

# The role of human factors in training for security

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**TNO** | Knowledge for business



# Structure of the presentation

- Introduction
- Human Factors approach to training
- Examples
- Conclusion



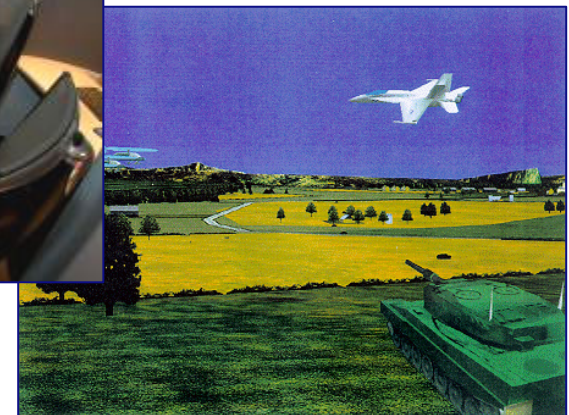
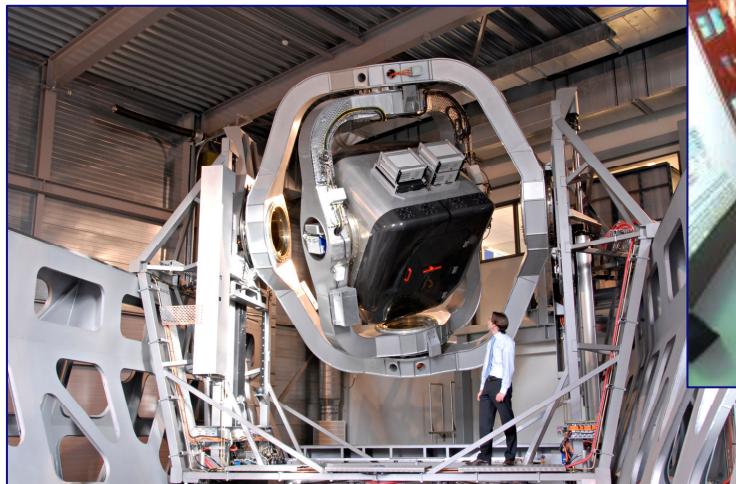
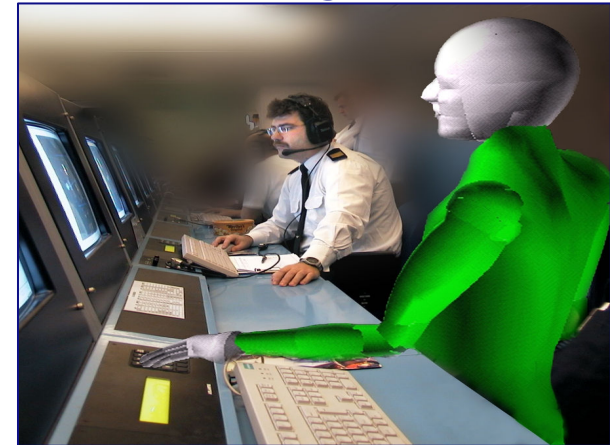
# Security, and training, is all about human factors

- Demanding and complex tasks in uncertain and dynamic environments
- Doing more with less personnel
- The cognitive and physiological demands are increasing, so human factors need to be called upon more than ever
- Both in the operational and in the training environment



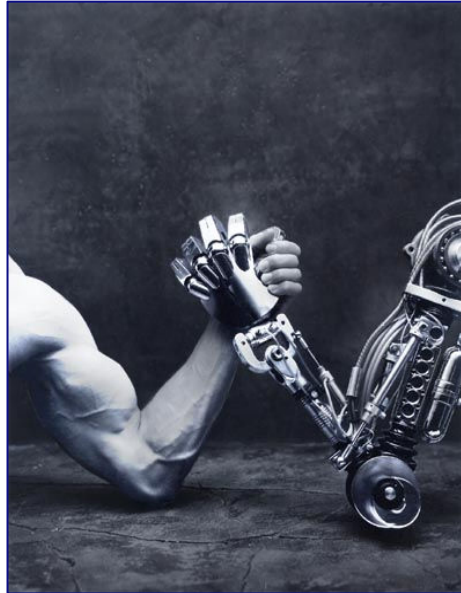


# Is there a role for human factors in training for security?



# What to do with all these technologies?

Struggle and fight



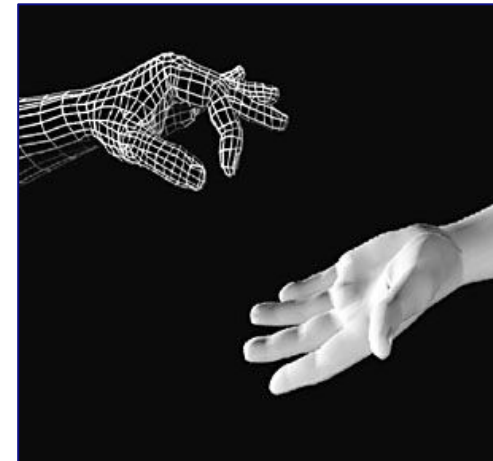
OR

Wait and see

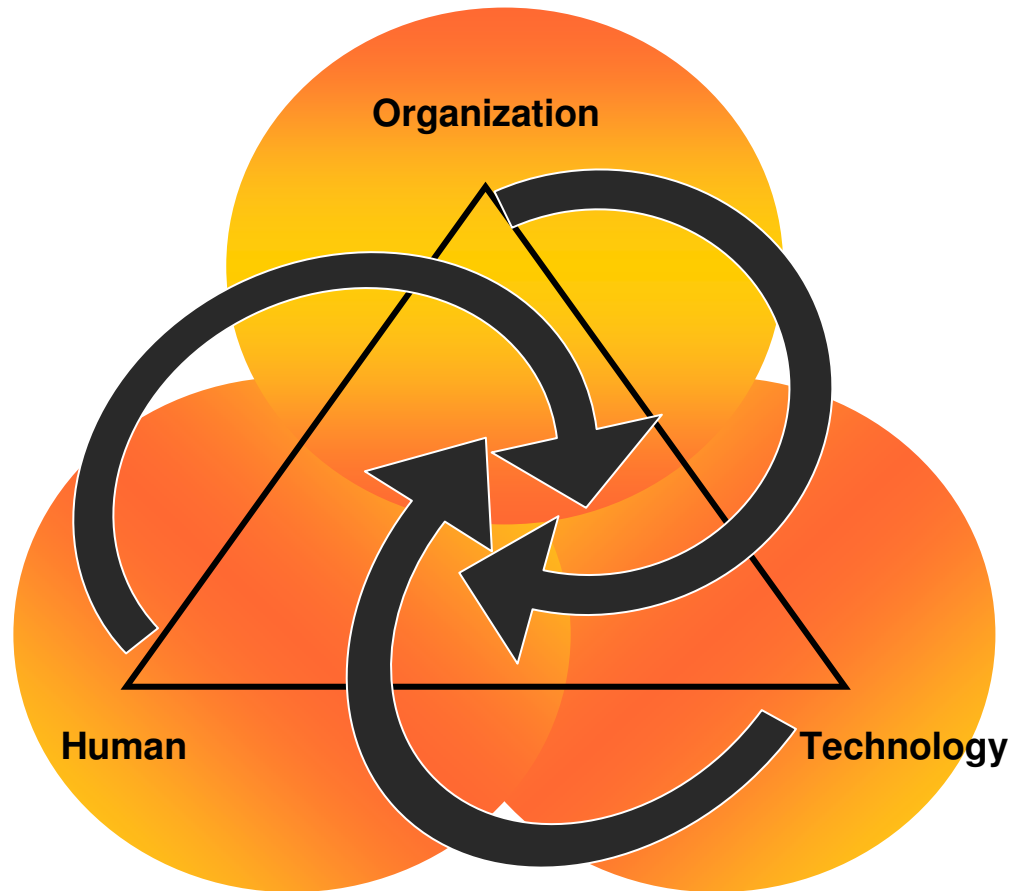


OR

Join forces



# Human Factors approach to training



To develop, implement and evaluate a training system (program and technology) meeting the real needs and best suited to improve the capabilities of crisis managers and their organizations



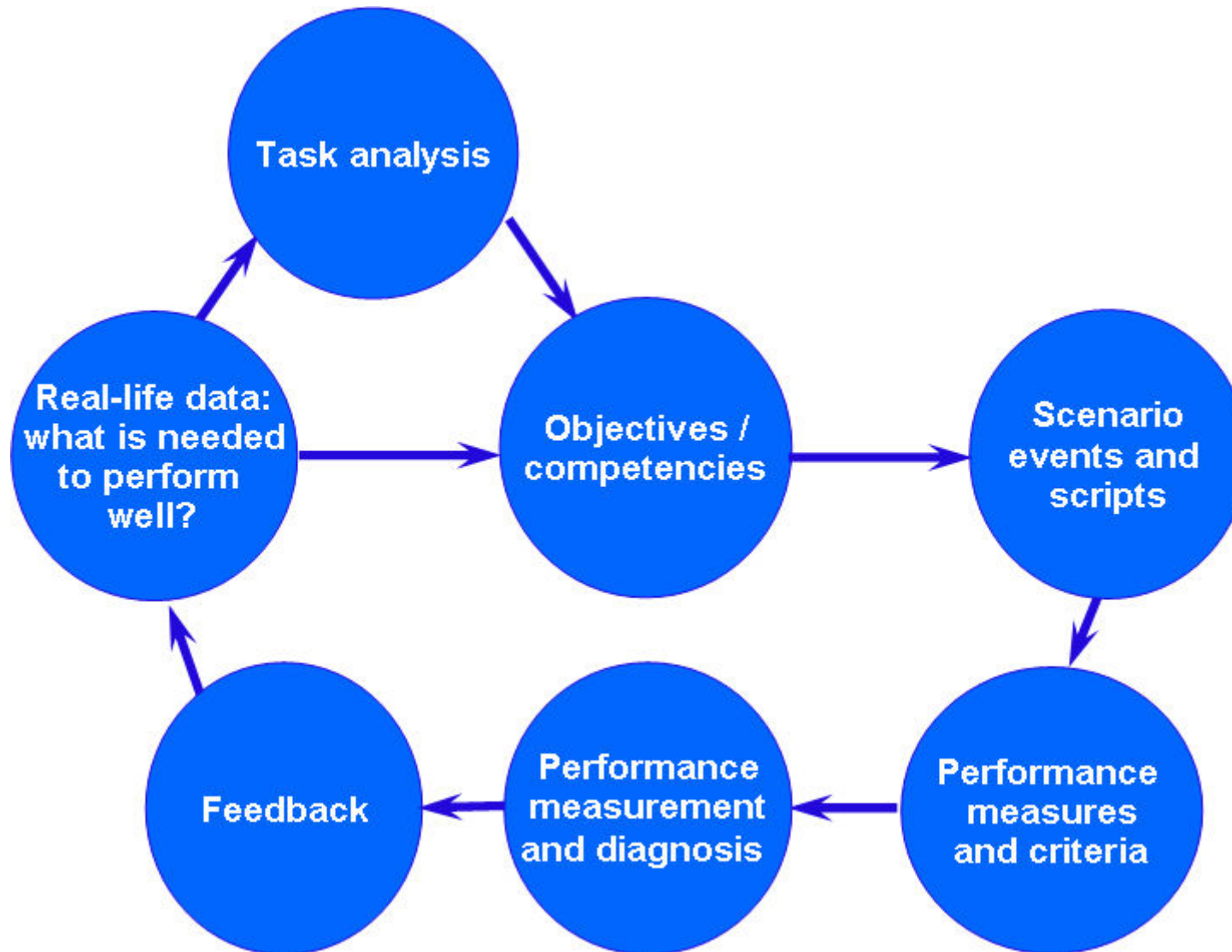
## Relevant human factors questions

- What socio-technical system are we focusing on?
  - Players
  - Stakeholders
  - Level (e.g. team, organization, region, nation)
  - Relationships and interdependencies
- Which operational effects are to be achieved by this system?
- How can these effects be achieved?
- What is the role of training?
- What are the training needs and how to meet these needs?
- What training solutions are most appropriate taking into account the human, technological AND organizational aspects?
- How do we know we are right (or how we can improve)?





# Event-based approach to training





# Some examples

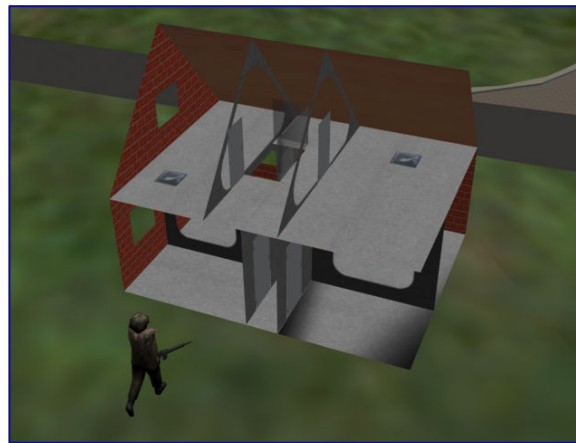
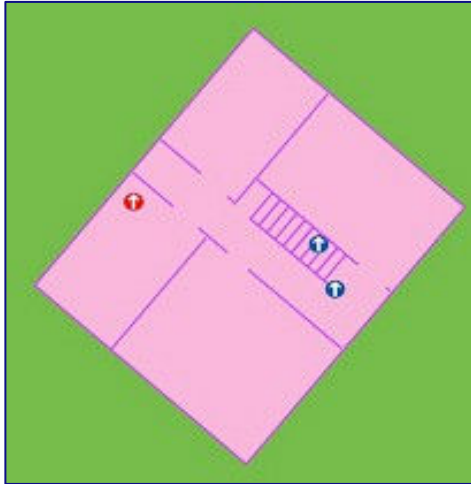
- Cultural awareness training
- Modeling and simulation
- Specification and validation of simulators
- Serious gaming didactics
- Field labs
- Masterclass Multidisciplinary Evaluation



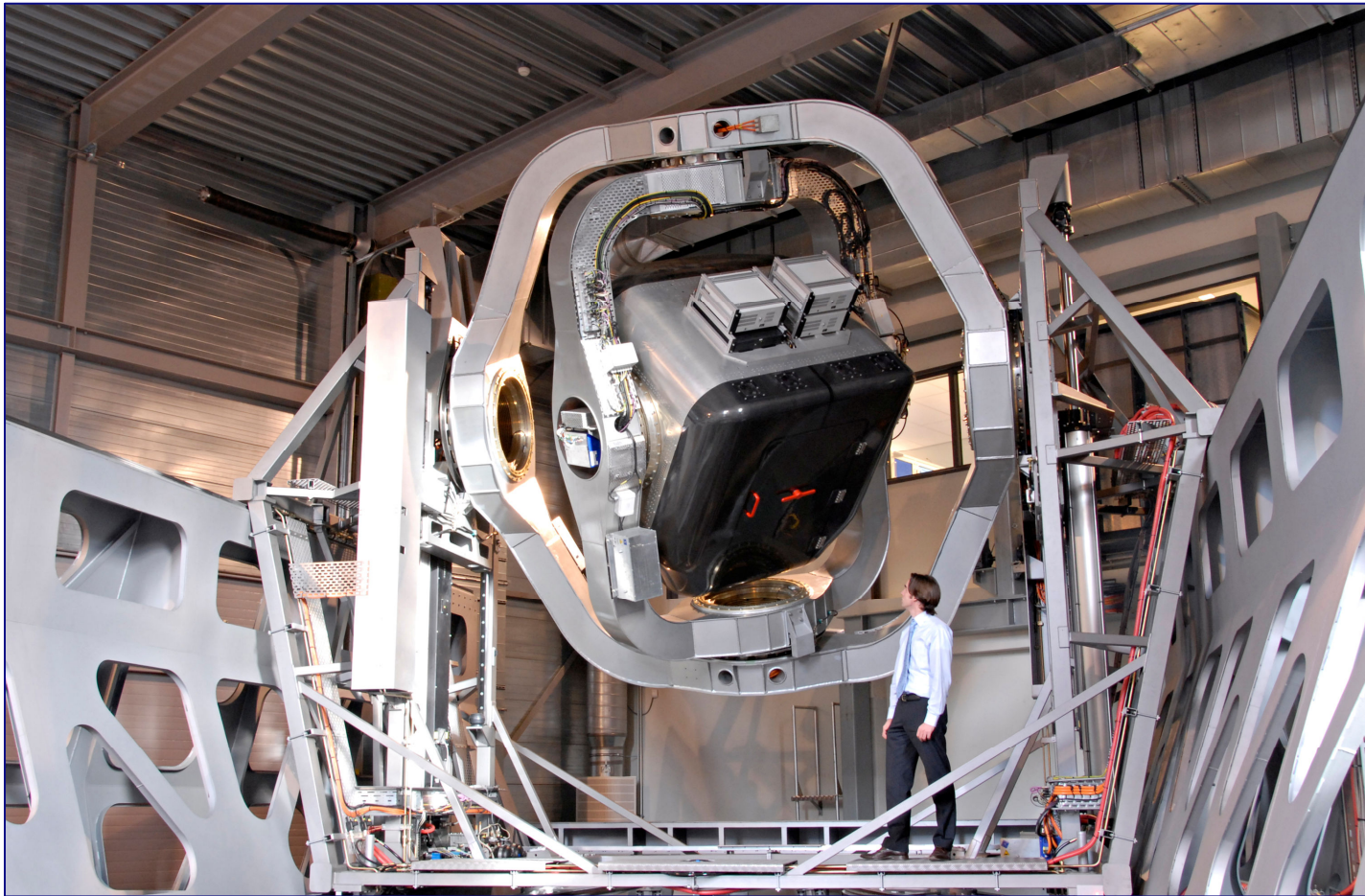
## Example 1: Cultural awareness training



## Example 2: Modeling and simulation

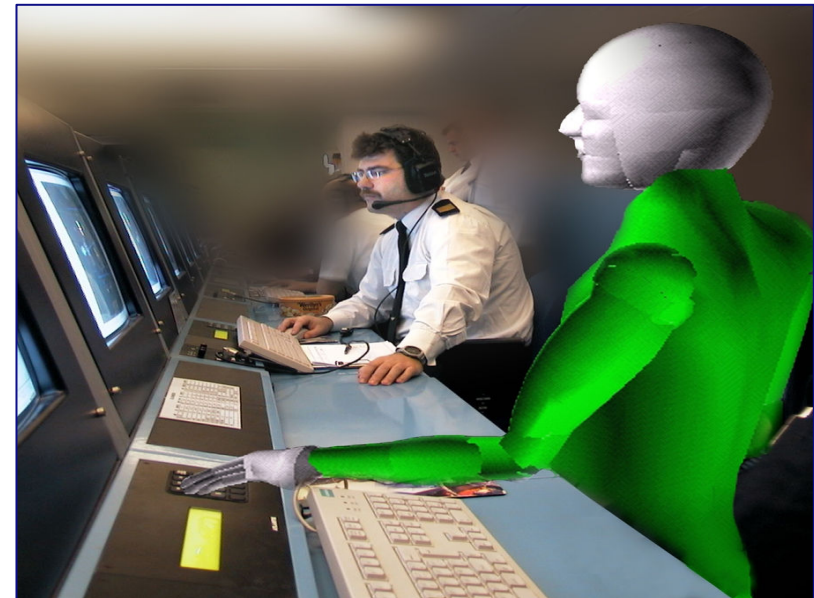


## Example 3: Specification and validation of simulators





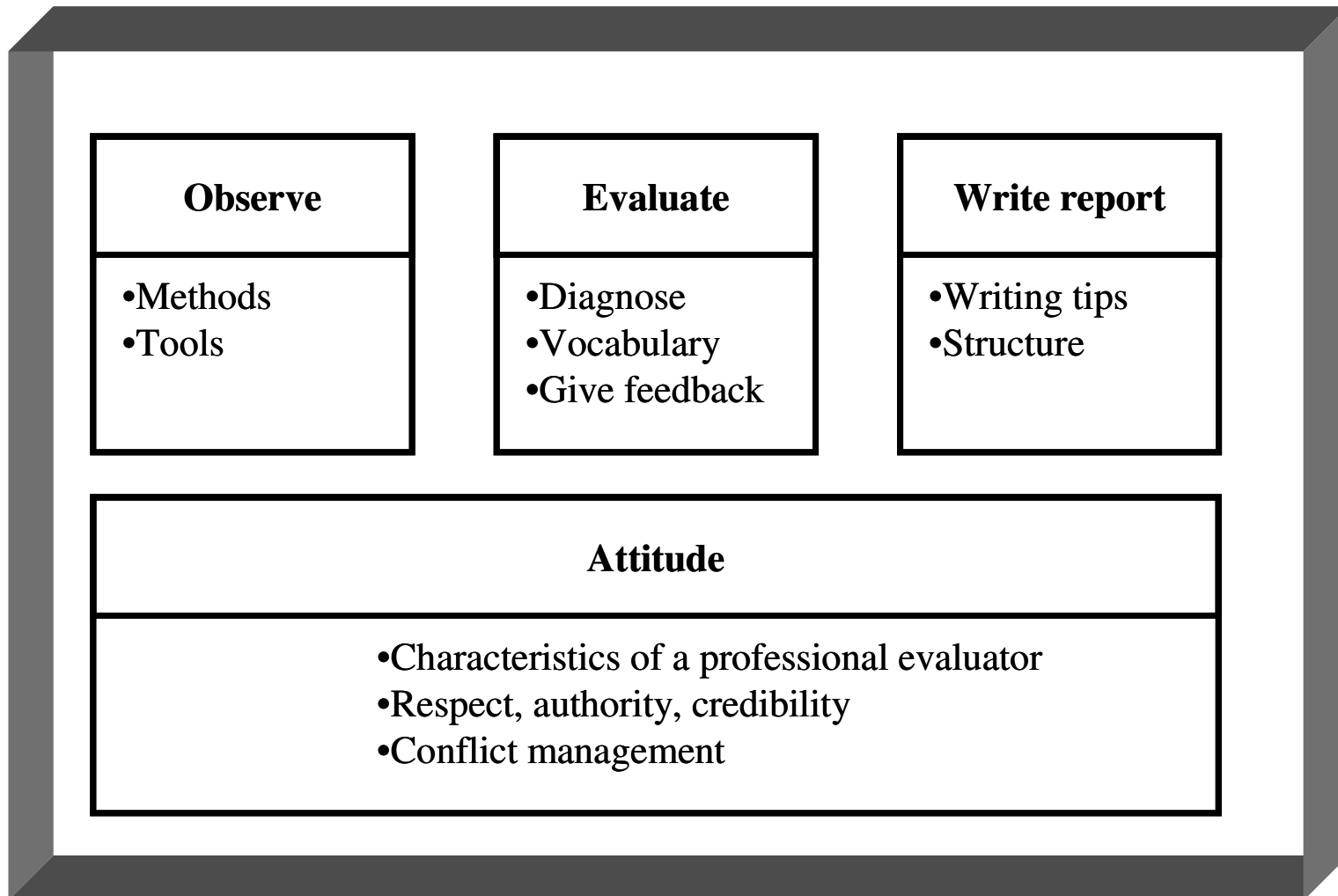
## Example 4: Serious gaming didactics



## Example 5: Field labs



## Example 6: Masterclass Multidisciplinary Evaluation



# Conclusions

- Technology can initiate new ways of learning and new didactics (e.g. how to make use of the realism, attraction and fun-factor of serious games)
- Training needs should guide technology development
- Training innovations should be driven by a human factors approach to training
- Testing, experimentation and measuring the effect of training technologies and innovations are important, both in laboratories, field labs and operational environments





**THANK YOU FOR  
YOUR ATTENTION !**

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