Daniela Veiter

Cargo security initiatives in the United States, Canada and Mexico and their effect on trade in the NAFTA region

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Veiter, Daniela

Zoll-Sicherheitsinitiativen in den Vereinigten Staaten von Amerika, Kanada und Mexiko und ihr Einfluss auf den Handel in der NAFTA Region

Herausgeber: die Professoren des Instituts für Transportwirtschaft und Logistik
D I P L O M A R B E I T

Cargo Security Initiatives in the United States, Canada and Mexico and their Effect on Trade in the NAFTA Region

Academic advisor: Mag. Irene Sudy
Field of research: Compliance Management: Security programs in supply chains

By Daniela Veiter
0450902
21.09.2009
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<th>Full Form</th>
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<tr>
<td>10+2 rule</td>
<td>Importer Security Filing and Additional Carrier Requirements</td>
</tr>
<tr>
<td>24-Hour Rule</td>
<td>24-Hour-Advance-Vessel-Manifest-Rule</td>
</tr>
<tr>
<td>3PL</td>
<td>Third Party Logistics Providers</td>
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<td>ACE</td>
<td>Automated Commercial Environment</td>
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<td>ACI</td>
<td>Advanced Commercial Information</td>
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<tr>
<td>ACI Air</td>
<td>Advanced Commercial Information Air Program</td>
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<tr>
<td>ACI Marine</td>
<td>Advanced Commercial Information Marine Program</td>
</tr>
<tr>
<td>ACS</td>
<td>Automated Commercial System</td>
</tr>
<tr>
<td>ABI</td>
<td>Automated Broker Interface</td>
</tr>
<tr>
<td>Air AMS</td>
<td>Air Automated Manifest System</td>
</tr>
<tr>
<td>AMACARGA</td>
<td>Asociacion Mexicana de Agentes de Carga, A.C.</td>
</tr>
<tr>
<td>AMANAC</td>
<td>Asociacion Mexicana de Agentes Navieros, A.C.</td>
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<tr>
<td>AMR</td>
<td>Advanced Manifest Rule</td>
</tr>
<tr>
<td>AMS</td>
<td>Automated Manifest System</td>
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<tr>
<td>APHIS</td>
<td>U.S. Animal and Plant Health Inspection Service</td>
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<tr>
<td>ATS</td>
<td>Automated Targeting System</td>
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<tr>
<td>BASC</td>
<td>Business Alliance for Secure Commerce</td>
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<tr>
<td>BCS</td>
<td>Border Cargo Selectivity</td>
</tr>
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<td>CBIP</td>
<td>Coordinated Border Infrastructure Program</td>
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<tr>
<td>CBP</td>
<td>U.S. Customs Border Protection</td>
</tr>
<tr>
<td>CBSA</td>
<td>Canada Border Services Agency</td>
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<tr>
<td>CDRP</td>
<td>Commercial Driver Registration Program</td>
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<tr>
<td>CFIA</td>
<td>Canadian Food Inspection Agency</td>
</tr>
<tr>
<td>CIC</td>
<td>Citizenship and Immigration Canada</td>
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<tr>
<td>CSA</td>
<td>Customs Self Assessment Program</td>
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<td>CSI</td>
<td>Container Security Initiative</td>
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<tr>
<td>CSIS</td>
<td>Canadian Security Intelligence Service</td>
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<td>CSM</td>
<td>Container Status Messages</td>
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<td>C-TPAT</td>
<td>Customs Trade Partnership Against Terrorism</td>
</tr>
<tr>
<td>DFO</td>
<td>Canadian Department of Fisheries and Oceans</td>
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<tr>
<td>DHS</td>
<td>U.S. Department of Homeland Security</td>
</tr>
<tr>
<td>EDI</td>
<td>Electronic Data Interchange</td>
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<tr>
<td>e-manifest</td>
<td>Electronic Truck Manifest</td>
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<td>FAST</td>
<td>Free and Secure Trade</td>
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<tr>
<td>FCL</td>
<td>Full-container load</td>
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<td>FDA</td>
<td>U.S. Food and Drug Administration</td>
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<tr>
<td>GDP</td>
<td>Gross Domestic Product</td>
</tr>
<tr>
<td>HTSUS</td>
<td>Harmonized Tariff Schedule of the United States</td>
</tr>
<tr>
<td>IAD</td>
<td>Importer Admissibility Data</td>
</tr>
<tr>
<td>ICAO</td>
<td>International Civil Aviation Organization</td>
</tr>
<tr>
<td>ICE</td>
<td>U.S. Immigration and Customs Enforcement</td>
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<tr>
<td>Abbreviation</td>
<td>Full Form</td>
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<tr>
<td>IMO</td>
<td>International Maritime Organization</td>
</tr>
<tr>
<td>IMSWG</td>
<td>Interdepartmental Marine Security Working Group</td>
</tr>
<tr>
<td>IMTC</td>
<td>International Mobility and Trade Corridor</td>
</tr>
<tr>
<td>ISA</td>
<td>Importer Self-Assessment</td>
</tr>
<tr>
<td>ISF</td>
<td>Importer Security Filing and Additional Carrier Requirements</td>
</tr>
<tr>
<td>ISPS Code</td>
<td>International Ship and Port Facility Security Code</td>
</tr>
<tr>
<td>ITDS</td>
<td>International Trade Data System</td>
</tr>
<tr>
<td>JIT</td>
<td>Just in Time</td>
</tr>
<tr>
<td>LCL</td>
<td>Less-than-container load</td>
</tr>
<tr>
<td>LTL</td>
<td>Less-than-truckload</td>
</tr>
<tr>
<td>MOU</td>
<td>Memorandum of Understanding</td>
</tr>
<tr>
<td>MSCP</td>
<td>Marine Security Contribution Program</td>
</tr>
<tr>
<td>MTSA</td>
<td>Maritime Transportation Security Act of 2002</td>
</tr>
<tr>
<td>MTSCP</td>
<td>Marine Transportation Security Clearance Program</td>
</tr>
<tr>
<td>MTSRs</td>
<td>Marine Transportation Security Regulations</td>
</tr>
<tr>
<td>NACC</td>
<td>North American Competitiveness Council</td>
</tr>
<tr>
<td>NAFTA</td>
<td>North American Free Trade Agreement</td>
</tr>
<tr>
<td>NII</td>
<td>Non-Intrusive Inspection technology</td>
</tr>
<tr>
<td>NVOCC</td>
<td>Non-Vessel Operating Common Carrier</td>
</tr>
<tr>
<td>ODP</td>
<td>U.S. Office for Domestic Preparedness</td>
</tr>
<tr>
<td>OECD</td>
<td>Organization for Economic Cooperation and Development</td>
</tr>
<tr>
<td>OSC</td>
<td>Operation Safe Commerce</td>
</tr>
<tr>
<td>PAPS</td>
<td>Pre-Arrival Processing System</td>
</tr>
<tr>
<td>PARS</td>
<td>Pre-Arrival Review System</td>
</tr>
<tr>
<td>PIP</td>
<td>Partnership in Protection</td>
</tr>
<tr>
<td>Rail AMS</td>
<td>Rail Automated Manifest System</td>
</tr>
<tr>
<td>RCMP</td>
<td>Royal Canadian Mounted Police</td>
</tr>
<tr>
<td>RFID</td>
<td>Radio Frequency Identification</td>
</tr>
<tr>
<td>SAFE Framework</td>
<td>Framework of Standards to Secure and Facilitate Global Trade</td>
</tr>
<tr>
<td>SAFE Port Act</td>
<td>Security and Accountability of Every Port Act of 2006</td>
</tr>
<tr>
<td>SCAC</td>
<td>U.S. Standard Carrier Alpha Code</td>
</tr>
<tr>
<td>SCSS</td>
<td>Supply Chain Security Specialist</td>
</tr>
<tr>
<td>SFI</td>
<td>Security Freight Initiative</td>
</tr>
<tr>
<td>sFTP</td>
<td>Secure File Transfer Protocol</td>
</tr>
<tr>
<td>SPP</td>
<td>Security and Prosperity Partnership of North America</td>
</tr>
<tr>
<td>TAPA</td>
<td>Technology Asset Protection Association</td>
</tr>
<tr>
<td>TSA</td>
<td>U.S. Transportation Security Administration</td>
</tr>
<tr>
<td>U.S.</td>
<td>United States of America</td>
</tr>
<tr>
<td>USDA</td>
<td>U.S. Department of Agriculture</td>
</tr>
<tr>
<td>WCO</td>
<td>World Customs Organization</td>
</tr>
<tr>
<td>WHTI</td>
<td>Western Hemisphere Travel Initiative</td>
</tr>
<tr>
<td>WMD</td>
<td>Weapons of Mass Destruction</td>
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1 Introduction

This thesis talks about cargo security initiatives in the NAFTA countries of the United States, Canada and Mexico for any shipments crossing borders between those countries by either road, sea, air or rail. It shows the development and intensification of those security regulations over the last years, analyses their purpose and recommends how to best deal with them if you are a business located in this area. Chapter 1 explains the background and the reason why those security programs came into place. Furthermore, research questions are presented, the objective target of this paper as well as the methodology used. At the end of this chapter a demarcation excludes areas that are not being covered by this thesis.

1.1 Problem statement

Cross-border trade today is an essential driver of nations’ prosperity. A prolonged disruption in a supply chain has an enormous impact on a country’s as well as the global economy. The international transportation network and its long supply chains are very fragile and vulnerable to terrorist abuse or similar attacks. The high number of agents add another level of risk. The products, factories, supply chain facilities and supply chain partners, carriers, people and information could all present danger to the supply chain.\(^1\) Globalization turned the market place into a competitive environment where companies seek to hire the most affordable workers as well as choose the cheapest suppliers or service providers. This trend spreads business practices out all over the world and increases the need for transportation while adding complexity to a company’s value chain.\(^2\) The most effective way is a worldwide cooperation of countries on securing the global trade system without hindering the trade flow. A global partnership involving all agents along a supply chain with harmonised and compatible systems, both for customs work and for the exchange of information would be the perfect solution. And collaboration and coordinated work reduces the risk of disruptions and is more cost-effective too.\(^3\)

Since the terror attacks of September 11, 2001 on New York and Washington DC, the international trade community has dedicated more time and money on the issue of security. The U.S. government, the Canadian government and the Mexican government have established a multi-layered defense strategy to protect their people and country. International cargo that is being shipped to certain target countries poses

\(^3\) Cf. Kommerskollegium (2008), p. 7
a significant security risk. In particular, cargo containers can be abused to carry weapons, in particular weapons of mass destruction (WMD) or other dangerous items. Those containers are particularly vulnerable to changes from their legitimate commercial purpose due to the numerous transfers within the transport chain they are subject to.\textsuperscript{4} Those very same internationally moving containers, though, are of utter importance to global commerce as they ship about 95\% of the world’s international cargo, in terms of value. Over 48 million containers are being shipped between seaports around the world. Intermodal transport has enabled trucks and trains to move goods around continents in the ocean containers.\textsuperscript{5} Any terrorist actions can have large-scale damage to a country’s society and economy and thus it is essential to have systems in place that can prevent such events from happening beforehand.

The United States of America was the first country to start introducing plans to identify high risk cargo shipments and soon Canada and Mexico followed. The initiatives seek to ensure security over different levels. There are three main areas of risk that these security initiatives seek to address. First, the security of vital cargo information relating to the contents and destination of the shipment must be accessible by customs authorities. This also includes IT security. Then there is the level of physical control through inspections and screening. The last level covers the entire supply chain through screening and background checks of every agent involved in the process. This includes all groups between the manufacturer and the final destination of the product.

The different modes of transportation rail, maritime, air and road are all exposed to threats like terrorism; maritime and rail being the most vulnerable ones. Table 1 shows the extent of vulnerability of all modes of transportation that this thesis analyzes.

\begin{table}
\centering
\begin{tabular}{|l|c|}
\hline
\textbf{Vulnerability Threat Index} & \\
\hline
Road & Medium \\
\hline
Sea & High \\
\hline
Air & Low \\
\hline
Rail & High \\
\hline
\end{tabular}
\caption{Vulnerability Threat Index}
\end{table}

(Source: Bragdon, 2008, p. 7)

\textsuperscript{4} Cf. Kumar and Verruso (2008), p. 26

\textsuperscript{5} Cf. Sewak (2008), p. 205
Air is categorized at low, because this area received the highest amount of subsidies and funding upgrading security infrastructure in the past years.\(^6\)

The problems arising from these security intensifications are numerous and affect different agents at different points along the supply chain. In the following paragraphs the most relevant effects will be mentioned.

Governments of all three North American countries have introduced their own security initiatives. The problems that independently developed security agendas cause are a lack of governance and cooperation as well as overlapping programs. Different national priorities and levels of development add another level of difficulty to that problem. Slowly they are starting to introduce collaborative programs. Currently there is one public-private partnership including government institutions, importers, carriers, brokers, ports and other related industries in the process. Furthermore, cooperation between the United States, Canada and Mexico is already well established as far as commercial truck drivers crossing borders are concerned.\(^7\)

The most obvious effect on companies is how these initiatives impact their business practices and costs. Lean business processes have become more and more popular in the past years in response to competitive pressures to minimize carrying costs in the supply chain. While reducing stock costs, this increases the risk in case any disruptions occur.\(^8\) Companies using Just in Time (JIT) production, for example, may suffer from huge financial losses due to fewer finished products being sold when there is a delay somewhere along the supply chain. Due to the intensification of security regulations and the resulting stricter controls, a lot of time is lost due to waiting periods before the cargo is screened. It is true that the governments are working on trying to implement programs that expedite the border waiting time, but in reality long waiting times do still exist.

Lately a trend into the other direction can be seen. Businesses tend to carry a larger safety stock to guarantee delivery of products if essential material is being held at the border. When applying for C-TPAT, companies need to expect certain loss of higher profit margins.\(^9\)

Businesses in this industry also face increased costs due to continuously changing regulations requiring updates to existing security procedures. The increased bureaucracy requires more work and often a new workforce is needed. Besides questionable claims of efficiency and performance, there are also funding issues that companies are facing.

\(^7\) Cf. U.S. CBP (2004c)
\(^8\) Cf. Ritter, Barrett and Wilson (eds.) (2007) p. xxv
\(^9\) Cf. Kumar & Verruso (2008), p. 30
Although the development of security initiatives present an increase in investment costs as well as ongoing and maintenance costs for companies and government agencies, they do offer protection or at least prevention for events that would have a much more tremendous impact and would in the end lead to much higher costs. According to the Institute for the Analysis of Global Security, the terror attacks of 9/11 cost the United States about 2 trillion dollars.\(^\text{10}\)

**1.2 Research questions and objective target**

With this thesis the author tries to answer the following research questions.

What is the current state of security regulations in the United States, Canada and Mexico for any cargo that is crossing the border, what are the requirements and who is affected by them?

How did the intensified security programs influence the existing trade relationship and cooperation between the three NAFTA countries?

What kind of difficulties and challenges are businesses in the United States, Canada and Mexico facing due to the increasing number of security regulations?

Are there any overlaps and is there potential for harmonization or standardization of the individual countries' initiatives?

The goal of this paper is to provide a complete overview of the existing security initiatives in North America highlighting their purpose and the processes involved. Furthermore, the author evaluates the status and effectiveness of those key security measures to make recommendations and recognize best practices where appropriate. Recommendations will include as to which programs are more important to take part in and how to make the implementation process fast and simple.

**1.3 Methodology**

At the beginning of this thesis a deep insight into the literature available for this specific topic is provided with the help of secondary data. Internet sources, books, journals, reports, videos and newspaper articles are used to embrace both basic literature as well as current developments. To cover a broad spectrum of knowledge and information the library sources of the Vienna University of Economics and Business in

\(^\text{10}\) Cf. Institute for the Analysis of Global Security (2003)
Austria, University of Alberta in Western Canada and Queen’s University in Eastern Canada are used. Due to the daily relevance of this topic, most information is taken from internet sources to ensure that it is as up to date as possible. Furthermore, the author trusted mostly different government agencies and international organizations for real-time updates.

After a theory analysis this paper presents a practical, qualitative analysis. The focus is on the impact of security programs on businesses in North America and empirical data has been collected by interviewing companies in the United States of America, Canada and Mexico. The data explicitly collected for this thesis is a primary source.\textsuperscript{11}

The companies are the research unit and will be presented in form of case studies.\textsuperscript{12} Although individual organizations are interviewed they can -as far as the research goal is concerned- be considered a unit. The individual interviewed people are the statistical unit.\textsuperscript{13} The spectrum of interviewees is reduced to companies that are affected the most as the security initiatives represent the companies’ core business.

In the literature so-called typical cases are chosen as they seem to be characteristic for the universe.\textsuperscript{14}

The author identified two types of businesses that are dealing with those initiatives every day and are mostly affected by them – logistics service providers and carriers. Logistics providers have been chosen as they cover most areas of a supply chain including exporting and/or importing, organising the shipments and handling the customers’ paperwork. Carriers were chosen, because they are directly affected by the stringent requirements on facilities and the actual transportation process. For them compliance with those security initiatives has become core to their business in order to service transnational clients effectively.

The possibility of generalisation with the number of conducted interviews is given as all companies are operating in all three countries across North America. Furthermore, multiple interviews covering people from different geographical as well as organizational areas within the companies support the validation of the results. Different sizes of the companies will make it possible to examine different reactions to and handling of security initiatives by small and medium businesses versus large corporations.

The interview method used is semi-structured interviews.\textsuperscript{15} The interviews were structured on the basis of prepared and pre-verbalized questions. A questionnaire was set up with open questions. The interviewer had the possibility of changing the order of questions during the conversation while following a general guideline.\textsuperscript{16} The interviews were personal interviews in one of the companies’ facilities, telephone interviews or e-mail correspondence with key people in this specific area.

\textsuperscript{12} Cf. Schnell, Hill, & Esser (2005), p. 249
\textsuperscript{13} Cf. Schnell, Hill, & Esser (2005), p. 250
\textsuperscript{14} Cf. Schnell, Hill, & Esser (2005), p. 299
\textsuperscript{16} Cf. Schnell, Hill, & Esser (2005), p. 322
1.4 Demarcation of the thesis

This thesis talks about security initiatives in the United States of America, Canada and Mexico. It does not deal with security initiatives that are developed by any European or Asian government. And it only relates to security requirements for shipments going into one of those three countries. The paper focuses on the transportation of goods and cargo and does not cover the security and safety of passengers travelling with the different transportation modes. It does not analyse the customs clearance process itself, any required customs documents or Incoterms. The analysis deals only with the security related part of the cross-border process. Furthermore, it ignores pipelines as a mode of transportation. This paper uses information from the mentioned sources until August 30, 2009. Any new development after this mentioned date is not being considered in this work.
2 Essentials

In the first part of this chapter relevant terms used in this thesis will be defined. Furthermore, a short description of the involved government institutions will be given. In chapter 2.2 the author will provide a quick glance at the trade relationship between the NAFTA countries United States, Canada and Mexico.

2.1 Definition of relevant terminology

In this section an overview about the most important relevant terminology that is used in this thesis will be given. It is in particular interesting to compare European views with North American views.

According to the European author David Lowe, *Logistics* comprises the complete supply and movement of goods from the source of the material all the way to the end consumer. It includes the planning and organizing through all stages of production, assembly, packing, storage, handling and distribution.\(^\text{17}\)
The American Author Wallace Little understands logistics also as the outbound movement of materials, parts, finished goods and supplies. Furthermore, he adds the purchasing as a further level.\(^\text{18}\)

David Lowe describes *transport* as “anything and everything to do with operation of goods vehicles and movement of goods.”\(^\text{19}\)
The Americans add another parameter. To them transportation also means the commercial life along with the movement of goods and people from one point to another.\(^\text{20}\)

*Supply Chain* is a rather modern word. Lowe’s Dictionary of Transport and Logistics describes a supply chain as the ongoing connector between the initial supply of raw materials, continuing with production and then eventually to the finished good being delivered to the end customer. Furthermore, he adds a second description identifying supply chain as all processes within one or between multiple businesses that meet consumer needs.\(^\text{21}\)

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17 Cf. Lowe (2002), p. 147
18 Cf. Little (1977), p. 195
20 Cf. Little (1977), p. 361
Figure 1 is an example of a simple supply chain from the manufacturer to the importer.

**Figure 1** A supply chain and its agents

(DataSource: Own creation)

Of course there can be a higher number of agents involved. The following graph shows examples of agents that can be involved in a supply chain within the different areas of export, transport, border crossing and import.

**Figure 2** Examples of agents in a supply chain

![Supply Chain Diagram]

(Source: Own creation after Kommerskollegium)

The supply chain might also include warehouses and consolidation processes and/or intermodal exchange.

*Supply chain management* is not only simplistically the management of the supply chain, but it includes all processes that turn raw materials into finished products, generating profit and delivering on time and to the customer’s satisfaction.\(^\text{22}\)

*Safety* tries to prevent accidents, like damages and road accidents. It is the umbrella term for activities that are trying to ensure safe processes for example during transport, transshipment or storage.\(^\text{23}\)

*Security* addresses all activities dealing with intentional unlawful and/or harmful acts.

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\(^{22}\) Cf. Lowe (2002), p. 236

\(^{23}\) Cf. Blümel, Boevé, Recagno and Schilk (eds.) (2008), p. 2
Security initiatives try to prevent incidents like crime and terrorism.\textsuperscript{24}

\textit{Supply chain security} involves a whole range of activities that can be grouped into the following big four categories: physical security, personnel security, procedural security and information security.\textsuperscript{25}

Under the term \textit{compliance} proactive and holistic strategies are understood that assure that laws are being followed correctly. This includes state laws as well as current regulations.\textsuperscript{26}

Now the most common agents within a supply chain will be explained and respective differences will be pointed out.

Lowe describes a \textit{carrier} as a transport operator in his European view.\textsuperscript{27}

The American point of view is very similar. A carrier’s business is the transportation of goods.\textsuperscript{28} The dictionary of international trade adds that it can be an individual or a legal entity and that this agreement must underlie a contract of carriage.\textsuperscript{29}

Lowe describes a \textit{broker} as an intermediary between consignor of freight and carrier. Road hauliers are an example.\textsuperscript{30}

According to the American author Little a broker is also a ship agent that acts in the name of a ship owner and does business for the ship.\textsuperscript{31}

\textit{Third party logistics} is another modern word that is only used by logisticians since a few years. Under third party logistics, also called 3PL, logisticians mean logistics service provided by an external contractor.\textsuperscript{32}

In the European dictionary of Transport and Logistics Lowe identifies \textit{freight forwarders} as companies acting as agents for other firms in organizing the movement of cargo. They offer the complete range of services like organization, administration, documentation and insurance. While the freight forwarder uses his full experience in complex legal and documentary requirements, in particular in international trade, the

\begin{itemize}
  \item \textsuperscript{24} Cf. Blümel, Boevé, Recagno and Schilk (eds.) (2008), p. 2
  \item \textsuperscript{25} Cf. Blümel, Boevé, Recagno and Schilk (eds.) (2008), p. 6
  \item \textsuperscript{26} Cf. Roth (2000), pp. 1-6
  \item \textsuperscript{27} Cf. Lowe (2002), p. 34
  \item \textsuperscript{28} Cf. Little (1977), p. 65
  \item \textsuperscript{29} Cf. Hinkelman (2002), S. 33
  \item \textsuperscript{30} Cf. Lowe (2002), p. 27
  \item \textsuperscript{31} Cf. Little (1977), p. 56
  \item \textsuperscript{32} Cf. Lowe (2002), p. 245
\end{itemize}
firm can concentrate on its core business.\textsuperscript{33}
Cavinato has a very similar approach, but stresses the fact that his ultimate goal is to expedite the outward movement of goods.\textsuperscript{34}
Little, with his American point of view, adds another description. Freight forwarders accept less-than-carload (LCL) or less-than-truckload (LTL) shipments from different companies and combine them. While they charge the shipper on the basis of LCL size shipments they pay the carrier on the basis of CL shipments. This covers the freight forwarders’ costs and generates a profit.\textsuperscript{35}

A \textit{Customs broker} is a licensed individual or firm that is allowed by a country’s customs authority to handle custom documents and other formalities for companies in order to ensure a fast and legal way of exporting and importing goods.\textsuperscript{36}

A \textit{non-vessel-operating common carrier} (NVOCC) is “a shipping company issuing bills of ladings for the carriage of goods on vessels he neither owns nor operates.”\textsuperscript{37}

A \textit{Bill of Lading} or short B/L is a legal document of title. It is a receipt of goods that are shipped by sea stating the terms on which the goods are carried.\textsuperscript{38}
Cavinato sees the bill of lading as a contract for transportation between the shipper and the carrier.\textsuperscript{39}

Several government institutions are involved in the whole border-crossing process.

\textit{U.S. Customs and Border Protection}, in this text referred to as CBP, is the U.S. customs authority. Its major responsibility is to keep terrorists and dangerous weapons out of the United States while securing and facilitating trade. It is the largest and most complex part of the Department of Homeland Security (DHS).\textsuperscript{40}

\textit{Canada Border Services Agency} (CBSA) is the Canadian customs authority. Its purpose is to provide integrated border services making security and public safety a priority. Furthermore, they try to facilitate the free flow of people and goods.\textsuperscript{41}

\textit{Transport Canada} implements legislation, regulations, standards and policies to

\textsuperscript{33} Cf. Lowe (2002), p. 99
\textsuperscript{34} Cf. Cavinato (1982), p. 95
\textsuperscript{35} Cf. Little (1977), p. 145
\textsuperscript{36} Cf. Hinkelman (2002), S. 54
\textsuperscript{37} Lowe (2002), p. 169
\textsuperscript{38} Cf. Lowe (2002), p. 23
\textsuperscript{39} Cf. Cavinato (1982), p. 28
\textsuperscript{40} Cf. U.S. CBP (2009d)
\textsuperscript{41} Cf. CBSA, 2009f)
monitor and enforce security policies. They use licenses, certificates, registrations and permits, audits, inspections and surveillance and in instances of non-compliance they take appropriate enforcement action.\textsuperscript{42}

\textit{Administración General de Aduanas} is the Mexican customs authority.\textsuperscript{43}

### 2.2 Trade relationship between the NAFTA countries

The \textit{North American Free Trade Agreement} (NAFTA) was signed in 1992 by the presidents of the three North American countries United States of America, Canada and Mexico. After having been ratified in 1993, it took effect on January 1, 1994. This agreement established a free-trade zone lifting tariffs on most of the goods manufactured in the signatory countries. The idea also included gradual elimination of any barriers to cross-border movement of goods and services as well as investments.\textsuperscript{44}

To save taxes on cross-border shipments, a certificate of origin has to be completed. An example form can be found in appendix 1. Generally a comment saying “Made in Canada” is enough to proof where the good was manufactured. Tax exemption is also granted when a NAFTA related document is completed.\textsuperscript{45}

Trade among the three NAFTA countries soared since the signing of the agreement. From 1993 to 2006 trade increased by 198\% from $297 billion to $883 billion.\textsuperscript{46} In 2007 the total trade in goods already hit $930 billion.\textsuperscript{47} The countries’ economies have grown by over 40 percent since the introduction of NAFTA.\textsuperscript{48}

Table 2 gives a comparison of the most important trade indicators of the three NAFTA members United States, Canada and Mexico.

\begin{table}
\caption{Comparison of the most important trade indicators of the three NAFTA members United States, Canada and Mexico.}
\end{table}

\textsuperscript{42} Cf. Treasury Board of Canada Secretariat (2005)
\textsuperscript{43} Cf. Administración General de Aduanas (2009)
\textsuperscript{44} Cf. U.S. CBP (2009e)
\textsuperscript{45} Cf. interview with Debbie Bychyk
\textsuperscript{46} Cf. Office of the United States Trade Representative (2007)
\textsuperscript{47} Cf. U.S. Department of Commerce (2008), p. 26
\textsuperscript{48} Cf. U.S. Department of Transportation (2007a)
Table 2 Overview of trade in the United States, Canada and Mexico

<table>
<thead>
<tr>
<th></th>
<th>United States</th>
<th>Canada</th>
<th>Mexico</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Population (2007)</strong></td>
<td>301,621,000</td>
<td>32,976,000</td>
<td>105,281,000</td>
</tr>
<tr>
<td><strong>GDP (million current US$, 2007)</strong></td>
<td>13,811,200</td>
<td>1,326,376</td>
<td>893,364</td>
</tr>
<tr>
<td><strong>Trade per capita (US$, 2005-2007)</strong></td>
<td>11,994</td>
<td>27,134</td>
<td>5,158</td>
</tr>
<tr>
<td><strong>Rank in World Exports (2007)</strong></td>
<td>3</td>
<td>10</td>
<td>15</td>
</tr>
<tr>
<td><strong>Rank in World Imports (2007)</strong></td>
<td>1</td>
<td>10</td>
<td>14</td>
</tr>
<tr>
<td><strong>Value of Merchandise Exports, f.o.b. (million US$, 2007)</strong></td>
<td>1,162,479</td>
<td>420,693</td>
<td>271,821</td>
</tr>
<tr>
<td><strong>Value of Merchandise Imports, c.i.f. (million US$, 2007)</strong></td>
<td>2,020,403</td>
<td>389,911</td>
<td>295,201</td>
</tr>
</tbody>
</table>


There are several interesting facts to take out of this table. The first thing that should be highlighted is the large difference of population of those three countries. The United States has ten times as many people as Canada and triple the number of people of Mexico.

While Mexico has roughly three times the population of Canada, its GDP is only slightly greater than half of Canada’s GDP. And while Canada has only a tenth of the United States’ population, its trade per capita is three times the amount of the U.S. trade per capita. This clearly ranks Canada as the most international trade intensive economy of the three countries. Mexico’s economy, on the other hand, is still very slow.

Furthermore, the table clearly shows that the United States is far ahead of Canada as well as Mexico in terms of its rank as an importing and exporting country in the world. It is the world’s number one in imports with a value of over $2 trillion in the year 2007. As the world’s number three in exports its merchandise sold to other countries in 2007 was of a value of just over $1.1 trillion. Canada follows far behind on place 10 for both imports and exports. Mexico is the world’s number 14 as far as imports go and number 15 for exports.

For the United States to be the largest trader of goods in the world, it depended highly on its two neighbouring countries Canada and Mexico. Canada and Mexico are the United States’ first and second largest export markets.\(^{49}\) Figure 3 shows a breakdown of the U.S. total exports.

\(^{49}\) Cf. Office of the United States Trade Representative (2007), p. 1
21% of all exports of the United States go into Canada and 12% go into Mexico. It is true that the European Union accounts for 21% of all U.S. exports, but when you split it up into the individual European countries, no single country exceeds Mexico or Canada. The number of U.S. merchandise exported to its NAFTA partners also grew more rapidly than the number of exports to the rest of the world.\textsuperscript{50}

Figure 4 shows the breakdown of all U.S. imports.

Canada and Mexico are on third and fourth place after the EU and China. U.S. goods imports from Canada and Mexico grew by 247% from 1993 to 2007. They reached the sum of $523.9 billion in the year 2007.\textsuperscript{51}

\textsuperscript{50} Cf. Office of the United States Trade Representative (2007), p. 1
\textsuperscript{51} Cf. U.S. Department of Commerce (2008), p. 26
Knowing the amount of trade happening between the United States and its NAFTA partners, it is now interesting to take a look at the breakdown of the shipments by mode of transportation used. Table 3 splits up the enormous amount of goods that cross the border between the three NAFTA countries every day by road, sea, air and rail.

Table 3 Percentage of total U.S. trade by use of mode of transportation and country

<table>
<thead>
<tr>
<th></th>
<th>Canada</th>
<th>Mexico</th>
</tr>
</thead>
<tbody>
<tr>
<td>Road</td>
<td>36.75%</td>
<td>28.90%</td>
</tr>
<tr>
<td>Sea</td>
<td>31.11%</td>
<td>61.35%</td>
</tr>
<tr>
<td>Air</td>
<td>0.09%</td>
<td>0.08%</td>
</tr>
<tr>
<td>Rail</td>
<td>32.04%</td>
<td>9.67%</td>
</tr>
</tbody>
</table>

(Source: http://nats.sct.gob.mx/nats/sys/tables.jsp?i=3&id=18)

Two modes of transportation clearly stand out when looking at this table. For Canada it is the road. The facilitation of commercial traffic between Canada and the U.S. clearly fosters the transport by trucks for shipments between the United States and its northern neighbour. For Mexico the highest percentage of shipments are transported by ship. Very specific and more stringent regulations on road traffic explain the higher percentage of maritime shipments between the U.S. and Mexico.

Although NAFTA is supposed to improve all aspects of doing business between Canada, the U.S. and Mexico\textsuperscript{52}, this is not the case with all aspects of trade. While the customs process is simplified enormously, the security regulations for cross-border shipments have not decreased. The following chapter will provide the reader with an overview of the existing cargo security initiatives in the NAFTA area.

\textsuperscript{52} Cf. U.S. Department of Commerce (2008), p. 26
3 Description of cargo security initiatives in the NAFTA region

In the following chapter an overview of all existing cargo security programs and initiatives in North America will be given. There are three possible ways to classify those initiatives:

- By their initiating body
- Whether they are compulsory or voluntary and
- By the mode of transportation.

To provide the reader with an overview Table 4 shows which initiatives and programs were initiated by a state/supranational body, which by a non-governmental organisation, which programs are mandatory and which are voluntary.

Table 4 Overview of governmental and non-governmental initiatives

<table>
<thead>
<tr>
<th></th>
<th>Governmental</th>
<th>Non-governmental</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compulsory</td>
<td>e-manifest, 24 hour-rule, ISF, Air AMS, Rail AMS</td>
<td></td>
</tr>
<tr>
<td>Voluntary</td>
<td>CSI, C-TPAT, SFI, ISA, FAST, CSA</td>
<td>BASC, TAPA</td>
</tr>
</tbody>
</table>

(Source: Own Creation)

Generally it can be said that all compulsory programs were implemented by governments and they cover the area of information processes. This includes the required information about the specific commodities as well as backgrounds of companies and their people. Programs for the physical control and inspection are voluntarily, although non-compliance leads to enormous waiting times and delays. Therefore, the so-called voluntary initiatives can be better categorized necessary programs in order to maintain competitiveness within the supply chain. In most cases the market and its demanding customers request that its business partners are compliant with those programs.

The author chose to subdivide this section into programs initiated by the U.S. government, the Canadian government and the Mexican government. The corporate initiatives are described in chapter 3.4. Furthermore, the initiatives are categorized by mode of transportation - they will be divided into maritime, road, air and rail initiatives.

The United States were the first ones to develop and implement initiatives and programs with the purpose of securing the transportation chains. After the terror attacks of September 11, 2001 the U.S. government dedicated special focus towards ensuring that no further intrusion into the United States either by cargo or a mode of transportation itself is possible. The United States distinctively states which security
standards it wants from whom and its initiatives are all very clearly defined in extensive detail on CBP’s website. During this same period, Canada and Mexico started developing their own programs. The Canadian and Mexican programs, however, seem to be less developed and less specific than the U.S. ones. For example, the Canadian security requirements focus more on desired outcomes from the entire security process. This means that they are much less explicit about which vendors or agents must produce information. They simply say that certain information must be provided. There is also a greater emphasis in educating businesses on the government’s role in the process. It gives the impression that they try to put more pressure on their own government rather than the individual supply chain agents to achieve security outcomes. Mexico’s customs authority does not have a central website yet where all required security standards are summarized. Starting with the United States, the following sections will give a description of all existing security initiatives. The U.S. programs will be explained in greatest detail, while the Canadian and Mexican initiatives will be explained shortly.

### 3.1 Security programs by the United States of America

The most important institution concerning border crossing in the United States is the U.S. Customs and Border Protection (CBP). CBP is the border security agency within the U.S. Department of Homeland Security (DHS). All security initiatives are based on the requirements stated in the Trade Act of 2002. The tools that are being used by CBP to make the below mentioned programs a success are Automated Commercial Environment (ACE), Importer Self-Assessment (ISA) and pre-arrival processing system (PAPS). In the following chapters those initiatives will be described into more detail.

#### 3.1.1 U.S. road security initiatives

In North America most goods are transported by truck. The method of road transportation is very sensitive to interruptions and congestions that can easily lead to enormous delays. That is why it is especially important to have security initiatives that ensure fast and effective processing on the borders. On the following pages the U.S. truck security initiatives are described more into detail.

##### 3.1.1.1 Free And Secure Trade

The Free And Secure Trade (FAST) program aims at expediting the processing of low-

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risk and pre-registered commercial truck drivers, so-called trusted shippers, entering the U.S. either from Canada or Mexico. The truck drivers can be U.S. truck drivers as well as Canadian or Mexican truck drivers.\textsuperscript{55} The FAST program is managed by CBP and was a result of the Customs Trade Partnership Against Terrorism (C-TPAT) program\textsuperscript{56} that will be described into detail later on.

Two categories can be differentiated:  
- the U.S./Canada FAST program and  
- the U.S./Mexico FAST program.

Figure 5 U.S./Canada and U.S./Mexico Free And Secure Trade Logo

Figure 5 shows the programs' logos. The U.S./Canada FAST program started in December 2002\textsuperscript{57}, whereas the U.S./Mexico FAST program started only at the end of September 2003.\textsuperscript{58}  
FAST members enter designated FAST lanes at the border and an immediate identification of vehicles, shipments and drivers takes place. The company only has to send the electronic information before the truck arrives at the border. Upon the truck’s arrival at the border, the border agent receives information about the carrier and the pre-submitted shipment through the vehicle’s transponder as well as information about the driver through the FAST Commercial Driver card.\textsuperscript{59} To participate in FAST there are several requirements for the importer, carrier and driver and complete background checks of all of them are made.\textsuperscript{60} The application form that needs to be completed to become a FAST commercial driver can be found in appendix 2.

Figure 6 on the next page shows the respective requirements for each agent.\textsuperscript{61}

\textsuperscript{55} Cf. U.S. CBP (2008d)  
\textsuperscript{56} Cf. U.S. CBP (2009j)  
\textsuperscript{57} Cf. U.S. CBP (2005a), p. 2  
\textsuperscript{58} Cf. U.S. CBP (2009j), p. 2  
\textsuperscript{59} Cf. U.S. CBP (2009j)  
\textsuperscript{60} Cf. U.S. CBP (2008d)  
\textsuperscript{61} Cf. U.S. CBP (2009j)
Furthermore, the shipment must be processed using the pre-arrival processing system (PAPS).\(^{62}\) PAPS shipments get a unique barcode consisting of the U.S. Standard Carrier Alpha Code (SCAC) and Pro-Bill number and it gets attached to the invoice as well as the truck manifest before entering the U.S. After the information has been sent to a U.S. customs broker, a Border Cargo Selectivity (BCS) entry is prepared in ACS. At the border a customs officer scans the barcode and the entry information from ACS is automatically retrieved. If there is no need for an inspection, the truck is immediately released.\(^{63}\)

CBP lists several advantages with FAST:\(^{64}\)

- Thanks to dedicated lanes, trans-border shipments can be processed faster and more efficient.
- There are fewer delays at the border due to fewer inspections.
- For CBP inspections, FAST members are always first to be in line.
- The United States, Canada and Mexico experience improved supply chain security while their economic prosperity is being protected.
- And a benefit for FAST drivers is that the FAST Commercial Driver card is accepted as a valid travel document equivalent to a passport for purposes of the Western Hemisphere Travel Initiative (WHTI)\(^ {65}\). Non-U.S. citizens, however, must still in addition present appropriate immigration documents when entering the U.S.\(^ {66}\)

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\(^{62}\) Cf. U.S. CBP (2009j)

\(^{63}\) Cf. U.S. CBP (2009k)

\(^{64}\) Cf. U.S. CBP (2008d)

\(^{65}\) Implemented in June 2009, the WHTI tries to provide the general public with compliant border documentation like NEXUS and FAST cards, enhanced drivers licenses and enhanced identification cards to expedite the crossing process and prevent people from avoiding cross-border travel and tourism due to bureaucracy. For more details see http://www.uschamber.com/NR/rdonlyres/evlsrujxbtkzuprf3ti43e462a373cqrpd2j3e3ca4gyg
 nip3v3h6dtswu4zhhgfzoza4pru5jxbhtrxdiczqgh4f0907_sharedborder.pdf.

3.1.1.2 Electronic Truck Manifest

The Electronic Truck Manifest is also referred to as the e-manifest and it was initially started in October 2002 with a test run for about 2 years.\(^{67}\) It is built as a partnership and members of the trade community have actively been involved in forming it.\(^ {68}\) CBP requires an e-manifest from truck carriers 1 hour prior to arrival at a U.S. land port of entry. FAST participants only need to submit it half an hour before the arrival. In appendix 3 an example of an ACE truck manifest is provided. It includes information about the shipment, crew, conveyance and equipment as applicable. This data is then used by CBP officers to pre-screen the truck before it arrives at the border. At the gate CBP officers look at the pre-filed entries and either release the truck immediately or send it to a secondary inspection.\(^ {69}\) This enormously shortens the waiting time for truck drivers. The e-manifests decreased processing time at borders on average by 33\% and saved the customs personnel 1000 hours per week on paper work.\(^ {70}\)

To file e-manifests the Automated Commercial Environment (ACE) is used.\(^ {71}\) ACE is the commercial trade processing system and Figure 7 shows its logo CBP is using.

**Figure 7 Automated Commercial Environment Logo**

![ACE Logo](http://www.cbp.gov/linkhandler/cgov/newsroom/fact_sheets/printer_fact_sheets/ace_print_sheets/ace_fact_sheet.ctt/ace_fact_sheet.pdf)

This customized data portal represents a centralized online access point for CBP, other participating government agencies and the trade community. It provides information concerning cargo shipments as well as communications in a secure way.\(^ {72}\) ACE’s basic pillars are speed, accuracy, economy and safety.\(^ {73}\) As of today, ACE is also used by ocean and rail carriers as well as importers, service providers, brokers, facility operators and foreign trade zone operators. In the future the goal is to have a single, standardized, multi-modal manifest system for all modes of transportation, including air.\(^ {74}\)

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\(^{68}\) Cf. U.S. DHS (2008b)

\(^{69}\) Cf. U.S. CBP (2008g)

\(^{70}\) Cf. U.S. DHS (2008b)

\(^{71}\) Cf. U.S. CBP (2008g)

\(^{72}\) Cf. U.S. CBP (2009c)

\(^{73}\) Cf. U.S. DHS (2008b)

\(^{74}\) Cf. U.S. CBP (2009c) and U.S. CBP (2008h)
3.1.2 U.S. maritime security initiatives

To enhance the security of ships and port facilities worldwide, the IMO developed the *International Ship and Port Facility Security Code* (ISPS-Code) in 2002 and went into effect on July 1, 2004. This comprehensive set of security measures and procedures has two parts, Part A being mandatory and Part B being recommendations. The main goals of this program are:

- To build international cooperation between governments and the shipping and port industries to be better able to identify security threats to internationally used ships and port facilities.
- To assign roles and responsibilities for the various agents in the international maritime transportation system.
- To ensure exchange of security-related information.
- To develop security assessment methods, ship and port facility security plans including actions to take in reaction to changing security levels.

The U.S. counterpart to the ISPS Code is the *Maritime Transportation Security Act of 2002* (MTSA), which includes key provisions like:

- Vulnerability assessments of facilities and vessels
- National, area, vessel and facility security plans
- Biometric security cards
- Maritime Safety and Security Teams
- Maritime security grant program
- Foreign port assessment program
- Automatic Identification Systems and
- Regional Maritime Security Advisory Committees.

The *Security and Accountability of Every Port Act of 2006* (SAFE Port Act) states that electronic transmission of security data elements prior to loading at foreign seaports should help to better identify high-risk shipments. The SAFE Port Act also requires the U.S. to evaluate the feasibility of a 100% screening of cargo destined for the U.S. for radiation. This should initially be done in three test ports.

In late 2002 Operation Safe Commerce (OSC) was started by DHS, Office for Domestic Preparedness (ODP) together with the three largest U.S. container load centers and other supply chain agents. It is a collaborative partnership providing grants

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76 Cf. Bennett (2008), p. 165
79 Cf. U.S. CBP (2007f)
80 Cf. World Shipping Council (2002), p. 2
with the goal of developing, testing and sharing best practices in the secure movement of containerized cargo. This program was initiated as a test base to identify vulnerabilities in the supply chain and develop security initiatives that address those vulnerabilities.

In the following chapters the U.S. security programs for sea shipments are described.

### 3.1.2.1 Container Security Initiative

The *Container Security Initiative* (CSI) tries to prevent maritime containers being misused by terrorists to deliver a weapon to the U.S. This initiative was developed shortly after the terror attacks of New York and Washington on September 11, 2001 and it got implemented in January 2002. Figure 8 shows the logo under which CBP promotes this program.

**Figure 8 Container Security Initiative Logo**

![CSI Logo](http://www.cbp.gov/xp/cgov/trade/cargo_security/csi/csi_in_brief.xml)

Its goal is to curtail the threat to U.S. border security and global trade in general by ensuring that before placing containers on vessels destined for the United States, potential risky containers are identified, pre-screened and inspected in the foreign port. The idea is to push the U.S. border outwards creating an extended security zone. This gives the United States more time to react to suspicious shipments rather than dealing with them when they are already on U.S. ground. This initiative is not compulsory and goods can still be shipped into the U.S. from non-CSI ports, but enormous delays due to more stringent examinations of the cargo as soon as it enters the United States must be expected.

With CSI U.S. officers both from the CBP and Immigration and Customs Enforcement (ICE) are stationed in foreign ports all over the world and cooperate with the host foreign governments identifying security criteria for targeting high-risk containers. CSI uses technology to pre-screen rapidly in order to prevent trade from slowing down. Technologies they are using include X-ray, gamma ray machines, radiation detection devices and other non-intrusive inspection technology (NII). So-called “smart” containers are being used where a security seal helps officers on U.S. ground to

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81 Cf. U.S. DHS (2005), p. 4
82 Cf. U.S. Department of Transportation (2002)
84 Cf. U.S. CBP (2008a)
86 Cf. U.S. CBP (2008a)
identify containers that have been tampered during shipment.\textsuperscript{87} There are two types of smart containers, one with radio frequency identification (RFID) technology\textsuperscript{88} and the other with a group of sensors capable of detecting any impacts, even speed, change in temperature or shock.\textsuperscript{89} Host country customs officers examine the containers whereas the U.S. personnel does the security screening.\textsuperscript{90} The program is meant to be reciprocal. CBP promotes that other countries should send customs personnel to major U.S. ports to overlook maritime containers being shipped from the U.S. to their countries. Japan and Canada already stationed officers in some U.S. ports.\textsuperscript{91} According to the Organization for Economic Cooperation and Development (OECD), though, not many countries have sent their officers to U.S. ports.\textsuperscript{92} As of 2009 there are 58 CSI ports all over the world. 13 are situated in North and South America, 23 in Europe, 20 in Asia and 2 in Africa. A complete list of all current CSI certified ports can be found in appendix 4.\textsuperscript{93} The future looks difficult for supply chain agents. By 2012 the U.S. is aiming to screen and search 100\% of the containers destined for the U.S. and not only those that have been identified as a potential risk. Besides searching through documents, companies’ backgrounds and bill of ladings as they are doing it right now, they want to screen every single container before it leaves the foreign port in direction to the United States.\textsuperscript{94}

\textbf{3.1.2.2 24-Hour-Advance-Vessel-Manifest-Rule}

The 24-Hour-Advance-Vessel-Manifest-Rule, more shortly referred to as the 24-hour rule or AMR, is in force since February 2003.\textsuperscript{95} Carriers and/or NVOCC carriers are required to send a cargo declaration to CBP 24 hours before cargo is laden aboard a vessel in a foreign port.\textsuperscript{96} The detailed information about the content of the sea containers is then being used by CBP to identify potential high-risk containers that could be a threat to U.S. national security long before they actually enter American grounds.\textsuperscript{97}

\textsuperscript{87} Cf. U.S. CBP (2006a)
\textsuperscript{88} RFID makes it possible to identify containers that have been tampered during transit by using radio frequency technology. For more details see Kommerskollegium (2008).
\textsuperscript{89} Cf. Sewak (2008), p. 214
\textsuperscript{90} Cf. U.S. CBP (2007a), p. 4
\textsuperscript{91} Cf. U.S. CBP (2008a)
\textsuperscript{92} Cf. OECD (2005), p. 119
\textsuperscript{93} Cf. U.S. CBP (2007b) and U.S. CBP (2008b)
\textsuperscript{94} Cf. Springer Transport Media GmbH (2008)
\textsuperscript{95} Cf. U.S. CBP (2003)
\textsuperscript{96} Cf. U.S. CBP (2004a), p. 3
\textsuperscript{97} Cf. U.S. CBP (2003)
The following 14 data elements must be sent to CBP:

- Foreign port of departure
- Carrier’s Standard Carrier Alpha Code (SCAC)
- Voyage number
- Date of scheduled arrival
- Numbers and quantities from the carrier’s bills of lading
- First port of receipt of goods
- Precise description of the goods and/or Harmonized Tariff Schedule of the United States (HTSUS) code
- Shipper’s complete name and address or identity number
- Consignee’s name and address or identity number
- Vessel name, national flag and vessel number
- Foreign port where the cargo was laden on board
- Hazardous material indicator, if applicable
- Container number
- Seal number affixed to the container.

The data is being sent through the Automated Manifest System (AMS) interface. All shipments are then being controlled by the Automated Targeting System (ATS) that has predefined criteria of what is considered risky and what is not risky. Only the containers that have been identified as risky are then being controlled further. The safe shipments are being processed faster and more effectively into the U.S. thanks to this program.

If companies are not compliant with this rule, it leads to a denial of the shipment at the U.S. port of entry and they might be charged a fee.

The idea of the 24-hour rule is prevention rather than inspection. Although the costs of the initial investment are high, the cost savings on the long run are much higher. The pre-identification and targeting of high-risk containers is much more cost effective and time saving than random controls.

This 24-hour rule is the very first model in this area of security and it has been continuously improved. The newer version, the so-called Importer Security Filing and Additional Carrier Requirements, will be discussed next.

### 3.1.2.3 Importer Security Filing and Additional Carrier Requirements

The Importer Security Filing and Additional Carrier Requirements (ISF), also known as

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99 The HTSUS code is a duty/statistical reporting number that classifies the goods contained in the shipment. For more details see http://edocket.access.gpo.gov/2008/pdf/E8-27048.pdf.
101 Cf. OECD (2005), p. 119
103 Cf. Bichou (2007), p. 239
the “10+2 rule”, is, as already mentioned, an intensification of the already existing 24-Hour-Advance-Vessel-Manifest-Rule to improve the U.S. customs authority’s ability to identify high risk containers. The rule took effect end of January 2009, but there is a 12-months period where CBP shows restraint from enforcing it in case importers and shippers try to comply, but face difficulties in achieving it. ISF requires 10 additional data elements from the importer and 2 additional data elements from the carrier, hence its name “10+2 rule”.

The importer security filing includes information about:

- seller
- buyer
- importer of record number/foreign trade zone applicant identification number
- consignee number(s)
- manufacturer/supplier
- ship to party
- country of origin
- commodity HTSUS code
- container stuffing location and
- consolidator (stuffer).

The carrier is required to provide:

- vessel stow plan and
- container status messages (CSM).

The vessel stow plan information gathered from the carrier is very helpful for CBP in targeting not pre-registered containers and in locating high-risk containers aboard the ship in case they need to be discharged. The required data includes vessel name, International Maritime Organization (IMO) number, vessel operator and voyage number as well as the container’s operator name, equipment number, equipment size and type, stow position, Hazmat code (if applicable), port of landing and port of discharge. Container status messages are used to identify the current position of containers all along the supply chain. For transit cargo there are even more data elements required.

The CBP currently uses following approved electronic data interchange systems for

105 Cf. U.S. DHS (2008a) and Chertoff (2008), p. 5
106 Cf. U.S. DHS (2008a) and U.S. DHS (2008c)
108 The Hazmat code is an identification number that categorizes hazardous material. For more details see http://edocket.access.gpo.gov/2008/pdf/E8-27048.pdf.
Importer Security Filings: Automated Manifest System (AMS) and Automated Broker Interface (ABI). For vessel stow plans CBP uses AMS, secure file transfer protocol (sFTP) and e-mail and for container status messages sFTP.\textsuperscript{112}

There is discontent in the industry about the deepness of those required information elements and many companies are concerned about their privacy. That is where the Secure Freight Initiative comes into play.

**3.1.2.4 Secure Freight Initiative**

The *Secure Freight Initiative* (SFI) builds on existing port security programs and seeks to prevent terrorist attacks along the global maritime supply chain using nuclear or other radiological materials or bringing the necessary resources for such an attack to the United States through cargo containers.\textsuperscript{113} It was launched on December 7, 2006 to “meet the needs for enhanced cargo scanning and expanded integration of trade data with government information systems”.\textsuperscript{114} The idea of SFI is a network that connects information from all over the world building a secure ring that no terrorists can intrude. To ensure its success DHS, the Department of Energy and the Department of State cooperate.\textsuperscript{115} Moreover, there are coalitions with terminal operators, ocean carriers and shippers who are committed to supply chain security.\textsuperscript{116} SFI builds on CSI and the Megaports Initiative.\textsuperscript{117} The Megaports Initiative provides countries with radiation detection equipment and in return the United States receives information about any findings during the screening process of cargo in the foreign ports.\textsuperscript{118} As far as CSI is concerned both non-intrusive radiographic imaging as well as passive radiation detection equipment is used to inspect containers.\textsuperscript{119} A prerequisite for participating in the SFI is participation in CSI and Megaports.\textsuperscript{120} Under SFI more containers are examined than just those that are identified as high-risk under CSI\textsuperscript{121} and the ultimate goal is a 100% screening of U.S.-bound cargo containers. SFI is currently testing the feasibility of the planned 100% screening in seven test ports.\textsuperscript{122}

\begin{flushleft}
\textsuperscript{112} Cf. U.S. CBP (2008c), p. 3
\textsuperscript{113} Cf. U.S. DHS (2006a)
\textsuperscript{114} U.S. CBP (2007c)
\textsuperscript{115} Cf. U.S. CBP (2007c)
\textsuperscript{116} Cf. U.S. DHS (2006a) and U.S. DHS (2006b)
\textsuperscript{117} Cf. U.S. CBP (2007c) and U.S. CBP (2007d)
\textsuperscript{118} Cf. U.S. CBP (2007c)
\textsuperscript{120} Cf. U.S. CBP (2007d), p. 2
\textsuperscript{121} Cf. U.S. CBP (2007f)
\textsuperscript{122} Cf. U.S. CBP (2007d), p. 1
\end{flushleft}
The current SFI ports are:

- Port Qasim in Pakistan*
- Puerto Cortes in Honduras*
- Port of Southampton in the United Kingdom*
- Port Salalah in Oman
- Port of Singapore
- Gamman Terminal at Port Busan in Korea and
- Port of Hong Kong.

*The first three listed ports have SFI completely implemented whereas the last four ports run on a limited capacity basis.

Part of SFI is also dealing with securing data security as well as privacy. To achieve this goal, standard file formats are being used as well as data transfer protocols and secure submission interfaces within CBP’s Automated Commercial System (ACS) and Automated Targeting System (ATS).

### 3.1.3 U.S. air security initiatives

The aviation industry plays a major role in the U.S. economy. Due to the long distances between cities, air is a very popular mode of transportation for commercial cargo within the United States. The goods that are being shipped by air are mostly in smaller units and not in containers that make up the majority of sea shipments.

#### 3.1.3.1 Air Automated Manifest System

The *Air Automated Manifest System*, also referred to as the Air AMS, is the same program for air transportation as the 24-Hour-Advance-Vessel-Manifest-Rule is for maritime shipments. It has been in effect since December 2004 and requires inbound air carriers to provide U.S. Customs with information about the incoming shipment electronically 4 hours prior to arrival in the U.S. The rule also applies when loaded aircraft have technical stops on U.S. ground.

Obligatory information includes:

- Shipper’s name and address
- Name and address of the consignee or owner
- Precise description of the cargo in English including its weight and value and
- Quantity reported in the smallest external packing unit.

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125 Cf. U.S. CBP (2008c), p. 3
In case of non-consolidated shipments, information for the air bill of lading record must be transmitted. For consolidated shipments that have a master bill of lading, information for every associated house bill of lading must be transmitted when no other party has provided CBP with it. Every incoming air carrier with commercial cargo aboard is required to provide information in order to be allowed to enter. The importer or customs broker can voluntarily add additional information. Non-compliance could result in delays and/or penalties. In the worst case CBP could even seize the goods.

3.1.3.2 Physical screening of air cargo

The U.S. Transportation Security Administration (TSA) ensures the security of cargo placed aboard airplanes, in particular on airplanes carrying passengers. As of today, half of the cargo transported by passenger carrying planes undergoes screening. 96% of the flights originating in the United States have 100% screened cargo on board. Also enhanced background checks of employees and shippers are being executed. There are plans for increasing the physical inspections by using new equipment. The development of screening technologies, however, is hindered by the volume, the size and timely need of cargo. In the near future, integrating cargo within checked baggage areas and the usage of baggage screening explosives detection systems are possible inspection methods. One major milestone was achieved in October 2008; 100% of all cargo transported on single-aisle aircraft started to be screened. This was achieved by TSA in strong collaboration with air carriers and other members of the air cargo industry.

3.1.4 U.S. rail security initiative

The Rail Automated Manifest System is also called Rail AMS and requires rail carriers to transmit electronic information about the bills on a train including the standing car order to CBP. This must be done the latest one hour before reaching the border. Border processing is being expedited thanks to the automated Line Release system. With the help of this system the rail carrier electronically transmits a code to customs prior to arriving at the border. CBP sends an entry number and the entry status back to the carrier and if no further inspection is needed, the train can cross the border.

132 Cf. Transportation Security Administration (2009)
133 Cf. Jensen (2008), p. 140
135 Cf. Transportation Security Administration (2009)
immediately.  

3.1.5 Other U.S. security initiatives

The following initiatives are on a voluntary basis. Yet, practitioners claim that the market requires it and non-compliance usually results in loss of clients. Being involved in those programs is considered as a sign of professionalism and strengthens the company's name. Both mentioned programs were initiated by the U.S. Customs Authority CBP.

3.1.5.1 Customs Trade Partnership Against Terrorism

Customs Trade Partnership Against Terrorism (C-TPAT) is an initiative that involves the government as well as businesses in pursuing its goal of a secure U.S. border as well as international supply chain while expediting the general trade flow. This global supply chain security program works on a voluntary basis and was first introduced in November 2001 as an immediate answer to the terror attacks of New York and Washington DC. Figure 9 presents C-TPAT’s logo.

Figure 9 Customs Trade Partnership Against Terrorism

![C-TPAT](http://www.cbp.gov/xp/cgov/trade/cargo_security/ctpat/what_ctpat/ctpat_overview.xml)

The program was developed because the highest level of cargo security can only be ensured through intensive cooperation with every single agent in the international supply chain including importers, carriers, terminal operators, consolidators, customs brokers and manufacturers. Only with communication between all those parties in the supply chain about security guidelines and practices C-TPAT’s goal can be reached. And to prevent terrorism in the future it is not enough anymore to only improve security at borders and ports of entries.

In order to become a C-TPAT member CBP looks at the company's past customs compliance history as well as its Security Profile. The Security Profile, also referred to as Security Questionnaire, is a comprehensive self assessment of the company’s

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136 Cf. U.S. CBP (2009m)
137 Cf. U.S. CBP (2007h)
139 Cf. U.S. CBP (2007h)
security practices.\textsuperscript{142} It covers a broad spectrum of areas addressing personnel, physical and procedural security, education, training and awareness, access controls, manifest procedures, conveyance security and documentation processing.\textsuperscript{143} A major hurdle for companies applying for C-TPAT membership involves their supply chain partners. Just as the applicant must successfully fill all criteria, each company within the applicant’s supply chain must also qualify under C-TPAT’s regulations. In case of one partner being considered risky, the C-TPAT certification is put to a hold and the questioned business partner undergoes a detailed inspection. If the company in question does not increase its security standards, the C-TPAT certified company is required to look for a more compliant partner.\textsuperscript{144} Thus, security levels of thousands of companies all over the world were improved through their participation in the supply chain of C-TPAT partner companies\textsuperscript{145}. C-TPAT is explicitly focused on importers and the prerequisites for a successful application are much more stringent for them. It is essential that the complete supply chain can be considered secure and this involves many different agents worldwide. The supply chain under consideration reaches back to the manufacturer and to the point where the goods are loaded onto a container. The process of shipping is the critical process, not the actual manufacturing of the products. It is essential that no stranger adds a dangerous item while loading. So-called container checklists help dock associates to check for any abnormal events during the loading process. Also tampering during transit must be prevented.\textsuperscript{146}

In this context it should be mentioned that most C-TPAT members are companies operating in the U.S.\textsuperscript{147} According to CBP’s website open enrolment is for the following business types available:\textsuperscript{148}

- U.S. Importers of record
- U.S./Canada Highway Carriers
- U.S./Mexico Highway Carriers
- Rail Carriers
- Sea Carriers
- Air Carriers
- U.S. Marine Port Authority/Terminal Operators
- U.S. Air Freight Consolidators, Ocean Transportation Intermediaries and Non-Vessel Operating Common Carriers (NVOCC)
- Mexican and Canadian Manufacturers
- Certain Invited Foreign Manufacturers
- Licensed U.S. Customs Brokers

\textsuperscript{142} Cf. U.S. CBP (2008d)
\textsuperscript{144} Cf. interview with Ralf Pfeufer
\textsuperscript{146} Cf. interview with Ralf Pfeufer
\textsuperscript{147} Cf. U.S. CBP (2004b), p. 26
\textsuperscript{148} Cf. U.S. CBP (2009h)
- Third Party Logistics Providers (3PL)
- Long Haul Highway Carriers in Mexico.

It is very difficult for overseas companies and their business partners to meet all necessary security requirements within their entire supply chain. Once the application is submitted, a C-TPAT Supply Chain Security Specialist (SCSS) and one or more company representatives will work together to conduct an on-site validation.\textsuperscript{149}

A C-TPAT certified company profits in several ways. There are less border delays due to access to FAST lanes as well as fewer CBP inspections and C-TPAT members also benefit from front of the line processing in case of inspections. They are more likely eligible for the Importer Self-Assessment (ISA) program as well as have priority access to participate in ACE. Furthermore, they are assigned an SCSS to support them and are able to attend C-TPAT supply chain security training seminars.\textsuperscript{150} CBP lists some additional benefits for companies resulting from a C-TPAT membership:\textsuperscript{151}

- Good security practices and procedures that are incorporated into existing logistical management methods and processes
- Better supply chain integrity
- Reduced risk mitigation
- Reduced cargo theft
- Stronger brand equity
- Improved asset utilization
- Higher security for the workforce
- Better marketability
- Better understanding of the process and knowing each agent along the supply chain.

Moreover, C-TPAT provides a platform of knowledge, ideas and best practices accessible for all members.\textsuperscript{152}

When C-TPAT first started in late 2001 there were only 7 members.\textsuperscript{153} As of the end of December 2008, C-TPAT performed over 8,000 validations.\textsuperscript{154}

And the initiative continuously improves and develops further. Even businesses have added valuable points during meetings which CBP first did not think of. The fact that C-TPAT is a flexible program makes it easy to make ongoing amendments.\textsuperscript{155} Initially the focus was on specific areas along the supply chain, but now C-TPAT’s scope includes manufacturing sites, foreign ports and logistics providers as well as IT and workplace

\textsuperscript{149} Cf. U.S. CBP (2009i)
\textsuperscript{152} Cf. U.S. CBP (2009j)
\textsuperscript{153} Cf. U.S. CBP (2004b), p. 2
\textsuperscript{154} Cf. U.S. CBP (2009b), p. 1
\textsuperscript{155} Cf. U.S. CBP (2004b), p. 21
3.1.5.2 Importer Self-Assessment

The Importer Self-Assessment (ISA) is a voluntary program between CBP and companies with the aim of facilitating trade and strengthening compliance by reducing required resources during entry and afterwards. ISA started in June 2002 and is a partnership dealing with trade compliance, whereas C-TPAT is a partnership about supply chain security. This initiative is built on knowledge, trust and an ongoing CBP/importer relationship.

Importers must have implemented internal control procedures of certain risk areas and must provide CBP with business records that show the accuracy of CBP transactions. In return, CBP must inform the importer of his rights and responsibilities under the law. While companies take on responsibility and try to be compliant with CBP's requirements, CBP reduces its control over the participating companies.

Figure 10 shows ISA's five different internal control components:

![Diagram showing ISA's internal control components]

(Source: Own creation after http://www.cbp.gov/linkhandler/cgov/trade/trade_programs/importer_self_assessment/c_tpat_seminar.ctt/c_tpat_seminar.pdf)

The Control Environment is the foundation and provides structure and discipline.  

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Risk Assessment identifies different problems\textsuperscript{166} and then Control Activities like policies, procedures or techniques ensure the proper execution of set tasks.\textsuperscript{167} The fourth component, Information & Communication, is a support for all other components and ensures that information is gathered and communicated to the right people, in adequate detail, on time and in the appropriate form.\textsuperscript{168} The last component Monitoring assesses the performance of the internal control including its design and operation. If necessary, corrections can be made.\textsuperscript{169}

Requirements for participation in ISA are C-TPAT membership, completion of an ISA questionnaire and signing an ISA Memorandum of Understanding (MOU). Furthermore, the company's agreement is required to periodically test performance and comply with all CBP rules and regulations.\textsuperscript{170}

Benefits from a participation in ISA are exemption from most CBP intrusion, reduced auditing, more accurate data and more company control over the process.\textsuperscript{171}

\section*{3.2 Canada’s security programs}

Canada’s transportation system has always been one of the safest and most secure in the world. The two most important government authorities dealing with the security programs are Transport Canada and Canada Border Services Agency (CBSA). They have a high collaboration with other governments, industries and international organisations like the International Civil Aviation Organisation (ICAO) and the International Maritime Organization (IMO).\textsuperscript{172}

Now the most important programs will be described more into detail.

\subsection*{3.2.1 Canadian road security initiatives}

There are several security initiatives concerning the shipment of goods by trucks. Mostly the Pre-Arrival Review System (PARS) that is used to transmit the information\textsuperscript{173}, which can be compared to the U.S. PAPS. Listed below are the most common road security programs.

\begin{itemize}
  \item \textsuperscript{165} Cf. U.S. CBP (2008f), p. 8
  \item \textsuperscript{166} Cf. U.S. CBP (2008f), p. 9
  \item \textsuperscript{167} Cf. U.S. CBP (2008f), p. 13
  \item \textsuperscript{168} Cf. U.S. CBP (2008f), p. 16
  \item \textsuperscript{169} Cf. U.S. CBP (2008f), p. 18
  \item \textsuperscript{172} Cf. Treasury Board of Canada Secretariat (2005)
  \item \textsuperscript{173} Cf. CBSA (2009b)
\end{itemize}
3.2.1.1 EManifest for road carriers

Canada developed the Advance Commercial Information (ACI) program to provide CBSA with electronic pre-arrival cargo information, just like the U.S. CBP developed the Automated Manifest System (AMS). The eManifest for road carriers covers the area of road transportation and is comparable to the U.S. Electronic Truck Manifest as described in chapter 3.1.1.2. Its implementation is planned for spring 2010 and it is Phase 3 of Canada’s whole ACI program.\(^{174}\) Advance cargo and conveyance information will be required one hour prior to arrival at the border by all carriers of highway shipments.\(^{175}\) Furthermore, the eManifest will require advance secondary data from freight forwarders as well as importer data from importers and/or brokers.\(^{176}\)

3.2.1.2 Customs Self Assessment Program

The Customs Self Assessment (CSA) program needs pre-approval of importers, carriers and drivers and if they are considered low-risk they profit from facilitated and more efficient processing at the border.\(^{177}\) It also includes a fast accounting and payment process for goods imported into Canada.\(^{178}\)

3.2.1.3 The Commercial Driver Registration Program

The Commercial Driver Registration Program (CDRP) is only for commercial freight shipments from the U.S. into Canada. It makes the customs clearance process at the border easier and faster for pre-approved importers, carriers and drivers and their low-risk goods.\(^{179}\)

3.2.1.4 Free and Secure Trade

Similar to the FAST program described under the U.S. road security initiatives the Canadian FAST program gives pre-registered, trusted truck drivers the possibility of expedited border crossing through designated FAST lanes. For carriers from the one side of the border a Partnership in Protection (PIP) membership is required, for the other side a C-TPAT certification is necessary to become FAST certified.\(^{180}\)

\(^{174}\) Cf. CBSA (2009e)
\(^{175}\) Cf. CBSA (2007a) and CBSA (2008b)
\(^{176}\) Cf. CBSA (2008b)
\(^{177}\) Cf. CBSA (2008d)
\(^{178}\) Cf. CBSA (2007b)
\(^{179}\) Cf. CBSA (2006)
\(^{180}\) Cf. U.S. CBP (2005a)
3.2.2 Canada's maritime security initiatives

Marine trade is vital for Canada’s economy. One quarter of Canada's total worth of goods is being handled by Canadian ports and its port authorities.\(^{181}\) In Canada there is a high collaboration of the different government institutions to meet compliance with the international security regulations. Transport Canada, Department of Fisheries and Oceans (DFO)/Canadian Coast Guards, Public Safety and Emergency Preparedness Canada, CBSA, Royal Canadian Mounted Police (RCMP) and the Department of National Defence all work together on the maritime cargo security and terrorism prevention. The Interdepartmental Marine Security Working Group (IMSWG) was founded by the Canadian Government to coordinate this collaboration.\(^{182}\)

After the international ISPS code was implemented, the Marine Transportation Security Regulations (MTSRs) were developed to be compliant with ISPS’s security requirements. In order to fund those new requirements Canada started the Marine Security Contribution Program (MSCP). The Canadian government committed itself to provide ports, port facilities and ferry operators with funding as well as assistance to meet the necessary security requirements.\(^{183}\) Canada port authorities can reimburse certain security related and pre-identified expenses for the period of April 2004 to November 2009, marine facilities are eligible for expenses between April 2004 and November 2009 and domestic ferry services from June 2006 to November 2009.\(^{184}\)

### 3.2.2.1 Marine Transportation Security Clearance Program

The above mentioned MTSRs include requirements for security clearance for marine workers. Therefore the Marine Transportation Security Clearance Program (MTSCP) was developed. It uses background checks on marine workers, marine pilots, security personnel and seafarers in order to reduce the risk of security threats through intervention inside the marine supply chain itself.\(^{185}\) It was introduced in January 2003 and is an expansion of the existing Air Transportation Security Clearance Program existent since 1985 in the aviation sector.\(^{186}\)

The required personal information elements for the application include:\(^{187}\)

- Fingerprints and photo
- Full name
- Date and place of birth
- Gender, height, weight, eye and hair colour
- Passport information

\(^{181}\) Cf. Transport Canada (2008b)  
\(^{182}\) Cf. Treasury Board of Canada Secretariat (2008)  
\(^{183}\) Cf. Transport Canada (2008b)  
\(^{184}\) Cf. Transport Canada (2007a)  
\(^{185}\) Cf. Transport Canada (2008b)  
\(^{186}\) Cf. Transport Canada (2008a)  
\(^{187}\) Cf. Transport Canada (2008b)
Post secondary school education
- Residential and employment history for the last five years
- Extended travel (more than 90 days) outside Canada other than to United States and Mexico and
- Some information about the applicant’s spouse.

The background checks are being performed by Transport Canada, RCMP, the Canadian Security Intelligence Service (CSIS) and if required, by Citizenship and Immigration Canada (CIC).  

3.2.2.2 Advance Commercial Information Marine Program

The *Advanced Commercial Information Marine program*, short ACI Marine program, provides CBSA with necessary information about commercial goods before their arrival at a port in Canada. It is the counterpart to the U.S. 24-Hour-Advance-Vessel-Manifest-Rule as described in chapter 3.1.2.2. Marine carriers have to electronically submit cargo information to CBSA 24 hours before the shipment gets loaded onboard a vessel in a foreign port. This requirement in the marine mode was implemented in April 2004 and is also referred to as the ACI Phase 1.  

The system that is being used is called *Electronic Data Interchange* (EDI). With the help of it clients can electronically submit their trade data.  

3.2.2.3 Container Security Initiative

The CBSA signed a CSI partnership agreement with U.S. CBP in October 2005. Thus, also Canadian customs officers are placed at foreign CSI ports around the world identifying and examining high-risk containers. Like the United States, Canada is pushing its border out and assessing potential threats long before they enter Canada. Other benefits include shared information about possible security threats, high data quality that in turn improves CBSA’s overall risk assessment capacity and access to a pool of risk management practices and other best practices and lessons learned. CBSA is also trying to motivate other countries to partner with Canada on container security to reach an even higher level security and trade facilitation in the future.  

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188 Cf. Transport Canada (2008a)
189 Cf. CBSA (2008b), CBSA (2009a) and CBSA (2005)
190 Cf. CBSA (2008b)
191 Cf. CBSA (2008e)
192 Cf. CBSA (2008c) and CBSA (2005)
193 Cf. CBSA (2008c)
194 Cf. CBSA (2008c)
3.2.3 Canadian air security initiative

The Advanced Commercial Information Air program is also called Phase 2 and it was implemented in July 2006. With the so-called ACI Air program air carriers and freight forwarders have to provide CBSA electronically with information about conveyance and cargo four hours prior to arrival in Canada.195

3.2.4 Canadian rail security initiatives

The border between the United States and Canada processes over 100 miles of rail freight on a daily basis and this number is predicted to be rising in the near future.196 The following two initiatives need to be mentioned as far as Canadian rail security programs are concerned.

3.2.4.1 Memorandum of Understanding on rail security

With the Memorandum of Understanding (MOU) on rail security Transport Canada together with the Railway Association of Canada tries to ensure the security of freight rail with a set of different measures. Those measures include the preparation of a risk assessment based security plan, incident reports, records maintenance, trainings and exercises and awareness for new employees. Moreover, initiatives improving the secure and efficient traffic along key trade corridors are being introduced.197

3.2.4.2 EManifest for rail carriers

The eManifest for rail carriers is the last phase of ACI.198 It is scheduled to start in fall 2010.199 By then all rail carriers will have to electronically transmit advance cargo and conveyance data two hours prior to arrival.200

3.2.5 Other Canadian security initiatives

3.2.5.1 Importer Admissibility Data

The Importer Admissibility Data (IAD) filing is one of the many steps in Canada's ACI implementation process. It is scheduled for October 2009 and can be compared to the in chapter 3.1.2.3 described U.S. Importer Security Filing System. IAD, however, would

195 Cf. CBSA (2008b) and CBSA (2008a)
197 Cf. Transport Canada (2007b)
198 Cf. CBSA (2007a)
199 Cf. CBSA (2009e)
200 Cf. CBSA (2008b)
apply to all modes of transportation. This program is seen controversial by industry as it would impact the land borders and would very likely cause delays and disruptions along North American supply chains.

3.2.5.2 Partnership in Protection

The Partnership in Protection (PIP) program is a partnership between CBSA and private corporations with the goal of improving trade chain and border security, curtail organized crime and terrorism and combat contraband smuggling. It was already developed in 1995 and its initial goal was to promote business awareness and compliance with customs regulations. Its importance dramatically increased after the terror attacks in New York in 2001 and its focus shifted. From then on it urged members to improve their physical, infrastructure and procedural security to ensure trade chain security. A security questionnaire was developed suggesting security recommendations. PIP’s importance increased even further when a PIP membership became a must for a participation in the FAST program.

Appendix 6 provides an example of a carrier’s PIP certification. As PIP members companies have to ensure that containers and trailers are properly sealed before they are shipped into Canada. CBSA then checks all incoming cargo for the integrity of the seals and that the sealing procedures meet CBSA's standards.

3.3 Mexico’s security programs

Since the enactment of NAFTA, Mexico’s trade with its neighbouring countries has more than doubled. This stimulated the country's economic growth, but also increased the need for transportation security measures. The Mexican security initiatives, however, are not as well developed as the U.S. or Canadian programs.

As far as the road transportation goes, NAFTA’s idea was to enable the trucking industries of the United States and Mexico full access to the whole trade region. Due to safety concerns on the U.S. side, however, this was never implemented and Mexico responded with restricting cross-border trucking to a narrow commercial zone. Canada was granted more access due to a bilateral agreement with Mexico.

The Coordinated Border Infrastructure Program (CBIP) is a U.S. fund that is aimed at border crossing infrastructure, safety enforcement facilities and electronic data.
exchange between the countries. In Mexico this fund's money can be used for improvements within 100 miles of the U.S. border and only at an international port of entry.

In form of the U.S.-Mexico Joint Working Committee federal transportation agencies, customs agencies, border state transportation agencies as well as immigration of both countries continuously meet and collaborate on transportation issues. In the following chapters an overview about existing programs will be given.

3.3.1 Mexican road security initiatives

A big portion of the trade between Mexico and the U.S. is moved by truck with an increasing trend for the future. Thus, security initiatives concerning this mode of transportation are of utmost importance. In the past millions of dollar were lost every year due to the fact that Mexican trucks were not allowed into the U.S. and had to be transferred and vice versa. There were high restrictions on how Mexican trucks can operate beyond the border commercial zone. The result was a kind of corridor along the border where so-called drayage carriers pick up the loaded trailers and bring them to the international ports of entry. That is where the Cross Border Truck Safety Inspection Program came into play.

3.3.1.1 Cross Border Truck Safety Inspection Program

Through the Cross Border Truck Safety Inspection Program U.S. trucking companies can now make deliveries into Mexico and Mexican truck drivers can drive into the U.S. while keeping the tough security measures. Thanks to this program the speed of actual delivery of goods increased enormously as the waiting time at the border was reduced. Still there are rigorous, in-person security controls by U.S. inspectors to ensure the safe operation of Mexican trucks crossing the border. Mexican truck drivers must hold a valid commercial driver’s license, be able to understand basic English as well as be medically fit. If they comply with all those regulations and they have insurance with a U.S. licensed firm, they are able to start transporting goods across the border. In exchange, U.S. trucking firms are required to have a license to be allowed to operate in Mexico.

The Cross Border Truck Safety Inspection Program provides the agents with a

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208 Cf. U.S. Department of Transportation (2005)
210 Cf. Texas Transportation Institute (2009b)
211 Cf. U.S. Department of Transportation (2007a)
213 Cf. U.S. Department of Transportation (2007a)
checklist with altogether 37 points to inspect including the truck, trailer and the driver.\(^{214}\)

### 3.3.1.2 Free And Secure Trade

Like Canada also Mexico agreed on a partnership with the U.S. on the Free And Secure Trade (FAST) program. Thus, waiting times for trusted shippers could be reduced to a couple of minutes in comparison to hours before its introduction.\(^ {215}\) As already mentioned before, companies must be C-TPAT certified in order to be able to participate in FAST.\(^ {216}\)

### 3.3.2 Mexican maritime security initiatives

With November 1, 2007 also Mexico introduced its own 24 hours Advance Cargo Manifest Rule requiring freight forwarder to submit their bill of lading to Mexico Customs for all cargo entering Mexico. Unlike the U.S. AMS and the Canadian ACI, there is no direct link to Mexico Customs and thus the bill of ladings must be filed using Mexican trade associations like Asociacion Mexicana de Agentes Navieros, A.C. (AMANAC) or Asociacion Mexicana de Agentes de Carga, A.C. (AMACARGA).\(^ {217}\) A so-called Harmonized Alpha Numeric Carrier Code that is issued by Mexico Customs’ General Customs Administration is required. This code, however, is only issued to Mexican companies or to the Mexican agents of foreign companies.\(^ {218}\) The same regulations apply if the cargo is just in transit in Mexico.\(^ {219}\)

In 2006 a study was considering the possibility of transferring some of the land cargo traffic to short shipping routes in the Gulf of Mexico. This would decrease costs as well as long waiting times at the border.\(^ {220}\) As of today, however, this program has not been implemented.

### 3.3.3 Mexican air security initiatives

Similar to the above mentioned 24 hours Advance Cargo Manifest Rule for ocean carriers, Mexico Customs is working on the Mexico Advanced Cargo Requirements for air carriers. For flights coming from either the United States or Canada the required information must be sent at the time of departure at the last foreign airport before

\(^{214}\) Cf. U.S. Department of Transportation (2007b)
\(^{215}\) Cf. Hochman (2005)
\(^{216}\) Cf. Villa (2005), p. 1
\(^{219}\) Cf. APL Ltd. (2007)
\(^{220}\) Cf. Texas Transportation Institute (2006)
entering Mexico. A test phase started as of mid-August 2009.\textsuperscript{221}

\section*{3.3.4 Mexican rail security initiatives}

So far there are no specific security programs in place to address rail transportation in Mexico. Rail carriers and the loaded cargo do, however, have to go through customs. In order for Mexico Customs to clear a train going into Mexico, the following information needs to be provided to them:\textsuperscript{222}
\begin{itemize}
  \item Name of Mexican customs broker
  \item City and state of destination
  \item If available the address of the broker.
\end{itemize}
Any missing information may lead to delays and/or charges.\textsuperscript{223}

Since the privatization of the Mexican rail in the 1990s, the infrastructure has improved significantly and offers multi-modal links between the United States as well as Canada including inter-modal facilities.\textsuperscript{224}

\section*{3.4 Private cooperation initiatives}

There are also initiatives that were initiated by companies and their industry partners. Those collaborative programs predominantly seek to reduce terrorism, smuggling and theft of goods. Private businesses combine their efforts to share experiences and knowledge and develop strategies for improved security.

\section*{3.4.1 Business Alliance for Secure Commerce}

The \textit{Business Alliance for Secure Commerce} (BASC) is a coalition of private sector businesses in Latin America and the Caribbean with the goal of improving supply chain security. It is based on collaboration with the countries’ government agencies as well as international organizations and was first established in 1996. It operates in Costa Rica, Colombia, Venezuela, Ecuador, El Salvador, Mexico, Guatemala, Haiti, Panama, the Dominican Republic, Peru and Uruguay.\textsuperscript{225} The countries Brazil, Argentina, Chile and Nicaragua are currently in the application process.\textsuperscript{226} Membership is on a voluntary basis and the incentive is meant to be consciousness for security issues throughout the supply chain. With certain security standards and

\begin{flushleft}
\textsuperscript{221} Cf. International Air Transport Association (2009), p. 4
\textsuperscript{222} Cf. Union Pacific Railroad (2009)
\textsuperscript{223} Cf. Union Pacific Railroad (2009)
\textsuperscript{224} Cf. Government of Canada (2003), p. 63
\textsuperscript{225} Cf. U.S. CBP (2008j)
\textsuperscript{226} Cf. World BASC Organization (2009)
\end{flushleft}
processes in place, companies should prevent contraband smuggling and terrorism.\footnote{227}

3.4.2 Transported Asset Protection Association

Transported Asset Protection Association (TAPA) is a worldwide association of companies created to collaboratively address the threat of cargo theft. It was initiated in the United States in particular to protect highly valuable goods, mostly high technology goods in transit. The number of incidents of freight theft increased enormously since the 1990s with the products becoming smaller and more portable.\footnote{228} Big freight forwarders realise a competitive advantage with a TAPA certification in contrast to a competitor who is not certified. A significant cost savings is realized through insurance companies that offer better rates to companies that are TAPA certified.\footnote{229}

4 Analysis of the security initiatives’ impact on NAFTA trade

In this chapter the author wants to analyze the existing cargo security programs and their advantages and disadvantages for the overall trade flow as well as for individual companies. The chapter will start with a comparison of the different initiatives followed by an analysis on an economic level. The author takes a look at the existing cooperation between the three NAFTA partners as well as the cooperation within the individual countries’ government departments and institutions. Furthermore, the initiatives’ impact on the overall trade in North America is shown. In the business analysis practical insight obtained through interviews with logistic providers as well as carriers will be given. The programs’ benefits and costs are presented as well as their marketing value. Additionally the question if the initiatives are trade facilitating or trade hindering is being answered.

4.1 Comparison of the different initiatives

When looking at the North American security initiatives that are currently in use it is interesting that the U.S. programs greatly outnumber the Canadian as well as the Mexican programs. Two arguments can be used to explain this situation. One is that the U.S. security came under much greater scrutiny after the terror attacks of 9/11. The major factor could be the United States’ geographical and population size together with its large trade volume. Canada is the second largest land mass on earth, but population wise it is only a tenth of the United States. Mexico has only about a third of the U.S. population and its trade volume is minimal in comparison to its larger northern neighbour. It is without any doubt visible that the United States invests the most time, money and effort into the topic of security of the three NAFTA partners. Canada follows the U.S., in particular with any programs that help to expedite cross-border processing and facilitate trade. Mexico is last on the list and is only slowly starting to develop similar programs. As most trade is going north out of Mexico the focus is understandably not on imports into Mexico.

In chapter 3 all security programs were categorized by country. Now the author wants to look at them from different perspectives.

Figure 11 shows a timeline of the introduction of the most relevant security initiatives. Mexican programs are not comprised as this graph only includes the most relevant programs in terms of the whole trade community.
There are two interesting facts about this timeline that need to be highlighted. First, the high concentration of program introductions in the years 2001, 2002 and 2003 clearly reflects the United States’ reaction to the terror attacks of New York and Washington, D.C. on September 11, 2001. Those events showed America, its government and institutions and its people how easily the country can be intruded and harmed. It increased the awareness of the risk that a mode of transportation can be misused to cause harm to people and disruptions to transportation and supply chains. Cargo containers were identified as particularly risky for being illegally loaded with bombs or WMD’s. DHS made it its first goal to protect the United States, its people, businesses, transportation and supply chains and critical infrastructure. A line of priorities can be found within this timeline. The first program introduced by the United States was C-TPAT, the Customs Trade Partnership Against Terrorism. As the name itself describes, this supply chain wide program intends to curtail any potential terrorist activities towards the United States right from the beginning of the transportation chain. This increases security within its neighbouring countries and throughout the trade community down to its roots, to the people and facilities involved. The ultimate goal being trust and security among the global trade community, made C-TPAT priority number one for the United States. The next important step was the physical controls of cargo coming from non C-TPAT certified companies or cargo that is considered dangerous. In 2002 CSI, the Container Security Initiative was introduced. This program started X-ray, screening and radiation inspections on cargo containers entering the United States. The third priority can also be seen as a facilitation of the introduced programs. It involves the pre-identification of risky cargo before their arrival at a U.S. port of entry. The possibility of identifying potential dangerous cargo beforehand and reducing the number of physical inspections at borders to certain identified containers or trucks makes the whole process much faster and more efficient. Cargo that is considered secure then benefits from an expedited border processing. The second interesting matter is that Canada was far ahead of the security and compliance trend through the introduction of its first security initiative in 1995. PIP, the Partnership in Protection, can be compared to the U.S. C-TPAT and certifies...
trustworthy business partners. Although its initial goal was a different one, it was easily expanded to help the Canadian government address the security issue.

Now a comparison of the existing advanced cargo information requirements in North America will be given. When comparing the advanced cargo manifest regulations of the United States and Canada a lot of similarities can be found. While it is called Automated Manifest System (AMS) in the U.S., the Canadian government named their advanced cargo information program Advanced Commercial Information (ACI). Mexico basically copied the U.S. names for the programs it developed. Table 5 provides an overview of the advanced cargo manifest programs that are currently in use.

Table 5 Overview of Advance Cargo Information Programs in the United States and Mexico

<table>
<thead>
<tr>
<th>Mode of Transportation</th>
<th>United States</th>
<th>Canada</th>
<th>Mexico</th>
</tr>
</thead>
<tbody>
<tr>
<td>Road</td>
<td>e-manifest</td>
<td>eManifest</td>
<td>n/a</td>
</tr>
<tr>
<td>Sea</td>
<td>24-Hour-Advance-Vessel-Manifest-Rule</td>
<td>ACI Marine program</td>
<td>Mexico 24 hours Advance Cargo Manifest Rule</td>
</tr>
<tr>
<td>Air</td>
<td>Air AMS</td>
<td>ACI Air program</td>
<td>Mexico Advanced Cargo Requirements for Air Carriers</td>
</tr>
<tr>
<td>Rail</td>
<td>Rail AMS</td>
<td>eManifest for rail carriers</td>
<td>n/a</td>
</tr>
</tbody>
</table>

(Source: Own creation)

As far as the electronic truck manifest is concerned, there is a slight difference between the U.S. and Canada. Both countries require advanced information one hour before the truck drivers arrives at the border. A special rule applies to FAST member that are going into the United States. They only need to submit the information to CBP half an hour before their arrival. As of today the Mexican government does not require any advanced information about the goods and their status. They do, however, have to go through Mexican customs.

The significant difference between the U.S., Canadian and Mexican 24-hour rule for sea cargo was already mentioned in chapter 3.3.2. Mexico Customs does not provide an IT system that directly links to them. Thus, Mexican trade associations must be used to complete the filing.

While the U.S. Air AMS as well as the Canadian ACI Air program both require the cargo information four hours prior to arrival, Mexico wants the information to be sent at the time of departure at the last foreign airport. Depending on where the last airport is situated in the U.S. or Canada this time span can exceed four hours, but it can also be less than that.

When shipping cargo via rail, carriers crossing the border into Canada have to submit the data two hours prior to arrival, whereas the U.S. customs authority wants
respective information only one hour before arriving at the U.S. border.

Another interesting area to look at is the controversial expansion of the U.S. 24-hour rule to the so-called 10+2 rule. Table 6 compares the existing carrier requirements with the new carrier requirements that were implemented with the 10+2 rule.

Table 6 Comparison of existing carrier requirements versus new carrier requirements

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Existing Requirements</th>
<th>New Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Timing</td>
<td>Advance Cargo Information</td>
<td>48 hours after departure and earlier if voyage is less than 48 hours</td>
</tr>
<tr>
<td>Submission Method</td>
<td>Vessel AMS</td>
<td>Vessel AMS, sFTP or email</td>
</tr>
<tr>
<td>Submission Elements</td>
<td>- Bill of Lading</td>
<td>- Vessel name including IMO number</td>
</tr>
<tr>
<td></td>
<td>- Foreign departure port</td>
<td>- Vessel operator</td>
</tr>
<tr>
<td></td>
<td>- Carrier SCAC</td>
<td>- Voyage number</td>
</tr>
<tr>
<td></td>
<td>- Carrier assigned voyage number</td>
<td>- Container operator</td>
</tr>
<tr>
<td></td>
<td>- Date of arrival at U.S. port</td>
<td>- Equipment number</td>
</tr>
<tr>
<td></td>
<td>- Quantity and unit of measure</td>
<td>- Equipment size and type</td>
</tr>
<tr>
<td></td>
<td>- Commodity description or HTSUS number</td>
<td>- Stow position</td>
</tr>
<tr>
<td></td>
<td>- Commodity weight</td>
<td>- Hazmat Code</td>
</tr>
<tr>
<td></td>
<td>- Shipper’s name and address</td>
<td>- Port of lading</td>
</tr>
<tr>
<td></td>
<td>- Consignee name and address</td>
<td>- Port of discharge</td>
</tr>
<tr>
<td></td>
<td>- Vessel name, number and country</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Foreign port of lading</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Hazmat Code</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Container numbers</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Seal numbers</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Date and time of departure from foreign port</td>
<td></td>
</tr>
</tbody>
</table>

(Source: Own creation after http://edocket.access.gpo.gov/2008/pdf/E8-27048.pdf)

The new 10+2 rule adds another level that makes it possible to identify and track any tampering or other impacts a freight containers experiences during transit. The Container Status Messages make it simpler for customs officers to identify which containers should be chosen for a secondary inspection.²³⁰

4.2 Analysis of the security initiatives on a macro level

The following chapter talks about existing cooperation between the NAFTA partners on security initiatives and the impact they have on trade in North America. Chapter 4.2.2 talks about long border wait times, increasing fees, changing operating processes and the missing of promised benefits for participants.

4.2.1 Working together across the borders

As a big step towards global collaboration, the World Customs Organization (WCO) introduced the *Framework of Standards to Secure and Facilitate Global Trade* (SAFE), also called WCO’s Framework, in 2005. Through safeguarding the security from the beginning till the end of a supply chain and by facilitating the processing of legitimate cargo through customs controls, SAFE wants to reach uniformity and predictability of global trade.\(^{231}\) The WCO has currently 174 members\(^ {232}\) representing 99% of global trade. Having the participation of the member countries’ customs administrations is a very strong instrument in the battle of implementing the WCO standards worldwide.\(^ {233}\) The framework’s objectives are:\(^ {234}\)

- Establishment of standards that ensure supply chain security and facilitate international trade.
- Integrated supply chain management for all modes of transportation.
- Enhanced capabilities of customs authorities to meet today’s challenges and opportunities.
- Strengthened network between customs administrations in order to better detect high-risk consignments.
- Promotion of cooperation between the customs and business communities.
- And defend seamless movement of cargo through secure global trade supply chains.

It is a Customs-to-Customs as well as a Customs-to-Business partnership\(^ {235}\) and builds on the four principles: Advance electronic information, risk management, outbound inspection and partnerships.\(^ {236}\)

Whereas the WCO SAFE Framework involves the whole world, there is also collaboration between NAFTA countries, their government institutions and companies. North America is a success story as far as integrated transportation systems and

\(^{231}\) Cf. World Customs Organization (2005a), p. 1
\(^{232}\) Cf. World Customs Organization (2009)
\(^{233}\) Cf. World Customs Organization (2007), p. 2
\(^{234}\) Cf. World Customs Organization (2005a), p. 1
\(^{236}\) Cf. World Customs Organization (2005a), p. 2 and World Customs Organization (2005b)
efficient continental supply chains go. The United States, Canada and Mexico continuously collaborate trilaterally to enhance security along the supply chains and facilitate trade. The Security and Prosperity Partnership of North America (SPP) tries to promote the security as well as prosperity of the three NAFTA members. It developed a framework that does not only allow bilateral action on border issues, but also private sector input from the three North American countries. The businesses are represented in the form of the North American Competitiveness Council (NACC). A strong collaboration exists between the business leaders and the U.S. Chamber of Commerce and Council of the Americas in the United States, the Canadian Council of Chief Executives in Canada and the Mexican Instituto para la Competitividad. In the following chapters existing cooperation within programs across the United States, Canada and Mexico is being discussed.

4.2.1.1 Cooperation on security initiatives

Cooperation is a key driver of success and prosperity in the competitive business world of today. The North American countries United States, Canada and Mexico have a long history of collaboration. They also work together on border security related issues, for cargo shipments as well as for passenger travels. And there is not only cooperation between the three NAFTA countries, but also within the individual countries’ own government agencies and departments. Yet, the existing cooperation is still a complex matrix of differing policies and priorities and many more steps need to be taken by the different governments to improve collaboration.

An example for cooperation between the different nations is the FAST program. The U.S. C-TPAT administration and Canada’s PIP administration work together to make commercial trucking between the two countries faster and smoother. There is a common effort to improve the security and efficiency of clearing trucks at the shared border and the same risk management principles, screening methods and technology are used.

Another example is NEXUS, a frequent traveller program. It was collaboratively developed by the United States and Canada and uses a single application and certification process. While NEXUS covers the United States’ northern border, the program SENTRI simplifies the border crossing for frequent travellers between the U.S.

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237 Cf. Transport Canada (2008c)
238 Cf. White House Office of the Press Secretary (2005a), White House Office of the Press Secretary (2005b) and CBSA (2007c)
239 Cf. U.S. Chamber of Commerce (2009)
241 Cf. U.S. CBP (2005a)
242 Cf. U.S. CBP (2009f)
There is also bilateral collaboration on a regional level. The Washington State in the U.S., for example, signed an agreement with the neighbouring Canadian province, British Columbia for a bi-national freight border crossing system. This program is named International Mobility and Trade Corridor (IMTC) partnership makes expedited border clearance and reduced waiting times for the U.S.-Canada trade corridor in the west of the continent possible.

The CSI program fosters cooperation on a worldwide basis. U.S. customs officers are stationed in all CSI certified ports cooperating on-site with the host country officers. CBP underlines that information sharing and working together is essential to be able to identify all risky containers and a far greater security for maritime shipping can be achieved. Canada's CSI ports are in Vancouver, Montreal and Halifax. Additionally Canada signed a CSI partnership with the U.S. and has its own security officers stationed in CSI ports around the world. There are no CSI ports in Mexico yet.

The C-TPAT program involves companies and businesses from around the world. In 2008, C-TPAT experienced an enhancement when Foreign Port Terminal Operators and Mexican Long Haul Carriers where added to the program. Furthermore, CBP signed Mutual Recognition Arrangements with CBSA and the Jordan Customs Department that both have similar minimum security requirements and practices. And there are plans for further mutual recognition arrangements with other countries for the future.

Also departments and agencies within the individual countries collaborate. The Canadian Border Services Agency is working on a Single Window framework that should combine all existing border reporting systems under one IT framework. In the United States, the so-called International Trade Data System (ITDS) project started with the intention of combining all existing U.S. filing systems. Thanks to a strong collaboration within different agencies the ACE system was developed. As of May 2009, there are 46 government agencies involved. Within the U.S., DHS and the Department of Energy work strongly together in the programs SFI and CSI to be able to detect dangerous radiation material. Thanks to this collaboration DHS is able to identify possible dangerous cargo.

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243 Cf. U.S. CBP (2009f)
244 Cf. U.S. Department of Transportation (2003), p. 1
246 Cf. U.S. CBP (2007b) and U.S. CBP (2008b)
247 Cf. CBSA (2008c) and CBSA (2005)
248 Cf. U.S. CBP (2008i)
249 Cf. U.S. CBP (2008k)
250 Cf. CBSA (2008f)
251 Cf. International Trade Data System (2008)
252 Cf. U.S. CBP (2009c)
253 Cf. U.S. CBP (2007c)
U.S. senator W. Ralph Basham said in May 2006 that partnership between the government and the private sector was the key factor that enabled CBP to implement all current initiatives and programs.\footnote{254 Cf. U.S. CBP (2007c)}

Despite the commitment to collaboration, there are overlaps between different programs. To list one example the Canadian MTSCP is mentioned. Canada is planning on allowing commercial truck drivers who have a valid FAST card into restricted areas as long as they adhere to all of the applicable procedures and requirements identified in the approved marine facility security plan.\footnote{255 Cf. Transport Canada (2009)}

New administration in both the United States and Canada will make it easier to review the shared border management and try to find possible improvements. President Barack Obama and the U.S. Homeland Security Secretary suggested annual meetings of high-level government agents when talking about the shared border issues during their visit in Canada early 2009.\footnote{256 Cf. Alberts (2009) and CBC News (2009)}

\subsection*{4.2.1.2 Problems hindering the cooperation}

The biggest factor hindering the cooperation is the individuality of most of the programs and initiatives. Every country started its own regulations and systems after the U.S. introduced C-TPAT in late 2001. Every implementation involves a lot of effort, work, time and money and it takes time until the industry understands the system and is able to use it.\footnote{257 Cf. U.S. and Canadian Chambers of Commerce (2009), p. 17}

There are also multiple electronic filing systems that all collect about the same information. They all have different formats and are addressed to different institutions. Currently, there are four U.S. systems in use and ten Canadian government agencies collect similar data.\footnote{258 Cf. U.S. and Canadian Chambers of Commerce (2009), p. 17} No IT systems are in place between Mexico and its two NAFTA partners and information exchanges are sometimes still done non-automated.\footnote{259 Cf. interview with Connie Powers} It is not only time consuming for businesses to learn the different systems and then submit information through them, but it is also inefficient. Often companies have to send the same information to several different agencies. To combine all those existing systems will require a lot of resources and patience and it is difficult for governments as well as businesses to sacrifice both in today's competitive market situation. Yet, a lot of time, workforce and money could be saved if there was a single system that the government departments could access and pull the information that suits their needs.

Different rules and systems do not only exist between the three countries, but also within the countries’ different government departments. In the United States, for
example, the border security initiatives are regulated by CBP, but then there is the U.S. Food and Drug Administration (FDA) regulating shipments of food and the U.S. Department of Agriculture (USDA) controlling shipments of fruits and animals. Canada has the CBSA for border security issues and the Canadian Food Inspection Agency (CFIA) for agricultural food shipments. There is no exchange of information between those different institutions at all. Moreover, it is standard to inspect every single shipment of food products before it crosses the border. So food producers do not see a reason why they should spend the money to become a certified member of any of the security programs when they will not benefit from any expedited handling due to pre-existing food transport regulations. The U.S. Chamber of Commerce and the Canadian Chamber of Commerce are of the opinion that the danger of any attack through food poisoning has to be curtailed far back in the growing and production. Like the CSI initiative to secure the whole supply chain, the countries concentrate their focus on sophisticated regulatory standards and control processes throughout the food production.

Mexico, its language, culture and economic development adds another level of difficulty to the situation. Dissimilar priorities due to cultural and social differences between Mexico and the U.S., for example, challenge governmental security agents when trying to lay out a plan. Also the government structures are unlike those of Mexico’s northern neighbours. Mexico City is a centralized location for all government structures. According to Mexican regulations, terrorism is under the federal responsibility making it impossible to sign agreements with the U.S. on a regional level. Capacity and resource constraints make it impossible to promote border security and cooperation to the industry. Missing training and an absence of a long-term planning horizon makes it impossible to properly manage the border issues. A three year term for local officials makes Mexico unable to build expertise, sustain continuity and maintain a good relationship with the U.S. counterpart. Mexico’s status as a developing nation means its resources are scarce for developing a sophisticated trade security regime. Furthermore, Mexico faces corruption and a lack of mechanisms for industry participation.

Misunderstanding is another factor that curtails cooperation attempts between Mexico and its NAFTA partners. The constantly changing U.S. security regulations make it very difficult for Mexican government institutions and companies to follow and fully understand them. It is important to support Mexican supply chain partners to minimize

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262 Cf. Ramos (2009), p. 8
264 Cf. Ramos (2009), p. 11
the impact on the international trade.\textsuperscript{265}

Industry also mentions privacy as an area of concern. The advanced cargo information requirements include detailed information about companies’ practices and if shared with competitors the company’s success could be harmed. Thus, questions about intellectual property protection need to be asked.\textsuperscript{266}

\textit{4.2.1.3 Harmonization and standardization of existing security initiatives}

Many initiatives and programs are similar across the different countries and same systems are used for different programs. Thus, there is a huge potential for harmonization and standardization of existing initiatives.

The SFI program is a step towards harmonization. It does not only involve several government institutions, but also terminal operators, ocean carriers and shippers.\textsuperscript{267} Also the FAST is a perfect example of existing harmonized initiatives. The U.S.-Canadian FAST is a bilateral initiative\textsuperscript{268} as well as the U.S.-Mexico FAST\textsuperscript{269}.

Under the already mentioned Security and Prosperity Partnership of North America, $11.6 million in funding was provided by the Government of Canada to strengthen the PIP program in order to achieve mutual recognition and compatibility with the U.S. C-TPAT program. On June 28, 2008, CBSA signed an arrangement with U.S. Customs and Border Protection. With mutual recognition only one application and validation would be necessary.\textsuperscript{270}

Pfeufer from cargo-partner New York sees a potential for incorporating TSA’s air cargo security programs in CBP’s initiatives, like C-TPAT. Both U.S. Department of Homeland Security departments have similar programs that are currently operating separately. TSA captures certain companies as secure and trustworthy in its database and it would be more efficient as well as export oriented if CBP had access to this list.\textsuperscript{271} Harmonization on a regional basis would for sure help to make processes easier, in particular for companies that operate in multiple countries, thinks Betscha from Exel.\textsuperscript{272}

\begin{thebibliography}{9}
\bibitem{265} Cf. Behrens (2006a), p. 36
\bibitem{266} Cf. interview with Ralf Pfeufer
\bibitem{268} Cf. U.S. CBP (2005a)
\bibitem{269} Cf. U.S. CBP (2009l)
\bibitem{270} Cf. CBSA (2009c)
\bibitem{271} Cf. interview with Ralf Pfeufer
\bibitem{272} Cf. interview with Paul Betscha
\end{thebibliography}
4.2.2 The security initiatives’ effect on trade in North America

A sense of frustration can be found within North American companies as well as the international trade community regarding the fact that most “trade facilitating” programs and initiatives did not improve the flow of goods at all. They, in fact, had a hampering effect on trade and many measures for improvement have yet to be taken. Multiple and complex regulations and rules from different governments and other institutions, certain infrastructure requirements, high costs for participation in trusted shipper programs, increasing inspections and fees, long waiting times at borders as well as charges for non-compliance have made trade in North America more difficult in the past years. The original idea of the NAFTA agreement as described in chapter 2.2 seems to be eroding and the trend goes distinctively in direction of a “thick” border. North American governments are so highly focused on securing their country and people that they do not consider and involve the trade community. While Europe is creating a competitive advantage for itself by integrating its borders, North America’s borders seem to be moving away from each other.273

4.2.2.1 Long border wait times

At the beginning it should be mentioned that border waiting times – in general- increased significantly after the events of 9/11. Thus, even when participating in expediting programs like FAST, companies feel that the waiting time has increased.274 Yet, non-compliance leads to even longer delays.

Although governments and customs agencies promised expedited border crossing once a membership in the different security initiatives is being achieved, most commercial carriers still experience long waiting times at port of entries. An example is truck imports and exports between Canada and the United States early 2009. Truck shipments from Canada to the U.S. plummeted 31.3% and shipments entering Canada by truck from its southern neighbour dropped 27.2%, but still increased waiting times at the border were reported.275 The U.S. Chamber of Commerce and the Canadian Chamber of Commerce together identified the following five factors that lead to increased border waiting times:276

- Border infrastructure incapable of handling traffic volume
- Lack of effective technology and handling knowledge
- Redundant procedures and inspections for trusted shippers
- Staffing and training constraints and
- Lack of public education about the latest security developments.

275 Cf. U.S. and Canadian Chambers of Commerce (2009), p. 4
Another factor should be added here. When there are, for example, 12 containers on a single bill of lading and one is being pulled for inspection, all 12 containers have to wait until the one container is ready to be cleared. These delays caused by inflexible bureaucracy mechanisms lead to enormous costs for companies.

The U.S. Chamber of Commerce and the Canadian Chamber of Commerce suggested expanding the border back inland to the manufacturing and warehousing facilities. According to them, product safety inspections at the origin of the products would improve on-time delivery, reduce costs and lead to the relief of traffic congestion at the ports of entry. The author is of the opinion that this idea misses critical points of consideration. First, it is not only the security of the products themselves that is critical to supply chain security, but it is the transit process of those goods. While the goods are being shipped the trucks or containers could be tampered and dangerous items or chemicals could be added. It would not mitigate all risks if the manufacturing and warehousing facilities alone undergo controls. Regulations would have to be put into place covering the security during the transportation process towards the border causing increased bureaucracy, work and costs. Second, a detailed control mechanism at the inland production facilities requires new regulatory procedures and new and specially trained security staff as well as a government body that continuously controls compliance on site. To implement this at every single manufacturing and consolidating facility is far too expensive. Thirdly, implementation of strict security inspections in plants and factories would also include products that stay within the country’s borders causing extra costs that would be avoidable. Often domestic goods only get separated from export goods in off-site warehouses. Also consolidation of different producers’ products is standard business practice.

The author does support the idea of moving the actual border facilities back away from critical infrastructure like bridges. This would make it a safer and due to more space and reduced resource constraints, a much faster process.

Another factor causing long waiting times is understaffing at certain points of time. Not all border booths are open around the clock causing delays during peak times. Furthermore, certain government departments are only operating during the day, like the CFIA, FDA and USDA. For any food or drug shipments to get cleared the FDA agents have to be present.

Shipments between Canada and the United States are inspected on both sides of the border.

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277 Cf. interview with Connie Powers
278 Cf. U.S. and Canadian Chambers of Commerce (2009), p. 15
281 Cf. interview with Debbie Bychyk and U.S. and Canadian Chambers of Commerce (2009), p. 20
Both countries' customs agents have the required technology to conduct detailed inspections through NII technology. There is no need for duplicative controls that cause double the work.  

4.2.2.2 Increasing fees for crossing the border

For any cross-border shipment the customs officers charge a border crossing fee called “service charge”. There is a range from a minimum to a maximum amount. This comes in addition to any additional costs incurred by the customer while the shipment is tied up at the border.

The soaring number of controls and inspections in recent years required more border agents per shipment and this increased the pressure for funding from the countries’ governments. In particular, specific shipments like food or animals require more time and effort per cross-border shipment. Currently, governments are looking to recover these costs through pay-per-use fees. An example is the U.S. Animal and Plant Health Inspection Service (APHIS) fee that is intended to cover the extra costs that inspections of fruits and vegetables entering the U.S. require. Not only commercial shippers have to pay this fee, but also all air passengers. Membership in any of the security programs does not exempt shippers or travelers from paying. The fact that U.S. border agents collect this money personally causes even more delays in the supply chain. The overall increase in costs is hampering trade as not many companies can afford to participate in cross-border trade anymore. In particular, small and medium-size businesses are affected.

Penalty fees can become a major financial burden for companies that do not follow the requirements correctly. Mistakes do not only include missing documentation, but also a wrong description of the shipped commodity. Penalty fees can go up to a maximum of $25,000. For companies considering expanding into cross-border trade, the lack of required expertise can make the new venture unviable due to the risk of heavy penalties.

The U.S. Chamber of Commerce and the Canadian Chamber of Commerce have proposed replacing user fees with an entirely government funded program for low-risk shipments. The author disagrees with this idea and would rather suggest funding out

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284 Cf. interview with Debbie Bychyk
287 Cf. interview with Debbie Bychyk
of user fees and penalties for non-compliance. The existing user fees should be reduced to a smaller amount. This would also relieve small and medium businesses from these huge expenses. The rest of the funding should be done through the penalty charges companies get charged when they do not have the necessary documentation or do not follow the required schedule.

4.2.2.3 Changing operating practices

The trend of Just in Time delivery is already reversing and companies are going back to the old fashioned inventory management practice of increasing warehousing. Only with increased inventory levels businesses can guarantee no stock outs, on-time deliveries and satisfied customers. After the signing of the free trade agreement North American companies were reducing their inventory and thus the related inventory costs. Expedited trade across the borders of Canada and the U.S. and between the U.S. and Mexico was meant to make Just in Time delivery and Just in Time production easy for North American companies thereby increasing their competitiveness on the global market. Now companies’ costs for transportation, warehousing and waiting time at borders exceed their production costs by far. This development does not only influence jobs and the growth of companies, but also their competitive advantage.

Europe, but in particular Asia’s emerging markets are outperforming the once strongest economy in the world.

Companies also increased the flexibility of their operations to be able to better react to unforeseen disruptions or delivery delays. They use the same plant layout and the same processes across the company and their products are made out of generic parts that are interchangeable. The actual customizing steps are postponed to a later point in the whole production process providing more semi-finished goods to fill deficits. Furthermore, they train their employees in a variety of areas to ensure complete flexibility and customer satisfaction. Communication between employees is critical so that individuals or certain teams can make right decisions in case of unpredicted events.

Corporate culture is a key factor. Byrnes identifies necessary cultural traits when summarizing Yossi Sheffi’s book The Resilient Enterprise in the Harvard Business School Working Knowledge Newsletter:

- Continuous communication among informed employees
- Deference to expertise
- Distributed power
- Knowledgeable, experienced management involved in operations
- Passionate and trustworthy employees and
- Innovation and flexibility inside the organization.

The introduction of strict security regulations along the U.S.-Canadian border also changed the way domestic Canadian cargo is moved from east to west and back. Due to better road infrastructure it is easier, faster and safer to go through the United States if you want to travel from Eastern Canada to Western Canada or vice versa. Lately carriers use the more dangerous road north of the Great Lakes to cross Canada which costs about $1,000 CDN more per load just to avoid crossing the border.\footnote{Cf. U.S. and Canadian Chambers of Commerce (2009), p. 18}

The prior notification of sea shipments 24 hours before lading also impacted the lake transportation that was going on in the Great Lakes area between Canada and the United States. The so-called short sea shipping on Lake Erie, for example, transported truck trailers between the two countries over a distance of only 105 kilometres. With the 24 hours advance cargo information rule this has become impossible and carriers have switched to shipping via truck or rail over distances that are about four times as long as the Lake Erie route.\footnote{Cf. U.S. and Canadian Chambers of Commerce (2009), p. 18}

\textbf{4.2.2.4 Missing promised commercial benefits}

When becoming a trusted member of one of the security programs the U.S., Canadian and Mexican governments promise short-term as well as long-term benefits to companies. Those benefits are supposed to outweigh the costs that are related to an application. In reality, though, certified businesses hardly see any expedited handling of their cargo. Regularly they are still sent to secondary inspections and as a result subject to additional fees.\footnote{Cf. U.S. and Canadian Chambers of Commerce (2009), p. 7} And just one security incident will hinder their border crossing in the future even more. This again curtails the growth of trade and rather than motivating businesses, it is discouraging them.

Furthermore, frustration is being mentioned due to waiting times even at the designated FAST lanes that are caused by inadequate infrastructure at the borders. In high volume times the lines of passenger vehicles or commercial vehicles other than FAST participants go back far beyond the entrance to the FAST lanes making it impossible for FAST members to enter the expediting lanes. So also certified members, who had enormous costs in order to get the certification, get stuck in traffic jams and face long delays.\footnote{Cf. U.S. and Canadian Chambers of Commerce (2009), p. 7} The key question is, then, if the work and effort to get a membership is worth it when not receiving the anticipated advantages.

Another issue is the fact that less-than-truckload carriers are not eligible for expedited border crossing through FAST lanes unless every single shipment loaded is from a FAST certified importer. The requirement that the carrier, the driver himself and the importer must be certified reduces the number of shipments that can actually benefit from FAST to a small number. Carriers that have the company as well as all its drivers

\footnote{Cf. U.S. and Canadian Chambers of Commerce (2009), p. 7}
all certified cannot make use of the expedited lanes when they have goods aboard whose consignees are not FAST certified. Also courier companies shipping small packages face the same problem.\textsuperscript{296} In this context it should be mentioned that shipments under the so-called section 321 do not require an inspection with CBP. Cargo with a value of under $200 falls under this special regulation, except if it is hazardous. Any hazardous material always needs to be checked by customs.\textsuperscript{297}

To conclude, the author wants to mention a good example in favour of C-TPAT, CSI and the 24-hour rule. Hasbro, a toy manufacturer initially spent about $200,000 in order to become a C-TPAT member and the annual maintaining costs are around $112,500. It started paying off right away. Already from 2001 to 2003 an enormous drop of inspections from 7.6\% down to 0.66\% was experienced. It saves the company now up to $550,000 per year.\textsuperscript{298}

\textbf{4.3 Analysis of the security initiatives from the perspective of logistics providers and carriers}

In this section the programs’ impact on the individual businesses is examined. In order to be able to give a good overview logistics providers and freight forwarders were investigated as they play a major role all along the supply chain. The personal interviews have been conducted in the companies’ facilities in New York City in the United States and in Toronto and Edmonton in Canada. The interviews took place between March and August 2009. After a personal interview with a logistics provider in New York in March, a telephone interview was added in August to include updated information about this company. Telephone conversations were held with experts from all over the United States and email correspondence took place with companies in the U.S. as well as Mexico. Those interviews were conducted between December 2008 and August 2009. For two of the three logistics providers, two people from different departments within the organization were interviewed to give a better insight into this topic. For one carrier out of the two, also multiple people were asked. Furthermore, logisticians within the same company, but situated in different countries were included in this study. Besides the primary sources, also reliable internet sources, journals, articles as well as conducted studies about this specific area were used for this analysis.

\begin{itemize}
\item \textsuperscript{296} Cf. U.S. and Canadian Chambers of Commerce (2009), p. 11
\item \textsuperscript{297} Cf. interview with Debbie Bychyk
\item \textsuperscript{298} Cf. Ritter, Barrett and Wilson (eds.) (2007), p. 69
\end{itemize}
4.3.1 Case study: Logistics providers

Three logistics providers have been interviewed to get an insight into the security programs’ impact on these businesses. All three interviewed companies operate across the North American continent legitimizing the generality of the findings. Whereas the first two companies are big players in the global market, the third company is comparably small. Size related differences in the handling of the security programs will also be discussed. The three companies are Exel, DHL Global Forwarding and cargo-partner.

4.3.1.1 Brief description of the interviewed logistics providers

*Exel* is a contract logistics provider in North America that operates all over the United States, Canada and Mexico. It generates more than $4.8 billion dollars in annual revenue and has 40,000 associates. In 2004, Exel was acquired by Deutsche Post DHL and it is part of its Supply Chain division.\(^{299}\) Exel provides third-party logistics and customized supply chain solutions to its customers. Its services include consulting, supply chain design, warehousing, fulfillment and transportation.\(^{300}\) It also offers supply chain management, assembly and packaging, service parts logistics, return logistics and home and business deliveries. It deals with less-than-truckload shipments, truckload shipments and intermodal shipments.\(^{301}\) Exel’s support allows its customers, mostly manufacturers, to be more efficient, more productive and thus more competitive.\(^{302}\) Exel’s operations are structured into small units all over North America that individually meet its customers’ needs. This can range from just forwarding cargo to the complete warehousing and distribution. Depending on what the individual business of each customer looks like, Exel may adjust its services.\(^{303}\) The major part of the transportation is taking place between the U.S. and Canada. Exel also has operations in Mexico. They use all four modes of transportation road, maritime, air and rail. While truck and rail are handled under one division, air and sea containers are being dealt with in a separate department. They also have agents that do deliveries for them. As Exel does not organize shipments across the border itself, an interview with one of Exel’s carriers will follow in chapter 4.3.2 to complete the supply chain view.\(^{304}\)

*DHL Global Forwarding* is the international market leader for freight shipments via air and sea. Its services also include overland transportation services as well as

\(^{299}\) Cf. Exel (2009a)
\(^{300}\) Cf. Exel (2009a)
\(^{301}\) Cf. Exel (2009b)
\(^{302}\) Cf. Exel (2009a)
\(^{303}\) Cf. interview with Paul Betscha (2009)
\(^{304}\) Cf. interview with Paul Betscha (2009)
customized logistics solutions for major projects and excellent customer service.\textsuperscript{305} This division is part of the Deutsche Post DHL that generated revenue of 63 billion euro in 2007.\textsuperscript{306} In 2008, the group counted 300,000 employees worldwide.\textsuperscript{307} The DHL Global Forwarding Air division offers both scheduled connections and charter possibilities based on partnership agreements with over 30 major carriers.\textsuperscript{308} Also DHL Global Forwarding Ocean division maintains a strong relationship with their carriers. They handle less-than-container (LCL) loads, full-container (FCL) loads and non-containerized shipments.\textsuperscript{309} Also warehousing and distribution centers are amongst DHL Global Forwarding’s services.\textsuperscript{310} Unlike Exel, DHL Global Forwarding organizes cross-border shipments in North America and offers customs management.\textsuperscript{311}

\textit{Cargo-partner GmbH} is an international full-service forwarding company that was founded in Vienna in Austria. As of today its operations are all around the world with 96 offices in 23 countries. The logistics service provider covers 17 European countries, India, China, Thailand, Taiwan, Singapore and the United States of America. In 2008, 61.4\% of all of cargo-partner’s shipments were by ship, 30.9\% were by truck and only 7.7\% by air. The group’s turnover in the year 2008 was 406 million euro and they employ around 2,000 associates.\textsuperscript{312} They were not only the first ones to conquer the Eastern European market, but also developed excellent knowledge overseas. With this experience, cargo-partner focuses on becoming the strongest and most innovative transportation logistics provider rather than being the largest.\textsuperscript{313} The only Cargo-Partner office in North America is in New York City in the United States and they deal with shipments coming into the U.S. as well as with cargo being transited through the U.S. into Canada. The New York office opened in 2001\textsuperscript{314} and it makes up only 1\% of the group’s workforce.\textsuperscript{315} Although the New York office mostly deals with sea import from Europe and India, they do handle shipments across the border to Canada or Mexico. Cargo-partner also has a warehouse for 2 big customers and handles their distribution all across the U.S. For cross-border shipments, cargo-partner mostly handles transit following their own internal transit process. The customs clearance is done by a customs broker. Mexico has even more special procedures, mentioned Pfeufer. Cargo-partner has an agent who deals with the Mexico processes where -for

\textsuperscript{305} Cf. DHL International GmbH (2009a)
\textsuperscript{306} Cf. DHL International GmbH (2009a)
\textsuperscript{307} Cf. DHL International GmbH (2009d)
\textsuperscript{308} Cf. DHL International GmbH (2009b)
\textsuperscript{309} Cf. DHL International GmbH (2009c)
\textsuperscript{310} Cf. DHL Global Forwarding, North America (2009)
\textsuperscript{311} Cf. DHL International GmbH (2009b) and DHL International GmbH (2009c)
\textsuperscript{312} Cf. cargo-partner GmbH (2009a)
\textsuperscript{313} Cf. cargo-partner GmbH (2009b)
\textsuperscript{314} Cf. cargo-partner GmbH (2009c)
\textsuperscript{315} Cf. cargo-partner GmbH (2009a)
example- labeling is stricter than in its neighboring countries. Only certain truck companies can do the actual crossing of the border and so there are companies who only perform cross-border shipments the whole day. When shipping into the U.S. from Mexico there are 3 separate customs checks in the border area, explains Pfeufer.  

4.3.1.2 **Certifications and memberships**

Certain security initiatives do not apply to logistics providers who are just offering services to their customers. The logistics service provider Exel, for example, is not certified in any of the discussed programs. As far as C-TPAT is concerned, 3PLs are not required to be certified, explains Betscha from Exel headquarters. Exel, though, is *C-TPAT qualified*, which means it follows all required security regulations and this is enough for its customers and business partners. The essential thing is to have all the required security processes and procedures in place. The actual certification is much more important for manufacturers, exporters, trucking companies, ports and terminals and importers. All those agents play a crucial role in the supply chain of a product and if any one of those is trying to do something bad, this has an enormous effect on the businesses and people struck by the event. 

DHL Global Forwarding, on the other hand, is C-TPAT certified. It received its certification in 2003 and a re-validation was granted in 2008. 

Cargo-partner is currently in the process of applying for C-TPAT for its office in New York. The company is of the opinion that C-TPAT has basically become a must as customers, who are C-TPAT members themselves, require it from their business partners. Furthermore, a certification in this program can be used as a marketing tool. The logistics provider is aware that smaller businesses probably do not all know C-TPAT yet, but some big importers request this certification from their logistics providers and other business partners. Although C-TPAT is currently mainly addressing importers, the company believes that future adjustments to the program will also bring benefits for all other agents along.

Exel is also not certified in Canada’s PIP program. Similar to C-TPAT, there are many reasons why Exel is not certified. First, there is no real demand for logistics providers to become a program member. Second, it has financial reasons. It is very costly to get every single facility up to the standard it needs to be and the many branches across North America make it difficult to coordinate collaborative compliance. Thirdly, Betscha explains that having customers that are C-TPAT certified is pretty similar to being certified itself. The government comes regularly and checks Exel facilities as soon as

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316 Cf. interview with Ralf Pfeufer
317 Cf. interview with Paul Betscha
319 Cf. interview with Ralf Pfeufer
320 Cf. interview with Fergal Keenan
those facilities are handling cargo for C-TPAT members. Thus, Exel is quasi qualified, yet saves the money of the application process and ongoing costs of operation.\textsuperscript{321} In comparison to that, DHL Global Forwarding is PIP certified and collaborates actively with the Canadian government and government agencies to meet the cargo security requirements while trying to ensure facilitation of trade.\textsuperscript{322} Cargo-partner does not have a PIP membership as transportation into Canada is not the company’s core business.\textsuperscript{323}

As far as the FAST program is concerned, Exel has a subcontractor who deals with the initiatives and all related documents and preparations.\textsuperscript{324} The same case relates to cargo-partner.\textsuperscript{325} Whereas Exel and cargo-partner are not involved in the details of cross-border transportation, DHL Global Forwarding is FAST certified.\textsuperscript{326}

Table 7 shows which of the interviewed logistics providers are C-TPAT, PIP or FAST certified.

\begin{table}[h]
\centering
\begin{tabular}{|l|c|c|}
\hline
 & Exel & DHL Global Forwarding \\
\hline
C-TPAT certified & no & yes \\
\hline
PIP certified & no & yes & in application process \\
\hline
FAST certified & no & yes & no \\
\hline
\end{tabular}
\caption{Certifications of interviewed logistics providers}
\end{table}

(Source: Own creation after interview with Paul Betscha, interview with Craig Hisle, interview with Luis Coppel and interview with Ralf Pfeufer)

It is interesting to see that only one interviewed company is clearly pursuing certifications in security programs and initiatives. The reason could be the differing core business of the different service providers. While Exel is only offering the service of planning and organizing its customers’ logistics, DHL Global Forwarding is more involved in the actual transportation of cargo. They offer scheduled shipments with their own trucks and this increases the need for compliance. Another reason is the companies’ organizational structure. Exel is split up into small business units each serving one single customer under an exclusive contract. DHL Global Forwarding, however, also ships LTL shipments for a variety of different customers. This requires more flexibility and an overall higher security level. Also the types of customers could have influenced that development. DHL Global Forwarding’s large number of customers ship goods all around the globe. Exel's customers are mainly manufacturers

\textsuperscript{321} Cf. interview with Paul Betscha
\textsuperscript{322} Cf. DHL Global Forwarding, North America (2009)
\textsuperscript{323} Cf. interview with Ralf Pfeufer
\textsuperscript{324} Cf. interview with Craig Hisle
\textsuperscript{325} Cf. interview with Ralf Pfeufer
\textsuperscript{326} Cf. interview with Luis Coppel
situated in a specific area. To decrease production costs, they tend to use suppliers that are geographically close to the production site. Only when they need special equipment they ship parts from overseas and then Exel mainly uses global carriers like FedEx or DHL. Cargo-partner is currently in the process of applying for a C-TPAT membership. Being the subsidiary of a European company made it difficult for the New York office to receive a certification earlier. As cargo-partner does not have its own trucks, a FAST membership is not necessary. Generally it can be said that only a small number of security initiatives touch a logistics provider’s area. The programs mentioned in this thesis are of much greater relevance for carriers. Chapter 4.3.2 will provide a case study about carriers.

The interviewed logistics providers are usually not dealing with any matters that relate to the 24-Hour-Advance-Vessel-Manifest-Rule. Only goods coming DDP (delivered duty paid) involve logistics providers like cargo-partner as they require specific documents. Generally the information process involved in the shipping process is more the customs broker’s area of duty. Cargo-partner is not a certified customs broker, but has a daughter company dealing with this process. This customs broker is C-TPAT certified. Usually cargo-partner provides its customs broker with the respective documents. There is a strict time line to be followed and any information missing can lead to delays. The cargo cut-off, where the container has to be in the terminal loaded, is three days before sailing. The cut-off for the 24-hour rule documents is one day before the cargo cut-off. When the documents are not perfectly prepared, the container gets loaded only one week later. Also Exel has an external customs broker, whereas DHL Global Forwarding has a customs clearance department incorporated into the company structure.

4.3.1.3 Benefits

Benefits for logistics providers can be tangible as well as intangible. Tangible benefits include faster processing of shipments and lower probability of inspections once compliance with the most important security initiatives is achieved. This also makes a freight forwarder’s job easier and decreases costs. Yet, many companies in the industry would argue that this is not the case. Certified companies have yet to experience the promised significant decrease in inspections. According to Keenan from cargo-partner New York the only advantage for certified companies is found in the event of a terror attack. Containers of C-TPAT certified companies, for example, would then still be processed while all other containers would undergo strict inspections and experience enormous delays. Another frustration is

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327 Cf. interview with Paul Betscha
328 Cf. interview with Paul Betscha, interview with Luis Coppel and interview with Ralf Pfeufer
329 Cf. interview with Ralf Pfeufer
330 Cf. interview with Ralf Pfeufer
331 Cf. interview with Luis Coppel
based on the fact that there is no information available as to why a container was chosen for further inspections and held at the border. Thus, companies do not get the chance to work on the step that went wrong and improve for the next shipment. There is still a problem in the area of liability and accountability. In particular the logistics provider’s situation is problematic as it is impossible to guarantee certain security standards for all agents that are involved in the shipping process. So tangible benefits are very controversial.

There are some intangible benefits for logistics service providers. They benefit from satisfied customers. Due to the increased security enforcement through new initiatives, the positive outcomes of compliance can be seen by manufacturers and they in turn bring business to logistics providers. In the long run the costs for increased security practices are offset by the savings that are created through the proactive security approach. Costs due to higher safety stock, longer cash-to-cash cycles, lost revenue through more probable stock-outs and increased transportation costs due to increased need for express shipments are disappearing. Stanford University published a report confirming several benefits the security initiatives brought to companies. On average companies had a 48% reduction in customs inspections, a 29% reduction in transit time, a 14% reduction in excess inventory as well as an improvement of on-time shipping to customers by 30% and an improvement of asset visibility by 50%. The interviewed logistics providers see the increasing investment costs just as a change of scope of their services for manufacturers and shippers. They need to follow the trend in order to keep their customers.

Another intangible benefit is the installation of risk management systems in organizations. Before the event of 9/11 many companies did not have any risk management system in place at all. The terror attacks on the World Trade Center and the Pentagon opened the trade community’s eyes and promoted the creation of security plans and risk management mechanisms. Companies now harvest a long-term profit from those implementations.

Furthermore, security initiatives create marketing opportunities for logistics providers. Certain manufacturers and shippers will only deal with certified and compliant partners. Cargo-partner, for instance, is sure that after a successful application in the C-TPAT program, the marketing department will implement this in its marketing plan. Exel’s success and competitiveness as a logistics provider was only partly influenced by its compliance with the continuously increasing security standards. According to Exel, it depends heavily on the individual customer and their products & specific

332 Cf. interview with Fergal Keenan
333 Cf. interview with Fergal Keenan
336 Cf. interview with Fergal Keenan
regulations. Generally, it is believed that the hype about programs like C-TPAT has diminished in the past few years. C-TPAT was always just intended to be a “benefit” in international trade with the purpose of expediting global trade. While its importance is slowly decreasing, other trends have increased. In particular, road and air security has increased and a continuous trend can be expected in the future.\textsuperscript{337} For DHL Global Forwarding the market pressure was the biggest driver that made the company pursue compliance and outweighed any potential marketing benefit.\textsuperscript{338} An interesting fact is that Keenan from cargo-partner believes that C-TPAT can better be seen as a marketing campaign of the U.S. CBP to increase the security awareness of the whole industry and make companies improve their internal security standards.\textsuperscript{339}

### 4.3.1.4 Increased costs

Costs for participation in any of the security programs are high and they include up-front investment costs as well as on-going costs. The U.S. Chamber of Commerce published numbers together with the Canadian Chamber of Commerce on that. According to their study the process of becoming certified can last up to two years and cost a business more than $100,000 in initial costs.\textsuperscript{340}

For logistics providers the following initial costs can be identified:

- Infrastructure improvement costs
- Restructuring costs and
- Research costs.

The new security regulations all require infrastructure improvements. For logistics providers, the physical security in the offices needs to be improved. So far cargo-partner New York conducted complete background checks on all its employees and introduced ID cards for employees as well as visitors. Also extra walls and a new reception to register visitors got built. In the future the office might also mount cameras to further improve the overall security in and around the office.\textsuperscript{341} DHL Global Forwarding is facing similar expenses.\textsuperscript{342} The logistics provider Exel has also experienced increased costs. Generally, there was an increase in the facilities’ physical standards by 50%.\textsuperscript{343}

Restructuring costs arise when certain business practices are changed. An example is cargo-partner, who outsourced the filing of manifests. The system that provides the link to CBP for any advance cargo manifest information is provided by an external service

\textsuperscript{337} Cf. interview with Paul Betscha
\textsuperscript{338} Cf. interview with Luis Coppel
\textsuperscript{339} Cf. interview with Fergal Keenan
\textsuperscript{340} Cf. U.S. and Canadian Chambers of Commerce (2009), p. 6
\textsuperscript{341} Cf. interview with Ralf Pfeufer
\textsuperscript{342} Cf. interview with Luis Coppel
\textsuperscript{343} Cf. interview with Paul Betscha
provider. They receive the required information from cargo-partner who receives it from the customer. The IT service provider gets paid for each filing that it completes for cargo-partner. At the end of the day this is a cheaper way for a small logistics provider like cargo-partner who does not process a large volume of filings. Research costs include any costs that are connected to staying up-to-date and follow new developments on a daily basis.

Recurring costs can be split up into:

- Additional staffing
- Security filing transaction costs and
- Maintenance costs of physical security and staff.

All three interviewed logistics providers had to increase the number of employees working in the area of security and compliance in the past years. When brokers file entries for importers, the importer usually gets charged per filing. In a cost benefit study by DHS and CBP released late 2008 it says that small and medium sized businesses tend more to switch to self-filing to reduce costs. Cargo-partner, however, stated the opposite argument. As mentioned above, they outsourced the filing process to an IT service provider to reduce extra staff, training and systems costs.

An example of maintenance costs is Exel. For Exel costs for maintenance, repair and training are the major part of the on-going costs. The company has a specific staff members assigned to the job of compliance with all safety and security regulations and represents these issues at the higher corporate level. This person’s position is not necessarily linked directly to the intensified customs’ security requirements, but the need for such a position evolved after the events of 9/11. The staff member deals with drivers’ qualifications and other procedures that need to be followed in order to be compliant with the law. In Canada a driver’s qualification involves a detailed background check on the driver’s safety as well as past employers. In the U.S., a criminal background check is required as well. Furthermore, a drug screening is being done at a growing frequency. Similar checks are being conducted with warehouse associates. Particularly harsh are the checks on drivers of hazardous material. Sometimes even fingerprints are taken. Those strict enforcements are mostly general state regulations and not necessarily from the customs agencies. The security regulations, overall, became more strict about compliance and enforcement after 9/11, Hisle says. Also Exel as well as DHL Global Forwarding have expenses in order to maintain their facilities’ security standards.

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344 Cf. interview with Ralf Pfeufer
345 Cf. interview with Paul Betscha, interview with Luis Coppel and interview with Ralf Pfeufer
347 Cf. interview with Ralf Pfeufer
348 Cf. interview with Paul Betscha
349 Cf. interview with Craig Hisle
350 Cf. interview with Luis Coppel and interview with Craig Hisle
Logistics providers may also be the supply chain member to provide the money for penalty charges. They have to pay first and only afterwards they charge their clients for it. Also other occurring costs are first paid by logistics providers and they then pass the charges on to their customers. An example of those costs would be costs due to waiting time at the border.\(^{351}\)

Cargo-partner, for example, either pays the charges to the shipping company who received the invoice from the customs authority. Or the customs authority charged the customs broker and he passes the charges on to cargo-partner. When companies bring their cargo earlier to make space in the warehouse, they get charged so-called "per diem" charges per day by the port.\(^{352}\)

### 4.3.1.5 Increased work

CBP published a survey about C-TPAT’s costs and benefits and mentioned an overall increase of work by 32.8% for logistics providers.\(^{353}\)

Although Exel is not directly affected by the different initiatives and their policies, Exel indirectly experienced significant influence on its business. As already mentioned Exel adjusts to its customer’s needs and so does each Exel business unit’s choice of security measures to implement. According to Exel, the overall security in certain specific industries, like the pharmaceutical industry or military increased immensely since 2001. Not only have the standards increased as parts of regulations, also the demand for specialized security people rose in the past. Customers from critical industries require special people at Exel’s sites who have a deep knowledge about the special requirements in order to be security compliant. In Canada they have to go through government training classes focusing on specific security and safety aspects. As far as Exel’s military customers are concerned, the U.S. military itself comes onto site and ensures that all regulations are properly followed.\(^{354}\) In general, Exel saw an enormous increase in security related regulations. They are 5 or 6 times more than before the terror attacks of New York and Washington D.C. in 2001, Betscha mentions.\(^{355}\) The respective security specialists are embedded within the company structure according to the industry. The security department of pharmaceutical products, for instance, is under the umbrella of life science. With this structure in place it is easier to keep up-to-date on what new security requirements are. Every facility has an operations manager who is responsible for security of his employees and associates as well as goods within this facility. Of course also HR and the site

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\(^{351}\) Cf. interview with Connie Powers, interview with Debbie Bychyk and interview with Ralf Pfeufer

\(^{352}\) Cf. interview with Ralf Pfeufer


\(^{354}\) Cf. interview with Craig Hisle

\(^{355}\) Cf. interview with Paul Betscha
supervisors play an important role as well. In conclusion, the security message is carried from the management top down to the people in the field. DHL Global Forwarding has security professionals scattered around North America who developed an exceptional expertise in the security field. As far as cargo-partner is concerned, the intensifications of security regulations in the past years did not force the office in New York to increase their workforce with specialists. Yet, the existing employees for sure work more. There is visibly more work in the Operations as well as Compliance department where the aforementioned programs are dealt with. In particular, the long C-TPAT application process requires extra training to develop expertise in this specific area. And to keep the C-TPAT certification cargo-partner needs to maintain a secure supply chain requiring all their business partners to be compliant as well. Being the branch of a European company made the preparation more difficult in many ways for them. Extra time was dedicated to collecting all the necessary information and to discover the critical factors to measure. A consulting firm is supporting and helping cargo-partner in all the phases of the application. The overall process is believed to take about 1 year. In order to complete the application, a 30 page application form has to be completed in conjunction with a questionnaire to all the warehouses and business partners that must be sent out. This questionnaire can be found in appendix 5. The purpose of the questionnaire is to evaluate the security standards of those partner facilities as they have a direct or indirect influence on cargo-partner’s security. This process, though, appears to be very difficult and it is hard to get completed questionnaires returned. While cargo-partner’s own facilities quickly returned the completed questionnaires, it is particularly difficult to get replies from any overseas business partners. The reason for not returning the questionnaire is the time and work it takes to complete the 11 page document. It involves different areas of the company and so it is difficult to find time to complete those questions during normal working hours. Cargo-partner could apply before all the sent questionnaires are returned to them, but to have numerous documents proving the security of its business partners will better reflect cargo-partner and increase its chance for certification. Pfeufer says that a never returned questionnaire will not influence the business relation with this specific partner.

Companies have to stay up-to-date and this requires people who make sure they capture every new development. In Exel’s operations, the information comes from many different sources: third party logistics services, e-mail alerts, mail alerts, government agencies’ websites and industrial periodicals. Furthermore, Exel is part of certain organizations and it uses certain vendors to make sure they are up to the required standards. Last but not least

356 Cf. interview with Craig Hisle
357 Cf. interview with Luis Coppel
358 Cf. interview with Ralf Pfeuer
359 Cf. interview with Fergal Keenan
360 Cf. interview with Ralf Pfeuer
Exel's customers inform them about new developments in their specific industry.\textsuperscript{361} Also DHL Global Forwarding makes sure to follow every new regulation change and be compliant with all improved regulations by using similar sources of information.\textsuperscript{362} Cargo-partner tries to be up-to-date at all times to maintain its competitiveness within the market. The respective employees dealing with security attend monthly meetings with the Long Island Import Export Association as well as on the airport. Moreover, they receive e-mail updates on new developments from CBP, the National Customs Association, different marine terminals and the cargo-partner headquarters.\textsuperscript{363}

\textbf{4.3.1.6 Trade facilitation or hindrance for logistics providers}

For Exel the whole trend of increasing security standards seems to be a good idea. Specific commodities, however, need to be addressed more than others. For certain more risky goods it is good to have the possibility of tracking them down and securing that they cannot harm anybody. A big obstacle is that regulations never change as quickly as issues arise, says Betscha. Process wise, the regulations represent an enormous hindrance for the company. The start and setting up of the necessary processes is time consuming and means extra costs to the companies.\textsuperscript{364} Exel would definitely welcome the possibility of certification for single facilities and sites, rather certifying the company as a whole entity. As of today, 10-15\% of Exel's facilities would fulfill the respective requirements to become a C-TPAT member.\textsuperscript{365} Coppel from DHL Global Forwarding is of the opinion that it can generally be seen as a trade facilitation. Even if a lot of time-consuming learning is involved, it makes processes faster in the long-term. In particular the FAST program enormously expedites transportation for this company.\textsuperscript{366} According to Keenan from cargo-partner even non C-TPAT-certified companies can get their cargo quickly into the U.S. by just strictly following CSI, 24-hour rule and 10+2 rule.\textsuperscript{367}

\textbf{4.3.2 Case study: Carriers}

Now the programs’ impact on freight carriers will be analyzed. Two carriers were interviewed, YRC Reimer and Transportes Olympic. Due to the significantly high volume of truck traffic within the North American continent both companies ship mostly by truck. Whereas the first company is a large company with many more available resources, the second company is a small business. Differences in their way of dealing

\begin{footnotes}
\footnote{361}{Cf. interview with Paul Betscha}
\footnote{362}{Cf. interview with Luis Coppel}
\footnote{363}{Cf. interview with Ralf Pfeufer}
\footnote{364}{Cf. interview with Paul Betscha}
\footnote{365}{Cf. interview with Paul Betscha}
\footnote{366}{Cf. interview with Luis Coppel}
\footnote{367}{Cf. interview with Fergal Keenan}
\end{footnotes}
with the intensified regulations and the response to them will also be analyzed.

4.3.2.1 Brief description of the interviewed carriers

YRC Reimer is the Canadian subsidiary of the holding company YRC Worldwide Inc., one of the largest transportation providers in the world. YRC was founded through the merger of Yellow Transportation in Ohio and Roadway in Oklahoma. Its headquarters are in Kansas in the United States and their workforce includes 59,000 people. YRC offers transportation across the United States, Canada and Mexico by ground or air. In Mexico YRC Transportation S.A. de C.V. runs their operation. Roadway acquired the Canadian coast-to-coast logistics service provider Reimer Express in 1997. In 2003 they joined together with Yellow to become the Yellow Roadway Corporation. YRC Reimer is now YRC Worldwide Inc.’s largest subsidiary.

Transportes Olympic is a Mexican trucking company involved in cross-border transportation as well as cross-country transportation across North America. This company was the first Mexican carrier to be allowed operation within the United States in 2007. This was a milestone for the company considering that the border crossing into the U.S. was forbidden for Mexican trucks between 1982 and 2007. It was founded in June 1990 by Fernando Paez and is now the market leader in the import and export transportation of goods without unloading and reloading at the Mexican border. Transportes Olympic ships the freight straight to the destination in the United States, Canada or Mexico, giving it a distinct competitive advantage over its Mexican counterparts. Compared to the YRC group it is just a small business. The company’s greatest focus lies on complying with security and safety policies.

4.3.2.2 Certifications and memberships

YRC Reimer is certified in the C-TPAT, PIP, FAST, CSA as well as the U.S. ACE and Canadian ACI program and it has representatives at all main border-crossing points in North America. The C-TPAT application was done by YRC Reimer’s headquarters in the United States with strong collaboration with CBP and CBSA. All facilities in the U.S., Canada and Mexico then had to implement the required security standards accordingly. They had gates built to protect the facilities from foreign intruders, installed security cameras and

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368 Cf. YRC Reimer (2009a)
369 Cf. YRC Reimer (2009b)
370 Cf. interview with Adriana Arredondo
372 Cf. Transportes Olympic (2009) and interview with Adriana Arredondo
373 Cf. interview with Adriana Arredondo
374 Cf. YRC Reimer (2009c) and interview with Patricia Scott
only the designated staff is allowed on the docks to prevent any strangers from hiding goods in the trailers that could present a risk. In the offices visitor batches were introduced and everybody coming onto the facility has to sign in with his/her name and sign out upon leaving again. Although there are no night guards, YRC Reimer has hired guards on the weekends. They patrol around the facility as well as use the cameras to capture any tamper attempts. As far as the employees’ backgrounds go, there are detailed checks on every driver. The U.S. Customs authority conducts on-site checks only in U.S. facilities.\footnote{375} Transportes Olympic is C-TPAT certified and obtained its C-TPAT membership status in September 2007.\footnote{376} Being a Mexican company it was absolutely necessary to become certified in order to gain respect from U.S. businesses and individuals and win their confidence. When Transportes Olympic first crossed the border into the United States, many voices got loud saying that the carrier had insufficient security standards.\footnote{377} The C-TPAT certification proved their compliance winning more and more U.S. clients.

YRC’s Canadian division is a member of PIP since February 2009\footnote{378} and CBSA regularly comes to the Canadian sites to check the implemented security procedures. Those agencies also conduct records audits making sure all the processes are compliant with their regulations. The Canadian PIP takes its members a step further and wants to promote proactive behavior. When drivers see suspicious cars at the border while waiting, for example, they are required to report this incident.\footnote{379} Transportes Olympic does not see a need for a PIP certification yet, as the majority of its business is between the U.S. and Mexico and the costs related to a certification would outweigh any benefits.\footnote{380}

YRC Reimer is FAST certified since March 2003\footnote{381} and for the Canadian company division the whole handling is run out of the Canadian headquarters in Winnipeg, Manitoba. After detailed background checks, drivers need to get a FAST card. It involves a detailed application process that is done for them in Winnipeg. The card’s validity is lost when the driver leaves the company. When truck drivers leave the dock in direction of a border crossing, they need to have a truck manifest, the so-called ACE electronic manifest, with them. An example of such an Automated Commercial Environment manifest is shown in appendix 3. The Canadian company Reimer, having become a part of Roadway, got to be on the ACE test project that started in 2007. The ACE paperwork has to include a bill of lading and the customs documents. With those documents the following information must be

\footnote{375}{Cf. interview with Debbie Bychyk}\footnote{376}{Cf. Transportes Olympic (2007) and interview with Adriana Arredondo}\footnote{377}{Cf. Grider (2007) and Kampbell (2007)}\footnote{378}{Cf. interview with Patricia Scott and interview with Debbie Bychyk}\footnote{379}{Cf. interview with Debbie Bychyk}\footnote{380}{Cf. interview with Adriana Arredondo}\footnote{381}{Cf. interview with Patricia Scott and interview with Debbie Bychyk}
provided: \(^{382}\)

- Manufacturer’s address
- Product’s country of origin
- Product’s value and the used currency
- Shipper’s name
- Tax ID for customer in the U.S.
- Destination in the U.S.
- Name of customs broker and
- PAPS number.

The same applies to the Mexican carrier who is FAST certified as well. Its certification in the Customs Trade Partnership Against Terrorism program made the FAST application process simple and fast. \(^{383}\)

The following table gives an overview of the programs the interviewed carriers are certified in.

**Table 8 Certifications of interviewed carriers**

<table>
<thead>
<tr>
<th></th>
<th>YRC Reimer</th>
<th>Transportes Olympic</th>
</tr>
</thead>
<tbody>
<tr>
<td>C-TPAT certified</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td>PIP certified</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>FAST certified</td>
<td>yes</td>
<td>yes</td>
</tr>
</tbody>
</table>

(Source: Own creation after interview with Debbie Bychyk, interview with Patricia Scott and interview with Adriana Arredondo)

When looking at this table one can immediately see that participation in security programs and initiatives is vital for a successful carrier. While YRC Reimer is certified in the C-TPAT program, PIP program and FAST program, Transportes Olympic is only C-TPAT and FAST certified. The Mexican carrier does not see a need for the Canadian PIP certification as the majority of its business is between the United States and Mexico.

Both interviewed carriers ship cargo across the borders between the three NAFTA countries and thus long wait times and intense inspections at border crossings affect them the most. To be able to deliver the goods on time and satisfy their customers they have to pursue membership in security programs. YRC Reimer and Transportes Olympic confirmed that trend and clarified that they would have lost customers if they had not gone through the certification process. \(^{384}\)

**4.3.2.3 Benefits**

Also carriers have tangible and intangible benefits.

\(^{382}\) Cf. interview with Debbie Bychyk
\(^{383}\) Cf. interview with Adriana Arredondo
\(^{384}\) Cf. interview with Debbie Bychyk and interview with Adriana Arredondo
Tangible benefits are without any doubt the reduced overall waiting time for their truck drivers at ports of entry.\textsuperscript{385}

As far as the maritime security improvements go, there are contradictory responses. On the one side, stowaways dropped more than 50% in the first 6 months of the ISPS Code.\textsuperscript{386} Yet, according to several cargo insurance underwriters, cargo theft has not visibly decreased in the months following the introduction of the ISPS Code leaving the question how secure ports and facilities really are against terrorist threats.\textsuperscript{387}

A point of criticism is the fact that ships are not protected from seaborne attacks. Furthermore, small commercial vessels, recreational vessels and vessels returning home after visiting a foreign port are not being covered at all.\textsuperscript{388}

The maritime transportation systems will always be more vulnerable than other modes of transportation due to their open nature.\textsuperscript{389} Dr. Stephen Flynn of the U.S. Council on Foreign Relations presented a possible scenario as how those initiatives can be thwarted by a terrorist on March 28, 2006 before the Senate Homeland Security and Governmental Affairs Committee: A container full of sneakers made by a name-brand company in Indonesia gets breached and filled with a bomb on its way to the port without disturbing the mechanical seal. From the port there it gets shipped to Hong Kong and then to Vancouver. As the sneakers are from a name-brand company that is C-TPAT member, no port official in neither port undertakes further inspection. After arriving in Vancouver, it gets shipped to an American city and upon opening the bomb detonates.\textsuperscript{390} This example shows very well that one loose link in the chain destroys everybody else’s effort. Furthermore, it makes clear how difficult it is to say where the supply chain ends. One could say now that the 100% screening the U.S. requires is a necessary next step to even avoid such incidents. Yet, this would only be of advantage for the U.S. Moreover, the enormous influence on time on every single cargo shipment needs to be considered.

CBP claims that CSI helps to move “containers faster, more efficiently and more predictably through the supply chain”.\textsuperscript{391} Their explanation is based on a faster and more efficient movement of the low-risk containers. Shipments often sit on the pier for a couple of days before being loaded on the vessel. They use this time to do the targeting and screening, thus allowing an immediate release once they arrived in the U.S.\textsuperscript{392} Containers that have already been examined in the foreign port, get a security seal and then the U.S. officers expedite them as soon as they arrive in a U.S. port. CBP says though, “that it reserves the right to inspect any cargo that arrives in the

\textsuperscript{385} Cf. interview with Debbie Bychyk and interview with Adriana Arredondo
\textsuperscript{386} Cf. Gilmour (2005), p. 1
\textsuperscript{387} Cf. Austen (2007)
\textsuperscript{388} Cf. Gilmour (2005), pp. 4-5
\textsuperscript{389} Cf. Bennett (2008), p. 178
\textsuperscript{390} Cf. Sewak (2008), p. 213
\textsuperscript{391} U.S. CBP (2006a)
\textsuperscript{392} Cf. U.S. CBP (2007a), p. 3
United States, whether it has been pre-screened or not.\textsuperscript{393} Although this will only be done when further information becomes available during the shipping process or the seal has been tampered, says CBP.\textsuperscript{394} Yet, one has to look at the whole picture and include the influences on companies. CBP, for example, holds all shipments that are together on a bill of lading when only one of the many containers is identified as risky. So all containers have to wait for this one container to be inspected and accepted by CBP. This causes long delays and high costs for the affected companies.\textsuperscript{395}

Intangible benefits for carriers are realized through marketing opportunities and improved brand image. Although a marketing advantage must be seen controversial as companies say that it is not a comparative advantage anymore to be compliant, but a must.\textsuperscript{396} CBP says that C-TPAT is only for willing members. This, however, is not really true anymore. For a carrier, the security initiatives are not marketing nice-to-haves. Freight carriers must be compliant and certified in a number of programs and initiatives in order to be able to conduct international transportation. A lot of customers would not deal with a carrier who is not PIP or C-TPAT certified. If carriers did not go through the long and tiring application process, they would not have business at all.\textsuperscript{397}

If only certain companies requested their customers to follow intensive security measures and thus incur higher costs, and a competitor was not, the latter would have obvious business advantages. Given that, compliance with security requirements would be randomly met and the overall risk within the global supply chain would not be decreased.\textsuperscript{398}

\textbf{4.3.2.4 Increased costs}

Also carriers face different kind of costs due to the required security standards and regulations. Two kinds of costs increased in the past years: initial implementation costs and recurring costs.

One-time investment costs for carriers are:
- Information system costs
- Infrastructure improvement costs and
- Research costs.

\textsuperscript{393} U.S. CBP (2007a), p. 4
\textsuperscript{394} Cf. U.S. CBP (2007a), p. 4
\textsuperscript{395} Cf. interview with Connie Powers
\textsuperscript{396} Cf. interview with Ralf Pfeufer, interview with Debbie Bychyk, interview with Connie Powers and interview with Luis Coppel
\textsuperscript{397} Cf. interview with Patricia Scott, interview with Debbie Bychyk and interview with Ralf Pfeufer
\textsuperscript{398} Cf. Sewak (2008), pp. 218-219
Information systems must be in place in order to be able to submit proper and complete security filings to customs computer systems technology. Existing systems can either be improved or new ones purchased. An upgraded IT system is not enough. Companies must also use a system that the customs agencies have approved and is capable of allowing all participants to communicate with each other.\footnote{Cf. interview with Ralf Pfeufer and interview with Debbie Bychyk}

Also infrastructure costs for physical security on site in the different facilities are faced. Maritime security initiatives, for instance, have required ports, terminals and ocean carriers to increase security standards in the past years. CBP claims, however, that there are basically no increased costs for CSI for host countries. They say that NII equipment like the X-ray and screening was already existent in most ports thanks to compliance with the ISPS code. Just software had to be bought, but this is essential for every port anyways, they say.\footnote{Cf. U.S. CBP (2007a), p. 4}

And one has to include the benefits that are generated for the international trade community. There are so many players involved along a global supply chain and transport chain increasing the risk of tampering. It is true that tracking every single container that is being shipped around the world is very expensive. In particular, more complex systems, like the RFID technology, cause huge expenses. Yet, the market basically requires a continuous tracking from the manufacturer to the end consumer. Complexity is added due to the fact that cargo is being transported by different modes of transportation and across international borders with different laws enforced.\footnote{Cf. Sewak (2008), p. 220}

Another example for initial implementation costs are research costs. Just like logistics providers, carriers have to stay informed about new developments as far as regulations go. They rely on getting the information from all different kinds of sources. Yet, in most cases certain employees within the organization also get assigned to that task. For YRC Reimer its head office makes sure the respective people are up-to-date.\footnote{Cf. interview with Debbie Bychyk}

Also the different subsidiaries within YRC inform each other about new developments.\footnote{Cf. interview with Patricia Scott}

Recurring costs are

- Additional staff
- Border crossing service fees/inspection fees and
- Maintenance costs.

There is additional staffing all across YRC’s facilities in North America.\footnote{Cf. interview with Patricia Scott and interview with Debbie Bychyk} Each terminal has certain clerical workers that are only working on those initiatives. This involves gathering the necessary information, entering it into the database that is linked to CBP, writing all reports and preparing the envelopes with three copies of each required
document for the drivers. After the drivers leave another employee checks if everything went through and the access into the country is granted. If there are any problems, there is enough time left before the driver actually arrives at the border allowing the employee to work on it. In case the time frame is too short and the problem cannot be solved prior to the driver’s arrival at the border a special unit helps out. The so-called ACE office gets involved and tries to get the freight cleared. An option is to bond it. Bonding means that it goes through the United States in transit and it will be cleared at the destination terminal. Yet, bonded shipments are more expensive as there are additional fees for issuing the bond, clearing the bond and covering the broker’s extra work.  

For any shipments crossing the border a service fee needs to be paid according to the weight of the shipment. For customers that regularly cross the border a negotiated rate is the normal business practice. Bychyk not only mentions the border crossing fees as an extra expense, but also wait charges and penalty charges. In case of waiting time at the border due to a secondary inspection, for instance, extra waiting fees will be charged. In case of a mistake on the shipper’s or the carrier’s side, penalty charges will be billed. Examples are missing documents or the wrong description of the commodity. In case the company does not agree with the charged amount, there is the possibility of arbitration. YRC Reimer’s specific department in Winnipeg deals with penalty issues and can argue CBP’s charges. In case YRC Reimer gets billed, but it was the shipper’s fault, the carrier would pay the amount and then pass the charges on to its customer. It is also possible, however, that the U.S. CBP directly addresses the driver with the penalty, Bychyk says. For any secondary inspection it is also the carrier who gets charged and the shipper pays the carrier. Since 2001 companies had an increased number of containers being drawn.  

Maintenance costs for carriers include training for staff as well as the maintenance of the facilities’ physical security. Transportes Olympic faces increased costs due to continuous upgrades in its technology.  

The argument that CBP uses to justify costs is that many companies already had some of the required security practices incorporated into their business procedures far before 2001.  

4.3.2.5 Increased work  

CBP’s survey from August 2007 about C-TPAT’s costs and benefits lists carriers as having the highest increase of work. This program causes 39.4% more work for

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406 Cf. interview with Debbie Bychyk  
405 Cf. interview with Debbie Bychyk  
407 Cf. interview with Connie Powers and interview with Ralf Pfeufer  
408 Cf. interview with Adriana Arredondo  
409 Cf. U.S. CBP (2007i)
YRC Reimer experienced significant changes in its operations since the intensification of security regulations in the past few years. Its business, however, was not negatively affected and it did not result in more work for the company. They just see it as part of their business. They had to learn the new programs, incorporate them into the daily routine and connect diverse systems. Furthermore, IT connection to the U.S. customs had to be set up. It took YRC Reimer in total 2 years to get all set up on the initiatives.411

Debbie Bychyk from YRC Reimer provides an insight into the work that is involved in shipping across a national border. The shippers know what kind of information is needed in order for the carrier to bring the goods across the border. They provide YRC Reimer with all the documents and YRC Reimer deals with the rest of the process. The carrier uses an IT system that is connected directly to the U.S. Customs allowing them to communicate with each other at real time. Only certain people have access to certain areas and fields of this system trying to maximize its safety and integrity. Once all the documents are received, a YRC Reimer employee scans all the related documents and enters the customer’s information into the system. Then they send a message to U.S. Customs. If the shipment is identified as non-risky and is accepted to enter the United States, CBP will change the status in the system to “A”, meaning “Accepted”. Once the cargo is accepted, YRC Reimer prepares the ACE manifest for the driver that he will be required to present at the border. In case the trailer carries consolidated goods this manifest has to include the necessary information and codes, like the PAPS code, from every single shipment. When the truck is loaded the driver takes the documents consisting of three copies each and upon arrival at the border he will give them to the border agent. YRC Reimer informs the customs broker, provides him with the customer’s documents and then the broker arranges for customs clearance and entry online with CBP.412

Figure 12 shows the above described border crossing process in detail.

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410 Cf. U.S. CBP (2007)), p. 46
411 Cf. interview with Debbie Bychyk
412 Cf. interview with Debbie Bychyk
In this process YRC Reimer takes the role of the middle man providing the shipper with the service of arranging everything. Thus, the shipper does not have to deal with anything related to clearing shipments. The customs broker is involved in the actual customs clearance process. There are hundreds of brokers that YRC Reimer can approach, but when entering the U.S. it must always be a U.S. broker. A broker at an actual port of entry is preferred as this office is open 24/7. Another key entity in this whole process is the ACE office in Buffalo. It has representatives at the most popular crossings and helps the drivers with any ACE related issues. Generally it can be said that the entry into the U.S. is very tight whereas the entry into Canada is not as strict.\textsuperscript{413}

Also Transportes Olympic has experienced increased work. The border crossing and customs clearance process into Mexico is more complex. As the Mexican Customs agency tried to intensify their security regulations alongside their larger neighbour, the United States, freight forwarders had to be present at all ports of entry and basically walk the goods across the border. Learning the new processes increased the carrier’s amount of work enormously.\textsuperscript{414} As far as YRC Reimer is concerned, it is registered in Mexico which allows the company to drive its trucks there.\textsuperscript{415}

Transportes Olympic’s owner Paez saw compliance with the U.S. security standards always as priority number one. Having a second company that operates in the U.S. enabled him to easily follow new developments and intensifications of U.S. security regulations.\textsuperscript{416}

\textsuperscript{413} Cf. interview with Debbie Bychyk
\textsuperscript{414} Cf. interview with Adriana Arredondo and interview with Debbie Bychyk
\textsuperscript{415} Cf. interview with Debbie Bychyk
\textsuperscript{416} Cf. Grider (2007)
YRC Reimer also puts a lot of effort into staying up-to-date with all security requirements. They continuously receive information from CBP, CBSA and other government agencies, its supply chain partners, logistics associations as well as logistics journals. Certain employees then distribute the gathered information across the organization.417

4.3.2.6 Trade facilitation or hindrance

CBP underlines the trade facilitation that results from C-TPAT.418 Also CSI is strongly emphasised. The security programs are not seen as a trade hindrance at all. According to CBP a terror attack would now not bring U.S. trade to a complete standstill.419

According to YRC Reimer FAST made cross-border trucking faster than before the events of 9/11. It is true that the process implementation is very time and resource consuming, but once it is in place it is without any doubt a trade facilitation. Furthermore, it is good to know that the flow of goods is guaranteed, even in case of a disaster. In the weeks and months after the terror attacks, Bychyk says, everything came to a complete stop.420

Also Transportes Olympic is in favour of the implemented security programs. In particular the border crossing at port of entries between Mexico and the U.S. has been expedited thanks to the different initiatives.421

The 100% screening of maritime cargo containers, however, that is sought by the United States by 2012 would be an enormous trade hindrance. Right now only about 2% to 3% of all containers destined for the U.S. are being screened. Screening every single one would lead to enormous delays.422

4.4 Recommendations and best practices

Possible improvements for the supply chain as a whole include more communication and information sharing. The countries’ governments and border agencies should work together strongly with businesses to assure smooth border crossing and benefits resulting from being part of a security program. The goal would be that border agents can focus their limited human and financial resources on risky or unknown shipments. This would increase overall security across North America, make the flow of trade

417 Cf. interview with Patricia Scott
418 Cf. U.S. CBP (2004b)
419 Cf. U.S. CBP (2007a), p. 4
420 Cf. interview with Debbie Bychyk
421 Cf. interview with Adriana Arredondo
faster and attract more companies to become certified in security initiatives. Businesses also know better what their real needs are and what would help them move goods faster, so they are the governments' best source of input. Cooperation should also happen between the countries border agencies and the WCO.

Another recommendation is the setting of specific goals about what the highest priority steps are that need to be taken to achieve higher security levels all over the North American continent and what are their deadlines. This then has to be continuously controlled using metrics. The governments should use internal as well as external metrics. External metrics should be published and visible to the trade community. The internal metrics should only be open to the different government agencies outlining their duties.

As far as C-TPAT and PIP are concerned, the U.S. and Canadian customs authorities should consider allowing certification for one office or facility rather than only for the organization as a whole.

Harmonization of IT standards would make the trade system more efficient. A single filing system should be implemented that all government agencies have access to. Businesses would only have to deal with one format for documents and forms and could use one single system for any contact with any of the agencies. Moreover, it would be easier to sustain consistent definitions of data elements for overall clearer and more effective communication.

Small and medium-size businesses that cannot afford the high costs of application and participation in existing programs should be granted special lower tariffs and fees. An idea would be a payment calculation according to cargo shipped per year.

A better system for less-than-truckload (LTL) shipments needs to be put into place. The author recommends clear communication of the problem of non-compliance if one of the shipments in the LTL container is not certified. When consolidating the trailers, special attention should be made to which shipment is certified and which one is not. According to the status of compliance the shipments should be consolidated into different trucks. Trucks carrying only compliant cargo can then take advantage of the expedited lanes while the non-compliant shipments all wait for further inspections.

The U.S. Chamber of Commerce and the Canadian Chamber of Commerce noticed that there is no contingency plan for any disasters, like a pandemic, natural disaster or terrorist related disaster. It should be clarified what kind of products and people would be allowed to pass the border in case of a complete closure during the incident, but

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also following the event.\textsuperscript{425}

The following recommendation is to assure more efficient trusted shipper programs. The customs agencies should develop a system to share the work of inspections, outcomes, results and other information between neighbouring countries rather than having similar inspections on both sides of the border.

Governments should start infrastructure improvements at the ports of entry. In particular, the designated FAST lanes have to start a couple of kilometers before the actual border to assure smooth flow of FAST certified drivers. As soon as the smooth process and the advantages of this program are known to the industry more companies will pursue a membership in those trade facilitating programs.\textsuperscript{426} The initial costs could be partly covered by the FAST program’ application fees. Although it would mean high up-front capital costs, the long-term profits generated through faster border processing would certainly outweigh them.

Border agencies should start hiring part-time and seasonal workers to overcome peak times and thus reducing long waiting times. Although border agents have to undergo strict training, there are jobs involved in the process that do not require high skills or training. Jobs like paper handling or filing can be done by such workers.\textsuperscript{427} In particular, major ports of entry would benefit greatly from round the clock services with all government departments.

For the individual supply chain agents it is important to only concentrate on certifying in programs that are absolutely necessary to keep the business up. Certifications in other initiatives are too expensive and do not bring any positive results back. Exel shows how it is enough to be C-TPAT qualified as a logistics provider rather than spend the money on a C-TPAT certification.\textsuperscript{428}

A good best practice for small and medium sized businesses is the use of a security consultant before and during the application process of a major security initiative like C-TPAT. Cargo-partner’s application process was simplified enormously through a consultant’s help and support.\textsuperscript{429}

When shipments to one specific country are rare, it is advised to have an agent specialised in this country’s processes and policies. Both Exel and cargo-partner use

\textsuperscript{425} Cf. U.S. and Canadian Chambers of Commerce (2009), p. 27
\textsuperscript{427} Cf. U.S. and Canadian Chambers of Commerce (2009), p. 21
\textsuperscript{428} Cf. interview with Paul Betscha and interview with Craig Hisle
\textsuperscript{429} Cf. interview with Ralf Pfeufer
an agent for their operations in Mexico.\textsuperscript{430}

Another best practice for small companies is the use of an external IT service provider for the filing process. As cargo-partner, for example, is just handling a small number of filings, it is more cost effective to outsource then to have its own IT filing system.\textsuperscript{431}

The same applies to the customs clearance. If a company handles only a few actual customs clearances, it is more cost and time affective to use an external customs broker, just like Exel, cargo-partner and YRC Reimer do.\textsuperscript{432} A large company like DHL Global Forwarding is advised to incorporate a customs broker within the company’s structure.\textsuperscript{433}

To minimize research costs and related work, it is suggested to have solely one department collecting information and keeping up-to-date with new developments and intensifications of security regulations. YRC Reimer’s facilities, for instance, all receive updates from one central unit in its headquarters making it possible for the individual facilities to focus on the actual implementation of the security standards.\textsuperscript{434}

\textsuperscript{430} Cf. interview with Paul Betscha and interview with Ralf Pfeufer
\textsuperscript{431} Cf. interview with Ralf Pfeufer
\textsuperscript{432} Cf. interview with Paul Betscha, interview with Ralf Pfeufer and interview with Debbie Bychyk
\textsuperscript{433} Cf. interview with Luis Coppel
\textsuperscript{434} Cf. interview with Debbie Bychyk
5 Conclusion, outlook and summary

Chapter 5 provides a conclusion about the findings of this thesis and a potential outlook for the future of security regulations in North America. In the end, a summary will be given.

5.1 Conclusion

The trend of security initiatives seems to calm down slowly and the focus is now more on a proper incorporation of the existing programs within the companies’ processes. While the existing programs cover all modes of transportation and different types of businesses, there are some companies that are more affected by this development than others. The biggest changes happened in the area of road and sea transportation. As far as businesses are concerned, logistics providers and carriers were affected the most. This thesis shows that whether a company pursues a certification or not is highly dependent on the type of business. It was discovered that compliance is much more important for carriers than for logistics providers. Also manufacturers need to be compliant if they want to continue exporting.

The intensified security programs had an influence on the existing trade relationship and cooperation between the three NAFTA countries United States, Canada and Mexico. Although the NAFTA agreement was intended to bring the three North American countries closer together, the development of those stringent security programs seems to result in the opposite. Operations as well as strategies within industries in North America changed. Alterations on the operational side include diversion of truck routes or ship routes. Certain small businesses changed their strategies and stopped exporting as they were financially not capable of incorporating the intensified security standards in their processes. Governments are marketing trade facilitation as the primary incentive for participation in security programs. Yet, in reality those initiatives are curtailing trade.

Companies who are involved in cross-border trade are facing numerous difficulties and challenges. The industry reports an overall increase of costs, both in initial investment costs as well as recurring costs. In particular, small businesses have troubles in raising the capital to undergo the application process and then maintain the security standards in the long run. The governments, however, say that the initiatives are not necessarily a financial burden. Most of the companies already had security standards in place. And those security improvements should rather be seen as an investment, the customs authorities argue. In the long-term they will lead to better and more efficient operations and this in turn can lead to higher revenue and cost reductions as well as growth. There is also frustration in the industry as to what extent the promised benefits of a
membership in one of those programs are realised. Many companies still experience long wait times at the border even after a successful certification. Furthermore, there are some areas that are not thoroughly thought through yet, like the regulations concerning LTL shipments shipped by a FAST certified carrier. This poses the question of whether or not the money and time needed for a certification are worth it when there are few discernable advantages for companies. The government, on the other side, sees the developments very positively. The security initiatives reduce bottlenecks at ports of entry and thus reduce the workload for the customs agents. This in turn allows them to focus on higher risk cargo from non C-TPAT members. This is in everybody’s interest. As far as benefits for companies go, tangible and intangible benefits can be found. Some companies do experience tangible benefits in the form of expedited border crossing since their membership in the C-TPAT and FAST program. Marketing opportunities present intangible benefits for a lot of companies and certifications in those security initiatives can give a company advantage over its competitors that are not certified.

While a lot of companies support the idea of trusted shipper programs and security screening of air cargo, the purpose of supply chain wide programs are questioned by the industry. The general security and safety awareness rose in the past few years increasing the security standards over all industries and all processes. This development made a C-TPAT certification of every single company redundant. It could be proved that it is enough to be C-TPAT qualified while dealing with C-TPAT certified business partners. This way a secure supply chain can be guaranteed while saving the money that an application would cost the companies. Besides attempts to minimize existing overlaps, a lot of work is also required to make it easier for companies to achieve compliance. This can be assured through harmonization and standardization of security initiatives. In particular standardized forms, processes, IT systems and documents are essential to ensure efficiency. Harmonization attempts were successful for some initiatives, but the final goal should be harmonized programs and a single IT system for all of North America. Communication has to be improved between the different countries’ governments, between the industry and government institutions, but also within a country’s different institutions. In particular in times of financial crisis, North America should work together to enhance its competitiveness and strengthen the countries’ overall wealth. More and more markets are opening up in today’s world of globalization and collaboration can surely sustain North America’s competitive advantage.

The implemented cargo security initiatives in North America are steps in the right direction. Today’s world requires higher security standards and increased precautions along supply chains. The governments’ developed programs are based on good ideas, their implementation, however, still needs some refinement.
5.2 Outlook

It is obvious that global security can only be achieved in a collaborative effort of all countries including various supply chain security programs. The North American governments goals are to eventually save costs and operate more efficiently as a result of all the implemented initiatives. This can only happen if everybody along the supply chain fulfills their part. Security consciousness has risen in the years of the initiatives' implementation and the three NAFTA countries will continue to strive to improve. The important thing now is to decrease complexity by harmonizing and standardizing programs and systems. Initial steps have been taken in that direction, but many more have to follow.

Many companies have already implemented security initiatives in their organizational processes and increased their security standards. Now the time has come for them to benefit from their hard work in the past few years. They should start to see increasing number of customers, expedited border crossing, simplified data transfers with customs agencies and decreasing overall costs. Yet, it is realistic that those advantages will take another couple of years until companies will fully be able to experience them. Once fast and simple ways for a successful implementation are spread within the industry and the overall costs for a certification decrease, the amount of small businesses in cross-border trade will hopefully increase.

For those companies who are not certified yet, success of their business and the number of clients in the next few years will define their strategy. They are either forced to get certified as customers start preferring competitors that are certified over them. Or their strategy will be proved correct and show that meeting the standards without having an actual certificate of membership in one of those programs is enough to stay competitive.

This area of research will certainly stay interesting and exciting in the future and regulations and minimum standards will keep changing on a regular basis. Hopefully North America will come to a consensus and will work together to bring the NAFTA idea back to life.

5.3 Summary

Since the terror attacks of New York and Washington D.C. on September 11, 2001, cargo security initiatives and programs have increased enormously. Starting with the United States, also Canada and Mexico soon developed their own regulations. Most initiatives can be found for road and maritime shipments, but also air transportation is facing increasing security standards. The most important U.S. initiatives are the Free and Secure Trade (FAST) program and Electronic Truck Manifest on the road side and
the Container Security Initiative (CSI), the 24-Hour-Advance-Vessel-Manifest-Rule (24-Hour-Rule), the Importer Security Filing and Additional Carrier Requirements (ISF) and the Secure Freight Initiative (SFI) on the maritime side. Air transportation has the Air Automated Manifest System (Air AMS) as well as physical screening of cargo and on the rail side there is the Rail Automated Manifest System (Rail AMS). The Customs Trade Partnership Against Terrorism (C-TPAT) covers all modes of transportation and even expands beyond the U.S. borders into the whole world.

Canada has the eManifest for road carriers, the Customs Self Assessment Program (CSA), the Commercial Driver Registration Program and the FAST program for road shipments. The Marine Transportation Security Clearance Program, Advance Commercial Information (ACI) Marine program and CSI cover maritime transportation. The Advance Commercial Information Air program, also called ACI Air program, deals with shipments via airplane and the Memorandum of Understanding on rail security and eManifest for rail carriers with shipments via train. Similar to the U.S. C-TPAT, Canada has developed its Partnership in Protection (PIP) program.

Mexico has the Cross Border Truck Safety Inspection Program and FAST on the road side, the 24 hours Advance Cargo Manifest Rule on the sea side and the Mexico Advanced Cargo Requirements for air carriers on the air side.

The Business Alliance for Secure Commerce (BASC) is a supply chain security program in Latin America and the Caribbean that was developed completely by private corporations in order to improve overall security. The Transported Asset Protection Association (TAPA) follows a similar idea, but includes only shipments of highly valuable goods like high technology products.

To summarize those programs three levels can be looked at in more detail. The U.S. 24-Hour-Rule, ISF, Air AMS and Rail AMS, the Canadian eManifest, ACI Marine program, ACI Air program and eManifest for rail carriers as well as the Mexican 24 hours Advance Cargo Manifest Rule and Advanced Cargo Requirements for air carriers all cover the area of information processes. The actual physical controls are done by X-ray, screening and physical inspections through programs like CSI and cargo screening for air cargo. C-TPAT and PIP as well as BASC cover the whole supply chain and are based on background checks of every single agent involved in the supply chain.

There have been numerous attempts to collaborate on the security and safety issue around the world and also within the continent of North America. The WCO’s SAFE Framework and ISPS code are examples of cooperation between countries around the world. The NAFTA agreement’s idea was intensive collaboration between the three countries United States, Canada and Mexico. While tax exemptions for goods traded between the NAFTA countries are a standard practice, harmonized security systems and regulations still need to be improved in the future. Frequent traveller programs proved that harmonization across the North American countries is possible and thanks to those programs travel time was increased and wait times reduced. There are also attempts to develop one single IT system for North America for storing data, communicating between the different parties involved and filing before crossing the border. Once this standardization has successfully been completed, additional overlaps
will need to be identified and worked on. Problems that hamper those improvements from being made are missing communication, separate developments of programs and related systems as well as cultural differences. Collaboration requires a lot of time and effort and both are scarce resources in times of fast moving markets and financial crisis. Cooperation is not only necessary between the different countries, but also between the governments’ different institutions as well as the governments and the industry. As far as Mexico is concerned, extra work is required to bring Mexico up to the same level as its northern neighbours concerning the economic and social development.

Trade in North America was heavily influenced by the intensification of security standards. There are long border wait times due to insufficient border infrastructure, lacking effective technology, redundant procedures and inspections and staffing constraints. The countries try to work on improving the situation at major ports of entry, but often not all factors are being considered. As a consequence of these long wait times, companies are forced to change their operations which in most cases leads to more costs for these companies. Also increasing costs hamper trade as small and medium businesses are financially not strong enough to take high border-crossing fees, penalty fees or the initial costs of an application for one of those programs. Initially companies were promised benefits after a certification in security programs has been achieved, but reality shows that those advantages are not there yet. Thus, rather than facilitating trade, those security programs hinder trade and lead to a decrease in NAFTA trade in the past years.

During the research several logistics providers and carriers were interviewed and the initiatives’ impact on those businesses was analyzed. All interviewed businesses operate across the North American continent and thus all companies should be equally compliant. The study, however, shows that certification in security programs are more important to certain types of businesses. Carriers seem to be obliged to achieve compliance in order to not lose any customers. As logistics providers are only dealing with the organization and paperwork of a shipment, their compliance is not absolutely required. Carriers are the ones who physically ship the goods across the border and need to be certified to avoid wait times and inspections. What is true for everybody involved is an increase in work. All interviewed companies as well as recent studies show that companies either had to increase their number of employees or their employees had to work harder in the years of the initiatives’ implementation. It is not only time and work intensive to apply for membership in one of those security initiatives, also keeping up-to-date with new developments and regulations results in more work. Moreover, also certain processes had to be changed to be able to follow the governments’ requirements.

Compliance with security programs has advantages as well as disadvantages for businesses. There are costs related to certifications in those security programs. Those costs can either be initial investment costs or recurring costs. Initial costs include
infrastructure improvement costs, restructuring costs and research costs. Recurring costs could be due to additional staffing, security filing transactions, inspections or continuous maintenance of facilities. Benefits include expedited border crossing once participation in a trusted traveller program is achieved, marketing opportunities for those companies who are compliant and in turn more business and increasing numbers of customers. Yet, only a few companies actually experience those promised benefits and it is still questionable if compliance with the programs is worth the involved money and time.

Most companies see the security initiatives themselves as a trade facilitation, but their implementation often presents a hindrance. Acquiring new processes, incorporating the required IT systems and learning how to use them needs time and patience and this is the part the majority of the companies struggle with. Once everything is set up, businesses are in favour of cargo expediting programs like the FAST initiative. C-TPAT is heavily criticized as compliance with some other programs basically covers C-TPAT’s area and companies do not see a reason for redundant controls.

There is still a lot of work that needs to be done in the future to make those security initiatives a trade facilitation. Recommendations to achieve this goal include more communication between the countries, between the governments and the industry and between the different government institutions, increased harmonization and standardization as far as inspections, processes and the IT system go as well as infrastructure improvements at major port of entry. Furthermore, lower participation costs for small businesses, special regulations for LTL shipments and more employees at border facilities during peak times are recommendable. Also a contingency plan for any disasters should be developed.

For the individual agents it is suggested to only apply for programs that are absolutely necessary to keep the business going. A consultant during the application process is cost effective as well as outsourcing the filing process. Also agents for areas where business is rare and a central department collecting information on new developments and regulations should be considered to minimize costs.

Summarizing it should be clarified that the whole supply chain must be secured in order to achieve a safe international trade environment. It is not enough to implement measures in just a small area or only one mode of transportation.
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**Interviews**

**Arredondo, Adriana Y.** (Import Executive, Transportes Olympic). Email, Apodaca, Nuevo León, Mexico, August 6, 2009.


**Bychyk, Debbie** (Service Center Office Supervisor, YRC Reimer). Personal interview, Edmonton, Alberta, Canada, August 10, 2009.

Hisle, Craig (Manager Transportation Compliance, Exel). Telephone interview, Westerville, Ohio, USA, August 13, 2009.


Scott, Patricia (Border Management Services, YRC North American Transportation). Email, Akron, Ohio, United States of America, August 26, 2009.
Appendices

Appendix 1 NAFTA Certificate of Origin

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1. CERTIFY THAT:

- THE INFORMATION ON THIS DOCUMENT IS TRUE AND ACCURATE AND I ASSUME THE RESPONSIBILITY FOR PROVIDING SUCH REPRESENTATIONS. I UNDERSTAND THAT I AM LIABLE FOR ANY FALSE STATEMENTS OR MATERIAL OMISSIONS MADE ON OR IN CONNECTION WITH THIS DOCUMENT;

- I AGREE TO MAINTAIN AND PRESENT UPON REQUEST, DOCUMENTATION NECESSARY TO SUPPORT THIS CERTIFICATE, AND TO INFORM, IN WRITING, ALL PERSONS TO WHOM THE CERTIFICATE WAS GIVEN OF ANY CHANGES THAT COULD AFFECT THE ACCURACY OR VALIDITY OF THIS CERTIFICATE;

- THE GOODS ORIGINATED IN THE TERRITORY OF ONE OR MORE OF THE PARTIES, AND COMPLY WITH THE ORIGIN REQUIREMENTS SPECIFIED FOR THOSE GOODS IN THE NORTH AMERICAN FREE TRADE AGREEMENT AND UNLESS SPECIFICALLY EXEMPTED IN ARTICLE 4.1 OR ANNEX 40, THERE HAS BEEN NO FURTHER PRODUCTION OR ANY OTHER OPERATION OUTSIDE THE TERRITORIES OF THE PARTIES AND

- THIS CERTIFICATE CONSISTS OF PHASES, INCLUDING ALL ATTACHMENTS

11a. AUTHORIZED SIGNATURE
11b. COMPANY
11c. NAME (Print or Type)
11d. TITLE
11e. DATE (MM/DD/YYYY)
11f. TELEPHONE NUMBER
11g. (Value)
11h. (Facsimile)

CBP Form 434 (14/97)
For purposes of obtaining preferential tariff treatment, this document must be completed legibly and in full by the exporter and be in the possession of the importer at the time the trade is made. This document may also be completed voluntarily by the producer for use by the exporter. Please print or type:

FIELD 1: State the full legal name, address (including county and legal description of the property), legal business number, if in Canada, and any other unique reference number, such as the Social Security Number.

FIELD 2: Complete the Certificate covers multiple shipments of identical goods as described in Field 4A that are imported into a NAFTA country for a specified period of time per year. The Certificate is valid for as long as the specified period of time per year. The Certificate is valid for as long as the specified period of time per year. The Certificate is valid for as long as the specified period of time per year. The Certificate is valid for as long as the specified period of time per year.

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Field 8: Provide a full description of the goods. The description should be sufficient to enable the officer to determine whether the goods are covered by the Certificate. The description should be sufficient to enable the officer to determine whether the goods are covered by the Certificate. The description should be sufficient to enable the officer to determine whether the goods are covered by the Certificate. The description should be sufficient to enable the officer to determine whether the goods are covered by the Certificate. The description should be sufficient to enable the officer to determine whether the goods are covered by the Certificate.

Preference Criteria:

A. The goods must be wholly produced or produced entirely in the territory of one or more of the NAFTA countries as referenced in Article 419.2. The goods must be wholly produced or produced entirely in the territory of one or more of the NAFTA countries as referenced in Article 419.2. The goods must be wholly produced or produced entirely in the territory of one or more of the NAFTA countries as referenced in Article 419.2. The goods must be wholly produced or produced entirely in the territory of one or more of the NAFTA countries as referenced in Article 419.2.

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NOTE: This category does not apply to Chapters 11 through 44 of the U.S. (Reference: Article 410.4(d)).

E. Certain automated data-processing goods and their parts, specified in Annex 409.1, that do not originate in the territory of the country of destination must be considered originating in the country of destination in accordance with the rules established in Annex 409.1 and 409.2. Certain automated data-processing goods and their parts, specified in Annex 409.1, that do not originate in the territory of the country of destination must be considered originating in the country of destination in accordance with the rules established in Annex 409.1 and 409.2. Certain automated data-processing goods and their parts, specified in Annex 409.1, that do not originate in the territory of the country of destination must be considered originating in the country of destination in accordance with the rules established in Annex 409.1 and 409.2.

F. The goods must be produced entirely in the territory of one or more of the NAFTA countries and satisfy the specific criteria of Article 419.2. The goods must be produced entirely in the territory of one or more of the NAFTA countries and satisfy the specific criteria of Article 419.2. The goods must be produced entirely in the territory of one or more of the NAFTA countries and satisfy the specific criteria of Article 419.2. The goods must be produced entirely in the territory of one or more of the NAFTA countries and satisfy the specific criteria of Article 419.2.

G. The goods must be produced entirely in the territory of one or more of the NAFTA countries and satisfy the specific criteria of Article 419.2. The goods must be produced entirely in the territory of one or more of the NAFTA countries and satisfy the specific criteria of Article 419.2. The goods must be produced entirely in the territory of one or more of the NAFTA countries and satisfy the specific criteria of Article 419.2. The goods must be produced entirely in the territory of one or more of the NAFTA countries and satisfy the specific criteria of Article 419.2.

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J. The goods must be produced entirely in the territory of one or more of the NAFTA countries and satisfy the specific criteria of Article 419.2. The goods must be produced entirely in the territory of one or more of the NAFTA countries and satisfy the specific criteria of Article 419.2. The goods must be produced entirely in the territory of one or more of the NAFTA countries and satisfy the specific criteria of Article 419.2. The goods must be produced entirely in the territory of one or more of the NAFTA countries and satisfy the specific criteria of Article 419.2.

K. The goods must be produced entirely in the territory of one or more of the NAFTA countries and satisfy the specific criteria of Article 419.2. The goods must be produced entirely in the territory of one or more of the NAFTA countries and satisfy the specific criteria of Article 419.2. The goods must be produced entirely in the territory of one or more of the NAFTA countries and satisfy the specific criteria of Article 419.2. The goods must be produced entirely in the territory of one or more of the NAFTA countries and satisfy the specific criteria of Article 419.2.

L. The goods must be produced entirely in the territory of one or more of the NAFTA countries and satisfy the specific criteria of Article 419.2. The goods must be produced entirely in the territory of one or more of the NAFTA countries and satisfy the specific criteria of Article 419.2. The goods must be produced entirely in the territory of one or more of the NAFTA countries and satisfy the specific criteria of Article 419.2. The goods must be produced entirely in the territory of one or more of the NAFTA countries and satisfy the specific criteria of Article 419.2.

M. The goods must be produced entirely in the territory of one or more of the NAFTA countries and satisfy the specific criteria of Article 419.2. The goods must be produced entirely in the territory of one or more of the NAFTA countries and satisfy the specific criteria of Article 419.2. The goods must be produced entirely in the territory of one or more of the NAFTA countries and satisfy the specific criteria of Article 419.2. The goods must be produced entirely in the territory of one or more of the NAFTA countries and satisfy the specific criteria of Article 419.2.
Appendix 2 Free And Secure Commercial Driver Application Form

Please type or print

FAST COMMERCIAL DRIVER APPLICATION

No. ☐ First time applicant ☐ Replacement or Replacement ☐ Insider crossing most frequently used ☐ Preferred language ☐ English ☐ French

SECTION A - PERSONAL INFORMATION

Last name ☐ First name ☐ Maiden name (if any)

Ob other names used (eg. nickname, bai name) Nickname

Date of birth ☐ Month ☐ Day

City of birth ☐ Province or State ☐ Country

Citizenship (Check all that apply)

☐ Canadian citizen ☐ U.S. citizen ☐ Other (Please specify)

Residence

☑ Canada ☐ United States

Proof of citizenship/residency status (Attach two copies of one of citizenship, residency and driving licence)

Birth certificate No.:

Passport No.: ❌

Other type of document No.: ❌

Drives licence No.: ❌

SECTION B - ADDRESS HISTORY FOR THE LAST 5 YEARS

Current address

Street address

Postal code

City

Province/State

Date of issue

Date of expiry

Previous residential address if current residence is less than two years (attach a separate sheet if necessary)

From

To

Street address

Postal code

City

Province/State

Date of issue

Date of expiry

Please provide the form and photocopies of the required documents to:

FAST Commercial Driver Program

4551 Zimmerman Avenue

P.O. Box 5A

Napanee Falls, Ontario

L8G5S0

CANADA

CBSA (2008g)
### SECTION C - EMPLOYMENT HISTORY FOR THE LAST 5 YEARS

<table>
<thead>
<tr>
<th>Year</th>
<th>Month</th>
<th>Year</th>
<th>Month</th>
<th>Year</th>
<th>Month</th>
<th>Year</th>
<th>Month</th>
</tr>
</thead>
<tbody>
<tr>
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</tr>
</tbody>
</table>

- **Employer Name:** [ ]
- **Position:** [ ]
- **Address:** [ ]
- **City:** [ ]
- **Province/State:** [ ]
- **Postal/Zip Code:** [ ]
- **Country:** [ ]
- **Telephone Number:** [ ]

**Previous Employer:** [ ]
- **Name:** [ ]
- **Address:** [ ]
- **City:** [ ]
- **Province/State:** [ ]
- **Postal/Zip Code:** [ ]
- **Country:** [ ]

**Current Employer:** [ ]
- **Name:** [ ]
- **Address:** [ ]
- **City:** [ ]
- **Province/State:** [ ]
- **Postal/Zip Code:** [ ]
- **Country:** [ ]

**Previous Employer:** [ ]
- **Name:** [ ]
- **Address:** [ ]
- **City:** [ ]
- **Province/State:** [ ]
- **Postal/Zip Code:** [ ]
- **Country:** [ ]

**Current Employer:** [ ]
- **Name:** [ ]
- **Address:** [ ]
- **City:** [ ]
- **Province/State:** [ ]
- **Postal/Zip Code:** [ ]
- **Country:** [ ]

### SECTION D - ADDITIONAL INFORMATION

- **Have you ever been convicted of an offense in any country for which you have not received a pardon?** [ ]
  - **Yes** [ ]
  - **No** [ ]

- **Have you ever been a threat or a risk to national security?** [ ]
  - **Yes** [ ]
  - **No** [ ]

- **Have you ever been the subject of a criminal or immigration investigation?** [ ]
  - **Yes** [ ]
  - **No** [ ]

- **Has your name ever been added to the list of regulated persons under the Federal Immigration Act?** [ ]
  - **Yes** [ ]
  - **No** [ ]

- **Has your name ever been added to the list of regulated persons under the Federal Immigration Act?** [ ]
  - **Yes** [ ]
  - **No** [ ]

- **Have you ever been the subject of an extradition or removal order?** [ ]
  - **Yes** [ ]
  - **No** [ ]

- **Have you ever been the subject of a criminal or immigration investigation?** [ ]
  - **Yes** [ ]
  - **No** [ ]

- **Have you ever been the subject of an extradition or removal order?** [ ]
  - **Yes** [ ]
  - **No** [ ]

- **Have you ever been the subject of an extradition or removal order?** [ ]
  - **Yes** [ ]
  - **No** [ ]

- **Have you ever been the subject of an extradition or removal order?** [ ]
  - **Yes** [ ]
  - **No** [ ]

### SECTION E - CERTIFICATION

I certify that all information given in this application is complete, true, and correct to the best of my knowledge. I understand that any information or statement made by me in this application is subject to inspection by any law enforcement agency in Canada and the United States of America.

**Name:**

**Signature:**

**Date:**

---

### FOR OFFICE USE ONLY

- **File No.:**
- **CAD No.:**
- **ECC No.:**
- **LAST Circ.:**

---

### SECTION F - FEE PAYMENT (non-refundable)

- **I am enclosing:**
  - [ ] a cheque
  - [ ] a money order
  - [ ] a personal or company cheque

**Card No.:**

**Card holder's name:**

**Card holder's signature:**

---

**Page:** 108
## Appendix 3 ACE Truck Manifest

### ACE Electronic Manifest

<table>
<thead>
<tr>
<th>TRIP #:</th>
<th>TRACTOR PLATE #</th>
</tr>
</thead>
</table>

**DEPARTMENT OF HOMELAND SECURITY**
**BUREAU OF CUSTOMS AND BORDER PROTECTION**
**HARBOUR CARGO MANIFEST FOR VESSEL UNDER FIVE TONS, FERRY, TRAIN, CAR, VEHICLE, ETC.**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Name or Number and Description of Importing Conveyance</td>
<td>2. Name of Master or Person in Charge</td>
</tr>
<tr>
<td>3. Name and Address of Owner</td>
<td>4. Foreign Port of Loading</td>
</tr>
<tr>
<td>5. Port of Arrival</td>
<td>6. Date of Arrival</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Carrier Name, SIC No., Proc. Name, Firm Code</th>
<th>Number and Group Weight in Kilograms of Individual Packages and Description of Goods</th>
<th>Name of Consignee</th>
<th>Per Stated Custom Entry</th>
</tr>
</thead>
<tbody>
<tr>
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</tr>
</tbody>
</table>

**TRAILER #:**

The undersigned carrier, in whose custody or charge the articles thereof above set forth are held, hereby certifies that the owner or consignee or his agent, or such owner or consignee, as such owner or consignee, is the owner or consignee of such owner or consignee, as such owner or consignee, or any agent who is the owner or consignee of such owner or consignee, or any agent who is the owner or consignee of such owner or consignee, as such owner or consignee.

I certify that this manifest is correct and true to the best of my knowledge.

Date: ____________________________

Master or Person in Charge: ____________________________

Customs Bond: ____________________________

---

437 (Bychyk, 2009)
**Appendix 4** CSI certified ports

In North and South America:
- Halifax, Montreal and Vancouver, Canada
- Santos, Brazil
- Buenos Aires, Argentina
- Port of Cortes, Honduras
- Caucedo, Dominican Republic
- Kingston, Jamaica
- Freeport, Bahamas
- Balboa and Colón and Manzanillo, Panama
- Cartagena, Colombia

In Europe:
- Rotterdam, The Netherlands
- Le Havre and Marseille, France
- Bremerhaven and Hamburg, Germany
- Antwerp and Zeebrugge, Belgium
- Gothenburg, Sweden
- Felixstowe, Liverpool, Thamesport, Tilbury and Southampton, United Kingdom
- Genoa, La Spezia, Livorno, Naples and Gioia Tauro, Italy
- Piraeus, Greece
- Algeciras, Barcelona and Valencia, Spain
- Lisbon, Portugal

In Asia:
- Singapore
- Yokohama, Tokyo, Nagoya and Kobe, Japan
- Hong Kong
- Pusan, Korea
- Port Klang and Tanjung Pelepas, Malaysia
- Laem Chabang, Thailand
- Dubai, United Arab Emirates
- Shanghai and Shenzhen, China
- Kaohsiung and Chi-Lung, Taiwan
- Colombo, Sri Lanka
- Port Salalah, Oman
- Quasim, Pakistan
- Ashdod and Haifa, Israel

---

438 (U.S. CBP, 2007b), (U.S. CBP, 2008b)
In Africa:
Durban, South Africa
Port Alexandria, Egypt
Appendix 5 C-TPAT Questionnaire

C-TPAT SECURITY SURVEY FORM

COMPANY NAME: 

FACILITY STREET ADDRESS: 

CITY, STATE, PROVINCE, ETC.: 

COUNTRY: 

POSTAL CODE: 

TELEPHONE NUMBER: 

FAX NUMBER: 

FULL NAME OF PERSON COMPLETING THIS SURVEY: 

TITLE OF PERSON COMPLETING THIS SURVEY: 

E-MAIL ADDRESS OF PERSON COMPLETING THIS SURVEY: 

DATE SURVEY WAS COMPLETED: 

TYPE OF BUSINESS:

☑ NON-U.S. MFG. FACILITY
☑ NON-U.S. CONSOLIDATOR
☑ NON-U.S. TRUCKING CO.
☑ CONTAINER FREIGHT STATION
☑ CUSTOMS BROKER
☑ N.V.O.C.C.
☑ U.S. CONSOLIDATOR
☑ U.S. TRUCKING CO.
☑ FREIGHT FORWARDER (Not Customs Broker or N.V.O.C.C.)
☑ THIRD-PARTY WAREHOUSE
☑ OCEAN CARRIER
☑ AIR CARRIER
☑ RAIL CARRIER

C-TPAT STATUS (COMPLETE ALL THAT APPLY):

☐ NOT A MEMBER:
☐ C-TPAT SUBMITTED / PENDING. DATE SUBMITTED: 
SVI NUMBER: 
DATE OF MEMBERSHIP: 
DATE OF VALIDATION: 

(Pfeufer, 2009)
IF YOUR COMPANY IS A C-TPAT MEMBER, PROCEED DIRECTLY TO SECTION 1.

A. OTHER SUPPLY CHAIN SECURITY PROGRAMS

1  O YES  O NO  O NA Has your firm obtained certification in a supply chain security program being administered by your Government’s Customs Administration?
If yes, indicate the name of the program and your firm’s status of participation. (EG: Canada’s PIP program.)

B. CONTAINER/TRAILER SECURITY

1  O YES  O NO  O NA Are high-security seals (that meet or exceed current PAS ISO 17712 standards) affixed to all loaded ocean containers / trailers bound for the USA?

2  O YES  O NO  O NA Is the container/trailer sealed at the point of stuffing immediately after loading?

3  O YES  O NO  O NA Do you have procedures in place for designated employees to distribute container/trailer seals?

4  O YES  O NO  O NA Do you have a container/trailer seal log?

5  O YES  O NO  O NA Are seals stored in a secure place?

6  O YES  O NO  O NA Is there a written procedure in place which stipulates how seals are to be controlled and properly affixed to loaded containers/trailers?

7  O YES  O NO  O NA Are container seals compared to an anticipated seal number before seal is broken or removed?
8  O  YES  O  NO  O  NA Is there a written procedure in place which stipulates how to recognize and report compromised seals and/or containers to US Customs or the appropriate authority?

9  O  YES  O  NO  O  NA Who is responsible for cutting and removing container seals? (List titles, not names)

10  O  YES  O  NO  O  NA Is there a written procedure in place to verify the physical integrity of containers prior to loading? (This inspection process should include: front wall, left wall, right wall, floor, ceiling/roof, inside/ outside doors, outside/ undercarriage and the locking mechanisms of the doors.)

11  O  YES  O  NO  O  NA Are containers and trailers (both empty and loaded) stored in a secure area to prevent unauthorized access and/or manipulation?

12  O  YES  O  NO  O  NA Is there a written procedure in place for reporting and neutralizing unauthorized entry into containers or container storage areas?

C. PHYSICAL SECURITY

1  O  YES  O  NO  O  NA Is the facility enclosed by a perimeter fence or security wall?

2  O  YES  O  NO  O  NA Are gates through which vehicles and/or personnel enter or exit manned and/or monitored?

3  O  YES  O  NO  O  NA Are the number of gates kept to the minimum number necessary for proper access and safety?

4  O  YES  O  NO  O  NA Are procedures in place to regularly inspect the fence/barrier for integrity and damage?

5  O  YES  O  NO  O  NA Does interior fencing segregate domestic, international, high value, and hazardous cargo?

6  O  YES  O  NO  O  NA Are incoming vehicles screened for driver identity and authorization?

7  O  YES  O  NO  O  NA Are all truck drivers identified (via driver license or company ID) and recorded on a truck Arrival / Departure log?
<table>
<thead>
<tr>
<th>Q</th>
<th>YES</th>
<th>NO</th>
<th>NA</th>
<th>Question</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td>Are private vehicles prohibited from parking near or adjacent to cargo handling and storage areas?</td>
</tr>
<tr>
<td>9</td>
<td></td>
<td></td>
<td></td>
<td>Are all perimeter windows, doors, roof hatches, etc. secured with adequate locking devices?</td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td>Do management or security personnel control the issuance of all keys and locks?</td>
</tr>
<tr>
<td>11</td>
<td></td>
<td></td>
<td></td>
<td>Are perimeter locks changed when keys are lost?</td>
</tr>
<tr>
<td>12</td>
<td></td>
<td></td>
<td></td>
<td>Are perimeter locks changed when a key-holding employee separates from the company?</td>
</tr>
<tr>
<td>13</td>
<td></td>
<td></td>
<td></td>
<td>Is there a written procedure in place for the issuance, removal and changing of access devices (keys, locks, etc.)?</td>
</tr>
<tr>
<td>14</td>
<td></td>
<td></td>
<td></td>
<td>Are all areas of the facility exterior (including all entrances and exits, truck bay doors, parking areas and fence lines) well-lighted from dusk to dawn?</td>
</tr>
<tr>
<td>15</td>
<td></td>
<td></td>
<td></td>
<td>Are all areas of the facility interior (including all cargo handling and storage areas) well-lighted?</td>
</tr>
<tr>
<td>16</td>
<td></td>
<td></td>
<td></td>
<td>Does the facility have a burglar/intrusion alarm system?</td>
</tr>
<tr>
<td>17</td>
<td></td>
<td></td>
<td></td>
<td>Does a central station monitor the burglar alarm system?</td>
</tr>
<tr>
<td>18</td>
<td></td>
<td></td>
<td></td>
<td>Does the facility have a CCTV (video surveillance) system?</td>
</tr>
<tr>
<td>19</td>
<td></td>
<td></td>
<td></td>
<td>Is the CCTV system monitored in real time? If yes, who monitors the system? (List titles, not names.)</td>
</tr>
<tr>
<td>20</td>
<td></td>
<td></td>
<td></td>
<td>Is the CCTV system recording at all times? If yes, how long are the video images archived?</td>
</tr>
</tbody>
</table>
21  ○ YES  ○ NO  ○ NA  Are all entrances and exits (including truck bay doors) captured by CCTV cameras?

22  ○ YES  ○ NO  ○ NA  Are all cargo handling and storage areas captured by CCTV cameras?

23  ○ YES  ○ NO  ○ NA  Are security guards utilized at the facility?

24  ○ YES  ○ NO  ○ NA  Are the security guards in uniform?

25  ○ YES  ○ NO  ○ NA  Are the security guards contracted through an outside security service?
   If yes, what is the name of the security agency?

26  ○ YES  ○ NO  ○ NA  Are security guards posted after operating hours?

27  Briefly describe the various security guards posts and duties.

27  ○ YES  ○ NO  ○ NA  Is K-9 security utilized?
   If yes, explain.

D. ACCESS CONTROL
1  ○ YES  ○ NO  ○ NA  Are all employees issued ID cards / badges?

2  ○ YES  ○ NO  ○ NA  Do employee ID cards have the employee's name and photograph?

3  ○ YES  ○ NO  ○ NA  Do employee ID cards have an expiration date?
<table>
<thead>
<tr>
<th>Question</th>
<th>Answer Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>If yes, how long is it valid (until it expires)?</td>
<td></td>
</tr>
<tr>
<td>4 Are all employees required to wear the ID card/badge, via clip or</td>
<td>YES, NO, NA</td>
</tr>
<tr>
<td>chain, while on company grounds?</td>
<td></td>
</tr>
<tr>
<td>5 Is the employee ID card designed to prevent unauthorized</td>
<td>YES, NO, NA</td>
</tr>
<tr>
<td>duplication? If yes, explain.</td>
<td></td>
</tr>
<tr>
<td>6 Are the equipment and materials used in the manufacture of employee</td>
<td>YES, NO, NA</td>
</tr>
<tr>
<td>ID cards kept secure (under lock and key)?</td>
<td></td>
</tr>
<tr>
<td>7 Is there a written procedure in place for the issuance and</td>
<td>YES, NO, NA</td>
</tr>
<tr>
<td>removal of employee ID cards?</td>
<td></td>
</tr>
<tr>
<td>8 Are employees only given access to those secure areas needed for</td>
<td>YES, NO, NA</td>
</tr>
<tr>
<td>the performance of their duties?</td>
<td></td>
</tr>
<tr>
<td>9 Are all unknown visitors required to present photo identification</td>
<td>YES, NO, NA</td>
</tr>
<tr>
<td>upon arrival?</td>
<td></td>
</tr>
<tr>
<td>10 Are all visitors issued a distinctive ID badge, different from</td>
<td>YES, NO, NA</td>
</tr>
<tr>
<td>employee ID cards/badges?</td>
<td></td>
</tr>
<tr>
<td>If yes, is it numbered and logged or a one-time use card or sticker?</td>
<td></td>
</tr>
<tr>
<td>11 Are all visitors required to wear/display the ID badge while on</td>
<td>YES, NO, NA</td>
</tr>
<tr>
<td>company grounds?</td>
<td></td>
</tr>
<tr>
<td>12 Are all visitors escorted by an employee while on company grounds?</td>
<td>YES, NO, NA</td>
</tr>
<tr>
<td>13 Is there a formal (written) visitor policy?</td>
<td>YES, NO, NA</td>
</tr>
<tr>
<td>14 Is there a visitor log?</td>
<td>YES, NO, NA</td>
</tr>
<tr>
<td>If yes, does it include the date, time arrived, name of visitor, name</td>
<td>YES, NO</td>
</tr>
<tr>
<td>of firm, who to meet with, ID information, visitor ID card number, and</td>
<td></td>
</tr>
<tr>
<td>time left?</td>
<td></td>
</tr>
<tr>
<td>15 Is there a written procedure in place to identify, address and</td>
<td>YES, NO, NA</td>
</tr>
<tr>
<td>remove unauthorized or unidentified persons?</td>
<td></td>
</tr>
</tbody>
</table>
### E. PERSONNEL SECURITY

1. How many employees are employed at this facility?

2. **Is there an employment application?**
   - **YES**
   - **NO**
   - **NA**
   - If yes, how long are employment applications kept on file for those applicants NOT hired?

3. **Is a verification of previous employment performed?**
   - **YES**
   - **NO**
   - If yes, is this verification documented and kept on file?

4. **Are pre-employment criminal background checks performed?**
   - **YES**
   - **NO**
   - If yes, are the results of these checks documented and kept on file?

5. **Are criminal background checks performed periodically for existing employees, based on cause and/or the nature of the employee's position?**
   - If yes, explain.

6. **Is pre-employment drug testing performed?**
   - **YES**
   - **NO**
   - If yes, are the results of these tests documented and kept on file?

7. **Is drug testing performed periodically for existing employees, based on cause and/or the nature of the employee's position?**
   - If yes, explain.
8  Ø YES  Ø NO  Ø NA  Are employees fingerprinted?
   If yes, explain.

F. INFORMATION TECHNOLOGY SECURITY

9  Ø YES  Ø NO  Ø NA  Are there written IT security policies, procedures and standards in place and provided to employees in the form of training?

10 Ø YES  Ø NO  Ø NA  Is the entire system passcode protected?

11 Ø YES  Ø NO  Ø NA  Are passcodes unique to each user?
   Who generates the passcode?  (The system, the system administrator or the user?)

12 Ø YES  Ø NO  Ø NA  Does the system require a specific number of characters for the passcode?
   If yes, how many characters?

13 Ø YES  Ø NO  Ø NA  Do passcode characters need to be a combination of diverse characters?  (Eg. upper case letters, lower case letters, numbers and symbols)
   If yes, explain?

14 Ø YES  Ø NO  Ø NA  Are passcodes changed on a regularly scheduled basis?
   If yes, how often?

15 Ø YES  Ø NO  Ø NA  Does the system force the user to change the passcode?

16 Ø YES  Ø NO  Ø NA  Is the IT department or system administrator immediately notified when a user separates from the company, so measures can be taken to prevent the user from accessing the system?
17  ○ YES ○ NO ○ NA  Does the system "lock-out" a user after a certain number of unsuccessful (incorrect passcode) log-on attempts?
   If yes, after how many attempts?

18  ○ YES ○ NO ○ NA  Is there a time-out feature built into the system?
   If yes, how many minutes is it set at?

19  ○ YES ○ NO ○ NA  Do users have the ability to disable the time-out feature?

20  ○ YES ○ NO ○ NA  Is there a system in place to identify the abuse of the IT system, including improper access, tampering or the altering of data?
   If yes, explain.

21  ○ YES ○ NO ○ NA  Are all system violators subject to appropriate disciplinary action for abuse?
   If yes, explain.

22  ○ YES ○ NO ○ NA  Is application access restricted to appropriate personnel?

23  ○ YES ○ NO ○ NA  Does the system have firewalls to prevent unauthorized access to data?
   If yes, describe the specific hardware and/or software utilized.

24  ○ YES ○ NO ○ NA  Does the system utilize anti-virus software?
If yes, describe the specific type and version.

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| 25 | YES | NO | NA | Is the data backed-up on a regular basis?  
|    |     |    |    | If yes, how often? |

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G. EDUCATION and TRAINING

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H. PROCEDURAL SECURITY - AIR/OCEAN CARRIERS

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I. CERTIFICATION

I hereby certify that the information given by me in completing this questionnaire is true and correct to the best of my knowledge.

Signature _________________________

Print Name _________________________

Title _________________________

Date _________________________
Appendix 6 Partners in Protection Certificate\textsuperscript{440}

\textsuperscript{440} (Bychyk, 2009)