

IAC2403 Introduction to Security Risk and Crisis Management

Unit 4

Cargo Security



Objective

- 1. Concept of air cargo
- 2. How cargo moves?
- 3. Why cargo is vulnerable



<https://youtu.be/4nnbAMR4YtE>

KEY TERMS 1

- **Vulnerable** =able to be easily physically, emotionally, or mentally hurt, influenced or attacked
- **Consignee** =the person something is sent to(Receiver)
Consignor (Sender/ shipper)
- **Consignment** = sending goods to another person
- **Liability**=] when you are legally responsible for something
He denies any liability for the damage caused.
- **Courier**= a person who carries important messages or documents for someone else



KEY TERMS 2

Explosive= exploding or able to explode easily

Certain gases are highly explosive.

Tamper, tampering =to touch or make changes to something which you should not, usually without enough knowledge of how it works or when you are trying to damage it (Interfere)

Absorb = to take something in, especially gradually

Plants absorb carbon dioxide.

Reverse= to (cause something to) go backwards, or to change the direction,

Reject= to refuse to accept, use or believe something or someone



A definition of Cargo

- Air cargo is another term for air freight.
- It is the carriage or the transportation of goods through an air carrier.
- Transport services via air are the most valuable when it comes to moving express shipments around the globe and it consists of air mail, air freight and air express.
- Air cargo also flies in the same gateway as the commercial or passenger airlines.



Types of Air Cargo:

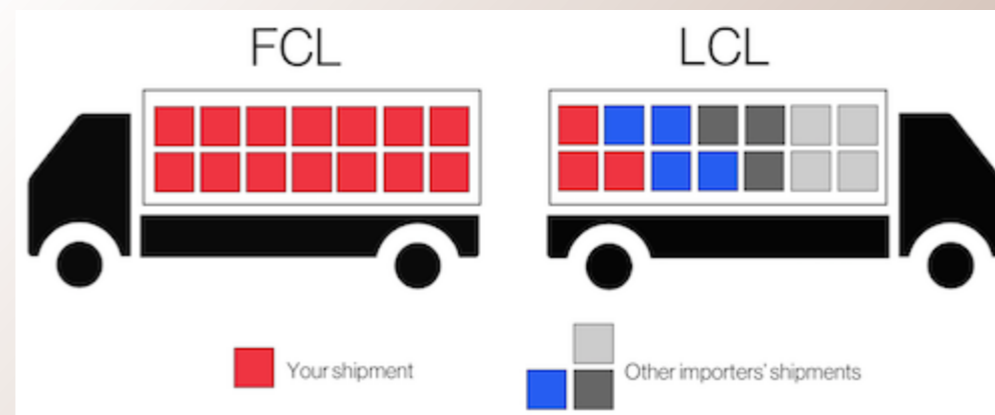
- **General Cargo:** Do not require extra precautions or special handling during air transport. most consumer goods (with the exception of mobile phones, tablets and laptops) , dry goods, hardware, textiles
- **Special Cargo** - Transporting **under special conditions due to their nature, weight, dimensions and/or value**, may have specific requirements including packaging, labelling, documentation such as temperature control, air conditions, and special casing, usually in cases of hazardous goods, livestock, perishable cargo

- Cargo handling is performed at thousands of airports all over the world by hundreds of companies, posing a high potential risk for deviations in the quality of handling. IATA



Elements considered as cargo

- Consignments sent via a cargo agent
 - Consolidated shipper consignment
 - Unaccompanied baggage carried as freight
 - Courier company items
-
- Consolidated shipping is a method of shipping where a consolidator combines individual LCL (less than a container load) shipments from various shippers into one full container shipment.



Exempt Consignments

- Diplomatic mail
- Some high values goods= **High Value Cargo** Works of art, Gemstones Gold bullion or gold dust
- Special nuclear material



Why cargo is vulnerable

The air cargo system is a complex, multi-faceted network that handles a vast amount of freight, packages, and mail carried aboard passenger and all-cargo aircraft

The air cargo system is vulnerable to several security threats including **potential plots to place explosives aboard aircraft; illegal shipments of hazardous materials; criminal activities** such as smuggling and theft; and potential hijackings and sabotage by persons with access to aircraft

Several procedural and technology initiative **to enhance air cargo security and deter terrorist and criminal threats** have been put in place or are under consideration.



Procedural initiatives

- Include industry-wide consolidation of the “known shipper/consignor” program;
- Increased cargo inspections;
- Increased physical security of air cargo facilities;
- Increased oversight of air cargo operations;
- Security training for cargo workers;
- Stricter controls over access to cargo aircraft and air cargo operations areas.

- A Known Shipper is an qualified individual or entity who may transport their goods on passenger aircraft.
- Aircraft operators, foreign air carriers, and IACs must comply with a range of specific security requirements to qualify their clients as known shippers.
- The main role of the IACS (International Association of Classification Societies) is to make public the essential role that the IACS plays in maintaining standards for ship safety and protection of the marine

The Consignment Security Declaration (CSD)

The Consignment Security Declaration (CSD) provides regulators with an audit trail of **how, when** and **by whom** cargo has been secured along the supply chain.

- Its objective is to meet [ICAO](#) requirements, ensuring that each consignment received by an aircraft operator or a regulated agent comes with documentation, either on the [e-Air Waybill](#) or on a separate declaration.
- To avoid a different security declarations, IATA developed a standard CSD in cooperation with the industry and regulators.
- **Electronic CSD (e-CSD)**
- The e-CSD allows operators to exchange and archive security information electronically to warrant that only secure cargo is shipped. This electronic document can also be audited by regulators at any point in the supply-chain and printed from electronic records.

Technology

Technology being considered to improve air cargo security includes

- Tamper-resistant and tamper-evident packaging and containers;
- Explosive detection systems (EDS) and other cargo screening technologies;
- Blast-resistant cargo containers and aircraft hardening;
- Biometric systems for worker identification and access control.



Airline Responsibility

IATA SECURITY MANUAL:

“Carriers reserve the right, without assuming any liability to refuse, delay or return any cargo.....if it is believed that they may contain explosives or dangerous devices....



Known Cargo

- Consignment from known consignor or regulated agent to which appropriate security controls have been applied; or
- Consignment of unknown cargo that has subsequently been subjected to security controls.

Unknown Cargo

- Any cargo that cannot be classified as known or freighter class known cargo



Definition of Regulated Agent

- An agent, freight forwarder or any other entity who conducts business with an operator and **provides security controls** that are accepted or required by the appropriate authority...



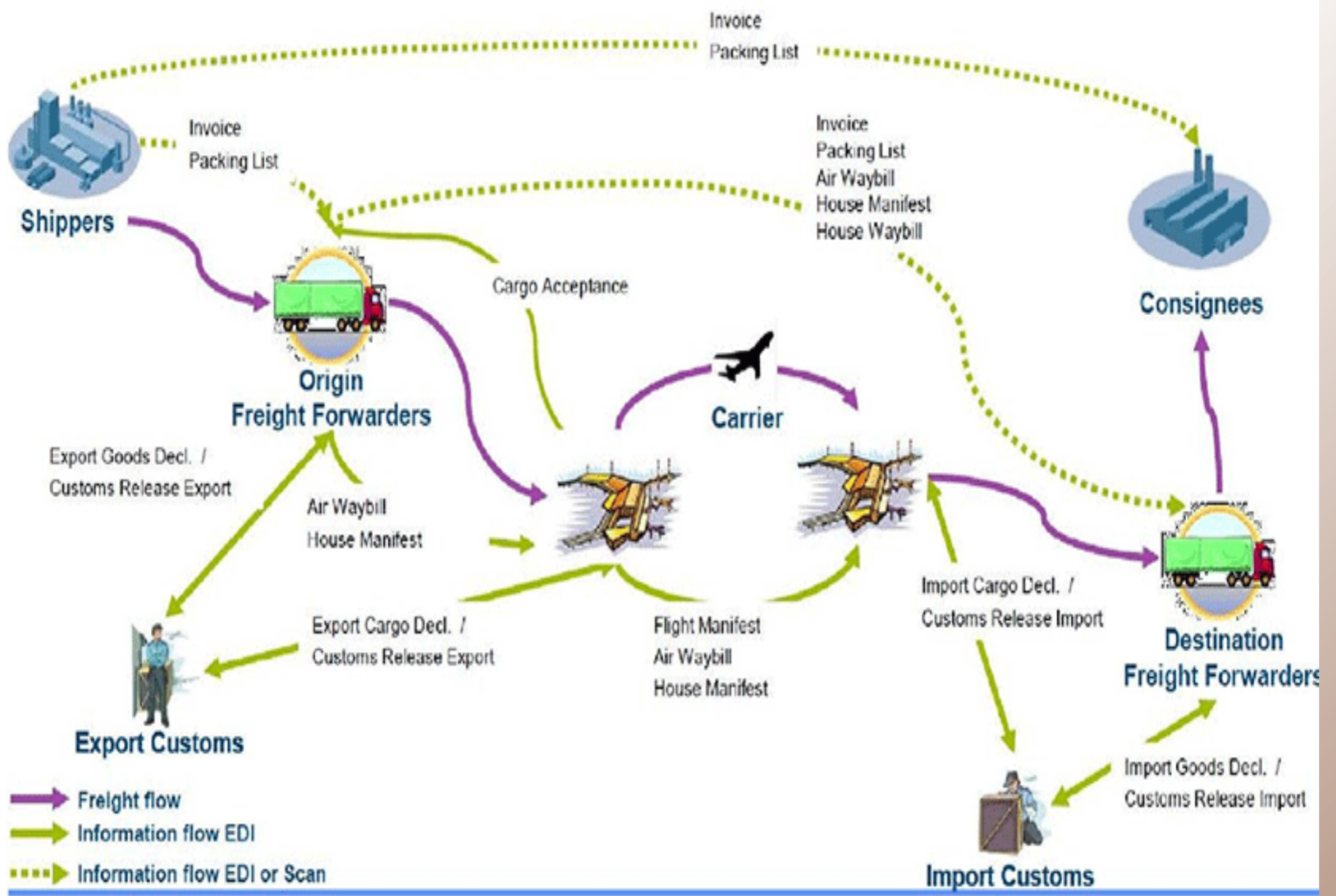


Fig 1. Source: IATA e-freight fundamentals 2013

The Air Cargo Chain

Off
airport

On
airport

Air or
road

On
airport

Off
airport

Consignor

Cargo
agent

Handling
agent

Aircraft
operator

Handling
agent

Cargo
agent

Consignee

Aircraft Operator Responsibilities

- Ensure all consignments security are “known cargo” before loading
- Raise cargo manifest
- Delivered by established employee
- Valid documentation
- Consignment security declaration



Aircraft Operator Procedures

- Checked for tampering
 - Kept secure
- OR
- Treated as unknown and screened





Consignment Security Declaration

Regulator Entity Category and number (to be completed only using the security level of the consignment)		Unique Consignment Identifier (to be completed only using the unique consignment number)	
THAI Cargo			
Consignment description			
<input type="checkbox"/> Consignment			
Origin (City)	Destination (City)	Transfer/transit points (if known) your office	
Security Status code	Reasons for issuing the Security Status code		
	Reasons for Issuance (to be completed only)	Screening Method (to be completed only)	Grounds for Completion (to be completed only)
<input type="checkbox"/> SPX <input type="checkbox"/> SOO <input type="checkbox"/> SHR	THAI030000-01	<input type="checkbox"/> XRY <input type="checkbox"/> PHS <input type="checkbox"/> VCK <input type="checkbox"/> CMD <input type="checkbox"/> ETD	<input type="checkbox"/> ETD
Other screening methods (to be completed only if applicable)			
Security Status Issued by (Name)		Security Status Issued on (Date)	
Name of Person or Employer (ID)		Date (Month/Year) Time	
Regulator entity category and number (to be completed only if applicable) (if any number previously accepted by security level prior to consignment is made applicable)			
Additional Security Information (if applicable)			

THAI Consignment Security Declaration



BFS-PO CARGO CO., LTD.

CONSIGNMENT SECURITY DECLARATION

(To be completed only using the security level of the consignment)

a. Regulator Entity Category and number (to be completed only using the security level of the consignment)		b. Unique Consignment ID:	
THAI03/0000-01			
c. Consignment			
<input type="checkbox"/> Consignment			
Origin	Destination	Transfer/transit points (if known)	
d. Security Status	e. Reasons that security status was issued		
	Reasons for Issuance (to be completed only)	Screening Method (to be completed only)	Grounds for Completion (to be completed only)
<input type="checkbox"/> SPX Reason to complete, if completed not issued <input type="checkbox"/> SHR Reason to complete, if completed not issued (to be completed only if applicable)	<input type="checkbox"/> XRY <input type="checkbox"/> PHS <input type="checkbox"/> VCK <input type="checkbox"/> CMD <input type="checkbox"/> ETD	<input type="checkbox"/> ETD	
f. Security Status Issued by		g. Security Status Issued on	
Name (ID)		Date Time	
h. The Regulator Entity ID (if applicable) (to be completed only if applicable)			
Additional Security Information			

X-Ray Basic Principle

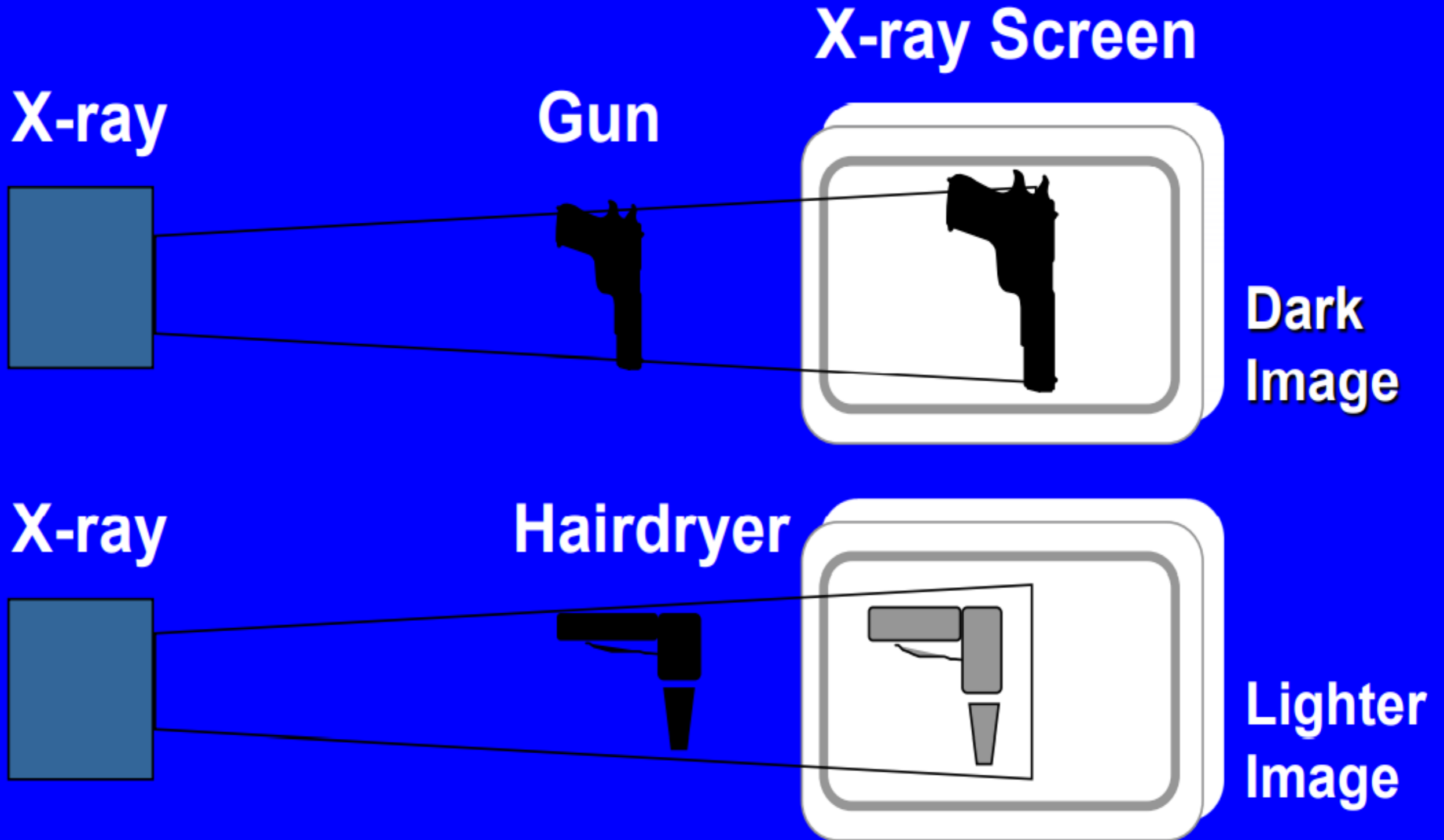
1. Object placed between X-ray and screen will absorb some of the x-rays, causing a shadow on the screen.
2. Denser the object- darker the shadow

X-Ray Imaging

- Denser the object- darker the image
- Denser object absorbs more X-Rays



X-Ray - Basic Principles



EXAMPLE OF ILLEGAL CASE INSPECTED BY X-RAY



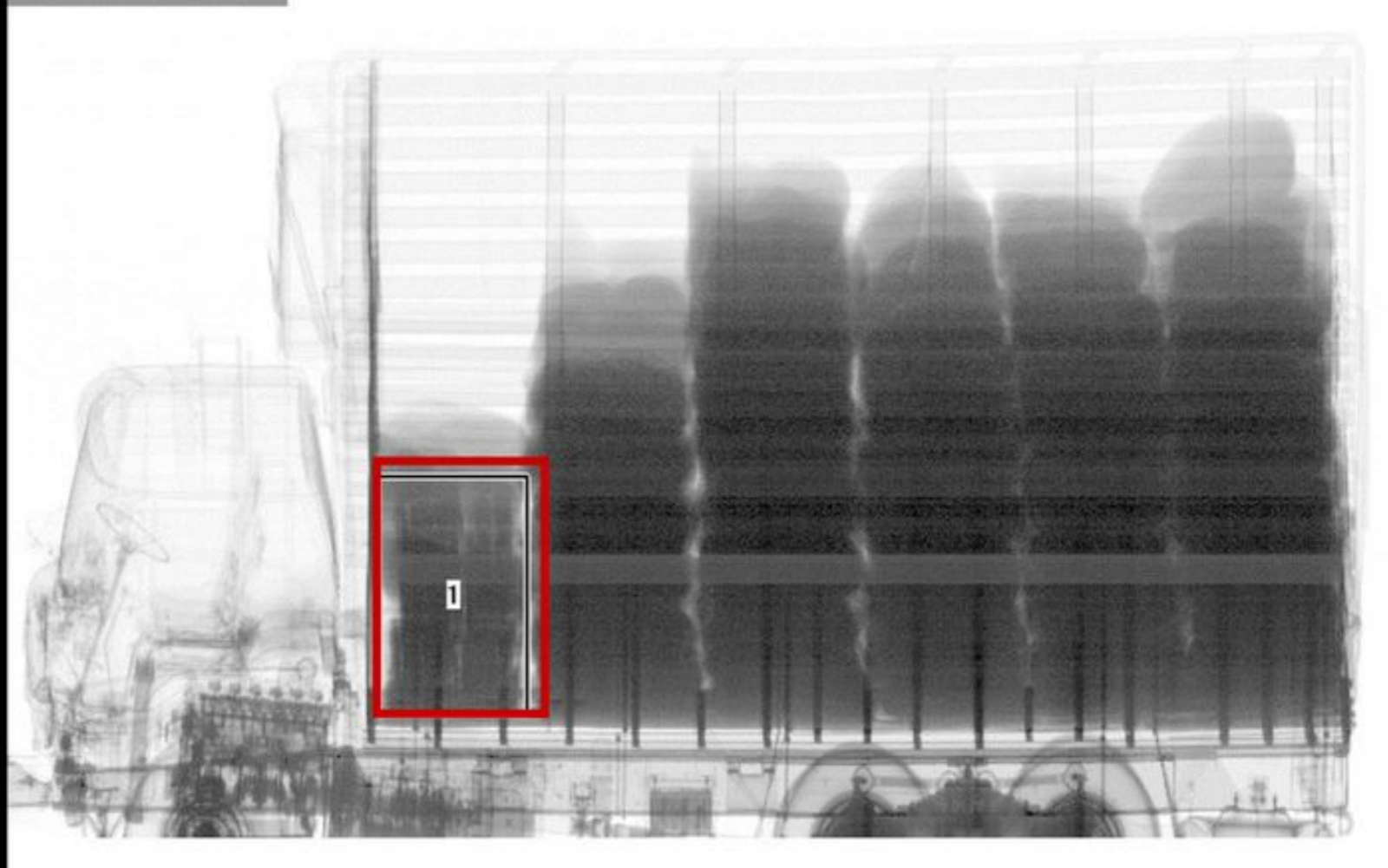
ศูนย์เทคโนโลยีการควบคุมทางสุกการ สำนักสืบสวนและปราบปราม กรมสุกการ กระทรวงการคลัง



EXAMPLE OF ILLEGAL CASE INSPECTED BY X-RAY

Remark:

1 - cd



Safety Checks

- Check that conveyor belt is not obstructed
- Open leaded curtains to make sure chamber is empty



Safety Checks (Cont.)

- Make sure leaded curtains hang straight down
- Check exterior machine for loose wires/connections



Start-up X-ray Machine

- Adjust brightness and contrast
- Test Forward, stop and reverse movement of belt.
- Test definition quality of X-Ray monitor by using official manufacturers test piece.

Difficult Items

- Wrapped present and gifts
- Children's toys
- Crutches, canes, walking sticks
- Urns containing human remains
- Religious objects
- Valuables items



© Can Stock Photo - csp20237223

Suspicious Objects

IF THE ITEM APPEARS TO CONTAIN SOMETHING SUSPICIOUS:

- **Item MUST be rejected for physical examination**
- **Notify the supervisor**

Random Physical Search

- **Percentage must be physically searched on a random basis**
- **Searcher must use discretion**
- **Effective deterrent**

