

Content of the Hazard Rating Document

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Supporting legislation

Outline of the Presentation



- Background of the project
- Content of the document

History of hazard rating systems



- The Seveso II Directive (96/82/EC) first introduced a legal basis for introducing a hazard rating system in 1996
 - Article 18 – Competent Authority can apply a “systematic appraisal” system to prioritise inspection of upper tier sites in lieu of annual inspections.
- Originally, a small number of MS & EEA applied a hazard rating system, but over the years it has grown to nearly 50%.
 - Useful for communicating with other inspectorates
 - Resource management and prioritisation tool
 - Less popular in smaller industrialised countries (~100 Seveso sites)
- Used also for the International River Commissions of the Danube and Odra Rivers
- No information on other systems outside these contexts.



- In 2012, CoP included development of a “guide on methodology for hazard rating” as a priority for 2013-2014.
- JRC-MAHB agreed to collaborate with the Bureau since hazard rating systems and methodologies are also relevant to the Seveso Directive.
- The document is not a “guide” per se, but a compilation of country methodologies and practices in regard to hazard rating.
 - No single methodology recommended
 - No comparison or evaluation of methods used
- Intended to help ECE countries build capacity to implement effective industrial risk management programmes.

Description of the project



- The project was centered on a survey of EU and ECE countries to obtain information on their hazard rating systems.
- The results of the survey were turned into a document describing the main details of the hazard rating systems of each respondent.
- With the support of UN ECE, the JRC-MAHB led the survey. It consisted of questions on the following topics.
 - Purpose, scope and legal status
 - Elements (inputs) of the rating system
 - Outputs of the system
 - Distribution and accessibility of outputs
 - Ease of use, transparency, effectiveness



With UN ECE, In total, 48 countries were contacted.

- 17 responses were received from 16 countries.
 - Belgium provided two responses for two different hazard rating systems)

Category	Requested	Responses	Countries
EU	28	10	Belgium, Bulgaria, Croatia, Czech Republic, Finland, Germany, Poland, Sweden, United Kingdom
EEA/EFTA	3	2	Norway, Switzerland
Outside EU			
Southeast Europe	5	1	Serbia
Eastern Europe	4	2	Republic of Moldova, Ukraine
Caucasus	3	1	Armenia
Central Asia	5	1	Kyrgyzstan
International		1	International River Commissions of the Danube Elbe and Odra rivers



European
Commission

Content of the Document

The resulting document consists of an executive summary and 3 sections:

- Background
- Findings from the survey
- Conclusions
- Annexes

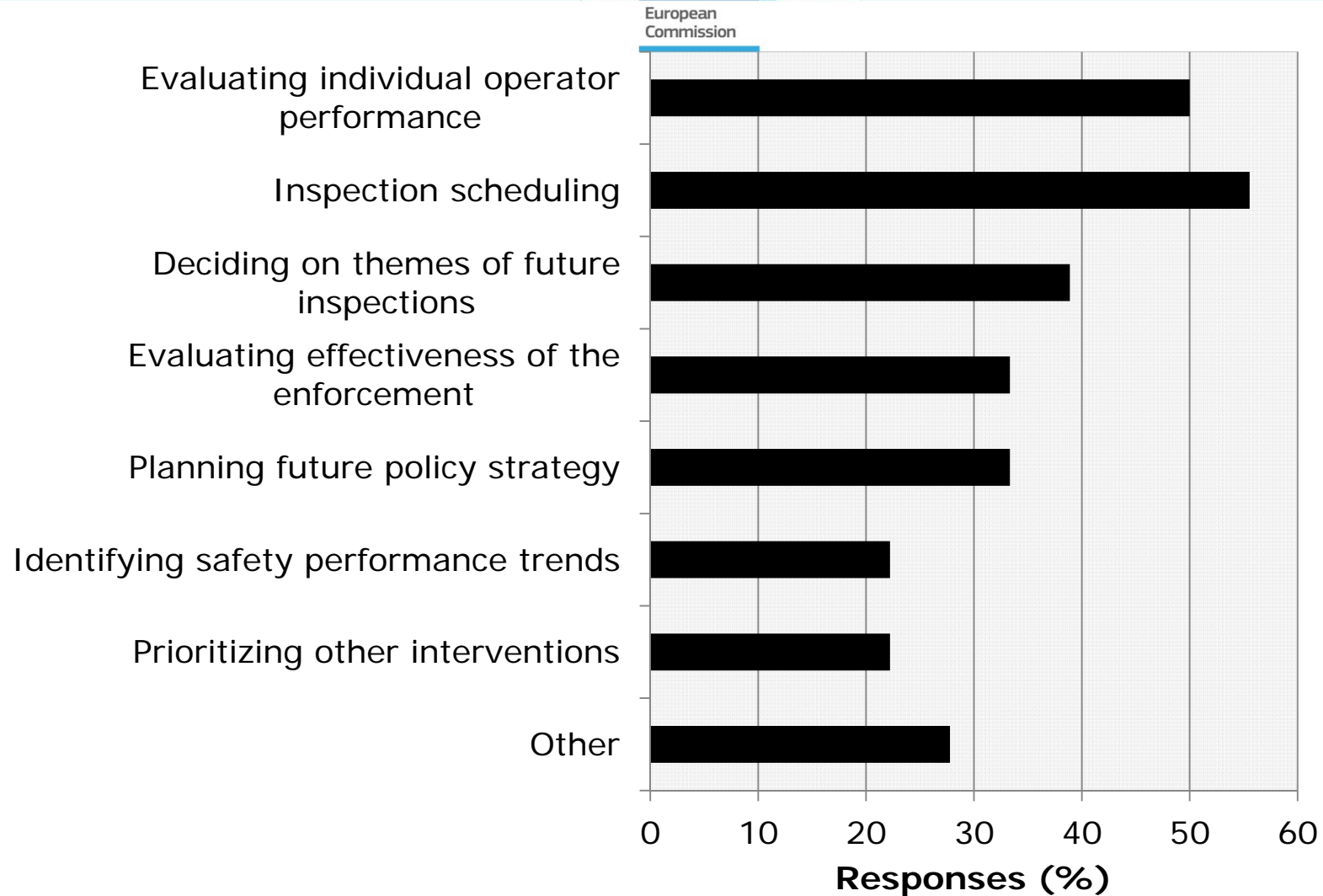
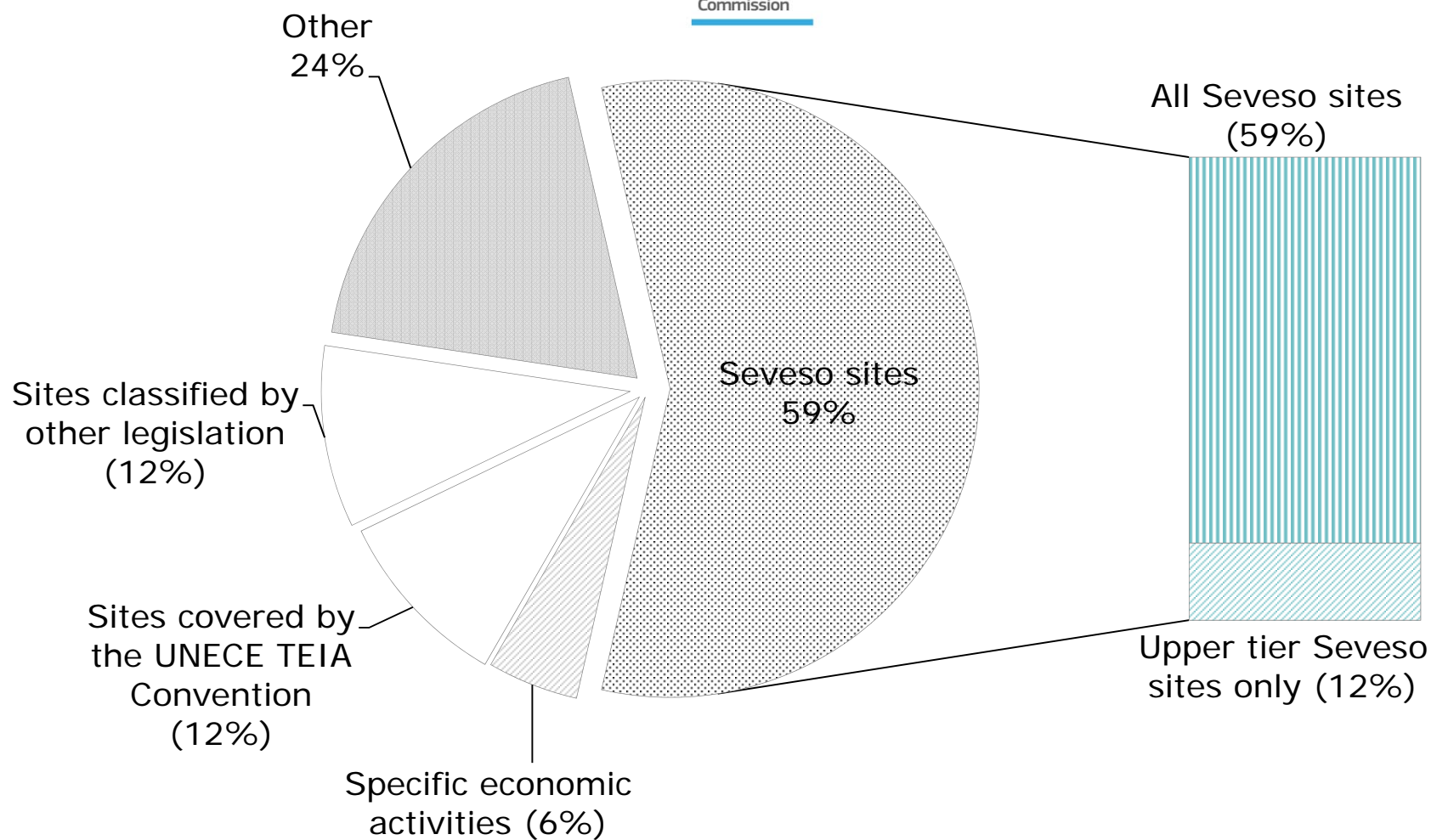
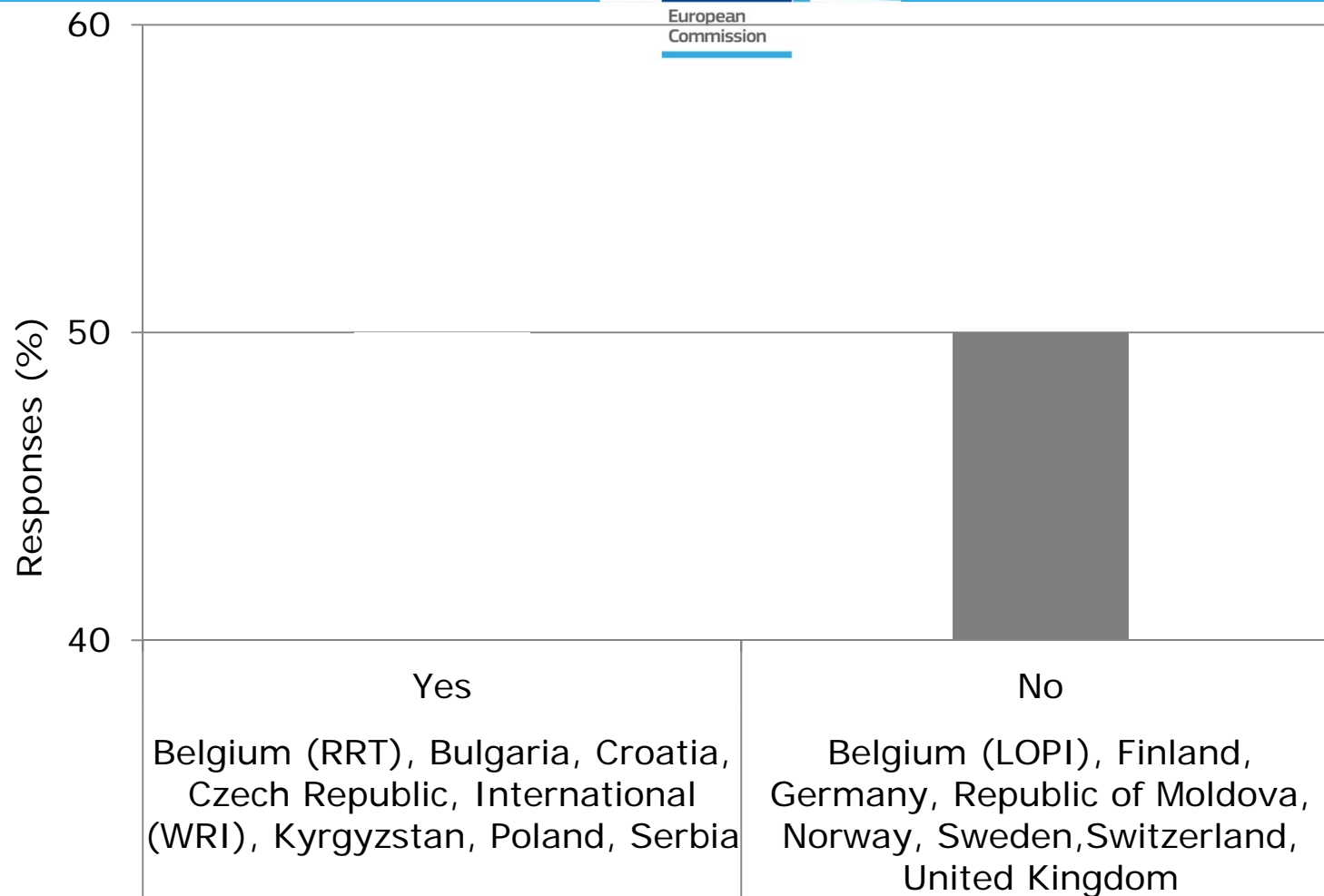


Figure 1: Purpose of the hazard rating system (N=17)

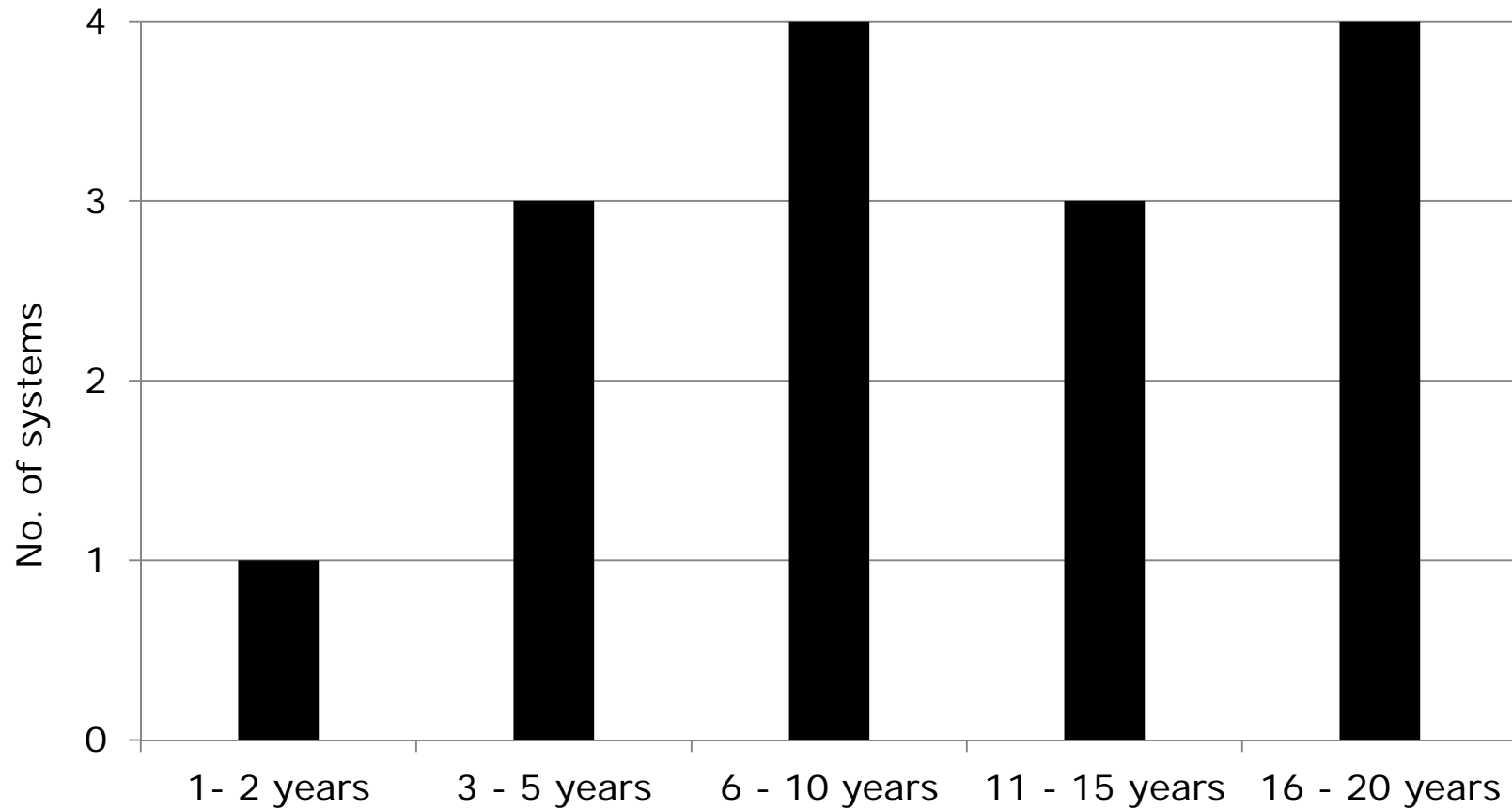


Kind of establishments covered by the hazard rating systems in percentage (N=17)



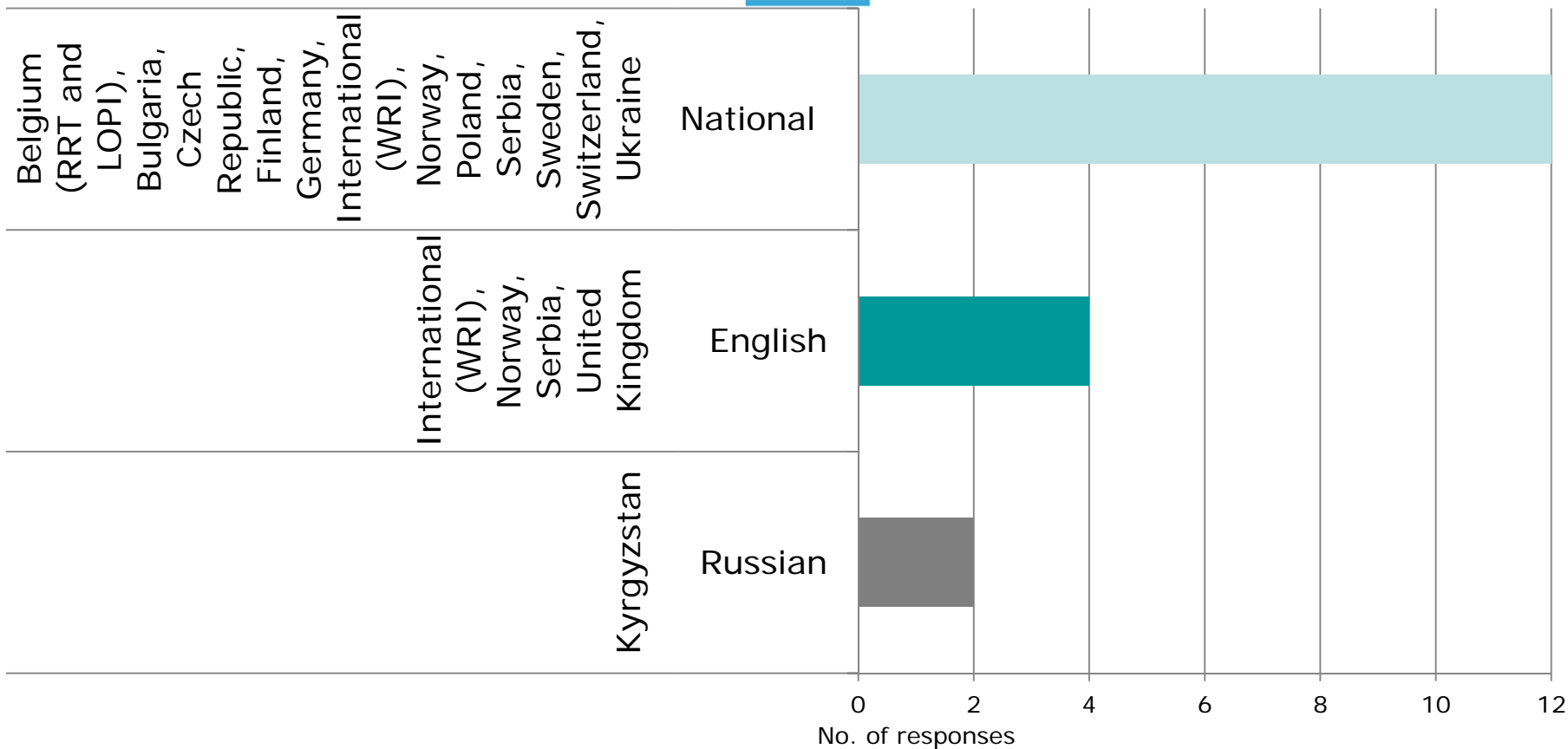
Status of formal adaptation into legal requirements (N = 15)

Depth of experience



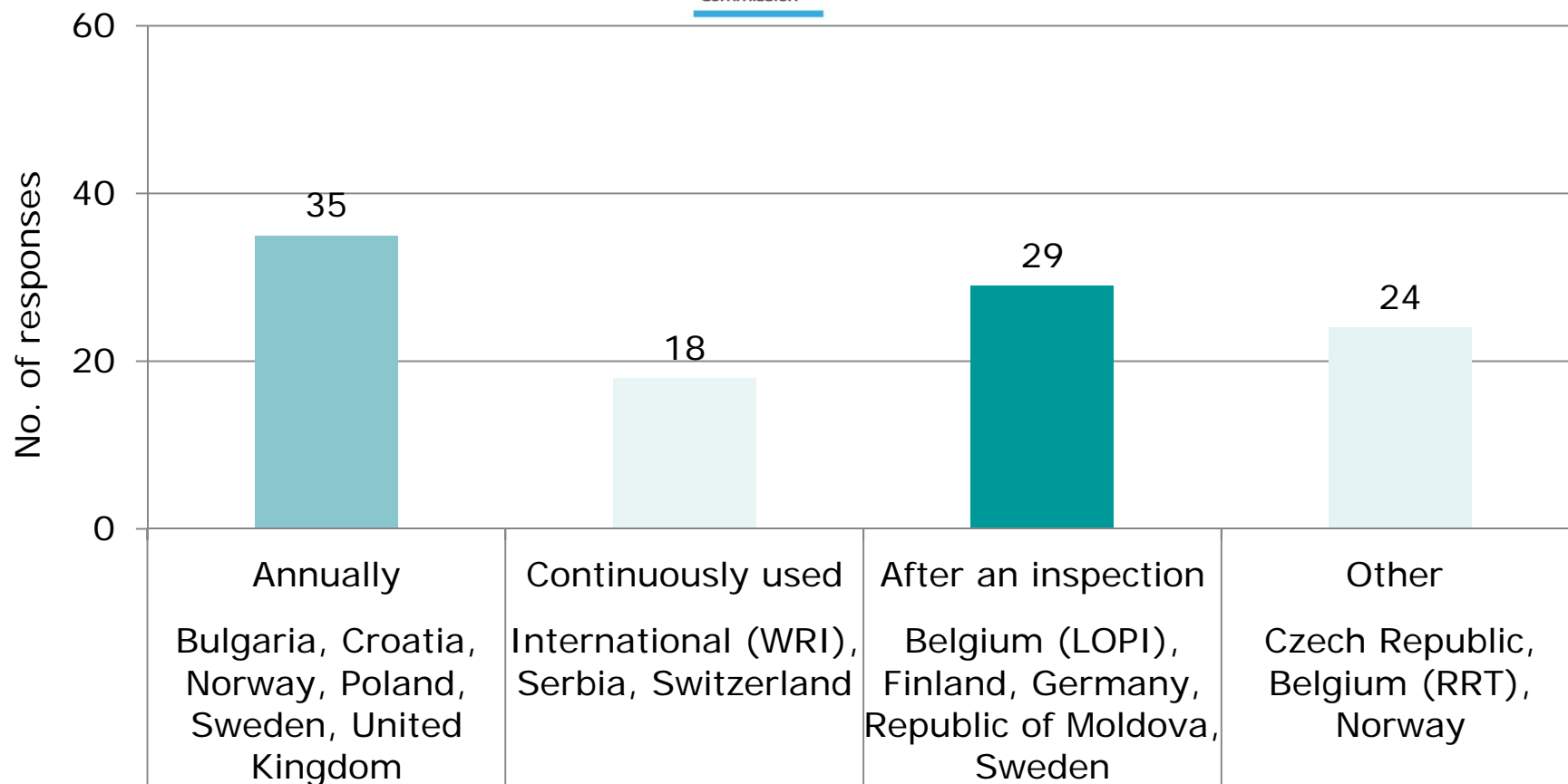
Systems of respondents distributed by different age groups

Availability by Language



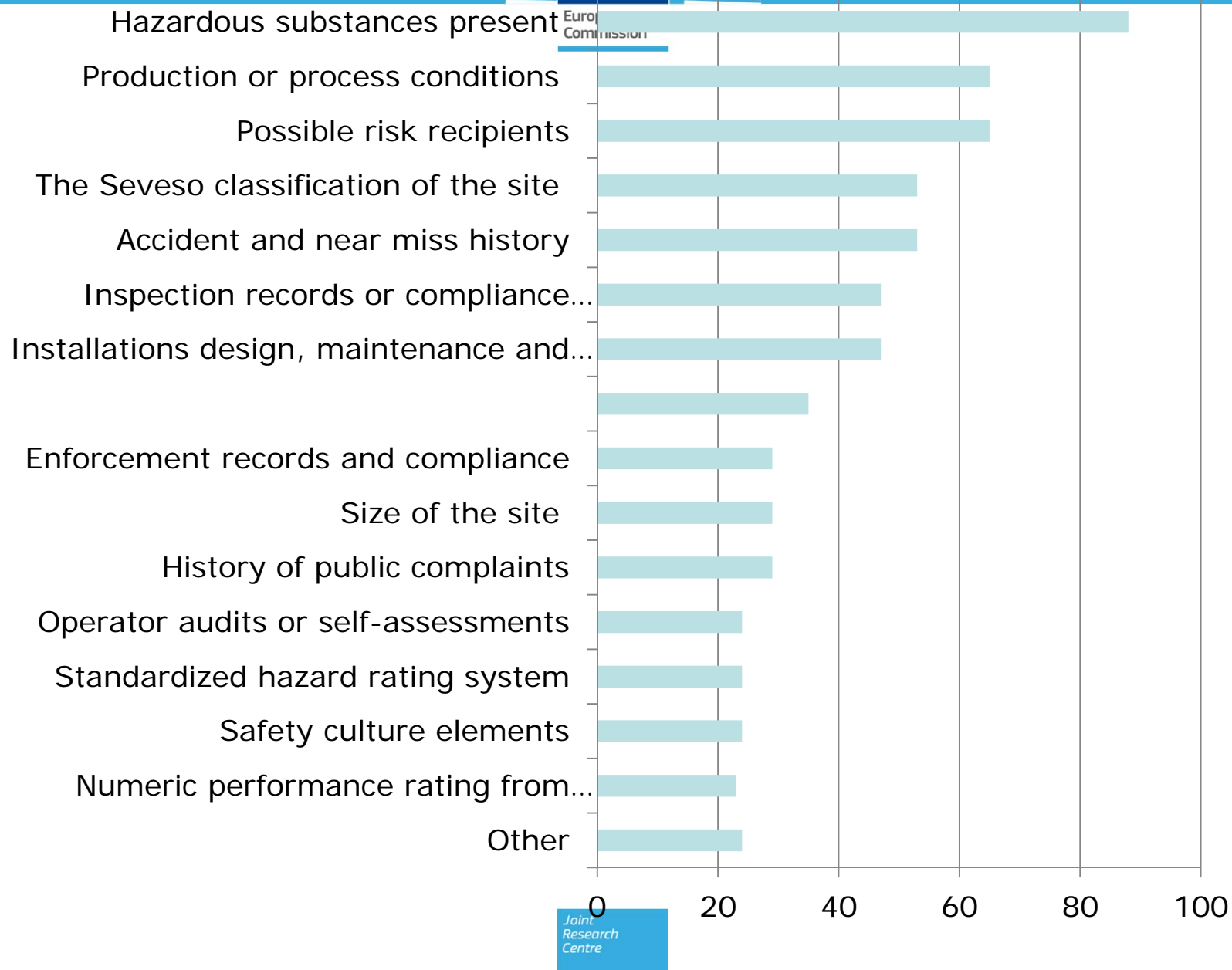
Language(s) of the hazard rating systems (N=14)

Frequency of application

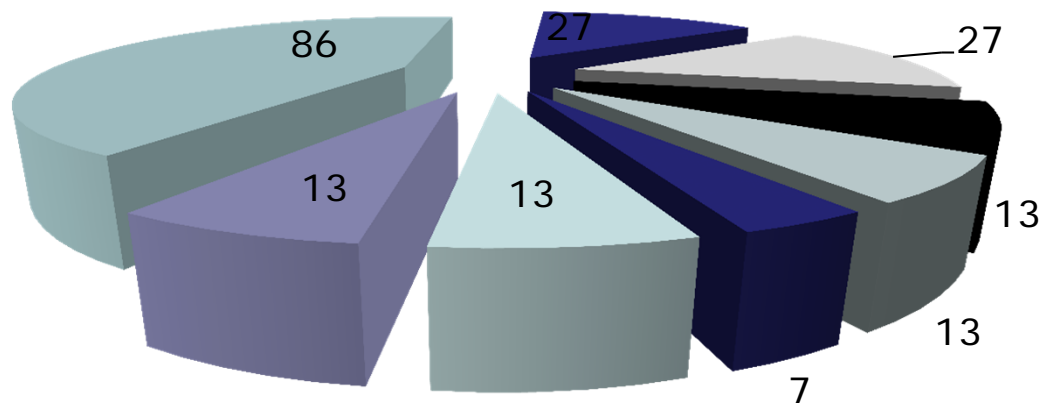


Frequency by which the hazard rating exercise is conducted (N=16)

Elements (Inputs) of the rating system



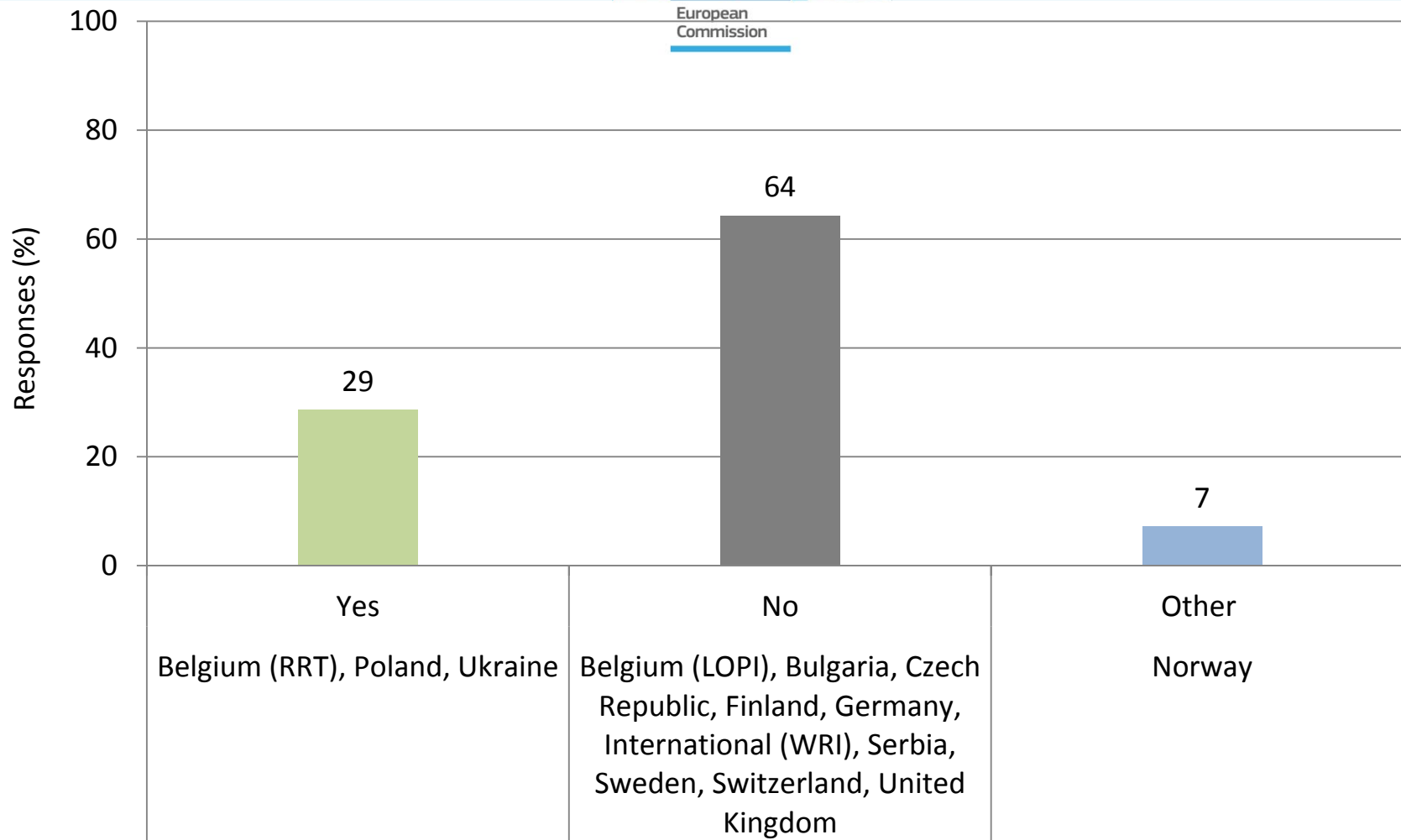
How output is defined



- Indicators are assigned to objective data
- Indicators or qualitative rankings developed from qualitative analysis
- Indicators or qualitative rankings developed from operator questionnaire
- Indexes used for interpretation
- Some data are generated using a proprietary software programme
- Some data are generated using a commercial software programme

Output of the system (N=16)

Use of IT or web-based tool



Availability status of IT or web-based tools (N=14)

Distribution and accessibility of outputs

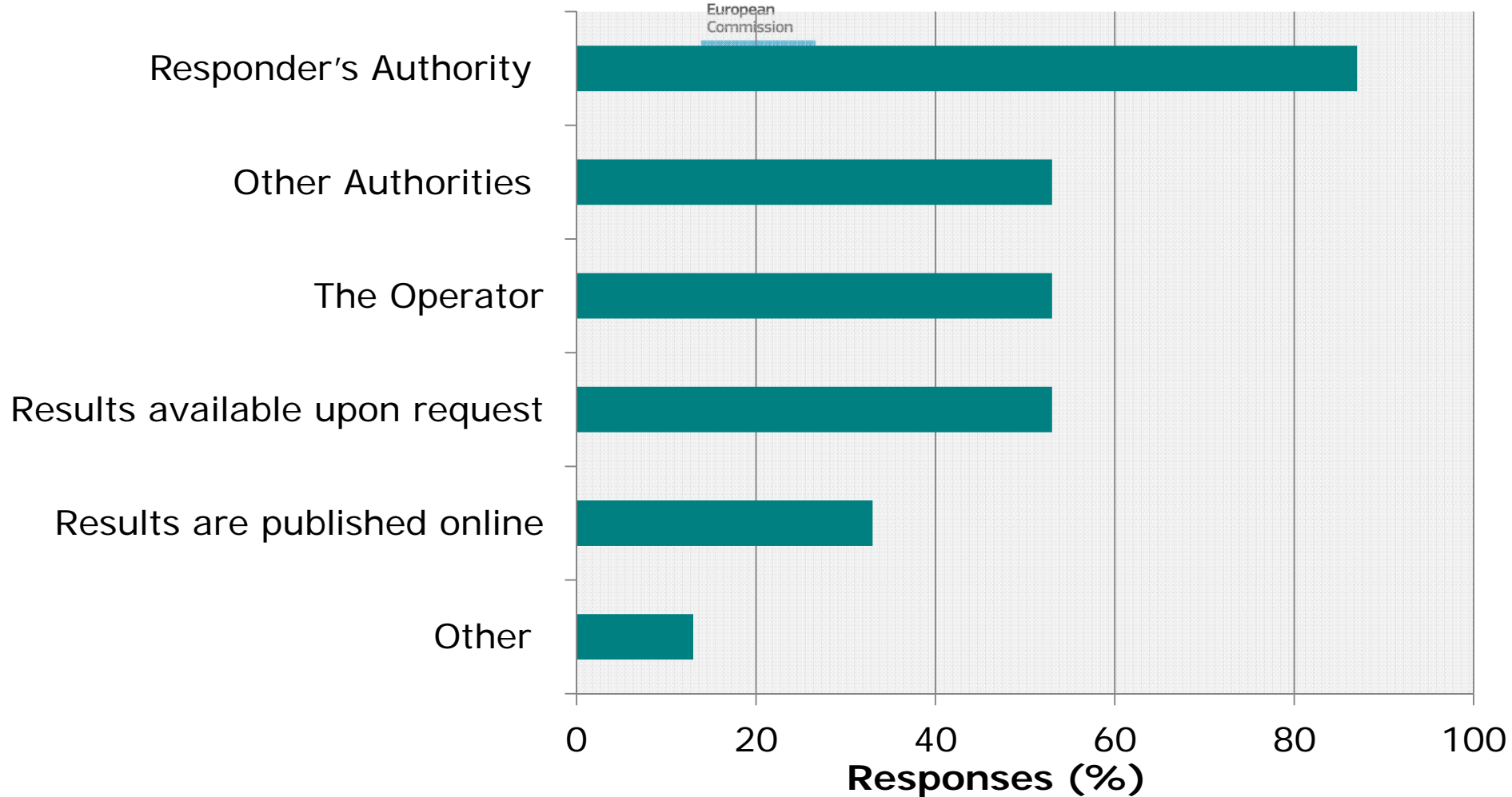
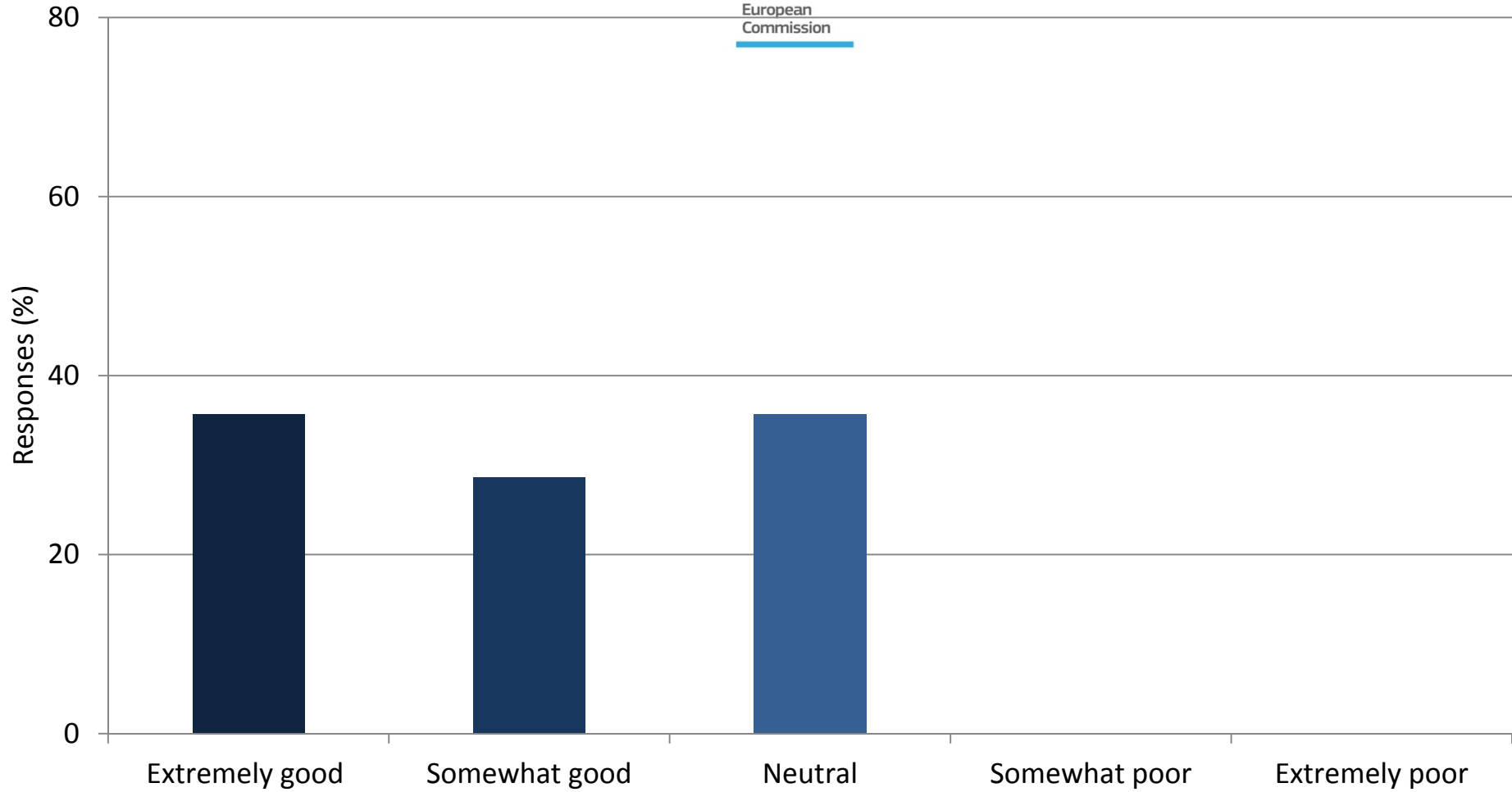


Figure 12: Recipients receiving a formal copy of results (N=15)

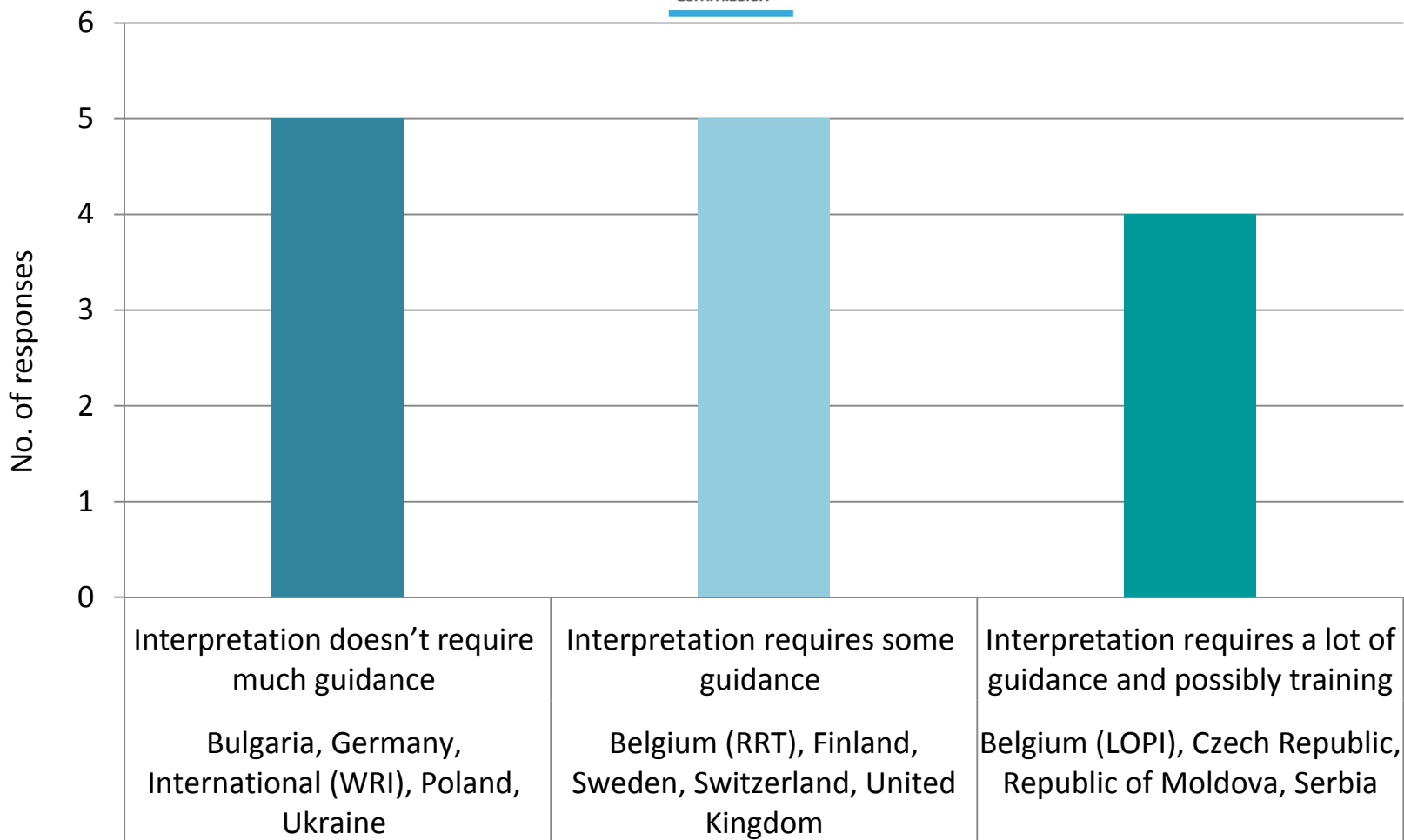


Opinion	Responses	Country
Very Satisfied	3	International (WRI), Switzerland, United Kingdom
Satisfied	5	Belgium (RRT), Bulgaria, Finland, Germany (Hessen), Poland
Neutral	5	Belgium (LOPI), Czech Republic, Serbia, Sweden, Ukraine
Unsatisfied	0	None
Very unsatisfied	0	None

Opinion on effectiveness of the system



Opinion on ease of application (N=13)



Transparency of the system results (N = 14)



Conclusions

Annex 1

CASE STUDY 1: UNITED KINGDOM

CASE STUDY 2: SWEDEN

CASE STUDY 3: BELGIUM - RRT

CASE STUDY 4: BELGIUM - LOPI

Annex 2

Copy of the survey

Annex 3

List of contacts (TBA)

Example - Case Study: United Kingdom (Excerpt from report)



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EVALUATION METHODOLOGY:

Prioritisation is based on the intrinsic site hazard and the performance of the site in managing major hazard risks. Two elements:

- a. A simple safety ranking scheme assigns numbers to 'unchanging' features about the site and the surrounding area. The site is given a base score that describes the main activity/type of site, which is then multiplied by a factor that reflects the density of the local population. Where the site presents a high 'societal' risk another multiplying factor is applied.
- b. The environmental rating system works in a very similar way: Numbers are attached to site type and multiplied by 'pathway' and 'sensitivity' factors to give the 'environmental' ranking score.

The safety and environmental scores are then combined to give an overall CA score/rank for the site. This remains relatively static, changing only when there are significant changes to inventories/ processes or the surrounding population/environment ...

Example - Case Study: Belgium Rapid Ranking Technique (Excerpt from report)



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EVALUATION METHODOLOGY

The Rapid Ranking Technique (RRT) consists in the calculation of two indices: a Fire and Explosion Index, measuring the hazards related to fire and explosions and a Toxicity index, measuring the hazard related to toxicity. The calculation of these two indices takes account of the following:

- the energy release potential of the hazardous substances involved;
- the toxicity release potential of the hazardous substances involved;
- the general process hazards, related to the chemical reaction involved, handling of the chemicals; and
- some specific process hazards related to process temperature, pressure and other process conditions.

Based on the Fire & Explosion and Toxicity Index, establishments are categorised into three categories ranging from low hazardous to high hazardous. Each hazard category is linked to a minimum inspection frequency ...



Thank you for your kind attention!