Graham Hall,
European Logistics Manager,
Air Products

Each company has different pain points, but I think these all link back to supply planning. This includes all the elements which need to be balanced. Demand management needs to be as accurate as possible and be able to work around uncertainties, the production plan needs to be optimised with the right tools, and there should be regular S&OP meetings discussing any issues.

– Joan Manel Azuaga,
Global Demand Inventory Manager,
Clariant



- Taking S&OP to more advanced level **29%**
- Managing demand volatilities **27%**
- Optimising production capacity **25%**
- Changing/developing planning software **19%**

What is the biggest hurdle to implementing a fully digital supply chain?

THE MOST COMMON HURDLE TO DIGITALISATION IS OVERHAULING LEGACY SYSTEMS, WITH 43% REPORTING THIS IS THE BIGGEST CHALLENGE

Legacy systems are a big challenge for chemical manufacturers to overcome. Effective change management and a true commitment from the organisation are absolutely essential if legacy systems and processes are to be replaced with more efficient digital ones.

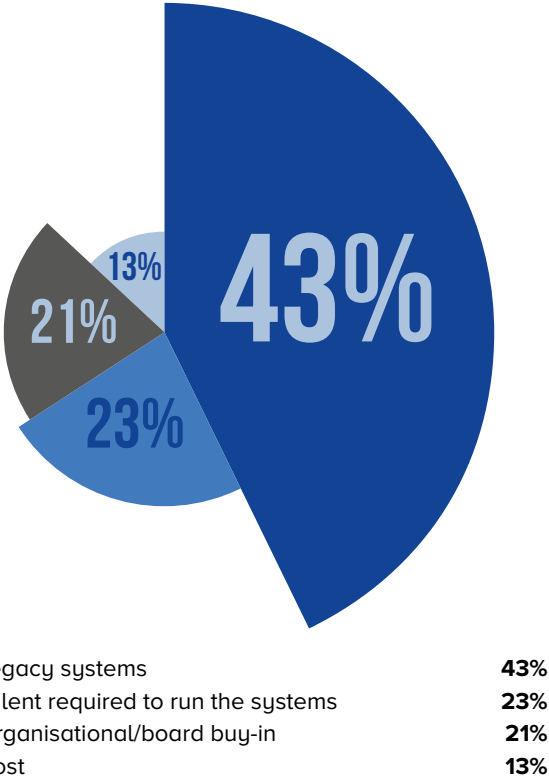
– Carolyn Hunt,
Senior Segment Manager at Alpega Group

Organisations need to be brave and embrace change to keep pace with the modern world. Common pitfalls are problems with data integrity, and not budgeting for the true cost of upgrading and change management.

– Graham Hall,
European Logistics Manager,
Air Products

It's necessary to get a consultant company to provide you the right solutions according to your unique situation. The main obstacles are a lack of investment, not having enough people to manage the change, and the difficulty of changing a big company.

– Joan Manel Azuaga,
Global Demand Inventory Manager,
Clariant



What technology do you rely on most to manage your customer-demand fulfillment process?

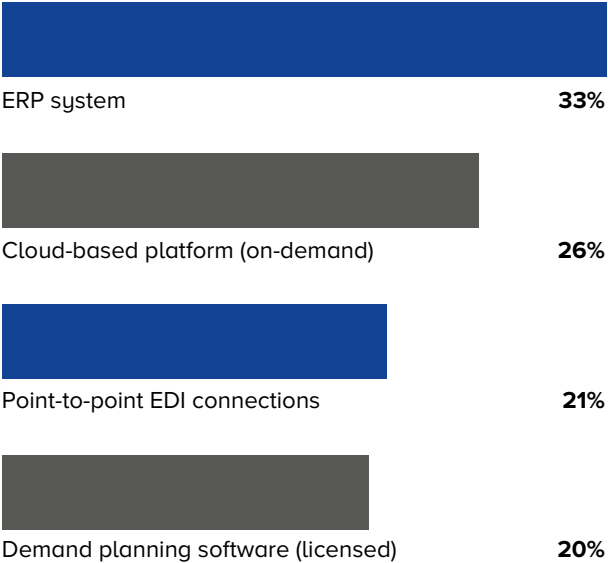
WHEN IT COMES TO FULFILMENT, THE TECHNOLOGY THAT MOST VPs OF SUPPLY CHAIN RELY ON IS AN ERP SYSTEM

Respondents select the ERP software as the most critical as it integrates the various business functions into one complete system. This streamlines processes and information across the entire organisation.

– **Graham Hall,**
European Logistics Manager,
Air Products

ERP systems are one of the best systems to manage customer demand, as they're one of the only process systems that have integrated the production and the distribution with different connections to other departments and many automated processes.

– **Joan Manel Azuaga,**
Global Demand Inventory Manager,
Clariant



About Alpega



The Alpega Group is a leading global logistics software company offering end-to-end solutions that cover all transportation needs, including Transport Management Systems (TMS) and Freight Exchanges.

The Transport Management Systems (TMS) software solutions – inet, Transwide and TAS – connect companies to a broad network of logistics providers and digitise their complex supply chain management. These systems provide live visibility of incoming and outgoing logistics and seamlessly link truck drivers and logistics providers with shippers. The four freight exchanges – Teleroute, Wtransnet, Bursa and 123cargo – serve as marketplaces for matching spot shipments and capacities. TenderEasy, for its part, allows shippers to easily send e-tenders to the carrier community. All of the above solutions can be combined to create more added value for customers.

Our user community, with over 200,000 members, is electronically connected every day to successfully manage critical transport processes.

Alpega is present in 80 countries worldwide and employs over 600 people with 31 different nationalities.

More information can be found at www.alpegroup.com

About WBR

WBR INSIGHTS

At WBR Insights we conduct professional research amongst high-level decision makers in key industry verticals. We use this research to create content-powered marketing campaigns designed to kick-start dialogue, share insights, and deliver results.

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