

Military Research at Universities

An Introduction

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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?

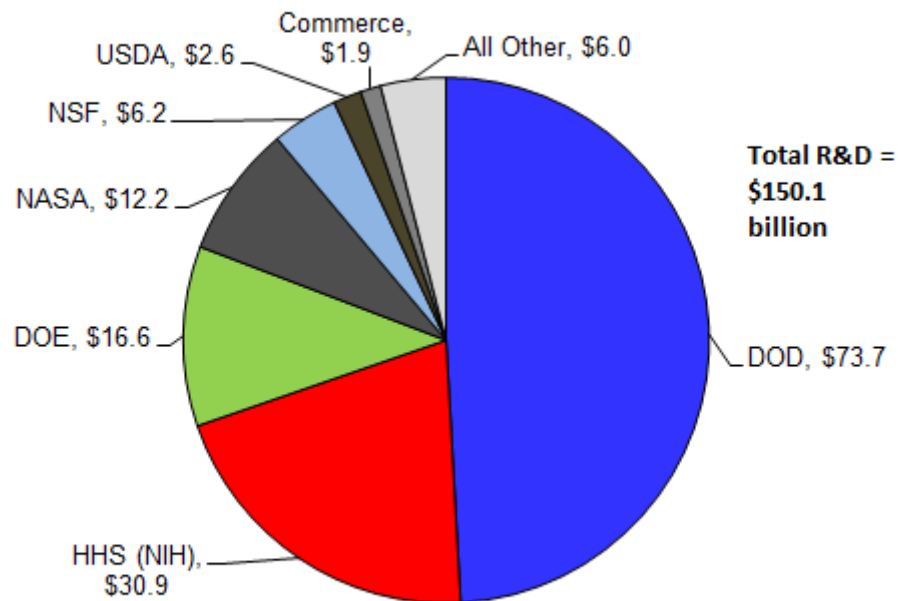
- a) Industry research
- b) Research areas and universities associated with the military
- c) Governmental research laboratories
- d) Public institutions

Basic characteristics of research:

- Pure military research with spin-off
- Dual use – research (civil-military ambivalence)
- Security research

R&D (basic, applied, development) funding in the USA

Figure 3: Base Budget R&D by Agency, FY 2017
budget authority in billions of dollars



Source: OMB R&D data, agency budget justifications, and other agency documents and data. R&D includes conduct of R&D and R&D facilities. © 2016 AAAS

Pentagon Funding in USA

(source: NSF Report 2016)

- DoD supports most engineering research at universities:
 - Electrical Engineering 72%
 - Mechanical Engineering 75%
 - Metallurgy and Materials Science 35%
 - Math and Computer Science 15%
- **totals about \$4 billion (12% of all university-sponsored R & D)**
 - i.e. Johns Hopkins University (\$511 million), Pennsylvania State University (\$172 million), Georgia Institute of Technology (\$99 million), Utah State University (\$62 million), University of Hawaii (\$54 million) Washington (\$58 million), and MIT (\$53 million)

European Military Research

- Security Research since 7th framework programme
- EU Framework Programme for Research and Innovation (Horizon 2020)
 - “Secure Societies” programme: 1.7 billion Euro
 - Terrorism, crime, border, cyber, ...
- EU Preparatory action on Defence research
 - 2017-2019: 80 million Euro
 - Leading to: **European Defence Research Programme (EDRP)** of at least 3,5 billion EURO for 2021-2027

Military Research in Germany

- Defense Ministry 2014+2015:
 - 300 contracts worth 125 million Euro
 - Universities: 55 contracts worth 13.9 million Euro
- „Science for civil security 2012-2017“
 - about 600 million Euro of EU funds
- 9 universities with Bundeswehr professors and 2 Bundeswehr Universities (HH, Munich)
- Pentagon funded research
 - 22 universities received more than 10 million USD since 2010 (among others at TU Ilmenau)

Thank you for listening!

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