

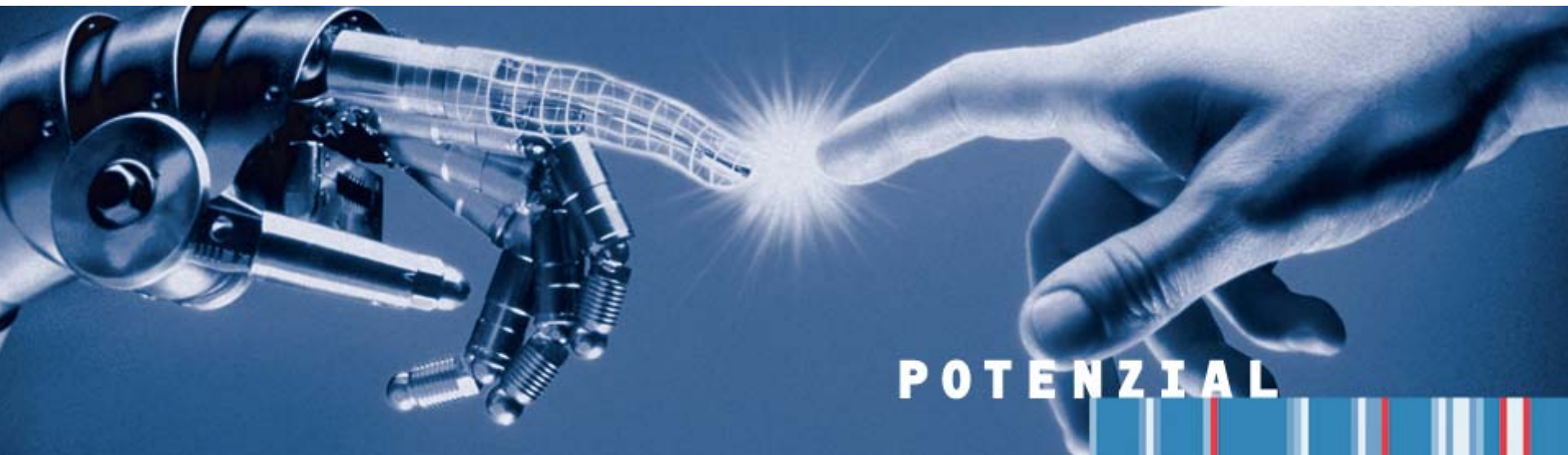


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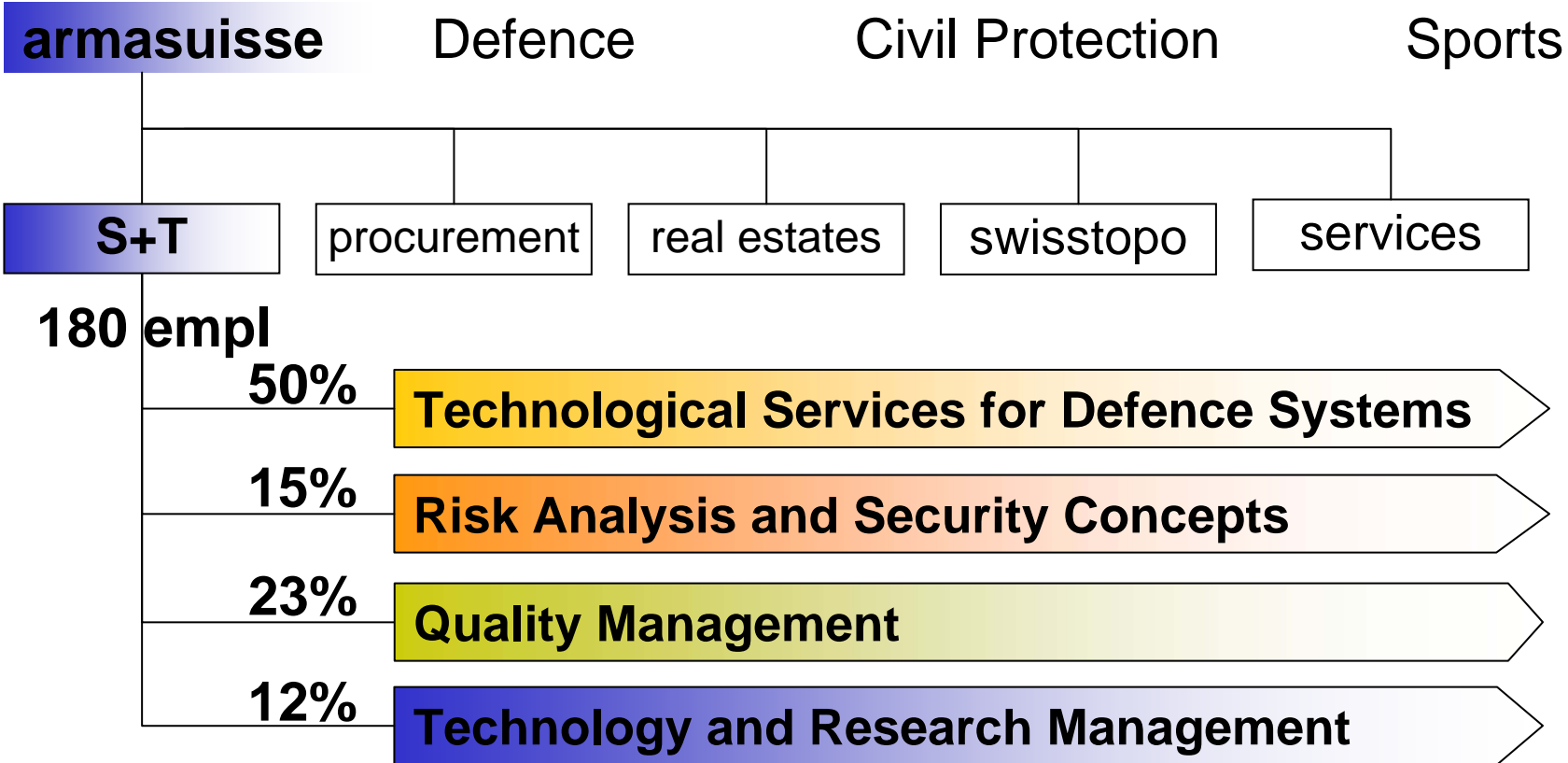
Research Opportunities and Capabilities The Competence Centre Science & Technology armasuisse

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	

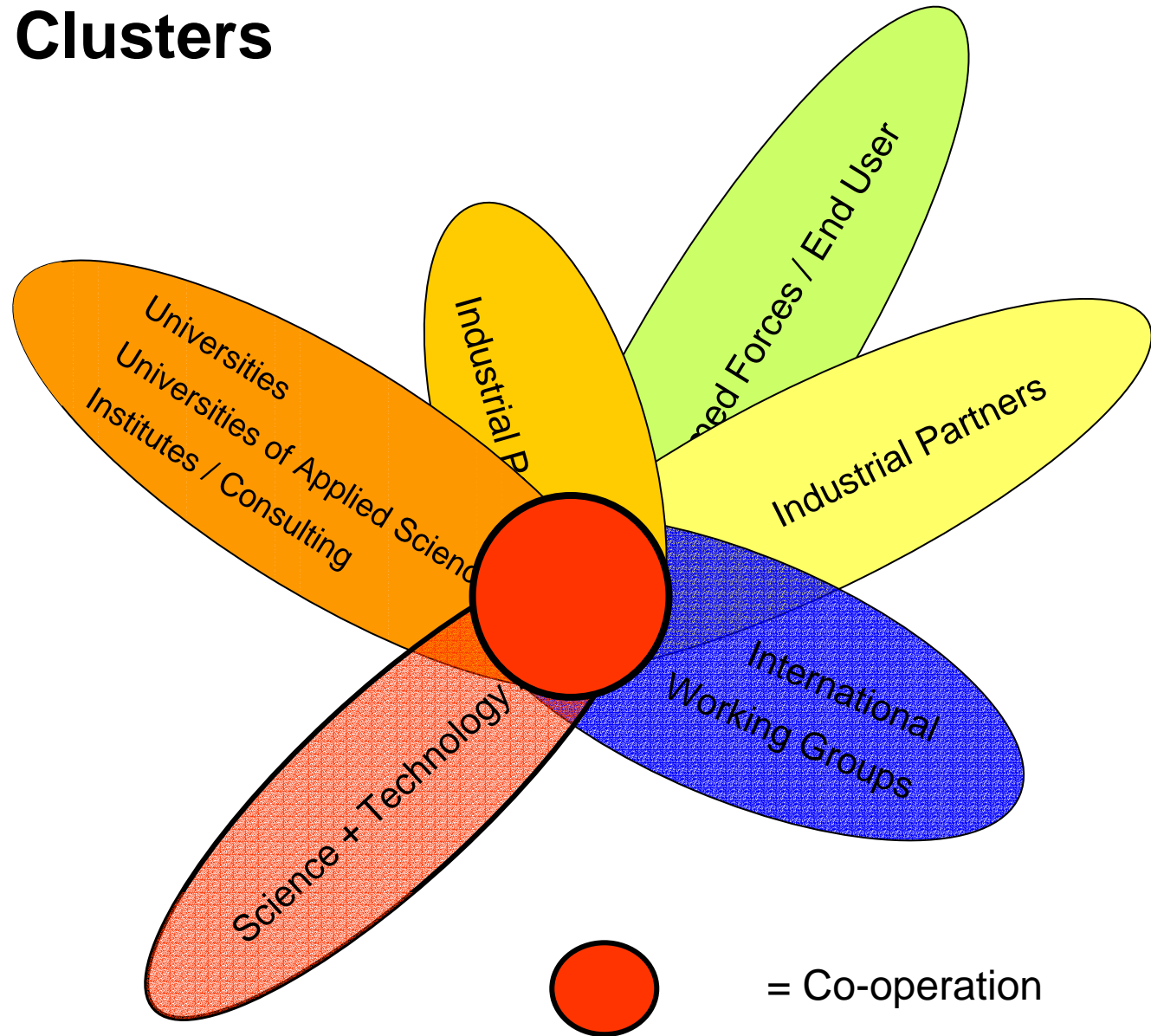
	in preparation	emerging	In progress
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Research Clusters

aims

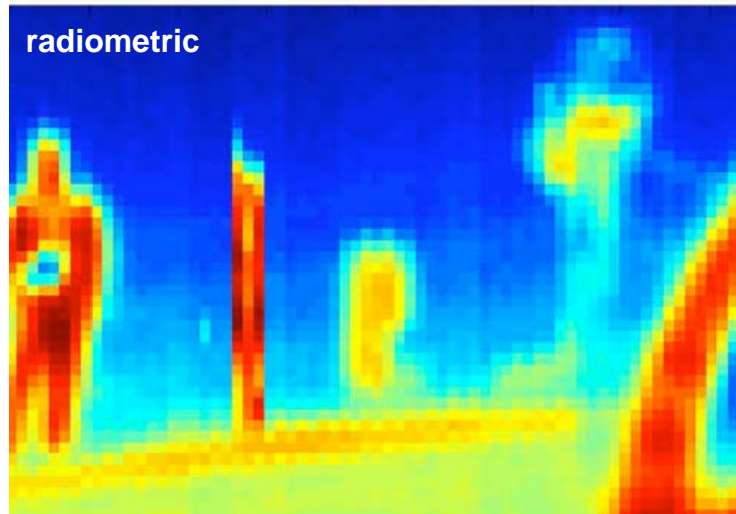
- assure competency
- knowledge transfer
- division of labour
- pooling of resources
- critical mass



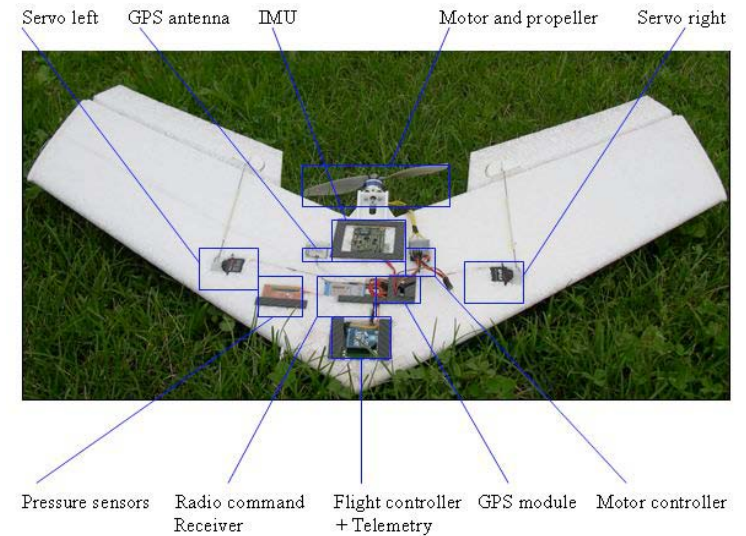


Reconnaissance and surveillance

mm and microwaves



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

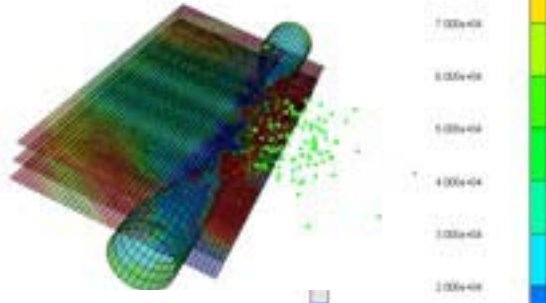




Simulation and Modelling

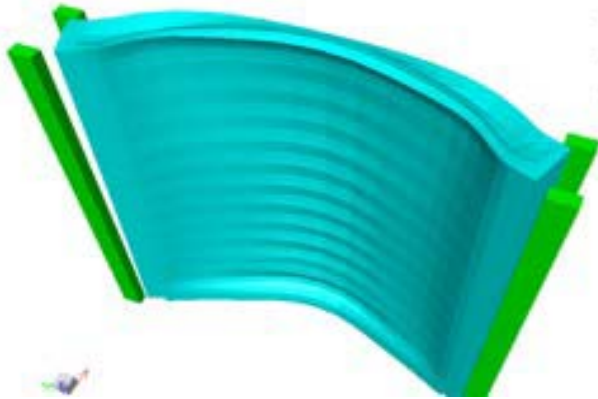
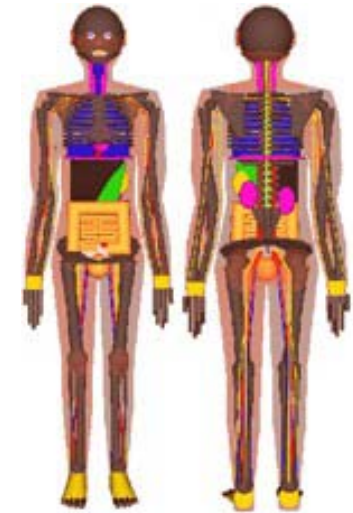
Mission

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

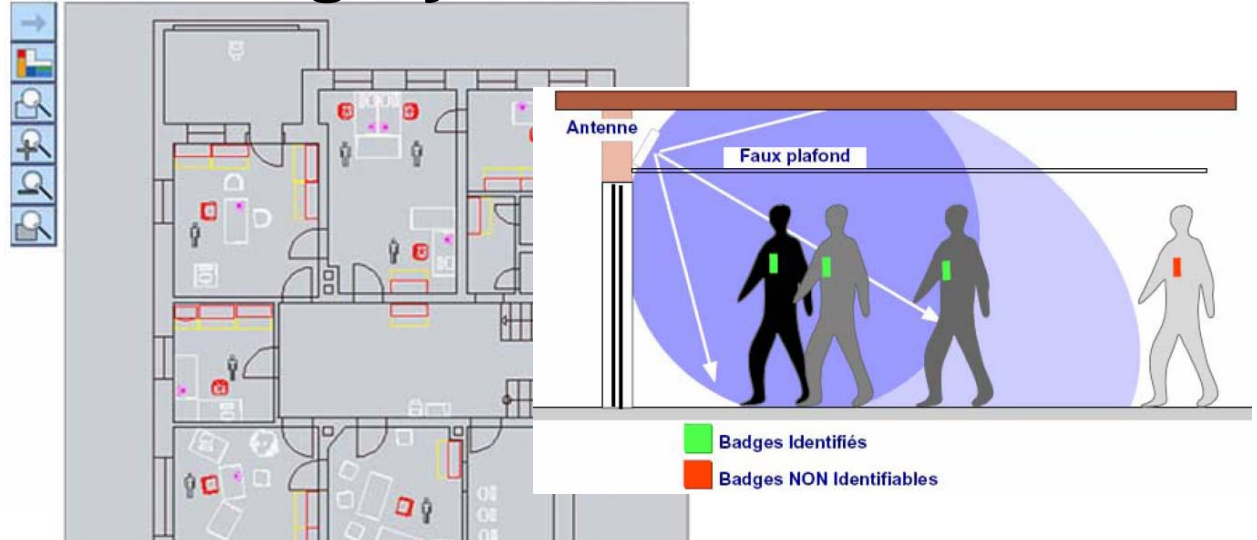
- higher population density
- sub terrain traffic systems
- airport terminals



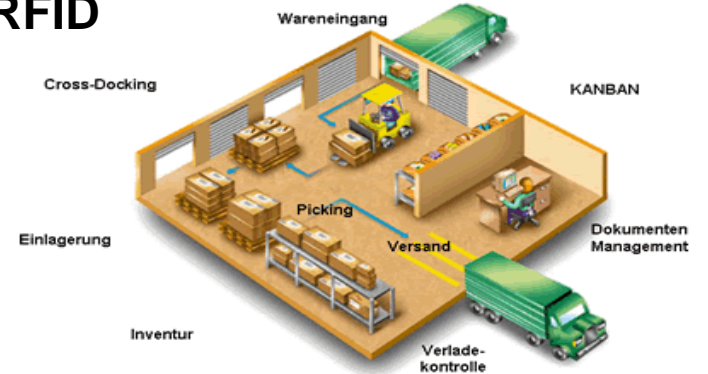
Source: Prof. U. Walder, TU Graz



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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