

# Policy on board ships to prevent drug trafficking

Practical review of prevention policy to identify any weak points

**Research**



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*Picture frontpage:* (Berndtson)

## Abbreviation list

BPC	Border Protection Control
CSO	Company Security Officer
COVID-19	Corona Virus Disease of 2019
DWT	Deadweight
IMO	International Maritime Organization
ISO	International Organization for Standardization
ISPS Code	International Ship and Port Facility Security Code
MCR	Maximum Continuous Rating
FPS	Federal Public Service
SSO	Ship Security Officer
SSP	Ship Security Plan
STCW	Standards of Training, Certification and Watchkeeping for seafarers
TEU	Twenty feet Equivalent Unit
ULCS	Ultra Large Container Ship
USCG	United States Coast Guard

## Summary

“Biggest cocaine seizure ever in the Port of Antwerp”. (Bervoet, 2020)

On the 5<sup>th</sup> of November 2020, the Belgian newspaper ‘De Tijd’ wrote about a record seizure of cocaine in the port of Antwerp. The illicit drug trafficking is a problem since many years which seems not to get solved.

The main question of this research is: “What does the prevention policy on board of ships look like in order to counter drug transport?”. In order to be able to formulate a clear answer to this question, the following sub-questions have been formulated:

- What is the vulnerability of container shipping?
- To what extent do crew members encounter these drug-related activities?
- What are the consequences for ship and ship owner when drugs are found on board?

This research is focussed on the cocaine trafficking between Central America and Europe. Cocaine is a stimulating substance produced from the leaves of the coca bush and is mainly consumed as a powder.

The maritime container transport has developed significantly where the biggest container vessels are able to load up to 21 000 containers. This type of maritime transport is the most popular target for criminal organisations to transport their drugs to another continent. The amount of seized cocaine in the port of Antwerp was 14 times bigger in 2020 compared to 2013. Cocaine is transported in many ways by containers. They are either stowed at the entrance of the container and removed by a corrupt port employee (rip-on/rip-off), or the drugs are being switched from one container to another (switch), or they are hidden in legitimate cargo inside the container or hidden in the container’s structure.

In Central America Costa Rica, Guatemala, and Mexico are the ports with the highest risk factor. In Europe the most cocaine is seized in Belgium, Spain, and The Netherlands. The drugs seized in these European ports have their origin in Colombia, Venezuela, Ecuador, and Peru.

This research is done by own observations and taking a survey from crewmembers who sailed on a container vessel with her port of call in either Central America or Europe. A sample was taken at regular intervals to check the presence of the seals. A final answer on the main question was formulated by collecting and analysing this data.

After research it can be said that the main drug trafficking problem is situated in the ports, and not on board the vessels. Container vessels can be considered as victim of their own cargo, being containers. Containers have cargo inside which is declared by the transporter but no other party than customs can really check what the actual cargo is during its transportation.

After 5 years of experience on container vessels, crewmembers are most likely to be on board when drugs are found either inside the cargo or hidden on or attached to the vessel. If no crewmembers are involved in this drug trafficking, the consequences remain almost nihil for both crew and shipowners.

It is recommended to keep investing in making crewmembers aware on the dangerous consequences of their involvement in drug trafficking. In high-risk ports an additional watchkeeper responsible for the vessel’s security can be taken into consideration or any apparatus which can monitor the vessel’s hull, especially on the seaside when at the berth.

## Preface

This research was done in order to be able to graduate from the HZ University of Applied Sciences as a Maritime Officer. When it became clear that I would have my final internship on board of a container vessel with her ports of call in Central America and Europe, the war on drugs or the illegal drug trafficking as subject for my research was quickly chosen. It was the ideal situation to do research about this problem as a crewmember.

This research came to a good end with the assistance of a few persons. I would like to take a moment to thank them for their help.

Firstly, I would like to thank Capt. R De Pauw, shipowner's operational director, who gave me the opportunity to join this vessel for my internship. Especially in these difficult times during the COVID-19 pandemic.

Secondly, I would also like to thank the Master of the vessel M. Zacharias to welcome me on board his vessel and both Chief Officers A. Kumar and T.R. Santhikrishna for their assistance during this research and the interesting period during my internship.

Also, my supervisors at school, M. Meerburg and P.G. Harts for their advice and constructive feedback throughout this research.

At last, I would also like to thank my girlfriend Justine and my family to provide me with any needed information as internet was limited on board, checking on spelling and to support me throughout this research.

Thomas Steenackers  
Flushing, 25/05/2021

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## 1. Introduction

Drug transport via ships is increasing every year, according to the figures of the Federal Public Service (FPS) of Finance. (FOD Financiën, 2020) In 2020, when the world was gripped by the COVID-19 pandemic, it appeared that drug transport continued to increase. In 2020, a record amount of cocaine was seized at the Port of Antwerp. Among the 65 tons of cocaine seized in Antwerp was the European record catch of 11.5 tons in a shipping container. (Bervoet, 2020)

Commercial shipping, unfortunately, plays a major role in the transportation of drugs. Therefore, the shipping industry has a common goal to decrease this illegal trade of drugs. However, this means that companies and crew members must be aware of this problem at all times and must realise that the cargo they ship may contain drugs.

This research subject came into life after it was clear that there would be an internship as a junior officer on a containership sailing between Central-America and Europe, including the port of Antwerp. The purpose of this research is to investigate how this problem is dealt with on board and which preventive measures are taken.

The main question of this research is: "What does the prevention policy on board of ships look like in order to counter drug transport?". In order to be able to formulate a clear answer to this question, the following sub-questions below have been formulated:

- What is the vulnerability of container shipping?
- To what extent do crew members encounter these drug-related activities?
- What are the consequences for ship and ship owner when drugs are found on board?

An attempt will be made to answer these questions through observation and experience on a single container ship. The research will focus on and limit itself to container ships and the routes between Central-America and Europe. At a further stage of the qualitative research, efforts will be made to conduct some questionnaires from the crew members.

In the theoretical framework the sub-questions will be explained using sources. The necessary information will be collected by literature research.



## 2. Theoretical framework

The following section discusses the theoretical framework. It clarifies what drug transportation entails. Thus, it looks at which shipping routes are most often used for illegal transport and which ports present a high risk. Preventive measures that are taken on board as well as the training of crew members are discussed in this theoretical framework.

### 2.1 Drugs

Drugs is the collective term for all substances that affect the central nervous system. These substances change the balance in the human nervous system for a certain period. By taking these drugs, the nervous system receives faulty information and will try to control the body with this information. Because of this faulty control, the effects of the ingested drugs are felt. (De Druglijn, 2021) Some drugs are legal under certain circumstances. For example, it may be legal to buy drugs for personal use or it may be prescribed for medical use. Drug abuse is said to occur when these drugs are not used correctly (use without a medical prescription or overuse). (International Chamber of Shipping, 2019)

Different types of drugs are transported illegally. The following drugs are most often used and/or transported illegally:

1. Cannabis: the term cannabis refers to the hemp plant. The products produced by this plant are marijuana and hashish. Marijuana or weed consists of the dried and ground leaves and flower tops of the female hemp plant. (De Druglijn, 2021)
2. Opiates: Painkillers such as morphine, heroin, and opium that are often prescribed as medicine for people with (chronic) pain. Heroin is an opiate that is more common outside the medical setting (Unity, 2021)
3. Cocaine: Stimulating substance produced from the leaves of the coca bush. (De Druglijn, 2021)
4. Amphetamines: Also called speed, this group is a chemical with a strong uplifting effect. (De Druglijn, 2021)
5. Methamphetamine: belongs to the group of amphetamines but has a stronger effect and a longer duration of action. (De Druglijn, 2021)

## 2.2 Maritime transport

Maritime transport accounts for a large part of global trade. Through ships, containers, dry cargo, gas, oil etc. are transported all over the world. Today more than 80% (by volume) of the global trade is transported by ships. In 2018, this total of goods amounted to 11 billion tons. This number increased by half a percent in 2019 to 11.08 billion tons of goods. The graph below shows the evolution of the transport of goods by type of cargo for the period from 1990 to 2019. (UNCTAD, 2020)

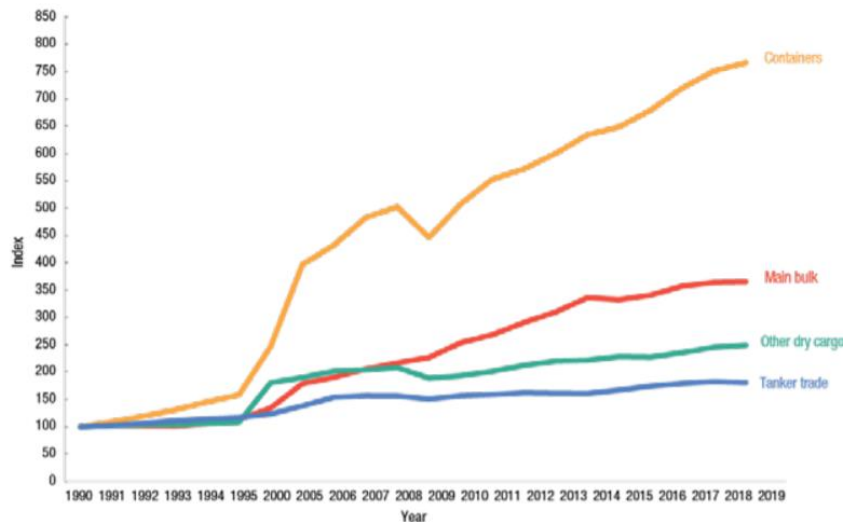


Figure 1 Development of maritime trade in the period 1990 – 2019 (index 1990=100)

This graph shows that all types of maritime cargo have a positive development in global trade. The transport of containers is experiencing the greatest development. The explanation for this enormous development may be that container ships have been getting bigger and bigger in recent years, allowing them to load more and more containers per ship.

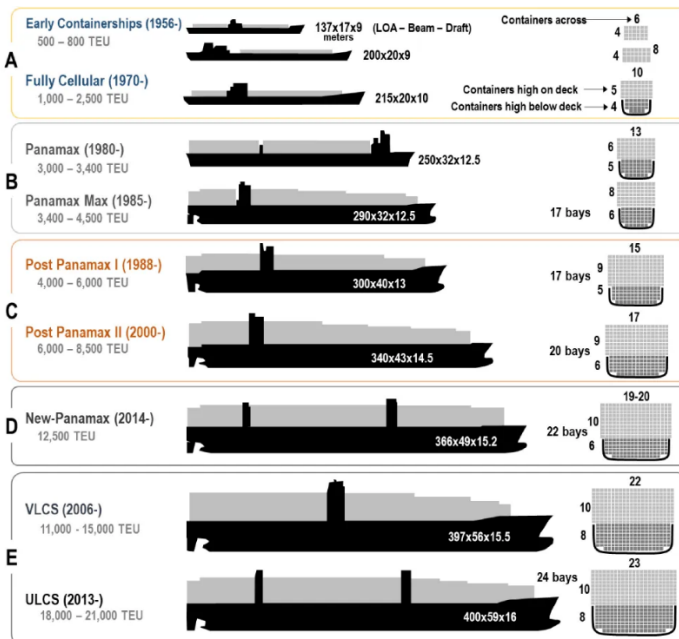


Figure 2 History of container ships

When comparing the first container ships (block A) with the Ultra Large Container Ship (ULCS) (block E), we see a doubling in length of ships in the container sector.

This difference in length implies that at least 17 500 more containers (Twenty Equivalent Unit TEU) can be transported. (Notteboom & Rodrigue, 2015)

## 2.3 Drugs transport

Drug transportation is the collective term for illegally smuggling or transporting illegal drugs from one country to another. (International Chamber of Shipping, 2019)

Maritime drug transportation is referred to when it is smuggling that involves ships.

Figures show that container ships are the most chosen way to ship drugs illegally. The drugs are hidden in containers and thus shipped illegally. (International Chamber of Shipping, 2019)

This is also evident from the interceptions made by customs. The record catch in the port of Antwerp of 11.5 tons was found in five containers with scrap metal waste. (Bervoet, 2020)

The results of drug seizures in the port of Antwerp show that cocaine is by far the most trafficked drug to Antwerp. Thus, a total of 65481kg of cocaine was seized in 2020. After cocaine came hashish with 14575kg, heroin with 446kg and marijuana with 336kg. (Peteghem, 2021)

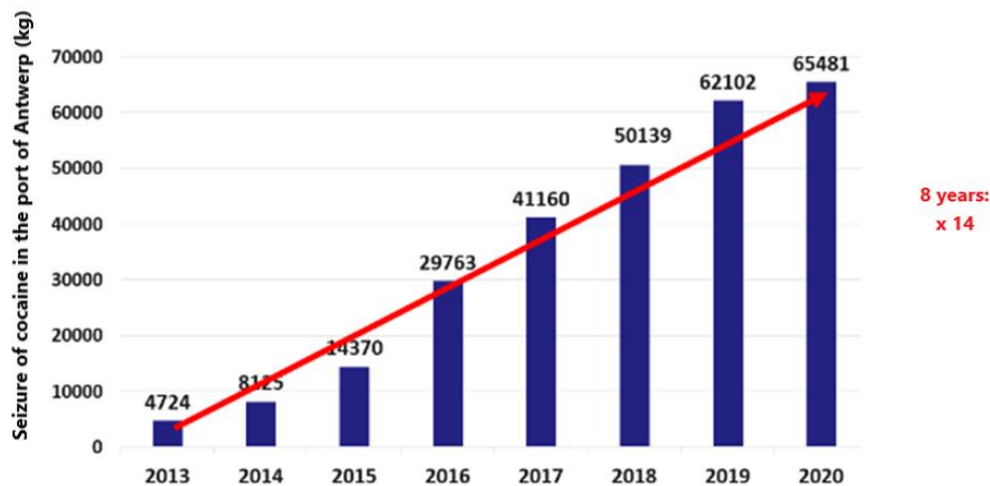


Figure 3 Seizure of cocaine in the port of Antwerp (amounts in kg)

### 2.3.1 Methods

Trafficking drugs is done by several methods. The five main methods are:

- 1) Drop-Off: Crew members involved in the illegal transport throw waterproof bags filled with cocaine overboard. Afterwards, accomplices will collect these bags.

The following methods are used when using containers:

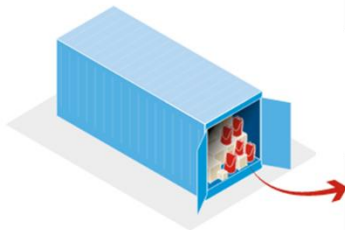


Figure 4 Rip-On/Rip-Off method

- 2) Rip-On/Rip-Off: loading the drugs at the port of departure and picking them up at the port of destination, usually without the consignor or recipient of the legal shipment knowing that their container is being used to hide drugs. This usually requires corruption at both ports.

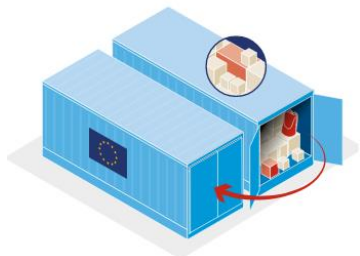


Figure 5 Switch method

- 3) Switch: A variant of rip-on/rip-off, increasingly used in the EU. At the port of origin, the drugs are placed in an easily accessible location in the container. At the EU port of destination, before the container is inspected, corrupt dockworkers pick up the drugs and transfer them to another container - either one that has already been cleared by customs or one that does not need to be inspected (e.g., intra-European transport). This requires the involvement of port personnel and the carrier or recipient of the new container.

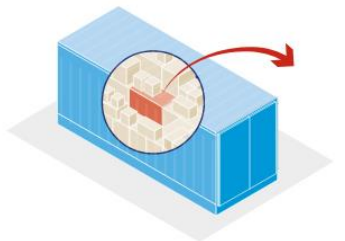


Figure 6 Hidden in legitimate goods

- 4) Hidden in legitimate goods: Drugs are hidden or processed in legitimate goods. This usually requires the involvement of the owners of the legitimate cargo, but a corrupt dock worker or others involved in handling the goods may be involved.

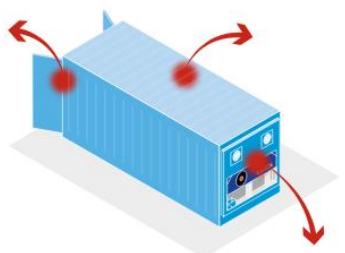


Figure 7 In the structure of the container

- 5) In the structure of the container: The drugs are hidden in areas of the container such as refrigeration units, insulation material in the walls and floors, or in the outer beams. This method requires the involvement of corrupt port workers to place and retrieve the drugs.

(Peteghem, 2021)

### 2.3.2 Ports with high risk factor

The main shipping routes used to transport this cocaine to Antwerp, and by extension Europe, are routes that go from Central America, South America, and the Caribbean towards Europe (mainly Belgium, the Netherlands, Portugal, and Spain).

In Central America Costa Rica, Guatemala, and Mexico are identified as potentially dangerous countries. Some recent examples of drug captures:

In Costa Rica, in Puerto Moin in August 2018, 133kg of cocaine was found among a cargo of pineapples on a container ship bound for Cork, Ireland. In Guatemala in May 2018, 3 tons of cocaine was found in a false bottom of a general cargo ship. In Mexico, in Lazaro Cardenas Port in January 2018, 285 kg of cocaine was found in 6 backpacks attached under the keel of a container ship. (International Chamber of Shipping, 2019)

In South America Colombia, Venezuela, Ecuador, Peru, Uruguay, and Brazil are cited as the most dangerous countries for ships. (International Chamber of Shipping, 2019)

The countries of Colombia, Brazil and Ecuador are the top three countries of origin of cocaine. In Europe Belgium, Spain, and the Netherlands are the top three destination countries. These figures are based on the seizures from the past. (Peteghem, 2021)

The picture below shows the transportation of cocaine for the period from 2012 to 2016. It can be clearly seen that Central and South America play a major role in this illicit trade. In Europe Portugal, Spain, the Netherlands, and Belgium are the main countries that received this cocaine. (UNODC, 2017). The primary routes from Colombia are either directly to Europe via Spain and Belgium (port of Antwerp) or either to North America via Mexico or through Africa. (International Chamber of Shipping, 2019)

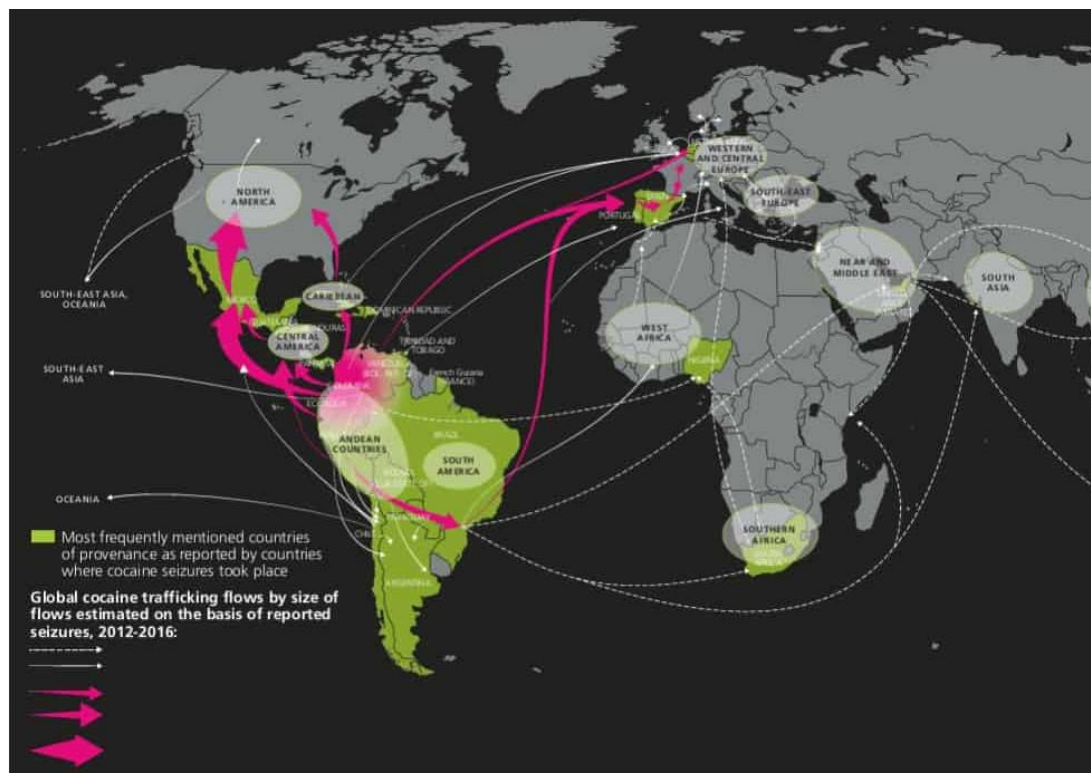


Figure 8 Global cocaine trafficking flows

## 2.4 Vulnerability

Ships are operated all over the world and consequently enter different ports depending on the cargo they will be carrying. As a result, these ships sometimes enter ports that are known as high-risk ports. Just because ships travel from one port to another, they are an easy target for smugglers to transport drugs illegally.

Drugs can be placed on board ships in a variety of ways, including:

- 1) Hidden in containers (see paragraph 2.3.1)
- 2) Hidden in the cargo itself (see paragraph 2.3.1)
- 3) Visitors to ships who leave a package behind
- 4) Persons who unintentionally come on board
- 5) Attached in or to the ship's structure
- 6) Crew participating in illegal trade

Thus, because of this variety of ways, the large amount of cargo and the long distances that ships travel, ships are often chosen ways to transport drugs internationally.

Furthermore, much cocaine goes unnoticed: *"We don't catch half of all cocaine. The chances are that the trafficking is even ten times greater."* So says Manolo Tersago, chief of the Antwerp Federal Judicial Police's drugs section. (Bové & Depuydt, 2020)

Nowadays, only 34 000 containers are checked out of a total of 3 to 3.5 million relevant containers in the port of Antwerp. That equals only 1% of all containers. (Dujardin, 2019) Over 500 million containers are shipped yearly in the maritime trade supply chain. Less than 2% are inspected. (International Chamber of Shipping, 2019)

## 2.5 Training for crew members

Following the events of September 9, 2011, a conference was held in 2012 by the International Maritime Organization (IMO) around ship and port security. From this conference the International Ship and Port Facility Security Code (ISPS Code) came into life, which made its entrance in 2004. (International Maritime Organization , 2012)

In this code there are several guidelines that must be followed to protect the ships and ports from any kind of external security attack. To raise awareness of these dangers upon crewmembers and to teach them how to deal with them there are two courses that must be attended by every seafarer (passengers not included). These courses are part of the STCW (Standards of Training, Certification, and Watchkeeping for seafarers) Convention.

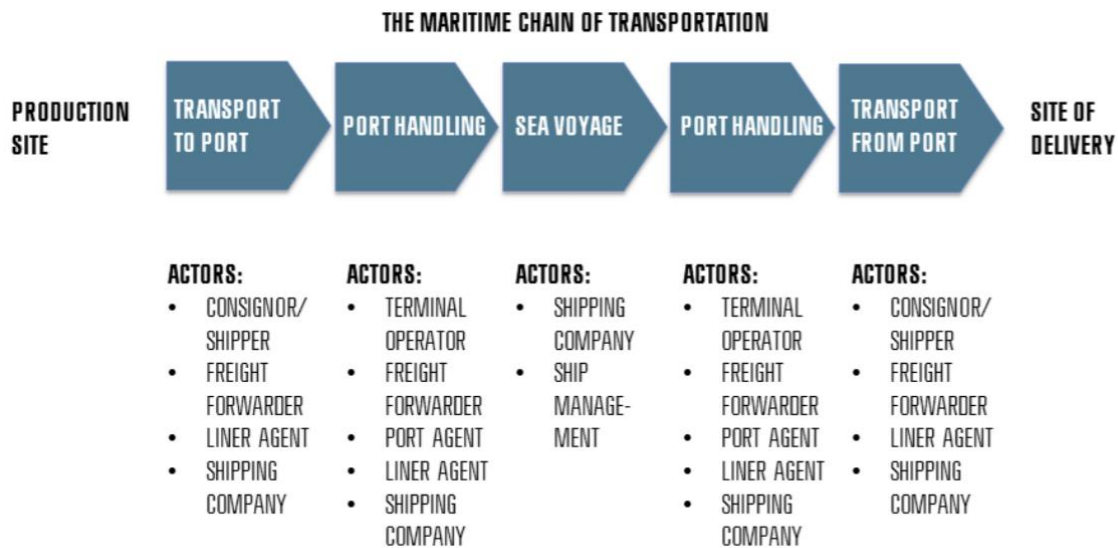
A first course is "Security Awareness" in which the seafarer is made aware of the dangers and in which the awareness around the dangers will be increased. In this course the seafarer will also learn to recognize hazards (such as weapons, dangerous substances, or suspicious acts) and how to deal with them.

The second course is "Designated Security Duties." This course is a continuation of the first course in which the Ship Security Plan (SSP) and how it is communicated will be learned. In addition, this course will teach how to inspect the ship and accommodation and use security systems. (International Maritime Organization, 2017)

## 2.6 Logistic chain of a container

The maritime logistic chain generally consists of a port of departure and a port of arrival with a sea passage in between. However, a container travels a longer distance from its origin to its destination.

The transport starts at the production site, where the goods are loaded into the container and prepared for transport. Once the container is loaded, it will be transported to the port by truck, barge, or train. At the port, the container is then stored and kept until the ship that will transport the container, arrives. After the container is loaded onto the ship, it will be shipped to the port of arrival where it will be placed at the terminal and eventually transported by truck, barge or train to its final destination. (Olesen, 2015)

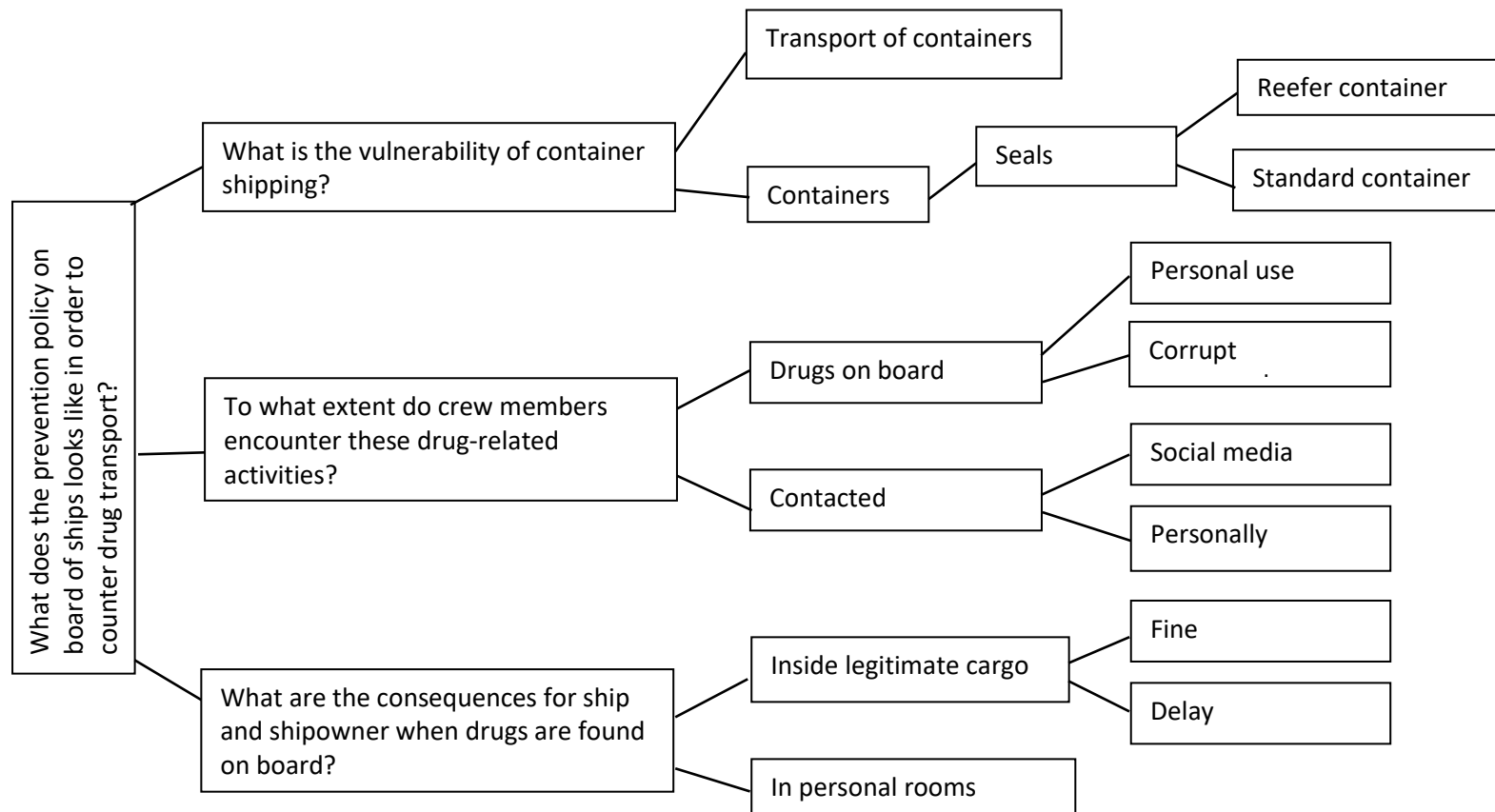


*Figure 9 Logistic chain*

The above picture shows a simplified representation of this chain with the parties involved.

## 2.7 Conceptual model

Below the conceptual model of this research can be found. The main question is broken down into the three sub-questions in order to provide an answer. The sub-questions, in turn, are further broken down using key words that indicate the direction in which this sub-question will be examined.





## 2.8 Definitions

Bay, row, tier	The bay-row-tier system follows a system of numerical coordinates relating to length, width and height to indicate the stowage space of the container on board. In the lengthwise direction of the ship odd numbers are used from bow to stern for 20' containers, even numbers for the 40' containers to indicate the 'bays'. The term 'rows' will be used for the lengthwise rows to indicate the location from center to starboard side in odd numbers, to portside in even numbers. The term 'tiers' is used to indicate the vertical layers or whether the container is situated on or under deck, starting from the deck (80) or bottom (00) level and upwards.
Container	Universal storage unit to put goods to be able to transport them.
Drugs	The collective term for all substances that affect the central nervous system. These substances change the balance in the human nervous system for a certain period.
ISO PAS 17712	Uniform procedures for the classification, acceptance and withdrawal of acceptance of mechanical freight container seals. It provides a single source of information on mechanical seals which are acceptable for securing freight containers in international commerce. (International Organization for Standardization, ISO)
Prevention policy	Policy which will be set by the shipowner to raise the awareness of the crewmembers for the illicit trafficking of drugs.
Reefer container	Container which is equipped with a motor to keep the temperature inside the container at a certain set level. Temperatures can be both below and above 0°C.
Seal	In this research, seals of containers will be examined. These seals are put on containers to check whether this container has been opened after the seal was put.
Transport	In this research transport will be defined as maritime transport and therefore the transport of goods by containers over sea.
Vessels	In this research, the term vessels will be used for container vessels.

### 3. Method

This research is a quantitative research. In this quantitative research, the data on maritime drug transportation issues was collected through literature research, observation, and a questionnaire. To collect the information for sub-question one "What is the vulnerability of container shipping?", sub-question two "To what extent do crew members encounter with these drug-related activities?" and sub-question three "What are the consequences for ship and ship owner when drugs are found on board?", surveys were conducted with nautical professionals, observations are held, and literature review and desk research were done.

The data for this research is coming from an observation of the containers that were randomly checked. Throughout this research, between each port, the number of containers that have been placed and how many of them were having a seal was checked. The containers were checked on fixed locations, being on deck in BAY 06, BAY 14, BAY 22, BAY 30, BAY 38 and BAY 46. In this way, it was possible to see whether containers often have a seal, and what type of containers are most often sealed. Other data for this research is coming from a survey that was held among all the crewmembers on board the container ship. The survey was also sent to other seafarers to get a more complete overview and to get experiences from more than one company. With the results gained from this survey, an analysis was made that is showing whether crewmembers are encountering these drug related activities. Furthermore, there also was a literature study on the effects for ship and ship owner when drugs are found on board the vessel. This research is not considering other ships and is limited to a single container ship and consequently to the ports this ship was calling at. The survey was also initially limited to the crew of this container ship. To give a more complete overview, the survey was also extended to other persons who already sailed on a container ship with routes to or from Europe and South or Central America.

Based on the data found by means of the sample and the literature study and the data obtained from the surveys, an answer was formed, after thorough analysis, to the main question: "What does the prevention policy on board ships look like in order to counter drug transport?".

The conclusion that was formulated to answer the main question of this study, the obtained data was analysed. The surveys were conducted manually and then coded using Excel. In this way, an overview was created with the most frequent answers. Ethical aspects were handled in this data collection by conducting the surveys anonymously. The privacy of the data obtained during this research will be monitored for all other information.

The research population of this study consists of the containers that were transported and the persons who were sailing on the ship on which this research took place.

The validity of this research can be considered as good when 95% of all crewmembers will have participated in the survey. Due to feasibility and limited time, a complete check of all containers is not possible and therefore, regardless the total amount of containers loaded, all containers on every alternate bay on deck will be checked after every departure from all ports.

The research will mainly focus on this vessel and her specific route. Therefore, the results might not be extrapolated to other vessels or routes or companies.

## 4. Results

As mentioned before, a survey, a sample, literature research and observations were done for this research. This survey was held from 15/03/2021 until 01/05/2021. The samples were taken after every departure from the containers that were located on deck in BAY 06, BAY 14, BAY 22, BAY 30, BAY 38 and BAY 46. All obtained data was used to answer the sub-questions of this research:

- What is the vulnerability of container shipping?
- To what extent do crew members encounter these drug-related activities?
- What are the consequences for ship and ship owner when drugs are found on board?

### 4.1 What is the vulnerability of container vessels?

Container shipping is the most used method for the illicit drug trafficking. (International Chamber of Shipping, 2019) In this paragraph the probable reasons for this can be found. The information of this paragraph was obtained by observation. In attachment one, the more detailed number of visitors of the vessel can be found.

#### 4.1.1 Specifications container vessels

As mentioned in the theoretical framework of this research, a container vessel can load up to 21 000 TEU's. Compared to any other vessel, container vessels carry a lot of individual cargo units where drugs can be hidden into.

Container vessels are also vessels who will sail at a higher average speed and therefore reach their destination much faster than any other vessel. For example: a container vessel will depart from Puerto Moin, Costa Rica with her destination being the port of Antwerp. That will take her approximately 10 days, which is an advantage of 7 days compared to a bulk carrier which will take 17 days. Below the calculations are made for an average speed of 21 knots (container vessel) and 12 knots (bulk carrier handysize). (Searoutes, 2021)

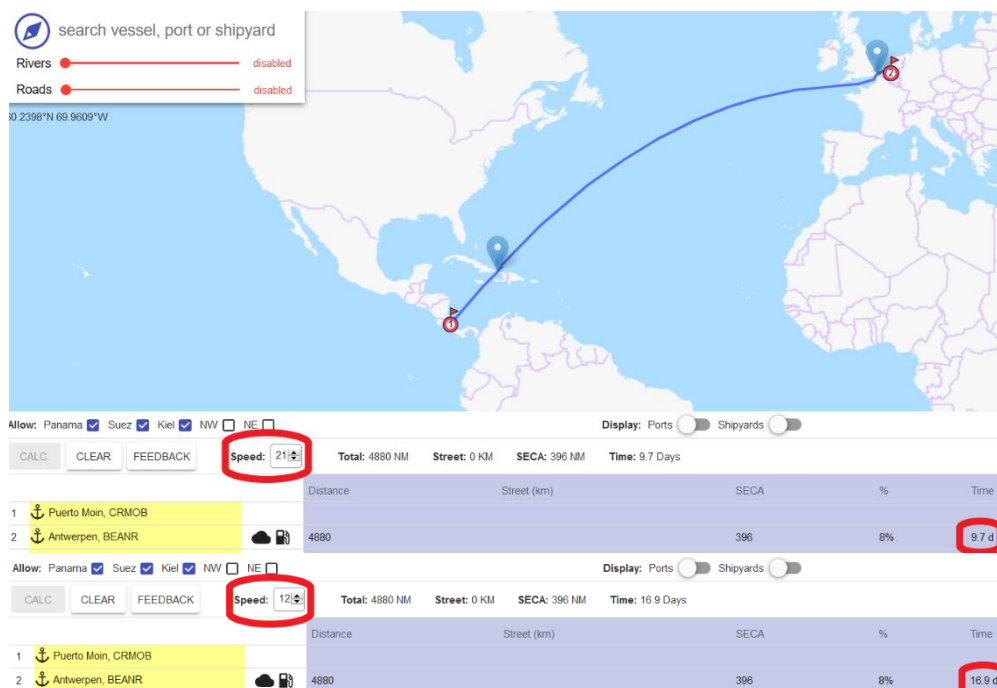


Figure 10 Difference in sailing days

Below an overview of the average sailing speed of several kinds of vessels. This table is showing that container vessels have a higher average sailing speed than any other vessel when the deadweight is approximately the same. (den Boer, Otten, & 't Hoen, 2017)

Seagoing vessels	Deadweight class	Average deadweight (ton)	Average engine power (kW)	Average engine power used (%MCR)	Average sailing speed (knots)
Oil tanker	0 – 4 999 DWT	1 985	1 274	67	8,75
Oil tanker	5 000 – 9 999 DWT	6 777	2 846	49	9,18
Oil tanker	10 000 – 19 999 DWT	15 129	4 631	49	9,67
Oil tanker	20 000 – 59 999 DWT	43 763	8 625	55	11,77
Oil tanker	60 000 – 79 999 DWT	72 901	12 102	57	12,20
Oil tanker	80 000 – 119 999 DWT	109 259	13 813	51	11,66
General cargo	0 – 4999 DWT	1 925	1 119	53	8,80
General cargo	5 000 – 9 999 DWT	7 339	3 320	51	10,15
General cargo	10 000 + DWT	22 472	7 418	53	12,04
Bulk carrier (feeder)	0 – 9 999 DWT	3 341	1 640	70	9,45
Bulk carrier (handysize)	10 000 – 34 999 DWT	27 669	6 563	59	11,45
Bulk carrier (handymax)	35 000 – 59 999 DWT	52 222	9 022	58	11,83
Container (feeder)	0 – 999 TEU	8 634	5 978	52	12,42
Container (type handysize)	1 000 – 1999 TEU	20 436	12 578	45	13,98
Container (type handymax)	2 000 – 2999 TEU	36 735	22 253	39	15,06
Container (type panamax)	3 000 – 4 999 TEU	54 160	36 549	36	16,14
Container (type aframax)	5 000 – 7 999 TEU	75 036	54 838	32	16,31
Container (type suezmax)	8 000 – 11 999 TEU	108 650	67 676	32	16,31

Not only the higher speed but also the sailing schedules of container vessels might be considered as a potential extra risk for drug trafficking. Most container vessels have fixed routes. Therefore, the information on the fixed sailing schedule can be important for illegal drug traffickers to prepare and plan the transportation of their drugs.

#### 4.1.2 Visitors

When a vessel arrives in her port of call, different people will come on board. The average of persons who will enter the vessel and her accommodation is 7 persons<sup>1</sup>. The average number of visitors per port of call and the detailed numbers of visitors who were registered, can be found in attachment one. The data was collected as per available on board.

Depending on the advised security level by the local authority, less persons will be allowed, or more personal checks will be carried out:

- Security level 1: At this level, all ship and port operations are carried out in a normal way. This means that normal security measures are maintained on board the ship and in the port. The ship and port are supervising all loading and discharging of cargo and stores while ensuring the access control is maintained. The company policy states that at security level 1 all ship's visitors who are entering the accommodation must identify themselves with a photographic identification. The ship's crewmember at the gangway should at least check the luggage of 1 out of 20 visitors. Furthermore, every hour a deck round will be carried out for any suspicious activities.
- Security level 2: At security level 2, the security threat is higher than level 1. This means that more security measures will be maintained. The entrance to the vessel will be minimized to only one entrance. All visitors entering the accommodation will still have to identify them with a photographic identification and the luggage of 1 out of 4 people will be checked.
- Security level 3: the highest security level and will be set for a limited period of time and further specific security measures will be maintained. This security level is set when a security incident is likely to occur, although it may not be possible to identify this specific threat.

During this research security level 1 was maintained at all ports of call.

After observation it was clear that many more persons will come on board, more specifically on the deck area. After loading containers, stevedores will secure the containers with lashing rods. As stevedores will stay on deck throughout their shift, many of them carry a bag with some lunch or drinks. These stevedores, who will not enter the accommodation, do not have to identify themselves and no pockets will be checked.

The crewmember on gangway watch will monitor the number of stevedores who are coming on board to avoid that anybody will hide as a stowaway. This monitoring sheet showed that the average number of stevedores who are coming on deck during port stay is 38. The average of stevedores in Europe is 17 while in the American ports the average is with 60 much higher. The detailed numbers can be found in attachment one.

As Central American ports are known as high-risk ports, local security officers are joining the crewmember at the gangway. In the Port of Big Creek, Belize, these security officers were thoroughly checking all stevedores including their personal bags. In all other Central American ports, these security officers were present at the gangway, but no personal checks of the stevedores were carried out. As the personal bags were not checked, the risk of stevedores hiding drugs on the vessel is not eliminated.

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<sup>1</sup> This research was done during the COVID-19 pandemic. Because of this pandemic people were working from home and less persons were coming on board vessels to avoid the spread of the coronavirus.

#### 4.1.3 Sight

A container vessel is, under normal conditions, loaded with containers. The containers are loaded under deck as well as on deck. Therefore, the option to visually check the people who are on deck is limited. Nor from the bridge, nor from the gangway the persons on deck can be supervised. Compared to other vessels the view from the bridge on a container vessel is more obstructed due to the own cargo.

Below the differences in the view from the bridge between several types of ships can be found:

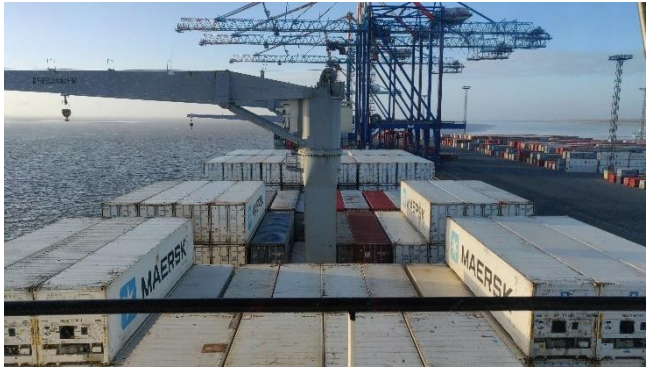


Figure 11 Container vessel



Figure 102 Container vessel



Figure 113 Chemical tanker

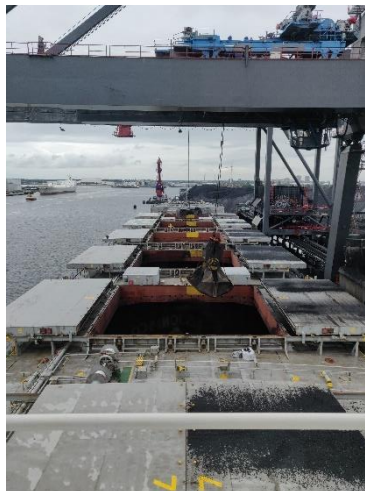


Figure 14 Bulk carrier

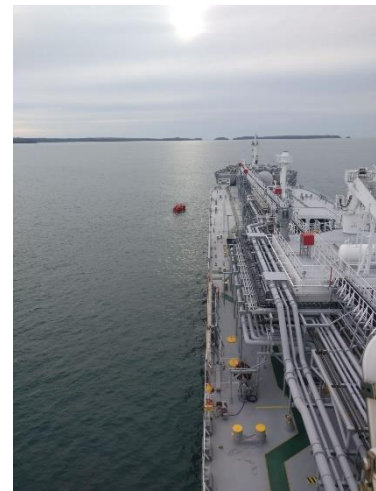


Figure 15 LPG tanker

Clearly, the deck areas on the bulk carrier and the tankers can be more easily supervised compared to container vessels.

The consequence of this obstructed view can be that any corrupt stevedore, or even crewmember, can hide anything without being seen nor from the bridge nor from any other point as there is no overview.



#### 4.1.4 Cargo

Container vessels are carrying cargo of many parties involved from one country to another. As mentioned in the theoretical framework, the logistic chain of a container starts at the production site. At the production site the container will be loaded with goods for transportation. At this point the container can be loaded with anything. After loading, a seal should be placed on the container to get the guarantee that the container is not being opened after the legitimate goods were loaded. As MAERSK lines is the charterer of the vessel from where this research is done, the Maersk Line Container Seal Policy applies. This policy requires the use of high security bolt container seals. (MAERSK, 2006)



Figure 16 Standard lay-out of a container

Putting a required container seal is important but making sure it is put in the right place is as important as the seal itself. Every container has two doors that open outwards. On each door, there are two locking rods. When closing the container, the left door should be closed first and afterwards the right door can be closed. As the right door will therefore open first, the seal should be put on the right door.

There are two options to put the seal on the right door. As seen on the picture on the left, one can either put it on the locking bars or at the bottom of the locking bar. When possible, the seal should always be put at the bottom part of the locking bar. The bottom position is also known as the SecuraCam position. On the next page, both options are shown in a more detailed picture.



Figure 17 High security bolt seal

The high security seals are seals that can be used for export containers. These seals are meeting the ISO PAS 17712 criteria. The required seal as per MAERSK lines policy, the high security bolt seal, is a seal made from high-quality steel which consists of a pin and a lock-housing which fit into each other. This seal can only be single used and after locking it can be only be opened with a concrete cutter.

On the vessel where the research was done, 2550 TEU's can be loaded. This means that up to 2550 different units can be loaded on only one vessel, which can have their origin from 2550 different places. Controlling the goods inside the containers after every movement in the supply chain without causing delay is therefore impossible. To prevent pilferage and tampering of the cargo, the shipper will put a seal on his container and declare the cargo inside. To control if the seals are put as required, and therefore exclude involvement of crewmembers and port employees, the presence of seals was checked on board every voyage of the containers loaded in bay 06, 14, 22, 30, 38 and 46. This is every alternate bay on board the vessel from forward to aft.

The loaded containers were divided in three categories:

- 1) Normal container: a standard container, both 20 and 40 ft, with general non-refrigerated cargo.
- 2) Reefer: a container with controlled temperature.
- 3) Empty reefer: a reefer container which is empty and being transported back to its origin for new cargo such as fresh fruits. As these containers do not have any goods inside, no seals are required on this container.

As empty reefers were not having seals, only regular and reefer containers were left for verification. On a regular container a high security seal should be put on the entrance. On the reefer container the same is applicable but these types of containers consist also of a motor unit. This motor unit is a likely used stowage area for drug trafficking. Therefore, this area should be sealed as well. In the pictures below, the two types of seals can be found.



Figure 18 SecuraCam position



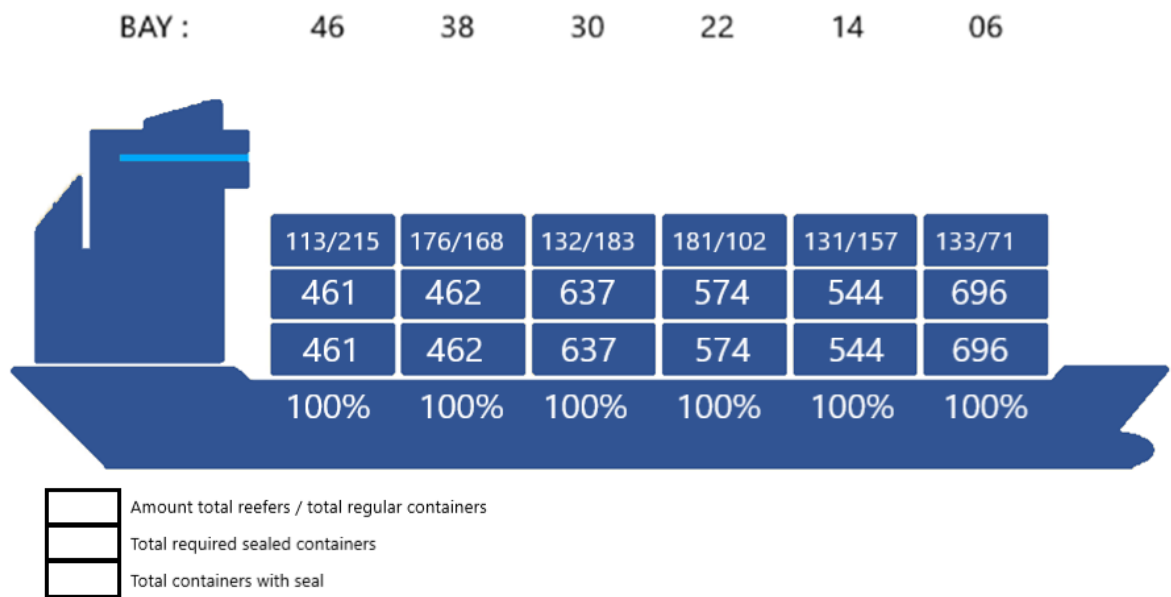
Figure 19 Locking bar on the door



Figure 20 Reefer container motor unit seal



During this research, 13 port to port voyages were made. In the table below the total amount of checked containers per bay can be found. More detailed information can be found in attachment two.



As seen in the picture above, all containers were having seals as required. All of them were having a high security bolt seal in the appropriate position on the right door. All the reefer units of the reefer containers were also sealed, either by a thin iron wire connecting two bolts or a custom sticker or both as showed in picture number 20 on the previous page.

As all containers are sealed, involvement of crewmembers or port employees can be excluded if the seal remains intact. Intact seals also protect the vessel and the crewmembers from any consequences as they did not open the container at any time.

4.1.5 Crew

Crewmembers on board container vessels are vulnerable. Crewmembers are having access to specific suitable onboard hiding places such as tanks, enclosed spaces, and deck stores. These spaces are considered as good possibilities for hiding illicit material. Professional traffickers have been known to target crew, either by befriending them during shore leave or taking advantage of any money worries they might have. (Smith, 2016)

## 4.2 To what extent do crew members encounter with these drug-related activities?

To get an overview of how present the drug trafficking problem is, a survey was taken on board the vessel<sup>2</sup> of traineeship and extended to other people who worked or are working on other container vessels with her ports of call in Central America. In attachment three the survey can be found.

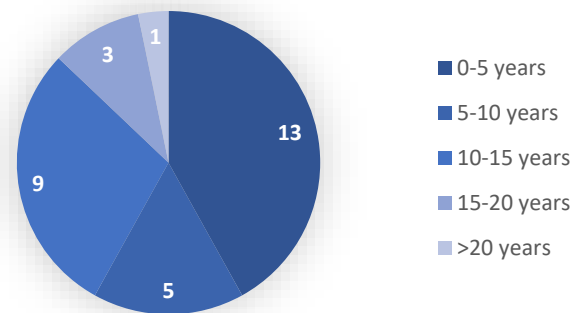
Right before the start of this research, on February 18, cocaine was found in Ireland inside a container loaded in Costa Rica. A total of 172kg cocaine was found by Ireland customs valued at €12,04 million. As some of the participants of this research were still on board when this research started, the results can be influenced by this seizure. (Lally & Roche, 2021)

### 4.2.1 Results survey

In total 31 persons took part in this survey. In the pie chart below the experience can be found these persons were having as a seafarer regardless the type of vessel.

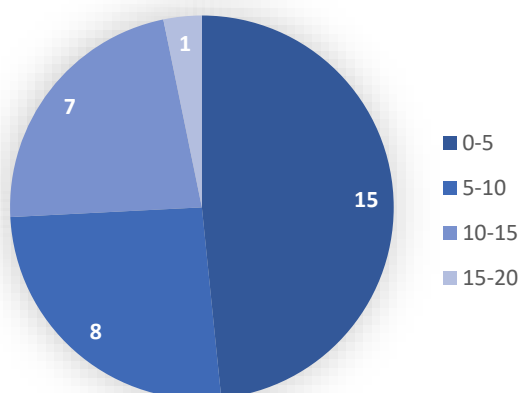
The main group of 13 persons was having experience in maritime industry between 0 to 5 years (42%). The second biggest group, 9 persons, was having between 10 to 15 years (29%) of experience. The third group of persons having between 5 to 10 years of experience consists of 5 persons (16%). The other two groups were 3 persons (10%) with 15 to 20 years of experience and 1 person (3%) with more than 20 years of experience in the maritime industry.

#### Experience in maritime industry



For further analysis, the answers on the drugs related questions were divided into the number of years of experience the persons who participated in the survey were having on a container vessel. The answers on the second question of the survey can be found in the pie chart below.

#### Experience on container vessels



As the main group were the persons with 0 to 5 years of experience in the maritime industry, the logical consequence is that this group will remain the main group. The total number of persons with experience from 0 to 5 years on a container vessel is 15 (48%). Compared to the experience in the maritime industry, the second group is different for the experience on a container vessel. This time the second biggest group is the group of 8 people with 5 to 10 years of experience (26%). Almost equal to the group of 5 to 10 years of experience, is the group of persons with 10 to 15 years of experience. This group consist of 7 persons (23%). The last group is consisting of only 1 person (3%) who was having experience between 15 to 20 years.

<sup>2</sup> Crewmembers are employees of a shipping management company and not related to only one vessel.

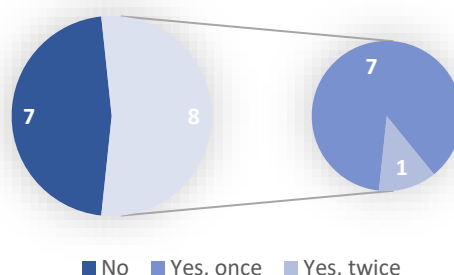
Below the results of the survey can be found. The answers on the drugs related questions were divided for each group on their experience on container vessels. All seafarers who took part in the survey stated that the drugs seizure happened on a container vessel. No other type of vessel was mentioned in the answers.

#### 4.2.1.1 Experience from 0 to 5 years on container vessel

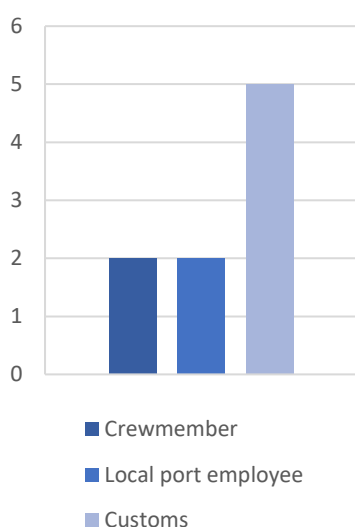
The survey showed that 53% of the persons who sailed between 0 to 5 years on container ships, were on board a vessel where drugs were found. From the 8 people that answered yes on the question, 7 of them answered that it only happened once. Only in 1 person's case it happened twice. In the subquestion whether drugs were found, the participants of the survey were

able to mention on which type of vessel the drugs were found. For the people with experience from 0 to 5 years, all the seizures happened while they were on board a container vessel.

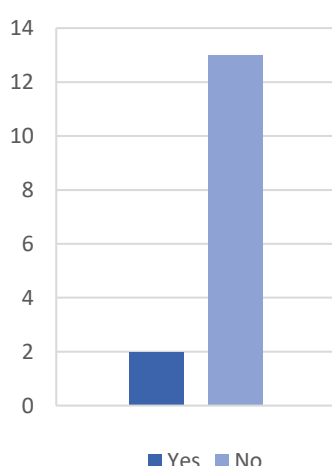
### Drugs found while on board



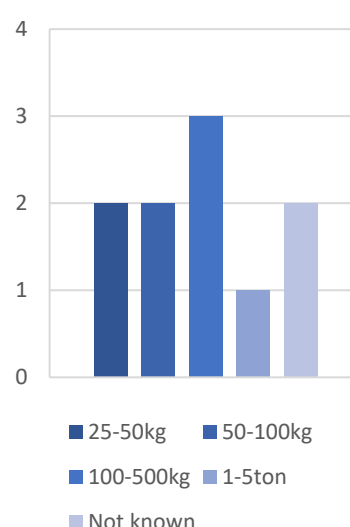
### Drugs found by:



### Inside accommodation?



### Amount

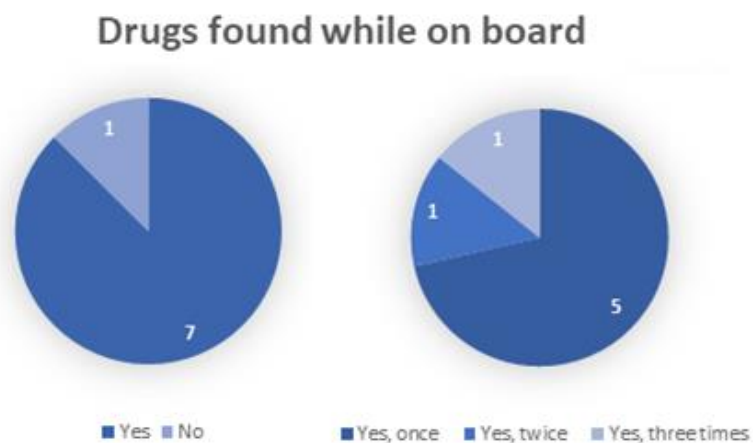


Above some more detailed information can be found of the drugs seizures. In 55% of the times the drugs were found by customs. In only 2 cases, drugs were found inside the accommodation. The most common amount was the amount of 100 to 500 kg.

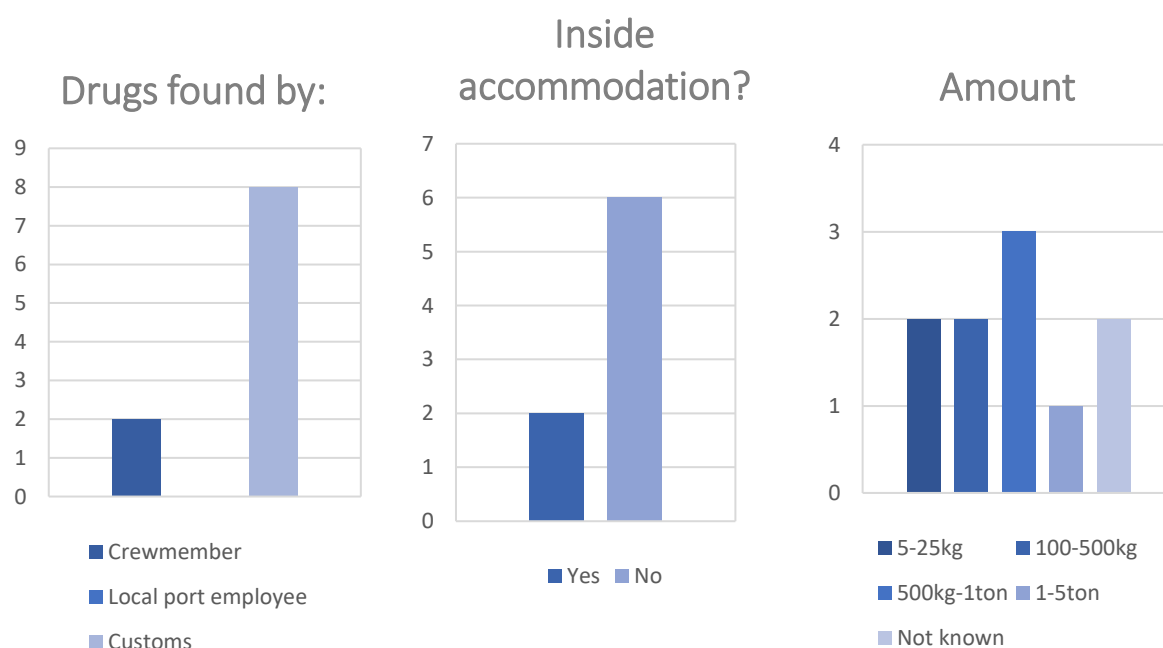
As illicit drug trafficking needs involvement of many persons, one of the questions of the survey was if the participant was ever contacted by someone for their involvement and if yes, how they were contacted. For the group of people with experience between 0 to 5 years on container vessels, none of these persons were ever contacted.

#### 4.2.1.2 Experience from 5 to 10 years on container vessel

When the experience of a seafarer on a container vessel increases to 5 to 10 years, the number of persons who were on board while drugs were found increases to 7 out of 8 (88%). Out of these 7 persons, 5 of them stated it already happened three times.



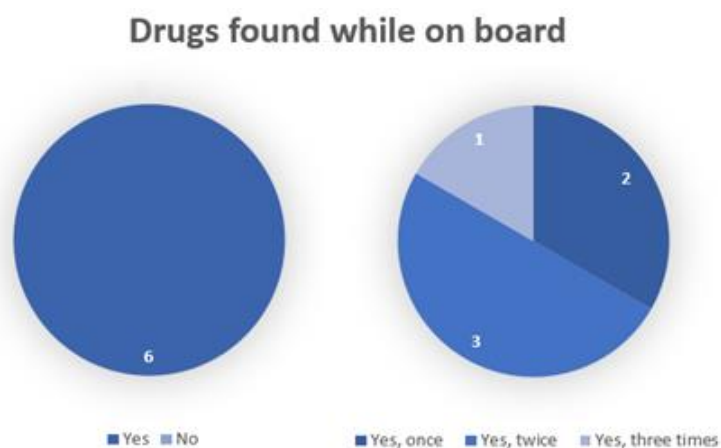
Out of the 10 seizures, 8 of them were found by custom officers and 2 times they were found by a crewmember. In only 2 seizures, the drugs were found in the accommodation.



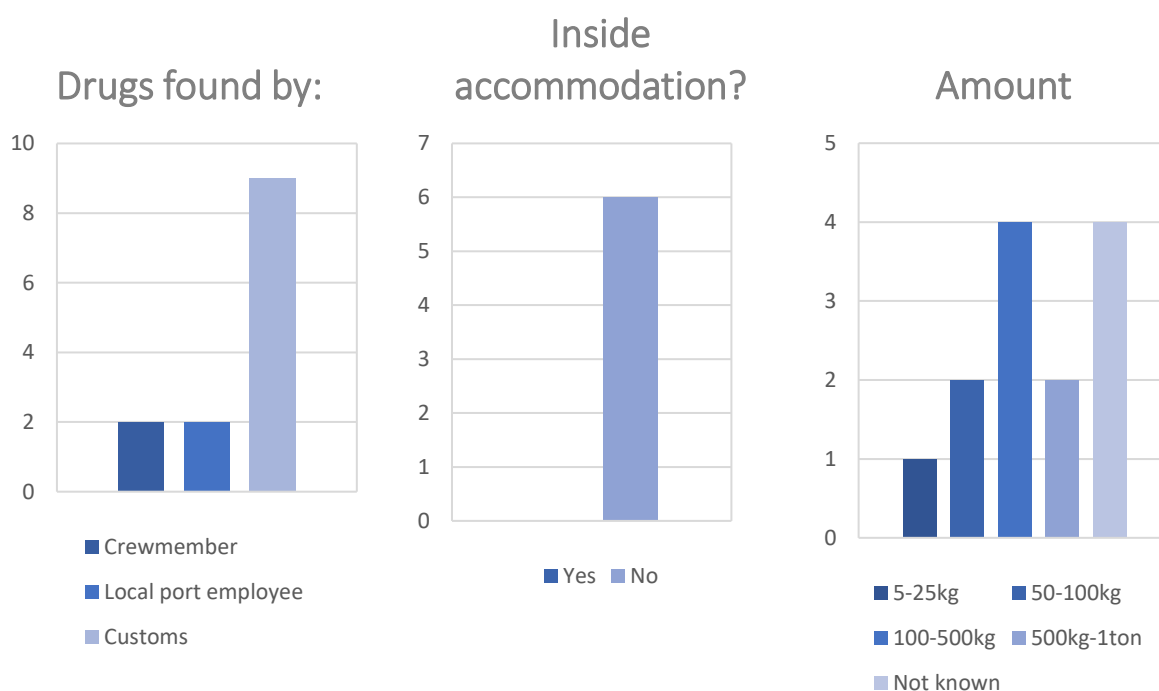
Three times the amount which was found was between 500kg and 1 ton. An amount between 5-25kg and an amount between 100-500kg was both found 2 times. One time the seizure was between 1-5ton and in two times the amount is not known.

#### 4.2.1.3 Experience from 10 to 15 years on a container vessel

All seafarers who completed the survey and who had 10 to 15 years of experience on board of a container vessel had already experienced being on board when drugs were found (100%). For 3 persons it already happened 3 times, for 2 persons it happened 2 times and for 1 person it only happened once.



Out of the 14 seizures, 9 of them were found by custom officers, 2 times they were found by a crewmember and 2 times a local port employee found these drugs. None of these drugs were found inside the accommodation.

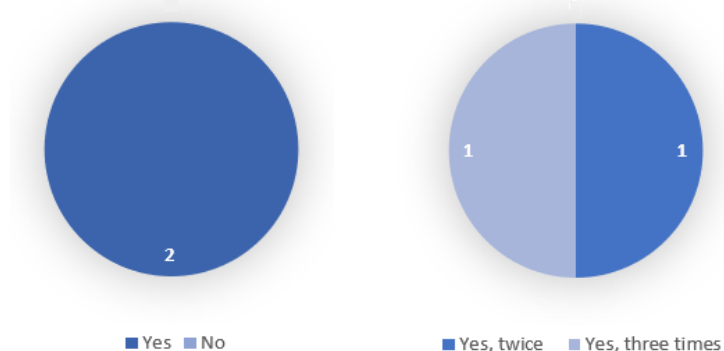


An amount between 100-500kg was found 4 times while amounts between 5-100kg and 500kg-1ton were found 2 times. One time a small amount between 5-25kg was found and for 4 times the amounts are not known.

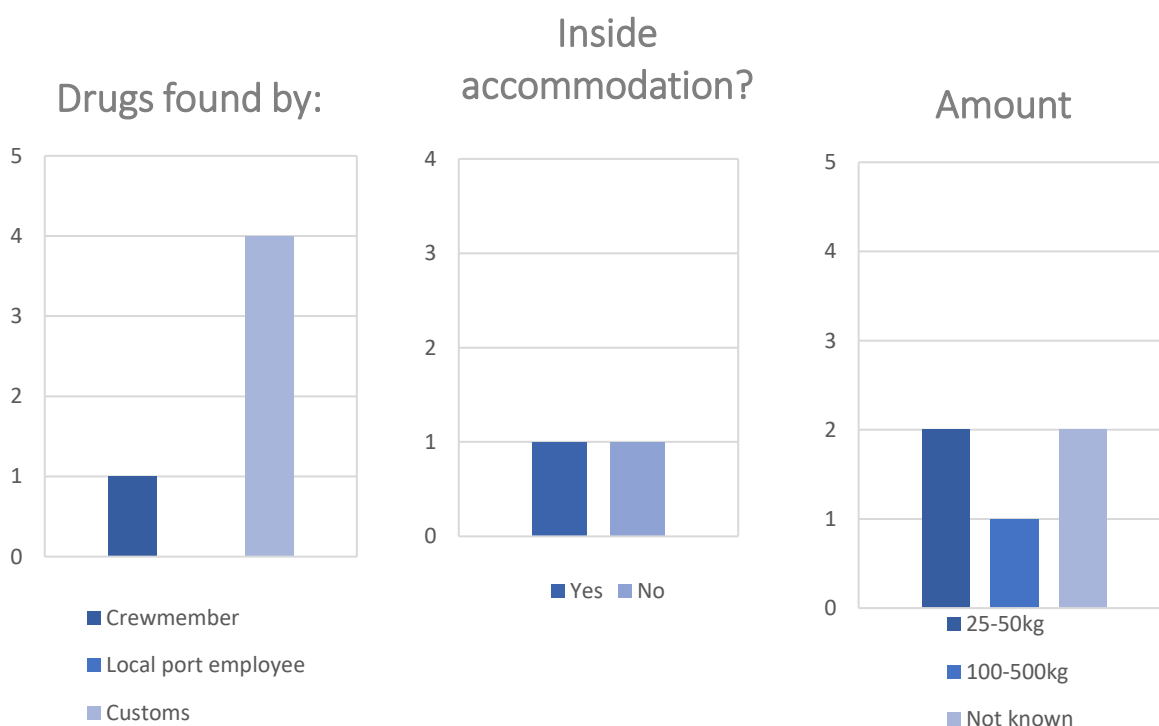
#### 4.2.1.4 Experience from 15 to 20 years on a container vessel

The two seafarers who were having between 15 to 20 years of experience on container vessels were both on board a vessel when drugs were found. For one person it happened two times, the other persons stated that it happened three times.

### Drugs found while on board



Out of the 5 seizures, four of them were found by custom officers and only one time they were found by a crewmember. One seafarer stated that drugs were found inside the accommodation while the other seafarer stated that drugs were never found inside the accommodation.



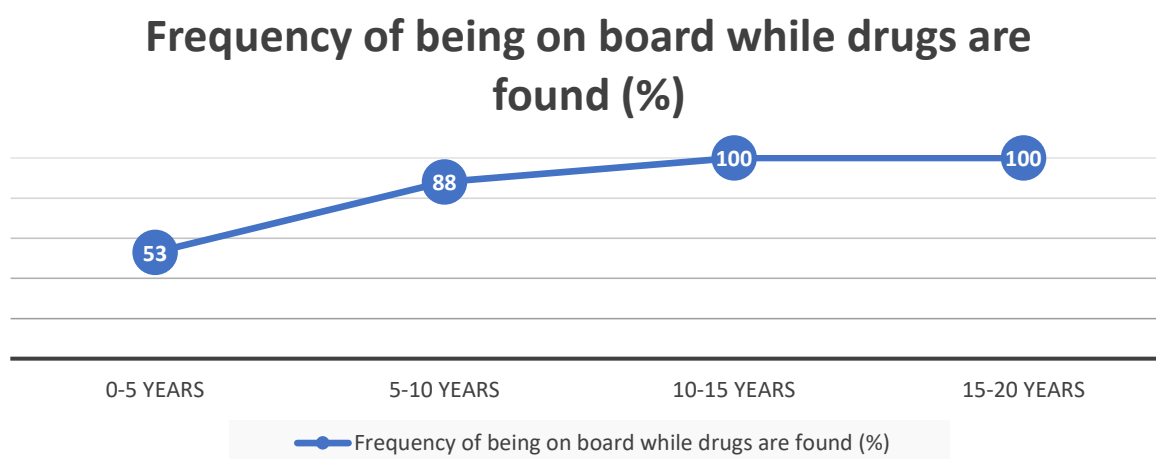
Two times an amount between 25-50kg was found and once an amount between 100-500kg. For the two other times the amounts are not known.

The seafarers who took part in the survey were also asked whether they were personally contacted by any corrupt person for their assistance in these illegal activities.

After analysing the answers, none of these seafarers were ever contacted by anybody. Nor personally, nor through social media.

#### 4.2.1.5 Summary

Below it can be seen that once a seafarer has more than 10 years of experience on container vessels, he/she has been on board when drugs were found.



<b>Total amount of seizures</b>	<b>35</b>
<b>Found by customs</b>	26
<b>Found by crewmember</b>	7
<b>Found by local port employee</b>	2

In total, 35 seizures were stated in the answers on the survey. Most of them (74%) were found by customs. In one out of five times, the drugs were found by a crewmember and two times they were found by a local port employee.

The total amount of drugs found inside the accommodation is 5 times. As this total is almost similar to the total amount of seizures found by a crewmember, there is a high possibility that drugs inside the accommodation are most likely to be found by crewmembers.

During this research, the ship had 16 ports of call. A suspicious activity was observed in Costa Rica in the Port of Moin by one of the crewmembers. While taken a water sample for measuring the water density, the crewmember observed air bubbles who were coming to the surface at a regular interval along the ship's hull. These bubbles also did not stay in one place but moved forward across the ship's hull. This suspicious activity was reported but no further actions were taken. As attaching drugs to the ship's hull is a commonly used method for drug trafficking, this activity could have had a significant influence on the survey if anything would have been found.

#### 4.3 What are the consequences for ship and ship owner when drugs are found on board?

When drugs are found on board, the vessel will most likely be detained to allow a thorough investigation by local customs. Arrest, criminal charges, and fines can be made for the crewmembers or vessel.

Right before joining this vessel, cocaine was seized in the port of Cork, Ireland. The cocaine was hidden in a container with pineapples. The master of the vessel was informed of this seizure after departure. After a seizure of drugs in the cargo, there will most likely be no consequences for the vessel at that time. When seals are still intact, there was no involvement of crewmembers and the vessel can continue her voyage.

An unavoidable consequence of drugs being found on a vessel, is that the vessel will face more checks by local customs as the vessel is now known for carrying drugs. A few hours after arrival in Charleston, the United States Coast Guard (USCG) came onboard for a thorough check of the vessel and crew. The deck area and accommodation were checked by three dogs and all crewmembers were interviewed by USCG officers to control any involvement. Other vessel checks by local customs were done in Panama and Belgium. In Panama local customs broke the seal from some containers to check the cargo inside the container and in Belgium, the customs checked all deck stores and the accommodation.

Due to onboard investigations or customs checks, the vessel can face delays. As container vessels are following a strict schedule of port of calls, delays must always be avoided. If a vessel is facing too many delays, it can result in a potential loss of hire and can give rise to claims from cargo interests.

During this research, data was received about drugs seizures on the owner's vessels. For the last three years, drugs were suspected and/or found nine times on board vessels. The drugs were found five times inside the cargo and four times the drugs were found on the vessel itself (e.g. cargo hold entrance void space or attached to vessel's hull). Most of the seizures are done on the owner's container vessels and rarely on other types of vessels.

For the owner, the same is applicable as for the vessel and her crew. When drugs are found attached to the hull or inside the container (seal not damaged) there are no consequences for the shipowner because there is no crew involvement. Upon the day of writing, no loss of hire has occurred.



## 4.4 Prevention on board

In this paragraph, the prevention on board the vessel will be discussed. As the crewmembers are in charge of the vessel and the transportation of the cargo, it is very important to have a sufficient prevention policy. Prevention of crew involvement in these activities starts with making the crew aware of the problem.

### 4.4.1 Awareness

The awareness on board is raised in two ways. At least once every month, a security drill is held on board where all possible threats such as drugs trafficking but also piracy or stowaways are discussed. In this drill, the ship security officer (SSO) will explain all measurements that are taken to minimize these threats and what crewmembers should do when they encounter such a threat.

The SSO will briefly explain the ship security plan (SSP) to the whole crew during this meeting. This plan is made by the company security officer (CSO) and is kept secure on board. Concerning the drug trafficking threat, the SSP includes the measurements taken to access the ship, the monitoring of the deck stores and spaces and reporting procedures of incidents or suspicious activities. The meeting held before arrival at the American ports was of high importance as a few weeks later a suspicious activity as was discussed, was observed.

Part of this SSP is the vessel search checklist. This checklist must be complied with prior to departure where all the crew have their designated duties to search and check the vessel on stowaways, hidden drugs or even bombs.

Another measurement taken by the company to raise awareness on drug trafficking is having posters in public rooms with clear statements of the company policy on involvement in drug trafficking. By implementing rules of conduct and putting these posters in clear sight, crewmembers are reminded everyday that any misuse of drugs, possession or involvement in trafficking is strictly prohibited.

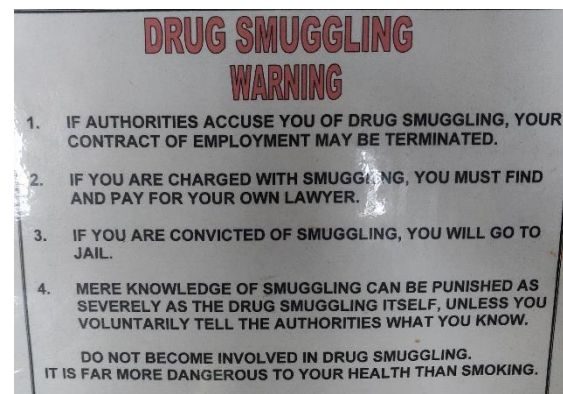


Figure 21 Public poster

#### 4.4.2 Vessel's seals

Before arrival, all deck stores and doors that are not to be accessed by unauthorized people during port stay, will be closed. After they are closed, a seal provided by the company will be attached. By securing with seals, the crew of the vessel can verify that these doors were not opened while in port and therefore no stowaway or drugs are hidden inside.

A crewmember on cargo watch will monitor the containers which are being discharged and loaded. Once a full part (under or on deck) of a bay is loaded, the crewmember will write down a reefer bayplan (which is called reefer block). These blocks are taken to gather information of the loaded container such as the container number and the set- and supplied temperature. This is done to verify that the correct reefer containers regarding the manifest are loaded and to know in which position they are loaded. With this block a temperature monitoring sheet will be made.

While this block is taken from the reefer containers under deck, the crewmember will check on any hidden stowaways or drugs. After leaving the cargo hold, the crewmember will put a seal on the booby hatch cover. By doing this, unnoticed access is not possible anymore. These seals are a safe action to counter security threats such as drugs or stowaways hidden in the ship's deck spaces. Before departure, a vessel's search is carried out to verify nothing or nobody is hidden on the vessel.

Inside the accommodation there are some small compartments where anything can be hidden. Therefore, these compartments will also be sealed by the SSO to verify nobody opened these to hide something inside. In figure 23, an example is shown of a sealed compartment.



*Figure 22 Booby hatch cover sealed*



*Figure 23 Sealed compartment*

## 5. Discussion

In this paragraph the validity, the results and the restrictions of this research are discussed after conducting a critical reflection.

### 5.1 Validity

This research was done during the COVID-19 pandemic, the number of visitors entering the accommodation mentioned in paragraph 4.1.2 will be less as compared to a 'normal' situation. People were working from home and avoiding visiting the vessel to avoid the spread of the virus to the vessel's crew.

Through a survey, data was collected to formulate an answer to what extent seafarers encounter drug related activities. The focus for this research was the own vessel. Therefore, this survey was given to the fellow crewmembers on board for their experiences. Yet, to get a better and more complete overview the survey was also sent to other seafarers within the researcher's network to be able to get data from other vessels and/or companies. In total, 37 surveys were received. Unfortunately, 6 of them were not completed and therefore not used in this research. The total of surveys used for this research was 31.

It was found that talking about drug trafficking is a rather delicate subject. Therefore, it can be questioned whether the surveys were filled in honestly. By giving all seafarers who were asked to complete this survey, the ability to do this anonymously it was tried to counter this problem. A total of 31 seafarers is a small amount compared to the total amount of seafarers employed in the worldwide container shipping industry. It can be said that if the survey would be taken on another vessel and/or another company, the results would differ as different seafarers will have different experiences. Other companies might have less strict policies which can have consequences on how often crewmembers are encountering these illegal activities.

The above arguments do not mean that this research is not valid as the visitors of the vessel's accommodation are not considered as the main problem and the results of the survey are from the correctly targeted group of persons.

### 5.2 Result

The results of this research can be extended to other container vessels on the same route, Central America to Europe, as they might face the same issues. Also, container vessel with other routes might face the same issues in other countries and possibly other types of drugs. For other types of vessels, this research is not applicable as they are not carrying container units.

### 5.3 Restrictions

This research was done on board a vessel and therefore internet access was limited. Collecting more surveys by using an online survey software was not possible. Even if an online survey would have been created ashore, not all seafarers would be willing to spend their personal internet credit on completing the survey. Therefore, the total amount of collected surveys was limited.

The company policy which was reviewed is also limited to one company as switching to vessels is impossible and policies of other companies are not shared as they are confidential information.

## 6. Conclusion and recommendations

By doing this research, an answer was sought for the main question “What does the prevention policy on board of ships look like in order to counter drug transport?”. To find this answer, this research was done by a quantitative research, the data on maritime drug transportation issues were collected through literature research, observation, and a questionnaire.

### 6.1 What is the vulnerability of container shipping?

The main vulnerability is in the nature of the cargo of container vessels namely the containers. As all the different containers are having different origins, it is impossible to check all cargo inside the containers. Because the containers are sealed as required, the container remains closed until it reaches the destination. The cargo inside is declared in the shipping documents but is not always verified by the local customs.

As these containers can also be easily transported by the cradle carriers in ports, they might be put in a different position by corrupt port employees to take out any drugs without anybody noticing.

As containers that are loaded on deck require proper lashing by lashing rods, many stevedores will come on deck to provide the lashing as availability of manpower of the vessel's crew is insufficient for all these containers. Between these stevedores, there might be someone with bad intentions who is involved in drug trafficking and willing to hide drugs on board a vessel.

Other vulnerabilities of container vessels can be considered their high average speed and long-term voyage planning. The long-term planning provides the information on the port of calls of vessels and can be used by illegal drug traffickers to prepare their illegal actions. E.g. attaching drugs to the vessel's hull under water by welding needs more preparations than hiding drugs inside cargo.

In high-risk ports it is recommended to consider an additional watchkeeper who is in charge of the vessel's security regarding drug trafficking. This watchkeeper should check stevedores in high-risk ports more thoroughly, especially if they are carrying personal bags. Also, the watchkeeper can take proper and more often security rounds to notice suspicious activities near the vessel's hull. The additional watchkeeper can also be assisted by an apparatus which is monitoring movement or sound under water.

### 6.2 To what extent do crew members encounter these drug-related activities?

None of the seafarers had ever been contacted, therefore crewmembers on board vessel's with highly qualified management are likely not to personally encounter any drug-related activity. As already 88% of the seafarers with experience of 5 to 10 years who took part in the survey, were on board when drugs were found, it can be concluded that a seafarer will most likely encounter drugs being found after 5 years of experience on container vessels. The chance of encountering a seizure increases to 100% after 10 years of experience.

As there was a suspicious activity reported during this research, the rate of crewmembers being encountered with drug-related activities would have increased if anything would have been found. Although it was reported to the CSO by the SSO, no actions were taken after the observation of bubbles coming to the water surface along the ship's side. This lack of actions might create the possibility that crewmembers are less motivated to inform their supervisor, and suspicious activities will not be reported anymore.

To shipowners or management companies, it is recommended to continuously remind their crewmembers on the possible consequences of drug trafficking involvement. If crewmembers are treated respectfully and correctly paid according to their job, chances are less that any crewmember might be tempted to take part in these illegal activities.

### 6.3 What are the consequences for ship and ship owner when drugs are found on board?

The possible consequences for ship and ship owner are delays and/or claims.

Delays may occur due to customs checking the accommodation and deck stores, or containers who are already loaded on board. If drugs are found during routine checks, the check will be prolonged to a thoroughly check. If there are too many delays, vessels might lose their cargo to other vessels with no delays.

When crewmember(s) are found guilty on drug trafficking, all claims will come on the shipowner's side, who will start a juridical procedure against the specific crewmember(s).

As per the collected data from the survey and the shipowner, there was no loss of hires or crew involvement in the recent years. The combination of all containers being sealed as required and the well-known problems of these high-risk ports, gives the seafarers and the shipowners the ability to prove that they are not involved in the drugs trafficking which could be found on their vessel and are a victim of these illegal activities.

The same recommendations as above are applicable for the shipowner: to keep investing on awareness of crewmembers on board the owner's vessels and to consider an additional watchkeeper or apparatus to monitor the vessel's hull under water.

### 6.4 What does the prevention policy on board of ships looks like in order to counter drug transport?

After doing research for three months and visiting 14 port of calls, it can be said that the problem of illicit drug trafficking is still around and will remain a problem if the production of these drugs is not tackled by the local authorities. Speaking for the researched vessel's company and the crewmembers, all measurements are taken to encounter these activities. The company provided a strict security and drug policy. Due to this strict policy and the continuous awareness, no crewmember was ever involved in these illegal activities as the dangerous consequences were clear for all. All these measurements were taken seriously and carried out by each and every crewmember. On board every crewmember was aware of his duties regarding the ship's security and all duties were carried out properly. Company seals were always available at the gangway and every crewmember was sealing the cargo holds after loading and stores were sealed to unauthorized access until the vessel had departed from the port. Security rounds were taken in every port and at a higher interval in high-risk ports.

Although there is a sufficient policy, the lack on follow-up actions after reporting can be demotivating for crewmembers which can lead to ignorance of these observations and lack of reporting.

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## Attachment 1 Visitors and stevedores

REGISTERED VISITORS									
Port → Date↓	Cork	Tilbury	Antwerp	Bremerhaven	Norfolk	Charleston	Big Creek	Manzanillo	Puerto Moin
July/20	2	2	15	13	-	-	-	1	6
August/20	1	0	6	-	4	-	3	7	9
September/20	-	-	-	-	-	-	3	4	3
October/20	0	0	9	17	7	-	-	-	-
November/20	2	0	18	13	-	-	2	6	7
December/20	-	-	-	-	-	-	3	6	7
January/21	2	1	8	14	-	7	4	-	-
February/21	4	0	20	10	-	-	-	8	8
March/21	-	-	-	-	-	13	6	8	9
April/21	5	7	8	9	-	6	-	-	-
May/21	-	-	-	-	-	-	8	4	7
<b>AVERAGE (PER PORT)</b>	<b>2</b>	<b>1</b>	<b>12</b>	<b>12</b>	<b>6</b>	<b>9</b>	<b>4</b>	<b>6</b>	<b>7</b>
<b>TOTAL AVERAGE</b>	<b>7</b>								



STEVEDORES								
Port →	Cork	Tilbury	Antwerp	Bremerhaven	Charleston	Big Creek	Manzanillo	Puerto Moin
Date↓								
January/21	14	18	45	12	13	45	-	-
February/21	10	13	17	14	-	-	32	81
March/21	-	-	-	-	12	50	84	132
April/21	12	15	14	18	12	-	-	-
May/21	16	14	-	-	-	61	99	93
<b>AVERAGE (PER PORT)</b>	<b>13</b>	<b>15</b>	<b>25</b>	<b>15</b>	<b>12</b>	<b>52</b>	<b>72</b>	<b>102</b>
<b>TOTAL AVERAGE</b>	<b>38</b>							
<b>AVERAGE EUROPE</b>	<b>17</b>							
<b>AVERAGE AMERICA</b>	<b>60</b>							

## Attachment 2 Containers checked for sealing

Reis 1	Germany – USA			
	Total containers	Being reefers	Empty reefer	With seal
BAY 06	42	2	14	28
BAY 14	47	0	0	47
BAY 22	60	0	16	16
BAY 30	54	7	28	26
BAY 38	52	1	22	30
BAY 46	66	1	48	18
Reis 2	USA – Belize			
	Total containers	Being reefers	Empty reefer	With seal
BAY 06	40	2	8	32
BAY 14	47	0	16	31
BAY 22	60	0	60	0
BAY 30	53	7	28	25
BAY 38	55	1	22	33
BAY 46	67	1	40	27
Reis 3	Belize – Panama			
	Total containers	Being reefers	Empty reefer	With seal
BAY 06	38	2	10	28
BAY 14	47	0	32	15
BAY 22	60	0	60	0
BAY 30	37	31	2	35
BAY 38	47	13	11	36
BAY 46	58	6	44	14
Reis 4	Panama – Costa Rica			
	Total containers	Being reefers	Empty reefer	With seal
BAY 06	51	2	25	26
BAY 14	44	0	36	8
BAY 22	54	7	37	17
BAY 30	48	24	20	28
BAY 38	44	18	25	19
BAY 46	67	10	57	10
Reis 5	Costa Rica - Ireland			
	Total containers	Being reefers	Empty reefer	With seal
BAY 06	33	30	0	30
BAY 14	48	36	12	36
BAY 22	43	36	4	39
BAY 30	40	36	4	36
BAY 38	44	36	8	36
BAY 46	32	24	8	24

<b>Reis 6</b>	<b>Ireland – UK</b>			
	Total containers	Being reefers	Empty reefer	With seal
<b>BAY 06</b>	33	30	0	33
<b>BAY 14</b>	48	36	12	36
<b>BAY 22</b>	43	36	4	39
<b>BAY 30</b>	40	36	4	36
<b>BAY 38</b>	31	24	7	24
<b>BAY 46</b>	21	13	8	13
<b>Reis 7</b>	<b>UK - Belgium</b>			
	Total containers	Being reefers	Empty reefer	With seal
<b>BAY 06</b>	24	12	7	17
<b>BAY 14</b>	46	36	10	36
<b>BAY 22</b>	56	12	44	12
<b>BAY 30</b>	48	12	36	12
<b>BAY 38</b>	45	24	21	24
<b>BAY 46</b>	67	2	64	3
<b>Reis 8</b>	<b>Belgium – Germany</b>			
	Total containers	Being reefers	Empty reefer	With seal
<b>BAY 06</b>	29	11	1	28
<b>BAY 14</b>	19	0	0	19
<b>BAY 22</b>	40	0	40	0
<b>BAY 30</b>	32	0	32	0
<b>BAY 38</b>	0	0	0	0
<b>BAY 46</b>	67	2	64	3
<b>Reis 9</b>	<b>Germany – USA</b>			
	Total containers	Being reefers	Empty reefer	With seal
<b>BAY 06</b>	40	0	16	24
<b>BAY 14</b>	32	0	0	32
<b>BAY 22</b>	40	2	0	40
<b>BAY 30</b>	48	0	32	16
<b>BAY 38</b>	46	1	30	16
<b>BAY 46</b>	67	2	64	3
<b>Reis 10</b>	<b>USA – Belize</b>			
	Total containers	Being reefers	Empty reefer	With seal
<b>BAY 06</b>	22	0	16	6
<b>BAY 14</b>	0	0	0	0
<b>BAY 22</b>	40	2	0	40
<b>BAY 30</b>	48	0	32	16
<b>BAY 38</b>	36	0	30	6
<b>BAY 46</b>	67	2	64	3

<b>Reis 11</b>	<b>Belize – Panama</b>			
	Total containers	Being reefers	Empty reefer	With seal
<b>BAY 06</b>	40	4	15	25
<b>BAY 14</b>	0	0	0	0
<b>BAY 22</b>	39	2	0	39
<b>BAY 30</b>	48	0	32	16
<b>BAY 38</b>	46	1	30	16
<b>BAY 46</b>	32	24	8	24
<b>Reis 12</b>	<b>Panama – Costa Rica</b>			
	Total containers	Being reefers	Empty reefer	With seal
<b>BAY 06</b>	36	4	21	15
<b>BAY 14</b>	36	34	0	36
<b>BAY 22</b>	54	2	42	12
<b>BAY 30</b>	36	2	25	11
<b>BAY 38</b>	50	0	44	6
<b>BAY 46</b>	37	22	15	22
<b>Reis 13</b>	<b>Costa Rica – Ireland</b>			
	Total containers	Being reefers	Empty reefer	With seal
<b>BAY 06</b>	33	14	0	33
<b>BAY 14</b>	48	34	0	48
<b>BAY 22</b>	48	33	15	33
<b>BAY 30</b>	42	28	14	28
<b>BAY 38</b>	48	12	6	30
<b>BAY 46</b>	48	24	8	40

## Attachment 3 Survey

Dear crewmembers,

I am in my last year of school where I must do research on some topic to be able to graduate. As I am sailing now on this container vessel with her routes between Central America and Europe, I have chosen to do research on the problematic of drug smuggling. Therefore, I kindly ask you to fill in this short survey. This can be done anonymously, and any obtained information will be kept for this research only.

I thank you for your cooperation.

Thomas

**1) How many years of experience do you have in maritime industry?**

0-5                      5-10                      10-15                      15-20                      >20

**2) How many of these years were you working on a container vessel?**

0-5                      5-10                      10-15                      15-20                      >20

**3) Did you ever sail on a vessel where drugs were found while you were on board? (answer can be more than 1 type)**

*Yes, this was a:*

*Container vessel                      Bulk Carrier                      Tanker                      General Cargo                      Other*

*No*

**4) If the answer on the previous question was "Yes":**

**4a) How many times did this happen?**

1                      2                      3                      3-5                      5-10                      >10

**4b) By whom where these drugs found? (answer can be more than 1 option)**

*Crewmember                      Local port employee                      Customs*

**4c) What amount was found?**

0-5kg                      5-25kg                      25-50kg                      50-100kg                      100-500kg                      500kg-1ton

1ton-5ton                      >5ton                      Amount not known

**5) Did you ever sail on a vessel where drugs were found inside the accommodation?**

*Yes*

*No*

**6) If yes: Were these drugs for personal use or part of illicit drug trafficking?**

*Personal use*

*Illicit drug trafficking*

**7) Have you ever been contacted by someone who wanted your assistance in the trafficking of any kind of drugs?**

*Yes*

*No*

**8) If yes: How did this happen?**

*Personal contact*

*Social media*

