



# Accident and incident investigation, investigation body (requirements)

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# Accident and incident investigation, investigation body (requirements)

## Definitions

### Accident

means an unwanted or unintended sudden event or a specific chain of such events which have harmful consequences; accidents are divided into the following categories: collisions, derailments, level-crossing accidents, accidents to persons caused by rolling stock in motion, fires and others

### Incident

any occurrence, other than accident or serious accident, associated with the operation of trains and affecting the safety of operation

### Investigation

means a process conducted for the purpose of accident and incident prevention which includes the gathering and analysis of information, the drawing of conclusions, including the determination of causes and, when appropriate, the making of safety recommendations

Directive 2004/49/EC, Article 3 Definitions



## Purpose of accident investigation

**Serious accidents on the railway are rare. However, they can have disastrous consequences and raise concern among the public about the safety performance of the railway system. All such accidents should, therefore, be investigated from a safety perspective **to avoid recurrence...****

Directive 2004/49/EC, recital

**The investigation shall in no case be concerned with apportioning blame or liability.**

Directive 2004/49/EC, Article 19 (4)



**Aim: Prevention!**



## Requirements on the investigation body

- **Permanent** body
- At least **one** investigator-in-charge
- **Independent** from
  - Infrastructure manager
  - Railway undertaking
  - Charging body
  - Allocation body
  - Notified body
  - Any other party whose interests could conflict
- **Functional independence** from
  - Safety authority
  - Regulator of railways

Directive 2004/49/EC, Article 21



## Obligation to investigate

**Member States shall ensure that an investigation is carried out by the investigating body referred to in Article 21 after **serious accidents** on the railway system, the objective of which is possible improvement of railway safety and the prevention of accidents.**

Directive 2004/49/EC, Article 19



**There is a legal obligation to investigate serious accidents!**



## Definition of serious accident

### **serious accident**

means any train collision or derailment of trains, resulting in the **death of at least one person** or **serious injuries to five or more persons** or **extensive damage** to rolling stock, the infrastructure or the environment, and any other similar accident with an obvious impact on railway safety regulation or the management of safety; '**extensive damage**' means damage that can immediately be assessed by the investigating body to cost **at least EUR 2 million** in total

Directive 2004/49/EC, Article 3 I



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## Obligation of investigation under Article 19 (1)

	Accident with	Obligation to investigate under 19 (1)
Train collision	<ul style="list-style-type: none"><li>• <math>\geq 1</math> fatality</li><li>• <math>\geq 5</math> serious injuries</li><li>• damage estimated <math>\geq 2</math> million euro</li></ul>	Always
Derailment of trains		
Level-crossing accident		Only, if there is an obvious impact on railway safety regulation or the management of safety
Accident caused by rolling stock in motion		
Fire in rolling stock		
Other		



## Investigation of other accidents and incidents

- **No legal obligation**
- **Investigation body shall decide whether or not to investigate**
- **In its decision it shall take into account:**
  - **The seriousness of the accident or incident**
  - **If it forms part of a series of events with system relevance**
  - **Its impact on safety at EU level**
  - **Requests from RU, IM, NSA or Member States**





## Investigation of other accidents and incidents

No obligation, **BUT**

experience shows that very often serious accidents

- Were „announced“ by similar accidents or incidents which didn't have serious consequences
- Might have been avoided if these similar accidents or incidents would have been investigated sufficiently

From ERA-viewpoint accidents and incidents should be investigated if there is indication about systematic deficiencies, in technical systems as well as in relation to safety management and regulation



## The investigation process

### Principles of the investigation process

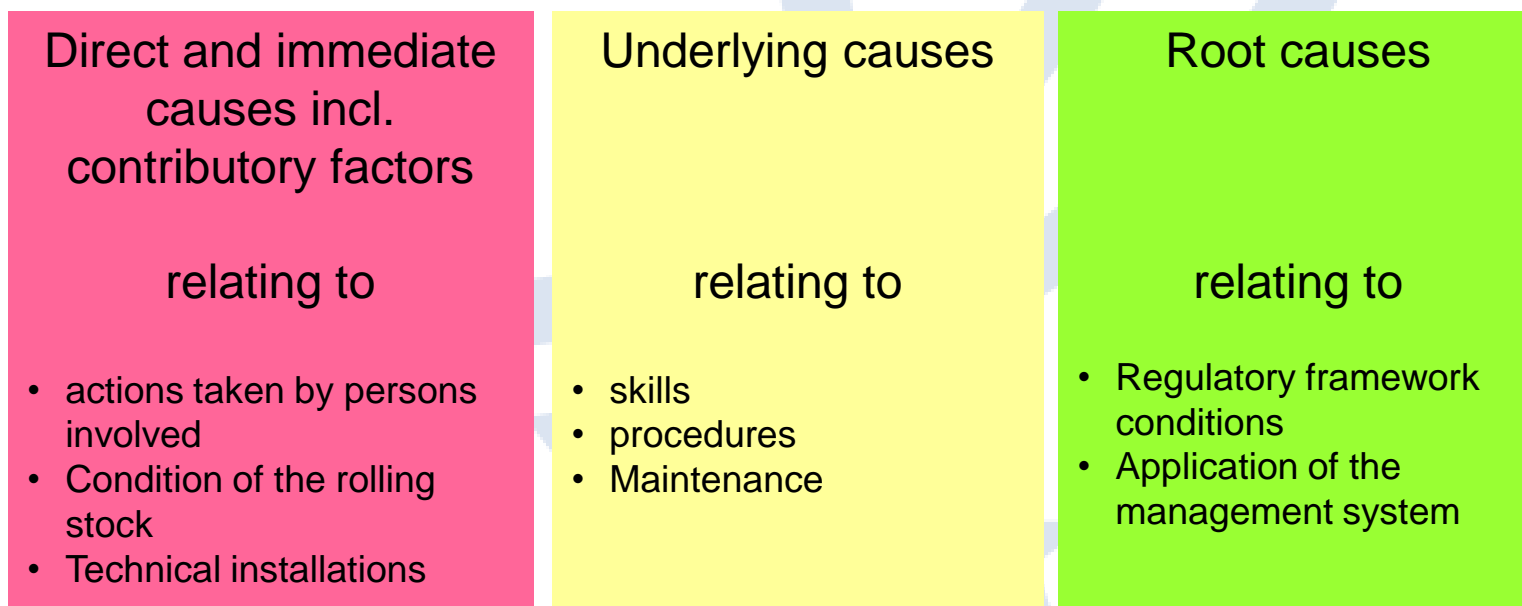
- **Answer to the questions:**
  - **What happened?**
  - **Why did it happen?**
  - **What can we do to prevent that it happens again?**
- **Conducted in four main stages**
  - **Fact-finding**
  - **Analysis**
  - **Conclusions**
  - **Possible recommendations**

Directive 2004/49/EC, Annex V



## The investigation process

### Determination of Causes



Directive 2004/49/EC, Annex V



## The investigation process

### Recommendations

Recommendations shall be addressed to the **safety authority** and, where needed by reason of the character of the recommendation, to other bodies or authorities in the Member State, or to other Member States.

The safety authorities or other bodies to which recommendations have been addressed, shall report back on measures that are taken or planned as a consequence of the recommendation.

Directive 2004/49/EC, Article 25 (2)



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**Thank you for your attention!**

