The Quiet Revolution

Global Trade Management technology is poised to reshape the global logistics industry. Here's a look at the vanguard of this revolution, how they are changing your future and why joining in may be a business imperative.

By Keith Higginbotham

Survey data provided by AMR Research

Business technology has the power to enrich those that recognize the benefits and take advantage of the opportunities presented. Those that do not recognize the benefits are all too often left watching the successful from the sidelines.

This is even truer when technology shifts so rapidly that complacent business models cannot or will not adapt. Whatever the truth of evolution in the biological world, survival of the fittest and natural selection are primary factors in the success of any business.

Innovation

As long as there has been business, technology and its innovations have provided that extra evolutionary advantage that has allowed business leaders to succeed. From the invention of the abacus to the creation of modern telecommunications, technological innovation has been the primary tool of business evolution. Those that ride these waves of innovation surge forward; those that do not are left behind to play catch up.

The logistics field has seen its own share of technology revolutions, and in each case, the early adopters have scored early business victories.

One needs to look no further than the container revolution that began in the late 1950s. Vanguards of the technology such as Malcom McLean and Matson Navigation surged so far ahead in the industry that it took others years to catch up.

Today, another revolution is taking place in the logistics industry. While not as visibly transformative as the shift from cargo nets to gantry cranes, this digital revolution promises to be as economically profound. Also unlike those technology shifts of the past, there are no cannon shots to mark this revolution — no stormings of proverbial Bastilles.

This is the quiet groundswell revolution of Global Trade Management technology, and its proponents are rallying beneath the tricolor banner of "visibility, efficiency, and flexibility." Like other key technological revolutions, it is also becoming clear that, barring the introduction of a further innovation, this shift in the industry is inevitable.

A smaller world

No one can deny that the world is becoming a smaller place. Global communications and travel have brought the furthest corners of the habitable world within almost instantaneous reach. International logistics has matured accordingly, allowing goods to be moved over ever-increasing distances within an ever-decreasing amount of time. As the complexity of global goods movement has grown, however, the mechanisms for keeping it working smoothly have not kept up with the inherent philosophy of the logistics science itself — namely efficiency. There is no arguing that the actual movement of goods today is more efficient than at anytime in history. However, for the most part, the philosophy of efficiency has not translated over into the processes behind the movements of those same goods. Only the whole system functions in the world of efficiency, while the parts seem to reside somewhere else.

Consider this: Today, a cargo container can be moved from China to California in less time than it took Thomas Jefferson to travel the 250 miles from his home in Virginia to the First Continental Congress in Philadelphia circa 1770. And yet, the movement of this single container of goods may generate more paperwork than Jefferson himself created during his entire 16 month stay in Philadelphia, including the Declaration of Independence.

Despite this tidal wave of data to move a single container, this data remains very passive. It is listed, collated and stored, but until recently rarely available on demand in real time. Without the technology to transform this passive data into active information, visibility remains an elusive goal of the industry. Lacking this visibility, it remains a challenge for logistics firms to maximize their responsiveness and flexibility to both customers and their own business.

Revolutionary

However, Global Trade Management technology — namely GTM software and information systems — is providing solutions to all of these problems.

Global Trade Management technology seeks to streamline all aspects of a global supply chain, from orders to logistics to settlement activities to financials — all in the name of improving operating efficiencies and cash flows. The promise is drastically lower cost supplies and operations, without a concomitant increase in costs.

"From a pure data management perspective, data only turns into information when

John Fontanella
vice president of research, AMR Research

"The revolution is that companies are slowly and quietly drawing back responsibilities that they just would hand off to a third party before. It is clear that these firms realize they must have this kind of information to have integrity in their supply chain."

you can do something with it," said John Fontanella, vice president of research for Boston-based AMR Research.

"Doing something with it," is the key behind GTM technology and the data revolution that it is fomenting throughout the logistics industry.

If Thomas Jefferson was correct, and every generation needs a revolution, then by definition there must be an identifiable reason for this need.

Fontanella and AMR recently partnered with *American Shipper* to conduct an extensive survey of the logistics industry to gain some insight into this reason, who the vanguard of this revolution is and how they are changing the future of the industry. Conducted late this summer, the survey confirms, possibly for the first time, that the logistics industry is waking to the realization that this data revolution is here and it is quietly reshaping the future of global trade.

One of the key findings of the AMR-*American Shipper* survey is that logistics firms are slowly realizing the importance of controlling all of the data they generate, not just small segments of it.

"The revolution is that companies are slowly and quietly drawing back responsibilities that they just would hand off to a third party before," Fontanella said. "It is clear that these firms realize they must have this kind of information to have integrity in their supply chain."

What Fontanella, and the survey, point to is a shift in the control of logistics data. Instead of allowing an outside vendor to control all of their data and then just draw on that passive data, a growing number of logistics firms are realizing that they have to be in control of this data in order to manage and dictate how it is used. Using GTM tools, firms are beginning to transform this passive data into active information that is translating into greater visibility, greater efficiency and more flexibility.

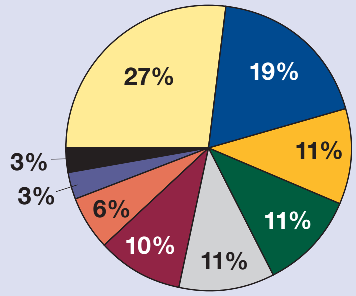
Two approaches

The AMR-*American Shipper* survey drew on the responses of more than 140 logistics companies, with a statistically healthy division of respondents across the high-tech, consumer products, industrial products, retail, and automotive sectors. The remaining responses also offered insight into the global trade management workings of chemical, aerospace and defense, pharmaceuticals, legal, compliance, trade management, and oil and gas firms.

Global Trade Management technology varies from vendor to vendor, but there are two basic models—system-in-a-box model

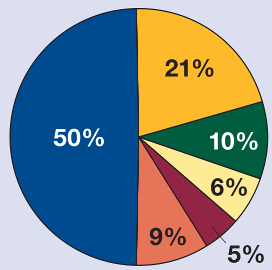
C art 1

Company's primary business



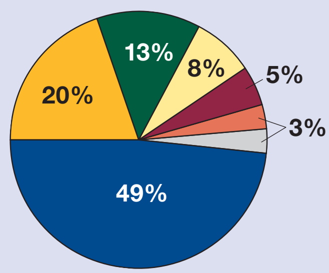
High tech	19%
Consumer products	11%
Industrial products	11%
Retail	11%
Automotive	10%
Chemical	6%
Aerospace and defense	3%
Pharmaceuticals/Bio tech	3%
Other	27%
TOTAL	**100%**

Size of company by 2006 revenue



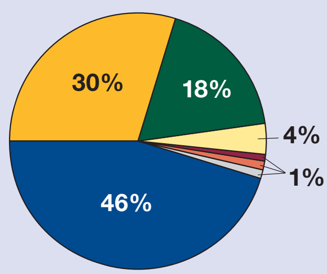
$1 billion +	50%
$500-999 million	21%
$200-499 million	10%
$100-199 million	6%
$50-99 million	5%
Less than $50 million	9%
TOTAL	**100%**

Respondent's job level



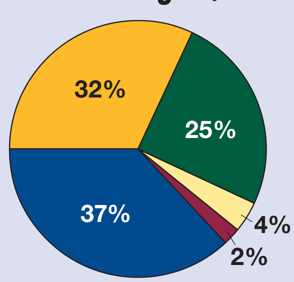
Manager	49%
Director	20%
Staff	13%
Analyst	8%
Executive (SVP, VP, GM)	5%
C-level (CEO, CIO, CFO, etc.)	3%
Other	3%
TOTAL	**100%**

Respondent's job function



Logistics/supply chain distribution	46%
Other	30%
Other logistics/supply chain	18%
Procurement	4%
CIO	1%
Supply chain/logistics IT	1%
Corporate or divisional IT	1%
TOTAL	**100%**

Respondent's involvement in company's decision to purchase technologies, services for Global Trade Management

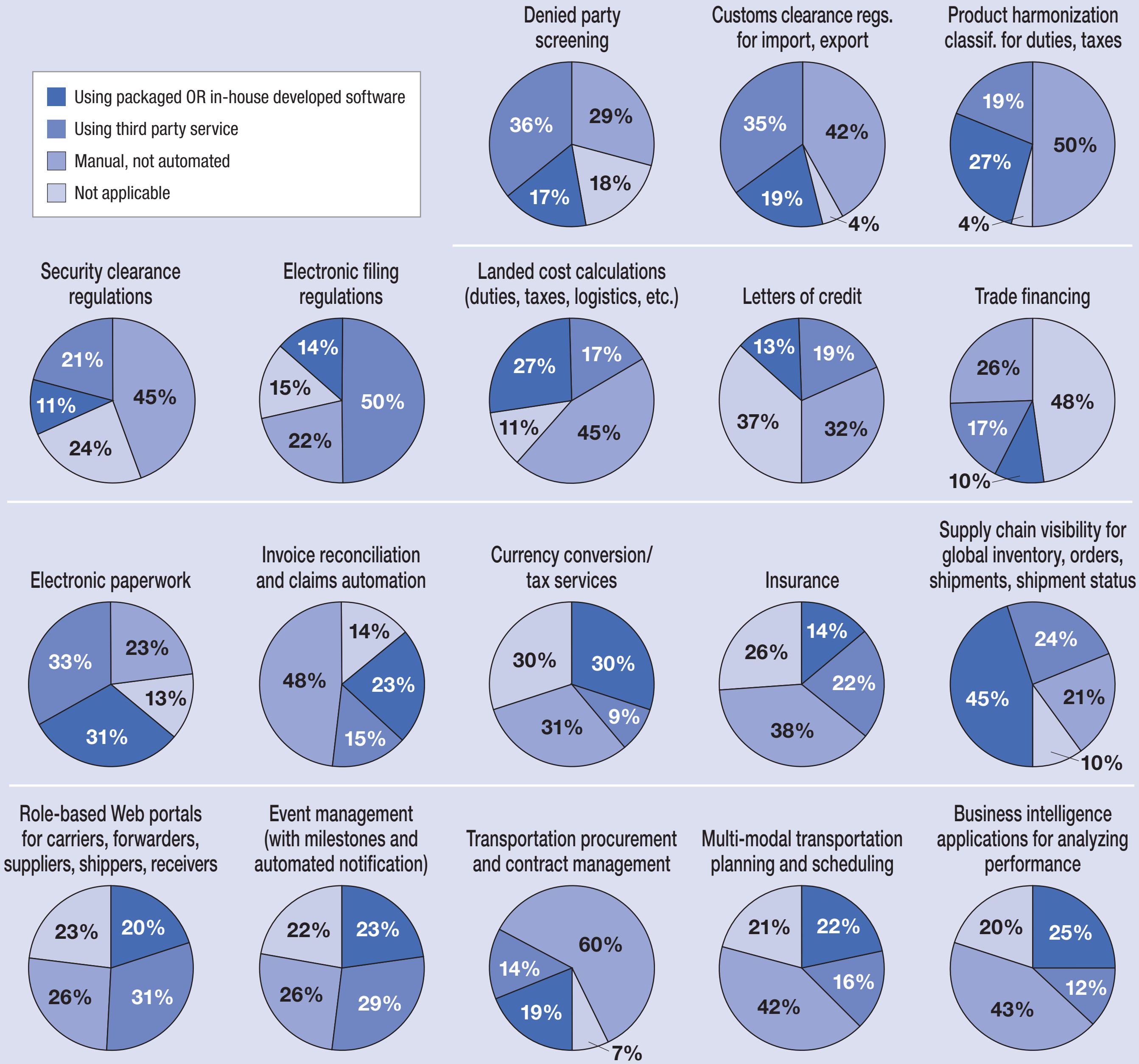


Member of a group responsible for decisions	37%
Leader of a group responsible for decisions	32%
Provide advice to decision makers	25%
Solely responsible for decisions	4%
No involvement in decision making process	2%
TOTAL	**100%**

Source: AMR Research.

C art 2

Indicate your company's use of software applications or third party services to automate or manage each of the following functions



Source (for all c arts): AMR Research.

and software-on-demand.

The traditional software approach of buying software and installing it on an internal computer system is the box model. While often backed up with customer and technical service, the box model is a one-time purchase. The customer owns the software to do with what they want.

Often times, customers will modify this software or even have the software vendor develop customized versions.

Supply chain visibility ranked as the No. 1 use, at about 50 percent, by all firms invested in box model systems.

Electronic paperwork and currency conversion were additional uses that ranked high with users of the box model, the AMR-*American Shipper* survey said.

The on-demand model utilizes a third-party computer system to host the software, thus eliminating the need for large up-front costs and maintenance. With this model, the customer purchases access to the vendor's software instead of purchasing the software itself. It works much like a subscription and the cost is typically much less than the more traditional box model.

Access to the on-demand software is provided via an Internet Web site, and is one of the key

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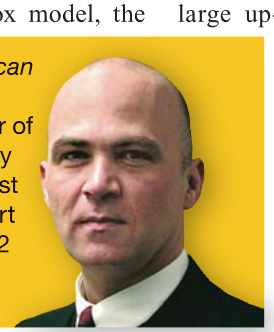


selling points to the model — customers can access the software anywhere they can access the Internet. Another plus to the on-demand model is that potentially any customer of the particular vendor, because they are all sharing the same remote server system, can exchange information.

Over the past several years, more and more firms have begun moving to the on-demand model. According to the survey, nearly half of the respondents utilize GTM systems from a third party vendor for electronic filing of regulations. On-demand systems were also used for electronic paperwork, customs clearance and denied party screening for 30 percent to 40 percent of the respondents.

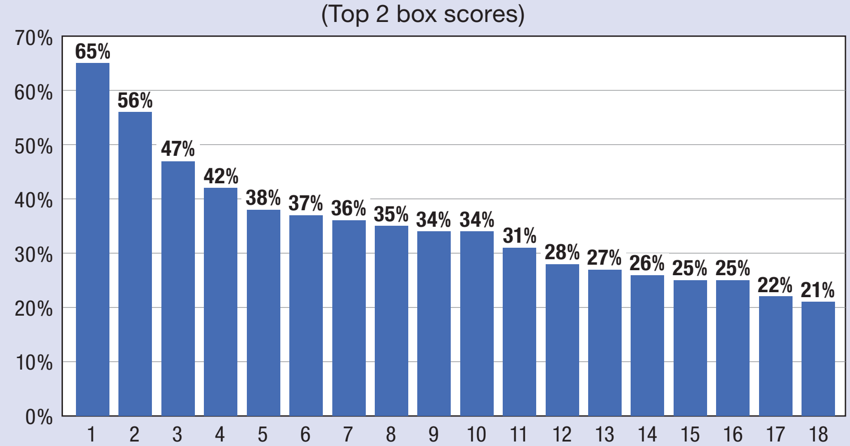
The survey also found that some firms utilize examples of both models, each for different specific functions. For example, two-thirds of respondents in the retail sector utilize on-demand systems for customs clearance and electronic filing. Nearly half of the same respondents utilize box model systems for management of landed costs and for invoice reconciliation.

This is not to say one GTM model is better than the other, however, certain sectors seem to favor certain approaches. The survey indicates that at least in some functions, such as handling electronic paperwork or

C art 3

Satisfaction with software currently in use

(Top 2 box scores)



1. Insurance
2. Letters of credit
3. Security clearance regulations
4. Transportation procurement and contract management
5. Denied party screening
6. Currency conversion/tax services
7. Trade financing
8. Product harmonization classification for duties, taxes
9. Invoice reconciliation and claims automation
10. Event management (with milestones and automated notification)
11. Business intelligence applications for analyzing performance
12. Electronic paperwork
13. Multi-modal transportation planning and scheduling
14. Customs clearance regulations for import and export
15. Supply chain visibility for global inventory, orders, shipments, and shipment status
16. Role-based Web portals for carriers, forwarders, suppliers, shippers, receivers
17. Landed cost calculations (duties, taxes, logistics, etc.)
18. Electronic filing regulations

in transportation planning, neither model dominates with users.

As for what is not being handled by GTM technology, the most clear-cut examples are in the trade financing, security clearance, letters of credit, transportation procurement, and contract management functions. Each of these functions were reported by at least 65 percent of respondents as being either not applicable to their business or as still being done manually.

Current GTM functions

Functions being addressed by GTM technology within the surveyed firms often depends on the type of GTM system being used.

The survey found that the largest usage by firms with in-house or on-demand GTM technology is for supply chain visibility. As one of the core functions of GTM technology, this is not surprising. Filing of electronic paperwork and currency conversion/tax services each scored about 30 percent, as these are functions obviously done well by regular off-the-shelf business software.

More interesting is what is not done by GTM technology. Insurance, electronic filing of regulations, letters of credit, security clearance regulations, and trade financing all scored below 15 percent.

Of the surveyed firms that utilize third party vendors for providing GTM service, denied party screening, customs clearance regulations, and electronic paperwork all came within 30 percent to 40 percent. Electronic filing of regulations ranked in the top slot for users of third party services, with half of the firms surveyed saying this is a use of their provided GTM service.

Transportation procurement, contract management and product harmonization for duties, taxes, etc. ranked as a manually performed function by 50 percent to 60 percent of the respondents.

Invoice reconciliation and security clearance regulations also scored above 45 percent, but worth noting was the number of respondents that still perform landed cost manually.

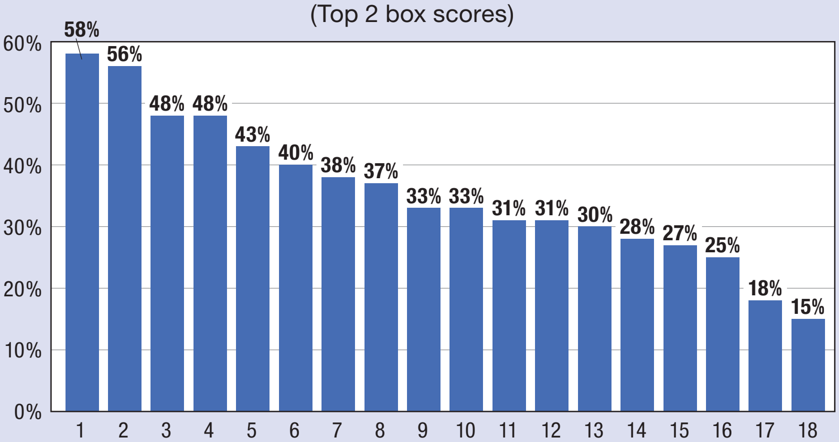
Landed costs, those costs that include the per unit total transportation costs, remain a difficult area for GTM to crack into. Landed costs, and how they affect the per unit price of goods, can often make or break the profitability of an entire shipment.

More than half of all firms surveyed said they do not perform landed cost calculations. Nearly half of these, the survey revealed, are likely to be either doing them manually in a rough back-of-the-envelope method, or simply not doing them.

C art 4

Satisfaction with third party service currently in use

(Top 2 box scores)



1. Customs clearance regulations for import and export
2. Product harmonization classification for duties, taxes
3. Security clearance regulations
4. Trade financing
5. Electronic filing regulations
6. Denied party screening
7. Invoice reconciliation and claims automation
8. Electronic paperwork
9. Landed cost calculations (duties, taxes, logistics, etc.)
10. Insurance
11. Currency conversion/tax services
12. Letters of credit
13. Role-based Web portals for carriers, forwarders, suppliers, shippers, receivers
14. Event management (with milestones and automated notification)
15. Multi-modal transportation planning and scheduling
16. Business intelligence applications for analyzing performance
17. Supply chain visibility for global inventory, orders, shipments, and shipment status
18. Transportation procurement and contract management

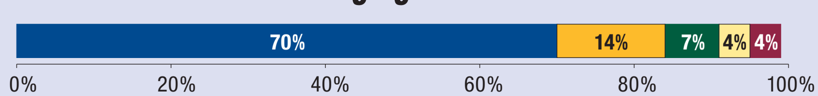
"Companies have a difficult time making precise allocations for landed costs," Fontanella explained. He added that without the visibility into the supply chain that GTM technologies offer, and the data provided by the same, it is virtually impossible for a firm to calculate accurate landed costs.

For this reason, looking at a firm's ability to perform landed cost calculations and how well they utilize this information is a good bellwether of the firm's integration of GTM technologies. Without the data provided by GTM, firms face little more than a cursory or very average calculation. Due to this, many firms do not even attempt to perform the rough calculations. Inversely, firms that show a high degree of GTM automation are typically the same firms that perform very accurate landed cost calculation.

"Companies that depend on efficiencies in transportation to be profitable, like chemical, consumer goods, retail, know their landed costs and have become very good at understanding them over the past five years," Fontanella said. "They have also become very good at assigning the

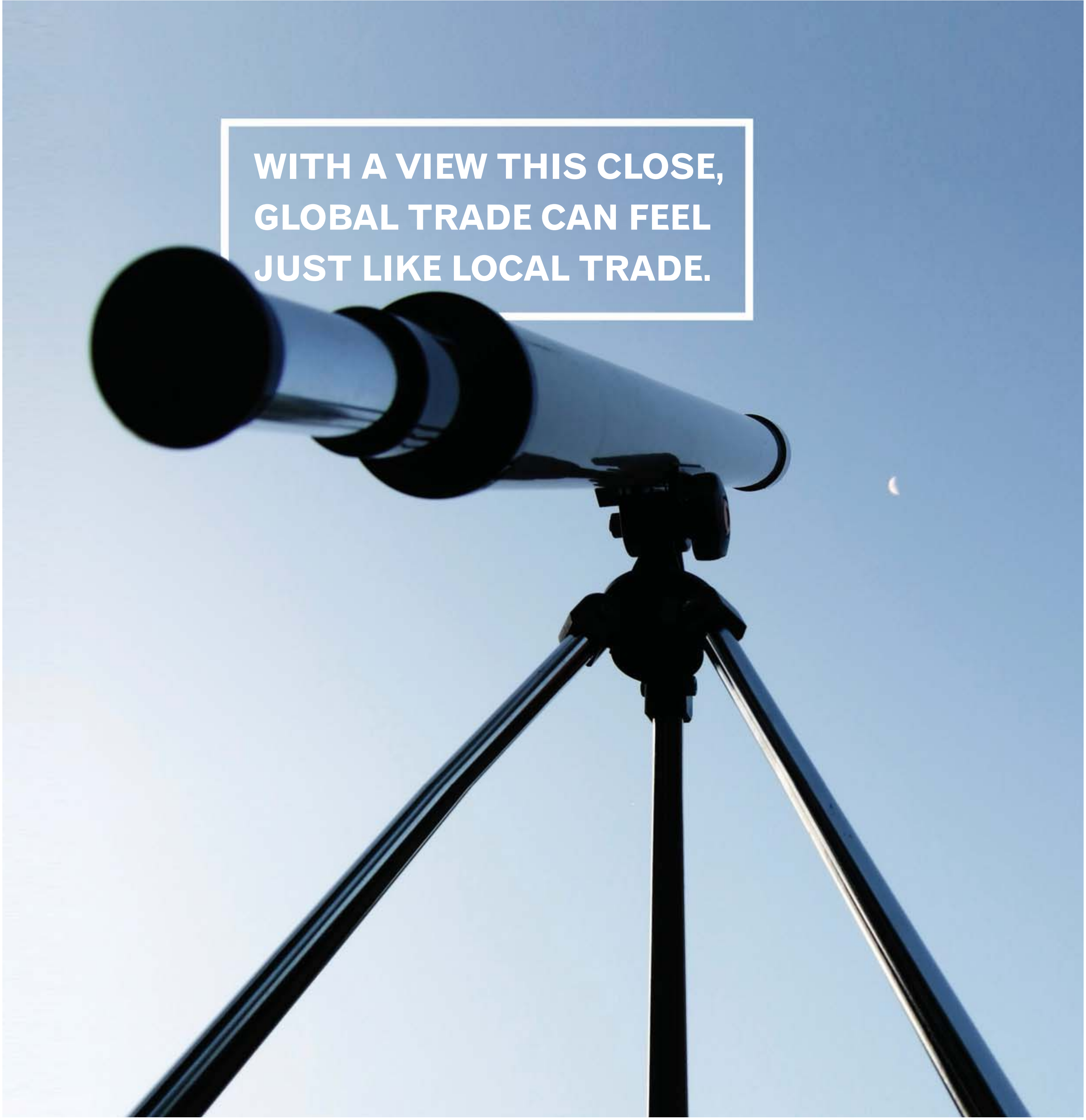
C art 5

Which statement best describes views on the best way to manage global trade?



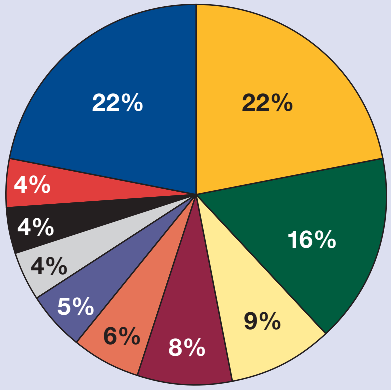
Using a mix of processes, software, and 3PL/freight forwarders	70%
Internally, using best-of-breed software	14%
Internally, using our own home-grown systems	7%
Internally, using by ERP vendor's GTM software	4%
Externally, using a 3PL or freight forwarder	4%
TOTAL	**100%**

Source (for all c arts): AMR Research.


WITH A VIEW THIS CLOSE, GLOBAL TRADE CAN FEEL JUST LIKE LOCAL TRADE.

C art 6

What is the biggest challenge your company faces with Global Trade Management?



Challenge of integrating data with other supply chain systems	22%
Limited budget – other technology priorities	22%
Incorporating trade content into operations	16%
Difficult to assess ROI	9%
Challenge of integrating data with other enterprise	8%
Gaining access to trade rules, tariffs and taxes	6%
Cost to deploy software	5%
Complexity of application software	4%
Other	4%
Cost of 3PL service	4%
TOTAL	**100%**

landed costs to the business units that incurred them, so they can measure how well a particular unit is at managing their international trade."

Satisfaction

Whatever the system, satisfaction with GTM systems among retail and process manufacture users — at least for some functions — is fairly high. Retailers were 100 percent satisfied with the job that GTM software is doing for their firms regarding handling functions such as letters of credit, trade financing, and managing electronic paperwork. Process manufacturers firms ranked satisfaction with GTM software to handle security clearance regulations, product harmonization and electronic handling of regulations.

The highest level of satisfaction that discrete manufacturers surveyed could offer up for GTM software was a 50 percent ranking for handling insurance needs and a 40 percent ranking for transportation procurement.

A caveat to this would be that while discrete manufacturers rated at least a minimum of 17 percent satisfaction with every 18 functions surveyed for, process manufacturers and retailers found some functions of GTM badly failing.

Process manufacturers rated the handling of electronic paperwork by GTM software at zero percent satisfaction, and retailers offered up the same rating for several distinct functions including security clearance regulations, denied party screening, event management, customs clearance regulations, and electronic filing regulations.

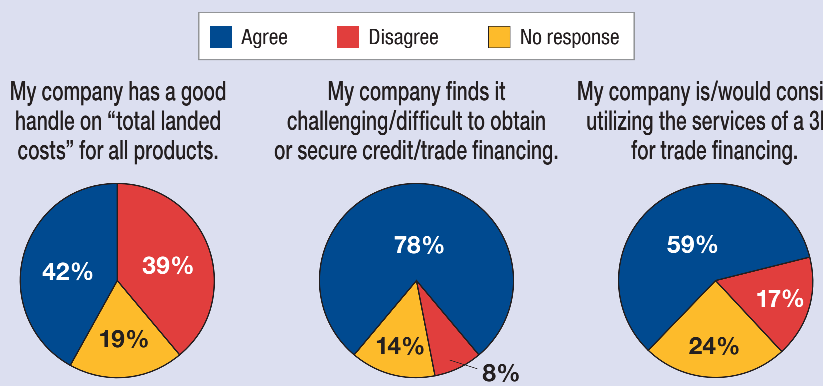
One explanation of this lack of satisfaction in nearly 40 percent of the function categories could be that retailers have long had a very high degree of reliance on GTM automation, and as such have a very sophisticated palette when it comes to their needs.

Looking at satisfaction with GTM services provided by third parties, the results change dramatically. Retailers only find a bottom-of-the-barrel rating for currency/tax services and transportation procurement while offering a rating no higher than 80 percent — for the handling of security clearance regulations — for any of the 18 functions in the AMR-*American Shipper* survey.

Process manufacturers found the analysis tools for GTM performance to be worthy of a 100 percent rating, and deemed no function worthy of lower than 25 percent, except landed cost calculations, which rated a 17 percent satisfaction rating. Discrete manufacturers, that group so seemingly unhappy with GTM software, struck a kinder note in regards to third party services, finding zero percent satisfaction only in the transportation procurement function.

C art 7

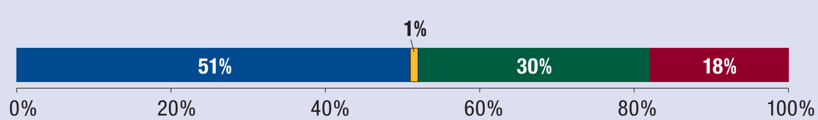
Level of agreement for the following statements



C art 8

Will spending on Global Trade Management software and services increase, decrease or remain the same in the next 12 months?

Increase	51%
Decrease	1%
Remain the same	30%
Not sure at this time	18%
TOTAL	**100%**



Source (for all c arts): AMR Research.

Best solutions

Survey respondents overwhelmingly agreed that the one-solution-fits-all idea of GTM technology is firmly dead. Seventy percent of firms believe that the best solution for GTM is using a mix of internal processes, software and third party services.

Retailers were the most certain, with 80 percent voting for the mixed-use solution. Both manufacturing types, process and discrete, voted for the mixed-use solution by about a two-thirds margin. The nearest second choice, at an average of about 14 percent was keeping all services internal using the best-of-breed software

Home grown systems, GTM systems by the firm's ERP vendor, or solely by outsourcing GTM to a third party service provider all ranked in single digits.

Challenges

Respondents listed two main challenges facing their firms regarding GTM, one a technology challenge and one a financial problem.

About one-fourth of those firms surveyed reported integrating their data with other supply chain systems as the single largest vexation. On the other side of this, that means that 75 percent of the firms did not find this a challenge, so it is unclear if this is a sweeping problem or one of those isolated problems with certain firms.

The second challenge was limited technology budgets. About 22 percent of the firms reported that budget limitations within their firms are a problem in regards to GTM. Again this leaves 78 percent of the firms who don't feel this is a problem.

At the other end of the spectrum, and good news for third-party service providers, was the fact that nearly all the firms surveyed agreed that the cost of 3PL service was not a challenge in any way.

Future spending

Abraham Maslow, the 20th century American philosopher, made the point that, "it is tempting, if the only tool you have is a hammer, to treat everything as if it were a nail."

At least half of the firms surveyed realize that their GTM solutions require more than just a hammer. Only 1 percent of the firms surveyed said they would be decreasing the amount spent on GTM software and services over the next 12 months. While 18 percent reported they were not sure and 30 percent said their spending would remain the same, 51 percent reported that their spending would increase.

The survey also found that of those firms reporting a planned increase, the average increase in investment in GTM software and services over the next 12 months would be 33 percent. Those that reported a planned decrease reported a much smaller amount, with the average planned decrease reported at 16 percent.

Endgame

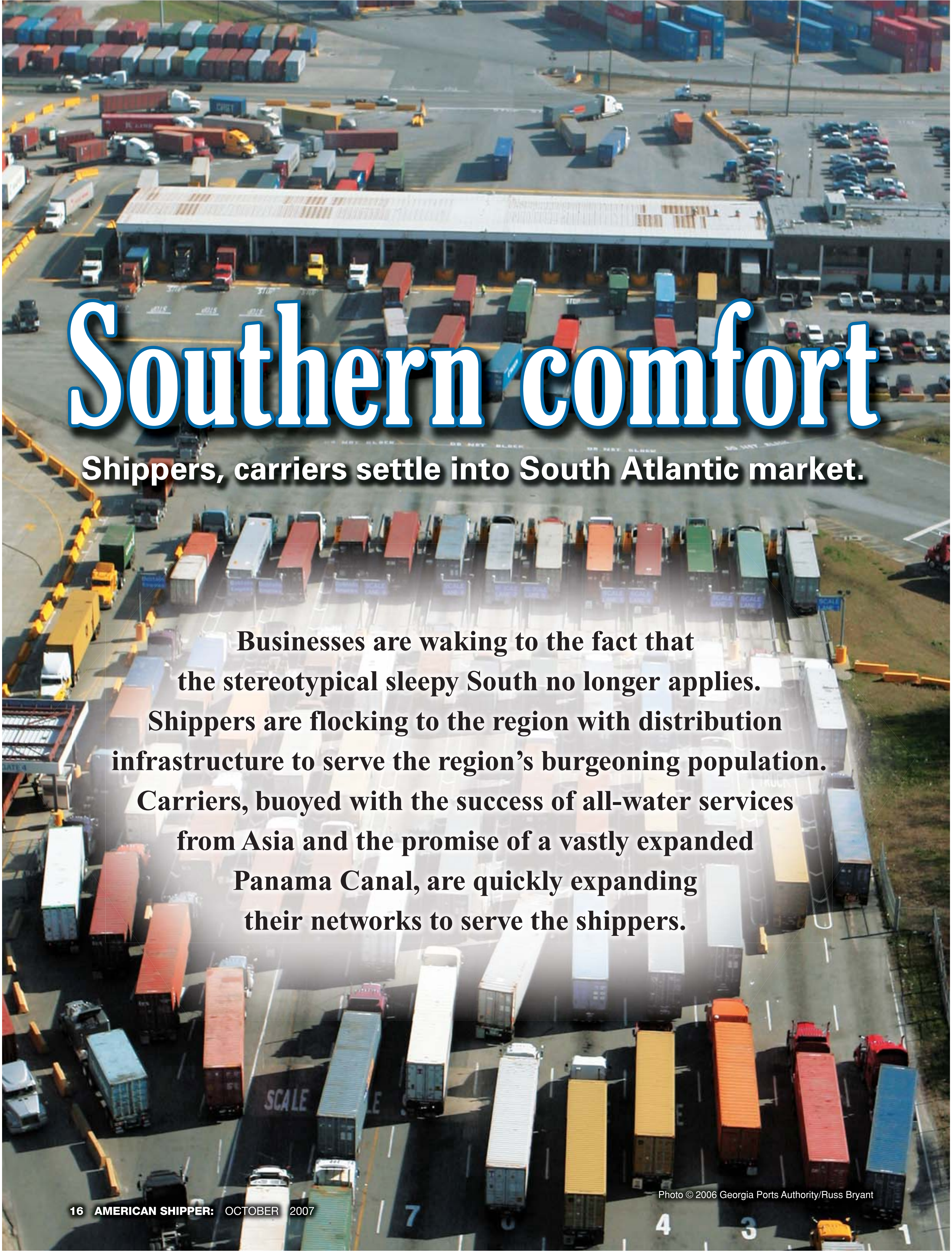
The bottom line of GTM software and services is, well, the bottom line. The three core areas addressed by GTM technology, as mentioned above, are visibility, efficiency and flexibility. GTM systems provide a multitude of new viewing, monitoring and collection points to firms that provide volumes of data on each shipment. The GTM systems allow this data to be converted into information that can be utilized to increase the overall efficiency of the supply chain. This information creates knowledge that increases flexibility by allowing firms to react better, quicker and more accurately.

"By its very nature GTM systems change a company over time," Fontanella said. "Anytime you have more knowledge available, a firm is better able to become more flexible in the face of uncertainty." ■

Southern comfort

Shippers, carriers settle into South Atlantic market.

Businesses are waking to the fact that the stereotypical sleepy South no longer applies. Shippers are flocking to the region with distribution infrastructure to serve the region's burgeoning population. Carriers, buoyed with the success of all-water services from Asia and the promise of a vastly expanded Panama Canal, are quickly expanding their networks to serve the shippers.



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