

# INVESTIGATION AND REGISTRATION OF INDUSTRIAL ACCIDENTS

**PhD in Management  
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Development trends and concepts of the theory of industrial accident investigation and registration

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Principles, types and registration stages of industrial accidents

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# Industrial accidents and occupational diseases

## Current situation of Industrial accidents and occupational diseases



**1,900,000**

An average of 1.9 million people die each year from industrial accidents and occupational diseases

Whereas ...

Occupational disease **88%**

Industrial accidents **12%**

**Total injured**  
**310**

An average of 310 million people are injured at work each year.



**15 cek**

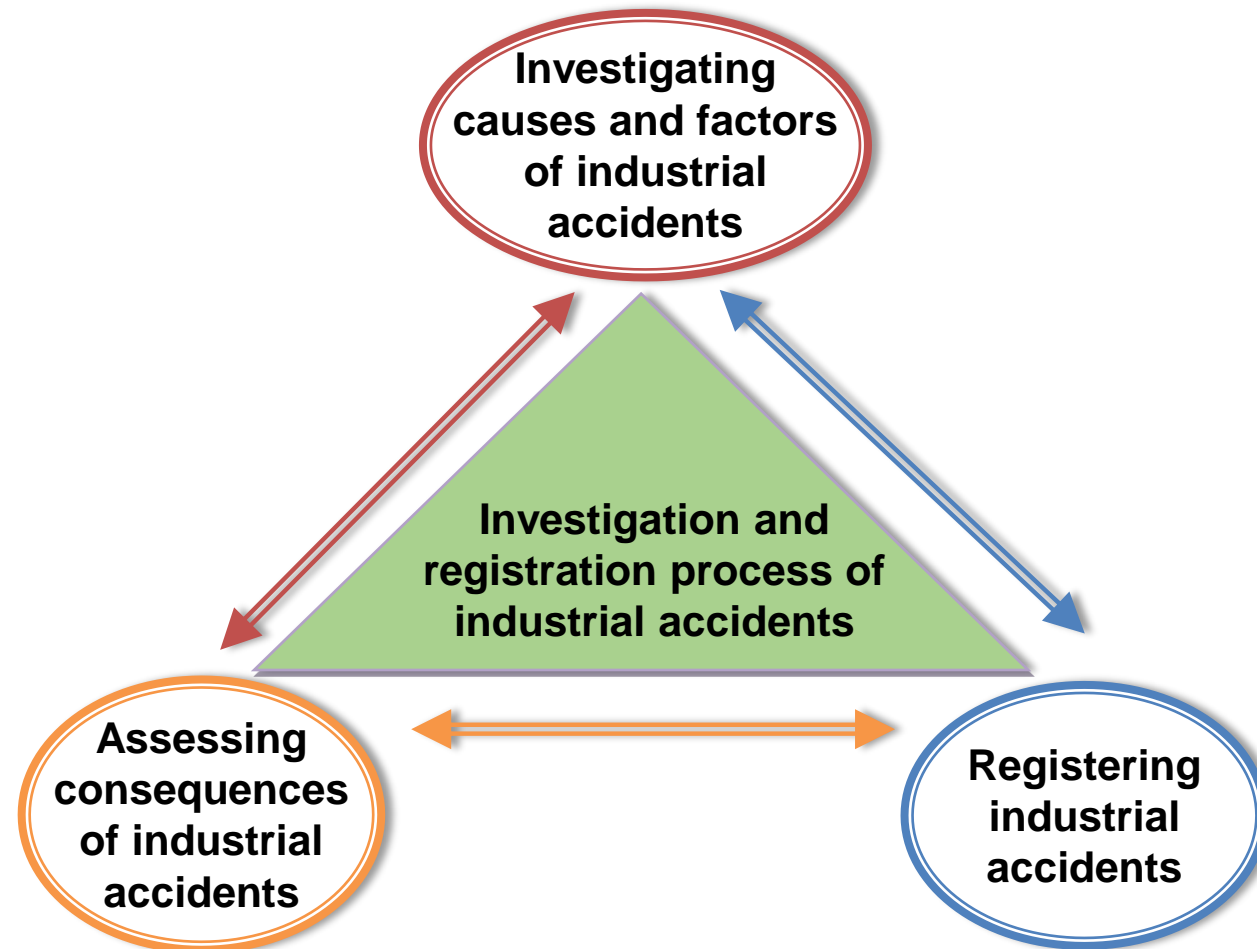
One person dies in 15 seconds due to industrial accident, occupational disease.



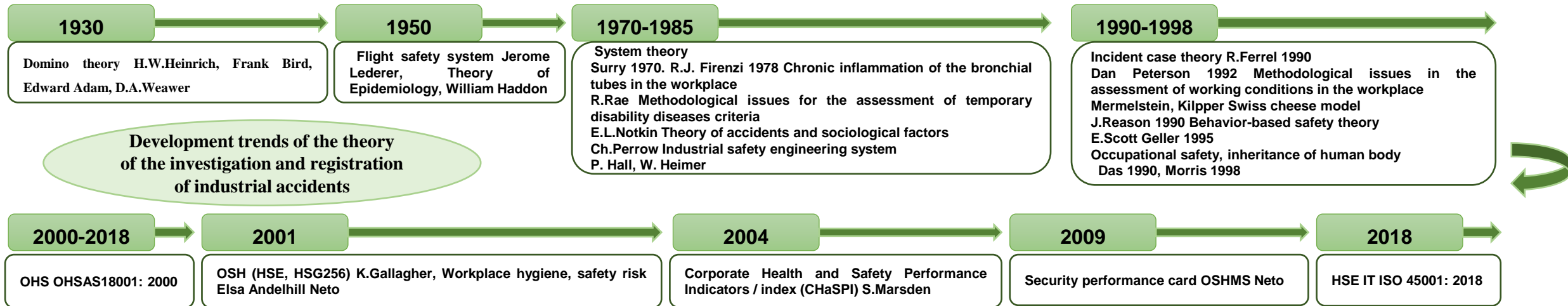
**15 cek**

In 15 seconds, 150 people are injured in any workplace.

## Principles of investigating and registering industrial accidents



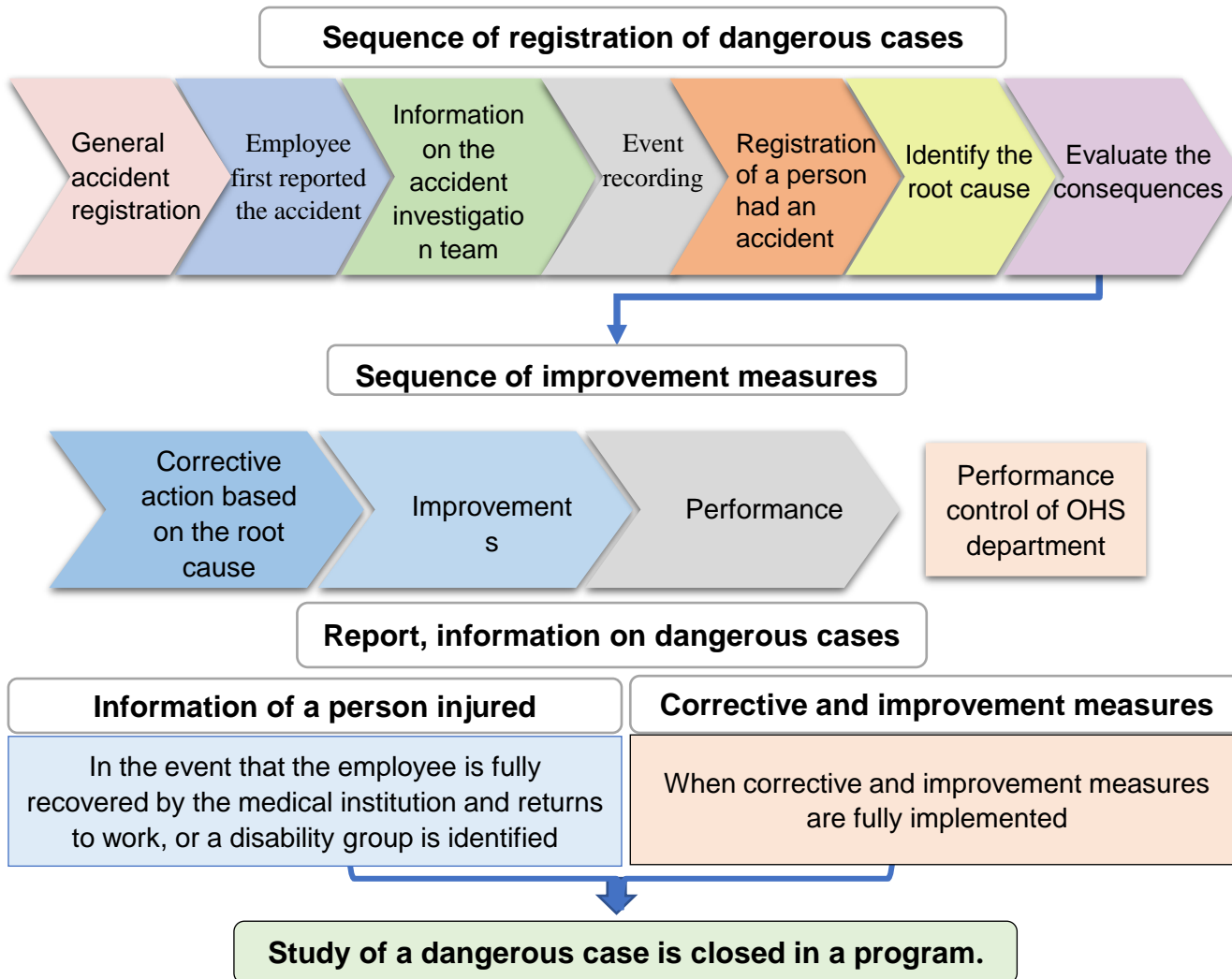
# Development and trend of a theory on investigation and registration of industrial accidents



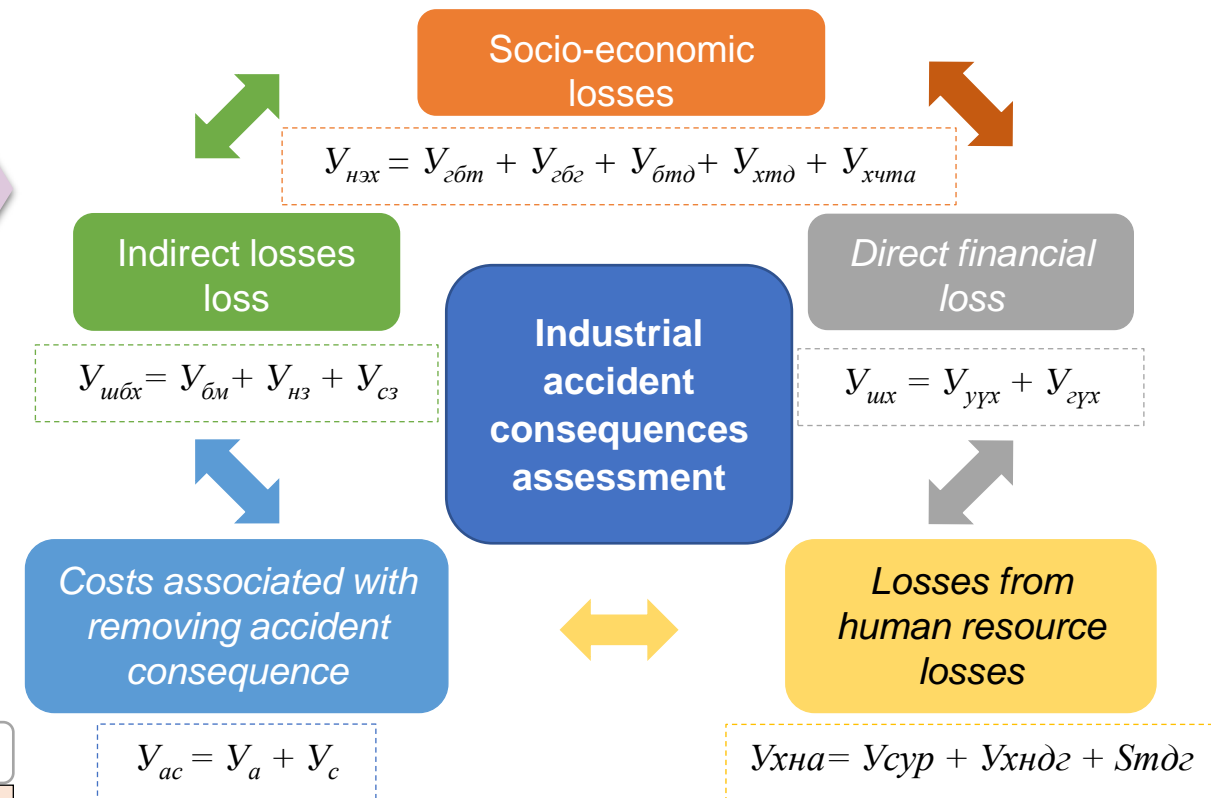
## Methodological concept for studying the root causes of industrial accidents

Scientists	Theory, principle	Advantage
1930, Sakichi Toyada "5w or 5 why" methodology for determining the action and circumstances of an accident	In order to determine the actual action and circumstances of the accident, the victim is asked the "Why" question, which can be answered in several ways, depending on the actions and circumstances of the accident.	The question of "why" is asked in the context of the events and circumstances of the time. -The question of "why" continues until it is not answered. -When the question "why" is not answered, the following points have been clarified: Appropriate monitoring point / Organizational factors /; Whether there is anything beyond the organization's control and capabilities; Additional information is collected to determine if there is a need to answer the "why" question.
1975, J.Ross.Quinlan "Wood modeling" methodology to study the root cause of the accident	The analysis of the cause of the accident should focus on three areas: direct and indirect causes and root causes. The direct cause of the accident determines the following hazards. These include: - Environment - Equipment - Materials, etc. Indirect causes identify dangerous conditions or human-related causes.	Identify the following causes of industrial accidents: Control Quality of training Methodology, etc.
1994James ReasonICAM methodology for investigating the root cause of an accident	Investigate the accident to prevent recurrence and reduce risk. Ask questions and get answers on each of the factors that contributed to the accident. These include: 1. Organizational factors, rules and regulations. 2. Environmental and workplace conditions. 3. Individual and team actions. 4. Equipment, security and control systems.	Recommendations are made including short-term and long-term responses, correcting and creating non-existing and deficiencies, organizational factors, and so on
1980 Geoff McDonald "8 steps to determine the direct cause of the accident or hazardous factors" methodology	The factors that contribute to an accident are identified in the following three areas in eight steps based on control rather than the root cause of the accident. These include: - Man - Equipment - Environment	The main goal of accident research is to make changes and work on tactics with the goal of controlling one major risk per year.

# Model of industrial accident registration process



# Methodology to assess industrial accident consequence

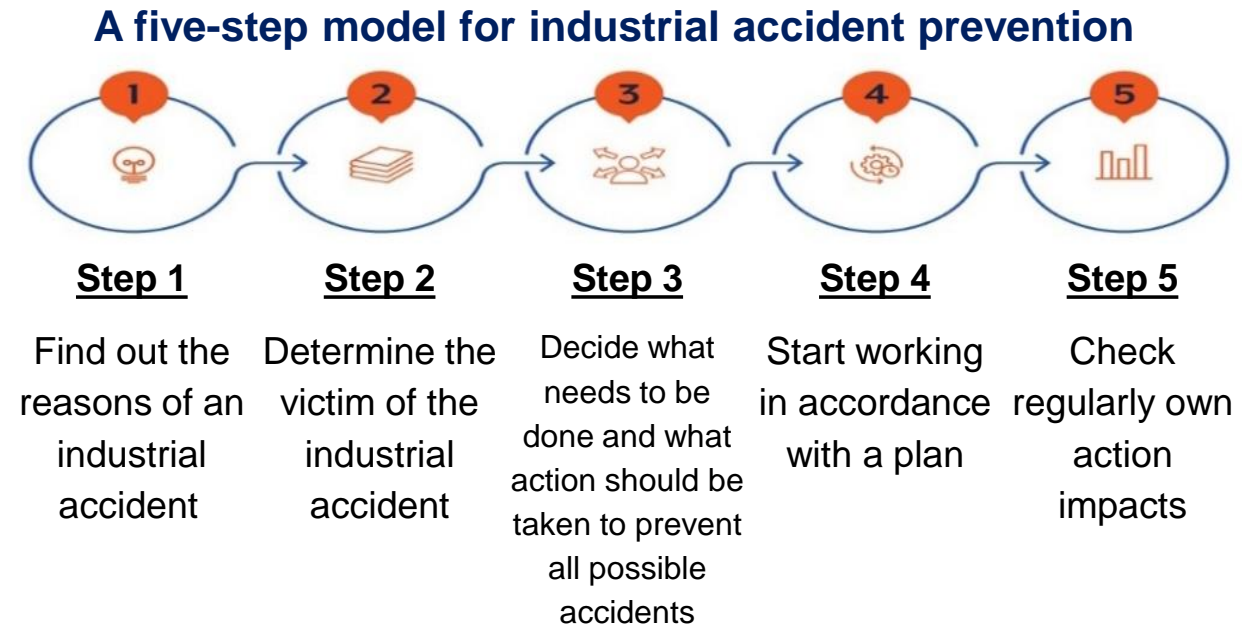


**Source: Developed by a researcher**

## Stages of industrial accident investigation and registration



## A five-step model for industrial accident prevention



*Source: Developed by a researcher*

Registering and identifying the causes of industrial accidents is not only important in many ways, but also helps to prevent their recurrence in the future. This includes:

Measuring the level of industrial accidents,

Optimizing the process of OSH risk management system,

It is related to the improvement of OSH risk management methods.

In addition, estimating and assessing the consequences of an industrial accident in the organization will allow the organization to more accurately identify and plan occupational safety and health costs.

The registration and reporting of industrial accidents allows for the detection and prevention of accidents.

*Source: International Labor Organization*

**PRACTICAL  
SIGNIFICANCE**