

# Military research at universities

*„[...] But there are other areas of scientific research that may directly or indirectly lead to harm to society. This calls for constant vigilance. [...]“  
(Joseph Rotblat, 1995)*

By Lucas Wirl, INES Program Director

# What are we talking about?

- 1.1-1.5 mill. people work in the armament research sector
- 100 – 120 bill. USD for Research & Development per year , of which 25 bill. USD go to the „public sector“ (Germany: 5-7 bill. € per year)
- 90% of expenditure in developed countries; 2/3 USA and Russia
- 61% of all US research projects serve military purposes (dual use)

# Where is armament research conducted?

- a) Industry research
- b) Research areas and universities associated with the military
- c) Governmental research laboratories
- d) Public institutions

## Two basic characteristics of research:

- Pure military research with spin-off
- Dual use – research signifies civil-military ambivalence

# Defense S&T and US Universities

- Basic, applied research, and advanced development together form the defense S&T
- The basic research – about \$1.4 billion a year – significant for universities
- DoD supports most engineering research at universities:
  - Electrical Engineering 72%
  - Mechanical Engineering 75%
  - Metallurgy and Materials Science 35%
  - Math and Computer Science 15%

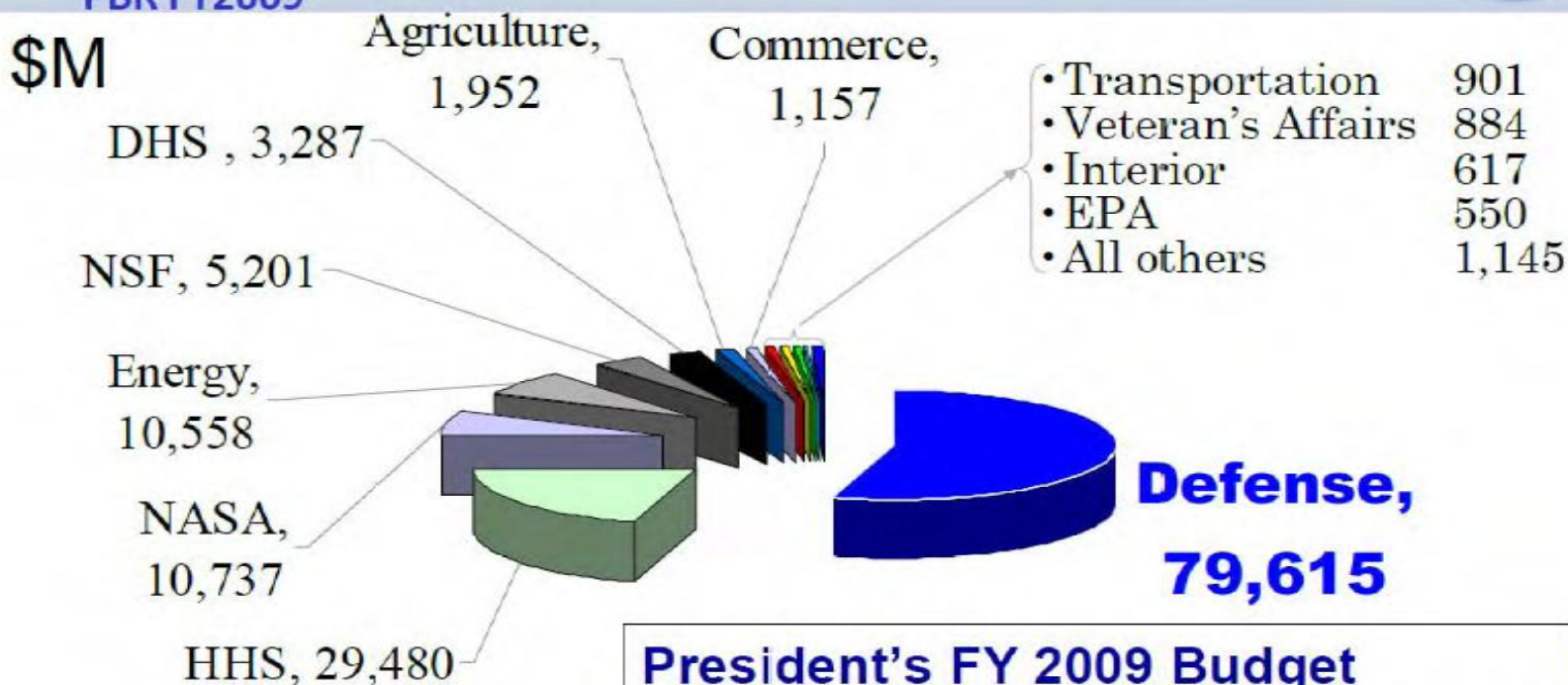
# Pentagon funds most R&D in the US



U. S. DEPARTMENT OF DEFENSE

## Federal R&D Funding

PBR FY2009



**President's FY 2009 Budget showing Agency Federally funded Research and Development**

Source: Federal Budget FY 2009 Analytical perspective, pg 52+ available at <http://www.whitehouse.gov/omb/budget/fy2009/pdf/apers/crosscutting.pdf>. The DoD total is from the DoD Comptroller, FY09 R-1 page II

# Military research at German Universities (2009)

Hochschulen, die seit 2000 wehrtechnische und bundeswehrrelevante Forschung betreiben oder die Projekte im Rahmen des Programms „Forschung für Zivile Sicherheit“ durchführen (exklusive EU- und industrielle Drittmittelprojekte)	Wehrmedizinische Forschung	Wehrtechnische Forschung	Projekte im Rahmen des Programms „Forschung für die zivile Sicherheit“	Sonstiges
<b>Baden-Württemberg</b>				
Uni Freiburg	●		●	
Uni Heidelberg	●			
Uni Hohenheim	●			
Uni Karlsruhe		●	●	
Uni Stuttgart			●	
Uni Tübingen	●		●	
Uni Ulm	●			
<b>Bayern</b>				
Uni Erlangen-Nürnberg			●	
TU München	●		●	
Uni der Bundeswehr München		●		● <sup>1</sup>
Uni München	●	●		
Uni Passau	●			
Uni Regensburg	●			
Uni Würzburg	●		●	
Uni Augsburg				● <sup>2</sup>
<b>Berlin</b>				
Charité	●		●	
FU Berlin			●	● <sup>3</sup>
THS Berlin		●		
TU Berlin	●	●	●	
<b>Brandenburg</b>				
Uni Potsdam				● <sup>4</sup>
TRH Wildau			●	
<b>Hamburg</b>				
Uni der Bundeswehr Hamburg	●	●		● <sup>5</sup>
Uni Hamburg	●		●	
TU Hamburg-Harburg			●	
<b>Hessen</b>				
Uni Frankfurt			●	
Uni Gießen	●			
Uni Marburg			●	
Uni Wiesbaden	●			
<b>Mecklenburg-Vorpommern</b>				
Uni Greifswald				● <sup>6</sup>
Uni Rostock			●	
Hochschule Wismar			●	
<b>Niedersachsen</b>				
TU Braunschweig			●	
TU Clausthal		●	●	
Uni Göttingen	●			
MH Hannover	●			
Tierärztliche HS Hannover	●			
<b>Nordrhein-Westfalen</b>				
TH Aachen	●			
Uni Bochum	●		●	
Uni Bonn	●		●	
FHS Bonn-Rhein-Sieg		●		
Uni Dortmund	●		●	
Uni Duisburg	●			
Uni Düsseldorf	●			
Uni Köln	●			
De. Sport HS Köln	●			
FH Köln			●	
Uni Münster	●			
Uni Paderborn		●	●	
Uni Siegen			●	
Uni Witten/Herdecke	●			
Uni Wuppertal			●	
<b>Rheinland-Pfalz</b>				
TU Kaiserslautern			●	
Uni Mainz	●			
<b>Saarland</b>				
Uni des Saarlandes	●			
<b>Sachsen-Anhalt</b>				
Uni Magdeburg				● <sup>7</sup>
<b>Sachsen</b>				
TU Dresden	●			
Uni Dresden				● <sup>8</sup>
Uni Leipzig	●			
<b>Schleswig-Holstein</b>				
Uni Kiel	●	●	●	
FH Kiel		●		
Uni Lübeck	●			
<b>Thüringen</b>				
Uni Jena	●		●	

Angaben basieren auf der Antworten der Bundesregierung auf Anfrage von Bundestagsabgeordneten (Drucksachen 16/10156)

**Anmerkungen**  
1 nicht-technische Forschung  
2 Drittmittelkennung der BMVg 2003, 2004, Verwendung unbekannt  
3 Auftragsstudie für das BMVg zu Afghanistan am SPB 700  
4 Studiengang „Military Studies“ in Kooperation mit dem SOWI und MGFA  
5 nicht-technische Forschung  
6 Drittmittelkennung der BMVg 2000, Verwendung unbekannt  
7 Drittmittelkennung der BMVg 2001, Verwendung unbekannt  
8 Drittmittelkennung der BMVg 2000-2002, Verwendung unbekannt

# Examples: military research at German universities

- Research cooperation between the University of Kassel and the Kassel armament enterprises Maffei-Wegmann and Rheinmetall Defense. Research contract of the European Defense Agency for „cognitive“ unmanned fighting machines. Aim of this research is to minimize loss among one own's soldiers and to weaken war resistance.
- The University of Freiburg is promoting the Freiburg weapons company LITEF and is receiving sponsoring money in return. LITEF is part of the US company Northrop Grumman and arms the surveillance aircraft Tornado ECR.
- At the University of Karlsruhe, the military research program „Cognitive Radio“ was revealed. This is a computer-based broadband communication system for multinational intervention forces and for „cognitive“ unmanned ground vehicles.
- From 2001 – 2004 funding for military medical research at the University of Duesseldorf.
- Bremen: OHB-funded professorship in Space technologies
- The Free University Berlin hosts the collaborative research center 700: on behalf of the Federal Ministry of Defense, this research center created a study on Afghanistan, since particularly Afghanistan is seen as „space of limited statehood“.

# Collaborative Research Center 700 at Free University Berlin

On behalf of the Federal Ministry of Defense,  
the research center conducts a study with the  
task to identify „*how and under what  
conditions governance services are provided in  
areas of power, safety and welfare in areas of  
limited statehood, and what problems arise  
there*“



# Security research

- EU program (2007), 1.4 bill. €, German Federal Government 123 mill. €
- Linkage of internal and external security; militarization of society
- Not only directed against other states or revolts, but also directed against terrorist attacks, natural disasters, flow of refugees, internal upheavals, protests
- Dual use, networked security, comprehensive security approach

# Ambivalence of science and research

„dual use“ – objects, technologies and knowledge that are usually serve civilian purposes, but can also be used for military purposes.

A dual use is technically feasible and politically desired.

## Examples:

- High energy physics: nuclear energy
- aerospace
- Satellite
- Genetic Engineering
- Neurological networks
- Information processing systems

## Criteria for identifying dual use research

- Confidentiality and no publication
- Financing
- Discourse about their own actions: ethics and responsibility

# Wolfgang Borchert (1921-1947)

„You researchers in the laboratory,

If tomorrow they tell,

You shall invent a new death

Against the old life,

Then there is only one choice: say NO!“

# Early warning systems and alternatives

- a. Civil control
- b. Have a say
- c. Transparency of funding
- d. Openness and freedom to publish studies
- e. Critical public voice
- f. Individual responsibility
- g. Peace research, Sustainable Science
- h. Personal engagement in a peace organization
- i. Societal Verification, Whistleblowing
- j. Public awareness
- k. Conversion

## **I. Civil Clause**

**→ personal & structural responsibility**

# Civil Clause

## Definition:

A clause in the legal system is a well-defined single provision in contracts or laws, which consists of a condition or option. In the present case, the clause deals with the statutory requirement that research is to be conducted for exclusively peaceful (civilian) purposes and, consequently, excludes military or civil-military (dual use) research.

# Initiative „Universities for Peace – Yes to Civil Clause



“I would rather have me beat to pieces than participate in such a miserable doing.” Albert Einstein

# Actions for Civil Clause

- Decentralized work
  - Public debate /events / actions
  - Engagement of (political) stake holders
- Conference „no to military research ...“
- Weeks of action
  - At ~20 universities
  - Engagement of students and public
- Conference in Karlsruhe, 15./16.6.2012
- Conference in Spring 2014: *1914-2014: Militarism, Science, and universities*

# 13 Civil Clauses in Germany

- Technical University Berlin, University of Bremen, University of Oldenburg, Technical University Dortmund, **University of Tübingen**, **University of Rostock**, Technical University of Bremen, Technical University of Ilmenau, **Institution of Higher Education Bremerhaven** , University of Konstanz, **Technical University of Darmstadt**, **University of Frankfurt**, **University of Göttingen**,



# „Bringing Civil Clauses to Life“

Engagement in:

- Peace Research, Sustainable Science, Conversion, People's Science, Conversion
- Democratic, participative, transparent structures
- De-colonization of science from the logic of valorization / markets
- Societal verification / whistleblowing

*„Inventive [...] dwarfs, who can be rented for everything.”*

Bertholt Brecht, *The Life of Galilei*

# Thank you for listening!



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