



## Managing occupational safety within MarsaMaroc port terminals Case : Casablanca port

**Marsa  
Maroc**

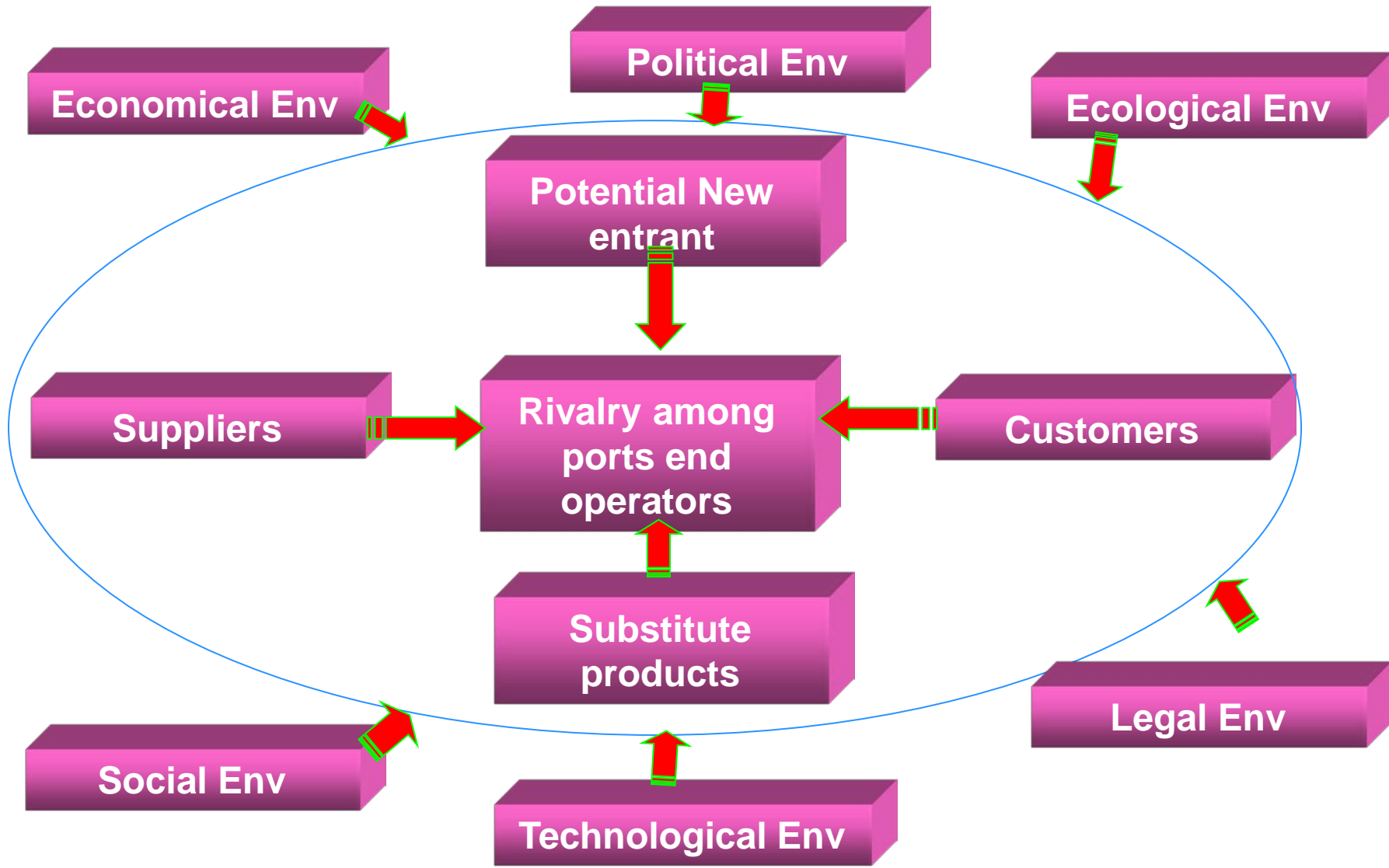
Casablanca, 26 mars 2014

# Agenda



- 1. Moroccan port industry and MarsaMaroc**
- 2. The main issue**
- 3. Diagnosis of occupational safety risks**
- 4. The Benchmark**
- 5. Why to implement a new management system for occupational safety**
- 6. ILO guidelines in occupational safety y management system**
- 7. Key success factors to implement a new occupational safety system**
- 8. Results**

## ① Moroccan port industry and MarsaMaroc



**PESTLE analysis and Porter Five forces model**

## ① Moroccan port industry and MarsaMaroc



### Political environment

- *Moroccan government has set up port reform in 2007 in order to restructure Moroccan port organization and introduce competition between port operators*
- Moroccan government has limited its role in sovereign role



### Economical environment

- *Growth of containerization and domestic traffic*
  - Containerization with a continuous growth
  - Mature market for general cargo



### Social environment

- *Highly unionized*
- *2003 : Adoption of Moroccan labor code*

## 1 Moroccan port industry and MarsaMaroc

### Technological environment



- Emergence of specialized vessels with larger physical characteristics: new generation container ships: more than 16,000 TEU's of capacity
- Emergence of new equipment generation : new ship to shore cranes handling until four TEU's at the same time

### Legal environment



- Adoption in 2007 of the 15-02 law establishing a new organization of the port sector in Morocco

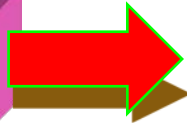
### Ecological environment



- The 11-03 law on the protection and enhancement of the environment,

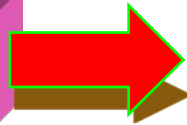
## 1 Moroccan port industry and MarsaMaroc

Rivalry among ports  
and operators (High)



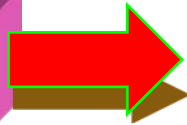
- Competition especially in container and general cargo businesses

Threat of new potential  
entrant (Low)



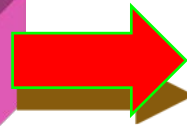
- A new potential port operator in Agadir

Threat of product  
substitute (Low)



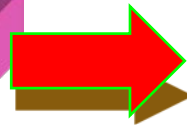
- 98% of the country's trade are done by sea

Customers (Who are  
they?) : High



- Shipowner for container business
- Ship agents for general cargo
- Final customer for other traffic...

Suppliers



- Low except for the suppliers of strategic equipment: ship to shore cranes, straddle carriers, etc.

# 1 Moroccan port industry and MarsaMaroc

## General positioning

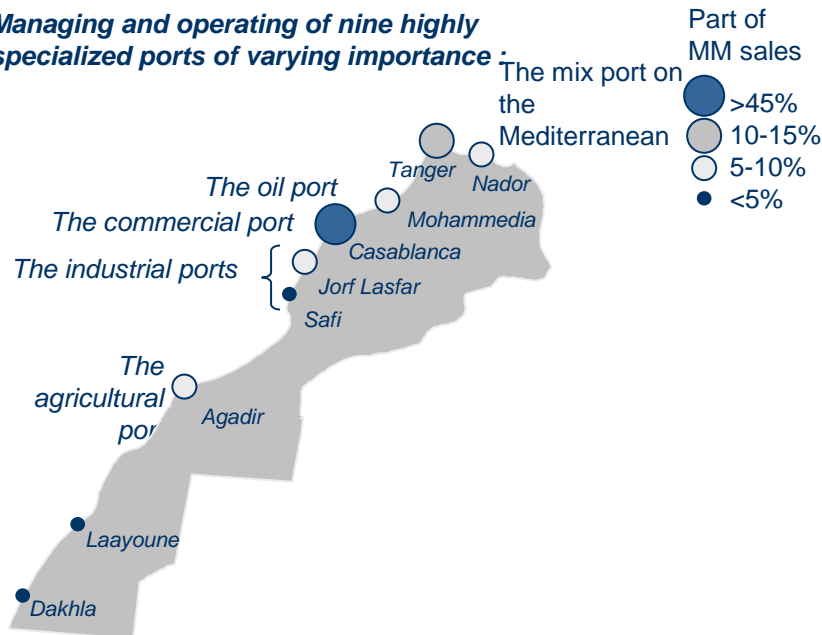
- state owned company with business and industrial nature endowed with financial autonomy and placed under the authority of equipment and transport ministry
- Born from split of ex ODEP (port reform), operates in a competitive environment with other public or private entities authorized by the ANP
- Responsible for the port operations, maintenance and management of the national port facilities which are granted
- Global headcount 2014: ~2.400 employees ( in which ~18% of managers)

## Activity Scope

- Service to ships and goods in port areas entrusted
- Main activities:
  - Handling goods
  - Storing
  - Other services (towage and pilotage of vessels)

## Main location

- **Managing and operating of nine highly specialized ports of varying importance :**



## Key financials 2014

- **Turnover:** 2 billions MAD
  - 70% came from handling goods
  - 60% came from Casablanca port
- **Earning before interests and taxes (EBIT):** 400 millions MAD

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2. The main issue

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5. Why to implement a new management system for occupational safety

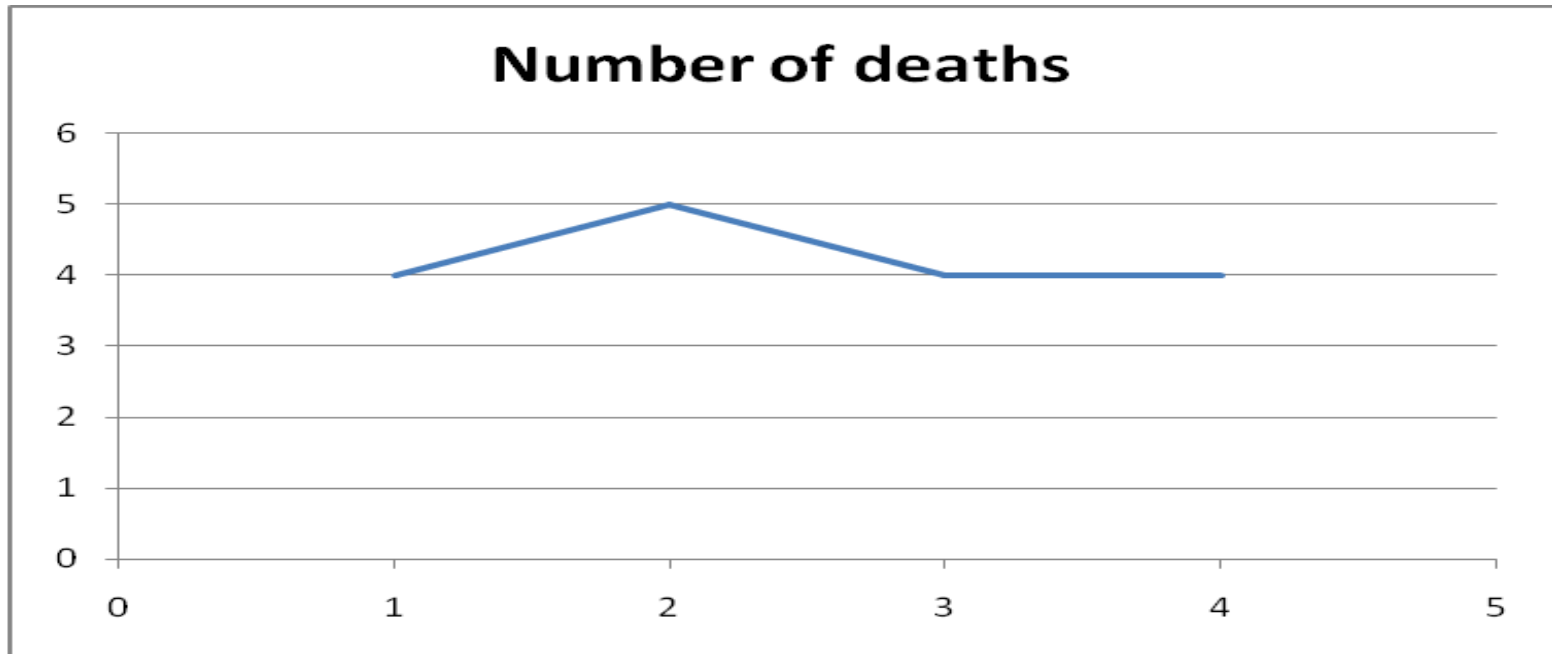
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8. Results

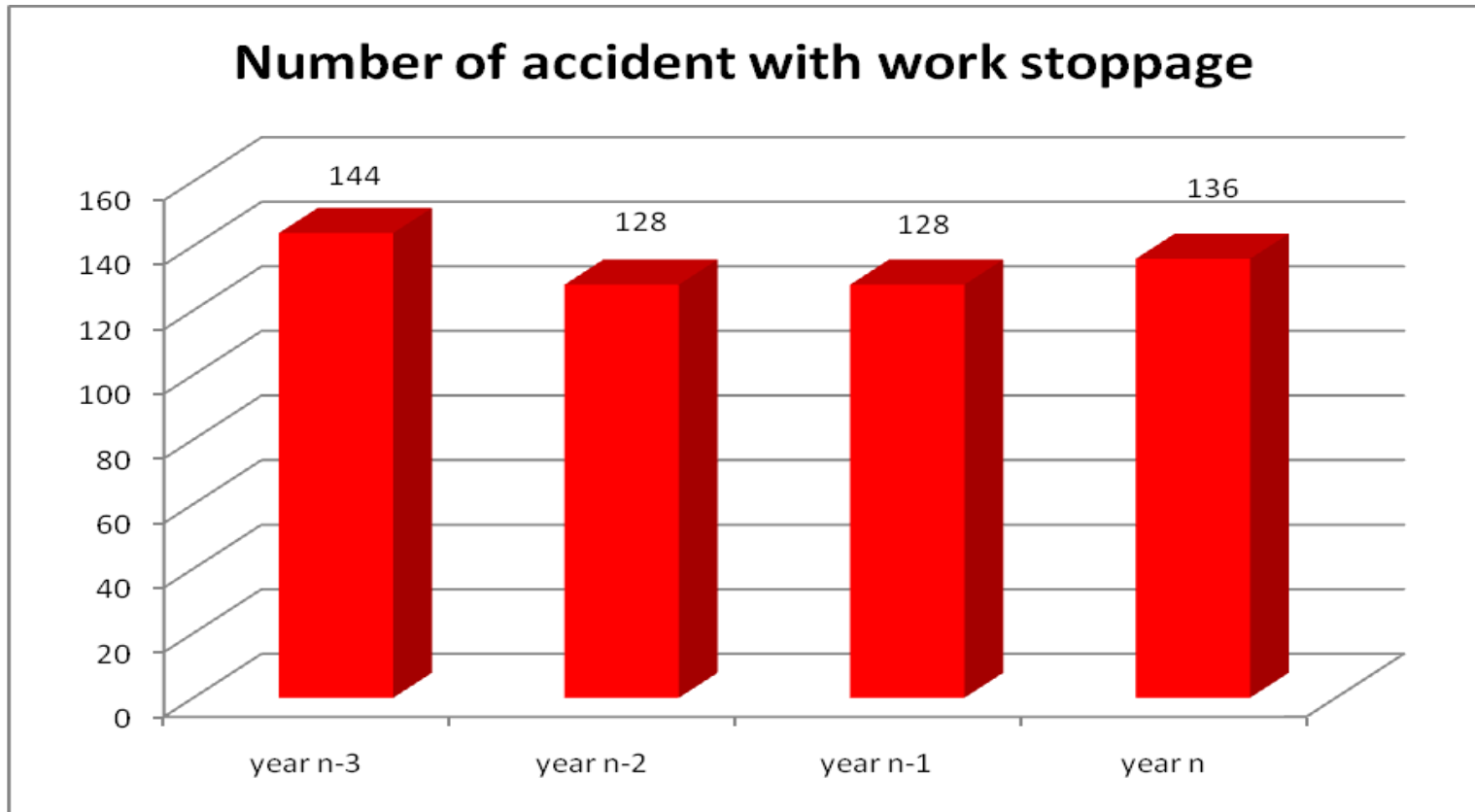


## ② The main issue : Occupational safety



Each year, almost four workers from the company or from its subcontractors died inside port terminals : fatal accidents

## ② The main issue : Occupational safety



The number of accident with work stoppage has achieved high level : in average 134 accidents were recorded per year

## 2 The main issue : Occupational safety



In average, the company lost each year about 3.000 days of work

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### 3. Diagnosis of occupational safety risks

*Analysis of actors' behaviour (human factors)*

*Analysis of risks related to port operations*

*Analysis of risks related to equipments*

*Analysis of risks related to the use of PPE*

#### Main messages

- ***De individualisation***

- When the newly engaged workers joined groups workers, they did what the oldest one did.
- Sometimes, They didn't carry out safety instruction, didn't comply strictly with all safety rules at all time, didn't use systematically all safeguards, safety devices

- ***Bad apple effect***

- Some individuals create unmotivated climate within the groups.
- They provoke sometimes the feeling of inequity

- ***Lucifer effect***

- Bad situation creates bad effect and bad motivation.
- Sometimes employee's welfare facilities wasn't inadequate. toilets, washing facilities, mess rooms, waiting rooms wasn't always with an appropriate size, well ventilated and lighted, and maintained in a clean, sanitary and orderly conditions.

### 3. Diagnosis of occupational safety risks

*Analysis of actors' behaviour (human factors)*

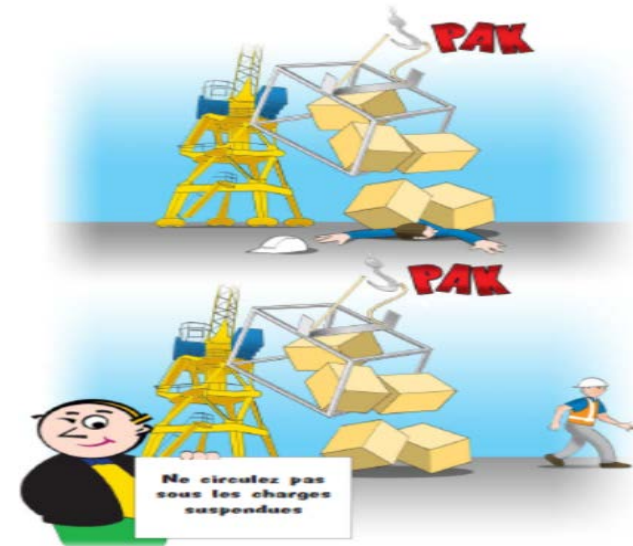
*Analysis of risks related to port operations*

*Analysis of risks related to equipments*

*Analysis of risks related to the use of PPE*

#### Main messages

- ***Cargo handling operations: loading and unloading vessels***
  - Collisions between cranes and vehicles, pedestrians, and other pier cranes
  - Free-fall of cargo, crane parts and lashing gear to vessel deck or the pier.
  - Pendulum swinging of the load during a cargo lift



### 3. Diagnosis of occupational safety risks

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#### Main messages

- **Cargo handling operations: loading and unloading vessels**
  - Exposure of employees to falls into cargo holds, or from elevated platforms (working at heights)
  - Exposure of dock workers to impacts by vehicles, crane spreaders, cargo hooks and moving cargo.
  - Damage to ship-to-shore cranes due to inadequate or improper maintenance, poor procedures and overweight or out-of-gage loads



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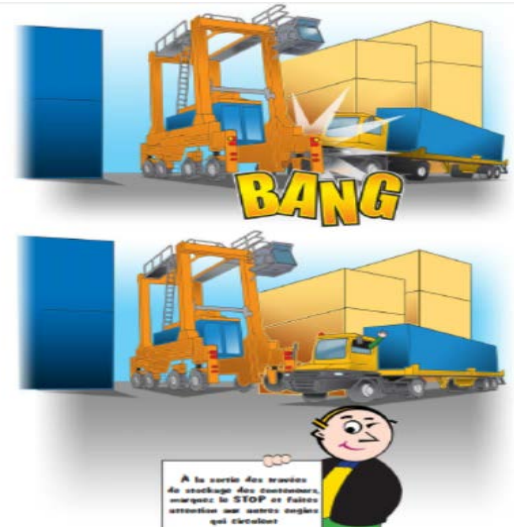
#### Main messages

- **Cargo transfer within the port**

- Collisions involving any combination of: tractors, straddle carriers, large and small forklift trucks, cars,
- Traffic congestion,
- Damage to trucks, Container Handling Equipment (CHE), and fatal injuries to personnel due to toppled containers and stacked cargo
- Fatal injuries to ground personnel from CHE and yard equipment movements

- **Cargo delivery and receipt**

- Serious injuries to ground personnel





### 3. Diagnosis of occupational safety risks

*Analysis of actors' behaviour (human factors)*

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*Analysis of risks related to the use of PPE*

#### **Main messages**

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- **Cranes**

- Cranes have specific ratings and specifications which must be provided to the crane's operator by a posted, legible and durable chart. It must also contain precautions and warnings
- A crane's exposed moving parts must be protected and guarded
- Access ladders, stairways and foot steps need to be in place to permit safe access to crane foot walks
- Crane controls must be situated at an operator's station so that the operator has a clear view of the load or signalman
- Crane cab glass must comply with safety glass specifications
- Crane operators must be provided a seatbelt/operator
- Cranes must be equipped with emergency shut off devices that can shut down the crane when activated by the crane operator...

### 3. Diagnosis of occupational safety risks

*Analysis of actors' behaviour (human factors)*

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#### **Main messages**

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- **Hot Work Equipment**

- Hot work cannot be performed in confined spaces unless a designated person has tested the atmosphere and determined that it is not hazardous
- Fire extinguishing equipment with suitable location is required to be available and ready to use at all times
- Ventilation is required to keep vapors, fumes and smoke to a below hazardous level
- ...

### 3. Diagnosis of occupational safety risks

*Analysis of actors' behaviour (human factors)*

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*Analysis of risks related to the use of PPE*

#### **Main messages**

- **Head protection**

- Employers are generally required to ensure that protective helmets are worn in areas where there is a potential for injury to the head from falling objects
- Helmets must meet standard industry requirements (e.g., ANSI Z89.1-2009; “American National Standard for Industrial Head Protection.”)
- The use of cranial protection is widespread in Marsa Maroc facilities

- **Eye and face protection**

- Eye protection includes safety glasses, face shields, dust goggles, welding goggles and helmets and other devices
- is in a workshop/maintenance and repair environment where cutting, grinding, filing, welding and acid handling operations are performed.
- Persons exposed to airborne dust, including grain and bulk operations should wear safety glasses or goggles

### 3. Diagnosis of occupational safety risks

*Analysis of actors' behaviour (human factors)*

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*Analysis of risks related to the use of PPE*

#### Main messages

- **foot protection**

- Employers generally have requirements to enforce the wearing of protective footwear when employees work in areas where there is a danger of foot injuries due to falling or rolling objects, or objects piercing the sole of the shoe
- The use of safety shoes is observed within MarsaMaroc terminal facilities

- **Retro-reflective safety vests**

- High visibility safety vests are typically required at all marine terminals to maximize the likelihood of an employee being seen during day and night operations
- Marsa Maroc had generally good compliance with the use of retro-reflective safety vests and this practice should be continued

- **Respiratory protection**

- Respiratory protection can be required during the loading and discharge of certain types of bulk and break bulk cargo...

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## 4. Benchmark with other port terminals

The benchmark with Hong Kong port terminals known by their high level of efficiency and effectiveness, shows that even those terminals might register fatal and serious accidents.

Hong Kong port terminals have in 2013, four fatal accidents and 15 serious accidents as shown in the following statistics :

Years	Number of accident			
	Fatal	Serious	Minor	Total
2013	4	15	125	144
2012	0	2	42	44
2011	1	3	28	32
2010	0	1	36	37

Source : Hong Kong port terminal statistics

The main causes for those accidents were :

- Falls of person,
- Stepping on or striking objects or slipping
- Falling or swinging objects

## 4. Benchmark with other port terminals

The benchmark with a local competitor shows the following figures:

Years	Number of accident			
	Fatal	Serious	Minor	Total
2014	0	06	175	181
2013	0	16	167	183
2012	0	21	108	129
2011	0	23	93	116

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## 5. Why to implement a new management system for occupational safety

### *Regulatory reasons*

### *Ethical reasons*

### *performance reasons*

#### **Main messages**

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- The labor code has set up several requirements for the management and for the staff in terms of safety and has defined fines and penalties for non compliance.
- the management should inform staff about the hazards within the workplace, provide safety rules and instructions to observe, provide staff with the appropriate personnel protective equipment (PPE) and should take the necessary measures to prevent accidents and occupational diseases.
- The staff should apply and follow the instructions and rules of safety at work, wear personal protective equipment , observe all rules and safety and use safety devices correctly
- The responsible for occupational safety within the company should in particular assess the risks of safety for the staff, advise management on the issue of safety, be available to staff in the workplace and advise, and ensure compliance with safety requirements.
- To insure compliance with the regulation in terms of safety, MarsaMaroc has set up a new management system of safety taking into account the requirements of the regulation.

## 5. Why to implement a new management system for occupational safety

*Regulatory  
reasons*

***Ethical  
reasons***

*performance  
reasons*

### **Main messages**

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A management system of safety is primarily intended to preserve the lives of staff, considered as the main wealth of the company.

Ethical code should be adopted by MarsaMaroc in order to protect continually employees safety and health. .

## 5. Why to implement a new management system for occupational safety

*Regulatory  
reasons*

*Ethical  
reasons*

*performance  
reasons*

### Main messages

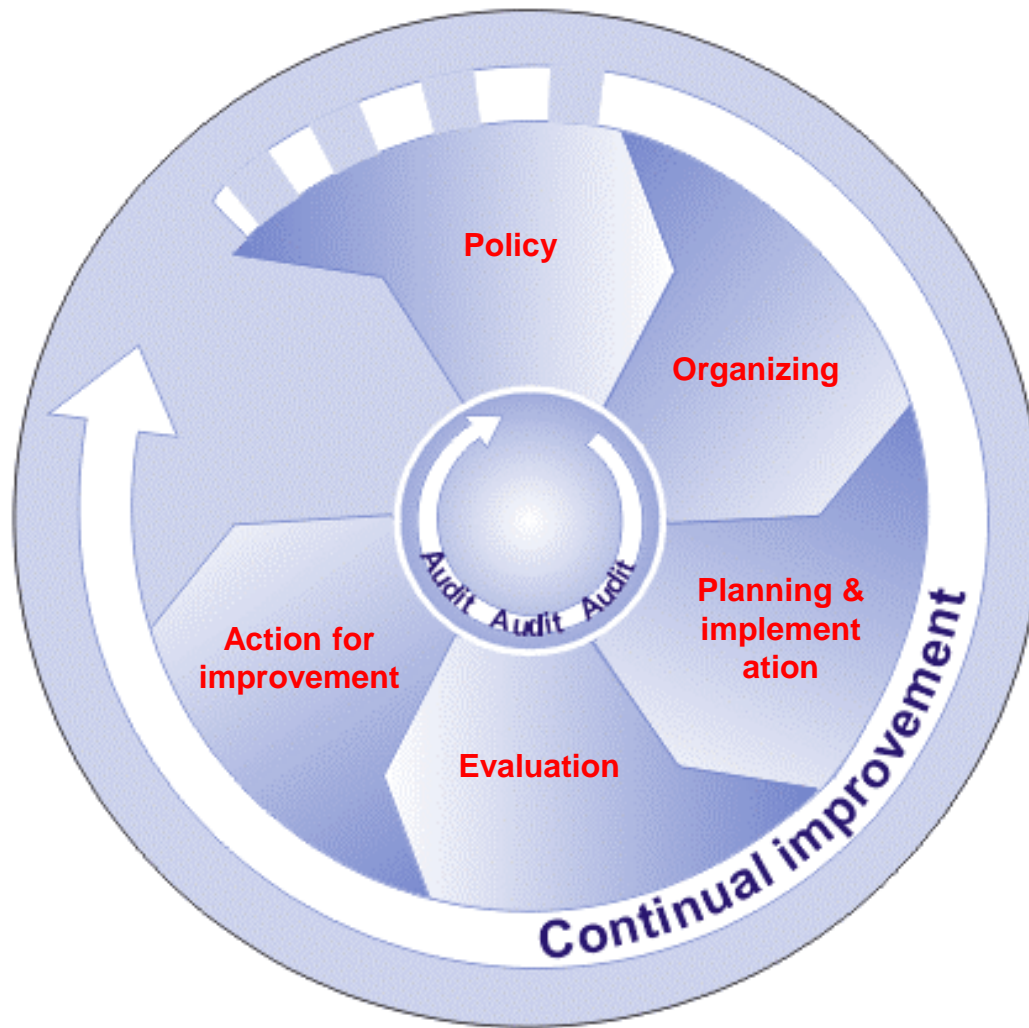
Safety management system aims to raise the level of the competitiveness of the company particularly by:

- Improving the efficiency of the organization through the clarification of roles and responsibilities about occupational safety and optimization and resources allocation,
- Reducing equipment accident through the reduction of maintenance and repairs costs,
- Reducing traffic accidents by the reengineering and the review of the terminals operating plans that would lead to productivity improvement and lean management,
- Improving the financial performance through the reduction of costs associated with insurance premiums and compensation of victims.

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## 6. ILO guidelines in occupational safety management system



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## 7. Key success factors to implement a new occupational safety system

### Implementation process

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The implementation process should be :

- Pragmatic but compulsory taking into account the reality of the port and the actors's voluntary appropriation,
- Gradual but irreversible without aiming a perfect system at beginning.
- Iterative but convergent with target of continual improvement.

### Actors accountability

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The actors at the ports should :

- produce and implement the safety action plans, follow the performance indicators.
- Support the recommendations and actions recommended by safety committees.
- Work in continuous improvement process.

### Rigor when applying system

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We should keep up to date the system output (policy, action plans , indicators, investigation reports, visit reports workplaces , etc.)

## 7. Key success factors to implement a new occupational safety system

### Monitoring and coaching

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The experts of the system should carry out surveys of workplaces, to bring the methodological support needed for the various working groups

### Other factors

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- The management commitment , the leading role of safety animator and The staff involvement and participation
- The effectiveness of the Safety Committee
- The commitment of other port actors
- Recruitment process, Human resource allocation process, Process of staff motivation and training process
- Information et communication process
- Operation and maintenance process
- Procurement processus



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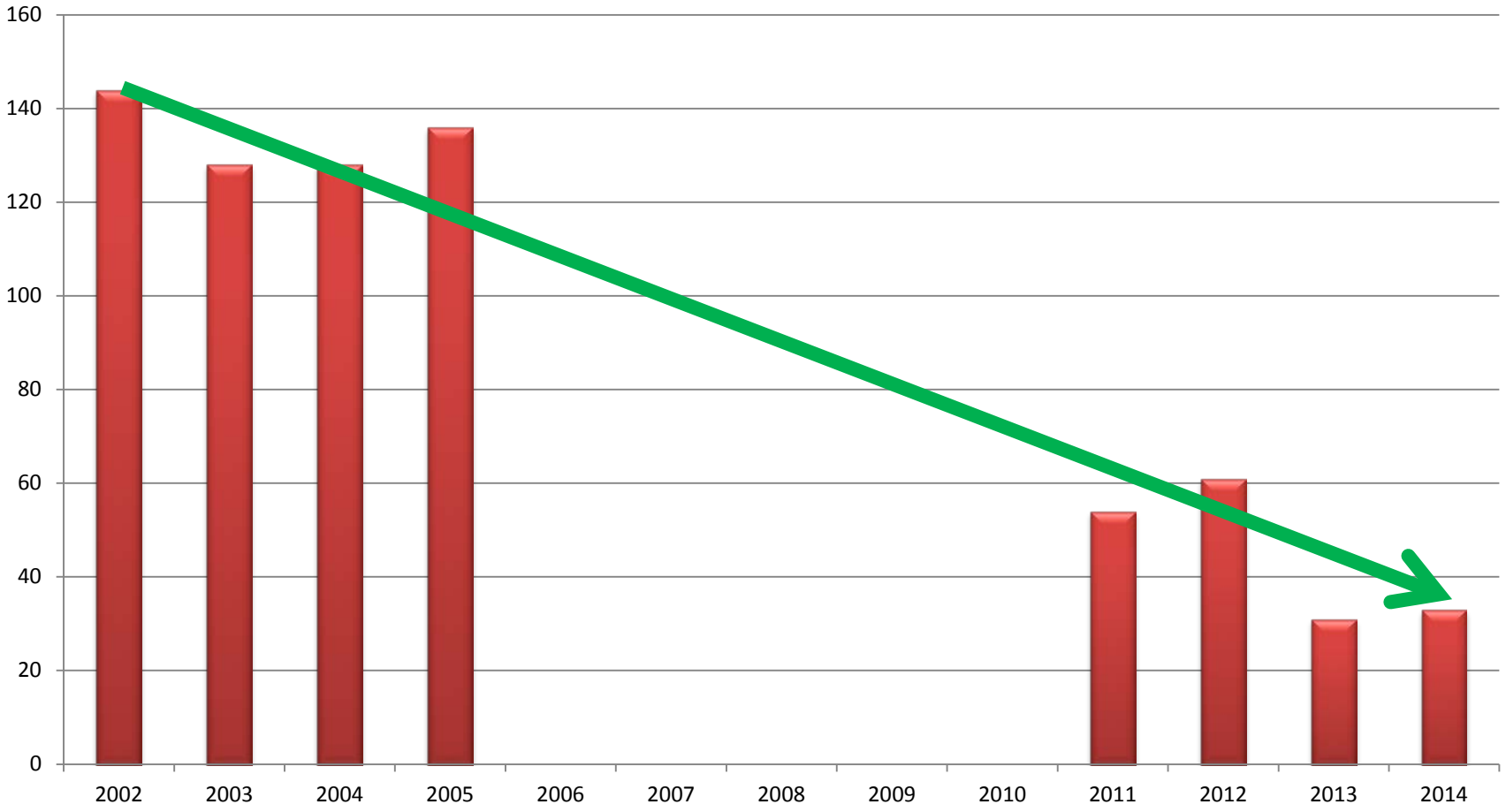
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8. Results

# 8. Results

Accident total number



8. Results

Fatal accident number

