# CIM: Cybernetic Incident Management

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## Problems

- Incident Management usually involves many parties having to cooperate, it has a distributed multi-agent character.
- Specific type of errors is likely to occur in the interaction and coordination between these parties. Causes:
  - Procedures have low accessibility.
  - People involved often lack experience.
  - Analysis and reconstruction difficult due to chaos.

## Proposed solution

- Create a constantly adapting system that processes information in an adaptive, interactive and intelligent fashion to support human decisions.
- Knowledge is contained in communication structures and supporting software in the form of distributed agents.
- Maintenance and evolution of the system by performing simulations and training sessions.

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## Contribution of VU

Main contribution Vrije Universiteit Amsterdam:

- The analysis of disaster case-studies in order to obtain traces.
- Develop methods to provide automated support for analysis of cause of failure in traces.
- In the future traces can also be obtained from the system itself.

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## Technology

### Problems

1. Incorrect information
2. Incomplete information
3. Use of different protocols

### Proposed solution

- Review traces
- Validation

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## Validation

### Formal

Why formalise a trace?

- The properties that should hold within a trace can be formally verified.
- The cause why a property isn't satisfied can be given, also when caused by a chain of events.
- It is possible to develop/verify a protocol:

### Hercules disaster

1. Incorrect information
2. Incomplete information
3. Use of different protocols

### Dakota disaster

1. Exception Handling
2. Contradictory information
3. Work Overload

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## Problems

- Incorrect information
- Incomplete information
- Use of different protocols

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## Validation

### Formal

- The trace of the Hercules disaster: