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# IMPACT OF TRANSPORT AND LOGISTICS ON BULGARIA'S TEXTILE AND APPAREL COMPETITIVENESS

**May 2005**

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# **IMPACT OF TRANSPORT AND LOGISTICS ON BULGARIA'S TEXTILE AND APPAREL COMPETITIVENESS**

**May 2005**

Prepared by

**CARANA Corporation**

**Delivering Global Development Solutions**

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## **PREFACE**

This report is part of a research effort conducted under the Trade Enhancement Service Sector (TESS) project, under contract for the United States Agency for International Development (USAID) in Washington, DC. (Contract No. PCE-I-07-97-00014). The TESS project is implemented by CARANA Corporation.

The TESS Project is intended to encourage and support enhancement of the trade and service sectors to promote economic development and country competitiveness. Specifically, the project provides technical support in advancing the understanding of constraints and competition in services sectors, such as transportation, and in developing and disseminating best practices for liberalization and enhancing systematic efficiency. More information can be found at [www.tessproject.com](http://www.tessproject.com).

The Bulgarian project is the fourth country-specific case study to be conducted under the TESS *Special Study on the Impact of Transport and Logistics on Export Competitiveness*. Similar studies have been carried out in Nicaragua, Indonesia and Mali. The Bulgarian study was completed by: Nimish Jhaveri, Team Leader/International Logistics Management Consultant; Brett Johnson, Trade and Investment Economist; and Stoyan Stoimenov, Logistics Specialist. The authors of this report would like to thank the USAID Labor Market Project for its assistance, direction and support during the study. In particular, the authors would like to thank Borislav Gavrilov for his assistance in the apparel sector.

### Map of Bulgaria



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## EXECUTIVE SUMMARY

This report details the results of a study on the impact of transportation and logistics in Bulgaria's Textile and Apparel industry conducted April through June 2005. The textile and apparel sector represents almost 25 percent of Bulgaria's export revenue and is the one of the largest single product category of exports for the country exports. While Bulgaria is known for producing high quality products at a relatively low cost, the sector is facing increasing competition from low cost manufacturers in other parts of the world. As a result, many Bulgarian producers are moving away from producing commodity garments to higher value fashion goods. The inherent uncertainty of demand for fashion goods, their relatively low order volumes, and short order cycles is bringing new challenges and opportunities to Bulgarian manufacturers.

The new competitive environment significantly increases the importance of logistics and transportation management for the export sector. In particular, it requires exporters to (1) be more adept at managing the inbound flow of goods from international suppliers, (2) be able to quickly and reliably manage production and delivery schedules over a network of sub-contractors, and (3) ensure timely and reliable distribution to buyers in Europe. The study team found that for Bulgaria, managing this flow is both complex and costly. It involves over 20 non-production activities, can account for up to 40 percent of the cost of the finished product, and is currently administered with limited or no technological assistance. Improving performance along the shipment processes will directly impact the costs and competitiveness for the sector.

Issues affecting transport and logistics were analyzed from several different perspectives: the particular activities that must be performed to meet buyers' needs; cost contributors for a sample of imported and exported shipments; the private and public sector participants involved in the shipment process; and an examination of a wide range of supply chain models currently prevalent in the industry.

The analysis suggests that the key opportunities for improving transportation and logistics performance for apparel exporters in Bulgaria are:

- Increase the capacity and capability of border crossings to handle greater throughput. Border delays can contribute up to 35 percent of total freight costs on certain routes.
- Customs procedures for duty exempt goods imported for ultimate re-export need to be simplified, accelerated, and made more export friendly.
- Exporters have opportunities to reduce costs in key areas such as freight and shipment consolidation by building tighter linkages with their supply chain partners and taking a longer-term view to mutual operational challenges.
- All industry participants have a significant opportunity to increase efficiency and reliability by selectively adopting technologies that improve operations and provide linkages to upstream and downstream partners.
- Manufacturers must develop transportation and logistics competencies, and use these capabilities to create value for buyers and compete against global competitors with lower cost.
- Certain aspects of the physical infrastructure, such as particular roadways and container ports, are already under capacity and need to be upgraded.

## INTRODUCTION

This project takes a comprehensive look at issues related to Bulgaria's transport and logistics system and how they impact the competitiveness of the country's textile and apparel sector. The study focuses the provision of trade support services and supply chain management surrounding the movement of imported inputs and exported finished goods. It aims to (1) demonstrate the importance of transport and logistics within the context of increasingly complex demands of the global textile and apparel market, and how various constraints and weaknesses within Bulgaria's transport and logistics system can increase transaction costs and affect competitiveness; (2) highlight critical weaknesses and bottlenecks within the transport and logistics system, and (3) identify actions to reduce costs, enhance reliability and increase efficiency.

### Methodology

This study uses six levels of analyses to identify both issues impacting the movement of goods and opportunities to increase textile and apparel export competitiveness through improvements within Bulgaria's transport and logistics system. These include:

- Assessment of physical infrastructure and assets used in movement of goods.
- Assessment of various players involved in Bulgaria's "transport and logistics" map. This includes transport and logistics service providers, government agencies, textile and apparel players, and institutional players—both public and private.
- Assessment of the overall environment in which transport and logistics players operate
- Description and assessment of the myriad of processes related to both the import and export of apparel inputs and finished goods.
- Identification and assessment of costs related to the transport of both imported and exported goods across various transport modes and routes.
- Use of case studies of Bulgarian firms to identify and assess supply chain models within Bulgaria's textile and apparel sector.

### Data Sources

The study's analysis is based on primary data obtained through extensive—and at times multiple—interviews with a wide range of representatives from both the private and public sectors. This includes:

- Seven (7) transport and logistics service providers
- Ten (10) textile and apparel firms, including both manufacturer and buyers' agents.
- Five (5) Bulgarian business associations, including
  - Bulgarian Association of Apparel and Textile Producers and Exporters (BAATPE)
  - Bulgarian Chamber of Commerce and Industry (BCCI)
  - Association of the Bulgarian Enterprises for International Road Transport and the Roads (AEBRTI)
  - Bulgarian Union for Customs and Foreign Trade Services (BUFTS)
  - Bulgarian Association of Ship Brokers and Agents (BASBA)

- Three (3) public sector entities, including:
  - Ministry of Transport and Communications
  - Bulgarian Customs Agency
  - Operator for Port of Varna
- Five international organizations, including
  - World Bank (TTFSE)
  - European Commission
  - USAID Enterprise and Investment Project
  - USAID Bulgaria Labor Market Project
  - Business Support Center for Small and Medium Enterprises (EU-funded)

The study team carried out field trips to visit the textile and apparel cluster in Rouse, the Port of Varna, and apparel firms in the greater Sofia region.

The interviews are complemented by data obtained from the National Statistics Institute (NSI) and industry associations, as well as a range of secondary resources focusing on transport, logistics and the textile and apparel sector.

The paper is structured as follows:

*Section One* provides an overview of the Bulgarian textile and apparel sector, recent trends, success factors for export competitiveness, and the importance of transport and logistics as a determinate of competitiveness in the global apparel trade.

*Section Two* reviews Bulgaria's transportation and logistics system through three levels of analysis. This includes a (1) discussion of the infrastructure and modes involved in the movement of goods; (2) a discussion of the various players involved in the movement of goods, or Bulgaria's 'transport and logistics map', both in terms of transport and logistics service providers and textile and apparel firm, and (3) a review of Bulgaria's operating environment in relation to transport and logistics.

*Section Three* provides a comprehensive description and analysis of the numerous processes involved in the import and export of goods. Critical issues and bottlenecks within these processes that impact the movement of goods are identified. Furthermore, the costs related to these processes are identified, followed by a discussion of how various cost drivers impact transport costs.

*Section Four* uses eight (8) case studies of apparel firms to review various supply chain models currently used in Bulgaria. The discussion focuses on how apparel firms interact with transport and logistics service providers and manage the movement of inputs and finished goods along the supply chain. The discussion focuses on common issues, firm level implications and steps to enhance supply chain management.

*Section Five* presents an action agenda for addressing critical issues identified throughout the study.

## **SECTION 1: THE ROLE OF TRANSPORTATION AND LOGISTICS IN INTERNATIONAL TRADE AND COUNTRY COMPETITIVENESS**

### **Why Transport and Logistics?**

The reduction in rules-based tariff and non-tariff barriers of trade has illuminated the importance of non-rules based drivers of trade competitiveness in developing countries. One such driver is the provision of transport and logistics services and the extent to which these services ensure that goods are shipped from a factory, warehouse or port in the country of origin to destination markets throughout the world in a timely and cost-effective manner.

The importance of transport and logistics services has increased dramatically due to the increasingly complex demands of the international economy. This increasing complexity stems from (1) integrated global manufacturing and production networks, (2) an increasing need for just-in-time logistics, (3) growing usage of intermodal transport involving one or more modes of transportation (road, air, maritime or rail) and (4) new security considerations. As these demands become more complex, so do the processes required to complete trade transactions that involve multiple steps, a myriad of players and a range of legal and regulatory frameworks. With costs added at each step of the process, the quality, cost and efficiency of transport and logistics services greatly affects the value of a good at its final destination and thus the manufacturer's ability to be globally competitive.

Weaknesses in many developing and transitional countries' trade support services sectors contribute to high transaction costs and a limited ability to meet the transport and logistical demands of an increasingly complex global economy, thereby undermining the competitiveness of goods and thus the ability of manufacturers to take advantage of emerging global market opportunities.

It is imperative that transitional countries such as Bulgaria, as well as international donors and international trade organizations, implement initiatives that facilitate the creation of lower cost, faster, more efficient and reliable trade support services in developing countries. With reductions in tariff and non-tariff barriers opening access to key industrial markets, countries that are unable to reduce transaction costs and increase speed to market will find it more difficult to reap the benefits of expanded exports, foreign investment and economic growth.

Since the significance of weaknesses in the trade support service industry—and their resulting economic costs—vary from country to country, it is important to evaluate the specific condition and market environment in which service providers operate prior to developing national initiative. This should include a constraints analysis covering various modes of transport, intermodal networks, infrastructure, customs practices and procedures, trade related banking and financial practices, transport intermediaries and the overall development of the country's transport and logistics system.

In addition to analyzing the trade support service industry as a whole, it is crucial to evaluate (1) how particular players within important export sectors interact amongst themselves; (2) the transport and logistics in the import of inputs and materials; (3) the export of finished goods. By

identifying weaknesses between these interactions and supply chain management, it is possible to develop interventions that address sector specific success factors that impact competitiveness.

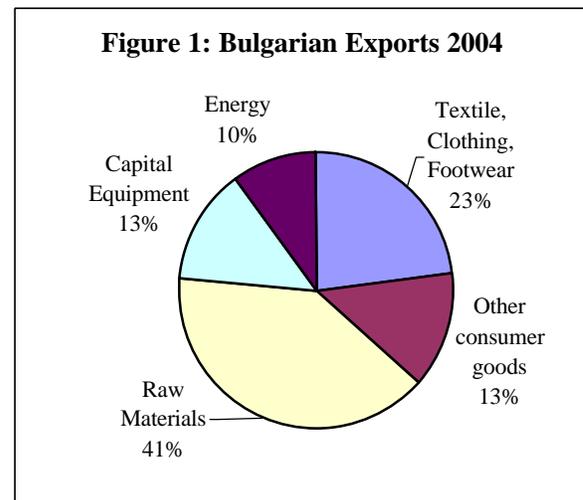
### Why the Bulgarian Textile and Apparel Sector?

The textile and apparel sector is one of the most dynamic and demanding sectors in the world, with global sourcing networks based on cost, quality, reliability, and proximity to market. In past decades, this sector has been an important export market and source of foreign investment for many developing and transitional economies. Increased competition in the global apparel market, however, has left Bulgaria, and other countries, struggling to remain competitive. By addressing issues surrounding the movement of goods and supply chain management within the sector, Bulgaria and its producers can develop the tools necessary to remain competitive in this critical export market.

### OVERVIEW OF BULGARIA' TEXTILE AND APPAREL SECTOR

Textile and apparel manufacturing is one of Bulgaria's most important economic sectors. A profile of the sector is presented in Table 1. With over 2,500 active textile and apparel producers—and as many as 1,500 additional firms involved indirectly—the sector represents a source of employment for over 170,000 persons. Furthermore, the sector provides significant opportunities for small and medium enterprises. According to year 2000 data, approximately 95 percent of all enterprises within the sector have less than 200 employees<sup>1</sup>.

Indicator	Value (Year)
Number of Firms	• 2,500; 800 very active ('03)
SME share in sector	• 95 % ('00)
Employment	• 171,000 ('03) • 10% growth per annum • 6 % of total workforce
Exports	• EU 1,845 million+ ('04)
Foreign Investment	• US\$210 million ('98 - '03)
Source: Factsheet 2004: Textile and Apparel Sector, InvestBulgaria; Premjana Bulgaria: Apparel Production in Bulgaria; and National Statistics Inst.	



### Exports

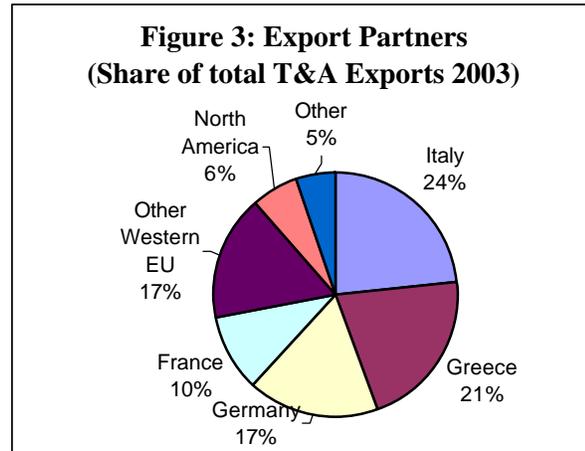
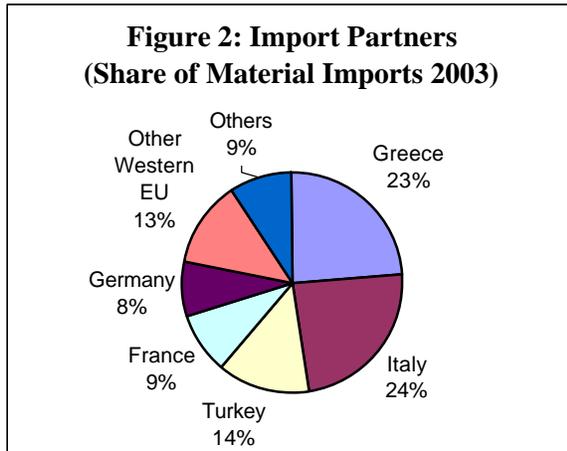
The textile and apparel sector is particularly important when considering its share of exports and foreign exchange earnings. Over 85 percent of Bulgaria's textile and apparel production is exported. In 2004, the value of textile, apparel and footwear exceeded 1.8 billion Euros, nearly a quarter of Bulgaria's total exports, as shown in Figure 1. As a product group, textile and apparel is one of the country's top exports.<sup>2</sup>

<sup>1</sup> Wiess Consulting Assoc. *Sector Development Strategy "Premjana Bulgaria:" Apparel Production in Bulgaria.* Funded by GTZ. 2004

<sup>2</sup> Not including services exports. Data from National Statistics Institute

## Direction and Composition of Trade

Most of Bulgaria's textile and apparel trade is with the European Union—both in terms of imported materials and inputs, and exported finished goods. In 2003, nearly 90 percent of Bulgaria's exports were destined for European markets, led by Italy, Greece, and Germany (see Figure 2). More than three-quarters of textile material imports were shipped from EU countries, led by Greece and Italy, with a significant portion of material also imported from Turkey (see Figure 3)<sup>3</sup>. While many companies used to export to the United States, the weak dollar has helped undermine Bulgaria's competitiveness in that market. Additionally, Asian goods can reach the US market with lower production costs and comparable delivery times, reducing the relative competitiveness of Bulgarian products.



While Bulgaria exports a wide range of products in the textile, clothing and footwear sector, exports are dominated by apparel, which accounts for nearly 80 percent of sector exports. A list of Bulgaria's top ten exports in 2003 is presented in Table 2 below.

**Table 2: Top Ten Textile, Apparel and Footwear Exports (2003)**

Product (by SITC Classification)	Value ('000 USD)	Share of Sector Exports
Women's or girls' suits, jackets, dresses, skirts, trousers etc.	\$310,402	17.3%
Men's or boys' suits, jackets, trousers etc.	\$243,660	13.6%
Women's or girls' shirts, blouses, & shirt-blouses, knitted or crocheted	\$186,469	10.4%
Jerseys, pullovers, cardigans, waistcoats etc., knitted or crocheted	\$122,292	6.8%
T-shirts, singlets and other vests	\$122,243	6.8%
Part of footwear	\$100,882	5.6%
Women's or girls' blouses, shirts and shirt-blouses	\$72,146	4.0%
Footwear with upper of leather	\$70,590	3.9%
Men's or boys' shirts	\$63,025	3.5%
Women's or girls' overcoats, capes, wind-jackets etc.	\$46,650	2.6%
<b>Total Top Ten</b>	<b>\$1,338,364</b>	<b>74.7%</b>

Source: National Statistics Institute

<sup>3</sup> Data from National Statistics Institute

## Production Systems in Apparel

In general, there are three types of production systems in which Bulgarian manufacturers produce apparel. Each system involves different roles, responsibilities and interactions between Bulgarian producers and buyers (most often in European markets):

- *Cut, Make, Trim (CMT)*: A form of industrial sub-contracting in which apparel manufacturers are provided with materials and inputs imported by the buyer—the producer's only input is equipment and labor. Using the inputs and design provided by the buyer, the manufacturer assembles the final product (including labeling and packaging). In many cases, the buyer provides quality control specialists.
- *Full Package (FP)*: A form of commercial sub-contracting where a buyer provides a manufacturer with design specifications. The manufacturer is then responsible for the procurement—and if necessary, import—of required inputs, the production, and in many cases, quality control as well. The manufacturer then exports the product under the buyer's brand name.
- *Brand Manufacturing (BM)*: More sophisticated firms with design capacity undertake the responsibility of designing, producing and marketing their own brand, either in domestic or export markets. These firms also undertake the procurement and import of inputs, and quality control.

Traditionally, most Bulgarian firms operated under the CMT model, however, an increasing number are developing the ability to run full package production, with a smaller number of more sophisticated producers developing the capacity to produce and market their own brand, with differing results. Nevertheless, in many of these cases, manufacturers continue to rely on CMT production as their core business while developing the capacity for full package or brand manufacturing.

Each production system has unique networking relationships between buyers, buyer's agents, lead domestic manufacturers and SME sub-contractors. These relationships, particularly in terms of how they relate to transport, logistics and supply chain management are discussed further in subsequent sections.

## Production

Textile and apparel production is carried out throughout the country, although there are regions with larger production clusters. About 50 percent of the industry is located in the South Central and South Western parts of the country (about ¼ of the country's territory). The remaining 50 percent is distributed relatively evenly in clusters throughout the country. The largest clusters—in the number of firms—are Blagoevgrad (with 15 percent of total), Plovdiv (12 percent), Sofia City (11 percent), Haskovo (11 percent), and Rousse (7 percent). Figure 4 below shows the number of firms classified for producing textiles, textile products, and apparel products in each of the country's regions.<sup>4</sup>

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<sup>4</sup> Premjana Bulgaria, 2004

**Figure 4: Regional Distribution of Textile and Apparel Firms**

### Strengths

The Bulgarian textile and apparel sector has a number of attributes that make it an attractive location for buyers. These include<sup>5</sup>:

- Reputation for high quality products, including fashion goods
- Proximity to European markets
- Proximity to major fabric producers in the Euro-Mediterranean zone (Italy, Turkey, Egypt)
- Reasonable labor costs relative to quality and European Union and regional wages
- Availability of skilled labor within industry
- Widespread capability for “production on hangers” for the European Market
- The large proportion of SMEs within the sector that provide a great deal of flexibility to react to clients’ demands
- Ability to respond to quick delivery, new designs, standards and organization of production

<sup>5</sup> Premjana, 2004, and USAID Bulgaria Labor Market Project, *Investor Perceptions of Bulgaria's Opportunities and Constraints: Labor Market Focus*, October 2004.

Many of these strengths are correlated to the movement of goods. For example, proximity to market and fabric producers assumes shorter transport times for inputs and final goods than more distant producing countries in other regions. Capability for “production on hangers” assumes value added logistics services. Ability to respond includes the assumption that supply chain management, transport and logistics systems that work quickly and efficiently. Without adequate transport and logistics services, Bulgaria risks losing the comparative advantage these strengths provide.

### **Weaknesses**

Bulgaria's textile and apparel sector also has attributes that weaken its competitive advantage vis-à-vis other producing countries. These include<sup>6</sup>:

- High cost of labor in relation to wages in Far East, Africa and parts of the Middle East
- Taxes on wages are high compared to other regions (e.g., the Far East), making the fully loaded wage rates un-competitive
- Weak logistics and sourcing capacities leave firms unable to run just-in-time production
- Interrupted links with the local producers of raw materials
- Poor planning capacity, lack of strategic thinking at management level
- Credit availability is limited and interest rates are high
- Trade in the Bulgarian market lacks organization; no distribution system

Some of these issues are related to transport and logistics or the way that producers view the overall movement of goods along the supply chain. These include weak logistics, sourcing and planning capacity, all of which hinder the ability of producers to respond quickly to buyer demands.

### **Sector Trends: Global**

The global textile and apparel market has undergone dramatic changes within recent years. In particular, this has involved (1) the emergence of China and other Asian countries as the home of low cost producers, and (2) the end of quantitative restrictions (quotas) that existed under the Multi-Fiber Agreement (MFA) on imports of textiles and garments into many developed country markets. While transitional quotas, anti-dumping provisions or other protectionist measures may replace the MFA quotas, it is expected that China's dominance in the sector will grow. As an example, with the initial removal of quotas for specific garments in the USA, China's share of US imports for those items increased from 9 percent in 2001 to 65 percent in the first three months of 2004. At the same time, the share of imports of those items from other countries decreased drastically (e.g., Thailand from 10 percent to 4 percent, Mexico from 8 percent to 2 percent and the share imported from Caribbean Basin Initiative countries went from 8 percent to 3 percent).<sup>7</sup>

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<sup>6</sup> Premjana, 2004, and USAID Bulgaria Labor Market Project, 2004

<sup>7</sup> USAID Labor Market Project, 2004

In response to the end of quotas, a large part of global textile and apparel production—particularly in regards to large volume orders—is expected to shift towards the most competitive or low cost producers, and become concentrated in a few locations (e.g., China). For some market segments, this shift will be slower. This will probably be the case for niche markets—such as fashion goods—that require higher quality, value added services, smaller volumes and a rapid response time. Inefficient countries or producers unable to produce at low cost or maintain a market niche will be unable to compete.

In addition to shifting towards lower cost production, many experts suggest that the garment business is moving towards full package production, as opposed to CMT production. Producers who do not have the capacity to carry out all aspects of sourcing and production delegated to the contract manufacturer (versus supplying cut material to contract assemblers who only provide labor) may find it harder to compete.

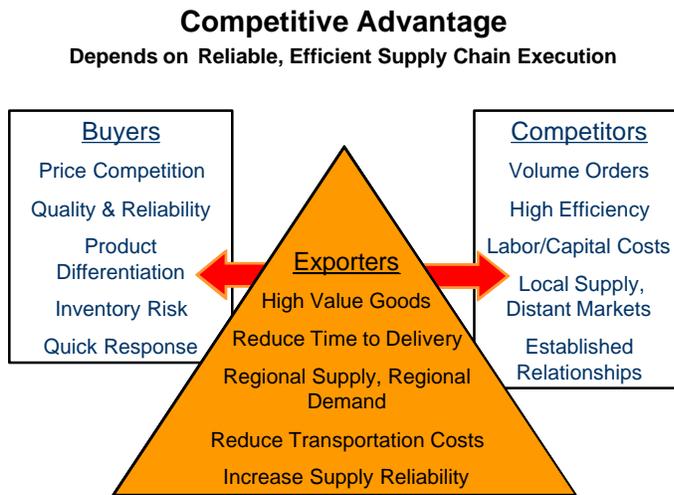
Reduction of “lead time” has also become a key issue in the garment industry. Buyers are showing a preference for just-in-time delivery. As part of a business strategy to keep costs down and respond rapidly to changing market demands, buyers aim to reduce their inventories. As such, they need to develop global supply chains designed to ensure that products are delivered when shelves need to be stocked—not before, not after. Products need to be at factories and in the shelf and not in warehouses or on ships, even when responding to orders with minimal lead-time. As such, competitive producers need the capacity to provide reliable, on time delivery, often responding to orders requiring minimal production time.

Changes in the global trade regime are putting Bulgarian textile and apparel producers under pressure. Many are concerned as to whether, or how long, this important segment of the economy will be able to survive. While it is too early to see exactly how recent global trends will impact Bulgarian textile and apparel exports in the medium and long term, it is questionable whether Bulgaria will still be competitive in the production and export of low value commodity garments, or even CMT production. It is more likely that the survivors in Bulgaria will be companies that focus on full package production of mid/higher value fashion clothing.

## **RESPONDING TO GLOBAL SUCCESS FACTORS: THE IMPORTANCE OF TRANSPORT AND LOGISTICS**

In order for Bulgaria to compete in today's global textile and apparel market, the sector must be able to meet critical success factors expected by buyers. Although it is unlikely that Bulgarian firms will be able to compete with locations such as China in terms of cost, the sector can use both its ability to produce quality fashion goods and its proximity to key European markets and fabric suppliers to remain an important player in the international garment supply chain. Within this context, an efficient transport and logistics system is critical to remaining competitive.

Proximity to market only provides a competitive edge if producers are able to guarantee rapid reliable response to orders—including the procurement and delivery of input materials, production and delivery of finished goods to the destination markets. If the movement of goods—both inputs and finished goods—is hampered due to bottlenecks at the border, inefficient logistics services or transport problems, proximity is much less of an advantage. If producers are



unable to guarantee or reduce time to delivery—which can partially compensate for higher cost production—buyers may work with companies elsewhere.

In a similar sense, transport and logistics are important for Bulgaria to capitalize on its ability to produce high quality fashion goods. Orders for small series fashion goods often require much shorter periods between order and delivery. In Bulgaria, some producers are able to deliver finished goods to a European retail store or warehouse within 21 days of receiving an order. Even when all parts of the production process work well, delivery times are tight. If problems or delays occur along the

logistics chain, it is likely that the order will be delivered late. While buyers will occasionally forgive late shipments, consistent late shipments will cause a producer to be seen as unreliable, even if it is other players along the logistics chain (e.g. border agencies, logistics service providers, etc) who are responsible for the delays.

The cost of transport and logistics is also critical. Because Bulgaria already has relatively high production costs relative to the Far East, its exporters cannot afford additional costs attributed to inefficiencies within the transport and logistics systems (including time costs). If a certain producer is already close to the buyer's threshold of acceptable production cost, higher transport and logistics costs can cause a buyer to look elsewhere.

The way producers manage their supply chain is also an important determinant of competitiveness. For example, large producers with sub-contracting networks must have the capacity to manage the distribution of inputs and pick up of finished goods, coordinating with both transport and logistics providers and small firms with limited capacity. In order for producers to move from CMT into full package or brand manufacturing, they must develop the competence to manage all aspects of their supply chain—as opposed to solely production when producing CMT. This includes procurement of materials and other inputs, planning production, managing inventory, procuring and coordinating transport and logistics service providers, and communicating with suppliers, sub-contractors and customers. Without this superior capability, Bulgarian firms will be unable to compete in higher value niche markets that present current opportunities for them.

### VIEWING TRANSPORT AND LOGISTICS AS A SUCCESS FACTOR

To meet global challenges, Bulgaria needs to minimize any competitive disadvantages in responding to sector success factors. Indeed, transport and logistics is only one component of Bulgaria's export competitiveness. Other issues such as product design capacity, product

differentiation, quality upgrades and production costs will continue to remain critical success factors and require attention by the textile and apparel sector, and when appropriate, policymakers. At the same time, however, these players must also view transport and logistics as a success factor, both directly and indirectly, that will determine the sector's competitiveness. As such, it is important to identify bottlenecks, inefficiencies, cost factors and supply chain weaknesses that hamper producers' abilities to meet buyer's demands (e.g. just-in-time delivery, rapid response) and capacity (e.g. supply chain management) to move into full package and brand manufacturing servicing niche markets, and to develop initiatives that enhance transport and logistics contribution to export competitiveness.

## SECTION 2: BULGARIA'S TRANSPORTATION AND LOGISTICS SYSTEM

An analysis of how transport and logistics impact the competitiveness of a particular sector first requires an examination of the numerous interlinked factors that determine how, and by whom, goods are moved. This section outlines the structure and patterns of Bulgaria's transport and logistics systems, as well as the environment transport and logistics players operate within.

### PHYSICAL MOVEMENT OF GOODS

Trends concerning the use of modes, routes and infrastructure play a critical role in the physical movement of goods. This not only includes trends involving imports and exports for a given country, but also goods transiting from other countries.

#### Geographic Location

Bulgaria is situated in the southeastern Balkans, a geographic location that allows logistics service providers to utilize numerous transport options. Five Pan-European Route Corridors pass through Bulgarian territory (see Figure 5 for a corridor), including<sup>8</sup>:

- **The European Transport Corridor No IV** - Dresden - Prague - Bratislava - Gyor - Budapest - Arad - Kraiowa - Sofia - Plovdiv – Istanbul. The branch between Sofia - Kulata - Thessaloniki connects the Central European countries with the Aegean Sea (via Thessaloniki). The section on the territory of Bulgaria (Vidin-Sofia- Kulata) is 446 km long. Of that, 86 km of primary roads and motorways have been recently rehabilitated.
- **The European Transport Corridor No VII** – A River route “The Rhine-The Mein-The Danube”. The section on the territory of Bulgaria (The Danube) is 760 km in length. The Bulgarian Danube is of international importance, as it is a European water route. It is envisaged to improve and upgrade the approaches to the river ports in the country and to provide accesses to the national road network.
- **The European Transport Corridor No VIII** - Duras-Tirana-Kaftan/Kafasan-Skopje-Deve Bair-Gueshevo-Sofia-Plovdiv-Burgas- (Varna) is the connection between the Adriatic Sea and the Black Sea regions, Russia and the countries of Central Asia, crossing Albania, Macedonia and Bulgaria en route. The total length of the Corridor on the territory of Bulgaria (Gueshevo-Pernik-Sofia-Burgas-Varna) is 639 km, of which, 336 km of first and second-class roads and motorways have been rehabilitated under the programmes Transit Roads 1,2.
- **IX - The European Transport Corridor No IX** - Helsinki-Sankt Petersburg-Pskov-Vitebsk-Kiev-Lyubashevka-Kishinev-Bucharest-Russe-Dimitrovgrad-Alexandroupolis serves to connect the countries of North East Europe through Romania and Bulgaria with the Seaport Alexandroupolis on the Aegean Sea. The total length of the Corridor on the territory of Bulgaria in the direction Rousse-Veliko Tarnovo-Gabrovo-Stara Zagora-Dimitrovgrad-Kardjali is 455 km plus 20 km new road construction, included in the EU's PHARE CBC Program. The Rehabilitation Programs involve 219 km of roads and motorways on the Corridor.

<sup>8</sup> [www.aebtri.com](http://www.aebtri.com), See [www.transeca-org.org](http://www.transeca-org.org) for more information.



- **The European Transport Corridor No X** - Salzburg-Lubliana-Zagreb-Belgrade-Nish-Skopje-Veles-Thessaloniki runs along the Trans-European Motorway "North-South"(TEM), following the traditional route to South-East Europe and the Balkans. The total length of the Corridor on the territory of Bulgaria in the direction "Kalotina"-Sofia consists of 60 km.

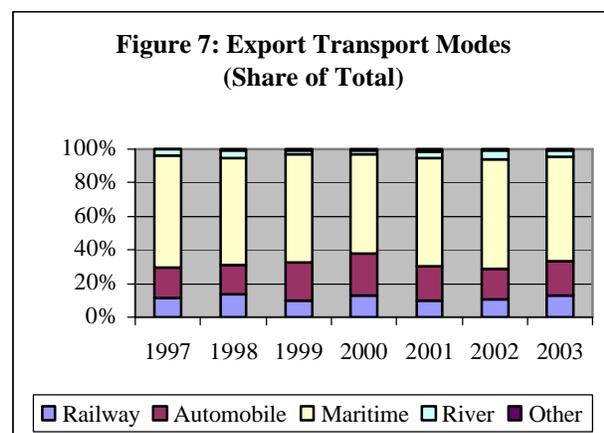
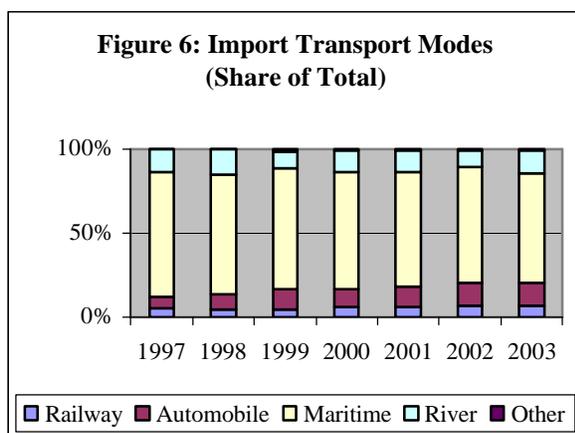
Bulgaria is also part of TRASECA, or Transport Corridor Europe Caucasus-Asia, the east-west corridor that crosses Bulgaria via Turkey, Romania and Black Sea ports (i.e. Georgia). In addition, Bulgaria's proximity to the Black Sea (via domestic and Romanian ports) and the Mediterranean (via Greece) provides access to global shipping networks.

Due to its geographic location, Bulgaria is a natural link between East and West, a transit point for goods moving from the Middle East and Asia to the European Union. As a crossroads 'between east and west', Bulgaria is well integrated into regional and international transport networks. As Bulgaria enters the European Union in 2007, the country will experience further integration into European transport networks, especially as it will join Romania as a frontier state, or entrance point to the EU, for trade from Middle East and parts of Asia.

This presents both advantages and disadvantages. As noted in Section 1, Bulgaria's access to regional input suppliers and European markets makes Bulgaria a strategic location for manufacturing. As noted earlier, this is a competitive factor for the country's textile and apparel industry. In addition, Bulgaria's position as a transit country increases demand for domestic transport and logistics services, facilitating growth within the sector. On the other hand, increasing transit and integration places additional demands on the country's transport infrastructure and services. Without the upgrades or investments necessary to respond to these increased demands, the operation of the system may suffer.

### Transport Modes

Bulgaria's international trade (by volume) is carried out primarily by sea, followed by road, rail and river transport, respectively, depending on the type of trade and destination, as shown by the Figures 6 and 7 below.



Source: Bulgaria Ministry of Transport and Communications, National Transport Strategy, 2005.

### ***Apparel Transport Modes and Routes***

The transport of textile and apparel goods differs from the national profile in that road freight is the most commonly used mode for both imports and exports, given the orientation towards Western Europe (see Figures 2 and 3 in Section 1). Most, if not all, textile and apparel goods (both inputs and finished goods) are shipped in containers (20 foot, 40 foot or air containers). The use of particular routes or modes depends largely on the location of producers, and their respective customers and suppliers. A number of different overland routes are used, including Turkey and Greece to/from Bulgaria; and Western Europe to and from Bulgaria via Serbia or Romania and transit, using Hungary as entry/exit point to the EU.

A combination of maritime and road transport modes are used for importing inputs from the Far East, and at times, Southern Europe (e.g. Spain, Portugal, Italy). The same holds true for exports to distant destinations (e.g. North America). Inputs imported by sea and land primarily transit by sea to the Port of Thessaloniki in Greece for overland transit to Bulgarian destinations. Some inputs are transited through the port of Varna, often via feeder vessels from the Port of Constanta, Romania, or a Mediterranean port (e.g. Malta). Inputs from Southern Europe may transit through Thessaloniki, or cross the Adriatic Sea by ferry and then transit by land (via Greece or Serbia) to Bulgaria. With regards to exports of finished products to North America, the preferred option is through Port of Thessaloniki, however, some exporters ship goods by land through Europe for maritime transit from Germany.

Airfreight from Sofia Airport to global destinations is occasionally used for garment exports, usually when orders are rushed or delays in production have occurred. Most often shipments transit through major European hubs before being shipped to points beyond.

Rail is not used for the transport of either imported inputs or exported final goods. As such, this mode is not discussed further in this study.

### **Domestic Transport Infrastructure**

While Bulgaria's transport infrastructure is relatively well developed and provides a range of transit options, the system is ageing and under pressure from increasing levels of traffic, both domestic and international.

#### ***Road Network***

Bulgaria has over 37,000 km of roads (not including street networks), 19,265 km of which are owned by the state. One of the most common complaints from textile and apparel firms, as well as logistics service providers, is the overall inadequacy of the infrastructure for efficiently transporting goods into, within, and outside of Bulgaria. They comment that key transit routes lack sufficient infrastructure capacity and that the quality of roads is relatively poor.

As Table 3 shows, a limited proportion of the road network is either motorways or

**Table 3: State Road Network (2003)**

<b>State Road Network</b>	<b>Length, km</b>
Motorways	328
Roads (1st class)	2,961
Roads (2nd class)	4,012
Roads (3rd class)	11,730
Road connections and junctions/rings	234
<b>Total</b>	<b>19,265</b>
Source: Ministry of Transport and Communications	

first class roads well suited for heavy transit. Within the state road network, conditions vary greatly, with approximately 37 percent falling into the 'bad condition' category, and only 33 percent falling within the 'good condition' category, as shown by Table 4. Due to insufficient maintenance funds and postponed repair works, the percentage of roads that fall within the 'average' and 'good' categories is likely to increase.

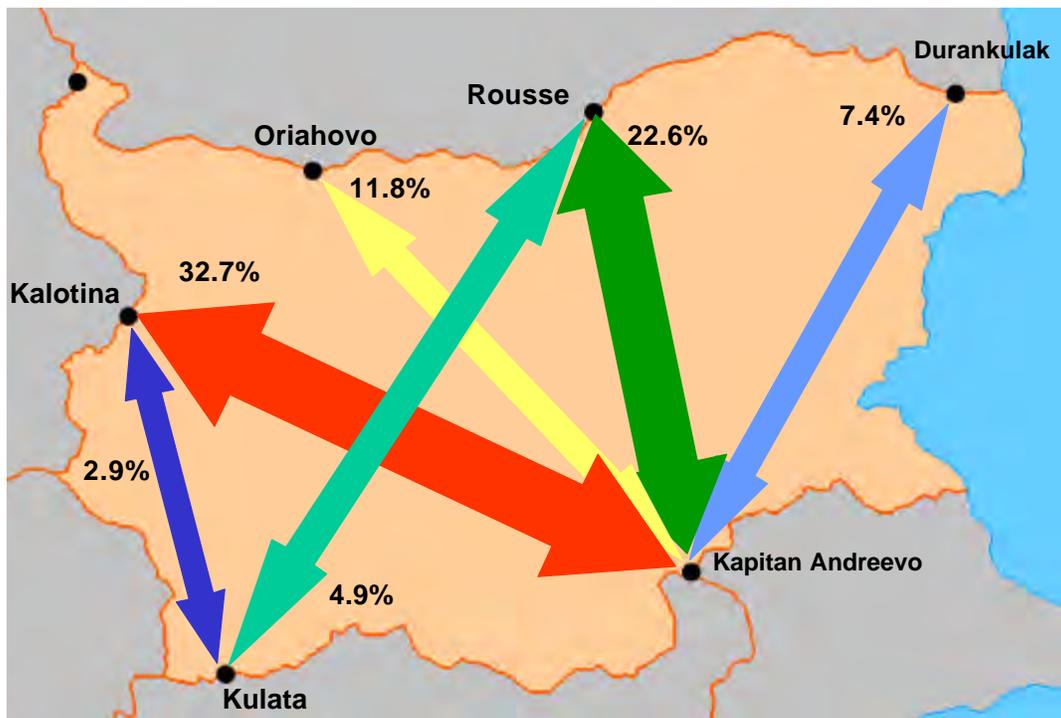
**Table 4: Condition of State Roads (2003)**

Condition	Length, km	%
Good	6,212	32.8%
Average	5,729	30.2%
Bad, including:	7,004	37.0%
Motorways	13	3.9%
First class	909	30.7%
Second class	1,320	32.9%
Third class roads	4,762	40.9%
<b>Total</b>	<b>18,945</b>	

Source: Ministry of Transport and Communications

The current infrastructure is under pressure from increased domestic and international traffic. For example, the tonnage traveling by road has jumped 45 percent, from 121.6 million tons to 175.5 million tons between 2000 and 2004. While most of this tonnage involves domestic freight, international transit flows are also increasing. Between 2002 and 2003, the volume of transit operation (by volume) grew by 14 percent to nearly 5 million tons. The number of vehicles that transited the country increased by nearly 20 percent, exceeding 1000 vehicles per day. Nearly three quarters of all transit traffic moves passes the Turkish/Bulgarian border at Kapitan Adreevo. The most heavily transited borders include Serbia via the Kalotina crossing (35.6 percent of total transit) and Romania via the Rouse crossing (27.50 percent). Figure 8 presents the transit route volumes, by proportion of total transit in 2003<sup>9</sup>.

**Figure 8: Volume on Bulgarian Transit Routes in 2003**



Bulgaria's infrastructure does not have the capacity to absorb growing traffic flows. While on average, traffic density is 50 to 60 percent of capacity, some road segments are experiencing densities exceeding 100 percent capacity. For example, traffic on segments of the Sofia Ring Road (SRR)—part of the Turkey-Bulgaria-Serbia route that carries most transit— density has reached between 200 and 240 percent of capacity<sup>10</sup>. The insufficient number of ring roads around cities, forcing traffic to travel through populated areas, further exacerbates issues with capacity.

It is critical that Bulgaria take steps to increase the quality and capacity of its road infrastructure in order to meet the needs of growing trade and transit. Without adequate interventions, infrastructure weaknesses and limited capacity will lead to bottlenecks that will greatly impede the movement of goods through the country. This will not only impact transport and logistics services, but also export sectors, like textiles and apparel that depend on efficient supply chains to remain competitive.

### ***Ports***

Two domestic ports along the Black Sea coast—Varna and Bourgas—have significance for the import and export of textile and apparel products. The ports process all types of cargo—general, bulk, on tap and refrigerated cargos, containers, heavy goods and roll-on/roll-off units. Both have warehouse facilities for containers. While there are a few direct lines from the Far East, Bulgarian ports are generally served by feeder vessels from Constanta, Romania, or ports in the Mediterranean.

The capabilities of these ports reflect that they are ageing facilities with insufficient and obsolete equipment. For example, the last time the Port of Varna purchased a crane was 30 years ago. Although the state-owned port operator has recently purchased modern container stackers and tractors, private sector representatives complain that inadequate infrastructure and equipment affects the rate of cargo handling and leads to delays at the ports, thus increasing the costs for ship owners and charters.

The movement of goods through the ports is also hampered by the fact that many berths are multipurpose/multifunctional and thus not as efficient as specialized container ports. This is because all types of cargo – including bulk goods, passengers, containers, liquids -- are all using the same port facilities, and there is little in the way of specialized equipment for efficient handling of cargo and reducing the berth time of the vessel. On average, the rate of loading or unloading a ship is 18 containers an hour.

Currently, the level of traffic moving through these ports is not problematic from a capacity standpoint (e.g., the Port of Varna is running around 50 percent capacity). To date, there are no bottlenecks—in terms of available berth, however there are rising concerns that given recent growth rates of 14 to 25 percent annually since 2000 (see Table X below), the port's limited ability to efficiently move goods will be further strained.

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<sup>9</sup> Bulgaria Ministry of Transport and Communications. National Transport Strategy, 2005

<sup>10</sup> Ibid.

It should be noted that Varna's utility as an international gateway is undermined by the lack of sufficient road infrastructure linking the port to other parts of Bulgaria. For example, many sections of the road link between Varna and Sofia are two-lane roads not suited for high levels of truck traffic.

While domestic ports are important to Bulgaria from a national standpoint, they are not necessarily the preferred international gateway for textile and apparel goods—both inputs and final goods. Regional ports have higher capacity and play an important role facilitating access to maritime transit. As Table 5 shows, Bulgarian ports have the lowest container turnover (measured by TEUs) when compared to other ports in the region. A significant amount of goods moving to and from Bulgaria by sea and land transit through the Greek port of Thessoloniki, and to some extent, Constanta, Romania. In 2003, around 20,000 TEUs were imported through Thessoloniki.<sup>11</sup> Constanta and Thessoloniki are regarded as more efficient, with better facilities and services—due in large part to significant investments. Thessoloniki is also a preferred port due to the fact that the transit time to and from other points abroad is shorter than that for Black Sea ports.

Port/Year	2000		2001		2002		2003		2004	
	TEUs	TEUs	Annual growth							
<b>Constanta</b>	105,981	118,645	11.9%	136,272	14.9%	206,449	51.5%	386,282	87.1%	
<b>Odessa</b>	69,487	75,606	8.8%	111,000	46.8%	113,880	2.6%	200,000	75.6%	
<b>Poti</b>	41,000	45,000	9.7%	60,000	33.3%	65,027	8.4%	70,000	7.7%	
<b>Varna</b>	37,255	45,500	22.1%	57,100	25.5%	65,063	14.0%	78,450	20.6%	
<b>Bourgas</b>	7,000	8,000	14.3%	9,652	20.6%	13,443	39.3%	27,673	105.9%	
<b>Thessoloniki</b>	162,995	165,297	1.4%	168,899	2.2%	184,877	9.5%	229,699	24.2%	

Source: Port Websites, Bulgarian Association of Ship Brokers and Agents (BASBA)

### *Airports*

Bulgaria has three main airports that provide airfreight services—Sofia, Varna, and Bourgas. The airlines that use these airports, such as Bulgaria Air, Lufthansa, British Airways and Austrian air provide access to international hubs in Europe.

## **BULGARIA'S TRANSPORT AND LOGISTICS MAP**

The effectiveness of trade support services is affected by the logistics infrastructure and various participants who get involved in the trade management process. These aspects are discussed below.

### **PARTICIPANTS IN INTERNATIONAL TRADE**

In a well-developed trading market like Bulgaria, a large number of participants are involved in the transactions between buyers and sellers in the international trade process (see Table 6 below).

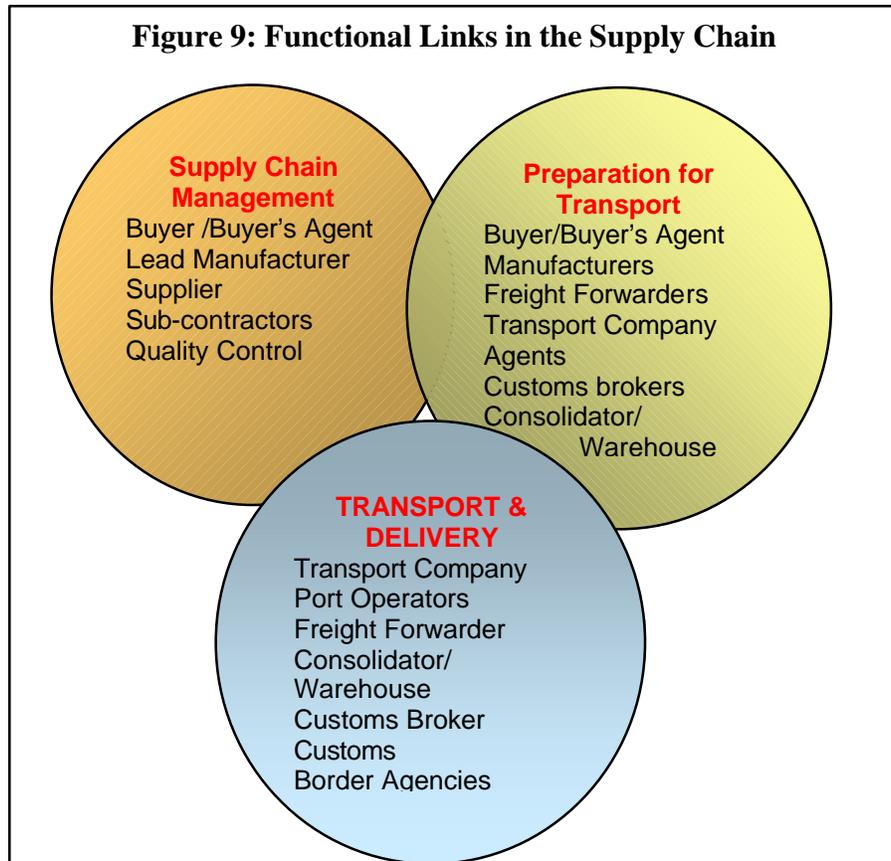
<sup>11</sup> BASBA Report, pg. 14

Each of these participants will be described in greater detail in the following sections. Within the transport and logistics systems, these include providers of transportation services, specialized logistics services, governmental bodies, operators of the logistics infrastructure and financial service providers. In the textile and apparel sector, this also includes buyers, buyers' agents, suppliers, manufacturers/producers, and sub-contractors.

**Table 6: Participants In Bulgaria's Trade Process**

<b>Participant</b>	<b>Function</b>	<b>Example of Participant</b>
Transportation Carriers	Move cargo	<ul style="list-style-type: none"> <li>• Trucking Companies</li> <li>• Maritime Shipping Lines</li> <li>• Airlines</li> <li>• Rail Operators</li> <li>• Intermodal service providers</li> </ul>
Infrastructure Operators	Provide the services to support the movement of cargo	<ul style="list-style-type: none"> <li>• Port Operators</li> <li>• Airport operators</li> <li>• Stevedores</li> <li>• Container Leasing Company</li> <li>• Equipment Repair Company</li> </ul>
Logistics services providers	Provides value-added services to get the right goods to the right place in the right condition at the right time	<ul style="list-style-type: none"> <li>• Agents</li> <li>• Freight forwarders</li> <li>• Customs agents</li> <li>• Integrated Logistics providers</li> <li>• Quality &amp; Inspection Agents</li> <li>• Warehousing</li> <li>• Consolidators &amp; deconsolidators</li> <li>• Packing services</li> <li>• Ship brokers</li> <li>• Bonded warehousing</li> </ul>
Financial Service Providers	Provide financial and insurance services to support the movement of cargo	<ul style="list-style-type: none"> <li>• Insurance</li> <li>• Buyers Bank, Sellers Bank</li> <li>• General Insurer</li> <li>• Marine Insurer</li> </ul>
Governmental and Regulatory Agencies	Provide policy level support, taxation and oversee implementation of standards/practices to ensure safe, hygienic, and internationally accepted principles of cargo movement	<ul style="list-style-type: none"> <li>• Port Authorities</li> <li>• Customs</li> <li>• Regional and Local Authorities</li> <li>• Ministry of Health, Environment, Agriculture, etc.</li> <li>• Ministry of Labor</li> <li>• Ministry of Finance</li> <li>• Ministry of Transportation</li> </ul>
Textile and Apparel Players	Make up supply chain that involves a range of roles and responsibilities related to procurement, production and shipment of final goods.	<ul style="list-style-type: none"> <li>• Buyers</li> <li>• Buyer's agents</li> <li>• Suppliers</li> <li>• Lead domestic manufacturers</li> <li>• Small sub-contractor manufacturers</li> </ul>

In an ideal trading environment, these participants are seamlessly linked in a continuum of trade related activities as depicted in Figure 9. As the transaction proceeds from inception to close, disconnects in the process have far-reaching impact on the cost, reliability, efficiency and the effectiveness of downstream participants.



## TRANSPORT PLAYERS

### Trucking Services

Bulgaria's trucking sector has a large number of independent trucking companies. There are nearly 2800 trucking firms based in Bulgaria that provide international transport services (as measured by firms that use TIR Carnets). Industry representatives estimate that there are well over 3000 companies when one considers trucking companies that only operate domestically. With such a large number of companies, pricing is highly competitive, although the quality ranges significantly depending on the age and maintenance of a fleet.

Bulgaria's trucking sector is highly segmented, as shown by Table 7. Over three quarters of trucking companies have five or fewer trucks, with less than 10 percent of the market having more than 10 trucks. The number of small trucking companies reflects few barriers to entry (e.g. regulatory, financing, etc.) within the sector.

**Table 7: Structure of Trucking Sector**

Category (# of Trucks)	Number of companies	Percentage of Total
1	481	17.28%
2-5	1669	59.97%
6-10	420	15.09%
11-50	205	7.37%
50+	8	0.29%

**Total:** **2783**

Source: AEBTRI

Note: Data Includes companies that purchase TIR Carnets

Due to a liberal transport market, exporters and manufacturers can utilize the services of trucking companies from all over Europe. In most cases, international trucking companies only provide services for international transport.

Transport service providers offer a wide range of services to textile and apparel producers. This not only includes standard services such as containerized transport, but also the provision of specialized equipment for the shipment of hanging garments.

While the high level of competition within the sector helps lead to low cost transport, some issues exist in the provision of services within the sector:

- While the sector is modernizing, there is a significant proportion of the trucking fleet that is ageing. Not only does this impact the quality of service, but also it impacts the flow of traffic, as the older trucks tend to travel much slower than newer trucks. Given that many of Bulgaria's transport corridors do not have multiple lanes, this can create long queues and bottlenecks.
- The segmentation of the sector and small size of most firms has resulted in quality problems. Some users of transport services complain that it is hard to find good service providers, particularly among firms with 5 or less trucks. These operators do not manage adequate fleet capacity to guarantee availability of service for large customers. They compete instead on price, and customers frequently cite weak management and poor scheduling as concerns.
- Although users comment that the availability and quality of international transport is adequate—from both international and domestic service providers—it is harder to find high quality and reliable services for domestic transport. This has caused distribution difficulties for some apparel supply chains with sub-contractor networks.

In general, there are few operating issues for firms within the sector. Nevertheless, a key issue facing haulers is the requirement of permits to transit other countries within the region (discussed in greater depth in the operating environment section below). According to sector representatives, there are too few transit permits available, which severely restricts access to markets in Europe. Once Bulgaria joins the EU in 2007, transit permits will not be required for movements within the EU.

### **Ocean Carriers**

Regional ports are served by a large number of world-class maritime service providers. These include Hapag Lloyd, Evergreen, MSC, CMA-CGM, P&O Nedlloyd, Maersk, China Shipping, and ZIM International Israel. In addition, there are a large number of feeder vessels that operate in the region offering scheduled and tramp service to regional transshipment hubs, along with state owned vessel operators.

Given growth in the region, transshipment hubs have seen record volume increases. For example, Malta Freeport handled 1.4 million TEU's in 2004, beating all previous records. In that year alone, it handled 40% more volume than the combined volume of Constanta, Odessa, Poti, Varna, Bourgas and Thessaloniki.

In practice, most of the ocean goods originating in Bulgaria are transshipped at regional hubs. These hubs attract maritime service providers and vessel operators because high volumes and predictability of demand increases vessel-operating efficiency. As a result, these hubs can offer more services, lower costs and more routes than regional ports.

In general, the transshipment ports are also well equipped and highly efficient. However, the high growth in the region has begun to put a strain on the infrastructure of some of these ports. In addition, several vessel operators have repositioned their vessels in other parts of the world, leaving service imbalances on certain routes, and container build-ups at the transshipment hubs. This has introduced (1) delays on certain routes where demand outstrips capacity; (2) delivery uncertainty; (3) unanticipated port charges for storage. We anticipate this to be a short-term problem as operators reposition vessels to take advantage of this opportunity.

### **Port Authority and Operators**

The Ports of Varna and Bourgas are the most important seaports for container transport of textile and apparel goods. The Port Administration, which is part of the Ministry of Transport and Communications, publicly owns both Bulgarian ports. While both port operators are state-owned, they are free to follow independent trade, organization, investment and pricing policies. Although the state-owned operators are responsible for stevedoring (cargo handling) and storage/warehousing at the ports, some auxiliary services such as towage, pilotage and bunkering is contracted to private firms. Although the government has stated its intentions to privatize port operations, it is yet to initiate a formal bidding process.

As noted earlier, a significant portion of container traffic moves through the Port of Thessaloniki, Greece, and to some extent, the Port of Constanta, Romania. Both ports have privatized maritime port operations. Investment in the infrastructure, facilities and equipment in these ports has outpaced that in Bulgarian ports, leading to more efficient services than those available in Bulgaria.

### **Air Cargo Carriers**

There are numerous companies, both domestic and international, that provide air cargo services from Bulgaria's main airports. From Bulgaria, exporters using air cargo have access to any number of market destinations via key European hubs, such as Frankfurt, Germany and Vienna, Austria. A number of companies provide specialized cargo services for apparel exporters, including 1000 KG containers and equipment for hanging garments.

For most apparel shipments, air cargo is more expensive than road or sea transport. The service, however, is critical in providing Bulgarian exports with the flexibility to respond rapidly to orders, quickly ship smaller orders and ensure that delayed orders reach the buyer on time. Air courier services also allow buyers and manufacturers to exchange product samples.

## **LOGISTICS PLAYERS**

### **Customs Brokers**

Customs brokers in Bulgaria carry more than half of all trade documentation. The customs brokerage industry is a maturing sector still in the process of developing the systems necessary to provide efficient, quality services. Industry rules are still in the process of consolidating. Both licensed and un-licensed brokers are allowed to provide services to clients. While licensed brokers generally represent the more capable service providers, the licensing process is not based on competency. As a result, licensed brokers are not considered experts and companies are reluctant to hire their services. Often, unlicensed brokers provide cheaper, though lower quality, services (i.e. more frequent errors), undercutting the business of licensed firms, causing them to adjust the quality of their services in order to compete. Due to concerns over service quality and cost, many companies (particularly larger ones) conduct customs brokerage in-house. Furthermore, since the brokerage community is largely geared towards meeting the needs of small shippers, larger corporations find it economically more suitable to conduct brokerage in house

In spite of several training initiatives undertaken by Customs, there is some reservation about the ability of individual enterprises to complete their own documentation for international transport. Goods crossing the border are frequently stopped due to errors in the transport documents, causing delays and back-ups.

Due to Bulgaria's trade orientation, a significant amount of trade documentation involves imports and exports to and from the EU. As such, the dissolution of borders at EU annexation will result in an overcapacity in brokerage services and increased competition within the industry. It is expected that many brokerage agencies will go out of business at that time.

### **Freight forwarders**

Bulgarian freight forwarders provide importers, exporters and manufacturers with the organizational capability to manage shipments. Often these service providers do not have their own transport assets, but rather sub-contract with transport providers. A number of freight forwarding companies are subsidiaries of, or are affiliated with, international forwarding companies. The quality of freight forwarding services ranges from poor to European standards of quality.

Freight forwarders handling the movement of VAT exempt materials in Bulgaria must possess a bank guarantee that guarantees payment of VAT and customs duties if the goods are not re-exported by the consignee. Banks offer this facility based on trust and knowledge of the freight forwarder's book of business, and to some extent restricts the development of the sector.

### **Warehousing Services**

In the past, the quality and availability of warehousing and consolidation were reportedly inadequate to meet the needs of dynamic sectors such as textile and apparel. Recently, however, there has been a marked increase in investment in these services. During the time of the study, a number of multimillion euro warehousing investments were currently, or about to come on line.

These investments, mostly involving Bulgaria's larger and more capable logistics service providers, are a response to the growing demand for warehousing, break bulk and consolidation services, none the least from the textile and apparel sector.

Some warehousing service providers in the apparel industry have begun to offer value added services to the buyer. Just in time services include specialized finishes (such as aging or stonewashing,) laundry, labeling, bar coding, and specialized packaging. These services are performed after the goods are received from the producer, and before they are shipped to the buyer's distribution centers in Europe.

### **Integrated Logistics Providers**

A select number of Bulgarian logistics firms—many with affiliations to international logistics providers—provide a full range of services, including freight forwarding, warehousing, consolidation, customs brokerage and bonded cargo handling. A few of these “integrated service providers” also provide specialized services for textile and apparel exporters, such as equipment to ship finished products on hangers. Recently, integrated service providers have taken steps to modernize and develop their capacity to provide better and more sophisticated services that meet European standards. In particular, this includes investments in domestic assets such as warehouses, enhancing consolidation services and improving operation systems necessary to effectively provide ‘full package’ transport and logistics services.

While the integrated service sector is improving, industry representatives note that one critical constraint to growth is weak demand for integrated services within Bulgaria. Many users of logistics services have yet to realize how quality, value-added, or integrated services can improve the efficiency and reliability of shipments, preferring instead to procure service piecemeal, based primarily on cost. Without increased demand for value-added logistics services, it is unlikely the service providers will be able to make the necessary investments that could greatly improve the movement of goods within the textile and apparel sector.

### **CUSTOMS AND BORDER AGENCIES**

Five Bulgarian agencies are actively involved with the movement and clearance of goods. This includes:

- Bulgarian Customs Agency (BCA) for customs control
- National Border Police Service (with Ministry of Interior) for passport control
- National Veterinary-Medical Service (with Ministry of Ministry of Agriculture and Forests) for veterinary and medical control
- National Service for Plant Protection, Quarantine and Agro-chemistry (with Ministry of Ministry of Agriculture and Forests) for phytosanitary (SPS) control
- General Roads Directorate (with Ministry of Transport and Communications) for collection of tolls and vehicle inspection

Given Bulgaria's increasing trade and transit flows, the customs agency has a challenging mandate to both facilitate trade and protect the fiscal interests of the country. Although

numerous issues remain (e.g. many complaints received about customs' services at borders and regional customs offices), the agency is undertaking a number of steps intended to improve the effectiveness and efficiency of its operations. Recent developments in Bulgaria's customs regime have been focused on preparing for EU accession. Bulgaria closed the Chapter 25 "Customs Union" in negotiations with the EU in 2002. The BCA is conducting ongoing efforts to modernize, enhance IT connectivity and compatibility with EU systems, harmonize and simplify procedures, and improve enforcement. There is evidence that in spite of their complaints, public and trade operators' opinions of the agency have improved.

Due in part to EU assistance, the BCA has one of the leading IT capacities of all Bulgarian ministries. The agency is currently in an on-going process of developing functionalities to link up with EU customs systems and moving from client based to web-based technologies. The agency is currently installing new customs software that will permit all customs offices to be integrated and permit shippers to submit their documents electronically. While there are questions regarding how smooth the transition to the new system will be, once the new system is up and running, customs efficiency is likely to be enhanced significantly.

Although textile and apparel shipments generally do not require medical or SPS inspections, and most interactions with border police and the roads directorate are cursory, poor coordination between border agencies, inefficient operations and the lack of a one-stop border kiosk contribute to bottlenecks that result in cues and delays at the border. Even if one agency completes its inspections/paperwork in a timely matter, a problem within one agency at a border can hold up the entire process. The government states that it understands the need for greater coordination and is taking steps to address border problems. Based on past experience, however, inter-agency rivalries will need to be overcome in order for such initiatives to be successful.

## **INSTITUTIONAL PLAYERS**

### **Industry Associations**

There are a number of industry associations that represent the transport and logistics industry:

The **Association of the Bulgarian Enterprises for International Road Transport and the Roads (AEBTRI)** is an important player with the trucking industry, representing companies who are directly or indirectly concerned with road transport of passengers and goods, as well as with design, construction and maintenance of roads. AEBTRI is a member of the International Road Transport Union (IRU), the International Road Federation (IRF) and Transfrigoroute International. At national levels, the Association co-operates with the government authorities concerned with roads and road transport. AEBTRI is the national guarantee association for distribution of TIR Carnets in Bulgaria for international transit TIR system in Bulgaria. Other services include the dissemination of information on road transport developments in Bulgaria, European countries, and in the countries within the Near East region (system "TRANS-INFO"), and consulting services and assistance to Bulgarian haulers. For more information see [www.aebtri.com](http://www.aebtri.com).

The **Bulgarian National Forwarders Association (NSBS)** - NSBS members account for two-thirds of the international freight forwarding service providers on the Bulgarian market.

Membership in NSBS is granted only to financially stable forwarding companies that possess sufficient experience, proven professional competence and a clean record. NSBS represents Bulgaria in the International Federation of Freight Forwarders Associations ([FIATA](#)) and is part of the European Organization for Forwarding & Logistics ([CLECAT](#)). Only NSBS members are authorized to issue International Chamber of Commerce (ICC)/ FIATA approved documents in Bulgaria (e.g. the Multimodal Transport Bill of Lading (FIATA FBL), the Forwarder's Certificate of Receipt (FIATA FCR), the FIATA Warehouse Receipt, etc.). NSBS cooperates with the Bulgarian authorities in improving the legal base of the international transport and trade, as well as in formulating the national transport policy.

The shipping industry is represented by the **Bulgarian Association of Ship Brokers and Agents (BASBA)**. Its 43 members include agents of the container lines who call at Bulgarian ports, ship brokerage, ship agency and chartering service providers, and some logistics providers. The aim of the organization is to promote fair and equitable practices within the shipping industry and advocate the development of the industry to the government. The association is a key proponent for the privatizations of Bulgaria's port operations/facilities.

The **Bulgarian Union for Customs and Foreign Trade Services (BUCFTS)** is the industry organization for 40 licensed customs agents in Bulgaria. Fifty to sixty percent of Bulgaria's export and import activities are handled by its members. The organization is involved in the licensing of customs agents, efforts to improve the quality of customs and foreign trade services, and representing service providers in the development of regulations.

### **Trade and Transport Facilitation in Southeast Europe Program (TTFSE)**

The TTFSE program—which is in the final stages of its first phase— was designed to foster trade by promoting more efficient and less costly trade flows across the countries in Southeast Europe and to help participant countries achieve European Union-compatible customs standards. The program seeks to reduce non-tariff costs to trade and transport, reduce smuggling and corruption at border crossings, and strengthen and modernize the customs administrations and other border control agencies. Program components include Customs Services Procedures Reform, Trade Facilitation Development, Support to Integrated Customs Information System (ICIS), and Improvement of Roads and Border Crossing Facilities. The participants in the program include Albania, Bosnia and Herzegovina, Bulgaria, Croatia, the former Yugoslav Republic of Macedonia, Moldova, Romania, and Serbia and Montenegro. The program is a collaborative effort between the national governments in the region, the World Bank, and the United States in collaboration with the European Union. For more information, see <http://www.seerecon.org/ttfse/>.

In Bulgaria, the TTFSE has carried out a number of activities aimed at improving the movement of goods, including;

- Assistance to the Bulgarian Customs Administration (BCA) to streamline operations at border posts
- A pilot program for advance declaration at an inland terminal in Plovdiv
- Training on inter-agency awareness and cooperation

- Training trade and international transport participants on topics such as trade procedures and documentation, transport contracts and INCOTERMS
- Improvement of cooperation between public and private sectors
- Civil works and improvements of border posts

Many of these activities complement ongoing activities funded by the EU to help the BCA implement its strategic plan.

TTFSE efforts have had a positive impact on transport, not only within Bulgaria, but throughout the region. A key result is significant reductions in waiting times at border crossing points and inland clearing terminals. Waiting times at program border crossings have fallen by 67 percent across the region. In Bulgaria, costs savings are estimated at 70 percent. Assuming that it costs \$12.50 an hour per waiting truck, this has resulted in \$1.1 million in reduced costs.<sup>12</sup> Another impact is improved dialogue among customs administrations within the region, which could lead to greater inter-agency cooperation in the future.

TTFSE is now moving into a second phase. TTFSE II will not restrict its activities to Customs, road transport and improvements at selected border crossings and inland terminals, but will embrace further aspects of trade facilitation by ensuring effective collaboration between all agencies active at border crossings (Customs, road administration, border police, phyto-sanitary and veterinary controls), all modes of transport in the region (road, rail, inland waterway, and multimodal transport), and all border crossings on the main Corridors running through Southeast Europe and connecting the region with its neighbors. TTFSE II is expected to increase the trade competitiveness of Southeast Europe by improving the availability of adequate logistics services connecting the region, as well as regional and global markets, through supporting infrastructure and technical assistance, while strengthening the capacity of the private sector to provide logistical services.

### **European Union**

The EU is an important stakeholder in the support of reforms and investments in systems and infrastructure that will facilitate the movement of goods. After accession in 2007, Bulgaria will become a frontier state for the EU. As such, the EU is a major donor in efforts to strengthen the borders with the BCA. Activities under the EU PHARE customs program provide assistance in:

- Customs modernization / IT connectivity
- Customs border control and trans-border cooperation
- Customs laboratories
- Customs regimes and procedures
- Post-clearance control
- Organizational Management

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<sup>12</sup> World Bank, Trade and Transport Facilitating in Southeast Europe Program, *Progress Report 2003*.

As part of the regional PHARE Cross-border Cooperation (CBC), the EU is promoting cooperation on border regions with Central and Eastern Europe and the adjacent regions of the European community, with recent work along the Bulgarian borders with Turkey, Serbia and Montenegro, and the Yugoslav Republic of Macedonia.

The EU, with funding from the European Bank of Reconstruction and Development (EBRD) and European Investment Bank (EIB), is also helping Bulgaria make critical investments in infrastructure and the transport sector.

### **TEXTILE AND APPAREL PLAYERS**

As noted earlier, a number of actors within the textile and apparel sector fit into Bulgaria's transport and logistics map. These actors are not only enterprises based in Bulgaria, but firms located throughout the world. As the case studies in later sections will show, the actual roles and responsibilities of these actors vary depending on different business, supply chain and production models, as well as the preferences of leaders within a supply chain.

#### **International Garment Buyers**

Numerous international buyers are currently active in Bulgaria. These include retailers, such as *KarstadtQuelle* (Germany), *Macys/Federated Stores* (USA), and *J.C. Penney* (U.S.A), and branded marketers such as *C&A* (Germany), *Mango* (Spain), *Zara* (Spain), *Diesel* (Italy) and *Burberry's* (UK).

These buyers play pivotal roles in managing global sourcing networks with decentralized production networks/supply chains in a variety of exporting countries, typically located in developing or transitional countries. While some may focus solely on marketing goods designed and produced by others, many play an active role throughout the production cycle, including market research, design, procurement of inputs, and quality assurance. Responding to the demanding nature of the apparel market (particularly with regards to fashion) and the need to ensure that goods reach their shelves on time, many will also play a critical role in managing the logistics process, from the procurement, warehousing and delivery of inputs, to transport and delivery of finished products. In almost all cases, the buyer arranges the transport of finished goods to its warehouses or retail outlets in destination markets.

Some buyers, such as *KarstadtQuelle* have their own in-house logistics service providers to be responsible for the movement of goods. A number of buyers also have warehouses based in Bulgaria to facilitate the consolidation and delivery of inputs and final goods to and from their sub-contractor networks of producers throughout the country.

Depending on their reliability and capacity, some buyers are willing to delegate various value added services and logistics processes to their apparel suppliers as a way to cut costs, create efficiencies and simplify the overall supply chain. These buyers, however, only delegate these responsibilities to the extent that suppliers can demonstrate reliability.

While buyers are often demanding, they do make mistakes that impact production and delivery. The study team learned of cases where a buyer took responsibility for the sourcing and delivery

of inputs, but did not have the capacity or skills to do so, leading to delays in production. In some cases, buyers did not sufficiently coordinate processes along the supply chain or adequately communicate with logistics service providers, suppliers and producers. Even if buyers are partly to blame for delays, many still hold the producer accountable.

### **Buyer's Agents**

Since buyers' corporate offices are most often located somewhere in Europe or North America, many will use buyers' agents located in Bulgaria (e.g. Sofia) to help manage their supply chain and/or network of sub-contractors within the country. These buyers' agents provide a range of services, from the identification of capable textile and apparel suppliers, to quality assurance, to assisting in the identification and procurement of logistics providers. In many cases, a buyer's agent is the medium for communication between the buyer, input suppliers (below) and producers, and is the coordinative mechanism across various processes.

In many cases, buyers' agents in Bulgaria enhance supply chain coordination, and play an important role by ensuring that reasonably priced, quality goods reach destination markets on time. The study team, however, learned of a number of cases where a weak organizational framework and inadequate communication mechanisms among the buyer, agent and producers contributed to coordination problems, mis-information and delays in both the production and movement of goods.

### **Suppliers of Material**

Although Bulgaria has a tradition of textile production, and while there are a number of capable suppliers in Bulgaria such as *COATS* (UK) and *Miroglio* (Italy), most inputs for apparel products produced for export are imported. As noted in the preceding section, most material suppliers are based in Turkey, Greece, Italy and parts of Europe. One reason for the use of outside suppliers is the fact that some buyers have preferred input suppliers that they use throughout their supply chain, as is the nature of global supply chains. Thus, they require Bulgarian producers to use inputs from these providers. Furthermore, many of these suppliers have proven their ability to provide large volumes of material that meets specific requirements, in a short period of time, and at a reasonable cost.

The role of material suppliers within the transport and logistics map often depends on the structure of the supply chain as dictated by the buyer, or in some cases, lead firms (see below). In some cases, a buyer, buyer's agent, or producer will arrange all transport and logistics. In other cases, suppliers are expected to arrange the transport of the goods to Bulgaria, using their preferred logistics provider.

As providers of inputs required for further production, Bulgaria's input suppliers affect production and reliability of timely delivery. The study team heard of a number of delays located at a supplier that impacted the whole production process, sometimes leading to late shipments to the buyer. In a few cases, problems stemmed from poor communication between the buyer/agent/producer, the supplier abroad and/or logistics service provider concerning the timing of delivery. In other cases, particularly when inputs were sourced from Turkey, incomplete customs documentation created delays at the border and regional customs office.

## **Lead Firms**

Bulgaria's apparel industry has a number of medium to large firms that are not only apparel producers, but also manage a network of sub-contractors made-up of smaller firms. These lead firms work directly with buyers or buyers' agents to obtain orders and then split the production of the order among its sub-contracting network. In some cases, a lead firm acts as a buyer's agent, coordinating between a buyer and smaller sub-contractors.

The extent to which lead firms participate within the transport and logistics maps often depends on their capabilities and relationships with buyers and sub-contractors. Many lead firms carrying out full package production play a role in the procurement of inputs, whereas buyers arrange the import of inputs in CMT supply chains. A few firms are trusted by their buyers to arrange transport for the export of finished goods abroad. Even if not responsible for shipments of final goods to destination markets, lead firms are often responsible for the transport and logistics of inputs and finished goods to and from sub-contractors. Some lead firms contract these activities out to local transport providers, while a few have their own vans and trucks for pick-up and drop-off.

The capacity of Bulgarian lead firms to effectively manage the logistics of their sub-contracting networks is mixed. Some of the more advanced lead firms have their own logistics departments and have been successful in developing functional distribution networks. Other lead firms, which have high capacity in other areas, such as design and quality production, have not developed an in-house capacity to manage the comings and goings of products, often leading to inefficiencies that add costs and delays to shipments. Some lead firms, unable to effectively manage their logistical requirements, rely on warehouses to ensure inputs are in stock, adding to their overhead costs.

## **Sub-Contractors**

Sub-contracting networks, often made up of smaller firms, have many pros and cons. On the one hand, they can enhance the flexibility and capacity of the Bulgarian apparel sector to respond to garment orders of all sizes, and for a range of product types and fashions. On the other hand, sub-contractors add to the complexity of the supply chain, and increase the number of steps where problems in the production and export process can occur.

There are a few ways in which Bulgarian sub-contractors create problems in the supply chain. For example, many of the smaller sub-contractors lack organizational and production capacity and may struggle to finish their part of an order. One sub-contractor's production delays can bottleneck the entire process, especially when a truck or van is scheduled to pick-up goods from multiple sub-contractors on the same day. These delays can ultimately delay an entire order or lead to the delivery of an incomplete order.

Most sub-contractors have little or no role arranging logistics. As such, they do not understand how the logistics chain works, nor are they necessarily aware of ways they can improve efficiency when it comes to loading and unloading, planning and communications.

## **Business Associations**

Bulgaria's textile and apparel industry has a number of industry associations that represent the industry's interests, and provide services that could help firms address transport and logistics issues.

**The Bulgarian Association of Apparel and Textile Producers and Exporters (BAATPE)** is a noncommercial organization that represents the Bulgarian Clothing and Textile sector domestically and internationally, and advances co-operation within the sector, and between members, their clients and suppliers as well. BAATPE offers business solutions and guides to potential buyers, or companies from other countries, who are interested in seeking sourcing opportunities in Bulgaria. BAATPE collects, verifies, updates and distributes information in an effort to help companies optimize their day-to-day business operations. Other services include: organizing different events, seminars and workshops to support the activities of members; regional research projects concerning the market structure and environment; and consultations on specific economical and production issues. For more information, see [www.bgtextiles.org](http://www.bgtextiles.org)

While the BAATPE does not focus on issues related to transport and logistics, it is well positioned to be the conduit for related information. As such, it is a potential leader in efforts to increase awareness of the importance of transport and logistics systems in apparel export competitiveness, and is also a stakeholder in efforts to improve logistics and supply chain management within the sector.

**The Bulgarian Chamber of Commerce and Industry (BCCI)** is a non-governmental public organization that supports, promotes, and represents the interests of the private sector, and aims to facilitate the development of international economic cooperation. BCCI has a number of regional and sector branches throughout the country. As of 2003, its members represented 67 percent of Bulgaria's exporters, including textile and apparel firms. The organization provides a wide range of services, including information on foreign trade, customs and standards requirements for both Bulgaria and its trading partners; a business information center; the organization of trade exhibitions, workshops and technical assistance programs. For more information, see [www.bcci.bg](http://www.bcci.bg)

Like the BAATPE, BCCI does not focus on issues related to transport and logistics, however, it is well positioned to play a role in efforts to increase awareness and promote activities aimed at enhancing the impact of transport and logistics on export competitiveness.

## **OPERATING ENVIRONMENT**

Numerous factors influence the day-to-day ability of businesses to operate and compete. A country's operating environments impacts the ability of business leaders to plan, effectively manage operations, and achieve value-added benefits. In order to assess the ability of transport and logistics providers to move goods in an efficient and cost-effective manner, an observation of Bulgaria's operating environment is critical. Because more in-depth analyses of Bulgaria's overall business and investment climate can be found in other studies, the following section will focus primarily on factors directly relevant to the movement of goods.

### **OVERALL BUSINESS CLIMATE**

Bulgaria's overall business climate is experiencing ongoing improvement, and is supporting continued growth and stability after successfully shifting from a planned economy to a market economy. Bulgaria's economic policy reflects its commitment to meet European Union entry guidelines and requirements. Conservative fiscal policies have allowed have allowed cuts in income, corporate and capital gains taxes. The government's record on privatization remains mixed, with progress protracted in some sectors. The judicial system continues to allow organized crime and corruption to hamper investment. Other problems include poor infrastructure, government bureaucracy, frequent changes in the legal framework, a banking system averse to lending and a large gray economy.

### **REGIONAL ISSUES**

Due to its geographic location, regional transport issues can have a large impact on Bulgaria's transport system, both negatively and positively.

#### **Accession to the European Union**

The forthcoming accession of Bulgaria (and Romania) to the EU in 2007 is having a number of impacts on Bulgaria's transport sector, and will continue to do so as the county's economic orientation shifts further west.

The additional transit related to the EU is one key impact that requires attention. As noted earlier, Bulgaria's geographic location makes it an important transit point. After EU accession, Bulgaria will also be important as an frontier border for the EU. With the EU land connection to be established between Greece and the rest of the member-states through the entry of Bulgaria and Romania—and the reduction of the border bottlenecks which currently obstruct transit—a growth in transit traffic through Bulgaria is likely be expected. Traffic growth is likely along the routes from Kulata (border crossing point with Greece) to Sofia to Vidin/Russe (border crossing points with Romania), and Makaza/Svilengrad (border crossing point with Turkey) to Russe/Vidin. It can be expected with much certainty that the traffic flows between Western, Central and Northern Europe, on the one hand, and Turkey/ The Middle East, on the other, will prefer the routes via Hungary, Romania and Bulgaria, instead of those through Serbia, which would require additional border crossings. While this additional transit traffic presents opportunities for new business and development along corridors, it also places further pressure on Bulgaria's road infrastructure, with the potential of creating problems with over-capacity. Increased transit will also place more demands on customs and other border agencies along the border with Turkey.

Accession to the EU could have a large impact on employment within the trade support services industry. In particular, as the border with the EU disappears and Bulgaria becomes part of the common market, there will be far less demand for customs brokerage services, since documentation requirements will be drastically reduced. At the same time, however, accession could provide additional opportunities in other trade support services as Bulgarian firms will have greater access to EU services markets.

### **Transit Permits**

While access to the domestic road freight markets is liberalized, regional rules concerning transit permits limits the ability of Bulgarian transport providers to access regional markets. Under a transit quota system set up under the European Conference of Ministers of Transport (EMCT<sup>13</sup>), Bulgarian truckers can only transit through a neighboring or EU country if they have a transit permit. Trip licensing systems or bilateral trip permit systems, are negotiated on a bilateral basis. Every year, Bulgaria exchanges a limited number of one-time and multilateral<sup>14</sup> transit permits with its main trade partners and transit countries (Austria and Hungary). The Ministry of Transport then distributes permits among haulers.

There are many different bilateral trip permit systems. For instance, the system used by the Netherlands is quite liberal, in the sense that trip permits are usually given to foreign governments on the basis of market demand. Other countries (especially Germany and Austria) have bilateral trip permit systems that are less liberal, and in the case of Germany the system is also linked to the EURO vehicle classification. As a result, it is more difficult for haulers to get Austrian or German trip permits, especially for older vehicles. Since Germany and Austria are important transit countries between South Eastern Europe and the EU, this linkage between trip permits and vehicle technology requires Bulgarian haulage operators to invest in the latest vehicle technology, which represents a significant barrier to entry for the average Bulgarian trucking enterprise.<sup>15</sup> There are also problems of access for smaller companies, with many operators perceiving that larger operators are being favored in the allocation.

After the accession of Bulgaria to the EU, the permit regimes for international road transportations between Bulgaria and the EU countries will be abolished. Any truck that meets EU safety and environmental standards will be able to move freely within the EU.

### **Lack of Border Crossing Coordination with Regional Neighbors**

Border crossing coordination is not only a problem between Bulgarian agencies. Although trade facilitation is routinely mentioned as a primary objective by regional border agencies, border-crossing coordination between regional neighbors remains a secondary priority compared to other objectives such as increasing government revenue or applying international and national laws. Long standing rivalries between headquarters and border crossing points, as well as a tradition of police control over borders has led some border agencies to closely protect their individual mandate, as opposed to the overall objective of optimizing the efficiency of border

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<sup>13</sup> The European Conference of Ministers of Transport was founded in 1954 with the aim to facilitate transport in Europe. There are 42 full ECMT Member countries: Albania, Austria, Azerbaijan, Belarus, Belgium, Bosnia-Herzegovina, Bulgaria, Croatia, the Czech Republic, Denmark, Estonia, Federal Republic of Yugoslavia, Finland, France, FYR Macedonia, Georgia, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Moldova, Netherlands, Norway, Poland, Portugal, Romania, the Russian Federation, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, Ukraine and the United Kingdom.

<sup>14</sup> Multilateral permit/ license gives the right to transit most of the countries in Central and Eastern Europe (CEE) and the EU, without requiring a national trip permit from any country. It also gives the right for third country transport, meaning that a transport company from country A is allowed to transport goods from country B to country C. The ECMT license is valid for one year (or 3 months) and allows a hauler to make an unlimited number trips.

<sup>15</sup> World Bank, *Reducing the 'Economic Distance' to Market - A Framework for the Development of the Transport System in South East Europe*. December 2004.

crossing points as a whole.<sup>16</sup> According to officials, border coordination is particularly a problem with Turkish border agencies. While border coordination with Greece and Romania will become automatic at EU accession, coordination with Macedonia, Serbia and Turkey will likely remain necessary. Given the transit flows from Turkey, coordination efforts with Turkish authorities should be a priority.

One of the goals of the TTFSE project is to improve dialogue among customs administration within the region. The project reports improvements in collaboration in some countries, however, rivalries are observed as deep-seated and part of a culture that is embedded within the agencies.<sup>17</sup>

## **DOMESTIC ISSUES**

### **Domestic Policy**

For the most part, Bulgaria's domestic policies regarding the transport sector allow for a liberal regime with limited barriers to entry to domestic, or international, transport service providers. The road transport and many auxiliary services have been privatized.

Privatization in some parts of the transport sector, however, has been slow. For example, the railway sector and port operations are yet to be privatized. The government has stated its intention to privatize the Port of Varna for many years, however the private and public stakeholders state that no real progress has been made for a timely transfer of ownership to the private sector. A number of stakeholders feel that the privatization of port facilities would help propagate the funding for required investments as well as the process re-engineering that could lead to more efficient port operations.

At the time of the study, the Ministry of Transport and Communications released its National Transport Strategy. A number of private sector stakeholders complained that the government had developed the strategy without sufficiently consulting the private sector. As such, the strategy does not necessarily respond to the needs of the transport sector. Furthermore, while the strategy recognized many issues related to transport, it did not sufficiently focus on strategies and interventions that focused on improving the cost and efficiency of the export sector.

### **Gray Economy**

Bulgaria has a relatively large informal economy. A few interviewees noted that a number of transport and logistics service providers operated at least partially in the gray economy. These gray firms conduct a good amount of "off-the-books" business, and pay part of their staff's wages under the table. This allows them to avoid social security and other taxes on wages. This artificially reduces their operational costs, creating unfair competition for those firms that operate legally.

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<sup>16</sup> Ibid,

<sup>17</sup> World Bank, Trade and Transport Facilitating in Southeast Europe Program, *Progress Report 2003*.

### **Informal Fees**

Although the level of corruption in Bulgaria has fallen due to ongoing efforts by the government, informal fees/bribes remain an additional cost and nuisance in the movement of goods. A recent survey<sup>18</sup> funded by the TTFSE project showed that informal payments are made at Bulgarian borders 11.4 percent of the time. The average bribe is reported to be approximately 80 Euros per truck. Bribes are paid to a variety of persons, including customs staff (24 percent of times when bribes are paid), Ministry of Interior staff (28 percent) and employees of other agencies (55 percent). Informal fees are even more of a problem when considering that truckers also interact with officials from other countries at regional borders. For example, over 50 percent of the trucks passing through Serbian border crossings pay some type of bribe, averaging 110 Euros per crossing.

Corruption not only adds costs to the shipment of consignments, but can also lead to delays. Many times, refusing to pay a bribe (when one is requested) can lead to prolonged wait times.

It should be noted that of the participating TTFSE countries, Bulgaria has the lowest average frequency of informal payments at border crossing. Furthermore, the survey referenced above shows that the frequency of informal payments has decreased around 4 percentage points since 2001.

### **Producer Mindset**

In their search for global competitiveness, international buyers are seeking relationships with producers who contribute an additional competitive advantage to their supply chain. While Bulgarian apparel producers understand the need to increase productivity, lower costs and maintain high levels of quality, they do not sufficiently understand other areas that require attention in order to remain competitive.

Many Bulgarian manufacturing firms have neither a full understanding of how the transport and logistics systems work, nor do they have the capacity or know-how to effectively manage logistics processes. One of the reasons buyers are hesitant to delegate transport and logistics process management is because previous producers proved unreliable and they no longer trust the average factory. If producers took steps to develop sufficient logistics capabilities and earned the trust of buyers, they could achieve greater margins, and improve their competitiveness—from a value-added services point of view—within the apparel supply chain.

Integrated service providers note that there is not widespread demand for their services from manufacturers. They say many manufacturers do not see the importance of value-added services that are available (in addition to freight). This lack of demand is negatively impacting investment in the development and/or innovation of services, or packaged services, that could

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<sup>18</sup> PLANCONSULT HOLDING GmbH, *Interim Report II, Trade and Transport Facilitation in South East Europe Program: Provision of Consulting Services in User Survey Design and Implementation*, 2003

create efficiencies and cost reductions that would enable manufacturers to better respond to buyers' needs and remain competitive in the sector.

When speaking to logistics providers, it is evident that many manufacturers do not see the value in long-term service contracts. A large proportion of transport and logistics services are contracted on a shipment-by-shipment basis, which are awarded based on the lowest price (even if service providers offer discounts, long-term contracts often imply premium services, which may cost more). This has both short term and long-term consequences. In the short term, the use of spot contracts adds time and costs to each shipment, in terms of planning and procurement, for both the user and the service provider. Furthermore, the use of spot contracts does not allow either party to utilize potential efficiencies that result from regular interactions. For example, the cost of document preparation can be reduced. From a long term perspective, the use of spot contracts gives service providers less incentive to make costly investments that could meet the specific needs of their clients (for example, special equipment for hanging garments), and enhance the availability of value added-services.

### **Information Technology**

The apparel industry relies broadly on manual processes to manage and coordinate its activities. Some activities are automated using information technology, notably apparel design, but is largely absent in planning and execution of day-to-day operations.

The internet offers a unique ability to share information across multiple participants in the supply chain so that individual shipments can be better planned, managed, produced and transported. When this information is available to buyers, it can also reduce their uncertainty, and increase their confidence in the producer's ability to meet requirements. It allows each player to be aware of the consequences of schedule slippage that occurs upstream in the supply chain, and manage their operation to maximize efficiencies. In addition, there are many specialized technologies that can be used to improve the performance of individual functions, such as transportation scheduling, load optimization, route planning, warehouse planning, forecasting, and others, that can significantly improve operational control and efficiency for supply chain participants.

Where supply chain software was being used, the study team noted that it was developed locally. While this may be a feasible alternative for the short term, it fails to incorporate the best practices that world-class software companies have built into their offerings. Custom designed software is difficult to reconfigure rapidly and respond to required changes in a dynamic environment.

### **CONCLUSION**

Despite the various issues highlighted within the transport and logistics map and the operating environment, Bulgaria has a maturing transport and logistics sector that is successfully adapting to the shift in trade direction from the former Soviet Union towards Europe, and the shift from a planned economy to a market economy where demands, and the need to be responsive to users, is much greater. As Bulgaria continues to develop, and the demands of its economy become more complex, the transport and logistics sector is developing the systems and methods, as well as attracting the investment required, to be internationally competitive. Nevertheless, transport

and logistics systems throughout the world are dynamic, undergoing constant innovation and reorganization to better meet the needs of global value chains, thus putting pressure on Bulgaria's service providers, exporters and policymakers to respond, or risk becoming obsolete.

### SECTION 3: TRANSPORT AND LOGISTICS: PROCESSES AND COSTS

The competitiveness of Bulgarian apparel producers depends on how effectively they meet the needs of their international buyers. Buyers consider a range of specific performance criteria – price, quality, capacity and reliability – when selecting a supplier (see Table 8). The degree to which manufacturers can deliver against these criteria impacts their business success.

**Table 8: Buyer's Expectations of Manufacturers**

<b>Buyer Criterion</b>	<b>Process requirements and implications</b>
<i>Price</i>	Reduce total costs for the buyer <ul style="list-style-type: none"> <li>• Increase efficiencies throughout the process (order to delivery)</li> <li>• Reduce procurement costs of raw materials</li> <li>• Reduce inventories and inventory holding costs</li> <li>• Increase manufacturing efficiencies</li> <li>• Reduce transportation and distribution costs</li> <li>• Reduce damage and rework</li> </ul>
<i>Quality</i>	Controlled and consistent production, order management and delivery processes
<i>Capacity and equipment to meet delivery requirements</i>	Reliable and flexible supply chain networks to meet a broad range of buyer requirements  Effective supply chain coordination and management <ul style="list-style-type: none"> <li>• Management processes able to coordinate multiple participants:               <ul style="list-style-type: none"> <li>○ Subcontractor manufacturers</li> <li>○ Transportation providers</li> <li>○ Suppliers</li> </ul> </li> <li>• Dependable contractual relationships</li> </ul> Ability to consistently and credibly guarantee a quick response

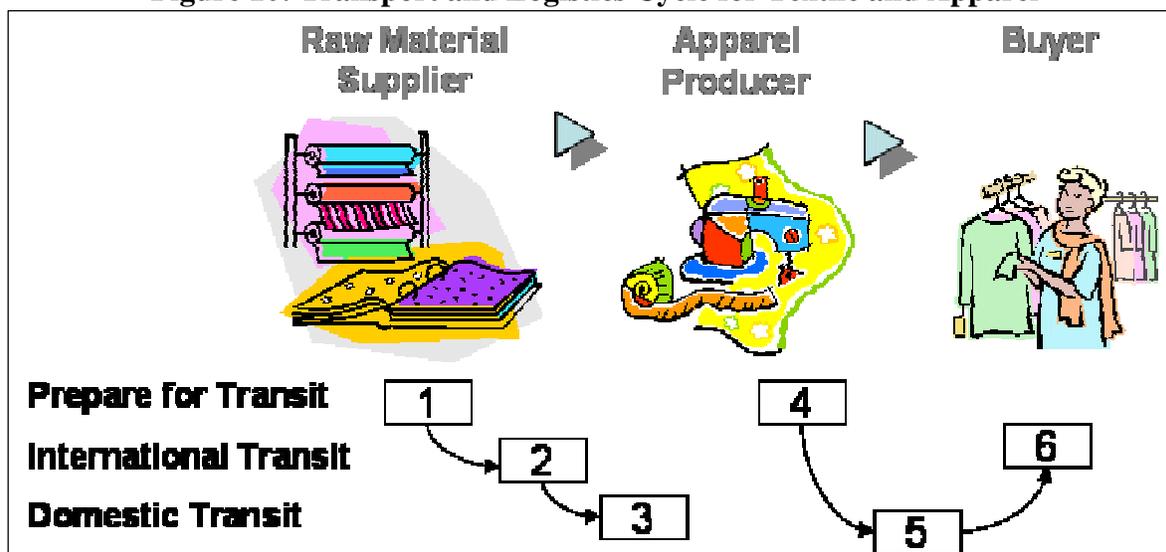
Producers must simultaneously manage the challenges imposed by their operating environment – access to desired infrastructure, technology, services and know-how – along with various limitations imposed by government and industry regulations. To routinely address these challenges and meet the buyer's expectations of performance, producers must closely manage the business processes associated with how orders are managed, manufactured and delivered. By taking a comprehensive look at how transport and logistics move textile and apparel goods, it is possible to pinpoint specific problem areas, and prioritize opportunities for action. The following section examines how these processes are organized within the sector, identifies particular issues being faced by apparel producers, and analyzes the costs associated with these transport and logistics processes.

## TRANSPORT AND LOGISTICS PROCESSES

Apparel producers are the central linchpin for goods flowing in two directions: imported raw materials from the supplier, and exported finished goods to the buyer. Imported goods include textiles, buttons, specialty items, thread, and various accessories that are usually shipped in either containers or in cartons loaded in vans. Exported goods are typically finished articles of clothing, and may be packaged in cartons or shipped in special containers equipped with garment hangers.

The six-step cycle of managing transport and logistics starts when the producer receives an order, and ends when the buyer receives the finished goods (see Figure 10 below).

**Figure 10: Transport and Logistics Cycle for Textile and Apparel**



Three primary sub-processes support this flow of goods:

- A. ***Pre-shipment Activities*** – These are all activities associated with ensuring that the shipment arrives at the destination in good condition with the proper documentation. This includes packaging, loading containers, consolidating multiple shipments, and any fines, licenses and inspection fees. In addition to arranging transport, this step includes the preparation of required documents such as customs declarations and transit documents. These activities are depicted in steps 1 and 4 in Figure 10.
- B. ***Domestic Movement Of Goods*** – These are activities associated with the physical movement of goods between Bulgarian producers and their gateway of international transport, shown in steps 3 and 5 in Figure 10. The international gateways may be situated within Bulgaria (such as the port of Varna, or the Sofia airport) or across regional borders, such as the Greek port of Thessaloniki. International gateways offer a wider selection of transportation options and services. The transport of goods to regional or

international gateways is generally affected by factors that can be addressed by local or regional initiatives, and are of particular interest to this study.

- C. ***International Movement Of Goods*** – These are activities associated with the outbound transport of goods from an international gateway in the region to an international destination (i.e., buyer, supplier); or inbound transport originating from outside Bulgaria to an international gateway within the region (shown as steps 2 and 6 in Figure X).

The project team identified the individual steps associated with each of these sub-processes through field interviews and observation, and prepared an end-to-end process flow. This process flow includes transport segments, steps involving border agencies, customs, deconsolidation and consolidation, as well as any other required documentation. For each step, interviewees were asked to identify issues, bottlenecks, or sources of additional costs. A summary of modes, routes considered, and assumptions are provided in Box 1. Process flow is presented in Figure 11.

### **Process Management Challenges**

As Figure 11 demonstrates, various factors introduce significant complexity to the movement of goods. These include physical characteristics of a shipment, such as shipment size, transport mode and number of border crossings, which place constraints on the transportation of the goods. For instance, the size of a shipment may dictate whether it is best transported by van directly to the destination or by container that is shipped by ocean to a port from where it is transported to its final destination. These alternatives will determine the complexity of the process that must be managed, the documentation that must be produced, the borders that will be crossed, and the participants that must be involved. The role of the participants involved also determines the control that each participant has on the process, and their ability to coordinate a recovery when things go wrong. These factors are discussed further below.

- **Size of shipment**: If the goods being transported can fill a single container, it can be transported directly as a full container load (FCL) shipment. If the goods represent less than a container load (LCL) shipment, they need to be consolidated with other shipments to the same destination in order to share transportation costs, and maintain packing efficiency.
- **Modes of transport utilized**: Multi-modal transport increases the complexity of transportation planning and scheduling.
- **Number of border crossings**: Each border crossing adds additional steps, costs, and delays to the process, and increases the likelihood of interacting with corrupt agents.
- **Number of players** – The myriad of connections involved in the process creates problems with coordination, human or system error, technical failure and corruption.
- **Role**: The player(s) who procures and manages the transportation and logistics providers impacts the level of control and flexibility enjoyed by the producers.

In addition to these factors, numerous operational details must be managed to ensure that performance meets the buyer's expectations. A description of each process step, along with the associated operational challenges, is provided in Table 9 (Imports) and Table 10 (Exports).

### **Box 1: Transport Modes, Routes and Assumptions in Process Flow Analysis**

#### Import Modes and Routes

- Inbound land (truck) from Western Europe or Turkey to Bulgarian factory.
- Inbound sea and land from Asia, through Bulgarian port (e.g. Varna) to factory.
- Inbound sea and land from Asia, through regional port (e.g. Thessaloniki, Greece) to factory. Includes international transport from port to border, and domestic transport from border to factory.

#### Export Modes and Routes

- Outbound land from Bulgarian factory to Western Europe.
- Outbound sea and land from factory to North America, through a Bulgarian Port.
- Outbound sea and land from factory to North America, through regional port. Outbound land includes domestic transport to border and international transport to port.
- Outbound air from Bulgarian factory to North American or Western Europe.

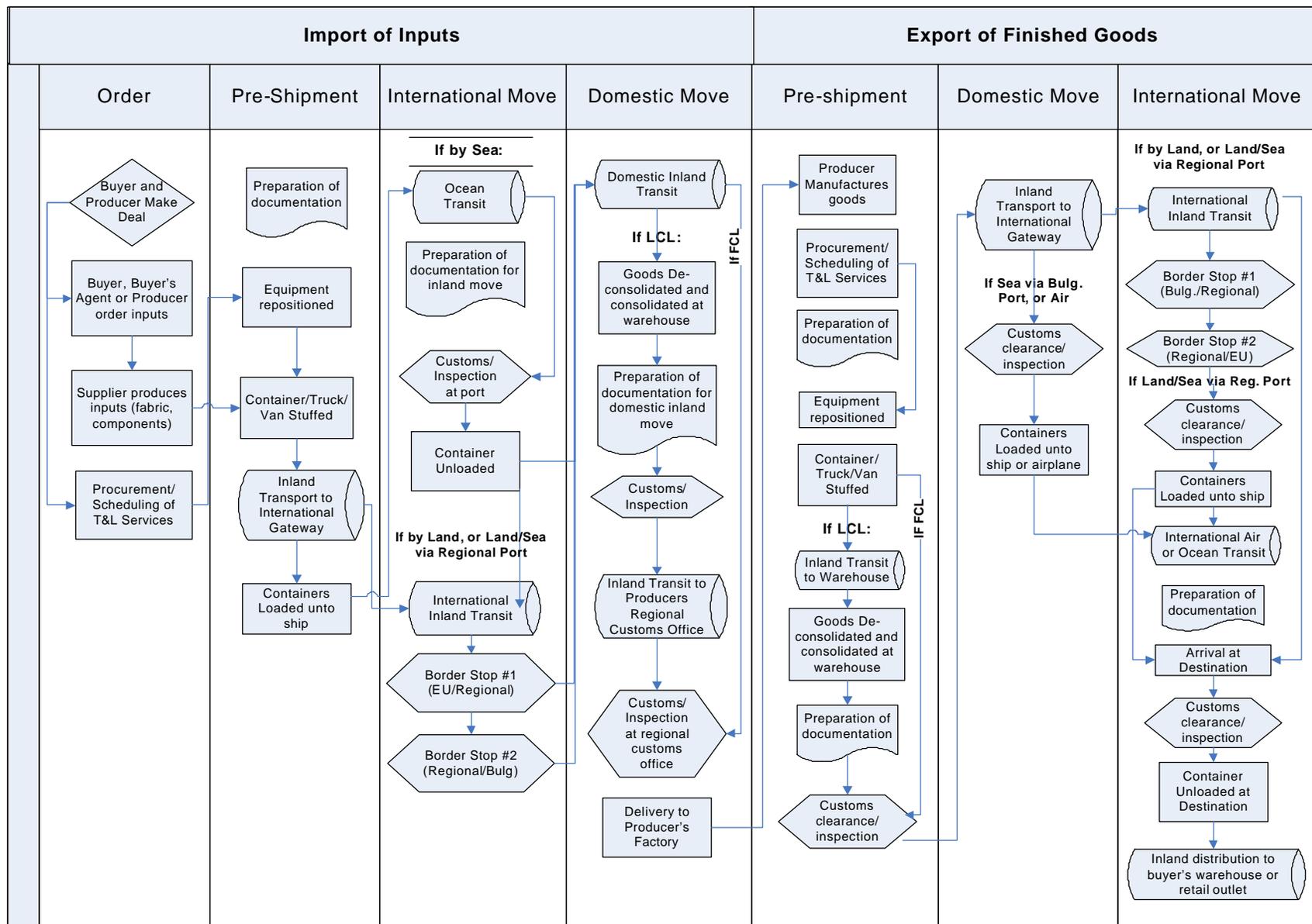
#### Shipment Sizes

- Full container load (FCL) – Full shipment in either 20' or 40' containers (for sea and land), or 1000 KG container for air shipments
- Less than full container load (LCL) – A partial shipment that is shipped along with other partial shipments. There are two ways that LCL shipments can be delivered:
  - Shipments go to a warehouse, are either deconsolidated for delivery to a factory (if inbound) or consolidated for delivery to a destination market (if outbound).
  - A truck makes multiple stops to unload (if inbound) or load (if outbound) shipments.
- Outbound air from Bulgarian factory to North American or Western Europe.

#### Assumptions

- Imported inputs considered temporary imports – Inputs imported for apparel production that will be exported as improved or finished goods. As such, no duties or VAT is paid on the inputs unless they remain in the country and are sold on the domestic market.
- Manufacturers have Permits for Active Improvement – To ensure that imported inputs are used for the production of exported goods, manufacturers receive Permits of Active Improvement from the government. These permits state the norms of production in terms of the inputs required for one exported garment. At the time of export, this document is checked against import and export declarations for discrepancies.
- Imported inputs and exported goods transit under bond – All imports intended for active improvement, and the related exports, must have a guarantee for the duties and VAT owed while in transit. This is to prevent smuggling or fraud, where the goods could be sold on the domestic market. One of two types of guarantees is required:
  - For shipments with an international origin or destination, a TIR Carnet is required.
  - For domestic shipments (e.g. to/from warehouse, to/from Bulgarian port), a bank guarantee must be provided by the logistics service provider.

Figure 11: Process Flow Diagram



**Table 9: Steps in Import Process**

#	Process Step	Players	Challenges
<b>Order</b>			
1	<u>Gain Business</u> <ul style="list-style-type: none"> <li>Buyer sends order</li> <li>Samples exchanged (by courier)</li> <li>Order is approved</li> <li>Producer applies for Permit for Active Improvement from Customs. Application information defines conversion rates of inputs to final product for estimating customs duty free treatment. Filed per buyer, per product.</li> </ul>	Buyer and producer	<ul style="list-style-type: none"> <li>Commercial samples are delayed in customs               <ul style="list-style-type: none"> <li>Customs processes for shipping samples are inefficient</li> <li>Buyers and Producers ship too many pieces in "sample" shipments which triggers inspections and delays</li> </ul> </li> <li>Producer must know or be able to calculate conversion efficiencies for Customs permit before manufacturing begins</li> <li>Accepting orders beyond available capacity leads to production delays and reduces the efficiency of transportation service providers</li> <li>Producer must sub-contract excess manufacturing capacity by to other producers, requiring additional logistics and supply chain coordination</li> </ul>
2	<u>Order Production Inputs</u>	Buyer, Buyer's agent or Producer	<ul style="list-style-type: none"> <li>Sometimes, bulk inputs have different characteristics than the samples received by the producer, causing downstream delays in production and quality</li> </ul>
3	<u>Procure T&amp;L Services</u> <i>(Takes place while supplier produces inputs)</i> <ul style="list-style-type: none"> <li>Logistics Service Provider (LSP) provides rate quote</li> <li>Shipment instructions to LSP include pickup date and time</li> <li>LSP schedules transport. LSPs without transport assets sub-contract a transport provider</li> <li>Reposition Equipment               <ul style="list-style-type: none"> <li><i>For Sea</i>: reposition containers</li> <li><i>For Road</i>: Reposition container and or vehicle</li> </ul> </li> </ul>	Buyer, Buyer's agent or Supplier  LSP  Transport Provider	<ul style="list-style-type: none"> <li>Producers are not always informed of suppliers timetable and ship dates</li> <li>Unexpected delays at border crossings require LSPs or transport providers to rearrange transportation or re-contract services on the day it is required</li> </ul>
<b>Pre-shipment</b>			
4	<u>Prepare Customs Documents for Production Inputs</u> <ul style="list-style-type: none"> <li><i>If by land</i>: TIR Carnet, CMR for international transit of bonded goods</li> <li><i>If by sea</i>: Bill of Lading</li> <li>Copy of Documents couriered to customs broker and LSP at port of destination</li> </ul>	LSP or Supplier's Customs Broker	<ul style="list-style-type: none"> <li>Incomplete or incorrect documentation can lead to delays at customs</li> </ul>
5	<u>Load Container</u> <i>(When input production is complete)</i> <ul style="list-style-type: none"> <li><i>If FCL by land</i>: goods are cleared at local customs</li> <li><i>If LCL by land</i>: inputs shipped to LSP warehouse for consolidation. Consolidated container cleared for customs</li> </ul>	Supplier and LSP in country of supply's origin	<ul style="list-style-type: none"> <li>Poor stuffing or overloading of container can cause loading and unloading problems at ports and delays at borders</li> </ul>
<b>International Move (Transport from Supplier Factory to Producer's International Gateway)</b>			
6	<u>Transport container to international gateway</u> <ul style="list-style-type: none"> <li><i>If by sea or air</i>, provide inland transport to port               <ul style="list-style-type: none"> <li>Clear goods at port customs</li> <li>Load shipment onto transport</li> </ul> </li> <li><i>If by land</i>, transport directly to border crossing ( step 9)</li> </ul>	LSP in country of supply origin	<ul style="list-style-type: none"> <li>Break down of equipment may delay shipment</li> </ul>

7	<u>International Transit</u> <ul style="list-style-type: none"> <li>Possible transshipment in Far East and/or Mediterranean.</li> <li>If arrival to a Bulgarian port, goods are transhipped by feeder vessels</li> </ul>	Transport Provider  Port Operators	<ul style="list-style-type: none"> <li>Congestion at transshipment ports may result in missed shipment</li> <li>Feeder vessel from transshipment ports add cost and time to transit</li> </ul>
8	<u>Discharge Goods at Port</u> <ul style="list-style-type: none"> <li>Vessel cleared for discharge – Immigration, health, SPS and other inspections</li> <li>Goods inspected and/or cleared by customs</li> <li>Ship unloaded, container loaded onto truck</li> </ul>	LSP/Transport Provider  Port Operator  Customs  Customs Broker or LSP	<ul style="list-style-type: none"> <li>Port inefficiency due to weak infrastructure, inadequate handling equipment or weak management creates unnecessary delays</li> <li>Vessel unloading time is lengthened by poor coordination between port agencies</li> <li>Freight forwarders may not take advantage of available services to expedite clearance</li> <li>Redundant Customs documentation requirements add to transaction cost</li> </ul>
<b>Domestic Inland (Transport from International Gateway to Producer Factory)</b>			
9	<u>Prepare Transit Documents</u> <ul style="list-style-type: none"> <li><i>If via Bulgarian port</i>, transit to Bulgarian destination under bond of Bank Guarantee</li> <li><i>If via regional port</i>, transit to Bulgarian destination under TIR Carnet</li> </ul>	LSP  Transport Provider	<ul style="list-style-type: none"> <li>Bank guarantee requires 0.4%-2.0% duties due, which represents a financing and opportunity cost as financial resources are tied up</li> </ul>
10	<u>Cross Regional Border(s) into Bulgaria</u> <i>If by Land or Sea via regional port</i> – Vehicle passes through up to two border crossings <ol style="list-style-type: none"> <li>EU/ Regional Neighbor border</li> <li>Bulgarian/Regional Neighbor</li> </ol> <ul style="list-style-type: none"> <li>Possible Customs inspection</li> <li>Possible health, SPS and other inspections</li> <li>Payment of Road Tariffs</li> </ul> <p><i>If FCL</i> – Transit to regional customs zone (step 12)  <i>If LCL</i> – Two options exist for distribution</p> <ul style="list-style-type: none"> <li>Transit with up to three consignees via regional customs zones (step 12)</li> <li>Transit to warehouse</li> </ul>	Transport Provider  Border Agencies	<ul style="list-style-type: none"> <li>Bulgarian border crossing may require up to six approvals from Bulgarian agencies                             <ul style="list-style-type: none"> <li>Multiple agencies require multiple approvals</li> <li>Extended wait-time, particularly Mon. and Fri.</li> <li>Increases exposure to informal payments</li> </ul> </li> <li>Additional approvals required by other country's border authorities may lead to delays or exposure to informal payments</li> <li>EU regulations restrict transportation during workdays and weekends</li> <li>Border customs officials may miscode the destination of regional customs office, resulting in the truck arriving at the wrong destination.</li> <li>European regulations limiting number of consignee shipments reduces the LSP's delivery options and productivity under one TIR Carnet</li> </ul>
11	<u>Deconsolidate any LCL Shipments</u> <ul style="list-style-type: none"> <li>Goods deconsolidated</li> <li>Prepare documentation – Bank guarantee for bonded domestics transit</li> <li>Reconsolidate goods and load container/ truck</li> <li>Customs clearance and possible customs inspection</li> </ul>	LSP  Customs Broker  Customs	<ul style="list-style-type: none"> <li>Customs officials not always available for timely clearance</li> </ul>
12	<u>Transport Shipment To Regional Customs Office Near Producer</u> <ul style="list-style-type: none"> <li>Clear goods at customs, unseal truck</li> <li>Possible customs inspection</li> </ul>	LSP or customs broker  Transport Provider  Customs	<ul style="list-style-type: none"> <li>Customs officials not always available for timely clearance</li> </ul>
13	<u>Deliver shipment to producer's factory</u> <ul style="list-style-type: none"> <li>Truck unloaded</li> <li>If multiple consignees, truck is resealed and step 12 is repeated.</li> </ul>	Producer  LSP/Transport Provider	

**Table 10: Steps in Export Process**

#	Process Step	Players	Potential Problems
<b>Pre-shipment</b>			
14	<u>Produce Finished Goods For Export</u> <ul style="list-style-type: none"> <li>Possible Quality control at factory</li> </ul>	Producer Buyer, Buyer's Agent	
15	<u>Arrange T&amp;L Services</u> <i>(Takes place during production of exports)</i> <ul style="list-style-type: none"> <li>LSP provides rate quotes (if not already determined)</li> <li>Shipment instructions provided to LSP (Includes date and time)</li> <li>LSP schedules transport for pickup of goods. LSPs without transport assets will sub-contract equipment from transport provider               <ul style="list-style-type: none"> <li>If shipment includes network of producers, multiple vehicles or stops may be required</li> </ul> </li> <li>Equipment repositioned</li> </ul>	Buyers, Buyer's agent, Producer  LSP  Transport Provider	<ul style="list-style-type: none"> <li>Producers are not always informed of suppliers timetable and ship dates</li> <li>Due to poor communication between players during production process, LSPs or transport providers may not be aware of any production delays, making it difficult to schedule pick-ups accordingly</li> <li>Unexpected delays at border crossings requires LSPs or transport providers to rearrange transportation or re-contract services</li> </ul>
16	<u>Consolidate LCL Shipments</u> <i>If LCL:</i> Trucks or vans loaded for bonded transit to warehouse. <ul style="list-style-type: none"> <li>Trucks/vans may stop at multiple factories when produced with sub-contracting networks</li> <li>Possible provision of value added services such as packaging, labeling and quality control per buyer's instructions</li> <li>Prepare documentation               <ul style="list-style-type: none"> <li>Basic Documentation: New Packing list</li> <li><i>For Land:</i> TIR Carnet, CMR</li> <li><i>For Land/Sea through Bulgarian port:</i> Bank Guarantee (for inland transit, Bill of Lading (for sea)</li> <li><i>For land/sea through regional port:</i> TIR Carnet, CMR (for land), Bill of Lading (for sea)</li> <li><i>For Air:</i> Airway bill</li> </ul> </li> </ul>	LSP  Customs Broker	<ul style="list-style-type: none"> <li>Product not always ready for pick-up, causing delays in loading               <ul style="list-style-type: none"> <li>If one vehicle is picking up shipments from multiple producers, creates possible delay along logistics chain</li> <li>If shipments of multiple producers grouped, all must load at same time and clear customs at same time. Delays at one producer affects the entire shipment</li> </ul> </li> <li>Poor stuffing or overloading of container at warehouse</li> <li>Delays in production result in canceled segments of a shipment.               <ul style="list-style-type: none"> <li>LSPs may ship containers with empty space, resulting in lost revenue</li> <li>LSPs need to find new shipments to include to consolidated a load, adding to time and transaction costs</li> </ul> </li> <li>Incomplete or incorrect documentation can lead to delays at ports or borders customs</li> <li>Bank guarantee requires 0.4%-2.0% duties due, which represents a financing and opportunity cost as financial resources are tied up</li> </ul>
17	<u>Prepare Transit documents</u> <ul style="list-style-type: none"> <li>Basic documentation: Commercial Invoice, Packing list, Certificate of Origin, Copy of Temporary Import Documentation</li> <li><i>If LCL:</i> Bank Guarantee for bonded transit</li> <li><i>If FCL:</i> TIR Carnet, CMR</li> </ul>	LSP  Customs Broker	<ul style="list-style-type: none"> <li>Incomplete or incorrect documentation can lead to delays at customs</li> <li>Bank guarantee requires 0.4%-2.0% duties due, which represents a financing and opportunity cost as financial resources are tied up</li> </ul>
<b>Domestic Inland (Transport to Producer's International Gateway)</b>			
18	<u>Load Shipment</u> <ul style="list-style-type: none"> <li><i>If FCL:</i> Container loaded for international transport</li> <li><i>If LCL:</i> Consolidated shipments loaded into a single container</li> </ul>	Producer(s)  LSP  Transport Provider	<ul style="list-style-type: none"> <li>Poor stuffing or overloading of container can cause loading and unloading problems at ports, and delays at borders</li> </ul>

19	<u>Clear Customs</u> Customs checks import documents and export documents for re-export discrepancies <ul style="list-style-type: none"> <li>• <b>If FCL:</b> Goods are cleared at regional customs office and proceed from inland domestic transit to international gateway</li> <li>• <b>If LCL:</b> Goods are cleared at warehouse</li> <li>• Possible customs inspection</li> </ul>	LSP  Customs Broker  Customs	<ul style="list-style-type: none"> <li>• Customs officials not always available, leading to delays in shipment</li> <li>• Errors in preparation of Permit for Active Improvement or export documents could delay shipment of goods</li> </ul>
20	<u>Transport goods to international gateway</u> <ul style="list-style-type: none"> <li>• <b>If Land/Sea:</b> Inland Transit to Bulgarian (under Bank Guarantee) or Regional Port (under TIR Carnet)</li> <li>• <b>If Land:</b> Inland transit to regional borders under TIR Carnet.</li> <li>• <b>If Air:</b> Inland transit to Airport</li> </ul>	LSP  Transport Provider	<ul style="list-style-type: none"> <li>• Bank guarantee requires 0.4% -2.0% duties due, which represents a financing and opportunity cost as financial resources are tied up</li> </ul>
<b>International Move (Transport to Buyer Destination)</b>			
21	<u>Load shipment onto International Transport</u> <ul style="list-style-type: none"> <li>• Customs clearance and possible inspection</li> <li>• Container loaded onto transport</li> </ul>	Port Operator  Customs	<ul style="list-style-type: none"> <li>• Port inefficiencies create unnecessary delays</li> </ul>
22	<u>International Transit</u> <ul style="list-style-type: none"> <li>• <b>If by air:</b> Transport by air to airport of destination</li> <li>• <b>If by sea:</b> Transport to port of discharge</li> <li>• <b>If by land:</b> Transport directly to buyer's destination</li> </ul>	LSP  Transport Provider	<ul style="list-style-type: none"> <li>• Some air shipments compete with passenger cargo, possibly leading to delayed transit</li> <li>• EU regulations restrict transportation during workdays and weekends</li> </ul>
23	<u>Arrive at destination</u> <b>If by land</b> – Arrive at buyer's warehouse or retail outlet <ul style="list-style-type: none"> <li>• Customs clearance and possible inspection</li> </ul> <b>If by sea or air</b> – Arrival at port of destination <ul style="list-style-type: none"> <li>• Customs clearance and possible inspection</li> <li>• Container unloaded and loaded onto trucks</li> <li>• <b>For LCL:</b> Goods deconsolidated</li> <li>• Inland transit for delivery to buyer's warehouse or retail outlet</li> </ul>	LSP  Customs  Transport Provider  Buyer	

## QUALITATIVE ASSESSMENT

As Tables 9 and 10 demonstrate, potential problems exist at nearly every step in the process. This is due to the fact that many steps are separately managed, and coordination along the process is often inadequate. Such problems can add time and costs to the movement of goods, and possibly lead to delays in the shipment of final goods. It is important that players within the transport and logistics map—both public and private—take steps to reduce the impact and/or frequency of the problems listed above. There are, however, a number of critical issues identified by the study team that require special attention, as discussed below:

### Border delays are costly

While there have been some improvements in recent years, bottlenecks at the border present a source of high cost and uncertainty for transport and logistics providers. As the table below shows, the cost of waiting at borders comprises 8 to 34 percent of total freight costs on select European routes.

Route	# of borders	Average transit time (hours)	Average wait time per border (hours)	% of transit time spent at border	Waiting cost (at \$12.5/hour)	Wait cost (Percentage of freight)
Sofia – Rome	4	110	6 – 9	43%	\$568	34%
Sofia – Berlin	4	100	5.5	31%	\$372	20%
Sofia – Athens	1	22	5	22%	\$58	8%
Sofia – Istanbul	1	33	10	30%	\$119	22%

Source: Adapted from World Bank, *Reducing the 'Economic Distance' to Market - A Framework for the Development of the Transport System in South East Europe*. December 2004.

Aside from the long average wait times, the table demonstrates a significant differential between minimum and maximum waiting times for different border crossings. Furthermore, logistics service providers report that the waiting time for any given crossing can vary greatly. This lack of predictability, critical for modern logistical systems, is of great concern, as shippers and exporters need to include significant extra time (about a day from Bulgaria to Central Europe) when estimating their delivery times, to ensure that they meet their commitment.<sup>19</sup>

Unpredictable delays are considered, first and foremost, a business risk and a competitiveness impediment. If not addressed, delays could lead to lost market share, as buyers may choose to forego business transactions in Bulgaria rather than risk missed revenues at the store.

Customs officials note that one reason for delays at border crossing is the high variability of daily traffic during the week. For example, regulations in some EU countries prohibit heavy vehicles from traveling during the weekends. As such, trucking companies in Turkey organize their operations so that trucks transit Bulgaria and Serbia during the weekends to arrive at an EU border Monday morning. Daily traffic at the border can fluctuate from 300 mid-week to 800 on

<sup>19</sup> World Bank, *Reducing the 'Economic Distance' to Market - A Framework for the Development of the Transport System in South East Europe*. December 2004

Thursday or Friday. Even with efforts to improve the efficiency of border processes, such fluctuations are likely to turn the border into a bottleneck and create long queues.

### **Poor coordination across border agencies**

There are as many as six border agencies that must approve a shipment before it leaves Bulgaria. Where approvals and payments are required, the transportation provider must approach each agency separately. Due the fact that other regional border agencies also have problems with agency coordination, the impact is multiplied. Since the approval or payment processes are not integrated, and data across agencies is not shared, there are significant opportunities to streamline the administrative process.

The cost of poor coordination between border agencies is well illustrated. As shown above, time spent at the border can account for up to 34% of the total freight cost. Furthermore, at the Port of Varna, it takes 1.5 hours for all relevant agencies to clear a vessel before unloading can commence. This not only impacts the overall efficiency of port operations, but also represents an overhead cost, in time and money, which is passed from the vessel operator, to the producer, and to the buyer, which ultimately reduces the competitiveness of Bulgarian producers.

The study team also heard that border agencies in Romania and Turkey regularly fined trucks the operators believed were compliant with the law. We were told that rules in these countries are frequently changed, or arbitrarily and inconsistently enforced, possibly to solicit informal payments from truckers. Improved communication between border agencies in different countries would help alleviate this problem.

### **Weak coordination of the supply chain network**

With the number of steps and players involved in the movement of goods, coordination is critical to ensure that the buyer receives shipments on time. Coordination within the production network is challenging—particularly when multiple sub-contractors are involved. When processes are not actively managed, shipment can frequently be the source of excessive costs and delays (both in terms of production and final delivery). Numerous interviewees, from both the transport and logistics services and apparel sectors, reported breakdowns in communication along various steps in the process. While certain producers have highly developed processes and approaches to manage the movement of goods along sub-contracting networks, most apparel manufacturers have only the most basic logistics management capabilities in place.

Problems are often more pronounced when the off-site buyer purchases and coordinates transport and logistics services (i.e. freight forwarders, transport providers, warehousing/consolidation services, etc). Buyers do not always make the most appropriate decisions because they may not understand the causes inefficiencies or issues associated with local ground transportation. At other times, buyers do not sufficiently ensure communication among supply chain players (i.e. manufacturers, input suppliers, buyers agents, transport and logistics service providers).

Effective network management practices include coordinated approaches for quality management, advanced sharing of production volumes, patterns and targets, production efficiencies, packaging and coordinated transportation planning. Without some of these basic tools in place, delays incurred at one subcontractor or supplier can ripple downstream and spread

delays and inefficiencies (e.g. transport is rescheduled, trucks repositioned, inventory temporarily warehoused, or container utilization reduced).

### **Little use of supply chain management technology**

Coordination activities are currently conducted with little or no use of available Internet technologies for integrated supply chain management. Furthermore, the study team observed only the most rudimentary tools being used to manage the various key processes in the transportation and logistics chain, such as load optimization, warehouse management or transportation scheduling.

Customs is implementing a new technology for expediting clearance, slated to go online in October 2005.

### **Decisions emphasize cost reduction**

Interviews with both users and providers of transport and logistics services indicate that cost, rather than quality, is often the leading decision factor when procuring these services. This method is short-sighted and, ultimately, is not the most efficient or prudent practice for reducing total cost or improving shipment reliability, as the examples below illustrate:

- Short term contracts. The study team noted a widespread absence of long-term transportation contracts. Contracts are primarily negotiated on price, and typically on spot market prices. As a result, transportation providers do not have the necessary market stability to invest in long term transportation assets that would increase the overall efficiency of the sector.
- Service providers optimize utilization before service. Producers described delays that occurred on their LCL shipments because other producers (with LCL shipments moving in the same container) were not ready to ship on time. Rather than ship the partially full container on time, which would indicate a preference towards quality service, transportation providers prefer to wait for the last shipment—even if late—to be ready. This delays every shipment assigned to that container. Since this practice reduces the reliability and quality of service that consignees receive from their producers, it may be much more costly in the long term.
- Container overloading. The study team heard of numerous instances of containers being rejected at the port or fined at border crossings for incorrect loading. These containers were over-stuffed, incorrectly balanced, or improperly loaded. In addition to causing delays and incurring fines, these containers also represent a transportation hazard.
  - Improper loading can be the result of poor planning, especially in the case of LCL shipments. There is also the possibility that transportation providers deliberately decide to overload containers to increase their revenues.
  - A commercial transport management system that tracked violations and instituted fines by transportation provider would create adequate disincentives for transportation providers to improve their planning and adhere to current regulations.

### **Complex Customs processes for re-export**

Producers are exempted from value added tax (VAT) and duties for all materials that are imported for ultimate re-export. The customs process for administering the exemption of export VAT is complex and adds cost and time delays to the shipment. As a result of re-export regulations:

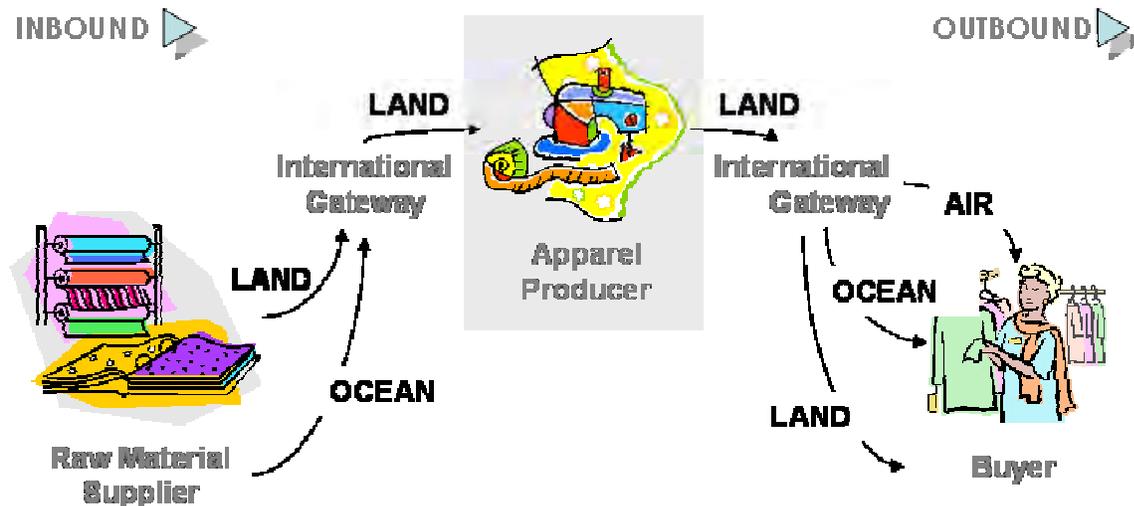
- Transportation providers must ensure that they have a bank guarantee that allows Customs to claim duties if the consignee fails to re-export the goods
- Producers prefer to source raw materials from overseas because it is time consuming and difficult to reclaim VAT paid on locally sourced goods
- Shipments must be transported to a regional Customs office prior to being released to the consignee. If there are multiple shipments in the container, the container must be resealed by customs every time a delivery is made. No more than three consignees are allowed per container.
- Raw material conversion efficiencies must be provided to customs prior (i.e. permit for active improvement) to manufacturing. This adds lag time to how quickly a producer can react to a buyer request.

Regional customs offices are reputed to have different levels of service and customer friendliness. In some cases, it can take up to 6 hours to clear a shipment because the appropriate customs officer is unavailable. The coordination between border and regional customs offices is also unpredictable. Sometimes, inbound trucks report being sent to the wrong office in the wrong zone. In other cases, the local customs office had no record of the shipment's impending arrival, causing delays in clearance.

## COSTS OF THE TRANSPORT AND LOGISTICS PROCESS

Costs of the inbound and outbound logistics processes described above were gathered through field interviews and surveys with transport and logistics service providers. The data requested included transportation costs and time for the entire process, from the supplier through the production, until the first landed point for exports in the destination market. Interviewees were asked to provide as much of a cost and time breakdown as possible for steps related to pre-shipment, and international or domestic moves. While it is impossible to estimate the costs of every step in the process, the data provided gives an accurate picture of transport and logistics costs surrounding the movement of goods.

The study team analyzed and reported the data in broad categories because transportation costs are often quoted “all in,” where several services are bundled together and offered at one price to the buyer. As a result, it is difficult to segregate the costs of a specific step. In addition, different service providers offer differently configured bundles, reducing our ability to compare costs across providers. In some cases, the terms of trade prevent transportation costs from being known or documented in the industry. For example, when suppliers in Asia offer goods on a “freight on board” basis (FOB terms) the transportation expenses incurred prior to that shipment arriving at the vessel are unknown. Similarly, when buyers pay directly for certain services performed by the overseas supplier of raw materials (such as packaging) these costs are difficult to identify and quantify.



The diagram above indicates the transportation modes analyzed. To the extent possible, cost data was collected across a diverse spectrum of route and modal alternatives. The analysis studies the costs on a number of different routes into, and out of, Bulgaria that are used by various transportation modes in the textile and apparel sector including full container shipments (FCL), less than full container shipments (LCL), and palletized air cargo. Table 12 includes routes and transportation modes for which primary data was collected for analysis. The study team also analyzed data from secondary sources, presented in Table 13.<sup>20</sup>

<sup>20</sup> PLANCONSULT HOLDING GmbH, *Interim Report II, Trade and Transport Facilitation in South East Europe Program: Provision of Consulting Services in User Survey Design and Implementation*, 2003

<b>Route</b>	<b>Mode(s)</b>	<b>Shipment Type (FCL / LCL)</b>	<b>Pre-shipment Costs</b>	<b>Domestic Costs</b>	<b>International Costs</b>	<b>Total Costs</b>
<b>INBOUND</b>						
Berlin – Sofia – Rousse	Land	20 ft. FCL	\$100	\$845	\$262.5	\$1207.5
Berlin – Sofia – Rousse	Land	LCL	\$120	\$1137.5	\$412.5	\$1670
Generic Sofia from Asia	Sea & Land	20 ft. FCL	\$136	\$1816.2	\$785	\$2737.2
Generic Sofia from Asia	Sea & Land	40 ft. FCL	\$136	\$2834.4	\$785	\$3755.4
Generic Sofia from Asia	Sea & Land	LCL	\$178	\$298.52	\$325	\$801.52
Shanghai – Sofia	Sea & Land	LCL	NA	\$1450	\$340	\$1790
<b>OUTBOUND</b>						
Plovdiv – Thessaloniki – New York	Land & Sea	20 ft. FCL	\$125	\$800	\$3512	\$4437
Plovdiv – Thessaloniki – New York	Land & Sea	40 ft. FCL	\$125	\$800	\$4374	\$5299
Plovdiv – Sofia - Hamburg – New York	Land & Sea	LCL	\$145	\$253	\$529	\$927
Rousse – Sofia – Berlin	Land	20 ft. FCL	\$30	\$250	\$1040	\$1320
Generic Sofia to Europe	Air	1000kg Air Carton	\$55	\$70	\$3080	\$3205

<b>Route</b>	<b>Total Cost</b>	<b>Distance (KM)</b>	<b>Cost/km</b>	<b>Total Transit Hours</b>	<b>Time Spent at Borders (% Total transit)</b>	<b>Wait Cost</b>	<b>Wait Cost as % of Freight</b>
<b>INBOUND</b>							
Athens- Sofia	\$1100	828	\$ 1.33	22	22%	\$58	5%
Berlin - Sofia	\$2030	2207	\$ 0.92	100	31%	\$372	18%
Paris - Sofia	\$2280	2197	\$ 1.04				
Rome - Sofia	\$2125	1662	\$ 1.28	110	43%	\$568	27%
<b>OUTBOUND</b>							
Sofia - Athens	\$770	828	\$ 0.93	22	22%	\$58	8%
Sofia - Berlin	\$1860	2207	\$ 0.84	100	31%	\$372	20%
Sofia - Istanbul	\$550	560	\$ 0.98	33	30%	\$119	22%
Sofia - Rome	\$1670	1662	\$ 1.00	110	43%	\$568	34%

### COST ANALYSIS

The cost of transportation and logistics activities varied widely among the producers we spoke to based on size, destination of shipment, mode utilized, services required, etc. Depending on the specifics of the shipment (i.e. type and value of textile or apparel goods), transport and logistics costs ranged from 2% – 40% of the value of the goods being transported.

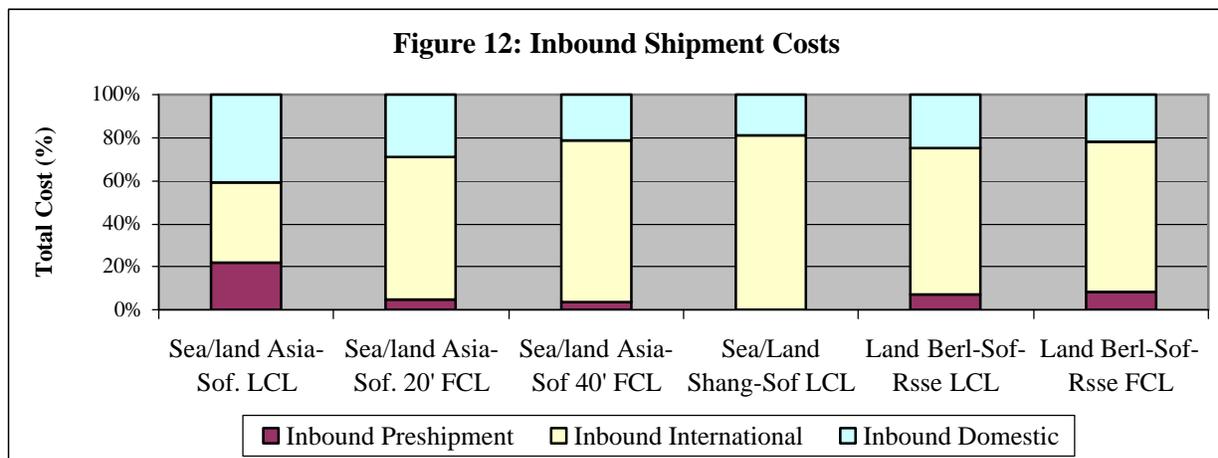
This range of transport and logistics costs is illustrated by the following examples:

- Raw materials (mainly textiles) from regional suppliers are being delivered at 2% of the value of the goods. These goods travel in full containers by truck.
- Full containers traveling long distances (North America) by ocean transport arrive at destination ports for approximately 3 – 7% of the value of finished goods being transported.
- Cost burdens increase for smaller shipments and distances. For instance, costs increase when finished garments travel to Europe in a fully utilized 30 m<sup>3</sup> container, versus a 20 m<sup>3</sup> truck or a 12 m<sup>3</sup> truck – and rise further for when the truck is not fully loaded.
- The value of finished goods also varies greatly. Though several of the manufacturers the study team met regularly produced finished goods worth \$5 - \$10 per garment, the range is much broader over the industry. For the manufacturers we met, we estimated a typical transportation and logistics burden of \$2.00 per garment (20% - 40% for shipments to Europe).

A closer examination of these cost components is provided below.

#### Inbound Costs

Inbound cost data is provided in Figure 12 below. The majority of inbound costs are attributed to international transportation, representing 60 to 80 percent of the total cost. Pre-shipment costs generally ranged from 5 to 10 percent of the total transportation cost, whereas domestic costs were typically 20 to 30 percent.

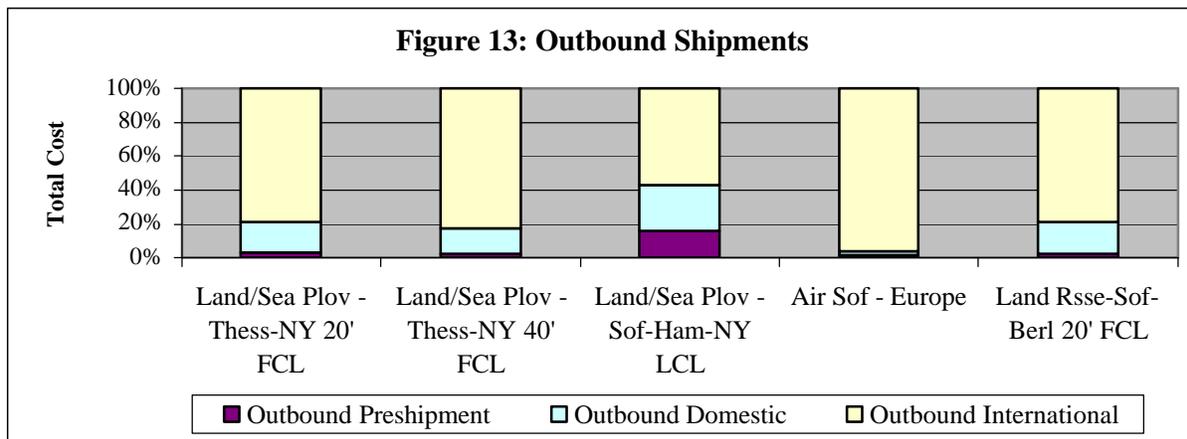


The share of pre-shipment costs varied. The pre-shipment costs for the sea/land shipment from Asia (generic) were 22 percent, indicating that pre-shipment activities add significant overhead (as a proportion of the total transportation cost) when the transit distances are short and shipment consolidation is necessary for transportation.

It is worth noting that the sea/land Shipment from Shanghai to Sofia was transported under FOB terms, where the overseas supplier incurs the pre-shipment costs. While the study team was unable to obtain these costs at the origin, they are nonetheless important, since they are undoubtedly built into the cost of the final goods.

**Outbound Costs**

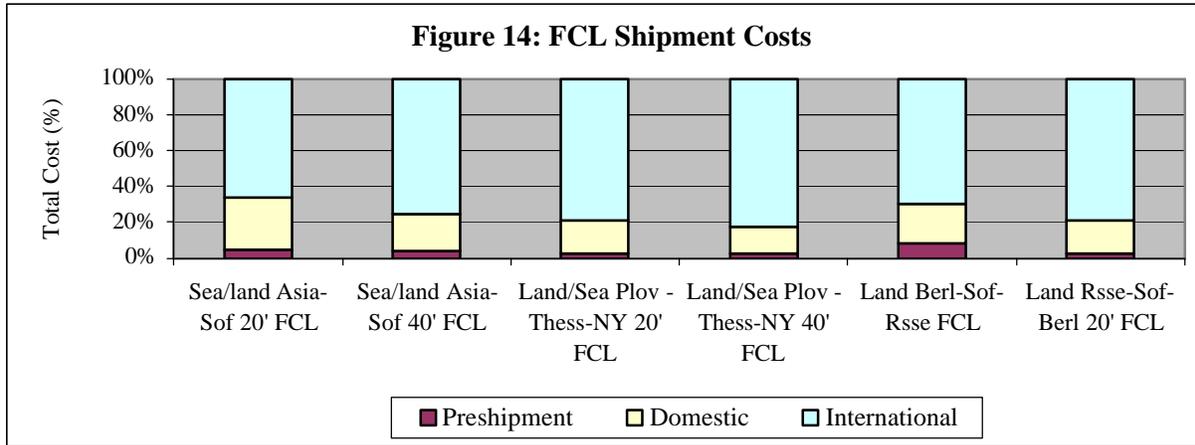
International transport is also the largest component of outbound shipments, generally 80 percent of the total transportation cost. Domestic transport contributes 15 to 20 percent, whereas pre-shipment activities are generally make up less than 5 percent of the total cost.



Pre-shipment and domestic transport activities make up a much greater proportion of overhead on LCL shipments and/or when goods are transshipped. For instance, for the LCL shipment originated in Plovdiv and delivered to New York via Sofia (where it was consolidated with other shipments) and Hamburg (where it accessed speedy ocean service to New York), pre-shipment activities and transport to the international gateway represented over 40 percent of the total cost of shipment.

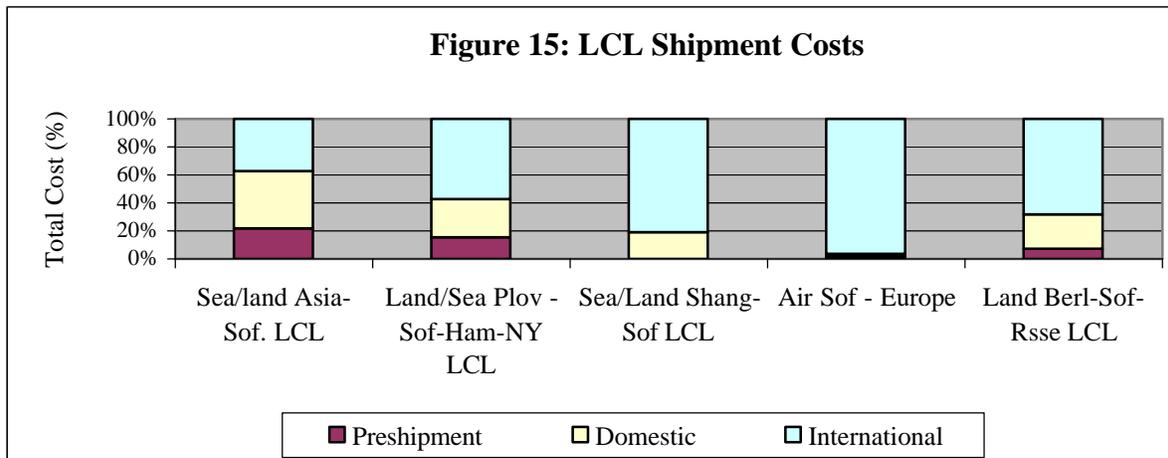
**Full Container Load Shipments**

FCL shipments generally have lower pre-shipment costs because no consolidation is required, and commercial transportation services are designed for efficient containerized shipping. In general with full container shipments, less than 5% of the total cost is incurred in pre-shipment activities. Approximately 20% of the cost is attributable to domestic movements, and the remainder, to international transportation.



**Less than Container Load shipments**

Compared to FCL, LCL shipments show more of variation in cost structure. Since these shipments are consolidated with others moving in the same direction, the logistics service provider incurs additional handling costs. In addition, customs regulations mandate that after each consignee unloads their shipment, the container must go to a regional customs office to be inspected and resealed. With as many as three consignees per container, this can significantly delay delivery, since each step involves transport to the regional customs office, physical inspection, and resealing of the truck. In addition, freight costs for LCL shipments are frequently dependent on other factors such as availability of desired capacity, and seasonality. Certain types of shipments, such as woolens, exhibit seasonal cycles, which affects the demand and availability of transportation assets on particular routes during certain times of the year.



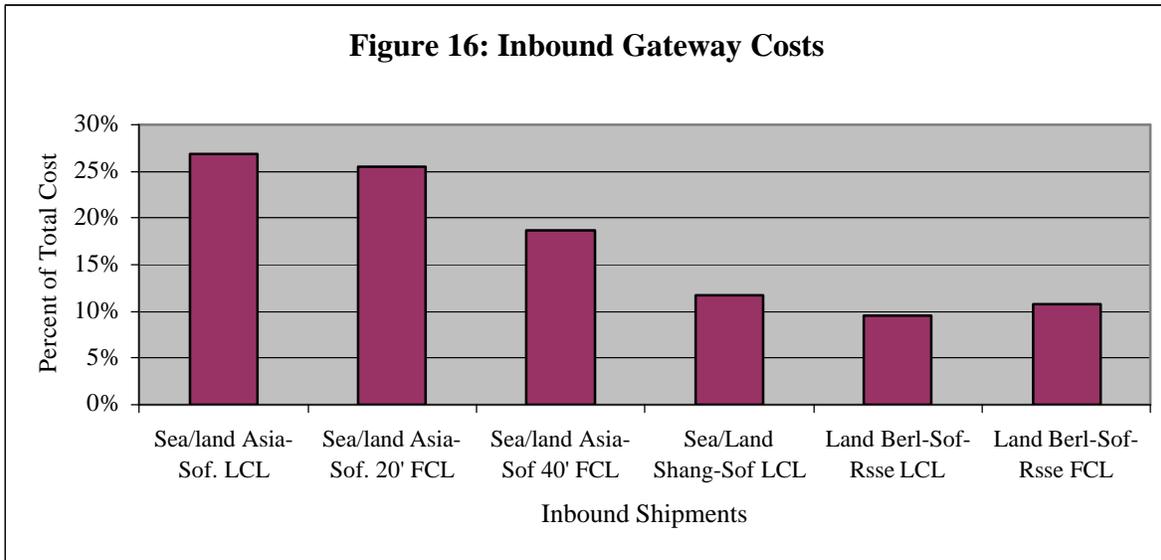
International transport ranges from 40 to 95 percent of the total cost, whereas domestic transport ranges from 40 percent to less than 5 percent.

Air transport eliminates the consolidation overhead for LCL moves because it readily accepts palletized loads of cartons for direct international shipment.

### Inbound Goods from International Gateway

Imports from overseas suppliers often arrive at regional ports outside Bulgaria and must be hauled by truck to their final destination at the producer's factory.

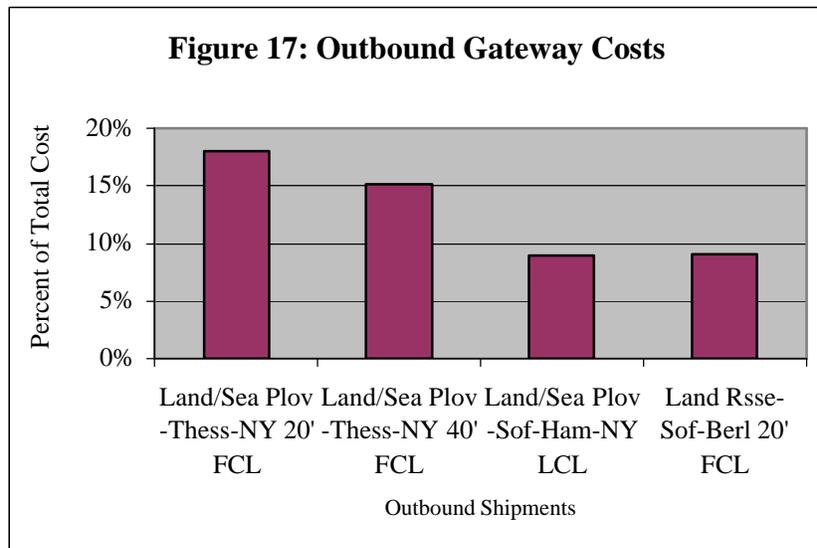
The transport must be accompanied by special documents guaranteeing that the consignee will pay duties. When they arrive at their destination in Bulgaria, goods must be taken to the region customs office for final clearance before arriving at the textile and apparel producer's factory.



The cost of transporting goods from the gateway to the Bulgarian producer ranges from 10 to 25 percent of each inbound shipment. After Bulgaria's accession to the EU in 2007, the overheads imposed by the customs process will be eliminated for goods originating in the EU. Of course, elimination of customs will not affect transportation costs and access to international ports such as Thessaloniki will remain high.

### Outbound Goods to International Gateway

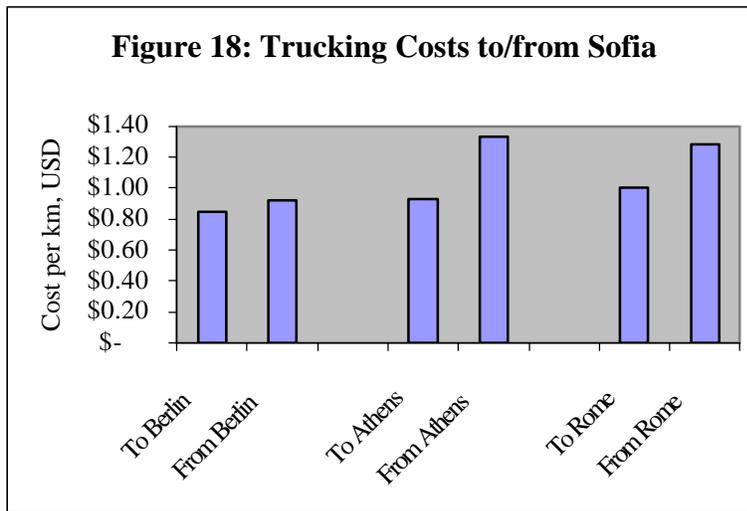
Exports that use international transportation gateways to move goods to the buyer tend to incur 10% to 20% of their total transportation cost between the producer and the gateway.



### Land Transportation Imbalance

Differences in land transportation costs entering and exiting Bulgaria can be seen clearly when comparing costs across various European destinations. Costs to Sofia are consistently higher than costs from Sofia.

For instance, transit from Berlin, Rome, and Athens is 9 percent, 27 percent and 43 percent higher, respectively, than outbound shipments to those destinations from Sofia.



These imbalances are indicative of differences in demand for, and availability of, equipment. If there is a negative trade balance from Sofia, transportation providers will lower their export prices to attract more export shipping and compensate by charging more for transportation on imports. While Bulgarian exporters enjoy the advantage, importers suffer the effects of what amounts to a transportation cost subsidy.

### Costly Border Crossing Delays

As Table 11 in Section 3 above shows, and as indicated earlier, waiting at border crossing can add significant costs to the transport of goods. While the data obtained over considers the costs of waiting at land borders, it is safe to assume that time spent at ports (particularly less efficient Bulgarian ports) adds times costs to both the land and ocean portion of shipments.

## CONCLUSIONS

For the shipments considered, transportation and logistics represents 20-40% of the value of finished goods moving to European destinations. The extent to which these costs can be reduced represents an opportunity for Bulgarian producers seeking to offset cost disadvantages to other global competitors in the apparel market.

Twenty to forty percent of total cost is incurred in preparing the goods for shipment and positioning them for international haulage. This represents the largest opportunity for cost reduction initiatives for manufacturers and Bulgarian public agencies, because they can influence many of the contributing factors. The opportunities for cost reduction in international transport are limited because the industry is generally competitive, and Bulgarian producers have limited ways to affect international freight rates.

Bulgaria can have a real impact on the regional flow of goods – to and from international gateways of transport – an area that currently represents 10-25% of the total cost. A number of factors can be targeted to reduce costs in this area:

- Improve the efficiencies in crossing regional (Turkey, Greece, Romania) borders. In addition to reduce wait time, there are opportunities to harmonize transportation regulations and their arbitrary application. This will reduce costs for all sectors, for both imports and exports.
- Upgrade processes and infrastructure at the international ports to facilitate the speedy transfer of goods from domestic to international carriage. This includes the efficiency of vessel clearance, container yards or the availability of portside value-added services such as warehousing.
- For land transport, the efficiencies can be improved through improvements in shipment planning, which allow the transportation providers to improve the utilization their transportation assets. Technologies for the coordination of workflow across multiple participants can facilitate the timely sharing of information required for scheduling operations, allowing transport providers to efficiently reposition assets, reduce delays, improve utilization and respond faster to customer needs.
- Improvements to the regional road infrastructure. Many corridors are significantly over capacity and impact the flow of goods. These include the major arteries around Sofia.
- Develop efficiencies for less than truckload shipments. Transportation overheads for consolidated shipments are significant, and these types of shipments are particularly common within the production network, between the lead manufacturer and its subcontractors. Manufacturers can seek to alleviate these through coordinated strategies with service providers and other manufacturers moving goods in the same (or reverse) direction.
- Manufacturers can also seek to improve efficiencies for transportation providers by offering longer-term contracts with more predictable flows of traffic.

The opportunity to reduce costs and improve the efficiency of goods flow through the regional corridors will require governmental agencies to be more attuned to producer needs. For example, customs regulations that affect the speedy flow of goods to and from the producer could be simplified. In particular, VAT exempt goods being imported for re-export are closely monitored and require manufacturers to perform a number additional, non-value-added steps. These include the calculation and submission of conversion metrics for raw material usage, the need for bank guarantees for transportation companies, and customs clearances at regional customs offices in addition to clearance at the border. While these requirements allow Customs to ensure that VAT is paid on goods as required, the process adds cost and time to the export sector. Furthermore, customs the process is not executed efficiently, and adds costs to the exporting community. For example:

- Trucks can experience delays of up to six hours for clearance at some regional offices because the customs office is backlogged.
- The process for reclaiming VAT is cumbersome and lengthy. Some manufacturers prefer to buy raw materials overseas to avoid locking up their capital in the VAT refund process for domestically sourced raw materials. This could be resolved in part by providing domestic inputs intended for export to be put in bond, similar to that of imported inputs for re-export.

Customs has taken steps to reduce the burden of producing and submitting documentation for goods crossing the border by implementing a new computer system that allows shippers and their agents flexibility of access. This is expected to reduce time and errors currently experienced by the shipper community when the system “goes live” in the fourth quarter of 2005.

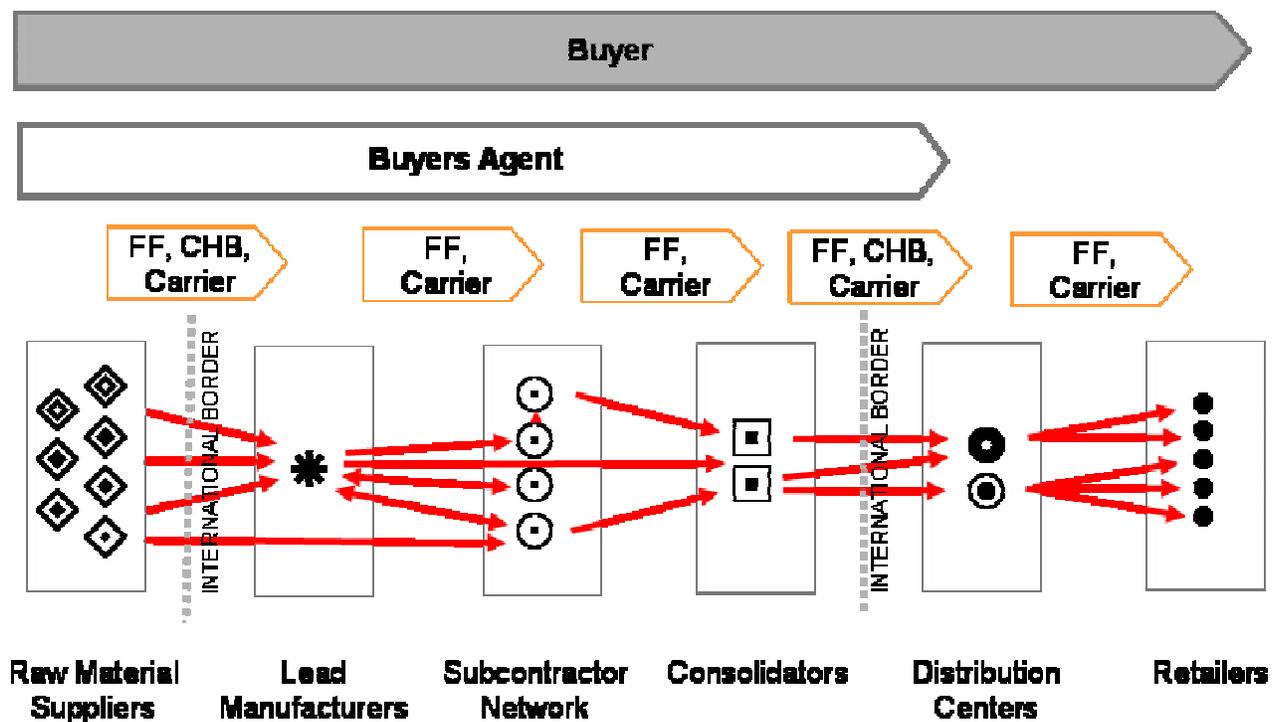
Sixty to eighty percent of transportation costs are attributable to international freight. In general, these costs are competitive and governed by market forces. However, Bulgarian truckers are affected by various the requirements of EU countries, which restrict options available to exporters. For instance, truckers need to be licensed for hauling goods to the destination country. Licenses are issued by class of truck and by number of shipments, effectively placing a quota on the truck's ability to freely carry goods to destination countries. In addition, trucks are restricted by the hours they can operate. This results in significant build-ups at certain border crossings as transportation providers try to maximize the efficiencies of their fleets, causing delays. Exporters would benefit to the extent Bulgaria can address these factors with the EU.

## SECTION 4: T&L/SUPPLY CHAINS MODELS WITHIN TEXTILE AND APPAREL

There are several different business models operating in the apparel export sector in Bulgaria. Depending on how integrated they are with upstream and downstream activities, and how much responsibility they take in these activities, exporters have the ability to position themselves along a spectrum of possible positions from which to compete.

The typical flow of goods in the apparel supply chain is depicted in Figure 19 below. Goods move from overseas suppliers of raw materials (such as textiles, accessories, and trim) to a lead manufacturer in Bulgaria. The lead manufacturer produces the entire garment or subcontracts part (or all) of the order to a network of subcontractors, who produce the garments according to predefined specifications. Once produced, the goods travel to the retail shelf in an overseas destination through a network of consolidation and distribution warehouses. At each step in the process, freight forwarders (FF), Customs brokers (CHB), and/or transport providers (carriers) play a critical role linking different steps/players within the supply chain.

**Figure 19: Input and Product Flow in Apparel Supply Chain**



The allocation of management responsibilities for the flow of goods has important implications for supply chain participants. Since most Bulgarian producers are exporting under the *cut-make-trim* (CMT) model, the Buyer, or the Buyer's agent, manages the end-to-end process. However, this is not always the case. In *full package* (FP) production, the producer takes responsibility for sourcing the raw materials and delivering finished goods to the Buyer's distribution center.

Responsibilities outside of production, such as arranging transportation or sourcing raw materials, add cost and overhead to exporters, since they require additional time, expertise and capital. However, they also alleviate responsibility from buyers, who may be willing to pay premiums for these services. In addition, these services offer Bulgarian exporters unique ways to define their competitive niche, reduce pipeline inventory, and increase manufacturing responsiveness. Manufacturers who have recognized these aspects of creating value have moved up the chain and begun to market their own brands, and in some cases, opened their own retail stores. These manufacturers operate under the *brand manufacturing* (BM) model, and control the end-to-end supply chain, from raw materials to retail shelf.

How textile and apparel firms manage the flow of goods in their sphere of influence determines how efficiently, reliably and cost effectively the goods reach their destination markets. Even with the most sophisticated and efficient transport and logistics, weaknesses within buyers' and producers' own supply chain management can lead to bottlenecks, delays and additional costs that impact competitiveness.

The study team held extensive interviews with a range of actors within Bulgaria's textile and apparel sector. These included: a Buyers' agent representing a large European retailer, a large manufacturer, lead domestic firms with sub-contracting networks, small and medium sized producers with an export orientation. Interviewees within these companies were asked discuss the following:

- *Markets* – products, target markets, production capacity
- *Type of production* – Cut-Make-Trim (CMT), Full Package (FP), Brand Manufacturing (BM)
- *Networking management* – Sub-contracting to smaller firms, sub-contractor to large firm, procurement of inputs, supply chain management tools (if any)
- *Involvement in logistics management* – Procuring inbound and outbound transport, customs preparation, warehousing, value added services, managing sub-contractor logistics, etc.
- *Problems with transport and logistics services, supply chain management*

Table X presents a summary matrix of eight cases studies developed by the study team. Detailed descriptions of the individual case studies are presented at the end of this section. The actual names of the companies are not provided.

**Table X: Case Studies of Transport and Logistics Models in Bulgarian Apparel Industry**

Profile	Case #1	Case #2	Case #3	Case #4	Case #5	Case #6	Case #7	Case #8	
<b>Size of Firm</b>	Large	Large	Medium	Medium	Medium	Medium	Small	Buyer's Agent	
<b>Products</b>	Ladies Garments	Fashion Goods	Ladies Garments	Ladies Garments	Ladies Fashion Children	Erotic Shoes, Fashion Shoes	Ladies Garments	Garments	
<b>Destination</b>	EU, Japan, Caribbean	Western EU	Western EU	EU, some U.S.	EU, some U.S.	Western EU, Brazil	Did not know	Western EU	
<b>Orgin of Inputs</b>	EU, Turkey	Turkey, China	France, Italy, Turkey, China	Bulgaria, Turkey	Bulg., Greece, Portugal, Turk.	Italy, Belgium	Did not know	Multiple	
<b>Transport Modes</b>	Land	Land/Sea	Land	Land	Land	Land, Air	Did not know	Land, Sea, Air	
<b>Type of Production Modes Utilized</b>	CMT FP BM	CMT FP BM	CMT FP BM	CMT FP BM	CMT FP BM	CMT FP BM	CMT FP BM	CMT FP BM	
<b>Network Management</b>									
Sub-Contract to SMEs									
Procure Inputs									
Own Production Assets									
Share Production Equipment									
Works with Buyer's Agent								NA NA	
Produces for Larger firms									
<b>Logistics Management</b>									
Buy Inbound Transportation									
Inbound Warehouse									
Inbound Customs Preparation									
Manage subcontractor logistics									
Buy Outbound Transportation									
Outbound warehouse									
Outbound customs Preparation									
Value Added Services									
Own Vehicle Fleet									
Use Supply Chain technology									
Definition of Production Modes:	Cut, Make, Trim (CMT)			Full Package (FP)			Brand Manufacturer (BM)		
Involvement in Activity	Most often			Sometimes			Partially		

## COMMON ISSUES ACROSS MODELS

### **Weak coordination of the production network**

Many manufacturers subcontract large orders to multiple subcontractors, each of whom are responsible for producing some part of the finished product, or in some cases, the entire finished product. Coordination within the production network is critical to ensuring that the Buyer receives on time shipments.

Coordination within the production network is challenging, and when it is not actively managed can frequently be the source of excessive costs and delays. While certain producers we spoke with had highly developed processes and approaches to manage their networks, most producers had only the most basic management capabilities in place.

Effective network management practices include coordinated approaches for quality management, advance sharing of production volumes, patterns and target production efficiencies, packaging and coordinated transportation planning. Without some of these basic tools in place, delays incurred at one subcontractor ripple downstream as delays and inefficiencies, for example as transport is rescheduled, trucks repositioned, inventory temporarily warehoused, or container utilization reduced.

In one extreme case, the study team met with a subcontractor who knew what her factory would be producing for the day when the CMT shipment was delivered at her dock. Once she knew what the size and requirements of the production run were, she scheduled her workers and machines. Sometimes, it meant sending workers home or rescheduling the production of another order. When she was ready to ship her finished articles back to the lead manufacturer, she reported having difficulties finding a transportation company willing to accept a shipment of the required size at such short notice, and was forced to use her own transportation to haul the goods to the lead contractor – introducing delays, uncertainty, and quality problems for the lead contractor. Because the inefficiencies in production and transport in this case are not visible to the lead contractor, they are unlikely to be rectified in the future.

### **Absence of a well developed transportation or logistics management function**

Coordination problems are even more pronounced when the off-site buyer must purchase services and synchronize activities of providers, such as freight forwarders and warehousing companies that are involved in the transaction. Since the buyer may not understand the causes and issues associated with inefficiencies on the ground, they may not always make the most appropriate decisions.

Most companies we spoke to did not have a logistics department. Transportation management was performed variously by clerks in the warehouse, by purchasing, or by operations personnel in manufacturing. Logistics management activities are not seen as a vital element of developing competitiveness in these companies: management practices are generally ad hoc, business management processes - if existent at all - are poor, and there are few metrics to measure logistics performance.

The current state of transportation management is focused on repositioning goods from one location to another. Transportation management must take on a new level of significance in

operations for exporters to move from being centers of low cost production to producers of quick cycle replenishment goods of higher value.

### **Production is the dominant driver of competitive advantage**

Bulgaria's ability to produce high quality garments at relatively low cost is a major source of advantage for most exporters. Relatively low wages compared to Western EU countries, coupled with proximity to suppliers and target markets has traditionally allowed producers to position themselves as low cost producers of high quality apparel. Recent years, however, have seen some challenges to this model. Basic inputs such as accessories and textiles have either moved overseas or are available more inexpensively outside Bulgaria. New competitors have emerged in Asia with significant advantages in cost of capital and labor. In addition, wages are expected to rise in Bulgaria following accession to the EU. These trends are expected to erode exporter's ability to compete on low cost production competencies alone.

The dominant model in Bulgaria – the CMT production model – is centered on managing production alone and passes many non-production responsibilities to the buyer. By focusing exclusively on production, CMT exporters fail to take advantage of emerging opportunities to develop competitiveness in other critical areas, which would help them compete with global competitors that have lower cost structures than Bulgaria's.

Other models allow exporters to develop new competencies through which to differentiate themselves. For instance:

- Full package requires additional capabilities for sourcing and financing supplies, and transporting them to production centers.
- Brand management requires market responsiveness and the ability to convert information about market demand into new designs, styles and orders.
- Lead manufacturers require network management capabilities in managing the production and domestic movement of goods.

While these approaches allow exporters to develop new ways of creating value for the customer, few exporters are actively developing strategies to build new competencies.

## **FIRM LEVEL IMPLICATIONS**

### **Improve coordination across supply chain participants**

There are several areas where business processes can be improved to enhance reliability and efficiency, while reducing cost. Many of these areas have not been addressed previously because they are not visible to individual firms. For instance, production delays at one firm can affect the delivery schedule of several companies sharing the same delivery truck; or the lack of advance notification from one company can cause costly scheduling changes to others downstream.

Based on the study team's observations, there is an opportunity for exporters to improve coordination with their supply chain partners to improve operating efficiency in areas such as order management, transportation, sub-contractor management, production scheduling, and load

optimization. Several of these can be improved without the use of expensive technologies or additional investment. Exporters can gain benefits by carefully assessing and improving the business processes and practices that are currently being used in these areas.

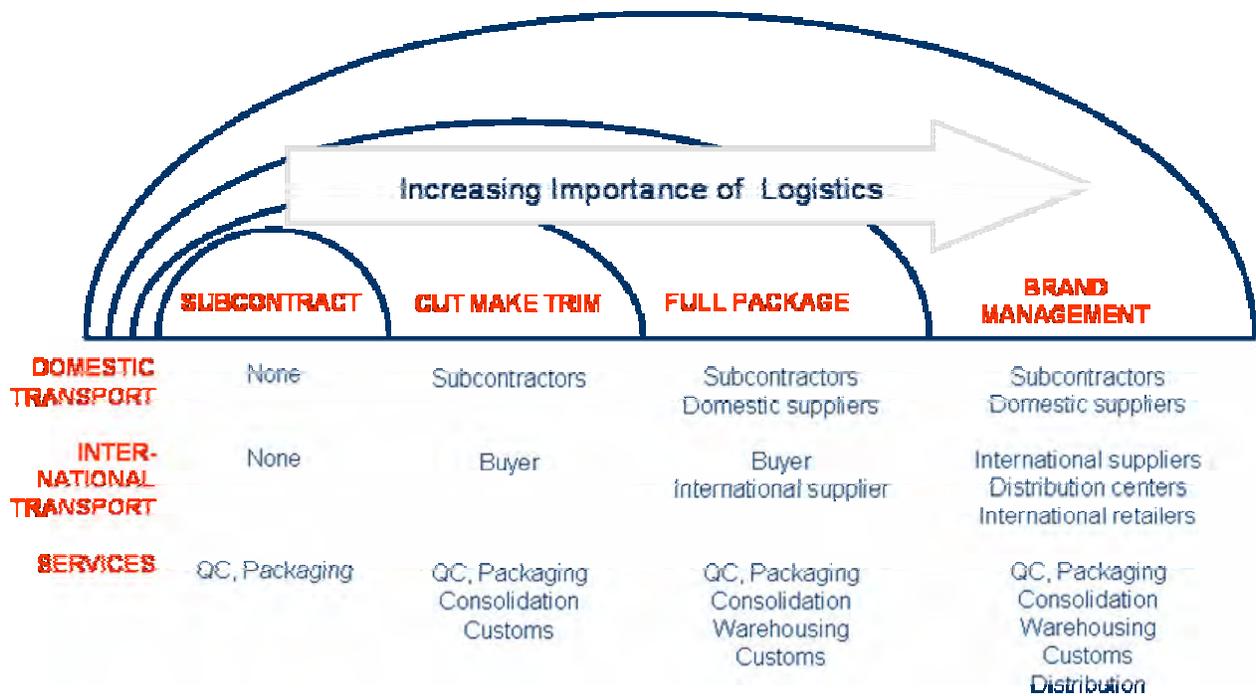
**Identify new sources of competitive advantage**

Over the next few years, companies in the apparel export industry must identify where they will create their definitive source of competitive advantage as their traditional product cost advantage erodes in importance. Exporters must critically assess their buyer's requirements and their own capabilities and supplement manufacturing with additional services that will differentiate their capabilities. This will require manufacturers to consider new ways of doing business, and build new competencies customized to their customers needs.

**Develop logistics competencies**

As illustrated in Figure 20, logistics and new supply chain competencies will be an increasingly important factor for most manufacturers as they seek to develop new sources of value for buyers.

**Figure 20: Evolving Production Model**



A creative approach to blend innovative logistics services with existing capabilities can be used to develop unique market niches that can take advantage of Bulgaria's proximity to its markets. Several of these areas are discussed below.

*Transportation management* can be improved at most companies by using appropriate carrier selection and management procedures, improving the shipment planning process, managing inbound and outbound traffic to maximize the utilization of transportation assets and using web-based tracking technologies. In addition, contracting with freight forwarders to provide

differentiated levels of service, and implementing freight bill audit procedures can reduce costs while improving service levels.

Since over 50% of the value of the finished product is in materials, companies can also reduce costs by developing new competencies in *Procurement* and the use of procured materials. Some companies are already using strategic sourcing approaches to build longer-term relationships with key suppliers. These approaches, when used in conjunction with *Manufacturing Logistics* such as pre-assembly of low value components, or kitting of input components by a supplier for direct delivery to a subcontractor network, could provide a new level of cost efficiency and responsiveness to manufacturers.

Other areas for competency development include *Customs compliance*. The customs process for re-exported goods requires numerous interventions on the part of the exporter and transportation service providers. Streamlining this process in cooperation with the Bulgarian Customs Authorities would provide significant time and cost benefits to the export community.

For companies expanding into brand management or full package production, *Materials Management* and forward logistics (*Distribution*) competencies will gain increased importance. Materials management includes better demand planning, inventory optimization and control. Distribution will require improvements to existing warehousing capabilities, such as cross-docking, just-in-time product customization and packaging.

#### **Take advantage of outsourced professional logistics services**

There is a growing presence of world-class logistics service providers in Bulgaria that have the experience and know-how to be of value to exporters. Instead of trying to develop all required competencies in-house, exporters should seek to access these providers and use their experience to develop their business models.

## FIRM LEVEL CASE STUDIES

### Case Study#1:

#### Company A - Large Ladies Garments Manufacturer w/ Sub-contractor Network

##### Profile

Company A is a relatively large manufacturer with 500 employees that work in either a small factory in Sofia or a large factory in northern Bulgaria. The company exports ready made ladies garments to customers in Spain, France, Germany, the UK, other European countries, Japan, and the Caribbean. Most of its production is CMT (90 percent) for western European buyers. Since 1991, however, the company has been developing its own brand for the domestic and international markets, producing designs developed by its 20-person internal design department. Currently it produces 2 collections a year—summer and winter—with 120 different styles per collection. The Company management feels that its competitive advantage is its ability to deliver the latest fashions quickly at lower costs than elsewhere in Europe (including the cost of design).

Company A manages a network of 15 small and medium sub-contractors—of which 5 work exclusively with Company A—for both CMT and brand manufacturing orders. These sub-contractors have between 50 to 100 employees, which provide Company A with the capacity and flexibility it needs to meet a wide range of orders. Each sub-contractor is responsible for production, labeling and packaging. When necessary, Company A provides its sub-contractors with technical assistance and upgrading.

##### Logistics Management

Company A's involvement in coordinating transport and logistics differs according to the production model—CMT or brand manufacturing. In both cases, Company A is responsible for managing the transport and logistics surrounding the distribution of inputs and pick-up of final goods. Company A provides quality control services to its sub-contractors. Company A has its own fleet of vehicles for transport to and from its sub-contractors. The Company owns a warehouse for the storage of fabric, trim, and components. In general, the Company has between 4-6 weeks of supplies available at any given point. Although the Company has departments to handle the flow of merchandise for a given order or collection, it has no internal logistics department.

##### CMT Model

Average size of CMT orders handled by Company A is \$50,000 to \$100,000. In general, the Company must ensure that the time between order and delivery is 45 days. Most often, Company A's CMT clients are responsible for the transport of imported inputs and exported final goods. Many of its CMT clients have large logistics departments that manage the process. The typical order (which is similar to Company C) is as follows:

1. Buyer in Western Europe makes order with Company and product samples are exchanged. The Buyer provides detailed product specifications. Company A divides the order between its own factory and its sub-contractors based on production capacity and other orders.
2. The Buyer organizes the transportation of imported materials to Company A's warehouse.
3. Once inputs reach the warehouse, Company A's customs broker clears the goods at customs (under temporary import). Company A prepares separate shipments for each sub-contractor and arranges distribution, using its own vans/trucks. If necessary, it will use a local trucking company to distribute inputs.
4. When the order is completed, each producer prepares the necessary customs documents, and Company A arranges the pick-up of finished garments from its sub-contractors, and brings them to its warehouse for consolidation. Export documentation is prepared.

5. At a predetermined time, a transport provider hired by the Buyer picks up the shipment, consolidates it and delivers the goods to the destination market.

### ***Brand Manufacturing Model***

When managing the production of its own fashion collections, Company A plays a more active role in the procurement of supplies and organizing the transport of both imported materials and exported goods. The process is as follows:

1. After samples are exchanged with fabric and material suppliers (most often European or Turkish companies with agents in Bulgaria), Company A orders inputs for imports. It chooses its suppliers based on the quality of fabric, price, and payment terms (delayed payment).
2. Company A hires an LSP to transport supplies from Turkey or Europe to its warehouse. Rather than using long-term contracts, the company arranges spot contracts with LSPs when services are required. Smaller input orders may need to be shipped in consolidated or LCL shipments.
3. Company A's customs broker clears the inputs at customs. Company A prepares separate shipments for each sub-contractor and arranges distribution, using its own vans/trucks.
4. When the order is complete sub-contractors will inform the Company's logistics department to arrange pick-up (often on a pre-arranged date). Company A organizes the pick-up of finished goods for consolidation at its warehouse.
5. Company A hires an LSP to transport the final goods to the Buyer.

### **Challenges**

Company A experiences transportation problems or delays approximately 80 percent of the time. Highlighted problems include:

- Poor transport systems/linkages in the supplier countries lengthen the delivery time of inputs, holding up production. This is highly correlated with the availability of inadequate warehousing or consolidation services.
- Transport providers do not always provide adequate information about the arrival shipment until it reaches customs or is ready for unloading, making it difficult for Company A to plan ahead.
- Customs brokers working for suppliers, Turkish ones in particular, do not always fill out the customs documentation properly, creating problems when attempting to clear customs. In some cases information must be couriered.
- Many small Bulgarian trucking companies do not have the capacity to meet Company A's international export requirements

## **Case Study#2**

### **Company B – Large Fashion Goods Manufacturer (No Sub-contractor Network)**

#### **Profile**

Company B is a large manufacturer with 300 employees in the Sofia region. It produces fashion garments for large European retailers in Germany, Spain, Austria and Brussels. They have been in business for over 10 years, and exclusively manufacture and market their own brand.

The company uses no subcontractors in the manufacturing process because this strategy allows them to retain more control over production processes and improve efficiencies. They have the capability of producing 2 million garments a year in house, and can manage 30 styles at one time on their production

floor.

### **Logistics Management**

Company B restricts its involvement in transportation and logistics to managing the inbound flow of raw materials. The Buyer manages transportation of finished goods from Company B's factory to distribution centers in Western Europe. There is an in-house customs department that processes documentation for all shipments, but there is no logistics department.

The company has standardized raw material purchasing where possible, and has developed in-house capabilities to process textiles for Buyers' specialized requirements. This approach has allowed them to work with a limited group of long term suppliers, and has negotiated with these suppliers to hold inventory for them who have a negotiated agreement to hold inventory for them. The company maintains no finished inventory, nor does it have a warehouse for finished products. Finished goods are shipped just in time according to Buyer's delivery schedule.

### ***BM Model***

Company B invests significant resources in qualifying their suppliers in Turkey, Greece, Bulgaria and China. They select suppliers they consider to be innovative, experienced and able to consistently meet their commitments. Company B believes it set high standards for its suppliers, and holds them accountable. Order confirmation to delivery cycle for most new orders is 6 weeks; 4 weeks for repeat orders.

The typical order for company B flows is as follows:

1. The company attends trade and fashion fairs in Europe to display samples of its apparel. Sales people follow up on interest.
2. In some cases, the company will modify its styles and develop new styles to suit a prospective customer's needs. They test the market by employing a full time design team that creates samples for the customer. This requires modifying existing patterns, testing new fabrics, making multiple trips to the Buyer's offices and receiving a high degree of feedback and confidence in the evolving product design.
3. Sales personnel book the order
4. Supplies are ordered, and the company defines the "technology" blueprint for the style, which specifies exactly how the product will be made. This includes the specifications for the fabric, the operations that will be performed for manufacture, the position of accessories, prints and embroidery, stitching and labeling requirements, quality control checks that will be performed, ironing and drawing dimensions, and any specialized packaging, such as price tags and hand tags.
5. The company contracts transportation providers to transport raw materials from the supplier to their factory. Company B's customs broker clears the goods in Bulgaria.
6. Production is scheduled and completed.
7. The Buyer is notified, and arranges transportation from the factory to distribution centers in Europe.

### **Challenges**

Company B is seeking ways to reduce lead times to meet market demand, and is concerned about the flight of basic manufacturing inputs from Bulgaria. As input suppliers have relocated their factories overseas, the increased complexity has reduced their ability to respond to upsurge in market demand in a timely manner. Management has taken the unusual step of purchasing certain types of domestically available textiles and dyeing them in-house to avoid overseas purchases. This allows them to increase the variety of

inputs they can use and at the same time reduce the lead time associated with sourcing these goods.

The company reported occasional problems with consolidated shipments moving from Turkey to Bulgaria. In order to improve efficiencies, transportation providers routinely hold less than truck load shipments in their consolidation warehouses until they can assemble a full load. This practice typically costs them three days.

The company conducts all its training in house, and does not recruit managers or staff with previous experience in the industry. They believe that industry practices are not conducive to their business model, and their human resources need to be more innovative in their approaches to solving problems. Remarkably, every executive in the company started at the bottom before working into senior ranks.

### Case Study#3

#### Company C – Medium-sized Ladies Garments Manufacturer with Sub-contractor Network

##### Profile

Company C is a medium sized manufacturer (150 employees) within the Rouse apparel cluster. It produces ladies fashion garments for buyers in France, Germany, Spain, the Netherlands and elsewhere in Western Europe. Most of the Company's production (90 percent) involves cut-make-trim (CMT), using the designs and inputs provided by buyers in Western Europe. The firm, however, is putting increasingly more resources into developing its own brand (10 percent) with seasonal collections for sale in the domestic and export markets. The company has developed its capacity in a full range of services, from design, to marketing, to logistics. Although providing these additional services do not necessarily enhance the profitability of the company, they help it become a more important player in buyers' supply chains.

Company C is a lead firm that works with a network of up to 20 sub-contractors—15 on a regular basis—throughout Bulgaria (e.g. Rouse, Plodiv, Sliven, Montana, Dolni). These sub-contractors are small and medium sized enterprises with an average of 50 employees each. Its sub-contractors are responsible for the production, labeling and packaging of finished goods, and for pick-up on a pre-determined date. Each sub-contractor has power of attorney for active improvement, and is responsible for preparation of customs documentation. Technical specialists employed by Company C visit sub-contractors on a regular basis for quality assurance and to ensure that production stays on schedule.

In order to help manage its network of sub-contractors, Company C uses an integrated management information system (MIS) for organizing the production of both its Buyer's orders as well as its own collections. The software was developed by a Bulgarian firm specifically for management of textile and apparel production and was modified to meet Company C's specific needs. The software helps Company C establish norms of production for 1 piece of clothing, including:

- Specific quantities of input materials (e.g. fabric, components, buttons, accessories, etc).
- Cost of inputs and labor
- Production time (based on labor productivity, machines and efficiency)

Separate production norms, or 'technology maps' are developed for each sub-contractor, depending on their respective capacity. Using this information the Company can determine how much of an order a sub-contractor can produce, how much materials each sub-contractor needs, and how much of the order that sub-contractor should have completed at any given time. Similarly, sub-contractors are provided with the technical information and guidance so they can plan their own production and meet quality and delivery requirements.

### **Logistics Management**

Company C's involvement in coordinating transport and logistics depends on whether it is operating under the CMT model or manufacturing its own brand, as discussed below. However, in both cases, Company C manages the transport and logistics for the distribution of inputs and pick-up of final goods. Company C has its own fleet of vehicles for small shipments; however, larger shipments are predominantly shipped via an LSP. The Company has its own logistics department.

#### ***CMT Model***

In most cases, Company C's CMT buyers arrange all transport and logistics surrounding the import of materials to, and export of final goods from, a warehouse in Bulgaria. The typical order is as follows:

1. Buyer in Western Europe makes an order with Company C, and product samples are exchanged. The Buyer provides detailed product specifications. Using the technology map, Company C portions the order between its factory and its sub-contractors.
2. The Buyer organizes the transportation of imported materials to its warehouse in Bulgaria. During peak times of the year, material rarely sits in the warehouse.
3. Once inputs reach the warehouse, Company C clears the goods at customs (under temporary import). Company C prepares separate shipments for each sub-contractor and arranges distribution, using either an LSP or its own vans/trucks.
4. When the order is completed, each producer prepares the necessary customs documents, and Company C arranges the pick-up of finished garments from its sub-contractors and delivers them to the Buyer's warehouse.
5. Once the order reaches the warehouse, the Buyer consolidates the shipment, prepares documentation for export, and arranges transportation of the goods to the destination market.

#### ***Brand Manufacturing Model***

When producing its own brand, Company C plays a larger role in organizing transport and logistics processes, particularly in the export of the final products. The process is as follows:

1. After samples are exchanged with fabric and material suppliers (most often in Turkey), Company C orders inputs for import. Using the technology map, Company C portions the order between its factory and its sub-contractors.
2. Inputs are transported to Company C's factory. While in some cases—such as larger shipments—Company C will arrange the transport, its management prefers that the supplier arrange the transport. Since many supply orders are small, economical transport requires groupage or LCL, which is more easily arranged by the supplier's LSP. It usually takes 2-3 days for the supplies to arrive in Bulgaria.
  - a. If the inputs are shipped via LCL, the shipment may be brought to a LSP warehouse, deconsolidated and shipped to Company C. This can add an additional day.
3. Company C clears the goods at customs and prepares separate shipments for each sub-contractor and arranges distribution, using either an LSP or its own vans/trucks.
4. When the order is completed, sub-contractors will inform the Company's logistics department to arrange pick-up (often on a pre-arranged date). Company C organizes the pick-up of finished goods.
  - b. If a sub-contractor's shipments are large, Company C may arrange for an LSP to pick up the goods and deliver them directly to a Buyer's retail store or warehouse in the destination market.
  - c. If the sub-contractors' orders are small, Company C will bring the goods to its factory,

undertake any necessary packaging and labeling, consolidate the goods and prepare export documentation.

- Final goods are exported to the Buyer. While in some cases the Buyer will arrange transport, Company C is generally responsible for purchasing transportation services.

The Company prefers to use LSPs with their own transportation assets (i.e. vans trucks) to help ensure reliability. In most cases, the Company uses an LSP with which it has a long-term contract for discounted services. Since the Company and the LSP have a long-term contract, the LSP has invested in specialized equipment designed for the shipment of hanging garments and provide enhanced transport services.

### **Challenges**

In general, the Company does not have problems, in terms of the cost and quality of transport, nor does the management highlight persistent bottlenecks. Nevertheless, occasional problems include:

- The short time frame of orders can be problematic, especially if production has not been properly planned. initially
- Imported materials are not always the same as those included in the sample, which may require a new shipment, delaying production.
- Consolidated shipments add to the complexity of customs documentation.

### **Best Practices**

- Use of supply chain management software.
- Long-term contract with LSP encourages product specific investments that enhance value and quality of transport services.

## **Case Study #4**

### **Company D – Medium-sized Ladies Garment Manufacturer**

#### **Profile**

Company D is a medium sized clothing manufacturer (150 employees) based in Rousse that specializes in women's trousers and skirts. A CMT and full package producer, the Company serves both large and small retail clients, wholesalers or Buyers' agents, exporting finished goods to Germany, France, Austria, Spain and the UK. In the past, the Company produced for U.S. retailers, however, the recent weakness of the dollar has undermined the Company's competitiveness in the U.S. market. Twice a year, the company prepares 6 different collections using designs from different buyers. The company most often works through Buyers' agents based in Sofia.

On average, the Company produces 30,000 garments per month. At times, the Company may receive orders as large as 88,000 pieces. In such cases, the Company may subcontract to small or medium sized firms. At other times, Company D plays the role of sub-contractor, helping larger firms meet their orders.

#### **Logistics Management**

Company D has limited involvement in the purchasing and coordination of transport and logistics. While the company must manage its supply chain for full package production, it does not play an active role in decision-making surrounding the transport of inputs and finished goods. Much of the information regarding orders and scheduling transportation is transmitted through the Buyers' agent. Many of the Company's buyers have their own logistics departments to manage merchandise flow, some of which play the role of LSPs.

**CMT Model**

When carrying out a CMT order, Company D plays no role in the procurement and or transport of inputs, nor the export of the finished goods. The Company is only responsible for ensuring that they are prepared to load or unload the LSP's trucks.

**Full Package Model**

As is standard in full package production, Company D plays a role in the sourcing and import of inputs, and even has a potential role in organizing shipments. A typical order flows as follows:

1. Buyer e-mails order to Company D.
2. Using the design specifications provided by the Buyer, Company D negotiates with its suppliers (most often in Turkey). When asking for a quote, the Company request prices that include the cost of transport to its factory in Rousse. Since many of the input orders are not large enough to justify a full container shipmen, orders must be grouped or consolidated with other shipments, which is more easily coordinated by the supplier or LSP in the country of origin.
3. Supplier organizes transportation of inputs to Bulgaria. Some suppliers have materials in stock and can ship orders quickly, but depending on availability of material, it can take up to 20 days after the original order for inputs to be delivered. Furthermore, the transport from suppliers in Turkey can take between 1 to 3 days. Most often, grouped shipments take longer, due to the extra time required for consolidation.
4. After the trucks carrying the shipment depart from Turkey, customs documentation is faxed to Company D.
5. When the truck arrives at the regional customs office, an employee from the Company's 3-person trade department brings a paper and a diskette copy of the declaration to clear the goods. The company does not hire a customs broker since the workload is manageable and costs less to do it in-house.
6. When the order is complete, an LSP hired by the Buyer arrives to transport the order to the destination market.

**Challenges**

The company did not identify persistent problems in its interactions with transport and logistics, however, a few occasional problems were identified:

- From time to time, the Company has had problems with LSPs hired by the Buyer. In these cases material shipments have been delayed, and/or there has been inadequate communication between the LSP, Buyer and the Company regarding arrival. At times, the Company has been blamed for the resulting delayed production.
- Occasionally, internal customs information from the border is sent to the wrong customs office in Rousse. When this happens, a person from the trade department must ask the customs office in Rousse to contact the customs office at the border to resend the information to the proper customs office. Dealing with this issue can stall unloading for up to 6 hours.

**Case Study#5****Company E – Medium-sized Ladies and Children's Fashion Manufacturer****Profile**

Company E is a medium sized manufacturer (140 employees) located within the Rouse cluster that is involved solely in CMT production of ladies and children's clothing. Although the company used to

work for U.S. buyers (L.L. Bean), most of its products are now exported to Germany on hangers. Their inputs come from Turkey, Portugal or its Buyers' warehouses in Germany, with some materials sourced in Bulgaria. Company E has a long-term contract with a Buyer's agent based in Sofia. This agent works with a number of sub-contractors to produce orders. As such, Company E is part of a network that requires coordination and supervision to ensure timely delivery. On average, the Company produces 4 to 5 shipments per month, averaging 12,000 Euro each.

## **Logistics Management**

### ***CMT Model***

Like other CMT producers, Company E plays a limited role in the import of inputs to, and the export of finished garments from, Bulgaria. Import and export procedures, as well as the transmission of orders and information, are managed and coordinated by the Buyer's agent. In some cases—such as with larger orders—the Buyer's agent will pay Company E a premium for arranging domestic shipment to the Buyer's warehouse in Sofia. In other cases—such as with smaller orders—the Buyer's agent sends a schedule to Company E and other sub-contractors informing them when an LSP will come around to pick up orders. In all cases, the Buyer's agent has empowered the company to clear goods at customs on behalf of the Buyer. A typical order is as follows:

1. The Buyer's agent informs Company E of an upcoming order and samples are exchanged.
2. Company E has a schedule from the Buyer's agent that outlines when the inputs will arrive, and when the Company should be prepared to deliver the shipment to Boltivgrad (for larger orders) or be ready for a multi-stop pick-up involving other sub-contractors
3. The Buyer's agent arranges the import of materials to either the Company's warehouse, or the Buyer's warehouse for deconsolidation and delivery to the Company. A shipment from Germany can take as long as 5 days. A customs broker hired by Company E clears the goods. Although the Company has the capacity to complete customs documentation, they feel it is more cost and time efficient to have a professional do the work. If there is a delay in the shipment, the Buyer's agent is responsible for informing Company E and other sub-contractors.
4. If the order is large, the Company will be responsible for arranging transport to the Buyer's warehouse on a pre-determined date. While Company E does not have any long-term contracts with LSPs, it has a list of preferred LSPs it uses.
5. If the order involves multiple sub-contractors, the Buyer's agent will send a schedule to Company E stating when a truck or van will arrive for pick-up.
6. The Buyer's agent is responsible for all outbound transportation from the Buyer's warehouse.

### **Challenges**

At times the Company does experience problems with transport and logistics:

- Problems can occur when multiple sub-contractors are part of one pick-up organized by the Buyer's agent. If all the sub-contractors are not ready on time, or there is a delay loading the shipments, it can delay everyone's shipment.
- There are not enough reliable transport services for local deliveries (as opposed to international transit)

### **Best Practices**

- Providing added value to Buyer by having capacity and willingness to arrange the transport of shipments to the Buyer's warehouse.

**Case Study #6**  
**Company F – Medium-Sized Erotic and Fashion Shoe Manufacturer**

**Profile**

Company F is a medium sized (150 employees) high-end erotic and elegant shoe manufacturer based in Rousse. The Company initially produced for the domestic market but recently has been shifting towards the export market in Germany, France and Belgium. The company has made some shipments to Brazil and South Africa by air. While the company started as a brand manufacturer, it has recently begun CMT shoe production for a Belgian buyer. The company has the capacity to produce 5,000 pairs per month, although on average it produces 2,000 pairs per month. The company has a warehouse where it stores basic inputs for its own brand of shoes. On average, it has enough material on hand for 3,000 to 4,000 shoes – about 1 to 2 months of work.

**Logistics Management**

Company E's involvement in organizing the import of shoe components and the export of finished shoes depends on whether it is producing its own brand or carrying out CMT production.

***CMT Model***

When carrying out CMT production for its Belgian buyer, Company E is only paid for the labor required for the assembly of the final products. The Buyer takes responsibility for procuring and delivering inputs. Although the Buyer pays for all LSP services, the Company does play a role in identifying, scheduling and coordinating transport and logistics services for the export of shoes. Both the Buyer and Company E prefer to exclusively use one of Bulgaria's largest LSPs.

***Brand Manufacturing Model***

When producing its own brand, Company E arranges the transport and logistics, using a preferred LSP. A typical order is as follows:

1. After designing a shoe, samples are exchanged and a model is built and marketed. The Company receives orders for its shoe from a buyer.
2. If the materials are not available in the warehouse, the Company will order the required inputs from a preferred Italian supplier.
3. Company E arranges for its LSP to pick-up and deliver the shipment to Bulgaria, which can take as long as 8 days. Since Company E's shipments are usually not large enough to warrant a full container load, the LSP ships the components LCL to a warehouse. The LSP deconsolidates the shipment, clears the order with customs, and ships to Rousse, a process that can take an additional 2 days.
4. When the order is complete (often after 30 days), Company E contacts its LSP, who picks up the shipment and delivers the goods to its warehouse in Sofia for consolidation and delivery to the destination market
5. If the production of the order is delayed, Company E uses airfreight out of Sofia to ensure that the Buyer receives its goods on time.

**Challenges**

Company E management highlighted a number of issues reflecting challenges in supply chain management. They used airfreight quite often to meet deadlines, which suggests there are delays in production. The management commented that the Belgian buyer (CMT) is "new to the business" and does not have the ability to source and deliver inputs effectively. Input shipments are often late, resulting in delayed production. The management would feel comfortable procuring and transporting the inputs,

but wants to prove its productive capacity and reinforce the relationship before offering to provide other services. Other problems include:

- Since all shipments (both import and export) are small, they must be shipped LCL, which can add cost and time to the shipment.

#### **Opportunities**

- Carry out full package production for Belgian buyer, rather than just CMT, to include coordinating procurement and import of inputs, based on the design provided by the Buyer.

### **Company G Small Ladies Garment Manufacturer (Sub-Contractor)**

#### **Profile**

Company G is a small sized manufacturer (18 employees) of women's fashion garments based in a business incubator in Northern Bulgaria. The company primarily performs CMT subcontractor work to lead manufacturers seeking to augment their production capacity.

#### **Logistics Management**

Company G receives CMT shipments from lead manufacturers who organize the transportation of inputs to its warehouse. The warehouse is located on the ground floor and the materials must be carried up several stories to the production facility. In most cases, the lead manufacturer also arranges outbound transport from Company G's facility.

#### ***CMT Model***

The support received from lead manufacturers varies greatly. Some provide ample advance notification of production requirements, cost parameters, technology maps for new products, etc. Others do not provide any advance notice. In one case, the company routinely "discovers" its production schedules for the day when it opens the doors of the van delivering the CMT inputs. This causes last minute adjustments to production and transportation schedules to accommodate the new CMT requirements.

#### **Challenges**

The company's shipment volumes are low, and it frequently has difficulty finding transportation service providers who are willing to carry these volumes economically. As a result, when it arranges its own transportation, it frequently relies on using the personal vehicles of employees to transport goods to the lead manufacturer.

### **Case Study #8 Company H – Buyer's Agent**

#### **Profile**

Company H is a Buyer's agent located in Sofia. They represent major buyers in the US and Europe. The company originated as a donor supported program in 1996 to provide private business support in target sectors. Since achieving its program targets a few years ago, the program infrastructure has re-focused on developing the textile and apparel sector. It currently receives orders from large buyers that it distributes

among several subcontractors.

The company receives inputs from Israel, Italy and Turkey as well as domestic suppliers. They ship finished products to the US and Western EU. Company H works with regional producers, including manufacturing facilities in Jordan, which currently receive favorable tax treatment for exports to the US.

### **Logistics Management**

Company G selects freight forwarders to manage inbound and outbound transportation on behalf of the Buyer. The criteria for selection include:

- Low cost
- Short duration in transit
- Reliable and consistent service
- Reputation and experience

Due to the high volumes involved, they are able to negotiate predictable shipments and lower freight costs than other companies acting alone. Company G also actively participates in optimizing transportation across multiple production centers, which includes routing, scheduling and container stuffing.

### ***CMT Model***

The company operates primarily on the CMT model. That is, it selects manufacturing centers for production and uses them as CMT producers. The company manages all aspects of inbound and outbound transportation from these factories. The process generally used is described below.

1. Receive the order from the Buyer
2. Select manufacturing facilities to produce the order. The main criteria used to select manufacturing facilities include:
  - Price
  - Quality
  - Capacity available for production within a timeframe
  - Financial stability
  - Equipment quality
3. Company sources, and approves, local trim and fabric; or trim is supplied by the Buyer
4. Company's freight forwarder transports fabric to factories
5. Production is completed
6. The company performs quality checks on finished products and arranges transportation to ship finished goods to final destination
7. Customs clearance is managed by the freight forwarder retained by the company
8. Finished goods are shipped to the destination

### ***Full Package Model***

In addition to CMT, the company also occasionally operates under the full package model, where the producers source their own inputs and arrange their own inbound transportation of inputs to their factories. In this case, the process is identical to the CMT process except for steps 3 and 4, which change as noted above.

### **Challenges**

- Small shipments of samples are frequently stopped by customs
- Border crossings are frequent sources of delay. The company reports it can take as long as two days to clear inbound fabric.
- Large shipment volumes require large amounts of working capital, which acts as a constraint to growth. One area of particular concern is the need to tie up 10% of customs duties and VAT due on imported components, which approximates 2.5% of the value of the shipment.

## **SECTION 5: CRITICAL ISSUES & ACTION AGENDA**

Bulgaria has a number of issues pertaining to transportation and logistics that have a direct impact on the competitiveness of the country's textile and apparel sector. There are several areas where Bulgarian stakeholders, and possibly international donors, could take action. For some of the issues identified throughout the study, policy reform is required on the part of government authorities (i.e. Ministries responsible for transport, customs, economic planning, finance and foreign cooperation). Due to the regional nature of Bulgaria's transport and trade linkages, addressing issues related to the movement of goods will require concentrated cooperation, coordination and often negotiation with authorities in neighboring countries at either the regional or bilateral level. For other issues, steps by the private sector (i.e. textile and apparel producers/exporters, transport and logistics service providers, and relevant business associations), as well as changes in the way that they view and utilize processes surrounding supply chain management and the movement of goods, will be critical in determining whether Bulgaria's textile and apparel sector will succeed in an increasingly competitive global economy. In some cases, international partners are well positioned to play a critical role in working with government and private sector counterparts to affect positive change.

### **ACTIONABLE ISSUES**

This section highlights critical issues the study team feels requires direct attention due to their impact on transport and logistics' role as a success factor in the textile and apparel sector. A range of possible action steps that target increased efficiency in the movement of goods is also presented. The issues identified in this section are aimed at specific stakeholders who are in a position to carry forward the respective recommendations. Each issue is rated according to its relative priority (5 – highest priority, 1 – lowest priority). Addressing these issues will provide a significant opportunity for players within the transport and logistics map to enhance the global competitiveness of Bulgaria's textile and apparel sector. Fortunately, self-directed programs for improvement and cost reduction can immediately address many of the issues.

#### **REDUCE BORDER DELAYS**

Delays at the border for inbound and outbound traffic are a major impediment to Bulgaria's apparel producers. On certain routes, delays represent as much as 35% of the total cost of freight. In addition to adding cost, these delays add uncertainty to the production cycle. When imports are delayed, production schedules are disrupted, and when exports are delayed, buyers lose confidence in the producers' abilities to meet delivery commitments. This is a critical dimension of performance, especially as Bulgarian exporters are competing for fast cycle goods that must be replenished within short order cycles.

Multiple factors contribute to border delays. For example, EU regulations prohibit commercial haulage on roadways during the weekends, resulting in significant peaks in crossings on Mondays and Fridays. In addition, border agencies perform independent of each other, requiring each truck to clear each agency's requirements separately, adding time to the clearance process. If multiple payments are to be made, they are made separately to each agency. In addition, there are crossings where the number of traffic lanes and checkpoint kiosks are unevenly matched,

resulting in a suboptimal flow. Furthermore, in some neighboring countries, truck operators consistently complain of arbitrary application of rules governing transport and solicitation of informal payments.

Concerted actions to address these issues would result in significant benefits to the exporting community by reducing the cost and time of transportation. Border agencies should create a unified and efficient process to clear trucks by allowing truckers to present their documentation just once and pay just once. A unified process could be efficiently implemented using technologies that share the same information across all border agencies. Technology solutions to improve response times would also increase the capacity of border crossings, alleviating the peak capacity requirements on certain days of the week. In addition, redeploying additional resources to assist with peak periods should also be enabled using technology to facilitate remote processing of traffic.

As an incentive for shippers to meet certain criteria, a simplified “green light” process that expedites imports and exports should be implemented for regular, low risk shippers. This approach will reduce capacity requirements, reward shippers with excellent compliance records, and encourage other shippers to do the same.

Issues	Priority	Action Agenda	Suggested Stakeholder(s)
Multiple border agencies do not share information or coordinate workflow	5	<ul style="list-style-type: none"> <li>Create a “one stop shop” by coordinating processes across agencies and sharing information to facilitate faster border clearance</li> </ul>	All border agencies
Peak processing capacity exceeded on Mondays and Fridays	5	<ul style="list-style-type: none"> <li>Use technology enabled solutions to increase processing capacity at the border</li> <li>Deploy or reposition additional resources to handle capacity overload on particular days of the week</li> </ul>	All border agencies
No incentives for regular, compliant shippers	4	<ul style="list-style-type: none"> <li>Develop a process for pre-clearance or expedited clearance of low-risk cargo</li> </ul>	All border agencies
Physical infrastructure is a bottleneck at some borders	2	<ul style="list-style-type: none"> <li>Attract container yard services for the port of Varna (east)</li> <li>Match the number of traffic lanes to border checkpoints to eliminate bottlenecks and increase capacity</li> </ul>	Ministry of Transport / all border agencies
Arbitrary and frequently changing regulations governing transportation in neighboring countries results in informal payments to border officials	2	<ul style="list-style-type: none"> <li>Collaborate with regional authorities to publish a multi-lingual website clarifying transportation regulations for the region so that they are well known and transportation providers are not stopped without reasonable cause and subjected to solicitations for informal payments</li> </ul>	Industry Associations  Regional Initiatives such as TTFSE and SECI
Border crossing delays	3	<ul style="list-style-type: none"> <li>Measure and report border crossing</li> </ul>	All border

are not measured and adequately reported		times on a periodic basis; compare these times with benchmarks developed by private organizations such as the BCCI	agencies Industry associations TTFSE
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**SIMPLIFY CUSTOMS PROCESSES FOR DUTY EXEMPTED GOODS**

Bulgaria’s extremely tight controls on goods being imported for processing and ultimate re-export are a legacy from a period when tax evasion was pervasive and commonplace. The tight controls have reduced the flow of illicit goods into the country, but they have also put significant strain on exporters in conducting their legitimate business.

The current process for re-exported materials is time consuming and costly. After being checked at the border, duty exempt goods must be transported to a regional customs office where they are cleared again. The transportation provider must have a bank guarantee to assure payment of duties and VAT if the consignee fails to re-export the goods. If there are multiple shipments being transported in the truck, the truck must be inspected and resealed by customs each time a delivery is made. In order to use the goods, the consignee must apply for a permit for active improvement from customs, and if they are sent to a subcontractor, a power of attorney granting their use must be prepared. If goods are sourced locally for export, reclaiming VAT is reported to be cumbersome and time consuming.

Each step in the process adds time, occasionally up to six hours if the regional customs office does not have the staff on hand when the shipment arrives. It adds complexity to transportation scheduling and constrains downstream operations such as unloading and warehousing. In addition, bank guarantees impose a financial overhead each time the goods move within the country.

There is an opportunity to evaluate whether this level of control is still desirable given the cost they place on the export community. If it is, there are still opportunities to streamline the process so that it functions efficiently from the point of view of the exporter. For instance, goods could be cleared just once (at the border.) Regional customs offices could be notified before imported goods arrive in their zone of jurisdiction and choose to inspect goods at the consignee’s location upon their discretion. In addition, customs may elect to qualify certain shippers as low risk and exempt them from requiring bank guarantees. In addition, new technologies such as radio frequency identification devise (RFID) tagging could be used to expedite LTL shipments without having to reseat the truck each time.

Issues	Priority	Action Agenda	Suggested Stakeholder(s)
Current customs requirements for raw materials imported for export production are costly and time	5	<ul style="list-style-type: none"> <li>Consider eliminating additional clearance at regional customs offices</li> <li>Coordinate border clearance process with regional offices to provide advanced clearance or expedited regional clearance</li> </ul>	Bulgarian Customs Agency (BCA) / Ministry of Finance

consuming		<ul style="list-style-type: none"> <li>• Introduce new processes to eliminate deposits and bank guarantees for VAT/duties owed for pre-qualified exporters</li> <li>• Deploy technology alternatives to eliminate the need to reseal LTL shipments traveling to multiple consignees</li> </ul>	
VAT refund process for domestically sourced export inputs is time consuming	3	<ul style="list-style-type: none"> <li>• Reduce the time and effort required to claim a VAT refund on exported products</li> </ul>	Ministry of Finance

### IMPROVE SUPPLY CHAIN COORDINATION AND MANAGEMENT

Bulgarian apparel exporters have traditionally competed as individual manufacturers. Increasingly, however, these companies must coordinate with other entities – transportation providers, providers of logistics services, sub-contractors and others – for the buyer's expectations to be met. A breakdown in communication or coordination between two entities in the supply chain disrupts downstream operations, which adds cost and introduces delays. For instance, transportation costs are affected by schedule slippage at a subcontractor since assets must be repositioned for deployment, and the lost utilization affects service costs. When the transportation provider has knowledge of the likelihood of schedule slippage, unnecessary costs can be avoided and efficiencies improved.

Improved coordination between supply chain partners can provide a wide range of benefits currently not being enjoyed by Bulgarian exporters, such as cost effective LTL transportation, lower freight rates, greater delivery reliability and improved transportation efficiency.

Manufacturers can improve coordination with supply chain partners by establishing robust business processes for working together, increasing partner visibility into their operations and developing longer-term service contracts that increase the predictability of demand as well as price. By establishing longer-term partnerships with tighter linkages, supply chain partners can collaborate on addressing problems that require coordinated, longer-term attention.

Issues	Priority	Action Agenda	Suggested Stakeholder(s)
Sub-contractor operations cause downstream inefficiencies and disruptions	3	<ul style="list-style-type: none"> <li>• Institute streamlined processes and business practices to improve order management and transportation planning with sub-contractors</li> </ul>	Lead manufacturers, subcontractors
Transportation providers are given a short lead time to react to needs	4	<ul style="list-style-type: none"> <li>• Collaborate with transportation providers to share forecasts and capacity requirements</li> <li>• Build mutually beneficial longer term contracts to increase predictability of demand and reduce costs</li> </ul>	Manufacturers, transportation service providers, freight forwarders

Errors in shipment documentation result in delays at the border	3	<ul style="list-style-type: none"> <li>• Provide training and licensing to develop a strong customs brokerage sector</li> </ul>	Bulgarian Union for Customs and Foreign Trade Services (BUCFTS)
Less than truck load shipments experience high transportation overheads	4	<ul style="list-style-type: none"> <li>• Increase planning horizon for transportation companies</li> <li>• Collaborate with other shippers moving goods in the same or reverse direction to synchronize shipment schedules</li> </ul>	Manufacturers, transportation service providers, freight forwarders
Individual participants do not have visibility of the upstream and downstream impacts of their actions	4	<ul style="list-style-type: none"> <li>• Expand visibility into upstream and downstream operations by developing deeper relationships and collaborating on joint programs to improve mutual performance</li> </ul>	Manufacturers, transportation service providers, freight forwarders
Manufacturers not sufficiently organized and able to implement logistics improvements	4	<ul style="list-style-type: none"> <li>• Establish logistics departments in textile and apparel firms and staff with logistics professionals</li> <li>• Provide training to management and operations staff to establish logistics management capability</li> </ul>	Manufacturers, Apparel industry organizations
Lack of professional training and certification programs for logistics management (both for transport and logistics industry and manufacturers)	3	<ul style="list-style-type: none"> <li>• Work with Bulgarian University's, training organizations and/or industry associations to develop logistics training and certification capability that responds to international logistics standards.</li> </ul>	Universities Training Organizations Industry associations

**IMPROVE PROCESS TRANSPARENCY AND AUTOMATION / LEVERAGE NEW TECHNOLOGY**

The apparel industry as a rule uses little automation in operations. Manufacturers, transportation providers, forwarders, logistics service providers and others in general have traditionally used manual processes supplemented by email and spreadsheets. While there are a number of supply chain software vendors in Bulgaria who offer applications for the industry, they are not widely used.

Industry participants can use technology solutions to improve the performance of individual operations. For example, specialized tools can be used to determine optimal configurations for stuffing a container, routing a shipment or managing inventory. As these functions are complex and difficult to perform manually, switching to these applications will immediately result in operational performance improvements. In addition, technology solutions can be used to improve linkages between multiple players in the supply chain, to improve coordination, increase visibility to the order cycle, and allow participants to improve their own ability to meet the needs they see emerging upstream. These technologies are typically web-based, inexpensive, and widely proven in other parts of the world.

Issues	Priority	Action Agenda	Suggested Stakeholder(s)
Existing processes for coordinating and performing transportation and logistics operations are unresponsive and inefficient	4	<ul style="list-style-type: none"> <li>Investigate and implement technologies to optimize the performance of individual activities such as warehousing, transportation scheduling, load planning, and routing</li> <li>Investigate and implement information sharing, workflow management and event tracking technologies to improve coordination with supply chain partners, such as freight forwarders, carriers, brokers, sub-contractors and suppliers</li> <li>Take advantage of Custom's automated documentation system for shippers being implemented in fall 2005</li> </ul>	All private sector supply chain participants

### DEVELOP COMPETITIVE ADVANTAGES BEYOND MANUFACTURING

Bulgaria's export advantages as a low cost manufacturing center are eroding as other global competitors establish their position in the European apparel market. Regionally competitive wage rates are no longer a sustainable defense against manufacturers with lower cost of labor and capital. Instead, Bulgarian exporters must take advantage of their proximity to suppliers and markets to offset these competitive disadvantages by targeting niches where their ability to deliver small lots of high value goods rapidly allows them to compete effectively. This requires manufacturers – particularly CMT manufacturers who do not currently take significant ownership of non-production tasks – to adopt new business models that augment their traditional manufacturing strengths with additional competencies.

In order to develop tighter, more responsive supply chains, manufacturers must identify areas of value to their customers in transportation services, procurement, materials management and distribution and develop unique ways to deliver these competencies. Additionally, they should look for ways to reduce cycle times, not just for production, but also from demand to retail shelf. These new approaches will require new competencies in supply chain management, which they must develop in-house or partner with world-class logistics companies.

Issues	Priority	Action Agenda	Suggested Stakeholder(s)
Cost advantages for Bulgarian apparel manufacturers is eroding	4	<ul style="list-style-type: none"> <li>Targeted initiatives to reduce non-manufacturing costs in transportation, procurement, materials and distribution</li> </ul>	All private sector supply chain participants
Buyers are under pressure to improve cycle times, differentiate their products, and reduce inventories	4	<ul style="list-style-type: none"> <li>Assess opportunities to augment current manufacturing capabilities with services that are of value to buyers</li> <li>Develop competencies in new services and capabilities to capture market opportunities</li> </ul>	All private sector supply chain participants

		<ul style="list-style-type: none"> <li>Partner with experienced world-class logistics providers to build capabilities rapidly</li> </ul>	
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### STRENGTHEN TRANSPORT AND LOGISTICS INFRASTRUCTURE AND ASSETS

The capacity of Bulgaria's transport infrastructure needs to be improved for both road and ocean transport. Critical road arteries are already over capacity, in part because of regional growth and Bulgaria's position as a transit country. Congestion and delays affect the movement of goods into and out of the country, and also impact transportation efficiency for exporters. In addition, Bulgaria's port traffic has seen dramatic acceleration in recent years, and is expected to be at capacity in the near future as well.

Available funds for transportation infrastructure development need to be prioritized and allocated to the most advantageous projects. Prior investments in transportation infrastructure need to be supported with additional investment in order to be fully functional. Ports would benefit from additional investment and know-how from world-class terminal operators.

Exporters also experience less than adequate road transport capacity on account of the small size of truck fleets. Most Bulgarian truck fleets have fewer than 5 trucks, which frequently results in an inability to acquire the necessary capacity on demand. Wider financing options and scheduling windows can alleviate this issue for exporters and transportation providers.

Issues	Priority	Action Agenda	Suggested Stakeholder(s)
Key transport roadways are overcapacity and are expected to get increasingly congested	5	<ul style="list-style-type: none"> <li>Prioritize the use of funds to improve roadways to leverage Bulgaria's position as a transit country</li> <li>Leverage new infrastructure expenditures, such as the bridge in Vidin, with coordinated plans for highway development</li> </ul>	Ministry of Transport
Port infrastructure is dated and inefficient	4	<ul style="list-style-type: none"> <li>Attract world class terminal operators to develop port infrastructure and implement needed productivity measures</li> </ul>	Ministry of Transport
Land transportation providers have small fleets and therefore cannot guarantee availability of capacity as needed	3	<ul style="list-style-type: none"> <li>Identify the barrier/ incentive keeping fleets small</li> <li>Publicize alternatives for financing transportation assets</li> <li>Increase the planning horizon for transportation providers</li> </ul>	Ministry of Transport Industry Associations

### NEXT STEPS

This section provides a list of activities that if implemented, are likely to enhance the movement of textile and apparel goods, and thus increase the competitiveness of Bulgaria textile and apparel exports. Some actions can be implemented in the short term, while others will require a lengthier implementation. Either way, it is critical for players within Bulgaria's 'transport and

logistics map' and the textile and apparel sector to take steps to move the agenda forward. Initially, this will involve a transport and logistics seminar that brings together key public and private sector representatives to discuss the critical issues identified in this study. In particular, this includes issues related to border delays, border agency coordination, simplifying customs processes for re-exported goods, leveraging new technologies, improving supply chain management, and developing competitive advantages beyond manufacturing. Crucial public participants in the seminar include officials from the Ministry of Transport, the Customs Agency, other border agencies, and ministries involved in economic development and strategy (especially in regards to the textile and apparel sector). Participants from the private sector include business associations (i.e. BCCI, apparel exports association, logistics service providers associations) and representatives from the apparel manufacturing community. The seminar would present the key issues, use discussions among participants to outline priorities that stakeholders feel are most important and agree upon an action agenda. This will be used as a springboard to create the awareness and stakeholder buy-in required for the development of successful initiatives. This is particularly important for addressing issues with a policy or sectoral context. Upon completion of the seminar, members of the international community (e.g. USAID, EU Commission, World Bank, etc), government agencies, and industry associations should coordinate in the design and execution of reforms and/or joint initiatives.

A number of initiatives can be taken by the private sector independently (albeit with possible support from the public sector). Since many of the problems identified are at the operational level (i.e. weak supply chain management), a series of workshops targeting logistics service providers and textile and apparel manufacturers would help those with management and operational responsibilities better understand (1) the apparent weaknesses within Bulgaria's transport and logistics system; (2) ways that services providers can improve the quality and value of transport and logistics services; and (3) ways that apparel firms can increase their capacity to effectively manage their supply chains. This training could be provided at two levels: (1) training for senior executives to establish supply chain management/logistics strategies; and (2) training for line managers to translate the strategy into action. A concept memo for a proposed training program, can be found in Annex 2.

In order to help address the training needs noted above, the USAID TESS program is currently collaborating with the USAID Bulgaria Labor Market Program to design and execute an initial series of training targeting textile and apparel managers during June 2005. This training is expected to be followed up with further training in the apparel and logistics sectors.

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# *Annexes*

**ANNEX 1: SAMPLE COST QUESTIONNAIRE**

<b>Inbound Sea and Land Example #1(Less than Full Container Load)</b>		
<b>Type of Apparel Product</b>	<Insert example of Textile or Apparel Product>	
<b>Declared Value of Goods</b>	<Insert declared value of product>	
<b>Route</b>	<Insert transport route, Including countries passed>	
<b>Inbound Sea and Land (LCL)</b>	<b>COST</b>	<b>TIME</b>
Container stuffing at oversea factory	<Insert cost>	<Insert average time>
Consolidation at Origin Warehouse	<Insert cost>	<Insert average time>
<b>Inland Transport from Warehouse to port</b>	<Insert cost of Freight>	
Preparation of international documentation	<Insert cost of preparation>	<insert preparation time>
Terminal Handling Charge	<Insert cost>	<Insert average time>
<b>Ocean Freight</b>	<Insert cost of Freight>	
Bunker Surcharge	<Insert cost>	
Security Surcharge	<Insert cost>	
Miscellaneous charges	<insert cost if applicable>	
<b>Transition from Sea to Land</b>		<Insert average time>
Terminal Handling at Port of Discharge	<Insert cost>	<Insert average time>
Courier from to destination with documents	<Insert cost>	<Insert average time>
Preparation of documents at port	<Insert cost of preparation>	<insert preparation time>
Customs Clearance	<Insert cost>	<insert time for clearance>
Customs Fees	<Insert cost>	
Inspection Fees	<Insert cost>	
Equipment charge	<Insert cost>	
Misc. Charges	<insert cost if applicable>	
Port Taxes	<Insert cost>	<Insert average time>
<b>Inland Move - International to Bulgaria</b>		
<b>Inland Haulage</b>	<Insert cost of Freight>	
Preparation of international documentation	<Insert cost of preparation>	<insert preparation time>
TIR Carnet / CMR		
Fines		
Overweight	<insert cost if applicable>	
Other	<insert cost if applicable>	
<b>Border crossing #1</b>		<insert time for clearance>
Inspection Fees	<Insert cost>	
Road Taxes	<Insert cost>	
misc. payments	<insert cost if applicable>	
<b>Border crossing #2 (If applicable)</b>		<insert time for clearance>
Inspection Fees	<Insert cost>	
Road Taxes	<Insert cost>	
<b>Warehouse</b>		<Insert average time>
Break Bulk	<Insert cost>	<Insert average time>
Stuff vans	<Insert cost>	<Insert average time>
Customs Inspection Fees/Seals	<Insert cost>	<Insert average time>
<b>Inland Move #2 - Warehouse to Factory</b>		
Preparation of Transit Documents (Bank Guarantee)	<Insert cost of preparation>	<insert preparation time>
<b>Inland Haulage</b>	<Insert cost of Freight>	
Customs Clearance at regional customs office	<Insert cost>	<insert time for clearance>
Customs clearance at factory (if applicable)	<insert cost if applicable>	<insert time for clearance>
Unloading Truck	<Insert cost>	<Insert average time>

## ANNEX 2: CONCEPT MEMO FOR TRANSPORT AND LOGISTICS TRAINING

### *Training & Development Needs for Apparel Exporters*

Bulgarian apparel manufacturers have a number of unique opportunities at this time because their European customers are actively restructuring their supply chains. To address customer demand faster with more compelling products, buyers are adopting new supply chain management strategies and integrating previously disparate functions such as product design, merchandiser input, raw material procurement, manufacturing and distribution. These actions are reducing the impact of price competition for retailers by presenting customers with more appealing products while reducing costs of retailer inventory and obsolescence. These changes have numerous implications for Bulgarian manufacturers and their supply chain partners.

Business leaders need to examine the implications of these requirements in the context of their own operating environments and identify the most appropriate tactical actions to improve performance. We believe that training and development within the sector represents a significant opportunity to propagate the needed awareness and vehicle for change.

### *Training for Manufacturers*

In addition to producing low cost, high quality products, Bulgarian manufacturers will need to identify how they can:

- Reduce order-to-delivery cycle time, by responding faster to market demand
- Improve order performance, by reducing delays, errors and transaction costs
- Increase production flexibility, by accommodating the ability to produce and subcontract a wide variety of products
- Introduce value added services such as product design and transportation management

Each of these elements requires manufacturers to adopt creative solutions and improve business processes between their supply chain partners, such as subcontractors, suppliers and providers of transportation and logistics services.

Training benefits can accrue immediately in three topical areas:

<b>Topic &amp; Audience</b>	<b>Objectives</b>
Business Transformation Workshop for senior business executives	Identify feasible approaches to increase competitiveness by (1) Understanding current and emerging buyer needs, and (2) Examining possible business responses through changes in business strategy, organization, marketing, technology and supply chain management.
Supply chain improvement for business managers	Actionable best practices to implement reduced cycle times, improve order performance and supply chain reliability. Include an examination and demonstration of enabling technologies, and benefits.
Functional skills for operating personnel	Provide operational knowledge to improve the ability to execute key export functions, such as supplier management, customs, transportation procurement, marketing and cash management.

*Training for Logistics Service Providers:*

Changes in the business relationship between buyers and manufacturers are creating new opportunities for service providers. In the near future, they will need to:

- Offer new, creative solutions to support fast-cycle orders
- Reduce costs for low volume shipments through improved business practices, aggregation strategies, business partnerships and investments in facilities and technology
- Adopt strategies to compete against European-based logistics providers seeking business in Bulgaria and adapt to changing EU regulations

Training benefits can accrue immediately in two areas:

<b>Topic &amp; Audience</b>	<b>Objectives</b>
Supply chain improvement for business managers in the logistics services industry	Actionable approaches to implement reduced cycle times for customers; improve their order performance and supply chain reliability through best practices, enabling technologies, and process improvement.
Functional skills and certification for customs brokers	Provide operational knowledge to improve the ability to execute key customs functions, establish the importance of industry standards for broker certification and service quality.

*Implementation*

Training can be designed and delivered by industry experts, industry associations, and professional consulting companies in the areas listed.

Curriculum development can be accomplished by consultants familiar with the needs of the Bulgarian apparel sector, such as the authors of this report, who can offer practical guidance to ensure that the design, content and emphasis of the training meets the needs of the industry. Training materials can be custom developed, procured from known commercial sources or aggregated from the public domain. Training delivery must provide a hands-on, practical emphasis on “how to” accomplish the desired results in the context of Bulgarian SMEs. This will be best accomplished in an interactive, workshop setting, where participants learn by active participation in the development of solutions guided by skilled facilitators familiar with the issues affecting the business.

Where possible, industry associations should be solicited offer support through partnership, member publicity, content creation and follow-up.