



IRIS – Integrated European Industrial Risk Reduction System  
CP-IP 213968-2



# Seventh Framework Program

## Searching for Synergies among European R&D Projects

Helmut Wenzel

iNTeg-Risk Conference, Stuttgart, 2. June 2009



# IRIS CP-IP 213968-2



- **Coordinator:**  
VCE Holding GmbH
  
- Collaborative Project
- Large Scale Integrating Project
- NMP-2007-3.1-3
  
- **Start date:** 1 October 2008
- **End date:** 31 March 2012
- **Duration:** 42 months
- **Budget:** 26 000 000 Euro
- **EC Contribution:** 8 499 950 Euro

# European Partnership



Integrated European Industrial  
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Project Management



# IRIS Objectives

- **Total Safety of Industrial Systems and Networks**
- **Integrated Methodologies for pioneering Risk Assessment and Management**
- **New Knowledge-based Safety Concepts**
- **Knowledge and Technologies for Risk Identification and Reduction**
- **Demonstration & Technology Transfer**
- **Standardization & Training Activities**

# Demonstration 2008





# Scope of Risks addressed



# Scope of Risks addressed



# Scope of Risks **not** addressed





# Scope of Risks **not** addressed



# Scope of Risks **not** addressed



# Scope of Risks **not** addressed





# Scope of Risks **not** addressed



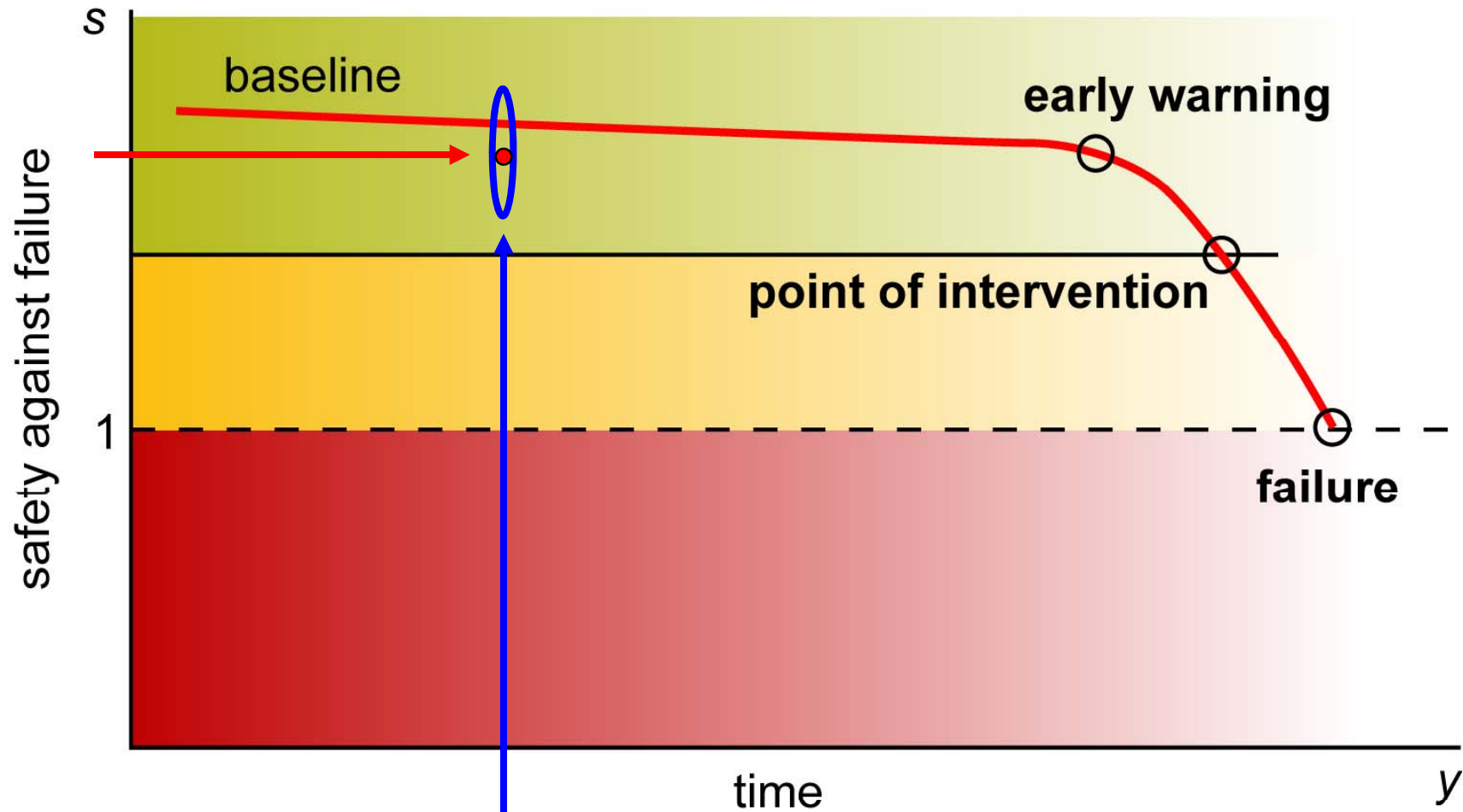
# Progressive Damage Test S101



**Bewerten der sukzessiven Schädigung hinsichtlich Auswirkung auf diverse dynamische Zustandsgrößen (Kooperation mit Universität Tokio)**



# Damage Assessment and Allocation

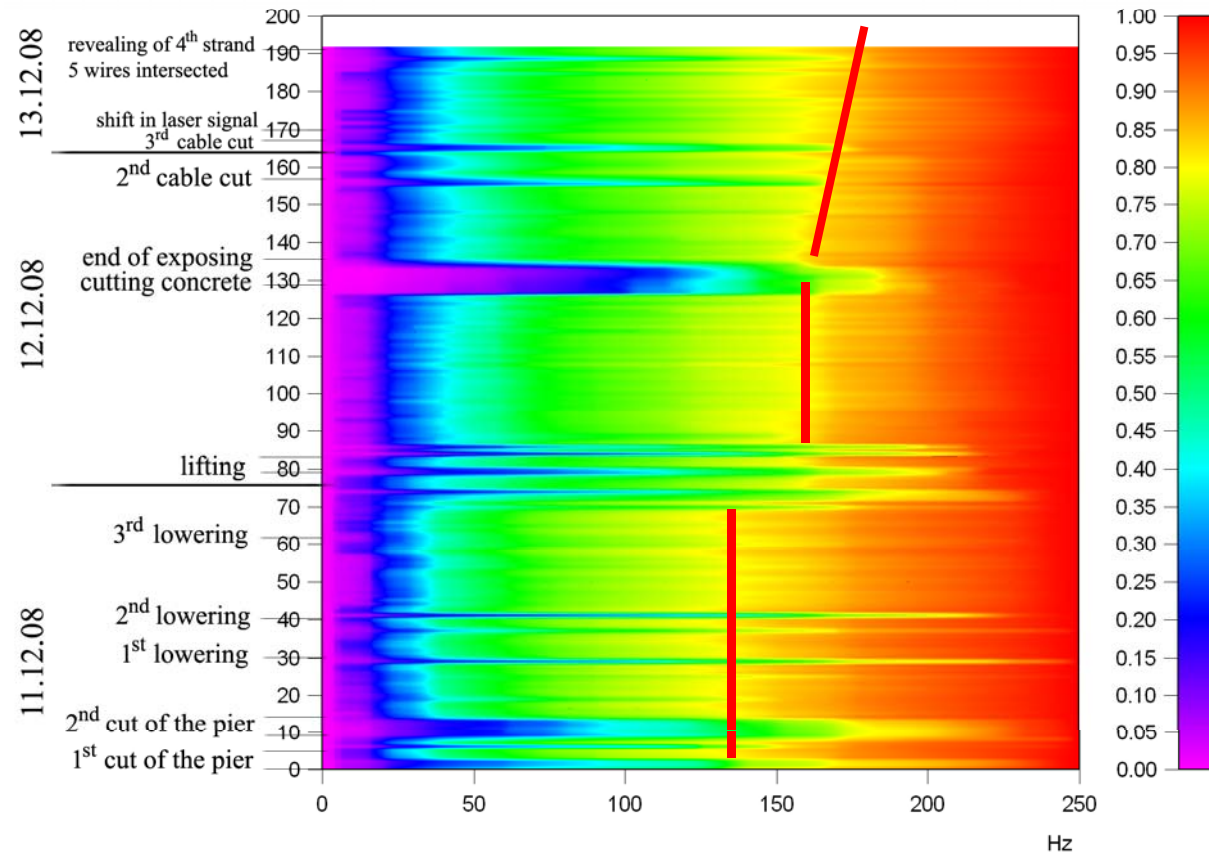


# Accumulated Energy Function



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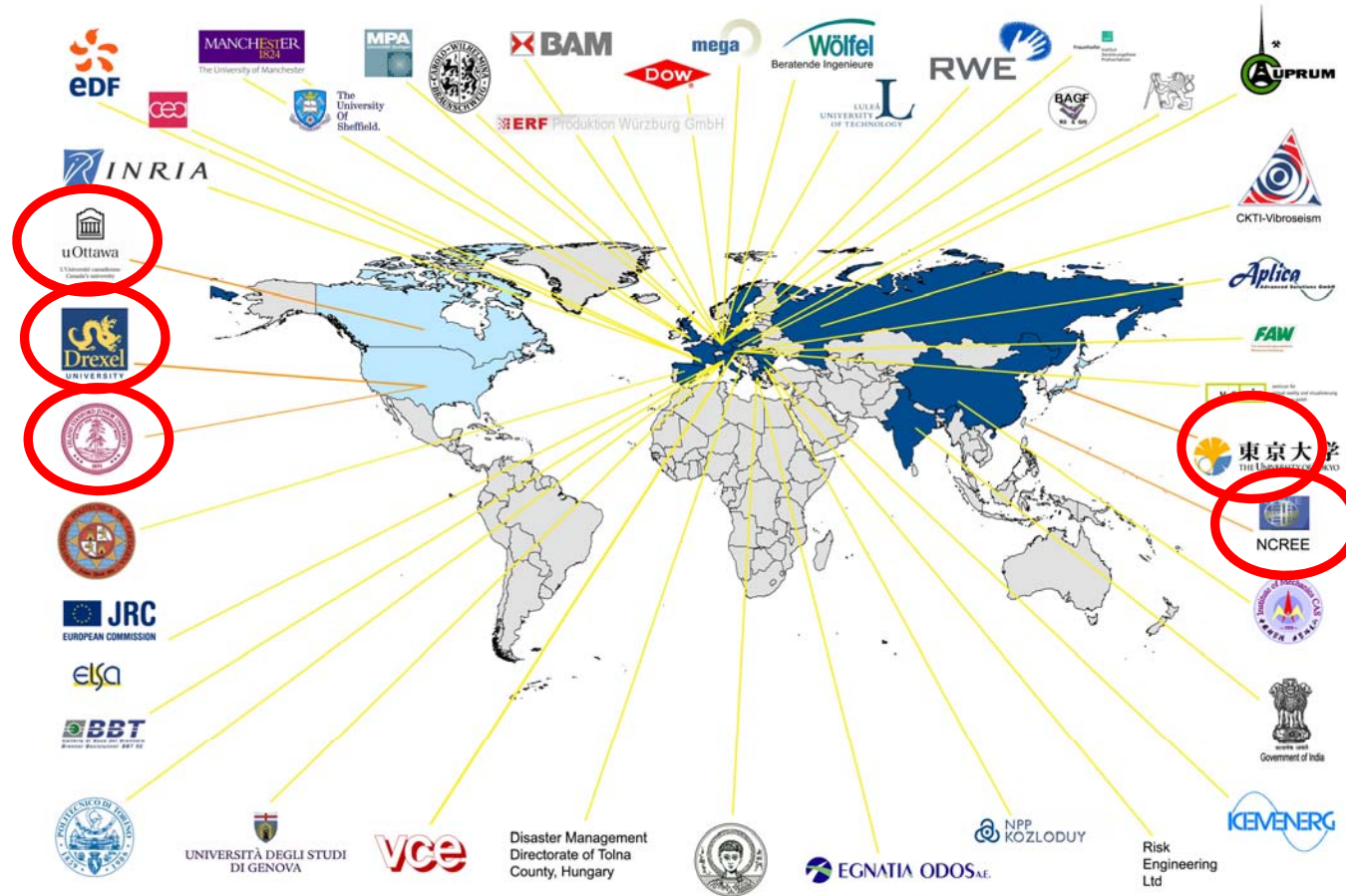


# IMS Partnership



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Project Management



# Scope of Risks addressed





# GIPP Activities

- **Activity 1: Real Time Decision Support System (EU Team lead)**
- **Activity 2: Infrastructure Asset and Risk Management Research (U.S. Team lead)**
- **Activity 3: Global Bridge Performance Project (U.S. Team lead)**
- **Activity 4: Structural Health Monitoring (SHM) and Damage Detection (Japanese Team lead)**
- **Activity 5: Erection and operation of a full scale Test Bed (U.S. Team lead)**
- **Activity 6: Outreach and Administration (All)**



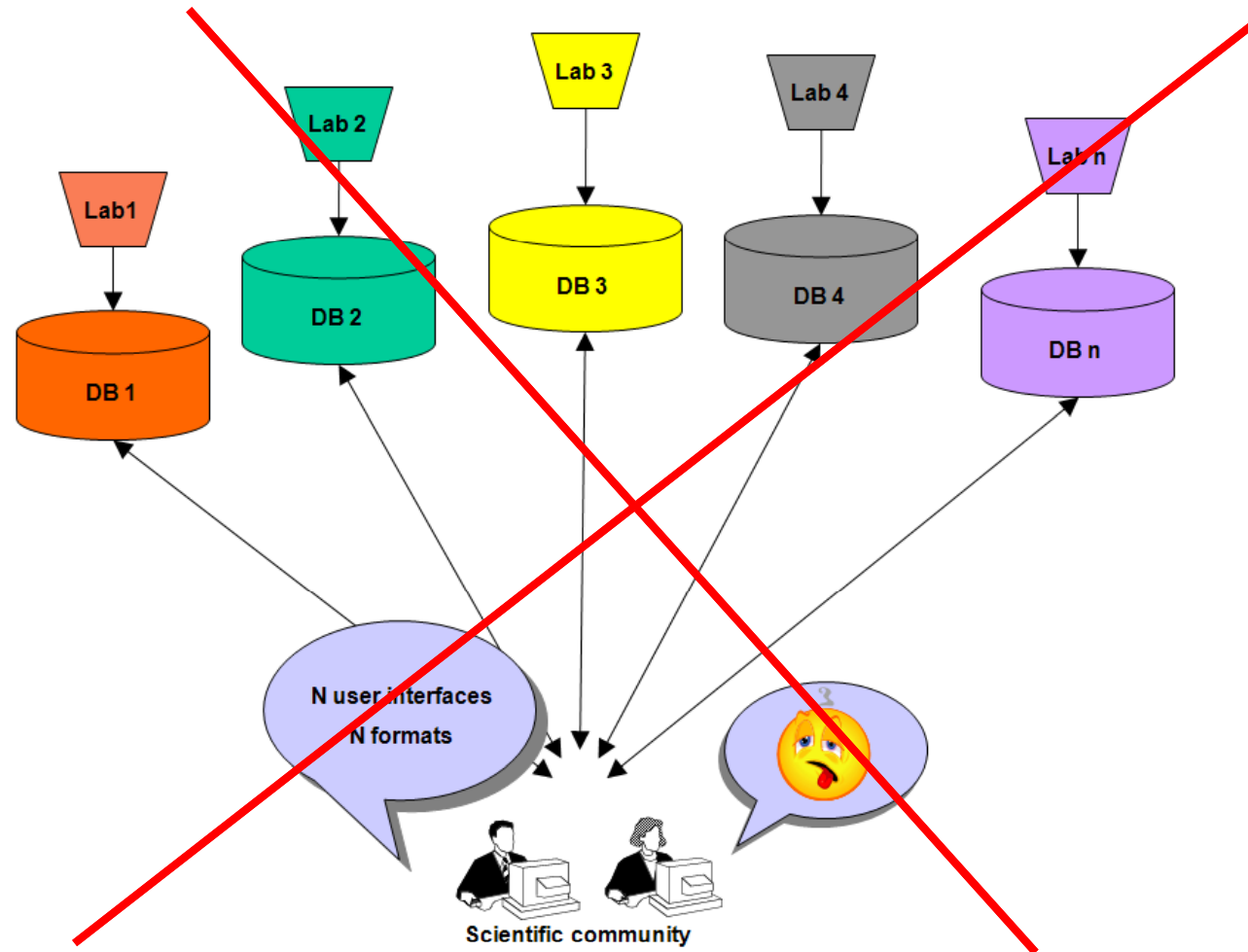
# Challenges for IRIS

- **Data Integration**
- **Data Handling and Formats**
- **Intuitive Tools**
- **Robust, low cost Hardware**
- **Standards**
- **Education**
  
- **= Potential Issues of Collaboration**

# Collaboration Objectives

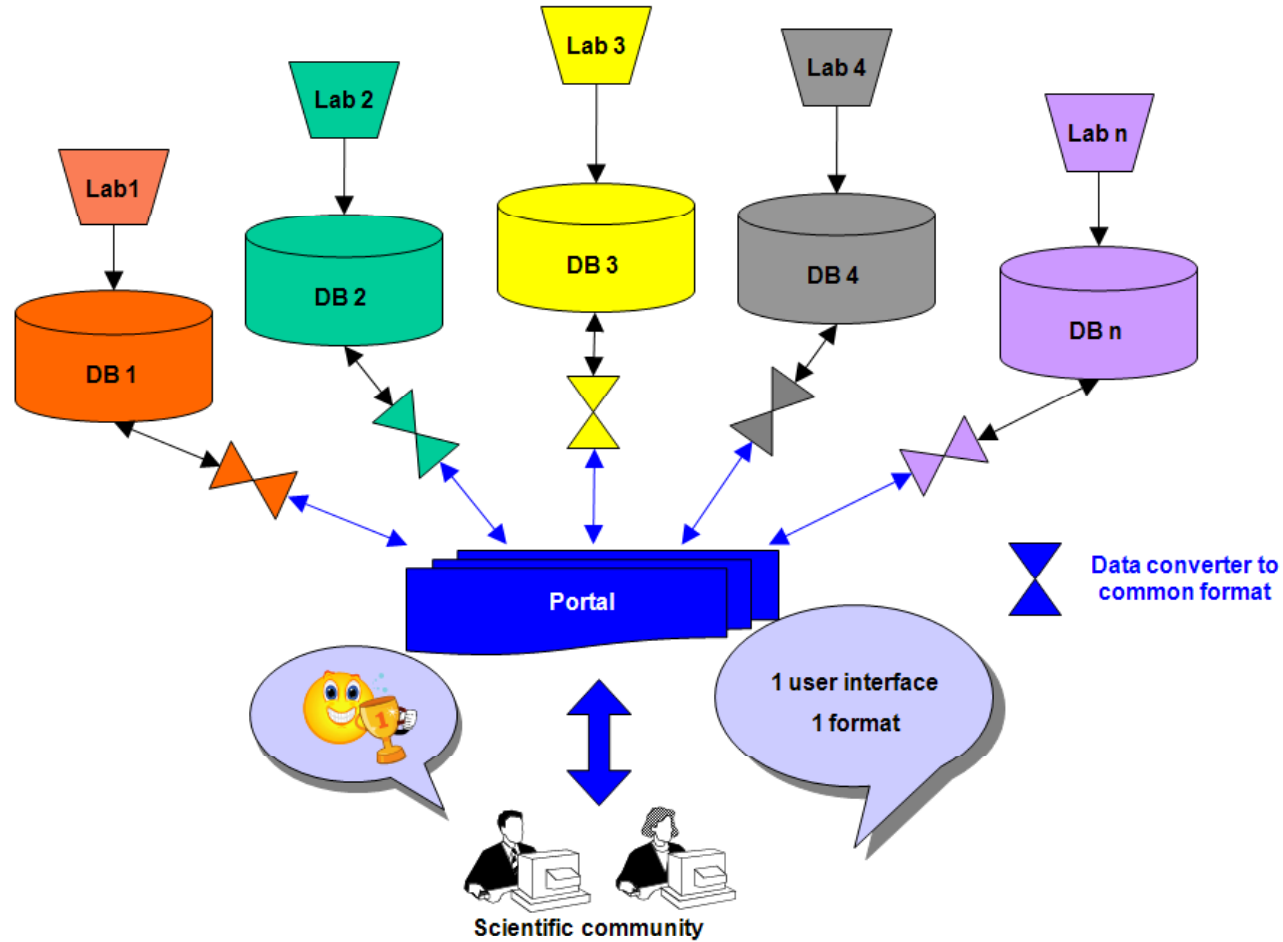
→ **Share the structured approach on Data Formats and Meta Data Protocols**

# IRIS Meta Data Concept



# IRIS Meta Data Concept

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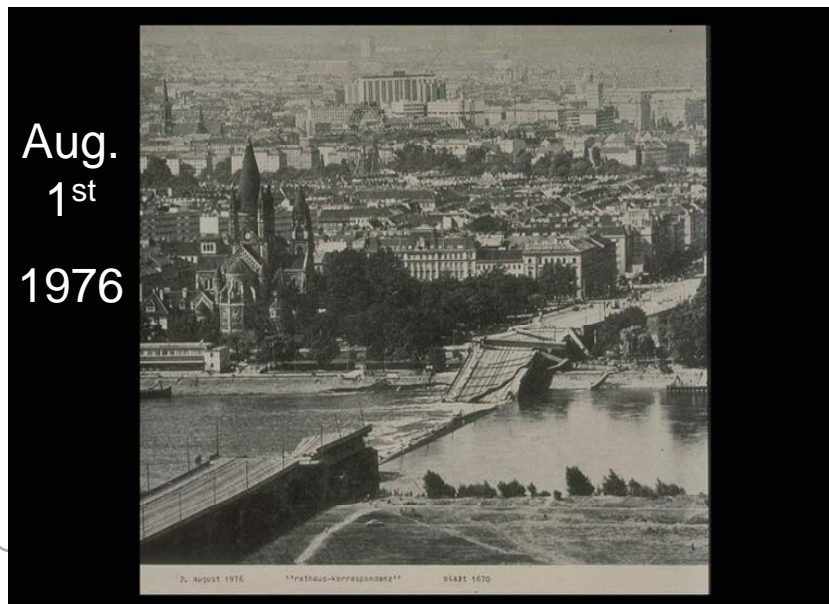
# Collaboration Objectives

- Share the structured approach on Data Formats and Meta Data Protocols
- **Development of a joint Glossary and a subsequent Ontology**
- **Joint Knowledge Base ?**
- **Joint Risk Inventory ?**



**Aug. 1<sup>st</sup> 2007**

**Avoidable by Monitoring ?**



# Motivation for Health Monitoring

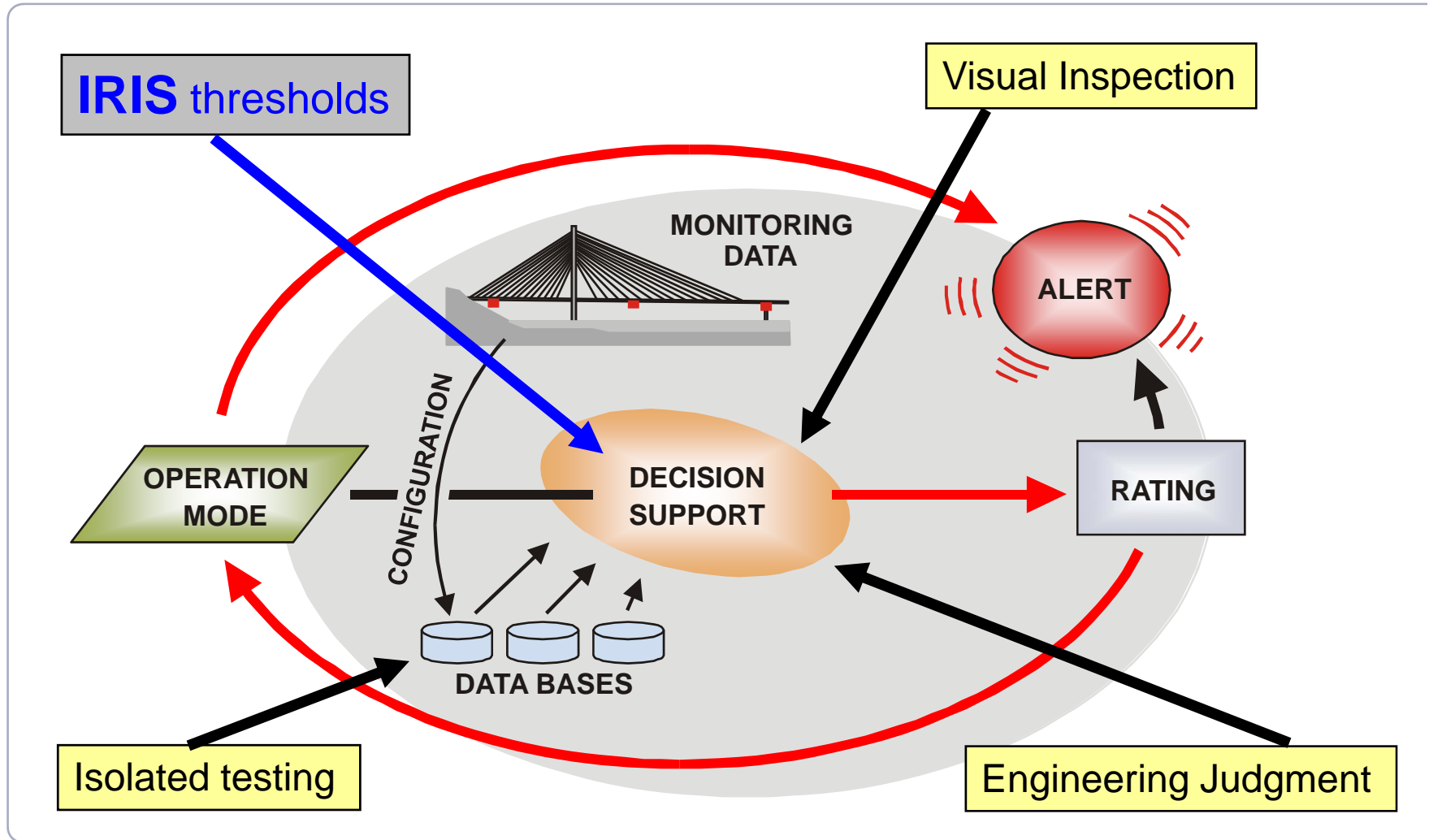
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# Collaboration Objectives

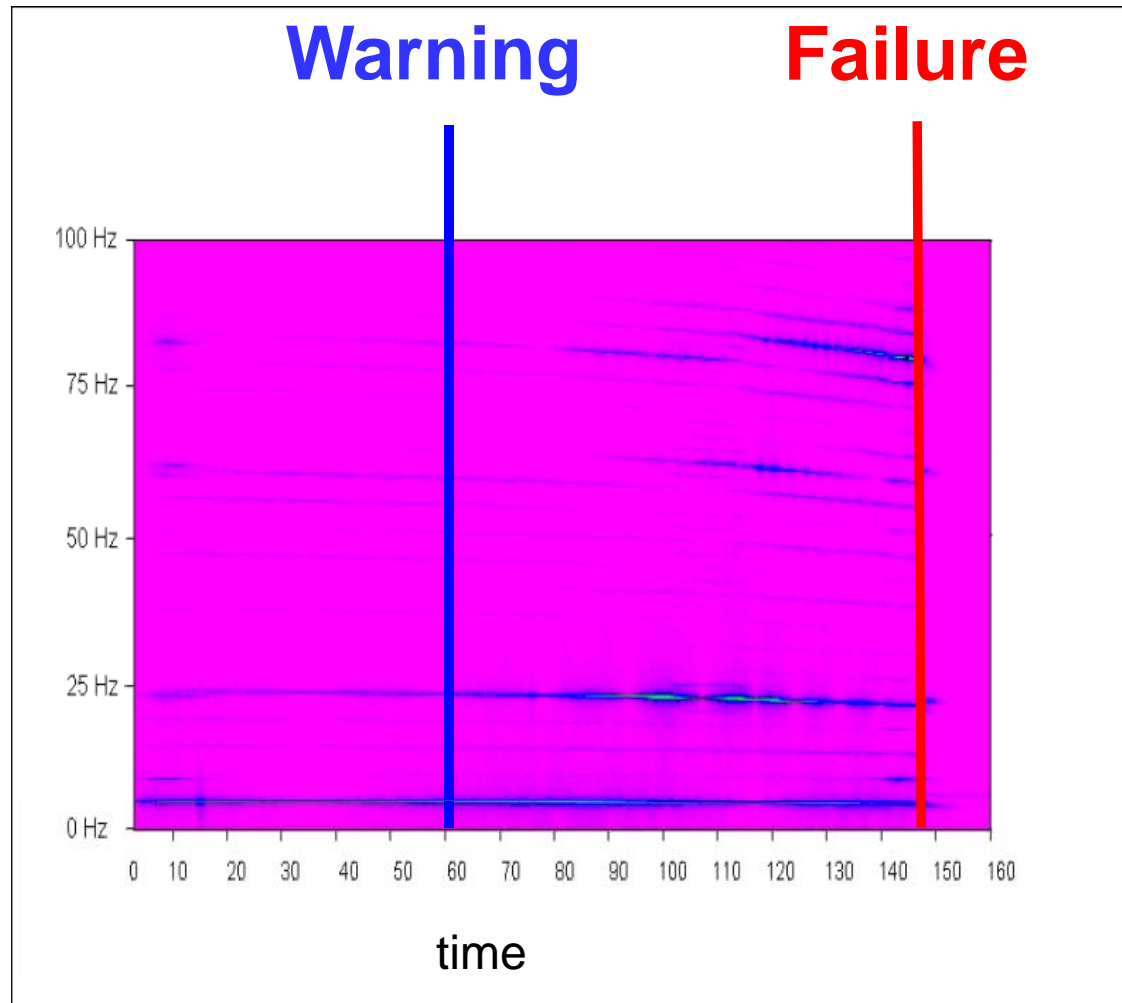
- Share the structured approach on Data Formats and Meta Data Protocols
- Development of a joint Glossary and a subsequent Ontology
- Joint Knowledge Base ?
- Joint Risk Inventory ?
- **Development of a real time Decision Support System based on knowledge**

# Decision Support System



# Structural Performance over Time

modes



[MPA Stuttgart]



# Collaboration Objectives

- Share the structured approach on Data Formats and Meta Data Protocols
- Development of a joint Glossary and a subsequent Ontology
- Joint Knowledge Base ?
- Joint Risk Inventory ?
- Development of a real time Decision Support System based on knowledge
- **Global dissemination of the results and standardization activities**



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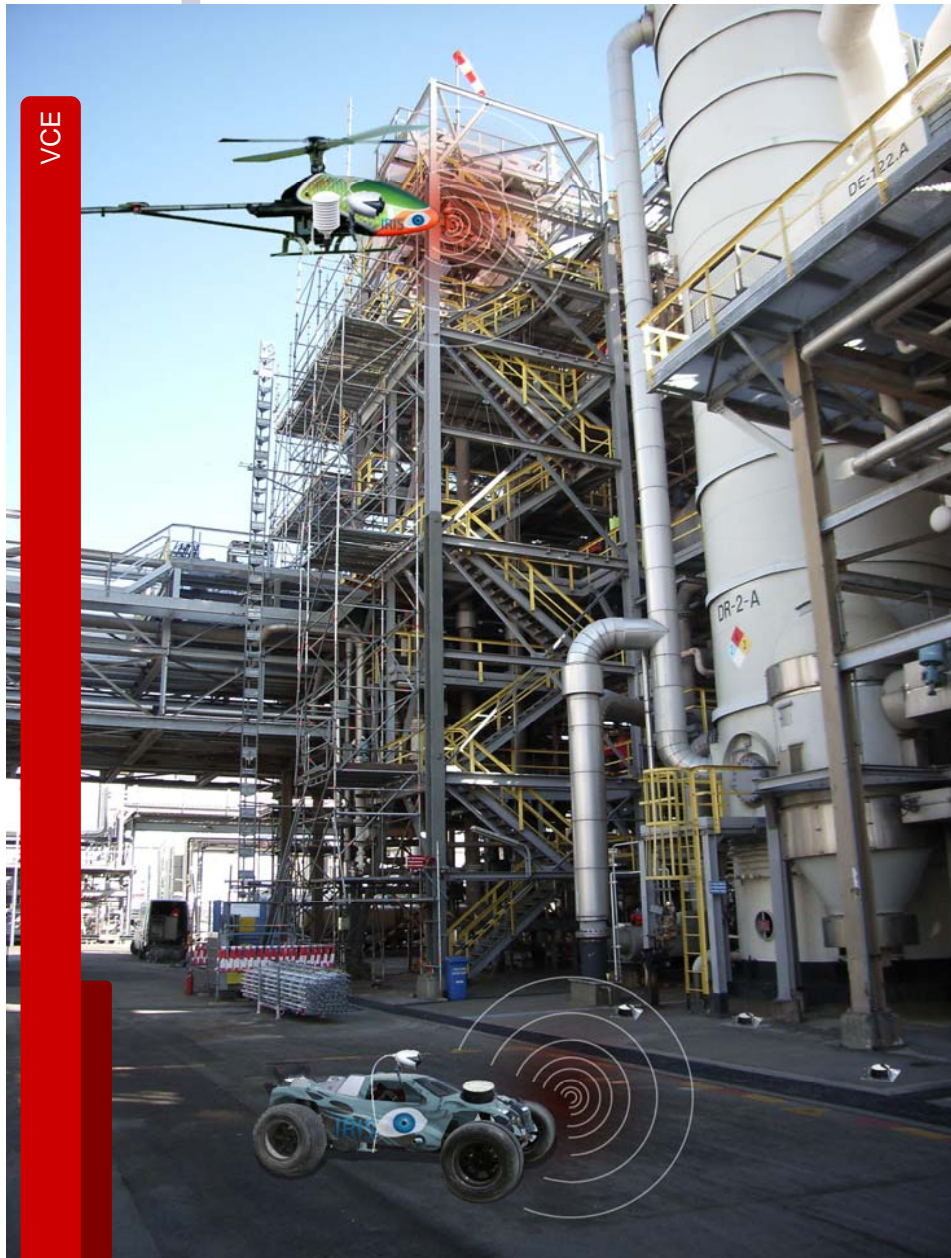
# IRIS Safety Culture

Thank you for your attention



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VCE