

# **Military involvement in UK universities**

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Scientists  
for Global  
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<http://www.sgr.org.uk/>

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## UK military: key info

- One of the world's most heavily armed nations
  - e.g. nuclear weapons, warships, combat aircraft
- One of the world's largest arms exporters
  - Including to govts violating human rights
- Govt announced huge funding rise in November
  - 15% increase in military budget
  - New 'Defence Equipment Plan': £197bn over 10y
  - Military R&D budget will rise by 100%



Sources: IISS (2020); HM Treasury (2020); MOD (2021)

*[image: Queen Elizabeth aircraft carrier; credit: MOD]*

## UK military equipment: main programmes

- Submarines & nuclear weapons
  - 1/4 of budget
- Combat aircraft etc
  - Incl. planes, drones & helicopters
- Warships
- Armoured vehicles etc
- Weapons (conventional)
- 'Defence Digital'



- Budget includes manufacture of new equipment and maintenance of existing equipment (roughly 50/50 split)
- Submarines & nuclear weapons - incl. Trident renewal (4 x nuclear-armed 'Dreadnought' subs + warheads etc); completion of 7 x Astute Class conventionally-armed subs
- Combat planes etc - incl. F-35 Lightning II strike planes; more armed drones; helicopters; air support (e.g. heavy lift planes and maritime patrol planes)
- Warships – incl. 2 x Queen Elizabeth Class aircraft carriers; Type-26 global combat ships; Type-31 frigates
- Weapons - incl. guided missiles, torpedoes and bombs
- 'Defence Digital' – incl. increasing role for cyber warfare
- Source: MOD (2021).

*[image: Trident nuclear missile; credit: MOD]*

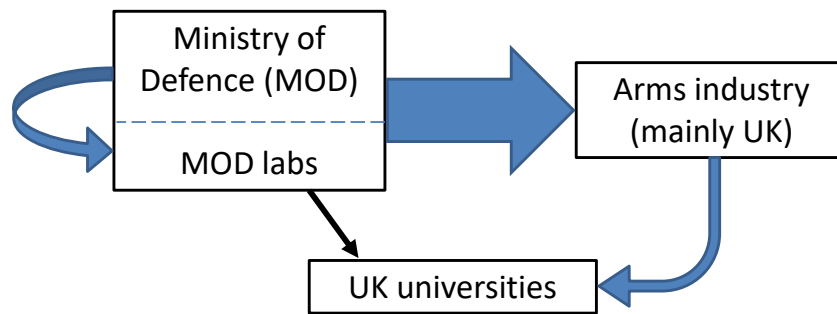
## New military tech programmes

- RAF Space Command
- National Cyber Force
- Defence Centre on Artificial Intelligence
- Develop new fighter aircraft using AI/drone tech
  - Also 'drone swarms'
- Develop next generation of warships
  - Armed with 'directed energy weapons'
- Aim: *"master the new technologies of warfare"*



- Info and quote from Boris Johnson's speech in November 2020.  
Source: Prime Minister's Office (2020).  
*[image: BAE Mantis 'demonstrator' drone; credit: Robert Frola]*

## UK military Research & Development funding relationships



- For more discussion, see: Parkinson (2016)

## Military & UK universities

- Numerous paths for military funding in universities
  - Hundreds of millions of £s a year, but figures very uncertain
  - Major funding increase is likely

Type of funding scheme	Main funders
Government/ public funded	UK military labs, e.g. DSTL, AWE MOD's Defence and Security Accelerator US Pentagon European Defence Fund (EU)
Corporate	UK corporations, e.g. BAE Systems, Rolls-Royce, QinetiQ Overseas corporations, e.g. Boeing
Joint govt/ corporate	Combination of above, including UK Research Councils (civilian)

- Government schemes run in conjunction with: Defence Science and Technology Labs (DSTL); Atomic Weapons Establishment (AWE); Engineering and Physical Sciences Research Council (EPSRC)
- Defence and Security Accelerator began in 2016, replacing the Centre for Defence Enterprise – numerous different areas, although none specifically on weapons development
- Sources: SGR (2008); Parkinson (2015) and references therein; MoD (2021b)

## Which universities?

- Main NGO studies on military funding:

Year published	Number of universities	Coverage	Lead research organisation
2005	29	4 MOD/ industry programmes	SGR
2007	26	Mainly elite 'Russell Group'	CAAT
2008	16	Random sample	SGR
2014	53	Funding from Atomic Weapons Establishment	Nuclear Information Service
2018	12	Researching autonomous systems	Drone Wars UK

- Universities receiving most military funding
  - Cambridge, Cranfield, Imperial College London, Oxford, Sheffield
- Are there any without military funding?

- A few other smaller studies have been carried out as well.
- A list of pre-2015 studies, with references, is provided in: Parkinson (2015); also Drone Wars UK (2018)

## Some recent examples

- Military funded projects focused on science and engineering depts

### 1. Atomic Weapons Establishment

- William Penney Fellowships
- Institute of Shock Physics, Imperial College

### 2. Drone research

- Example: Centre for Autonomous Systems Tech, Liverpool University
- BAE Systems is key funder project

- Research is not 'security classified'



- AWE William Penney Fellowships, named after leader of team that designed Britain's first atomic bomb, are "professorships and funding awarded by AWE to leading academics at UK universities who specialise in academic disciplines of interest to AWE."
- Institute of Shock Physics - £10m research centre investigating "the fundamental science behind shock waves, high velocity collisions, heat and pressure extremes."
- CAST is "concerned with programmable robots acting autonomously without human intervention".

Sources: Nuclear Information Service (2014); Liverpool Friends of Palestine (2015)



## Embedding militarism in universities

- Military/ arms industry funding is small percentage of university income but:
  - Targeted on key disciplines
    - engineering, computing, physics
  - Provides reliable supply of qualified scientists and engineers
  - Creates sympathetic professional relationships
  - Ethical questions not encouraged

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Parkinson (2015) and references therein

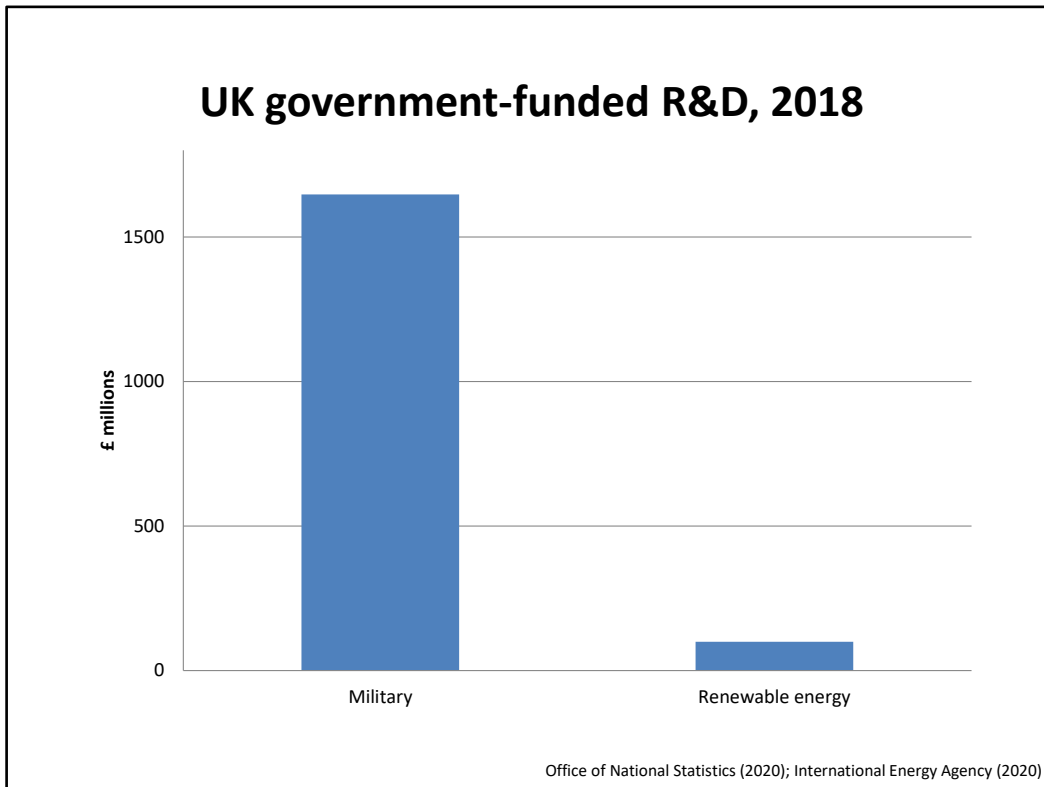
## Alternatives to military spending

- UK govt spending review: 2021-22 budgets
  - Military up by £5.2bn
    - Part of £24bn increase spread over 4y
  - Overseas aid cut by £3.3bn
    - Funding for future years uncertain
  - Climate up by approx. £1bn
    - 4y spending plans, but size unclear
- Global inequality, poverty & climate change are ‘threat multipliers’
- Let’s tackle the roots of conflict



- Figures from: HM Treasury (2020), pp.67-68, 70-71, 76-80
- Exact size of additional funding for carbon reduction measures is not clear from govt figures

*[image credit: iStockphoto]*



- Sources: Military spending: Office of National Statistics (2020); Renewable energy spending: International Energy Agency (2020)

## Campaigning/ Education

- SGR programmes
  - Military influence on sci/tech – research/ campaigning for alternatives
  - Ethical careers in sci/tech – with university students
  - Science4Society Week – with schools
- Other UK peace groups
  - New campaign by Stop Killer Robots UK
  - Campaign Against Arms Trade, CND, Demilitarise Education, Drones Wars UK, ForcesWatch, ICAN UK etc



- SGR promotes a shift away from militarised approaches towards tackling root causes of conflict
- SGR activities include: presentations to academics, peace campaigners, and students; articles in specialists media etc; campaign/ advocacy work with SGR members and other groups on issues related to military influence in R&D/ arms conversion/ nuclear weapons etc; careers info for university students; resources for sci/ tech teachers; tours of eco-projects
- For more details, see:

<http://www.sgr.org.uk/projects/military-influence-project-main-outputs>

<http://www.sgr.org.uk/projects/arms-conversion-main-outputs>

<http://www.sgr.org.uk/projects/nuclear-weapons-threat-main-outputs>

<http://www.sgr.org.uk/projects/ethical-careers>

<http://www.sgr.org.uk/projects/science4society-week>

*[images: SGR]*

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