

# **HAZARD Survey Study on Risk Management in BSR Seaports**

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# Introduction

## Objective

Verify the **current state and level of knowledge** of risk management and assessment methods in BSR ports.

## Time Frame

November 2018 – January 2019

## Responses

- 157 incomplete responses
- 108 full responses

# Participating countries



Sweden



Estonia



Finland



Denmark



Lithuania



Germany



Poland

# Survey sections

- 1. Risk management requirements**
- 2. International standards/guidelines**
- 3. Risk specific regulations**
- 4. Risk assessment methods**
- 5. Risk handling methods**
- 6. Risk monitoring**
- 7. Risk communication**





























# Risk management requirements

***B1. For managing risks in seaports different stakeholders are required to follow different local, national, regional or international requirements.***

**Please check the risk-specific requirements below that are followed by your organization.**

- Local requirements
- National requirements
- Regional requirements
- International safety codes and agreements
- None of the above

# Risk management requirements

	Local requirements	National requirements	Regional requirements	International safety codes and agreements
Sweden	 70%	 90%	 50%	 100%
Estonia	 89%	 100%	 78%	 100%
Finland	 79%	 93%	 79%	 86%
Denmark	 75%	 88%	 50%	 63%
Lithuania	 76%	 82%	 18%	 59%
Germany	 88%	 80%	 71%	 80%
Poland	 22%	 44%	 11%	 56%


























\*Comparison of the **risk management requirements** as percentage of respondent by country (HAZARD survey: 108 responses)

# International standards/guidelines

**B2. Which of the following international standards/guidelines are followed in your organization?**

- ISO 31000 (Risk management – Guidelines)
- ISO 14001 (Environmental management systems – Requirements with guidance for use)
- ISO 9001 (Quality management systems – Requirements)
- ISO 27001 (Information technology – Security techniques – Information security management systems – Requirements)
- None of the above

# International standards/guidelines

	ISO 31000 (Risk management - Guidelines)	ISO 14001 (Environmental management systems - Requirements with guidance for use)	ISO 9001 (Quality management systems - Requirements)	ISO 27001 (Information technology - Security techniques - Information security management systems - Requirements)
Sweden	 10%	 80%	 70%	0%
Estonia	 33%	 67%	 89%	 11%
Finland	 14%	 64%	 71%	 7%
Denmark	 13%	 25%	 50%	0%
Lithuania	 29%	 41%	 47%	0%
Germany	 10%	 29%	 44%	 12%
Poland	 44%	 56%	 89%	 33%

\*Comparison of the **followed risk management regulations** as percentage of respondent by country (HAZARD survey: 108 responses)



# Risk specific regulations

***B3. Different stakeholders follow different types of regulations for risk management in seaport.***

**Which specific type of regulations below are followed by your organization?**

- Chemicals and hazardous substances and other harmful agents related regulations
- General health and safety related regulations
- Security and safety of ships and port facilities related regulations
- Transport specific regulations and vessel safety
- Machines, devices and work equipment related regulations
- Accident investigation and insurance related matters
- Exposure to physical agents related regulations
- None of the above

# Risk specific regulations

	Chemicals and hazardous substances and other harmful agents related regulations	General health and safety related regulations	Security and safety of ships and port facilities related regulations	Transport specific regulations and vessel safety	Machines, devices and work equipment related regulations	Accident investigation and insurance related matters	Exposure to physical agents related regulations
Sweden	80%	90%	80%	80%	90%	60%	40%
Estonia	89%	100%	78%	89%	89%	78%	89%
Finland	86%	86%	93%	79%	79%	71%	29%
Denmark	63%	88%	88%	63%	75%	75%	38%
Lithuania	94%	82%	53%	41%	59%	65%	41%
Germany	73%	83%	73%	76%	66%	49%	34%
Poland	56%	100%	44%	11%	78%	67%	56%

\*Comparison of the **followed risk specific regulations** as percentage of respondent by country (HAZARD survey: 108 responses)

# Risk assessment methods

## Risk Identification

***C1. Risk identification is the examination of all sources of risk from any activity, function or process undertaken.***

**Which approaches/methods below are used by your organization for identifying risks in seaports?**

- ☐ Brainstorming
- ☐ Checklists
- ☐ SWOT analysis
- ☐ Consultation with external consulting companies
- ☐ Hazard diamond
- ☐ Individual identification
- ☐ Delphi method
- ☐ Meetings within own organization for risk identification
- ☐ Meetings with other stakeholders for risk identification
- ☐ Offline software
- ☐ Online solution
- ☐ None
- ☐ Other: \_\_\_\_\_

# Risk assessment methods (1)






































## Risk Identification

	Delphi method	Meetings within own organization	Meetings with other stakeholders	Offline software	Online solution
Sweden	0%	80%	70%	10%	10%
Estonia	0%	67%	78%	11%	22%
Finland	7%	93%	86%	7%	36%
Denmark	0%	75%	63%	13%	38%
Lithuania	12%	76%	71%	0%	0%
Germany	2%	63%	46%	12%	17%
Poland	11%	44%	56%	33%	0%

\*Comparison of the risk **identification** methods as percentage of respondent by country (HAZARD survey: 108 responses)

# Risk assessment methods (2)

## Risk Identification

	Brainstorming	Checklists	SWOT analysis	Consultation	Hazard diamond	Individual identification
Sweden	 60%	 90%	 70%	 80%	0%	 30%
Estonia	 44%	 33%	 44%	 67%	0%	 67%
Finland	 50%	 86%	 36%	 64%	 21%	 64%
Denmark	 50%	 88%	 13%	 38%	0%	 50%
Lithuania	0%	 47%	 24%	 53%	 29%	 18%
Germany	 44%	 66%	 22%	 41%	 10%	 37%
Poland	 44%	 22%	 22%	 11%	0%	 67%

\*Comparison of the risk **identification** methods as percentage of respondent by country (HAZARD survey: 108 responses)

# Risk assessment methods

## Analysis and evaluation





























***C2. Risk analysis and evaluation involves determining and comparing the level of risk with the risk criteria and deciding whether the risks are acceptable.***

**Which approaches/methods below are used by your organization for risk analysis and evaluation?**

- FMEA (failure mode and effects analysis)
- Risk matrix
- Checklists
- Hazard diamond
- Measuring devices
- Simulation solution
- Meetings within own organization for analyzing and evaluating risks
- Meetings with other stakeholders for analyzing and evaluating risks
- Consultation with external consulting companies
- None
- Other: \_\_\_\_\_

# Risk assessment methods (1)
































## Analysis and evaluation

	Simulation solution	Internal meetings	Meetings with other stakeholders	Consultation
Sweden	 20%	 80%	 70%	 50%
Estonia	 22%	 56%	 56%	 56%
Finland	 29%	 86%	 86%	 64%
Denmark	 0%	 88%	 63%	 50%
Lithuania	 18%	 76%	 41%	 41%
Germany	 12%	 78%	 41%	 44%
Poland	 22%	 78%	 33%	 22%

\*Comparison of the risk **analysis** and **evaluation** methods as percentage of respondent by country (HAZARD survey: 108 responses)

# Risk assessment methods (2)

## Analysis and evaluation

	FMEA	Risk matrix	Checklists	Hazard diamond	Measuring devices
Sweden	 20%	 80%	 80%	0%	 30%
Estonia	 11%	 56%	 44%	0%	 33%
Finland	 21%	 64%	 86%	 21%	 43%
Denmark	 13%	 50%	 75%	0%	 25%
Lithuania	 12%	 41%	 47%	 29%	 41%
Germany	 15%	 51%	 59%	 7%	 20%
Poland	 33%	 44%	 22%	0%	 22%

\*Comparison of the risk **analysis** and **evaluation** methods as percentage of respondent by country (HAZARD survey: 108 responses)













































# Risk handling methods

***C3. Risk handling involves selecting and implementing appropriate measures for dealing with identified risks. This includes both proactive and reactive measures.***

**Which approaches/methods below are used by your organization for handling risks?**

- ☐ Emergency and evacuation plan
- ☐ Teamwork and workshops
- ☐ Staff training and exercises
- ☐ Backups
- ☐ 8D report
- ☐ Catalogues for handling different risks
- ☐ None
- ☐ Other: \_\_\_\_\_

# Risk handling methods

	Emergency and evacuation plan	Teamwork and workshops	Staff training and exercises	Backups	8D report	Catalogues for handling different risks
Sweden	 40%	 70%	 30%	 10%	 40%	 0%
Estonia	 33%	 89%	 33%	 0%	 22%	 0%
Finland	 71%	 93%	 36%	 14%	 57%	 0%
Denmark	 63%	 88%	 25%	 0%	 38%	 0%
Lithuania	 71%	 82%	 35%	 0%	 41%	 0%
Germany	 59%	 80%	 15%	 0%	 37%	 2%
Poland	 67%	 78%	 33%	 0%	 44%	 0%











































\*Comparison of the risk **handling** methods as percentage of respondent by country (HAZARD survey: 108 responses)

# Risk monitoring

***C4. It is important to check the effectiveness of the currently implemented measures for monitoring and improving the Risk Management Process. Which of the following approaches/methods are used by your organization for monitoring and checking the effectiveness of implemented process?***

- ☐ Meetings with other stakeholders for risk monitoring and effectiveness checking
- ☐ Internal audit
- ☐ External audit
- ☐ Reviewing contingency plans
- ☐ EU inspections
- ☐ Seminars and training
- ☐ None
- ☐ Other: \_\_\_\_\_

# Risk monitoring

	Meetings with other stakeholders	Internal audit	External audit	Reviewing contingency plans	EU inspections	Seminars and training
Sweden	 70%	 80%	 80%	 70%	 10%	 30%
Estonia	 44%	 78%	 56%	 44%	 22%	 56%
Finland	 79%	 93%	 71%	 29%	 29%	 57%
Denmark	 50%	 88%	 63%	 25%	 0%	 63%
Lithuania	 76%	 71%	 35%	 59%	 41%	 76%
Germany	 37%	 66%	 51%	 68%	 12%	 66%
Poland	 33%	 78%	 44%	 56%	 0%	 56%

\*Comparison of the risk **monitoring** methods as percentage of respondent by country (HAZARD survey: 108 responses)

# Risk communication

**D1. Which of the following means/devices do you use for the communication with other stakeholders with regard to different activities related to risk management?**

- ☐ Phone
- ☐ Radio devices
- ☐ Email
- ☐ Meetings
- ☐ Notice board
- ☐ Online platforms
- ☐ Diaries
- ☐ Other: \_\_\_\_\_

# Risk communication

	Email	Phone	Meetings	Radio devices	Notice board	Online platforms	Diaries
Sweden	90%	70%	90%	100%	10%	30%	10%
Estonia	100%	44%	100%	89%	33%	33%	33%
Finland	93%	64%	100%	93%	36%	7%	29%
Denmark	75%	50%	100%	75%	13%	0%	0%
Lithuania	100%	71%	94%	88%	35%	59%	24%
Germany	98%	46%	95%	83%	32%	24%	12%
Poland	67%	33%	89%	78%	22%	22%	0%

\*Comparison of the risk **communication** methods as percentage of respondent by country (HAZARD survey: 108 responses)

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