

# TRANSPORTATION AND LOGISTICS IN A CHANGING WORLD

THE JOURNEY BACK TO PROFITABLE GROWTH



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THE JOURNEY BACK TO PROFITABLE GROWTH

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# EXECUTIVE SUMMARY

**W**HY HAVE SOME TRANSPORTATION and logistics (T&L) companies succeeded in combining strong growth with high returns, while for others this has been an elusive goal? To find the answer, The Boston Consulting Group conducted an industry-level analysis of critical performance metrics and complemented it with detailed analyses of business segments and individual companies. *Transportation and Logistics in a Changing World: The Journey Back to Profitable Growth* presents our findings and discusses the factors that are critical to achieving higher returns in the near and long terms.

**Despite sound revenue growth in recent years, only a few T&L companies have managed to enjoy higher profits.**

- BCG analyzed the revenues and margins (calculated using earnings before interest and taxes, or EBIT) of approximately 500 global T&L companies. We found that revenues and average EBIT margins grew at nearly the same rate from 2005 through 2007. Then, a small gap between the two increasingly widened. By the end of 2014, revenues had grown by 22%, while EBIT margins had grown by only 2%.
- Companies that manage to combine strong growth with high returns set themselves apart in two ways: they understand the success factors and related best practices that are critical to maximizing their profits in the market today, and they proactively position themselves to capture opportunities arising from the megatrends reshaping the global economy, such as urbanization and digitization.
- To join the ranks of the top performers, many T&L companies will need to make a fundamental paradigm shift—from pursuing growth for its own sake to finding avenues for growth that generate high returns in an increasingly complex and competitive business environment.

**Our industry-level analysis revealed comparatively low returns, measured in terms of return on capital employed (ROCE) and total shareholder return (TSR).**

- The ROCE for T&L from 2011 through 2015 was 10.1%, placing the industry 18th in BCG's 2016 Value Creators ranking. T&L's ROCE was at the low end of the range for the weighted average cost of capital (9% to 12%) for industries included in the study.
- During the five-year period from 2011 through 2015, the annual TSR for T&L companies was, on average, 11.4%, also below average for the industries studied.

**Performance varied widely at the level of business segments.**

- T&L businesses can be grouped into 16 segments on the basis of the service provided. These segments can in turn be grouped on the basis of asset intensity into four categories: logistics infrastructure, logistics execution, logistics services, and logistics advisory.
- The €2.7 trillion T&L market is dominated by logistics execution, with combined revenues for its segments of €2.3 trillion. Infrastructure segments' combined revenues from serving execution segments total €257 billion. The market for logistics services (totaling €658 billion) is composed of freight-forwarding and contract-logistics providers. The emerging category of logistics advisory currently represents less than 1% of the overall T&L market.
- The forecast nominal CAGR from 2014 through 2018 for most segments is 4% to 7%. The logistics advisors segment is expected to enjoy the highest CAGR: 9%. The outsourcing trend will continue to drive growth in logistics services—nearly 7% for contract logistics and nearly 5% for road- and rail-freight forwarding. Air transport and sea transport are forecast to have low CAGRs of just over 2%, while the forecast CAGR of the related freight-forwarding segment is 1%.
- Combining the perspectives of growth and return on assets (ROA), we found that the most attractive segments are logistics advisors, CEP (courier, express, and parcels) delivery, hinterland terminals, and rail transport (outside of Europe). All other segments do not earn the cost of capital. Although segments in logistics infrastructure, such as rail network providers, port authorities, and warehousing, are expected to enjoy high growth rates, their returns are below the cost of capital. The segments facing the most intense pressure in terms of both growth and ROA include sea and air transport and postal delivery.

**A company-level analysis showed that strong returns are possible throughout the industry.**

- Nine of the industry's 16 segments had a weighted average ROA that exceeds the industry's weighted average ROA of 4.6%.

- The average spread of ROA among infrastructure players was smaller than for execution players, indicating that the higher asset intensity of infrastructure businesses has an equalizing effect on returns. The broad range of ROA for execution players is attributable to the significant differences in asset bases, tariff schemes, and operational efficiency. Within logistics services, the ROA spread for contract logistics players was broader than for both types of freight-forwarding companies.

**To achieve profitable growth, companies in all T&L segments will need to adapt their traditional business models to the changing market environment.**

- Companies across all segments should design lean organization and governance structures to improve efficiency and seek to differentiate themselves through IT, big data, and digitization capabilities, human resources excellence, dynamic value pricing, and balanced business portfolios.
- Road transport companies should design lean operations and improve their overall network's efficiency and productivity, as well as capacity management, to generate maximum revenues from their fleets. They should also improve capabilities for managing tenders and contracts and focus their business on the most attractive customer industries and markets.
- Freight-forwarding companies need to achieve scale on each route (or "trade") and rigorously implement automation of processes in order to reduce costs. They can differentiate themselves by providing high-quality end-to-end service and deploying an effective sales force.
- Contract logistics providers should design standardized, industrialized offerings that can be tailored to customers' needs. They also should select industry verticals and regions to focus on. Building long-term relationships and becoming leaders in innovation will be essential to maintaining a competitive advantage.

**T&L companies also need to prepare for six megatrends: the rapid development of emerging markets, urbanization, sustainability, infrastructure congestion and scarcity, e-commerce, and digitization.**

- To compete in a "two-speed world," companies should emphasize offerings to serve markets in Africa, Asia, and Latin America and pursue relationships with the next wave of global challengers.
- Improved city logistics and integrated hub services will be critical to serving the complex needs of congested megacities.
- To meet sustainability objectives, road transport companies, for example, can replace their aging fleets with fuel-efficient vehicles, as well as develop offerings to help customers reduce their carbon footprint.

- Logistics infrastructure companies can play a key role in helping customers overcome infrastructure constraints, at a premium price in some markets.
- “Last mile” strategies and innovative fulfillment services will help companies capture growth opportunities in e-commerce.
- Digitization efforts should focus on big data and analytics and automation of processes to reduce costs, as well as on digital platform solutions in freight forwarding.

**As they seek to overcome the current challenges to earning sufficient returns on their asset base, T&L companies need to assess where they stand today and their priorities for action.**

- T&L companies should assess their operational efficiency, sales force effectiveness, and ability to create value for shareholders.
- For many companies, the long-term journey back to profitable growth should begin with challenging their current business model. For example, executives should assess opportunities arising from megatrends and how these will affect the company’s value proposition and operating model.
- All T&L companies can benefit from opportunities to combine strong growth with high returns. The winners will be distinguished by their ability to understand and implement the practices that foster high performance in today’s market conditions as well as in tomorrow’s transformed business environment.



# THE ELUSIVE GOAL OF PROFITABLE GROWTH

**A**RE THESE GOOD TIMES or bad times for the transportation and logistics (T&L) industry? The industry has grown significantly since the turn of the millennium, and most segments emerged from the 2008 financial crisis with strong growth prospects. Despite sound revenue growth, however, only a few T&L companies have managed to enjoy higher profits.

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The top ten companies in each segment were able to increase revenues by 37%.

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The Boston Consulting Group analyzed the revenues and margins (calculated using earnings before interest and taxes, or EBIT) of approximately 500 T&L companies worldwide. We found that revenues and average EBIT margins grew at nearly the same rate from 2005 through 2007. Then, a small gap between the two increasingly widened. By the end of 2014, revenues had grown by 22%, while EBIT margins had grown by only 2%. (See Exhibit 1.)

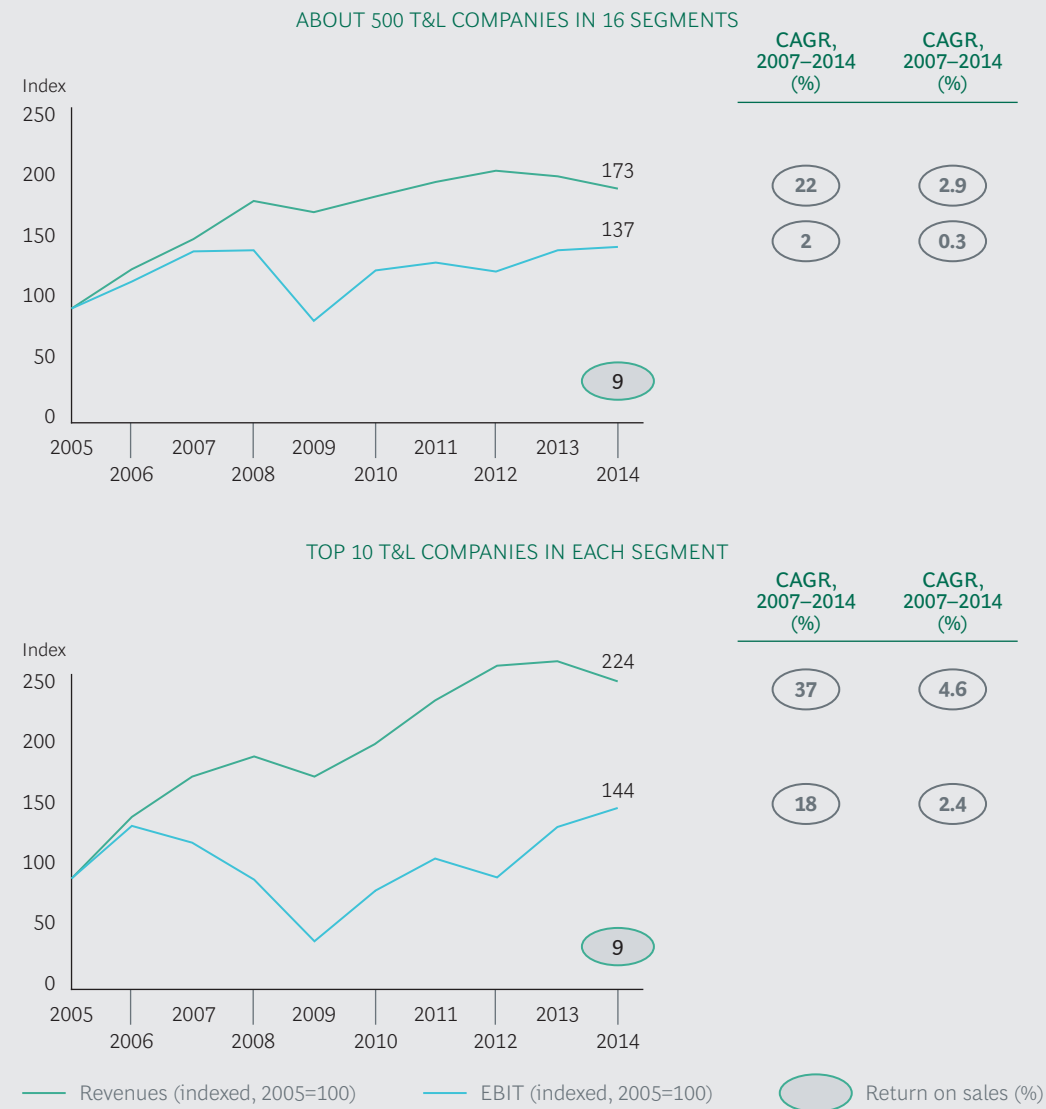
Challenging market conditions only partially explain why profits did not keep pace with revenue growth. For many T&L players, organic growth strategies aimed at gaining market

share in new regions and in new business segments failed to deliver profitability in terms of return on sales (ROS) and return on assets (ROA). In some instances, companies accelerated revenue growth through acquisitions, but these inorganic strategies also failed to realize the anticipated profit growth—often because the companies did not adequately integrate the acquired businesses into their operations and networks.

However, some T&L companies succeeded in achieving strong growth in both revenues and profits. The top ten companies in each of 16 market segments were able to increase revenues by 37% from 2007 through 2014, and their EBIT margins grew by 18% during the same period. To determine how, we conducted an industry-level analysis of critical performance metrics and complemented it with detailed analyses of business segments and individual companies. We found that the top-performing companies set themselves apart in two ways: they understand the success factors and related best practices that are critical to maximizing their profits in the market today, and they proactively position themselves to capture opportunities arising from the megatrends reshaping the global economy—such as urbanization and digitization—so as to maintain their competitive advantage.

To capitalize on opportunities in industry segments that are attractive in terms of both

EXHIBIT 1 | Profit Growth Has Not Kept Pace with Revenue Growth



Sources: S&P Capital IQ; BCG analysis.  
Note: EBIT divided by total sales equals the return on sales.

growth and returns, company executives need to refine their current business models, keeping in mind the factors that promote success in the near term and the megatrends that will affect these segments in the long term. For many T&L companies, joining the

ranks of the top performers will require a fundamental paradigm shift—from pursuing growth for its own sake to finding avenues for growth that generate high returns in an increasingly complex and competitive business environment.

# ASSESSING THE INDUSTRY'S PERFORMANCE

**W**E EVALUATED THE GROWTH and returns of the T&L industry, its business segments, and the companies within each segment.

## Growth Has Not Led to High Returns

Although the T&L industry is huge and growing, its return on capital employed (ROCE) and total shareholder return (TSR) have been comparatively low. The ROCE for T&L from 2011 through 2015 was 10.1%, placing the industry 18th in BCG's 2016 BCG Value Creators ranking.<sup>1</sup> (See Exhibit 2.) The industry's relatively low ROCE is attributable to the high asset and capital intensity (the extent to which assets and capital are required to operate a business) of many T&L segments, as well as lower margins resulting from a competitive environment characterized by a market with many smaller companies and entry barriers that are often low. Margins were also driven down by higher costs not fully offset by price increases, especially for fuel and labor.

Additionally, we compared industries' ROCE with their weighted average cost of capital (WACC). An industry's WACC quantifies the cost of the capital required to finance the purchase of assets, reflecting investors' expectations for returns when they provide capital. If ROCE exceeds WACC, a company is earning the cost of the capital required to run its business.

The T&L industry's WACC of 10.3% signals that investors attributed a relatively low risk to the industry, which is consistent with its maturity and structural importance. However, the fact that ROCE was 0.2% less than WACC should be a source of concern for the T&L industry. It indicates that, on average, T&L companies were not earning their cost of capital, let alone excess value. Given that asset intensity is inherently high for many industry segments and that the industry's WACC reflects reasonable investor expectations, T&L companies should be looking for ways to improve their ROCE—ways that increase margins, improve the utilization of assets, or better manage capital expenditures.

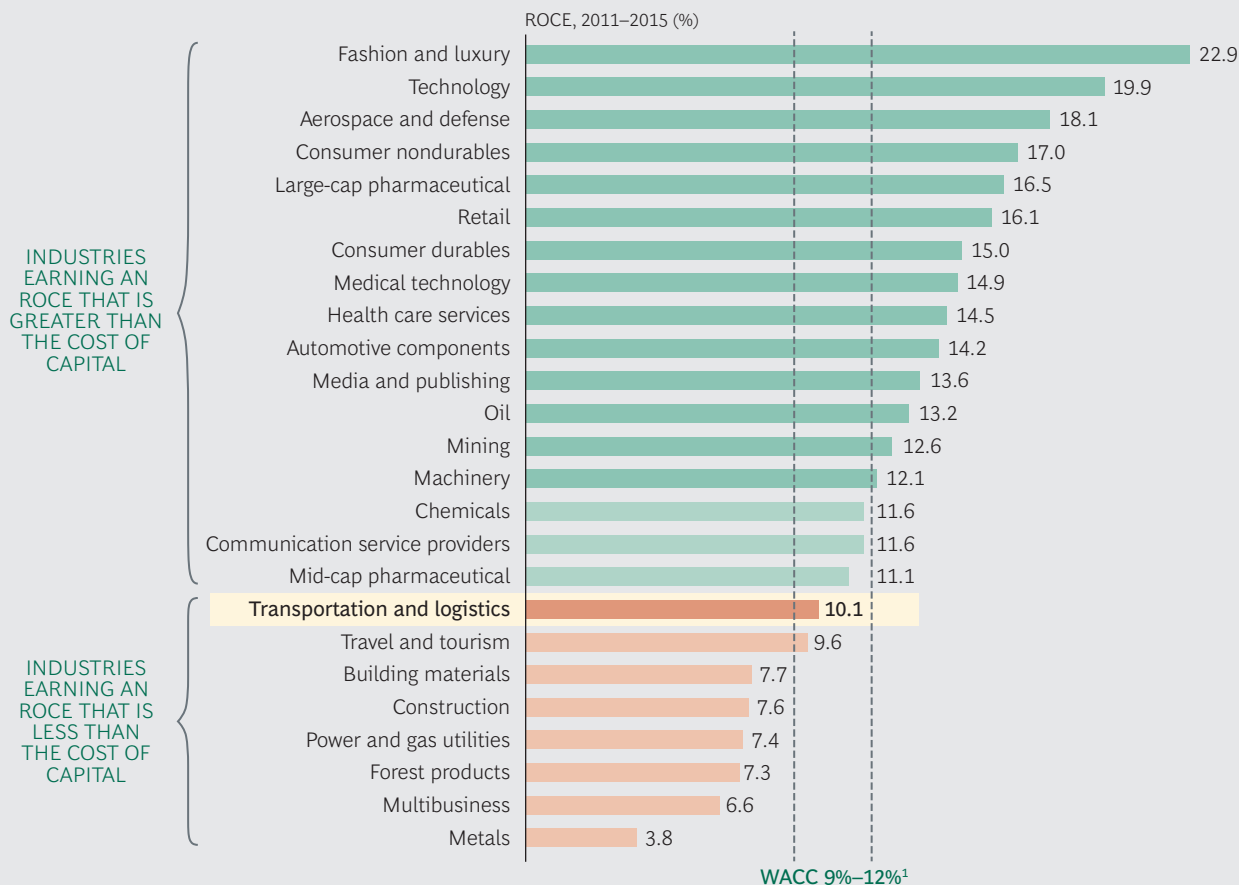
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T&L companies should be looking for ways to improve their ROCE.

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Not surprisingly given its low ROCE, the T&L industry also did not reward its shareholders with high returns compared with other industries. During the five-year period from 2011 through 2015, the annual TSR for T&L companies was, on average, 11.4%, which is below the average of 12% across industries.<sup>2</sup> As a result, the T&L industry ranked 17th among those we studied. However, an analysis of

## EXHIBIT 2 | The T&L Industry Struggles to Earn the Cost of Capital



Sources: S&P Capital IQ; 2016 BCG Value Creators rankings; New York University Stern School of Business; BCG analysis.

Note: The aggregated EBIT per industry divided by the aggregated capital employed per industry equals the ROCE.

<sup>1</sup>Global pretax WACC as of 2016.

TSR for the ten best-performing T&L companies revealed a much different picture: an average annual return of 26%. (See Exhibit 3.) This indicates that superior performance is possible for those T&L companies that find the right ways to achieve it.

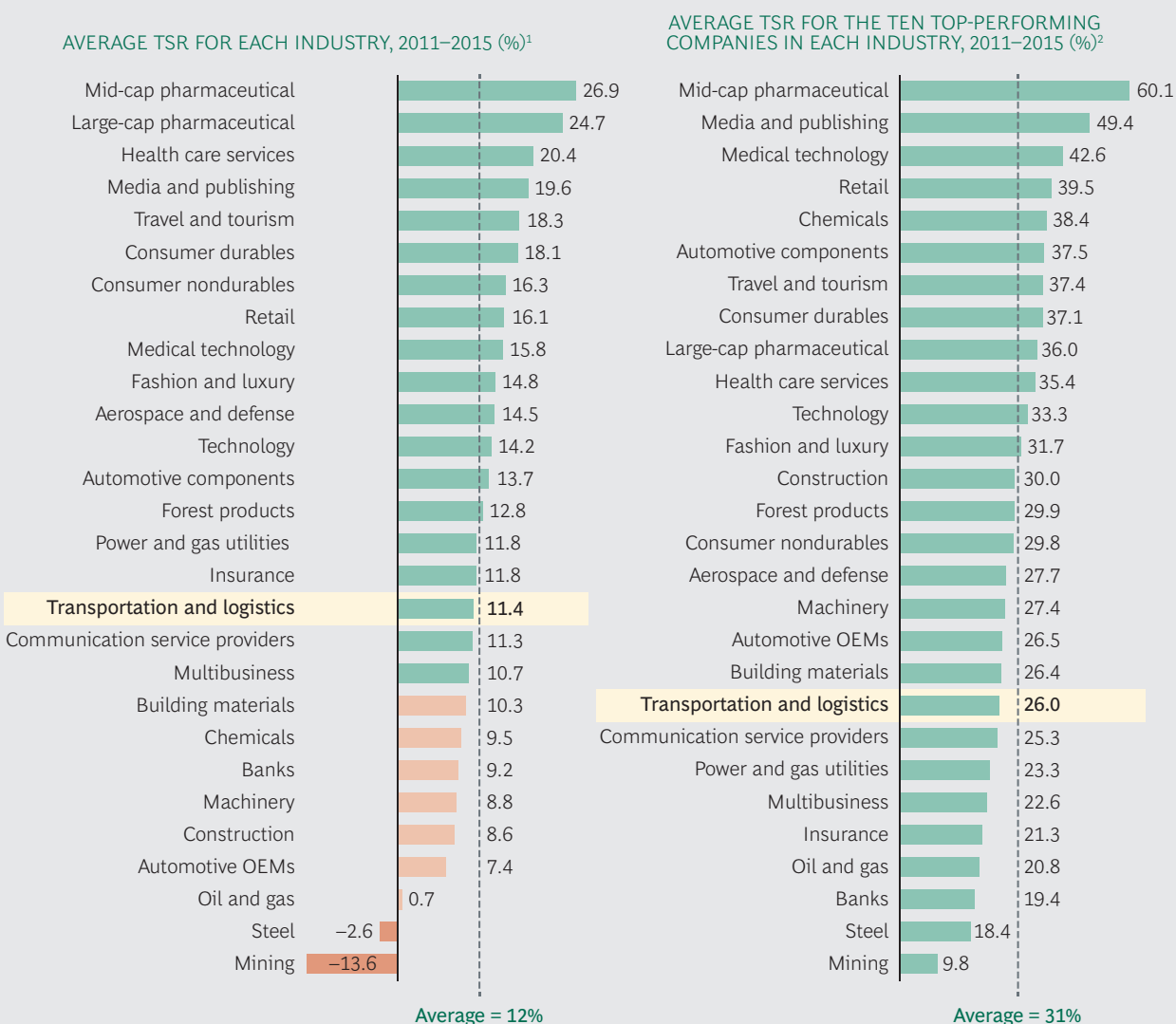
### Performance Varied Widely Among Segments

To gain a better understanding of what drives returns for the T&L industry, we took a closer look at its business segments and compared their growth rates and returns.

**Sixteen Segments Within Four Broad Categories.** T&L businesses can be grouped into 16 segments on the basis of the service provided. These segments can in turn be grouped into four categories on the basis of asset intensity. (See Exhibit 4.)

- **Logistics infrastructure** comprises segments for which the management of infrastructure is the most important task. These segments are hinterland terminals, rail network providers, port authorities, sea terminals, airports, and warehousing. The segments in this category typically have the highest asset intensity in the industry. Companies must make significant investments to acquire and maintain their assets, creating a high entry barrier for new competitors.
- **Logistics execution** comprises segments that emphasize the management of equipment. This category includes four transport segments: road, rail, sea, and air. It also includes two delivery segments: postal and courier and express parcel (CEP). Although execution segments are typically less asset intensive than infra-

### EXHIBIT 3 | The Returns for T&L Companies Were Average, But Good Performance Is Possible



Sources: S&P Capital IQ; 2016 BCG Value Creators rankings; BCG analysis.

<sup>1</sup>Five-year median annual TSR for the sample.

<sup>2</sup>Five-year median annual TSR for the top ten companies.

structure segments, companies must own or rent fleets for transporting freight.

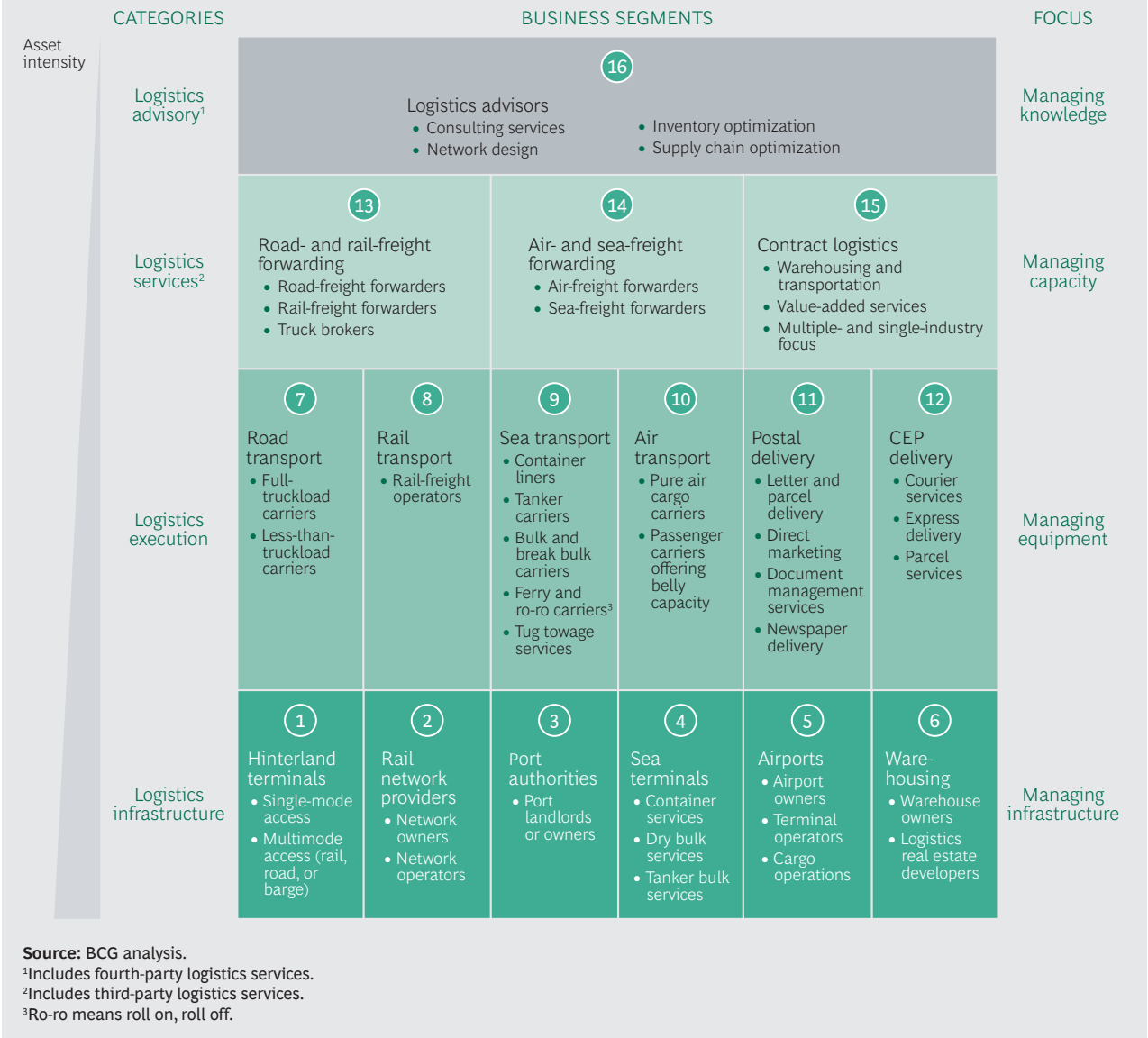
- **Logistics services**, or third-party logistics, comprises three segments: road- and rail-freight forwarding, air- and sea-freight forwarding, and contract logistics; the management of capacity is their main focus. Freight-forwarding players manage transport services. Road and rail forwarding companies have similar economics arising from the similarity of their customers; the same is true for air and sea forwarding providers. Contract logistics players manage value-added services

related to warehousing and transport, such as supply chain management.

Because companies in these three segments provide only management services, their asset intensity is low (unless they have a more asset-intensive business, such as owning warehouses).

- **Logistics advisory** includes all fourth-party logistics services, such as consulting and IT services, for transport and transport-related businesses. Advisory businesses typically have very low asset intensity because they provide knowledge-based services.

EXHIBIT 4 | Sixteen Business Segments Fall into Four Categories



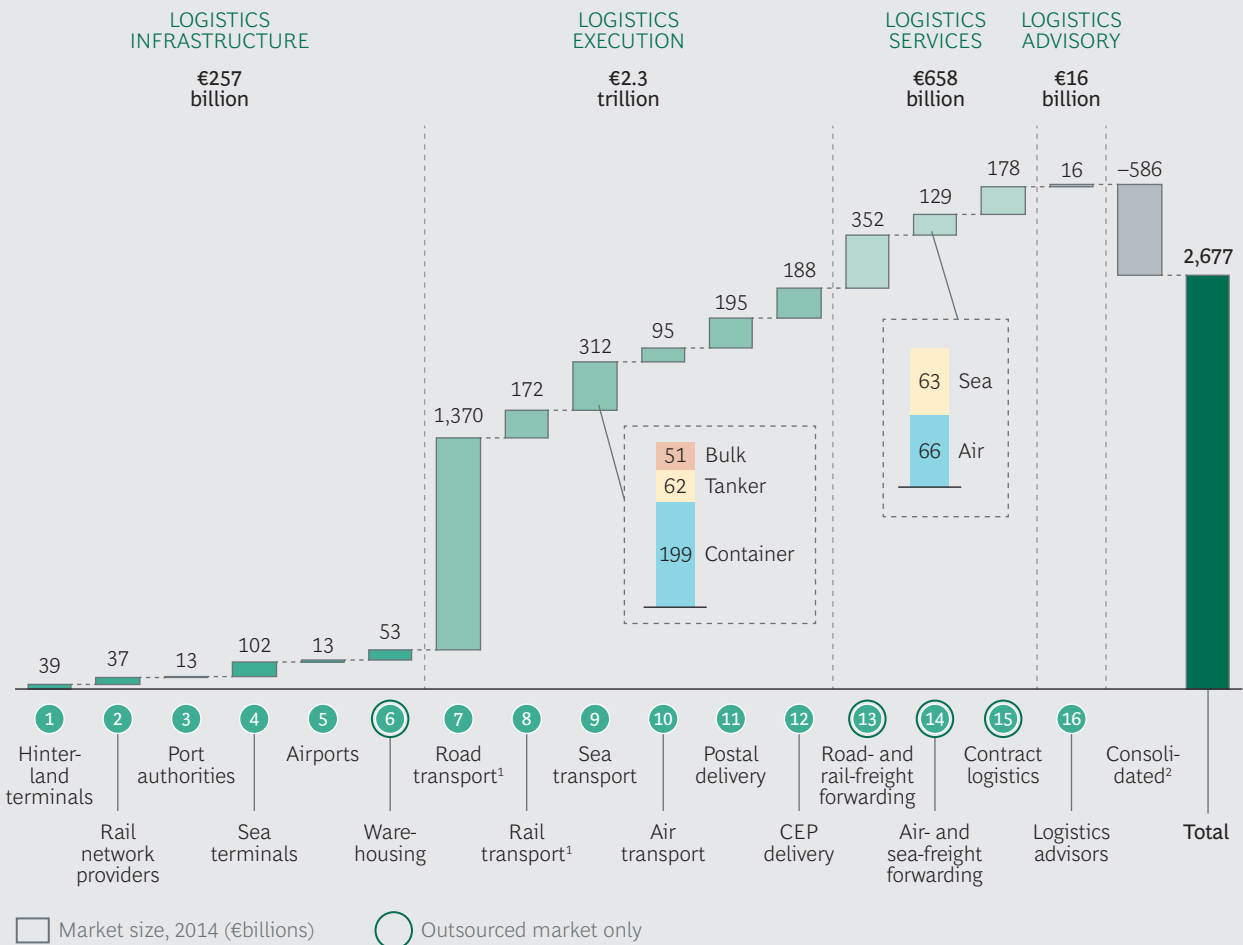
The segments differ significantly with respect to their market size on a global basis. We measured the market size of segments in terms of combined company revenues. In some cases, segments are integrated. For example, in some countries, rail network providers are integrated into rail transport companies; in such cases, we attributed a share of transport companies’ revenues to their network operations. Additionally, we considered only the share of revenue attributable to freight transport for companies that provide both freight and passenger transport.

The €2.7 trillion T&L market is dominated by logistics execution, with combined revenues

for its segments of €2.3 trillion. (See Exhibit 5.) Road transport is the largest segment, with revenues of €1.4 trillion. Sea transport is the second largest segment (€312 billion). This segment is dominated by container shipping (€199 billion), owing to the relative ease and efficiency of transporting freight by this standardized mode. Tanker shipping (€62 billion) and bulk shipping (€51 billion) represent much smaller shares of the segment.

Eleven percent of costs in the execution segments relates to the use of logistics infrastructure, but these costs vary by segment. We found that rail network costs account for 22% of rail transport costs. Costs for sea terminals

## EXHIBIT 5 | Logistics Execution Dominates a €2.7 Trillion Industry



**Sources:** Transport Intelligence; International Post Corporation; MarketLine; IHS World Trade Service; ProgTrans; ISL; Drewry Shipping Consultants; BCG analysis.

**Note:** Any apparent discrepancies in totals are the result of rounding. All data is for 2014.

<sup>1</sup>Includes freight-forwarding costs related to transport.

<sup>2</sup>Consolidation eliminates the double counting of market size that can occur when companies in the latter parts of the value chain include the services of companies in the earlier parts of the chain. This can happen, for example, when logistics execution companies include infrastructure or when logistics services providers orchestrate logistics execution. For postal delivery, CEP delivery, freight forwarding, and contract logistics providers, only transport's added value was considered.

(excluding hinterland terminals) are approximately 30% of sea transport costs. Costs relating to airports represent only 14% of air transport costs; fuel and other transport costs unrelated to airports are relatively high due to the longer distances traveled in air transport. Overall, infrastructure segments' revenues from serving execution segments total €257 billion.

In the €658 billion market for logistics services, road- and rail-freight forwarding is the largest of the three segments, with revenues of €352 billion. The €129 billion air- and sea-freight-forwarding market comprises services related to transport by air (€66 billion)

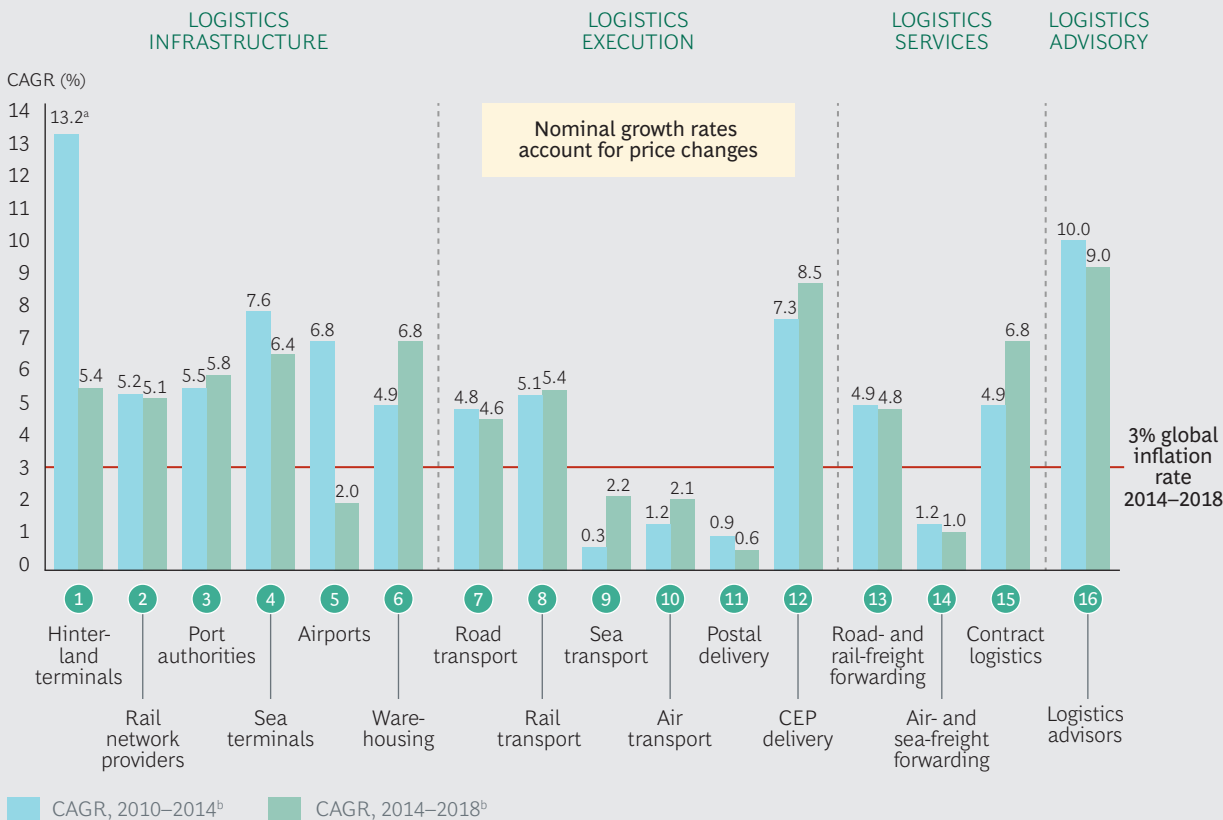
and sea (€63 billion). The contract logistics segment has total revenues of €178 billion. The emerging category of logistics advisory currently represents less than 1% of the overall T&L market.

### Diverging Growth Rates Among Segments.

All industry segments grew from 2010 through 2014, and this growth is expected to continue from 2014 through 2018. (See Exhibit 6.) For most segments, the forecast nominal compound annual growth rate (CAGR), which is adjusted for price changes, is 4% to 7%. Macroeconomic conditions affecting the T&L industry are expected to promote a growth rate for many segments



EXHIBIT 6 | Growth Is Expected for Most T&L Segments



**Sources:** Transport Intelligence; International Post Corporation; MarketLine; IHS World Trade Service; ProgTrans; ISL; Drewry Shipping Consultants; BCG analysis.

**Note:** We included 2014 in CAGR calculations for both periods owing to mathematical accuracy as well as data consistency and availability.

<sup>a</sup>The high CAGR for hinterland terminals resulted from strong growth of inland navigation in China.

<sup>b</sup>CAGR was calculated using euros.

that exceeds the global inflation rate during this period.

The logistics advisors segment is expected to enjoy the highest CAGR: 9%. Growth will be driven in part by companies in the logistics services segments and by players from outside the industry expanding into or repositioning their offerings in the logistics advisors segment.

Warehousing, CEP delivery, and contract logistics are forecast to have particularly high CAGRs—each exceeding 6.5%. This growth will result from the continued strong growth of e-commerce, the growing demand for fulfillment solutions, and the ongoing trend of greater outsourcing. These developments will also support road- and rail-freight forwarding. These segments will also benefit as customers adopt more sophisticated T&L offerings.

These freight-forwarding companies have developed more advanced IT solutions, and contract logistics players have expanded the scope of their offerings, such as providing services for the assembly of finished products and the preassembly of components.

Sea and air transport are forecast to have low CAGRs of just over 2%, while the forecast CAGR of the related air- and sea-freight-forwarding segment is 1%. This reflects the continuing price pressure caused by the significant overcapacity in these segments.

Logistics infrastructure segments, with the exception of the airports, are forecast to have high CAGRs of 5% to 7%. This growth will result from higher prices stemming from a scarcity of infrastructure. The growth rates of hinterland terminals are similar to those of the road and rail transport players they serve.



An increasing number of shipments are transported by both road and rail, and hinterland terminals have seen their businesses grow as the switching point between these modes.

Road transport is the largest segment in terms of revenue. Its growth rate is forecast to be close to the T&L industry's average CAGR of 4.5%. The rail transport segment is forecast to have above-average growth, owing to the expansion of rail infrastructure in rapidly growing regional markets. Growth will also be generated by governments' efforts to promote rail transport as environmentally friendly.

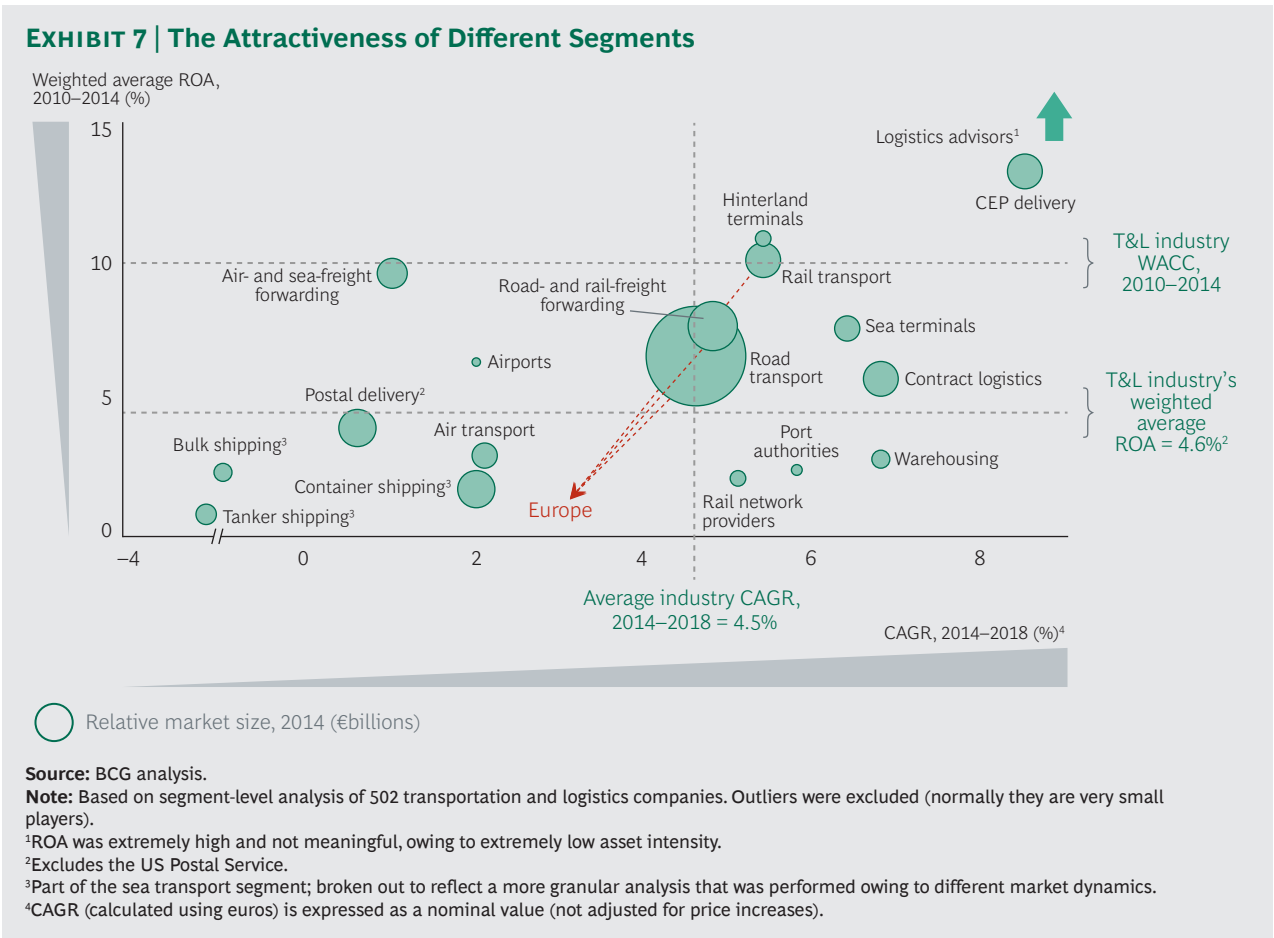
The increased use of electronic communications will continue to drain revenues from the postal delivery segment.

**Gauging Segment Attractiveness on the Basis of Growth and Returns.** A segment's growth rate is only one indicator of its attractiveness; to form a complete picture, we must consider profitability. ROA is critical for understanding

whether T&L companies earned the cost of capital and provided a return to investors.

To gain a better understanding of segment attractiveness in terms of both growth and returns, we plotted each segment's forecast CAGR from 2014 through 2018 and weighted average ROA from 2010 through 2014, as well as the range of the T&L industry's WACC. Companies whose ROA was above the WACC at any point from 2010 through 2014 earned the cost of capital. (See Exhibit 7.)

The most attractive segment is logistics advisors, followed by CEP delivery, hinterland terminals and, to a lesser extent, rail transport (outside of Europe). For these segments, CAGR is projected to exceed the industry average, and their average ROA exceeded the cost of capital. In addition to expecting high growth rates, businesses in the logistics advisors segment enjoyed an extremely high ROA: asset intensity is very low because these companies offer only knowledge-based services; yet they can



charge high prices for their expertise, resulting in very high margins.

The rail transport segment is asset intensive, but its ROA was above the cost of capital. The profitability of rail transport companies varies significantly among regions, though. Companies' profitability depends on the level of competition that they encounter within their segment and from companies in other segments, as well as on the cargo mix in their markets. Profitability is much lower in Europe than in other regions, especially North America.

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## Four infrastructure segments are expected to enjoy high growth rates.

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Four infrastructure segments—warehousing, sea terminals, port authorities, and rail network providers—are expected to enjoy high growth rates, but their returns were below the cost of capital. These segments are very asset intensive, which puts additional pressure on their ROAs and results in many companies in these segments having returns below the industry average. In addition, rail network providers and port authorities are often regulated, which typically limits the access rates they can charge. The relatively low profitability of warehousing is explained by the large investments needed to build and regularly upgrade the assets.

Compared with logistics advisors, contract logistics players had a relatively low ROA, because they often need to make significant investments in assets. Additionally, the margins of contract logistics players were under pressure in a competitive market for value-added services.

The road transport segment's projected CAGR equals the industry average. However, its ROA was below the cost of capital, reflecting the relatively low barriers to entry and the fragmented competitive landscape. Once again, European players had a lower ROA and their CAGRs will follow, owing to the

more intense intra- and intermodal competition on the Continent.

The segments facing the most intense pressure in terms of both ROA and growth are air and sea transport and postal delivery. The air transport segment faces tremendous pricing pressure on various fronts, including the need for pure air cargo carriers to compete with passenger carriers that offer their "belly capacity" for freight shipments.

Sea transport segments—container, bulk, and tanker—had a low ROA owing to overcapacity in the market and the industry's very high asset intensity. Because carriers continue to add large container vessels to their fleets, the pressure on container-shipping rates is not expected to abate during the next few years. Tanker and bulk shipping companies have been hurt by the knock-on effects of plunging prices for commodities—their customers cannot afford higher shipping rates and the market's nominal growth has slowed.

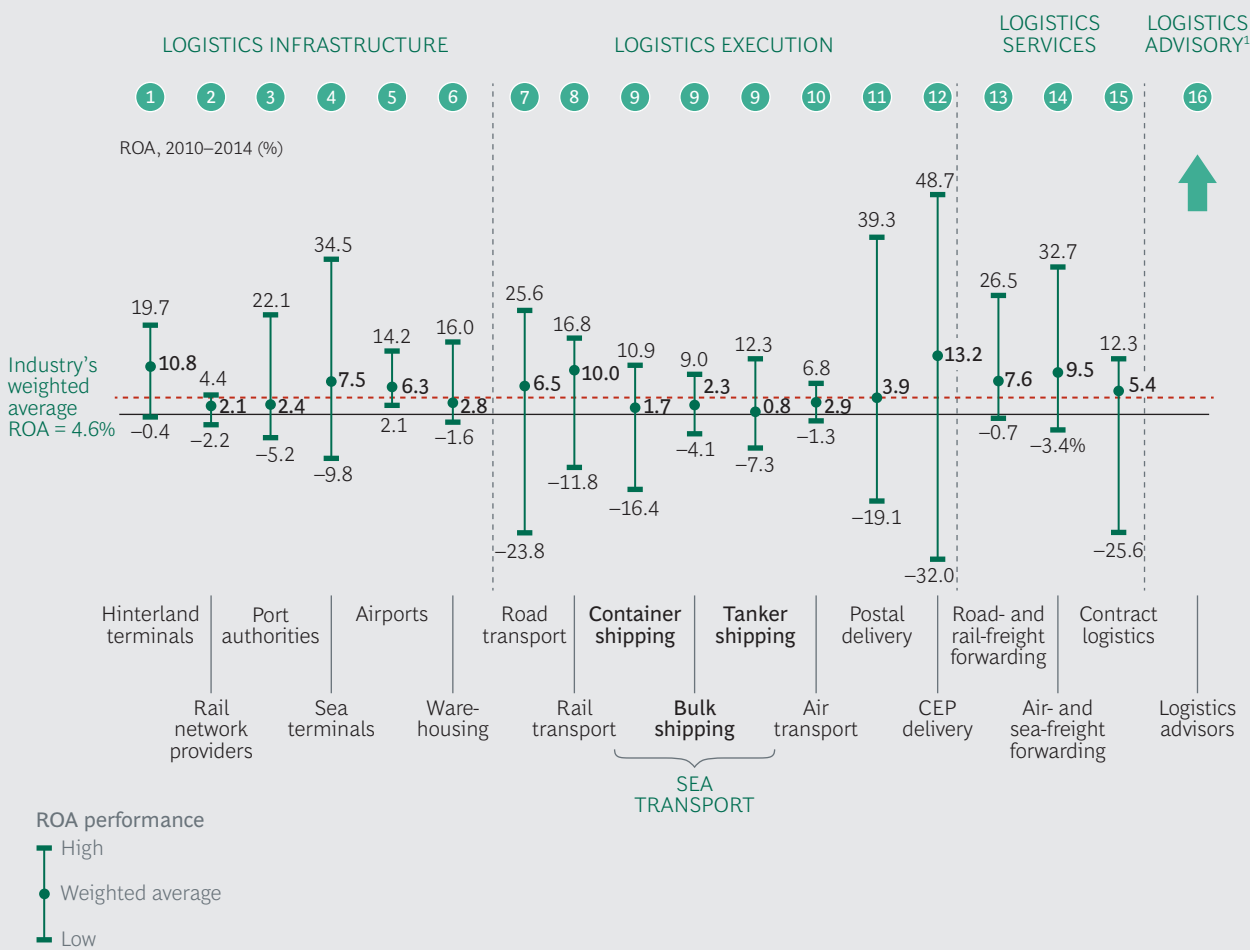
Companies in the postal delivery segment can leverage their incumbent positions in the market to maintain high margins. However, as noted earlier, this segment faces challenging market conditions that will limit growth. As such, the chief mandate for providers in this segment will be to develop options for accelerating growth.

## Individual Companies Significantly Outperformed

Despite clear differences in ROA performance at the segment level, a company-level analysis revealed that players throughout the industry had strong returns. (See Exhibit 8.) Of all the market segments, nine (hinterland terminals, sea terminals, airports, road transport, rail transport, CEP delivery, road- and rail-freight forwarding, air- and sea-freight forwarding, and contract logistics) had a weighted average ROA that exceeded the overall T&L industry's weighted average ROA of 4.6%.

The average spread among infrastructure players is smaller than for execution players, indicating that the higher asset intensity of infrastructure businesses has an equalizing

EXHIBIT 8 | Companies Posted Good Returns in Almost All Segments



Sources: S&P Capital IQ; Orbis; company data; BCG analysis.

Note: Outliers were excluded (normally they are very small players). ROA applies to the specific business unit of the analyzed companies.

<sup>1</sup>ROA was extremely high and not meaningful because of this segment's extremely low asset intensity.

effect on returns. Among infrastructure segments, the best-performing players in hinterland terminals, port authorities, and sea terminals had an ROA of approximately 20% or higher. These players were able to achieve high returns despite their high asset intensity. The ROA of rail network providers and many port authorities was low because these players operate in highly regulated markets designed to encourage a high volume of business. Clearly, some players were sacrificing profitability to maintain volume, as illustrated by the fact that one port authority had an ROA of -5.2%. The ROA among airports was generally positive despite high asset intensity.

In logistics execution, CEP delivery had the broadest range of ROA—including one company that had the highest ROA within the ex-

ecution category. The broad range for CEP, as well as for the postal delivery segment, is attributable to several factors: the significant differences in asset bases among players, the nature of competition in each market, different tariff schemes in the regulated postal delivery segment, and varying levels of operational efficiency.

The road and rail transport segments also had a broad range of ROA. Although the most successful player in each segment achieved an ROA above the cost of capital of 10%, most players in logistics execution faced significant competitive pressures that pushed ROA lower.

Within logistics services, the weighted average ROA for contract logistics players was

lower than that of both types of freight-forwarding companies. The top-performing freight-forwarding player (in the air and sea segment) capitalized on its low asset intensity to achieve an ROA of almost 33%.

A comparison of ROA among asset-light logistics advisory players is not warranted, given that this metric is not well suited to measuring their performance.

#### NOTES

1. We used ROCE to compare the returns of the industries in the Value Creators study, because data relating to capital employed is available for the publicly listed companies that make up the sample. We used ROA to compare the returns of the companies in the T&L industry, because data on asset intensity is more readily available for the smaller companies in the T&L sample than data on capital employed.
2. TSR is an aggregate measure of shareholder value creation, which reflects the sum of share price appreciation and cash distributions to shareholders.

# THE CRITICAL FACTORS FOR SUCCESS

**T**O WIN IN THE T&L industry, companies must understand the factors that are critical to success in the current environment. Many players have already laid the foundation for improving ROA by optimizing their cost base. However, cost improvement initiatives alone will not be sufficient for staying ahead of the competition.

To achieve profitable growth, companies in all T&L segments will need to adapt their traditional business models to the changing market environment. In many cases, this will entail standardizing and optimizing structures and processes, having a greater focus on serving industry verticals and developing innovations, and optimizing the performance of the overall organization rather than individual locations or particular routes. The traditional culture of local entrepreneurs relying on their transactional savvy and experience will need to be complemented if not replaced by approaches that emphasize structure, analytics, and teamwork. Objectives and incentives at all levels of the organization will also need to be tailored to the new business models.

The factors for success fall into two distinct categories:

- **Rigorous Efficiency.** Given the commodity status of many T&L sectors, efficiency is table stakes for operating successfully.

- **Differentiating Offerings.** Beyond achieving greater efficiency, companies increasingly need to differentiate themselves by providing customers with offerings that add value.

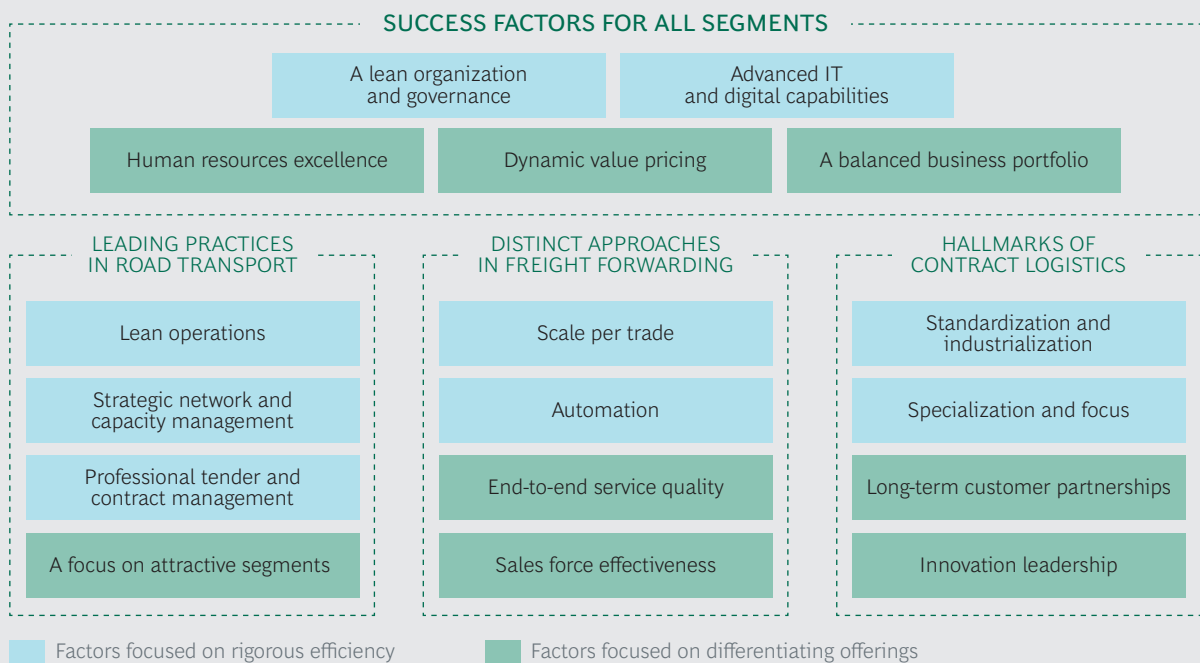
We first discuss these categories with regard to an overarching set of success factors for all industry segments. (See Exhibit 9.) Then, to illustrate what sets apart the leaders in specific T&L segments, we focus on the success factors in road transport (the largest segment in terms of market size), freight forwarding (two segments with relatively high ROA), and contract logistics (a segment with high CAGR).

## Success in All Segments

Across logistics segments, profitability and a strong basis for growth can be attributed to a number of factors.

**A Lean Organization and Governance.** T&L providers often do not implement the same organizational processes and governance structures across locations. Companies can realize substantial savings by applying best practices throughout their entire organization. In addition, they can combine functions—including accounting, customer service, IT, human resources, billing, and contracting—in shared-services centers, whether globally or at regional or country levels. Companies can also simplify and

EXHIBIT 9 | Profitable Growth Is Attributable to Specific Factors



Source: BCG analysis.

accelerate decision-making processes in order to speed up time to market, which can be slow in large organizations.

**Advanced IT and Digital Capabilities.** When combined with more standardization and industrialization of services, IT capabilities enable companies to develop metrics and systems for comparing and managing locations. For example, IT proficiency helps companies design and implement centrally administered performance benchmarks, which not only inform continuous-improvement efforts but also encourage employees to think about the organization in terms of networks rather than individual locations. In addition, T&L companies have found that a robust IT infrastructure and advanced capabilities in big data and analytics are increasingly important enablers for optimizing their network and providing more valuable offerings, such as advisory services. Leading companies are applying new digital industrial technologies, known as Industry 4.0, to automate processes and thereby increase labor productivity and improve the quality of their operations. (See *Industry 4.0: The Future of Productivity and Growth in Manufacturing Industries*, BCG Focus, April

2015). In warehouses, for example, companies are using augmented reality to facilitate navigation and repairs, as well as robots for “picking and packing.” Companies can also apply digital technology to develop new business models. Examples include digital freight exchanges or a “virtual forwarding” offering.

**HR Excellence.** People continue to be an essential resource for T&L companies, whether manually loading and unloading trucks, delivering mail and parcels, managing networks and key accounts, or performing a variety of other types of activities. Despite the importance of people in T&L operations, many companies do not devote enough attention to their HR function’s performance.

To gain a competitive edge in the market for talent, companies need to take a long-range strategic approach to achieving HR excellence. They must develop a deep bench, taking into consideration the age profile of current employees and the impact of demographic shifts. To attract the right talent, leading players strengthen their brand through external communications that position the company as the employer of choice for specific target groups. And to manage a large global



workforce, companies need efficient HR processes in areas such as employee relocation.

**Dynamic Value Pricing.** Many T&L companies set their prices on the basis of historical levels or competitors' prices, without regard for actual costs or the potential to capture additional value. To ensure the highest possible ROA, companies first need to gain a detailed understanding of their costs (including labor, fuel, and wear and tear on equipment, as well as network utilization) to serve specific routes and locations. This information provides the basis for setting prices that, at a minimum, fully cover costs. It also allows companies to consider opportunities to increase baseline prices to better capture their share of the value that their services provide to customers.

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In charting a future course, logistics players should strive to balance their portfolio.

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Dynamic value pricing requires providers to have an in-depth understanding of how their offerings differ from those of their competitors and to have a solid grasp of their customers' industries, products, needs, and willingness to pay. In our experience, companies that improve from average to best in class in pricing can increase profit margins by 3 to 6 percentage points—a significant improvement for many low-margin T&L businesses.

**A Balanced Business Portfolio.** T&L players have increasingly internationalized their businesses and expanded them to include transport, forwarding services, and contract logistics. However, companies need to recognize that each type of service within a portfolio differs with respect to its growth potential, profitability, and risk profile. In charting a future course, logistics players should strive to balance their portfolio. For example, logistics relating to industrial spare parts typically is a high-margin business; however, because it is relatively small and can be cyclical, this business should serve as an add-on to a broader portfolio that includes more stable segments.

## Leading Practices in Road Transport

The success of leading road transport companies can be attributed to their design of lean operations and overall improvements in their networks' efficiency and productivity, generating maximum revenues from their fleets. Road transport leaders also have advanced capabilities for managing tenders and contracts and focus their business on the most attractive customer industries and markets.

**Lean Operations.** Controlling costs through lean operations is the foundation for success in road transport. It is critical to understand and address such costs as maintenance, fuel, and labor. For example, to reduce maintenance and fuel costs, a leading trucking company deploys a modern, standardized fleet and regulates operating speed. Lean programs for labor can also be used to minimize costs.

**Strategic Network and Capacity Management.** If road transport operations are managed at the level of individual locations and routes, a company's networks may be unbalanced and underutilized. If employees think and act in terms of networks, however, this broader perspective will enable companies to improve their networks' efficiency and productivity.

Leading companies obtain a broader perspective by creating a central network management function to coordinate operations on all routes. These road transport players also define a core network of fixed routes and schedules and adapt this core network in response to market and relationship changes. Routes outside the core network are managed to increase profitability, for example, by bundling volume across several days. Such a management system needs to focus on promoting profitability at the network level and requires dedicated capabilities for equipment and subcontractor management.

To manage the high complexity of their networks, leading road transport companies use advanced tracing and routing technology and strive to maximize fleet flexibility. The application of advanced analytics is essential, as is the use of complexity-based pricing in contracts. Measures to improve network

optimization and manage complexity are especially critical for less-than-truckload carriers.

For example, a leading trucking company uses satellite-based truck and trailer tracking technology to improve the visibility and management of its fleet. This company also uses an integrated communications system to improve communications among vehicles and with customers. To ensure optimal coordination among service centers and to enable the centralized servicing of customers, the company has established a data link that connects its service centers with each other and with headquarters.

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## The top-performing freight-forwarding players recognize the importance of scale.

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**Professional Tender and Contract Management.** Many road transport companies need to become as proficient as their customers when it comes to responding effectively to tenders and managing contracts. Large customers of road transport companies have often developed an in-depth understanding of truckers' costs, prices, and competencies, while transport companies often lack a solid grasp of their own cost structures at the network level. To make matters worse, many transport companies respond to tenders on an ad hoc basis rather than by employing systematic approaches company-wide.

Leading transport companies are creating a company-level tender management function staffed with industry experts and supported by advanced IT and analytics tools. This central function handles tender requests above a specified threshold and collaborates closely with key account management and operations staff across the network. Using a central function also makes it possible for companies to gain a detailed understanding of their costs on a network basis.

**A Focus on Attractive Segments.** Because road transport is a highly competitive market,

leading companies concentrate on serving predictable and attractive industries and regions and build a significant share in those selected markets. Scale within each route or on the local level is more important than scale across the company's network. In addition, leading companies expand the transport services they offer to priority customers by establishing relationships with other logistics providers.

## Distinct Approaches in Freight Forwarding

The top-performing freight-forwarding players recognize the importance of achieving scale and rigorously managing capacity. They also know the value of providing high-quality end-to-end service and deploying an effective sales force.

**Scale per Trade.** Having large-scale operations confers significant benefits to freight-forwarding companies. Importantly, this competitive advantage is relevant on a specific route (or "trade"), but not at the level of the company's overall operations. The overall largest players are not necessarily the most profitable ones.

Forwarding companies can use large scale on a trade to increase their negotiating power relative to logistics execution providers, such as shipping carriers. Forwarding players are also more likely to fully utilize their capacity on a large-scale trade. In addition, it's less likely that carriers that overbook will bump the cargo of forwarding companies with a strong presence in the market. And if the cargo of larger forwarding players is bumped, they typically have many alternatives for transport.

Freight-forwarding companies should consider options for achieving scale on select high-priority trades through organic and inorganic growth. A leading freight forwarder uses organic growth and an aggressive acquisition strategy to attain scale in attractive segments and quickly expand into rapidly growing markets. Indeed, there are several examples of logistics companies with strong freight-forwarding units and global aspirations that are using M&A to achieve scale and diversification in their freight-forwarding operations. (See Exhibit 10.)



**Automation.** It is critical for freight-forwarding players to continuously reduce costs in order to remain competitive in a very challenging market. Today, many processes for capacity management, booking, pricing, billing, and customer relationship management still entail completing labor-intensive paperwork. By enabling forwarding companies to optimize processes and increase labor productivity, automation has the potential to significantly reduce costs. The efficiency gains are especially sizable when forwarding players integrate automated solutions, such as for tracking shipments, with the IT systems of their largest customers.

**End-to-End Service Quality.** Because freight forwarding often is a spot business, it is critical to create loyalty among existing customers by providing superior operational service. Leading companies offer end-to-end service, from warehouse to warehouse, supported by advanced IT solutions. A large freight forwarder has diversified into logistics execution and expanded its footprint in logistics services to create an integrated offering that includes sea, air, road, and rail transport, contract logistics, warehousing, customs, and insurance.

**Sales Force Effectiveness.** Leading freight-forwarding companies ensure that their sales

force can meet the needs of their most important customers. These players establish key-account management programs to guide the sales force’s activities and develop deeper customer relationships. These companies also emphasize continuously developing the skills of the sales force and invest heavily to do so.

The Hallmarks of Contract Logistics

Success in contract logistics requires having standardized offerings that can be tailored to customers’ needs. Leading players strive to create long-term relationships and maintain a competitive advantage through innovation.

**Standardization and Industrialization.** Top contract logistics players create standard product and service modules that can be tailored to customers’ needs. These logistics companies seek to integrate their product offering into the full length of their customers’ supply chains (vertical integration) as well as integrate the services for multiple customers in one facility (horizontal integration.)

Leading contract logistics companies standardize processes as much as possible to reduce their costs. For example, one such provider has implemented standardized safety

EXHIBIT 10 | Logistics Players Are Consolidating to Advance

Acquirer	2014 revenues (€billions)	Target	2014 revenues (€billions)	Acquisition price (€billions)	Key rationale
DSV	6.5	UTi Worldwide	3.2	1.0	<ul style="list-style-type: none"><li>Regional diversification</li><li>Business scale</li><li>Low stock price</li><li>Performance upside</li></ul>
Kintetsu World Express	2.3	APL Logistics	1.4	1.0	<ul style="list-style-type: none"><li>Regional diversification</li><li>Business model expansion</li><li>Customer diversification</li><li>Business scale</li></ul>
Japan Post	103	Toll Group	5.9	5.9	<ul style="list-style-type: none"><li>Diversification into logistics</li><li>Regional expansion</li></ul>
XPO Logistics	1.7	Norbert Dentressangle	4.6	3.2	<ul style="list-style-type: none"><li>Forwarding business scale</li><li>Regional expansion</li><li>Good fit with core business model and transport modes</li></ul>

Sources: S&P Capital IQ; company press releases; BCG analysis.  
Note: These are only some examples of recent transactions.

and environmental protocols and a common operational and financial system across its network. To reduce customers' costs, front-runners apply industrialized approaches to limit rising costs for labor and equipment. These logistics providers also develop such capabilities as scalable platform solutions to roll out industrialized offerings to customers effectively and efficiently.

**Specialization and Focus.** Contract logistics leaders emphasize tailoring their value-added offerings to specific customers. To provide a differentiated offering that cannot be easily replicated by competitors or in-sourced by customers, top companies focus on specific regions (such as high-growth Asian markets), services (for example, handling frozen goods), or industries (such as chemicals). In contrast to transport businesses, it is more important for contract logistics providers to tailor offerings than to dominate a particular route or location.

**Long-Term Customer Partnerships.** Leading contract logistics providers strive to be a reliable partner and an integral part of the value chain, not an interchangeable provider. This approach enables both parties to create value and reap the benefits of joint learning.

**Innovation Leadership.** The ability to innovate is a critical factor for success in contract logistics, because innovation allows providers to develop new offerings that add value as well as maintain pricing levels. Front-runners apply significant expertise to sustain a strong pipeline of innovations and seek to continuously improve the company's capabilities. Leaders also use their expertise to develop innovative solutions that apply technology such as radio-frequency identification, robotics, and wireless remote-control systems to help their customers address logistics challenges.

# GETTING AHEAD OF THE MEGATRENDS

**W**HICH COMPANIES WILL BE the leaders in the T&L industry a decade from now? Companies that understand the factors for success and implement initiatives to improve their performance will be well positioned to excel in the short term. However, it will not be enough for winning in the long term.

BCG has identified almost 80 megatrends that are reshaping the business environment. The T&L industry will not escape their influence and will most likely be significantly altered by a number of megatrends in the coming years. As these megatrends change the industry, leading players will capture the new opportunities by reacting faster and more decisively than their competitors. The most successful companies will start preparing for these changes today.

## Six Critical Megatrends

Our discussions with T&L CEOs have highlighted six megatrends that will exert the strongest influence on the industry. These trends will affect T&L segments in different ways. Some segments will encounter headwinds (for example, road and air transport will see higher costs as companies meet sustainability objectives), while other segments will gain advantages (for example, rail transport stands to benefit as a “greener” mode of shipping). In all cases, the megatrends will

create business opportunities that players should be prepared to address.

**A Two-Speed World.** Global economic development is progressing at two speeds. Emerging economies are expanding rapidly, while growth in developed countries is stagnating. The fast growth of emerging economies will further increase trade flows within and among Africa, Asia, and Latin America. As consumption increases in rapidly developing economies (RDEs), so too will production. As a result, companies from these countries will become large global players. (See *Allies and Adversaries: 2013 BCG Global Challengers*, BCG report, January 2013.)

All T&L segments will benefit from the increase in transport volumes resulting from the high growth rates of RDEs. The biggest beneficiaries of the increase in long-distance global transport will be the sea and air transport segments—as well as the infrastructure and freight-forwarding segments that provide services related to long-distance transport. The greater complexity of transport chains will also create demand for logistics advisory services and contract logistics.

**Urbanization.** As the large-scale migration from rural areas to urban centers continues, more megacities will evolve and create new demand patterns among consumers that affect logistics players. These companies will

need to cope with the greater complexity of logistics within cities and with consumers' increasing expectations for convenience.

The segments that stand to benefit the most from urbanization are road transport and CEP delivery, as well as hinterland terminals and warehousing. The contract logistics segment will also see increased demand. Rail and air transport and the related infrastructure segments will benefit to a lesser extent as players offer more point-to-point connections between cities.

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## Sustainability will create winners and losers among the T&L segments.

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**Sustainability.** More stringent regulations and greater resource constraints make it imperative for logistics players to find new ways to reduce energy consumption. Additionally, the increased awareness of sustainability issues among consumers will mean that “green” transport will have greater value.

Sustainability will create winners and losers among the T&L segments. Rail will benefit, because this transport mode is environmentally friendly, as will the related rail network providers and other segments that help to make transport more efficient, such as hinterland terminals. Air, sea, and road players will face increased burdens for regulatory compliance, such as having to upgrade or replace fleets to meet new emission standards. Logistics services companies may also be under pressure from their customers to pursue a green agenda.

For many T&L companies, the critical challenge will be to identify business opportunities related to sustainability rather than focusing on how sustainability will affect operations. Capturing the opportunities will require developing business models to provide new services—such as logistics services that address the complexity of sustainably transporting food throughout the supply chain.

**Infrastructure Congestion and Scarcity.** Infrastructure is increasingly becoming a bottleneck for business. Congestion and the related cost increases (such as higher landing fees) will impose additional burdens on logistics providers and could potentially disrupt service offerings, such as just-in-time delivery. Congestion and scarcity of infrastructure will be especially critical challenges in areas with high population density. Logistics players will need to overcome these constraints when developing solutions for their customers.

The logistics infrastructure segments will benefit, as players in highly congested regions where customers have few alternatives will have an opportunity to increase margins, while execution segments will face the prospect of diminished market power. The freight-forwarding and contract-logistics segments stand to gain, as companies earn higher margins by reselling capacity on congested routes. These players can use their broad perspective on the market to identify which routes will have the most significant capacity constraints, secure capacity on these routes, and offer it to customers at premium prices. The logistics advisory segment also will benefit, as players provide advanced solutions for planning routes, helping customers identify bottlenecks and achieve greater efficiency.

**E-Commerce.** Trade volumes are shifting away from physical retail outlets to online and mobile platforms. As consumers increasingly buy products through ubiquitous offerings on the web, the flow of goods through the transport network has already become more complex. Direct deliveries to homes are replacing deliveries to retail stores. Logistics players need to broaden their end-to-end services and prepare for aggressive competition from new companies specializing in fulfillment and last-mile delivery, as well as retailers establishing their own logistics operations.

Segments related to parcel delivery will benefit from the continued growth of e-commerce. These segments include not only CEP delivery but also others, such as road transport and contract logistics providers, that have companies capable of last-mile fulfillment. The postal-delivery segment is already benefiting from this trend, but these gains are of-

ten not sufficient to offset the loss in business caused by electronic communications.

**Digitization.** This megatrend affects the T&L industry in two ways. First, companies have significant opportunities to apply big data and automation to improve operational efficiency, quality, and costs. For the past several years, T&L players have made increasing use of IT solutions for tracking and tracing shipments and advanced analytics for route and network optimization. They have also implemented IT systems to replace paper-based processes for pricing, booking, and billing. Second, digitization has enabled the emergence of new business models. These primarily relate to platform solutions, such as cloud-based transport management systems, advanced freight exchanges, and virtual-forwarding offerings made available by Transporeon, Flexport, Cargomatic, and other companies.

The Implications for Companies in Key Segments

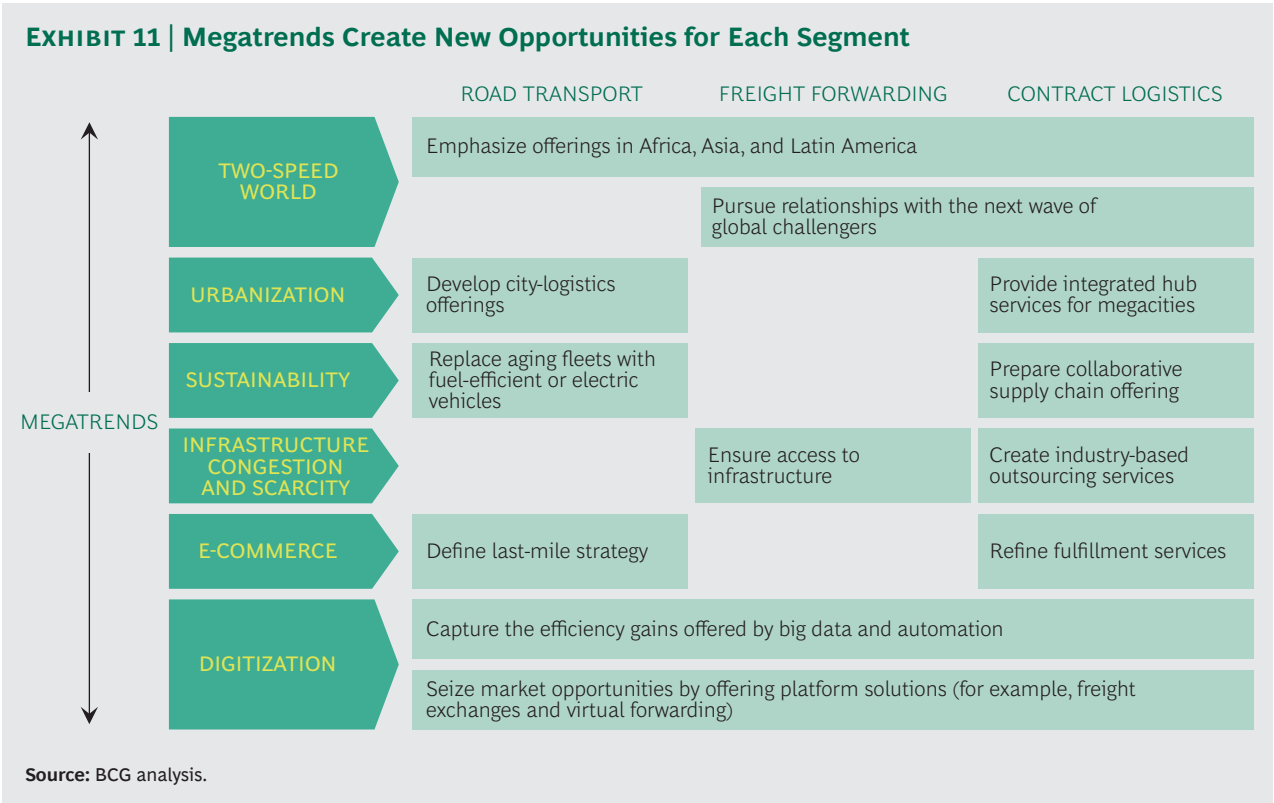
Continuing our focus on road transport, freight forwarders, and contract logistics, we examined how the megatrends will affect the

companies in these segments, as well as the initiatives players should take to get ahead of the changing industry landscape. (See Exhibit 11.)

Companies in all three segments are affected by digitization. Companies should seek to fully capture the efficiency gains offered by digital solutions, as well as the market opportunities that arise from offering digital platforms. Incumbent players need to proactively address these opportunities in order to avoid losing ground to new digital players that are disrupting their markets.

**Road Transport.** Urbanization creates new opportunities for road transport players to develop offerings that reduce customers’ higher costs stemming from the complexity of logistics in congested cities. Such offerings include hubs for bundling less-than-truckload shipments and efficient delivery networks. Road transport companies should also consider designing a last-mile fulfillment strategy to capture opportunities at the intersection of urbanization and e-commerce over the long term.

Road transport players will need to prepare for the impact of more stringent sustainabili-



ty regulations, as well as for the effects of increased fuel costs, and, potentially, carbon taxes. Successful players will replace their aging fleets with new, fuel-efficient vehicles to comply with regulatory requirements and to lower operating costs. To capture opportunities related to sustainability, companies can develop such offerings as green transport using electric vehicles to help customers reduce their carbon footprint.

**Freight Forwarding.** To prepare for a two-speed world, freight-forwarding companies in particular should develop offerings tailored to the trade flows within and among the African, Asian, and Latin American markets. The growth of these trade flows will help offset stagnating trade in developed markets. Freight-forwarding players also need to build a strong presence in attractive markets, such as RDEs, identify the fast-growing companies early on, and prepare to win their business, as these up-and-comers represent the next wave of global challengers and large-scale customers. Competitive cost bases and aggressive expansion plans will be essential for success in this effort. In addition, ensuring access to infrastructure in congested regions will be critical to prospering in the face of urbanization and overall infrastructure scarcity.

**Contract Logistics.** To address the increasingly complex city logistics resulting from urbanization, contract logistics players, like road transport companies, can offer hub services for efficient operations in cities. To respond to infrastructure congestion, contract logistics players can invest in and control critical infrastructure points, which will allow them to offer services at a price premium in some markets. Contract logistics providers can also invest in their own manufacturing facilities (such as for outsourcing the final assembly of products) and their own infrastructure to benefit from the congestion in megacities and the scarcity of infrastructure overall.

E-commerce also presents opportunities for contract logistics providers. As small e-commerce players proliferate, there will be greater demand for fulfillment offerings, such as product distribution, reverse logistics (that is, transporting returned products back to the seller), and value-added services (for example, repackaging and payment processing). Proprietary logistics expertise will allow leading players to offer know-how and unique value-added services to customers. As providers integrate their expertise and offerings into customers' supply chains, a broader array of opportunities will arise.



# STARTING THE JOURNEY

**A**S T&L COMPANIES SEEK to overcome the current challenges to earning sufficient returns on their asset base, they need to assess where they stand today and their priorities for action. Initially, many will need to focus on building the core capabilities to succeed in today's market—primarily improving their efficiency and ability to differentiate through value-added offerings. Companies already possessing a strong foundation of capabilities can focus on the trends reshaping the industry and the opportunities they will create.

T&L companies should assess their current status by conducting a series of investigations into their operational efficiency, sales force performance, and ability to create value for shareholders:

- **Operational Efficiency.** Many logistics players are masters at applying lean methods to squeeze efficiency gains from their operations. Still, achieving these gains company-wide is a significant management challenge and may require a dedicated and coordinated effort. Such an effort starts with an assessment that compares the company's practices with best practices for all operational and overhead functions.
- **Sales Force Performance.** Logistics companies should also devote sufficient attention to fully realizing their revenue

potential. Many will need to improve the effectiveness of their sales organization. This process starts with a thorough assessment of the sales force's current performance and the related improvement opportunities. Companies should also seek to capture the significant revenue upside offered by improvements in pricing.

- **Ability to Create Shareholder Value.** Even companies that have efficient, revenue-maximizing operations may not be able to translate their strong fundamental performance into market value and shareholder returns. As a starting point for maximizing shareholder value, companies should evaluate their investor base and its expectations as well as their financial policies (such as those on dividends). An integrated logistics company that had developed into a leading global player used such an assessment to improve its communications to its investors and, thereby, overcame their skepticism about the potential upside of its stock.

Companies that already address most or all of the success factors relevant to their business should turn their attention to getting ahead of megatrends. For many companies, the long-term journey back to profitable growth should begin with challenging their current business model. T&L executives can

consider the following questions to guide the process:

- How can we assess and quantify the opportunities arising from megatrends and their potential impact on our current business model?
- How do megatrends affect our value proposition, in terms of product or service offerings, target customer segments, and revenue models?
- How do megatrends affect our operating model with respect to value chain position, cost model, and organization structure?
- How well prepared are we to respond to competitive disruptions to our business model? In particular, how can we combat the increasing commoditization of T&L products and services?
- How can we achieve sufficient growth considering the expected market developments? For example, how can we capture the anticipated growth opportunities in emerging markets or market niches?
- What are the best approaches to managing the innovation and implementation processes required for transitioning from our current business model to a more attractive alternative?

For many companies, the answers will point to opportunities to reexamine important aspects of their business model. Regardless of industry segment, all T&L companies can benefit from opportunities to combine strong growth with high returns. The winners will be distinguished by their ability to understand and implement the practices that foster high performance in today's market conditions as well as in tomorrow's transformed business environment.



# NOTE TO THE READER

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