

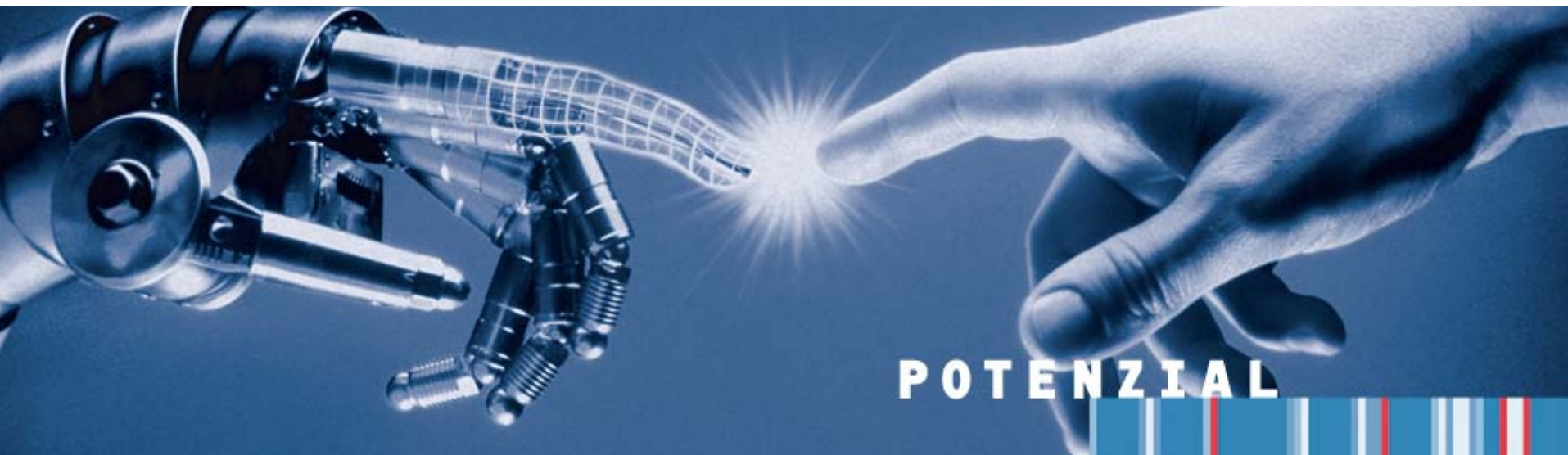


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Wissenschaft + Technologie



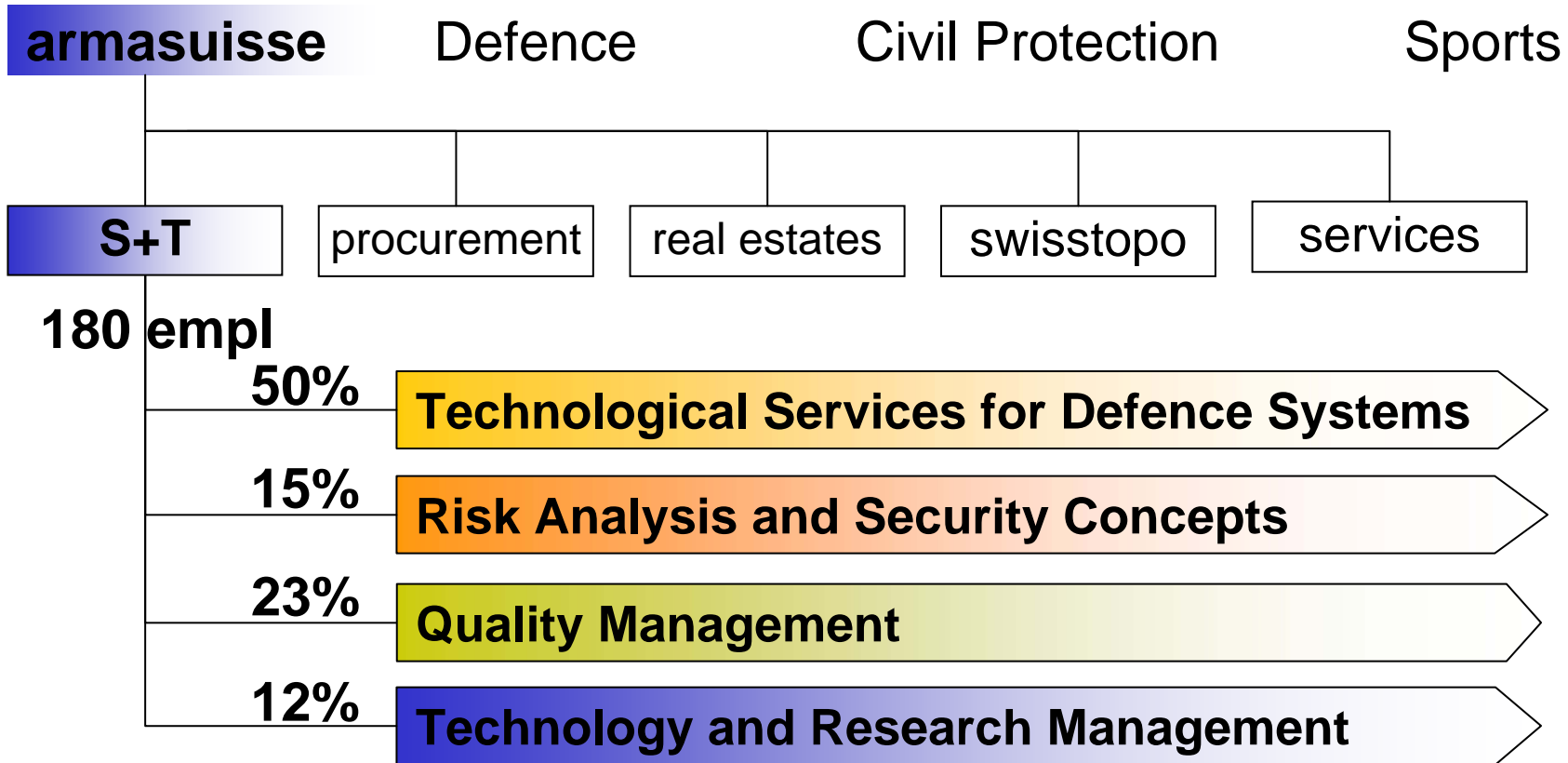
# **Research Opportunities and Capabilities The Competence Centre Science & Technology armasuisse**

## **International Disaster Reduction Conference Davos**

Dr. René Eggenberger, Head Research and Cooperation



# armasuisse Science + Technology





# S+T Datasheet

employees (180)

- **80** scientists and engineers
- **60** experts (pilots, quality managers)
- **40** field support, logistics, central services

headquarters, laboratories and test ranges

- **Thun, Bern, Emmen**

partners

- **Industry, Universities, Federal Institutes of Technology, Universities of Applied Sciences, Institutes at national and international levels**

annual budget

- **Research: 10 Mio EUR**
- **Investments: 3 Mio EUR**



# Research Programmes 2008-11

Research Programme	Lead
Reconnaissance and Surveillance	Dr. Peter Wellig
Information Superiority in NEO	Rudolf Bürgi
Communications	
Cyberspace und Information Security	
UAV	RUAG A
UGV	RUAG L
NLW	Dr. David Humair
CIIP against kinetic and thermal energy	
CIIP against electromagnetic radiation	
Future Security Force	Dr. David Humair
Operations Research / System Analysis	
Materials – Micro and Nano Technologies - Energy	
Human Factors	

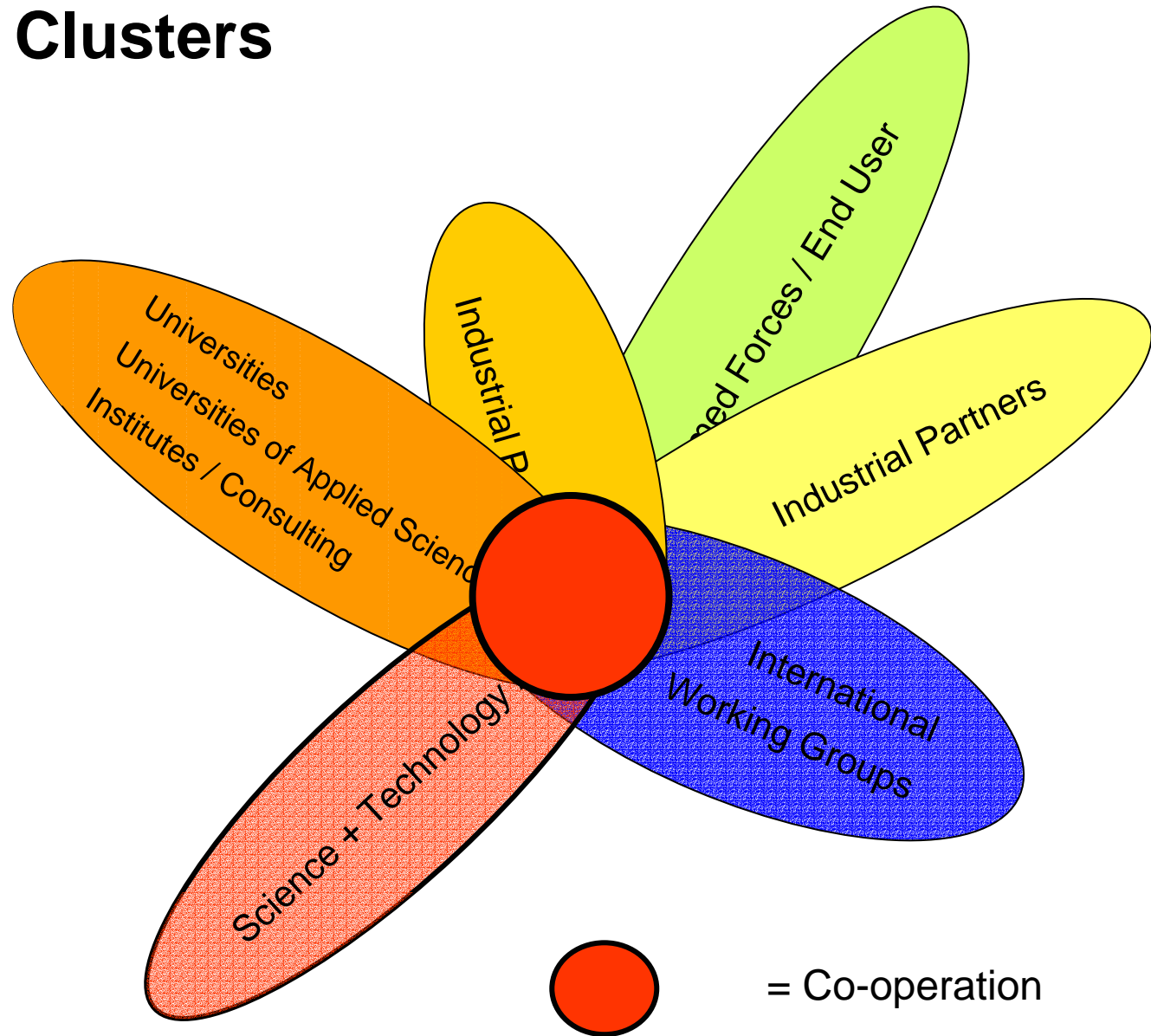
	in preparation	emerging	In progress
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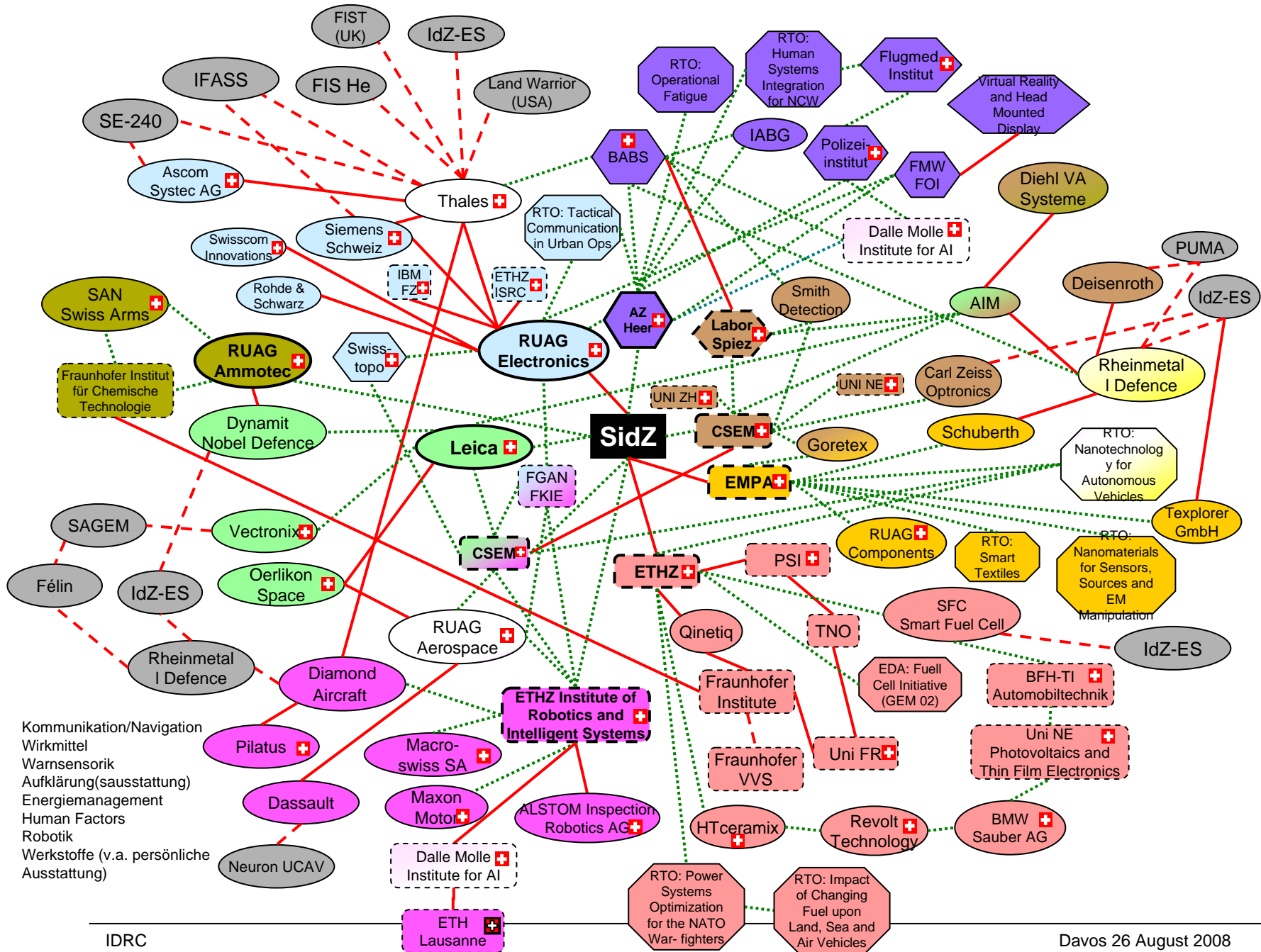


# Research Clusters

## aims

- assure competency
- knowledge transfer
- division of labour
- pooling of resources
- critical mass

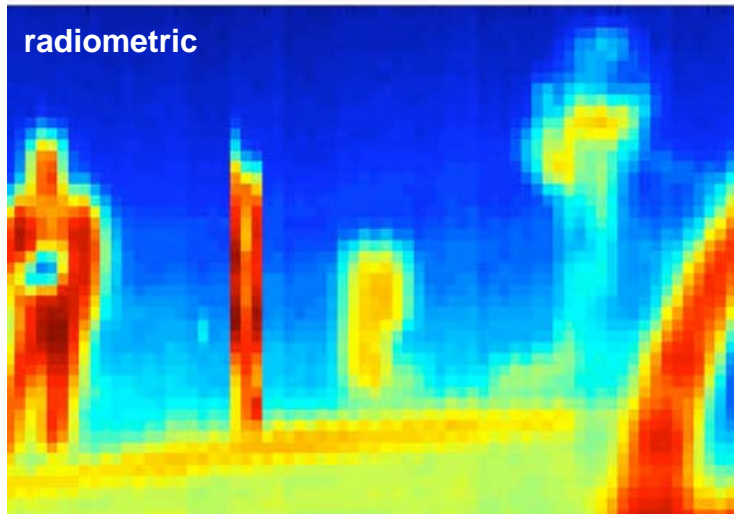




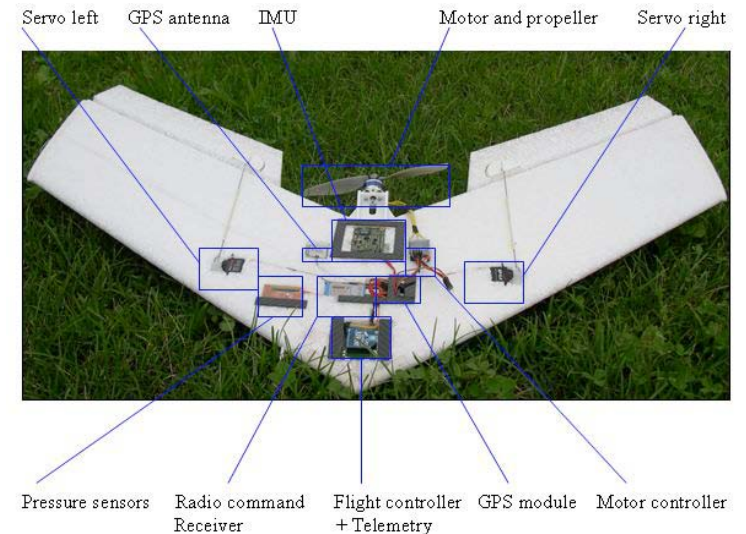


# Reconnaissance and surveillance

mm and microwaves



Infrastructure independent  
broadband communication  
of RECCE results by using  
Swarms of micro UAVs

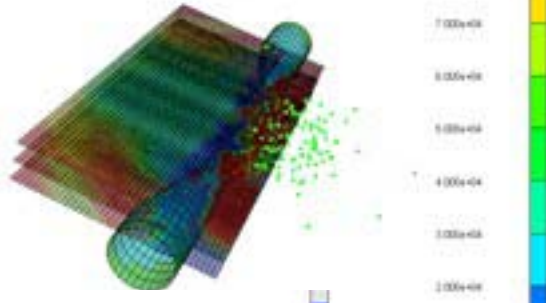




# Simulation and Modelling

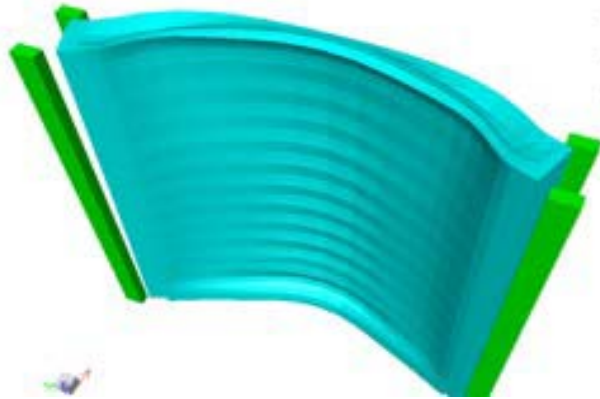
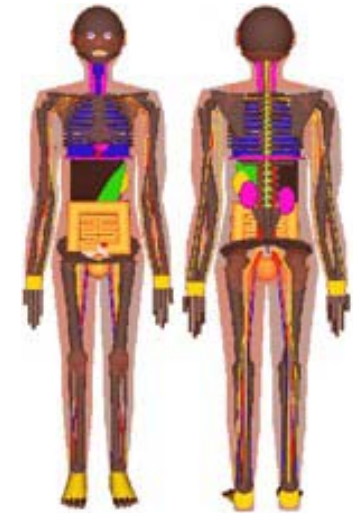
## Mission

Simulation of IED blasts and calculation of the impact on infrastructures




## Mission

Development of an optimized protection jacket in relation to the type of organ in a human body. Optimizing the ratio mass : protection factor. by using of simulation and modelling techniques.



**Mission**  
Simulation of plumes of aircraft engines and generic missile sensors



plume of the engines of a Super Puma



Fig. 37: Super-Puma mit Abgasfahne von vorne im Rastermode /  $\lambda_1=26 \lambda_2=29 \mu\text{m}$  / Flug 1



# Indoor Positioning System

## Urban Development

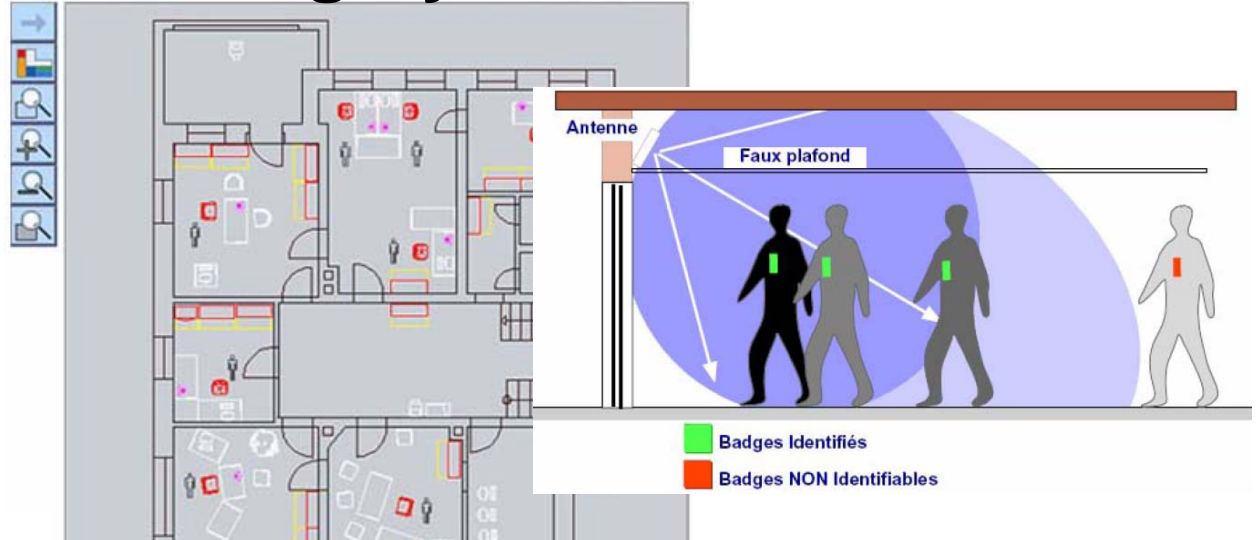
- higher population density
- sub terrain traffic systems
- airport terminals



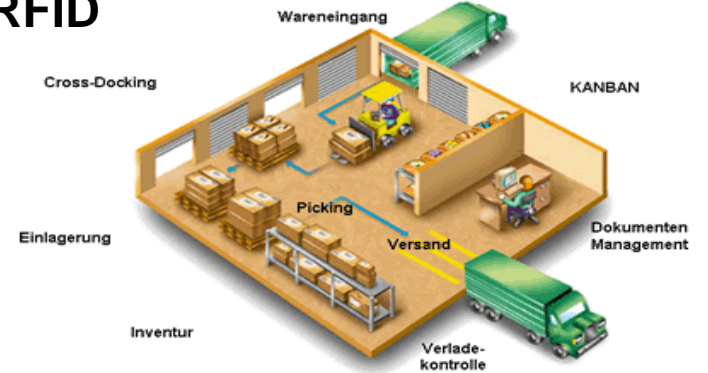
Source: Prof. U. Walder, TU Graz



# Indoor Positioning System



## RFID



Source: Prof. U. Walder, TU Graz



# Indoor Positioning System

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Armed Forces



Quelle: Prof. U. Walder, TU Graz



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