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Research Reactors: Safe
Management and Effective
Utilization**

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Nuclear Regulatory Authority - Argentina



Causal Factors Guide for the Evaluation of Accidents in Research Reactors

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Regulatory control criteria

- > Prevention
- > Process evaluation
- > Management of Operational Experience



Regulatory control criteria

- > Prevention
 - Evolution of parameters and conditions
 - Detection of precursors
 - Preventive actions



Regulatory control criteria

- > Process evaluation (3 components)
 - Equipment and systems,
 - documents and procedures,
 - human factors



Regulatory control criteria

- > Management of Operational Experience
 - Evaluation of events and abnormal situations
 - determination of causal factors,
 - definition of corrective measures,
 - control of application of these measures





Management of operational experience:

With the purpose of management, two types of events have been classified:

- Low Level Events
- High Level Event



Management of operational experience: (Analytical event reports)

Weaknesses observed

- Depth of analysis:
tendency to identify direct causes but not root causes,
- Scope of analysis:
tendency to identify only internal faults,
- Spectrum of analysis:
Lack in the identification of contributor factors



Management of operational experience: (Analytical event reports)

Corrective Measures

- The reactors personnel was trained in techniques related to analysis of events

A guide was written for the evaluation of events, and the reactors personnel was trained in its use

A guide was written for the evaluation of causal factors, and the reactors personnel was trained in its use





GUIDE OF CONTENT: ANALYTICAL REPORTS OF EVENTS

1. DESCRIPTION OF EVENT

- General reactor information
- Identification of systems, components and/or devices involved in the incident
- Status of the reactor prior to the incident; tasks under development



GUIDE OF CONTENT: ANALYTICAL REPORTS OF EVENTS

2. INVESTIGATION OF THE EVENT

- Collection of data and information
- Analysis of data and information

Description of Facts

Evaluation of causal factors

Presentation of conclusions and summary of root causes.



GUIDE OF CONTENT: ANALYTICAL REPORTS OF EVENTS

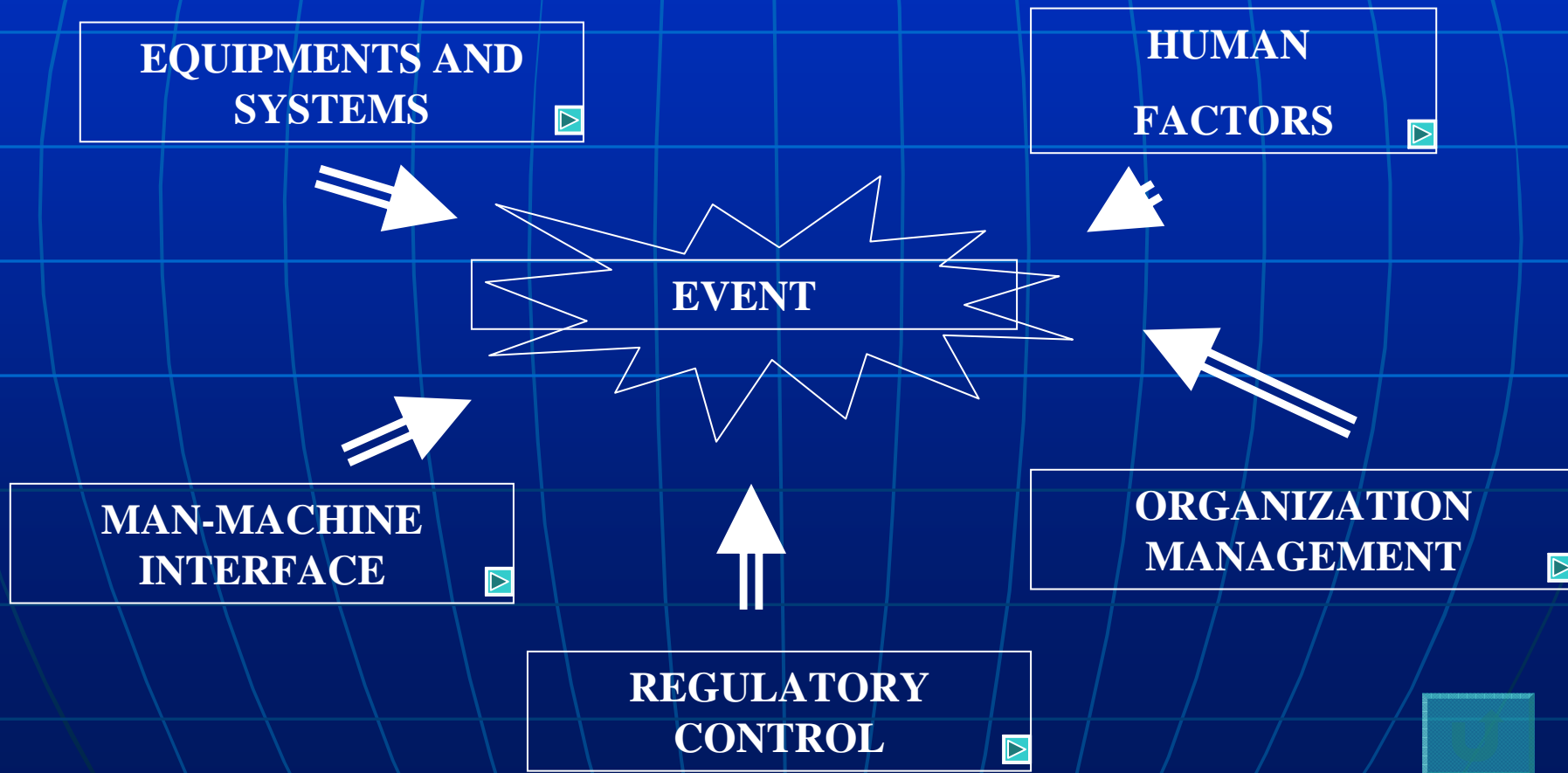
3. MANAGEMENT OF CORRECTIVE ACTIONS

- Equipment and systems
- Personnel
- Procedures
- Management and supervision



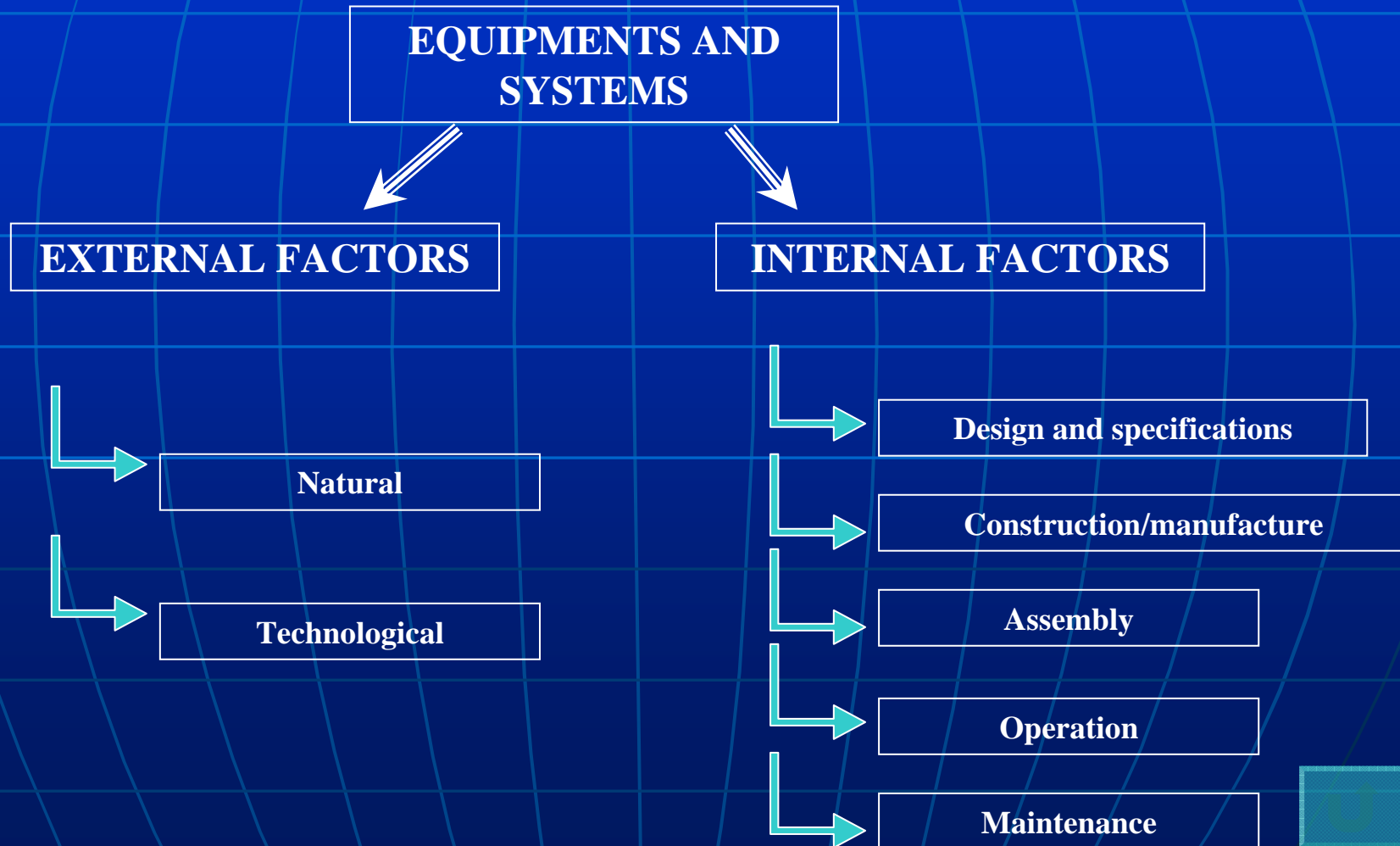


GUIDE OF CAUSAL FACTORS



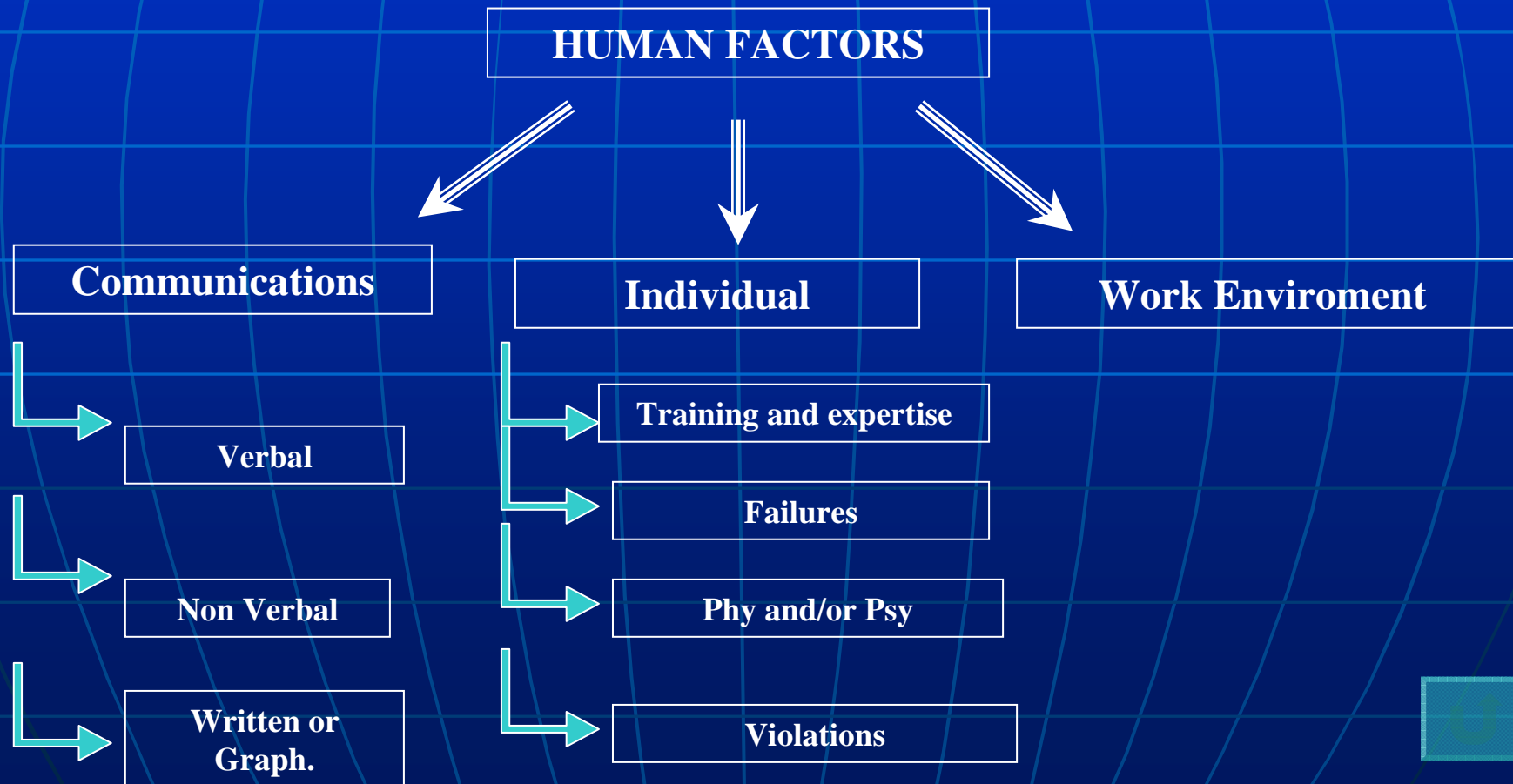


GUIDE OF CAUSAL FACTORS



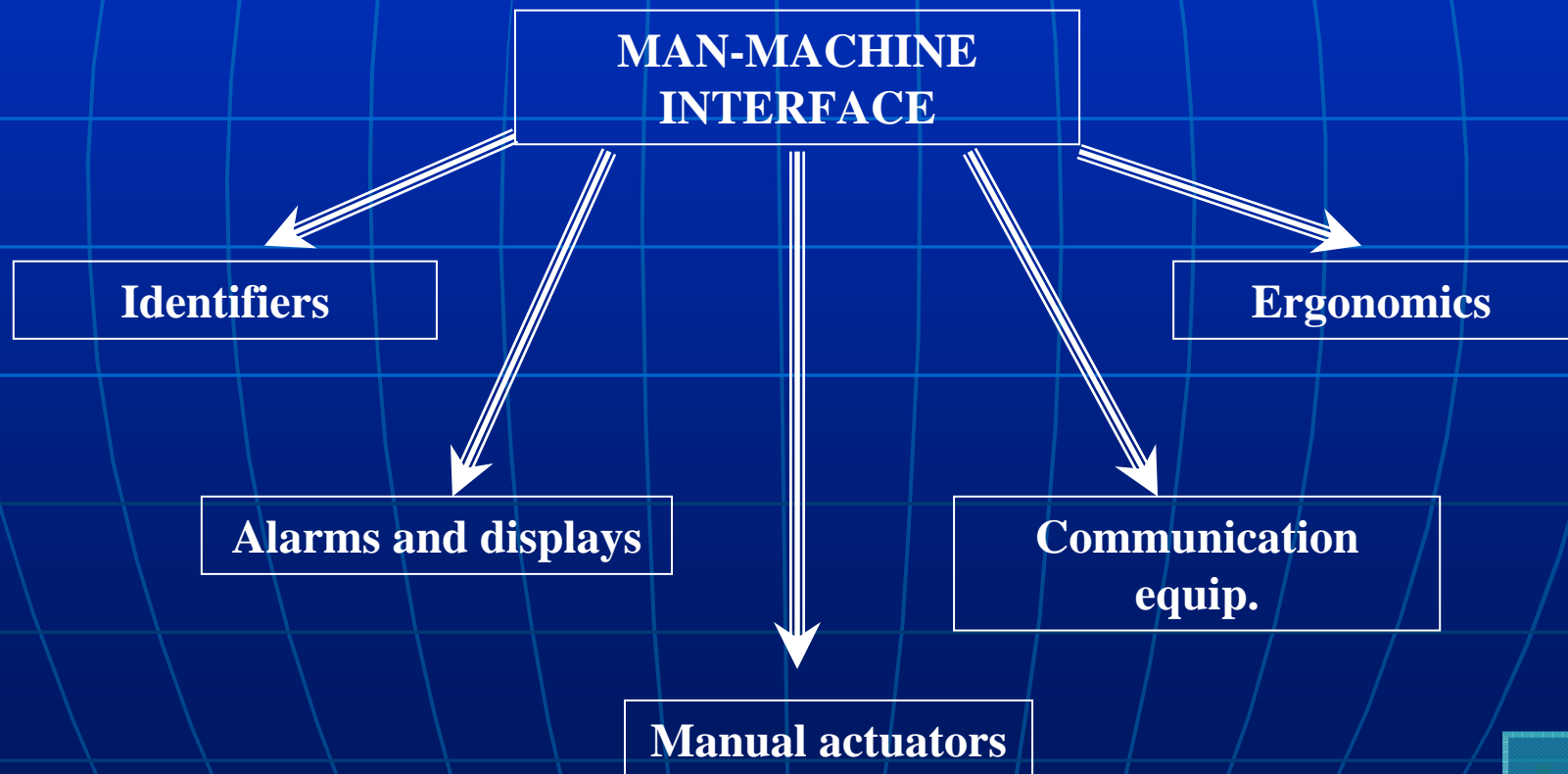


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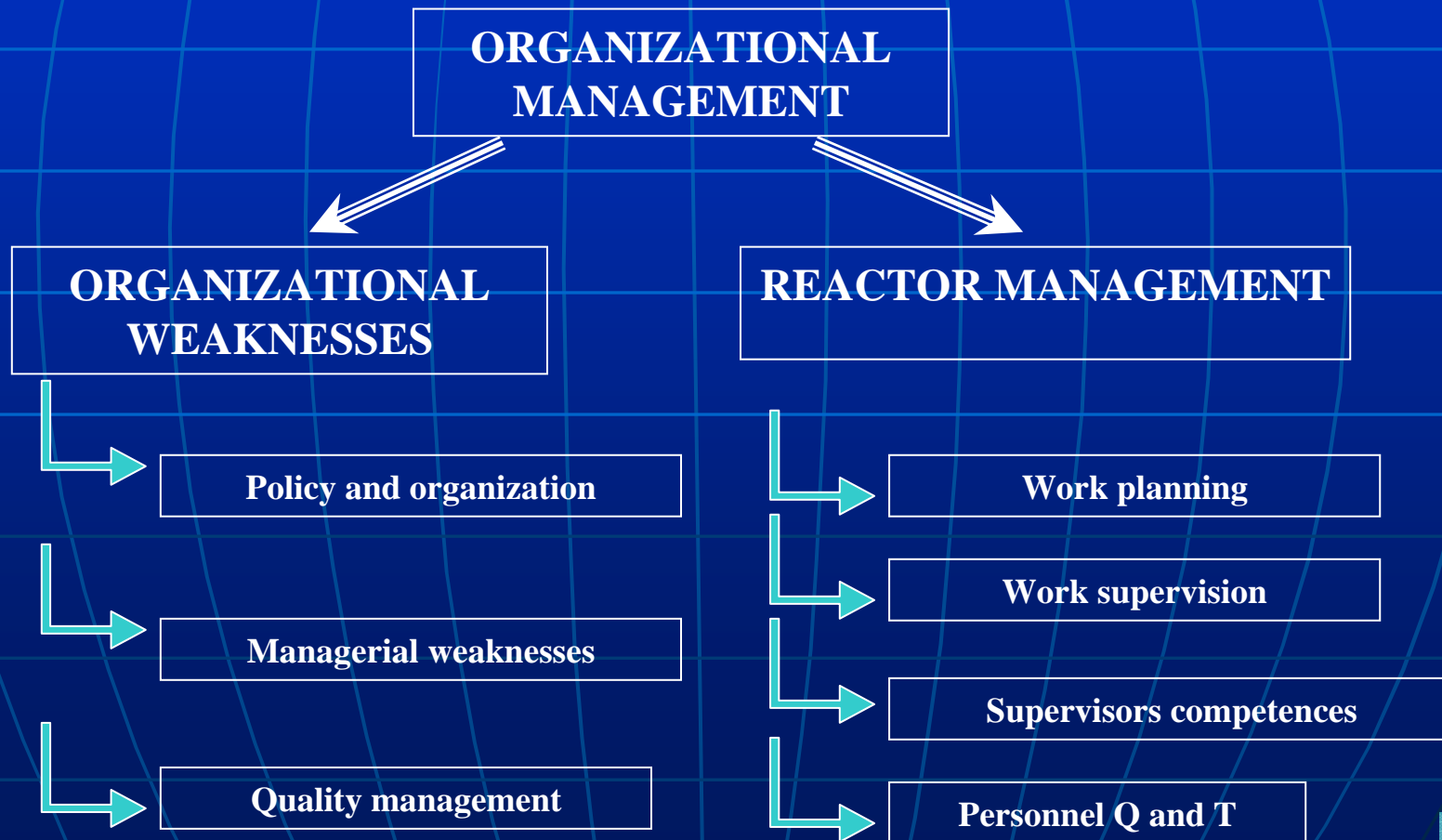


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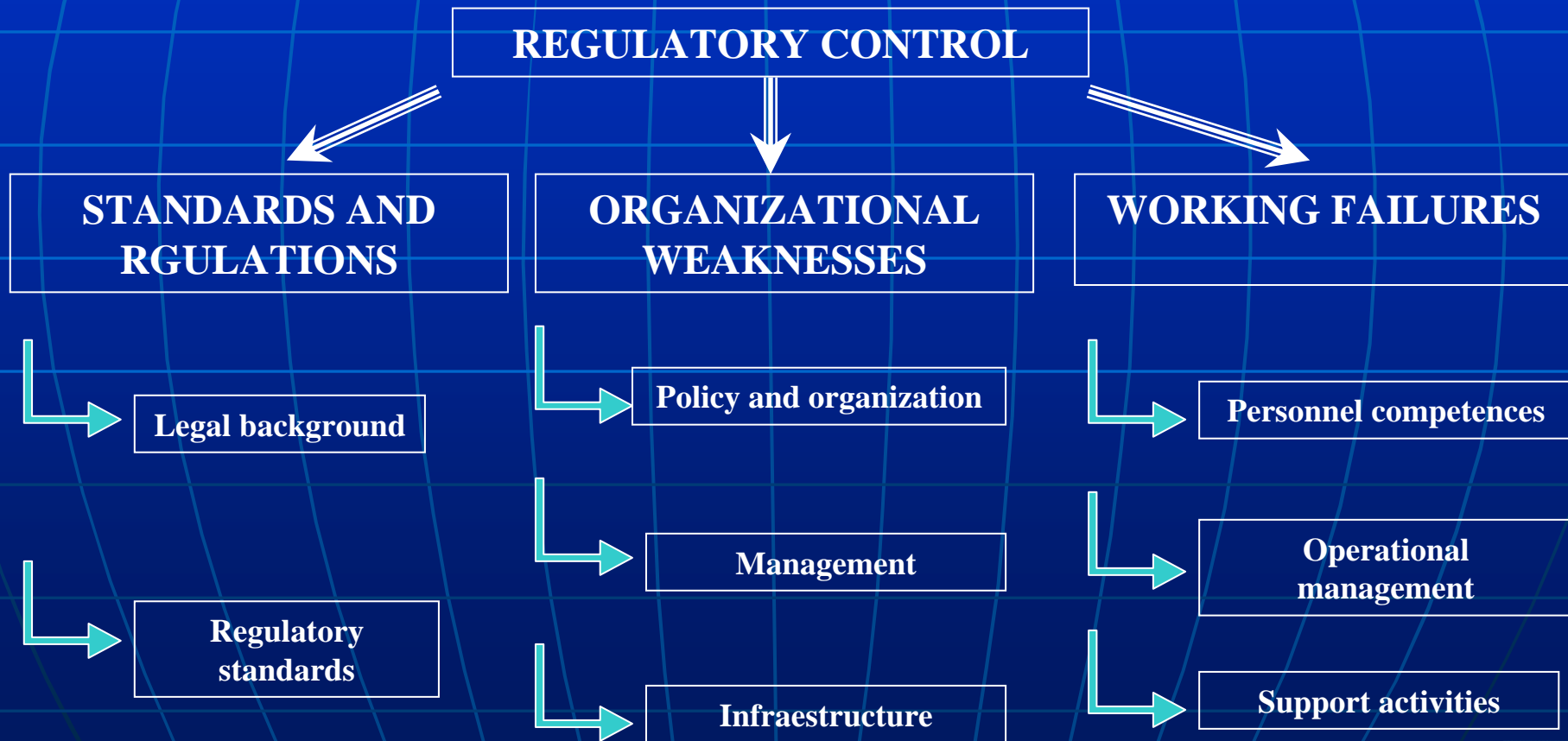


GUIDE OF CAUSAL FACTORS





GUIDE OF CAUSAL FACTORS





Conclusions

- Investigation and managing of events improves safety
- The armonization of the IME process is a need (guides and procedure)
- IME is an important and usefull regulatory tool



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**Thank you for your
attention**