

University of Sheffield Genocide and Apartheid Complicity Report

MAY 2024



WHAT IS

SCCP?



Sheffield Campus Coalition for Palestine is a coalition of staff, students, and alumni from the University of Sheffield and Sheffield Hallam University, some of whom are also involved in a broad cross-section of the many Palestine solidarity activist and organising groups that operate in and around the city of Sheffield.

The aim of the coalition is to bring all the work currently being done in support of the Palestinian people into one place, share information and skills and avoid the duplication of work.

All SCCP members share common goals and aim to work together for the benefit of our collective university and local community.

SCCP does not represent or speak for any of the affiliated organisations, nor does it take credit or responsibility for any efforts, organising or actions of the member groups.

EXECUTIVE SUMMARY

Several University of Sheffield departments, alongside the Advanced Manufacturing Research Centre (AMRC), AMRC Training Centre and Nuclear AMRC, form a world-leading cluster for research, innovation and training. **But what kinds of research and innovation are they producing?** This report finds that the AMRC and its associates are leading fundamental research on manufacturing processes, materials and technologies explicitly for the arms industry. **Between 2012 and 2022, the University received £72 million in direct funding from arms manufacturers,** more than any other UK institution. Currently, the University is conducting research costing tens, if not hundreds, of millions of pounds that is connected with arms manufacturers and/or perpetrators of apartheid in Gaza.

University- and AMRC-developed technologies are deployed in a host of components and integral systems that are manufactured by the University's research partners and are implicated in war crimes. This report details the nature and extent of University of Sheffield's involvement with the technology and proceeds of war, its profiting from war crimes and its association with the development of nuclear warheads.

These are our key findings:

The University's history, including the source of wealth that built the founding Sheffield College, is rooted in a colonial past and in the profits of genocide and war. The university's historical industrial relationships illustrate a dependence on the war economy which has continued and expanded to this day, only shifting in form with the growing corporatisation of the economy in a region previously dominated by local families and industry owners.

University research and development allows the funnelling of public money into the production of weapons, subsidising the profits of private corporations, and allowing arms manufacturers to pay as little as 4.5 percent of their own R&D costs. Staff in academic institutions are also paid significantly less than those employed in industry, further contributing to the profits of these corporations and the disempowerment of our local community.

Through its research partnerships with weapons manufacturers the University is complicit in the ongoing Israeli genocide in Gaza, a specific example being the AMRC's research contributions to the manufacture and development of combat aircraft such as F-35.

The University uses tactics of 'greenwashing' to camouflage the violence of these weapons by claiming to make their manufacturing process more "efficient" and "sustainable".

The University of Sheffield's current funding practices are antithetical to its publicly stated core values. Furthermore, its investment holdings contravene the university's Endowment Investment Policy and its obligation to eliminate exposure to violations of human rights.

We hope to use this report to generate meaningful engagement from all campus and local community stakeholders, to collectively develop a viable plan to transition our university away from a dependence on arms funding, while retaining existing specialisms, career and job security and safeguarding the future employability of our graduates.

The authors hope that the university can engage with this 'Ambitious Plan' in line with its #MadeTogether public image.

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WHO ARE WE REALLY? WHO DO WE HOPE TO BECOME?

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- *What is the purpose of a university?*
- *Is research ever ‘neutral’?*
- *How did we gain our Russell Group prestige?*
- *Are our actions aligned with our stated ideals?*
- *What are the stories we tell ourselves?*

”

For University of Sheffield academics, researchers, technicians, educators and students, these are all challenging questions, even more so when we consider both the increasing precarity of work and the costs of education in our sector. Few of us would consider ourselves supporters of genocide, but this report shows that the University of Sheffield is undeniably linked with, and profits from, war, war crimes, apartheid and genocide. It is both indirectly linked to, and directly implicated in, thousands of civilian deaths across the globe.

If we wish to progress, we must first come to accept who we really are. Are we willing to have the difficult conversations surrounding what this complicity means, both historically and today? Are we ready to start the work to remove ourselves from this system, and how do we transfer the incredible skill sets of our staff and student bodies into truly sustainable and just research?

**Do we want to continue profiting from suffering and war, genocide and apartheid?
What kind of university do we want for our future?**

As a university, we should be having these discussions much more explicitly and earnestly. We have to be honest with ourselves and each other, and to generate radical yet considerate plans for managing a transition away from arms profits, whilst keeping our community safe from job losses and protecting the careers of our graduates.

If you want to start having these conversations in your work or study area, SCCP wants to hear from you! We would be very pleased to collaborate on information sharing, facilitation of workshops or discussion groups, either on or off campus.

CONTACT US



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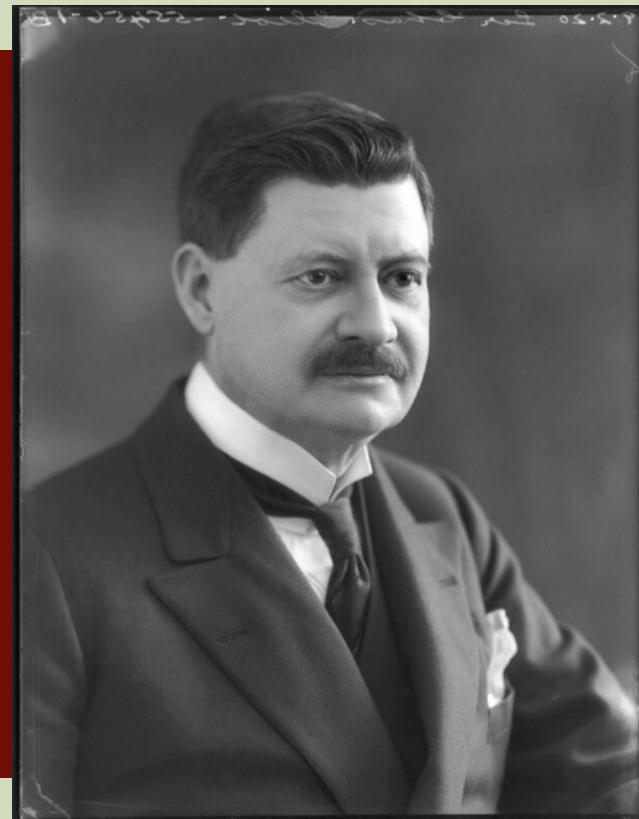
[@palestine_sccp](https://twitter.com/palestine_sccp)

BUILT ON THE PROCEEDS OF GENOCIDE

The University's history is inextricably interwoven with links to war and colonialism - ideas and projects that support, and are supported by, the arms trade. The Firth family wealth that built the college that became the University of Sheffield, for instance, has its roots in the supply of iron and steel to the factories of Samuel Colt, whose revolver 'sped the mass slaughter of Native Americans, including women and children, at the hands of U.S. Army cavalry'[1], and the University's vice chancellor in the years 1905–1913, Charles Eliot, was an influential diplomat and colonialist, who advocated for the destruction of the Maasai people:

"There can be no doubt that the Maasai and many other tribes must go under. It is a prospect that I view with equanimity... I have no desire to protect Maasaidom... the sooner it disappears and it is unknown, except in books of anthropology, the better..."

- Charles Eliot [2].



The historical source of wealth that built our university, and the industrial relationships that litter its past and present research and income show a strong dependence on war, its profits and the development of materiel.

[1] J. Rasenburger, Time Magazine, 2020, (accessed 22/3/2004) <https://time.com/5842494/colt-gun-debate-history/>

[2] Ole-Ngulay, Saruni Oitesoi, 1996, Africa's Two Great Evils: 'Soil Erosion and Soul Erosion' Pressure on Customary Institutions for Common Property Resources Management; East Africa Case Study in Reference to the Maasai

AN INCOMPLETE MYTHOLOGY

Our university leans heavily on the narrative of working-class penny donations founding the university.

In 1905, '*over £50,000 was donated (to help fund the university) ... by 'steelworkers, coal miners, factory workers and the people of Sheffield'*'.^[3]

In today's money, £50,000 is equivalent to £15 million. Sheffield's population has grown only modestly, from 451,000^[4] to 554,000^[5] in the intervening time. Are we to believe that the collective donations of Sheffield's working-class population formed more than a portion of such a large sum? Who exactly were these other 'people of Sheffield'?

What is clearer is how vital the pre-existing wealth of the Firth family was in the founding of the University of Sheffield.

The University of Sheffield was founded from a merger of three existing institutions: the Sheffield Medical School, Sheffield College and Sheffield Technical School. All three owe their very existence to the wealth of the Firth family, wealth that has direct links to colonialism, genocide and arms manufacturing. These links are explored in the following timeline.

[3] https://web.archive.org/web/20150924122227/http://www.sheffield.ac.uk/polopoly_fs/1.234217!/file/Friday_programme.pdf

[4] <https://www.sheffield.gov.uk/sites/default/files/docs/libraries-and-archives/archives-and-local-studies/research/Population%20statistics%20study%20guide%20v1-2.pdf>

[5] <https://totalpopulation.co.uk/authority/sheffield>

A HISTORY OF ARMS AT UNIVERSITY OF SHEFFIELD

1850 & 60's

Firth family steel makers supplied most of the iron and steel used by Samuel Colt's arms factories in Hartford, Connecticut.[6]

This metal was used to produce guns that were essential in the genocidal expansion into what is now the territory of the United States of North America,[7] in which an estimated 96% of the indigenous people, or nearly 5 million people, were killed.[8]

1863

The Firth family moved directly into manufacturing arms, installing machinery to produce artillery pieces weighing up to 80 tons. [9]

1879

Mark Firth (for whom Firth Court is named) donated £20,000 (£6 million today), funding the purchase of land and the building of Firth College. Firth College also saved the existing Sheffield Medical School from financial collapse.[10]

1884

Firth College funded the founding of Sheffield Technical School, alongside a grant and support from other Sheffield steel-making companies.[11]

Continues overleaf

[6] https://en.wikipedia.org/wiki/Firth_Brown_Steels

[7] J. Rasenburger, Time Magazine, 2020, (accessed 22/3/2004) <https://time.com/5842494/colt-gun-debate-history/>

[8] https://en.wikipedia.org/wiki/Native_American_genocide_in_the_United_States

[9] https://en.wikipedia.org/wiki/Firth_Brown_Steels

[10] https://en.wikipedia.org/wiki/University_of_Sheffield

[11] Ibid.

1897-1903

Firth College merged with the Medical and Technical schools to form University College of Sheffield. Expansion followed, with the college purchasing and demolishing Weston House (next to Weston Park) to make way for new buildings.[12]

1905

The University of Sheffield was established by royal charter, with Firth College becoming the University's Department of Applied Science.[13]

1914-1945

During both World Wars, the University of Sheffield supported war efforts through specialist research and training. From 1914-1917 academic subjects were replaced with the teaching of munitions and medical appliance manufacture. The departments of Electronic and Electrical Engineering, Civil and Structural Engineering and Mechanical Engineering were founded in direct response to the needs of the First World War, and provided training for injured and incapacitated soldiers, and manufacturing inspection gauges and munitions. 1945 saw the University commence research in new areas such as radar.[14]

2001

The University partnered with Boeing to establish the Advanced Manufacturing Research Centre (AMRC). Boeing is the world's fourth largest military contractor, turning over \$23.9 billion in arms revenue in 2022; this represents 44 percent of its total revenue.[15] The AMRC and Nuclear AMRC operate at several locations across England and Wales, and are sites of lucrative research for the University. The amount of money originally invested by Boeing is not a matter of public record.

[12] https://en.wikipedia.org/wiki/University_of_Sheffield

[13] Ibid.

[14]] <https://www.sheffield.ac.uk/about/history>.

[15]] <https://www.sipri.org/visualizations/2023/sipri-top-100-arms-producing-and-military-services-companies-world-2022>

2008

The University of Sheffield received £2.5 million from BAE Systems to launch a new specialist research centre dedicated to developing stealth technology for nuclear submarines.[16]

2017

Boeing spent £25 million opening their Sheffield plant because of their close links to the AMRC.[17]

2024

The Royce institute (whose partners include Boeing, Rolls Royce and Raytheon) opens the £42.5 million Defence Materials Centre of Excellence with the University of Sheffield, amongst other institutions.[18]

[16] <https://www.william-cook.co.uk/gb/news/advanced-manufacturing-research-centre-welcomes-william-cook-as-partner>

[17] <http://www.b737.org.uk/production.htm>

[18] <https://www.sheffield.ac.uk/engineering/news/sheffield-partner-new-ps425m-dstl-materials-centre-excellence>

HISTORY OF VICE CHANCELLORS

It seems a time-honoured tradition that those Sheffield Vice Chancellors who were not career academics or educators have had personal ties with colonisation, development of arms and military technology, the nuclear industry or careers in the armed forces. While this is perhaps more a commentary on British colonial wealth and exploitation the following list of VCs makes for sober reading.

1938 - 1953

Irvine Masson – Previously an explosives researcher at the Royal Arsenal, Woolwich, work that he continued at University of Sheffield.[19]

1905 - 1912

Charles Eliot – Colonialist diplomat and advocate of genocide.

1953 - 1965

John Macnaghten Whittaker – Royal Artillery - Egypt and Tunisia 1942/43 & Scientific Advisor to the Army Council.[20]

1974 - 1991

Geoffrey Sims – Previous employment at the General Electric Company (GEC), a major British manufacturer of consumer and defence electronics[21] & the Atomic Energy Authority.[22]

1991 - 2001

Gareth Roberts – Employed as Chief Scientist at Thorn EMI (1985 - 1990)[23] one of the United Kingdom's largest defence companies - In 1995, Thorn EMI Electro Optics, Thomson Thorn Missile Electronics & Thorn Sensors Group were sold, all of which are now owned by Thales, who's UK operations are partnered with Elbit[24] and IAI[25] to develop drones and surface-to-surface guided missiles.

[19] Biographical Memoirs of Fellows of the Royal Society. 9: 205–221. doi:10.1098/rsbm.1963.0011.

[20] Hayman, W. K. (1985). "John Macnaghten Whittaker. 7 March 1905 – 29 January 1984". Biographical Memoirs of Fellows of the Royal Society. 31: 654–666

[21] https://en.wikipedia.org/wiki/General_Electric_Company

[22] https://en.wikipedia.org/wiki/Geoffrey_Sims

[23] <https://www.theguardian.com/science/2007/mar/17/obituaries.guardianobituaries>

[24] <https://elbitsystems.com/pr-new/elbit-systems-awarded-180-million-purchase-order-under-framework-agreement-to-supply-first-three-watchkeeper-x-tactical-uas-to-the-romanian-ministry-of-national-defense/>

[25] <https://www.iai.co.il/iai-and-thales-uk-offer-next-generation-ship-killing-solution-for-royal-navy>

A RESEARCH PARTNER FOR THE ARMS INDUSTRY

The University of Sheffield has many direct and indirect links to the arms industry. Several high-value projects, institutes and partnerships exist to conduct military research, develop new technologies and improve arms companies' profitability.

It is difficult to understand the full depth of the University's involvement in Arms related research as the financial arrangements and much of the specific content of the research itself is not made public, and arms companies make explicit efforts to hide the detail of their research actions.

This section lists partners that have a current active role in the University, providing funding and direction for research and, at times, teaching. Some of these companies are directly implicated in the genocide of Palestinian people in Gaza – details of these connections are found in the '**Complicity in Genocide**' section later in the report.

Many more have financial ties to genocide and apartheid through common projects and weapon platforms, and several senior executives from these weapons manufacturers hold strategic advisory positions in these institutes or in the University itself. More details on the departmental advisory boards can be found in the '**Control of Teaching and Research**' section.

What becomes very clear on digesting this information is that University of Sheffield is THE arms research institution in UK higher education.

UNIVERSITY RESEARCH – A DIRTY BARGAIN

The value of the integrated relationships that Arms manufacturers enjoy with universities such as ours is truly staggering. Public funds are used to pay universities to conduct Research & Development (R&D) activity in a manner unique within the UK economy to the Defence Industry.

These indirect subsidies mean that privately owned defence companies can pay for as little as 4.5 per cent of their R&D costs[26], while keeping the profits that are generated from this research via international sales of new armaments and related technologies. This allows arms companies to issue huge dividends to private shareholders while avoiding paying their own costs.

Table 1. Comparison of research and development costs paid by two of the UKs largest defence companies and the private profits enabled by UK public spending.

2022 figures[27]	Revenue	% of R&D costs paid	Investor return above FTSE100 average	Total Shareholder Dividend
BAE SYSTEMS	£21.25 bn	14.35%	2.1%	£1 bn
QINETIQ	£1.58 bn	4.5%	6.2%	£43 m

See the *Public funding, private profits* context box.

No other industry receives such a high level of government money for such a low return on investment in the British economy. Between 1987 and 2009 UK arms manufacturers received 35 percent of all UK R&D funding, while industries that contribute more to the economy and employ more people, such as automotive manufacturing, struggle to secure government funding.[28]

[26] <https://www.theguardian.com/world/2023/jul/09/uk-wastes-billions-defence-firms-investors-taxpayer-weapons>

[27] <https://www.common-wealth.org/publications/the-asset-manager-arsenal-who-owns-the-uk-arms-industry>

[28] Ibid.

Despite the high level of government subsidy, the dynamic relationships within the arms industry and its geopolitical context pose significant risks to UK workers, in the form of job insecurity and the potential for high future financial and environmental costs to the nation.

University of Sheffield actively enable this poor value and high-risk, high-cost industry to maintain its profitability by entering research partnerships, sometimes with companies that have proven to be corrupt or unethical in their business practices, all while turning a blind eye to the genocidal impacts of its research.

These research relationships function as economic subsidies for arms manufacturers, actively making war more profitable, however these relationships do not sufficiently benefit the communities, taxpayers and universities who are supposedly the beneficiaries.

For more detail, see the ***Public finding, private profits*** context box.

CONTEXT: PUBLIC FUNDING, PRIVATE PROFITS

The arms industry is governed by a different set of rules than the rest of the UK economy. It is exempt from several important trade treaties, including the World Trade Organisation (WTO) agreement of public procurement (which includes key features such as Scope, Transparency, Fairness, prevention of corruption and non-discrimination).

The industry is supported by the British state, via the Ministry of Defence (MoD), as its primary client and a primary funder of research and development. Between 1987 and 2009 the defence industry received 35% of all UK issued public research and development funding. The UK receives comparatively little for this investment, however. The arms industry employs fewer people and adds less to the economy than the automotive industry, yet the automotive industry struggles to find public investment to safeguard its future.

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Public investment in arms companies creates a direct flow of money from public funds into dividends for shareholders and inflated profits for transnational asset managers and investment firms.

QinetiQ, BAE Systems and Babcock International generate over 20 per cent of their profits from MoD investments, however, 16 per cent of shares in UK arms companies are held by only three transnational investment firms (sometimes also called vulture funds for their dominant monopolies in the housing markets): BlackRock, Vanguard and State Street.

State support for arms exports is wrapped up in the geopolitical relationships that these private investors continue to benefit from. The UK government uses its political influence, lucrative export relationships and ever-increasing dependencies on a number of oil-producing and/or violently repressive regimes (such as Saudi Arabia and Qatar) to facilitate and sponsor contracts between arms companies and these regimes.

In 2022, 45 per cent of the UK's standard arms export licences went to Saudi Arabia and Qatar. This is the completion of the circle, where the publicly funded arms industry, with its proven corruption and direct support from British diplomatic influence, supports the power of questionable regimes and further increases our dependency on these allies despite their human rights abuses.

Additionally, the UK governments' continuing disproportionate support for the arms industry does not balance with the economic realities.

UK jobs generated by the arms industry are inherently insecure. They depend on fluctuating global alliances and continuing wars to fund them. The UK is also importing more arms from overseas – arms imports grew by 75 per cent between 2017 and 2021 (vs. the period 2012-2016).

Consolidation (mergers reducing the amount of competition) and widespread corruption inflate prices but expose companies to huge fines, and the implementation of international carbon agreements will also begin to create significant additional financial costs to the arms sector as it seeks to offset its highly carbon intensive activity. These conditions do not provide the background for good job security.

Continues overleaf

Continued...

Jobs created in academic research institutions are also significantly less well paid than their equivalent roles in industry. The comparatively lower wages paid to University of Sheffield researchers are another form of subsidising the private profits of these multinational defence companies to the detriment of our communities.

The authors contend that University of Sheffield should not be enabling the mechanism through which public funds are used to subsidise private profits, and neither should these profits be supported by lower wages for University of Sheffield employees.

Adding a final insult to injury, the defence companies, so well supported by public funds, continue to fail to deliver on government contracts. General Dynamics wasted billions of pounds in dangerously poor design for the Ajax armoured vehicle, delaying deliveries by more than a decade while still managing to pay £20 billion to its shareholders. Work on this project was conducted by William Cook at the AMRC

This analysis leads us to question the validity and suitability of the defence sector as a recipient of so much financial, political and university support.

Which other currently underserved industries and technologies could we support instead, that would lead us away from continued war and environmental destruction? [29]

ARMS AND RELATED RESEARCH AT UNIVERSITY OF SHEFFIELD

The Airbus logo is displayed in white, bold, sans-serif capital letters on a dark blue rectangular background.

AIRBUS

Airbus is a Dutch Aerospace multinational that also makes warplanes and missile systems. In 2023 Airbus earned 24 per cent (€15.7 billion) of its €65.4 billion revenue from its Defence and Space division, manufacturing military aircraft (including 46 per cent of all Eurofighter Typhoon combat aircraft), Space Systems, Connected Intelligence, and Unmanned Aerial Systems[30].

In addition to these, Airbus has a large stake (37.5 per cent) in MBDA, Europe's dominant missile manufacturer. The Eurofighter Typhoon has been used in Saudi Arabia's devastating attacks on Yemen, as have Raytheon's Paveway bombs and MBDA's Brimstone and Storm Shadow missiles – all sourced in the UK.[31]

GPT Special Project Management, until its closure in 2019, was a UK subsidiary of Airbus. GPT operated for years on one sole contract: £2bn from the MoD to supply communications and electronic warfare equipment to the Saudi Arabian government. As a result of a Serious Fraud Office investigation, Airbus was required to pay £3bn in penalties following charges for GPT and three individuals, including its former Managing Director and Financial officer, for the bribery of Saudi Arabian officials and members of the National Guard.[32]

Airbus is a partner at the University of Sheffield AMRC and the Department of Aerospace Engineering.[33]

[30] <https://caat.org.uk/data/companies/airbus-group-eads/>

[31] <https://data.parliament.uk/writtenevidence/committeeevidence.svc/evidencedocument/committees-on-arms-export-controls/use-of-ukmanufactured-arms-in-yemen/written/31698.html>

[32] <https://www.rosenblatt-law.co.uk/insight/corruption-gpt-special-project-management-ltd-rosenblatts-financial-crime-team/>

[33] <https://investigate.afsc.org/company/airbus>

UNIVERSITY OF SHEFFIELD AMRC

The University of Sheffield's AMRC is heavily involved with arms manufacturers and manufacturing. Research partners include **Airbus, BAE Systems, Boeing, Mitsubishi Heavy Industries, AML, Collins Aerospace** and **Siemens**. The AMRC, as of February 2024, has also partnered with the **Atomic Weapons Establishment (AWE)** to develop the new Trident Nuclear warheads.[34]

The AMRC serves as a pivotal hub for defence engineering and manufacturing, and recently hosted a launch event in collaboration with the Ministry of Defence (MoD), Team Defence, and Catapult, among others. A notable quote from the event's presentation slides underscores their mission:

"If we can't make it, the warfighter can't have it!" [35]

The AMRC has also expanded significantly in the last few years, notably with the establishment of AMRC Factory 2050 in 2015.[36] More recently, the University has announced plans for further expansion, including the construction of a new R&D facility to accommodate a Boeing-led project.[37], [38]



ADVANCED MANUFACTURING (SHEFFIELD) LIMITED (AML)

AML is a manufacturing solution provider with a portfolio of industry leading customers, among them **Rolls-Royce, the Boeing Company, Goodrich, Bombardier** and **Siemens**, along with many of their prime and secondary suppliers. AML is a spin-out from the University of Sheffield's Advanced Manufacturing Research Centre (AMRC) and acts as a sub-contract manufacturer of complex parts and sub-assemblies for industries including the aerospace, oil and gas, and nuclear sectors. AML is also part of the SC21 framework for accelerating the competitiveness of aerospace and defence companies.

[34] https://www.glassdoor.co.uk/job-listing/project-engineer-awe-JV_IC2675152_K00,16_KE17,20.htm?jl=1009087879776

[35] <https://www.teamdefence.info/wp-content/uploads/2022/07/20220628-FCG-HVM-CoE-launch-V1.2.pdf>

[36] <https://www.amrc.co.uk/news/amrc-launches-cutting-edge-factory-2050-advanced-manufacturing-research-facility-in-sheffield>

[37] <https://www.amrc.co.uk/news/compass-groundbreaking>

[38] <https://www.boeing.co.uk/news-releases/2023/uk-government-boeing-and-partners-announce-aerospace-manufacturing-investment>

“
**‘AML remains proud to be part of a secure and thriving
Defence sector within the UK and abroad’.** [39]

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ATOMIC WEAPONS ESTABLISHMENT

The Atomic Weapons Establishment (AWE), the UK government agency in charge of the nation’s nuclear weapons development and capability, is leading the new programme to replace the current stock of warheads. This includes basing a Project Engineer working on nuclear warheads directly at the AMRC.

The AWE is also working with the Nuclear AMRC to better understand supply chain capacity.[40]

BAE SYSTEMS

BAE SYSTEMS

A partner of the AMRC in Future Air Support, investigating how digital technologies can be used to elevate the RAF’s fleet of Eurofighter Typhoons. BAE Systems have ‘worked with the AMRC on numerous projects, from small demonstrators to full facilities like Factory 2050 in Sheffield and our Factory of the Future in our BAE Systems site at Warton’.[41]

BAE Systems, with the Ministry of Defence (MoD) and Rolls Royce, make up the Dreadnought Alliance[42], developing the UK’s submarine-based nuclear threat. The Dreadnought alliance budget is £31 billion[43].

More detail on the University's connections with BAE can be found in the section, ***Case Study: BAE Systems.***

[39] <https://www.amlsheffield.co.uk/>

[40] <https://namrc.co.uk/wp-content/uploads/2022/01/NuclearAMRCnews42.pdf>

[41] <https://www.amrc.co.uk/news/amrc-co-pilots-future-air-support-with-bae-systems>

[42] <https://dreadnoughtalliance.co.uk/>

[43] <https://namrc.co.uk/intelligence/submarine/>



BOEING

Boeing is the world's third largest arms manufacturer, and a founding member of the AMRC. The company also partners directly with the Aerospace Engineering Department at the University of Sheffield. Boeing made 56 per cent of its \$35 billion annual revenue from its defence sales in 2022.

Boeing is also a partner in the AMRC's new innovation facility Composites at Speed and Scale (COMPASS), developing and testing new composites manufacturing technologies for the defence and aerospace industries, among others.



COLLINS AEROSPACE

Owned by RTX (Raytheon) and an AMRC partner – suppliers of solutions in practically every conceivable area of aerospace armaments.[44]



DEPARTMENT OF ELECTRONIC AND ELECTRICAL ENGINEERING

The University of Sheffield works on stealth technology from **BAE Systems, QinetiQ, Defence Science and Technology Laboratory (Dstl)** and the MoD.[45]

[44] <https://www.collinsaerospace.com/what-we-do/industries/military-and-defense>

[45] Staff profile - Reference redacted to protect staff member

DEPARTMENT OF AUTOMATIC CONTROL AND SYSTEMS ENGINEERING

The University has worked with **Rolls Royce** and **Qinetiq** on Autonomous Intelligence and wireless sensing technology.



HENRY
ROYCE
INSTITUTE

HENRY ROYCE INSTITUTE

Research partners: **BAE Systems, Boeing, Rolls Royce, Raytheon, MBDA**

The University is a major partner in the Henry Royce Institute, a national institute for advanced materials research. In 2018, the University paid £13 million to re-develop the site that became the Royce Discovery Centre.[46]

Chaired by Dame Julia King, who spent 8 years in senior positions at Rolls Royce (and who has previously been a member of the Universities UK board), the Institute has several high-value military collaborations. As a ‘major partner’ of the Institute, the University of Sheffield received £34 million to fund the commercialisation of materials research and build two purpose-built facilities. Work carried out in Sheffield includes net shape aerospace components and primary metal supply for aerospace component manufacturers.[47]

The Institute’s work at the University of Sheffield includes research with Rheinmetall BAE Systems Land, MBDA and BAE systems on titanium materials for defence applications and a significant agreement to work as part of the £42.5 million Defence Materials Centre of Excellence (DMEx).[48]

[46] <https://www.stotles.com/explore/notices/ccdf4e6e-5931-4a33-bead-6b1ecbe47907/1885-jn-royce-discovery-centre>

[47] <https://www.royce.ac.uk/research-areas/advanced-metals-processing/>

[48] <https://www.sheffield.ac.uk/engineering/news/sheffield-partner-new-ps425m-dstl-materials-centre-excellence>



LEONARDO

The Italian multinational arms manufacturer Leonardo made \$12.9 billion from defence contracts in 2022 (89 per cent of its total revenue).[49] The company intends to *'further develop its UK-based defence electronics capabilities'* and *'accelerate disruptive research and development capabilities to support net zero goals in defence aviation'* through partnership with the AMRC and Nuclear AMRC.[50]



MBDA

MBDA, a joint venture of Airbus (37.5 per cent), BAE Systems (37.5 per cent) and Leonardo (25 per cent) is a European missile manufacturer with a 2023 revenue of €4.4 billion[51]. In 2023, MBDA signed an agreement in 2023 with Israel Aerospace Industries (IAI) for *'the production, integration, sales and marketing of the IAI's loitering munition products in Germany'*[52], directly profiting from weapons that have been developed and war tested on the Palestinian people. MBDA's Storm Shadow cruise missile has been sold to the Ukraine[53] and has been used by the RAF in Iraq[54] And Yemen. [55]

In 2023, MBDA signed an agreement in 2023 with Israel Aerospace Industries (IAI) ... directly profiting from weapons that have been developed and war tested on the Palestinian people.

[49] <https://www.visualcapitalist.com/the-top-25-defense-companies-by-revenue/>

[50] <https://uk.leonardo.com/en/news-and-stories-detail/-/detail/leonardo-deepens-relationship-with-high-value-manufacturing-catapult>

[51] <https://www.mbda-systems.com/about-us/>

[52] <https://www.shephardmedia.com/news/landwarfareintl/israel-aerospace-industries-signs-two-loitering-munitions-deals/> - referencing drone-mounted always-ready weapons.

[53] <https://theaviationist.com/2024/04/28/italian-supply-storm-shadow-missiles-ukraine/>

[54] <https://www.gov.uk/government/news/raf-clears-daesh-stronghold-in-iraq-in-support-of-an-iraqi-security-force-operation>

[55] <https://www.theguardian.com/world/2019/jun/18/the-saudis-couldnt-do-it-without-us-the-uks-true-role-in-yemens-deadly-war>



MITSUBISHI HEAVY INDUSTRIES

Mitsubishi Heavy Industries is a Japanese multinational that, aside from developing industrial power plants and heavy machinery, is Japan's largest weapons manufacturer[56]. Mitsubishi is an AMRC technology partner.[57]



NUCLEAR AMRC (NAMRC)

Through the NAMRC, the University works with manufacturers from across the nuclear sector to 'improve capabilities and performance along the supply chain' and helping companies to 'develop new processes and innovative technologies, and raise quality, capability and cost competitiveness'.[58]

The NAMRC has an important role supporting Rolls-Royce and the wider nuclear submarine supply chain with manufacturing innovation, supply chain development and further skills initiatives. The NAMRC's manufacturing expertise and over £35m of manufacturing equipment 'is available to manufacturers of any size for research and development projects'. NAMRC manufacturing techniques are considered by the MoD to be essential to reducing the costs of, and strengthening the case for, nuclear technology 'in all its guises'.[59]

The Nuclear AMRC and National College for Nuclear, with funding from the MoD and Innovate UK, partnered with Rolls Royce and the University of Derby to 'provide a pipeline of talent into the submarine business', aiming to provide 200 apprenticeships a year for the next decade.

[56] https://archive.ph/20121206015151/http://special.defensenews.com/top-100/charts/rank_2011.php

[57] <https://www.theengineer.co.uk/content/archive/mitsubishi-joins-sheffields-amrc>

[58] <https://namrc.co.uk/wp-content/uploads/2024/04/NuclearAMRCbrochure2024.pdf>

[59] <https://namrc.co.uk/wp-content/uploads/2022/01/NuclearAMRCnews42.pdf>



ROLLS ROYCE

Rolls Royce is a UK company that develops power and propulsion solutions for the Defence Industry, making \$4.9 billion (31 per cent of its revenue) in 2022 from defence.

The University's partnership is broad and historic. Rolls Royce has had, since the 1990s, dedicated research programmes in the two Rolls-Royce University Technology Centres for '*Advancing developments in technology for future Rolls-Royce markets*'. These programmes have '***looked after the company's technical interests, enabling Rolls-Royce to advance their technology and meet future market requirements, improving products and increasing productivity.***'

Projects within Control and Systems Engineering UTC '*range from monitoring systems to wireless technologies. Improving risk assessment methods to minimise potential disruption has applications for aircraft gas turbine engines and industrial turbo-generators*'. ***The University 'support(s) Rolls-Royce throughout their business activity in design, development, manufacture and service provision for integrated power systems that are used in the air, on land and at sea.'***[60] The Advanced Electrical Machines and Drives UTC projects include investigating fault-tolerant generators for the 'more-electric' aircraft.[61]

Rolls Royce has also been responsible for manufacturing and maintaining the UK's nuclear power systems for its submarine fleet for over 60 years. The Nuclear AMRC works with Rolls Royce on a range of confidential submarine-related projects. The value of the Nuclear AMRC work is not publicly available. [62]

Alongside BAE Systems and the MoD the company will develop the power systems for the UK's new nuclear deterrent in a project worth £31 billion.[63]

[60] <https://www.sheffield.ac.uk/acse/research/centres/rolls-royce>

[61] <https://www.sheffield.ac.uk/collaborate/partners/rolls-royce>

[62] <https://namrc.co.uk/industry/rolls-royce-raynesway-expansion>

[63] <https://namrc.co.uk/intelligence/submarine/>

CONTEXT: GREENWASHING THE ARMS TRADE

Arms companies and military institutions have a tendency to leverage claims to be 'green' to increase their respectability and mask their negative impacts.

We call this masking of crimes 'greenwashing'.

Public claims of 'streamlining' or 'decarbonising' arms production and making warplanes more 'fuel efficient' are, in fact, ***“playing a significant part in helping (BAE Systems) meet its F-35 ... affordability commitments”***. [64]

The arms trade and environmentalism are fundamentally opposed. In January 2024, the Guardian reported that 'planet-warming emissions generated during the first two months of the war in Gaza were greater than the annual carbon footprint of more than 20 of the world's most climate-vulnerable nations.[65]

Military campaigns also have a devastating impact on the habitats and systems which support life.

10% of the 849 structures destroyed in the West Bank by Israel in 2020 were so-called WASH structures - buildings which supply a people's water, sanitation and hygiene needs.[66]

With the backing of the Israeli state, settlers also target the olive trees around which the Palestinian culture and ecosystem are woven.[67] In its assault on Gaza, the Israeli state is well underway to a total destruction of the land that threatens to make Palestine unliveable for the Palestinians.

Palestinians are both some of the smallest contributors to the climate crisis, and some of the most heavily affected. Refugees are especially vulnerable to rising temperatures.

Continues overleaf

[64] University of Sheffield Impact Case Study, REF 2021 - Automating BAE Systems defence aircraft manufacture

[65] <https://www.theguardian.com/world/2024/jan/09/emissions-gaza-israel-hamas-war-climate-change>

[66] <https://reliefweb.int/report/occupied-palestinian-territory/palestinian-access-water-attacks-wash-structures-area-c#:~:text=Of%20the%20849%20structures%20destroyed,21%20March%20being%20WASH%20structures.>

[67] <https://jacobin.com/2023/11/west-bank-israeli-settlers-palestinian-olive-trees-violence-occupation>

Continued...

Israel's war has displaced 85% of the Gazan population, forcing them to live in tents where the temperature is even higher than the 37°C outside.[68] They endure these conditions without fans, air conditioning or drinkable water. Many, already malnourished and dehydrated, are expected to succumb to heatstroke. [69]

The arms industry and its products also support Israel's fossil fuel extraction. The fossil fuel giant BP was recently granted licences by the Israeli government for natural gas exploration off the coast of Gaza, deemed unlawful by the UN (see the **Theft of Natural Resources** context box for more information). [70]

The UK Government's historic patterns of intervention in support of BP and other's fossil fuel exploitation in this region and beyond [71] exposes the British public to the human and financial costs of increased military intervention in the middle east, should these conflicts continue to escalate. The current genocide, in which we as a university are complicit and enabling, could develop into a much larger war, with devastating ecological impacts alongside the human losses. [72]

With the support of the University of Sheffield conducting research that enables these arms companies to increase their profits and sell its products across this entire area we refer to as the 'Middle East', is directly contributing to this dangerous situation.

To claim that projects to decarbonise or improve sustainability for the arms industry are environmentally friendly or sustainable is a grave example of greenwashing and should be resisted.

[68] <https://twitter.com/HossamShabat/status/1783136425359130918>

[69] <https://press.un.org/en/2024/sc15564.doc.htm#:~:text=A%20staggering%2085%20per%20cent,proposing%20that%20Palestinians%20should%20be>

[70] <https://www.reuters.com/business/energy/israel-awards-gas-exploration-licences-eni-bp-four-others-2023-10-29/>

[71] <https://znetwork.org/znetarticle/how-bps-interests-drive-uk-support-for-wars-coups-and-dictators/>

[72] UCHE C. OIL, BRITISH INTERESTS AND THE NIGERIAN CIVIL WAR. *The Journal of African History*. 2008;49(1):111-135. doi:10.1017/S0021853708003393



RTX (FORMERLY RAYTHEON)

RTX is the world's second largest arms manufacturer. Directly and through its numerous subsidiaries, RTX manufactures and sells every kind of technological system for warplanes and vehicles, information technology solutions, guidance systems, bombs and missiles. In response to an additional \$106 billion boost to the 2023 US defence budget to fund supplies of weapons to Israel and restocking Ukraine, RTX CEO Greg Hayes stated:

"I think really across the entire Raytheon portfolio, you're going to see a benefit of this restocking" [73]

The University partners with Raytheon in developing advanced materials, Quantum computing and immersive VR.



SAFRAN S.A.

Safran is a French multinational aerospace and defence company that posted 2023 revenue figures of €23.2 billion.

Safran is a partner of the University of Sheffield's Industrial Doctorate Centre in Machining Science, a partnership between the Faculty of Engineering, the AMRC, Rolls Royce amongst others.[74]

Safran also work with the AMRC on a £1.7 million project for development of 5 axis 3D printing for complex aerospace parts in conjunction with Q5D, who have received significant investment from Lockheed Martin.[75]

[73] <https://www.businessinsider.com/raytheon-ceo-benefit-dod-budget-increases-war-israel-2023-10>

[74] <https://www.sheffield.ac.uk/machining-idc/about-us>

[75] <https://www.amrc.co.uk/news/robotic-solution-for-complex-aerospace-parts>

THALES

Thales is another of the world's largest arms manufacturers and Europe's biggest electronics group,[76] making €14.1 billion (61 per cent) of its €23.1 billion 2023 revenue from its defence segment.

University of Sheffield received £1.1 million from Thales between 2012 and 2022. In the same time period, Thales was benefiting from a gap in the 2014 arms embargo to Russia (it was not retroactive – pre-existing contracts were still completed).

Thales supplied over 100 thermal imaging cameras to be installed on Russian T-72 tanks, giving the ability to detect human targets and, according to Thales' sales pitch, **'be the first to open fire'**. These cameras have been documented in use in the annexation of Crimea.

The latest consignment was delivered to Russia in 2019, and **Ukrainian president Volodymyr Zelensky has described the use of thermal imaging cameras on the Russian tanks in attacks on Ukraine in 2023.**[77]



Q5D

Q5D is a UK based start-up that has combined robotic tools with sophisticated computer-aided design and manufacturing software, to innovate autonomous addition of wiring and printed electronics directly onto product surfaces.

Q5D recently received a \$3 million investment from Lockheed Martin as a strategic partner to support on the development of Q5D's new 5 -axis 3D printing machines [78] – work that is, at least in part, carried out at the AMRC.

[76] <https://www.ft.com/content/f63ff116-3ffa-4be8-b959-79bea6123f24>

[77] <https://disclose.ngo/fr/article/ukraine-france-a-livre-armes-russie>

[78] <https://www.aero-mag.com/lockheed-martin-leads-3m-q5d-investment-to-make-tooling-to-automate-wiring-harness-manufacture>

QINETIQ

Qinetiq was formed in 2001 via privatisation of UK government defence assets. It made £175 million in private profit in 2023.[79]

The floating of the company on the stock exchange in 2006 attracted an inquiry from the National Audit Office, which was critical of the ‘generous incentive scheme’ that was given to the existing management.[80]

Qinetiq is a major beneficiary of UK taxpayer funding, paying for only 4.5 per cent of its research and development costs.

University of Sheffield students compete in the Qinetiq sponsored international Unmanned Aircraft System (UAS) competition and Qinetiq has worked with the University’s management school on a £3 million MoD sponsored resilience project.

WILLIAM COOK

In 2011 William Cook’s secured a £30 million contract with General Dynamics to produce tracks for the Ajax armoured vehicle. This was part of a £3.2 billion project from UK public funds, paid to General Dynamics.

The project has been plagued by setbacks, including vibration during movement that damaged hearing, made personnel sick and prevented basic functionality. The delivery date has been delayed by 12 years.[81]

Having ***“just won a major £30m contract with General Dynamics:”***, William Cook joined AMRC in 2012 to ***“further increasing its competitiveness and expanding into even more technically advanced areas.”*** [82]

General Dynamics themselves are the only company manufacturing MK-80 bombs and 155mm artillery shells for the Israeli Defence Force (IDF). **Both are in extensive use against the Palestinian people in Gaza, with the US diverting tens of thousands of shells to Israel that were originally headed to Ukraine.**[83]

[79] <https://www.reuters.com/business/aerospace-defense/uk-defence-group-qinetiq-lifts-guidance-2023-04-17/>

[80] <https://en.wikipedia.org/wiki/Qinetiq>

[81] <https://www.theguardian.com/world/2023/jul/09/uk-wastes-billions-defence-firms-investors-taxpayer-weapons>

[82] <https://www.william-cook.co.uk/gb/news/advanced-manufacturing-research-centre-welcomes-william-cook-as-partner>

[83] <https://www.axios.com/2023/10/19/us-israel-artillery-shells-ukraine-weapons-gaza>

OTHER PARTNERSHIPS

The University has several other partnerships where the work done at the University cannot be specifically or directly linked to the manufacture of arms.

However, these partnerships involve the University supporting and profiting from companies that themselves profit from genocide and apartheid.

These links are explored in the section *Complicity in Apartheid*.

COMPLICITY IN GENOCIDE

The University of Sheffield, has several direct links with the ongoing genocide in Palestine.

That the ‘war’ is correctly labelled as genocide is important. At the outset of this attack Israeli Prime Minister Benjamin Netanyahu promised to “flatten” Gaza, while IDF spokesperson R Adm Daniel Hagari made it doubly clear:

“right now we’re focused on what causes maximum damage.” [84]

The previous section: **A Research partner for the arms industry**, shows how the following companies are supported by research done at the University of Sheffield. This section describes the actions of those companies in relation to the genocide of the Palestinian people.

These links make the University complicit in war crimes, either directly (receiving money for researching technologies for weapons that are used against the Palestinian people in Gaza) or indirectly (by receiving money from companies that profit from the Israeli genocide and apartheid), potentially exposing the University to the repercussions of flaunting International Law.

The authors would like to make it clear that the companies listed here profit not just from the current atrocities in Palestine but from hundreds of armed conflicts globally, including the Russian invasion of Ukraine. Amnesty International also reports that the tactics used by the Saudi-UK-US coalition airstrikes on Yemen of consistently and deliberately targeting populated areas, including mosques, schools and civilian homes, could also be war crimes.[85]

[84] <https://www.theguardian.com/world/2023/oct/10/right-now-it-is-one-day-at-a-time-life-on-israels-frontline-with-gaza>

[85] <https://www.amnesty.org.uk/press-releases/saudi-led-airstrikes-yemen-have-left-bloody-trail-civilian-death-new-report>

DIRECT LINKS TO GENOCIDE

BAE SYSTEMS

BAE SYSTEMS

BAE Systems is complicit in the genocide of Palestinian people through its manufacture of 35% of each F-35 fuselage used by Israel. More details on BAEs involvement can be found in the case study.



BOEING

Boeing manufacture the GBU-39 and GBU-31 'Small Diameter Bombs' kits, which allow unguided air-to-ground bombs to be converted into "smart" bombs. These bombs have been used to attack and kill Palestinian civilians.

Boeing also manufactures the F-15 warplanes and the AH64 Apache attack helicopter, all used by Israel against the Palestinian people in numerous documented war crimes.[86]

Boeing is a founding member of the AMRC, and works with multiple departments across the University. The AMRC also recently gave a visiting professorship to Boeing UK's president, Maria Laine.[87]

[86] <https://investigate.afsc.org/company/boeing>

[87] <https://www.amrc.group.shef.ac.uk/news/boeing-president-appointed-visiting-professor>



COLLINS AEROSPACE

Collins Aerospace has a joint venture with Elbit Systems to develop display systems for the F-35s used by Israel bomb Gaza.[88] Collins Aerospace is a research partner of the AMRC.



LEONARDO

Leonardo makes the laser targeting system for Israeli F-35s in Edinburgh.[89]

In 2022, the US subsidiary Leonardo DRS completed a merger with Israeli radar company Rada, who's radar network covers the entire Gaza strip. Other Leonardo subsidiaries include Selex ES International Limited and AgustaWestland.

Selex ES's 2011 announcement (later to be denied by the company) stated: 'Selex Galileo will provide Gabbiano-series radars for Elbit Systems Hermes (drones)'. Hermes drones have been used to target Palestinian civilians.[90]

AgustaWestland (who are under continuing investigation in India for bribery relating to a \$45m arms deal) makes components for Apache attack helicopters that killed 13 Gazan children in 2014 alone.[91]



ROLLS ROYCE

The company manufactures several components for the F35. [92]

[88] <https://www.collinsaerospace.com/news/news/2019/02/collins-elbit-vision-systems-celebrates-delivery-1000-f35-hmds/>

[89] <https://www.workersinpalestine.org/who-arms-israel#uk>

[90] <https://www.hrw.org/report/2009/06/30/precisely-wrong/gaza-civilians-killed-israeli-drone-launched-missiles>

[91] https://d3n8a8pro7vhmx.cloudfront.net/dcipalestine/pages/530/attachments/original/1436292897/OPE_A_War_Waged_on_Children.pdf?1436292897

[92] <https://www.independent.co.uk/news/uk/home-news/israel-gaza-uk-arms-exports-airstrikes-b1851734.html>



RTX (FORMERLY RAYTHEON)

RTX supplies Israel with a variety of weapons systems, including missiles and bombs.

Raytheon manufactures the Paveway II guided bombs used by Israel on Palestinian targets.[93] Some components of these bombs are manufactured in the UK but RTX have several facilities worldwide, and the final assembly is completed in the USA, so it is not possible to track the final destination of the individual components manufactured in the UK.

It is a matter of fact, however, that the Paveway bombs, each costing about £30,000, are also the RAF's "go to" weapon in operations in Libya, Syria, Iraq.[94]

Raytheon technologies are also integrated into Israel's main weapon systems, including F-15, F-16 and F-35 fighter jets, military drones, and warships. These weapons have been used against Gaza and Palestinian civilians in documented war crimes for decades.[95] RTX also provides components and maintenance services to the Israeli Air Force's fleet of F-15, F-16, and F-35 fighter jets [96]. RTX claim that:

“

Every time the F-35 does something, there's a good chance an RTX product played a part. Pratt & Whitney[97] builds its engine. Collins Aerospace makes the visor that shows pilots what's happening in the skies around them. Raytheon makes the precision weapons it uses for air-to-air combat and air-to-ground strikes, and the navigation system that helps it land on aircraft carriers and austere airfields.'[98]

”

[93] <https://caat.org.uk/app/uploads/2023/11/Fact-sheet-re-Gaza-2023-11-14.pdf>

[94] <https://www.forces.net/news/rafs-go-weapon-what-paveway-iv-bomb>

[95] <https://investigate.afsc.org/company/rtx#:~:text=Raytheon%20supplies%20the%20Israeli%20government,%2C%20military%20drones%2C%20and%20warships.>

[96] <https://www.rtx.com/news/2020/07/14/all-about-the-f-35>

[97] an RTX subsidiary

[98] <https://www.rtx.com/news/2020/07/14/all-about-the-f-35>

SAFRAN S.A.

Safran have links both to the Genocide in Palestine but also to the Russian invasion of Ukraine.

In 2010 Safran and Elbit Systems announced a joint venture in the tactical drone market, receiving development input at the same time as it was developing its own Patroller UAV. Safran also received a 'major order' from the Israeli government for components used in Israel's Arrow 3 anti-missile system.[99]

According to confidential French government documents, Safran also supplied Matis STD thermal imaging cameras to Russia. The 2013 contract was yet another agreement that was not affected by the 2014 arms embargo to Russia, and by 2016, a total of 211 cameras were still to be delivered.

Three types of Russian tank, the T-72, T-80 and T-90 are equipped with Matis STD cameras, and all three models of tanks have been documented in use on the Ukrainian front.[100]

THALES

Thales UK maintains a partnership with Israeli Aerospace Industries (IAI) and (via the subsidiary company U-TacS) is the de-facto UK branch of Elbit Systems Ltd. Elbit and IAI supply weapons, including drones, to the Israeli military for use in Gaza.

The Thales Watchkeeper drone was developed in a joint venture contract (awarded by the MoD) between Thales UK and Elbit Systems and is tested at West Wales airport. [101]

Additionally, in 2023, Thales acquired the Israeli cybersecurity company Imperva for \$3.6 billion.[102] IAI also teams up with Thales to supply advanced missiles to the Royal Navy.[103]

[99] <https://www.yenisafak.com/en/world/activists-protest-french-company-safrans-arms-sales-to-israel-3679129>

[100] <https://disclose.ngo/fr/article/ukraine-france-a-livre-armes-russie>

[101] <https://www.thecanary.co/uk/analysis/2024/03/19/welsh-government-israel/>

[102] <https://www.timesofisrael.com/israeli-founded-imperva-is-snapped-up-by-frances-thales-in-3-6b-cybersecurity-deal/>

[103] <https://www.timesofisrael.com/iai-teams-up-with-thales-to-supply-uks-royal-navy-with-advanced-missiles/>

QINETIQ

QinetiQ develops UAVs (drones) for export to the Israeli military [104] and received 8 licenses for exporting arms to Israel between 2008 and 2021.[105] QinetiQ also played a major investment role in the UAV testing facilities in Aberporth where Elbit's Hermes drones are also tested. These drones have been used against Gaza since 2014. [106]

[104] <https://www.thecanary.co/uk/analysis/2024/03/19/welsh-government-israel/>

[105] <https://caat.org.uk/data/exports-uk/overview?company=QinetiQ>

[106] <https://www.middleeasteye.net/news/uk-arms-aid-workers-gaza-drone>

CASE STUDY:

BAE SYSTEMS

BAE SYSTEMS - PROFITING FROM WAR CRIMES

As of 2022, BAE Systems (BAE) was the world's seventh-largest military contractor, and the largest in Europe.[107] 96 to 98 percent of BAE's \$25.7 billion annual revenue is derived from its defence sector.[108]

BAE also has a long, brutal, and corrupt history. It gained notoriety as a result of its involvement in the Al-Yamamah scandal – described as 'one of the biggest corruption scandals in history' and 'one of the biggest trade scandals of the 1980s'.[109],[110] BAE stood accused of corruption and bribery in regards to a multi-billion pound arms agreement with the Saudi Arabian Government.[111]

In March 2024, the scandal re-entered headlines internationally after the Guardian revealed that the Ministry of Defence had created an 'opaque new system' to facilitate payments to a Saudi bank account, even after these transactions were investigated by the UK anti-corruption agency, the Serious Fraud Office (SFO). [112]

[107] <https://investigate.afsc.org/company/bae-systems>.

[108] <https://www.sipri.org/publications/2018/sipri-fact-sheets/sipri-top-100-arms-producing-and-military-services-companies-2017>

[109] <https://www.theguardian.com/world/2024/mar/08/mod-paid-millions-into-saudi-account-amid-bae-corruption-scandal>

[110] <https://corporatwatch.org/bae-systems-company-profile/#:~:text=At%20around%20the%20same%20time,ever%20of%20anything%20to%20anyone>

[111] <https://commonslibrary.parliament.uk/research-briefings/sn05367/>.

[112] <https://www.theguardian.com/world/2024/mar/08/mod-paid-millions-into-saudi-account-amid-bae-corruption-scandal>. 35

BAE has also long been complicit in Israeli war crimes. According to Investigate:

“
BAE Systems supplies the Israeli military with a wide variety of weapons, including components for combat aircraft, munitions, missile launching kits, and armoured vehicles. BAE technologies are also integrated into Israel's main weapon systems, including fighter jets, drones, and warships [113]

While BAE manufactures and supplies F-35 jets, which are currently being used in Israel’s genocidal campaign in Gaza, Palestinian civilians are not the only community who have been devastated by the use of BAE war machines. Turkish F16 jets, made in collaboration with BAE, have been involved in repeated massacres of the Kurdish people by the Turkish state.[114]

In 2011, F16s were used in the Roboski massacre in Bakur, when Turkish forces murdered 34 Kurdish civilians. More recently, F16s have been used as part of the Turkish state’s assault of Afrin in Rojava – leading to the displacement of at least 300,000 people since 2018. BAE systems also stands accused of being party to war crimes in Yemen.[115]

[113] <https://investigate.afsc.org/company/bae-systems>.

[114] <https://boycott-turkey.net/bae-systems/>.

[115] <https://www.theguardian.com/uk-news/2019/dec/11/bae-systems-accused-of-being-party-to-alleged-war-crimes>.

UNIVERSITY OF SHEFFIELD - PROFITING FROM AND ENABLING WAR CRIMES

The University of Sheffield collaborates with and profits from the creation of this military technology. BAE systems is a Tier 1 member of the AMRC. As the AMRC proudly proclaims, its research is 'led by its industrial members'.^[116] Not only does the University of Sheffield work closely with BAE, but it proudly declares that BAE has a significant influence on both research and teaching at UoS.

SO WHAT DOES THIS RESEARCH LOOK LIKE?

BAE Systems invested more than £8.5 million in the University of Sheffield between 2012 and 2022.^[117] At the same time, BAE Systems sold more than \$15bn of arms to the Saudi government.

1. In November 2022, BAE launched the 'Future Air Support' project, which aims to 'reduce costs and improve the availability of front-line Typhoon fighter jets'.^[118] One year later, the AMRC joined as a research partner. **Typhoon fighter jets have been used extensively in bombing campaigns in Yemen.**

In 2016, BAE celebrated the use of Typhoon jets in Saudi Arabia's brutal war in Yemen,^[118] a war in which, according to the UN, the thousands of airstrikes carried out by the Saudi-UK-US coalition have killed 'tens of thousands of people'^[120].

The UN states that the war in Yemen is the World's worst humanitarian crisis, with 10,200 children killed, 4.5 million people displaced, 24.1 million in need of aid and more than 6 million in, or on the verge of, famine.^[121]

2. BAE's involvement in potential war crimes was subsequently subject to a complaint submitted to the International Criminal Court in The Hague. Earlier this year, Typhoon jets were used against Yemen once again - this time by the RAF, in retaliation for the Houthis' seizure of Israeli ships in the Red Sea.^[122]

^[116] <https://www.amrc.co.uk/research-partners/tier-1-members>.

^[117] <https://www.thestar.co.uk/education/sheffield-university-last-10-years-sees-university-receive-ps72m-from-companies-in-arms-trade-3930009>

^[118] <https://www.insidermedia.com/news/yorkshire/amrc-partners-with-bae-systems-on-aircraft-maintenance-project>.

^[119] <https://caat.org.uk/data/companies/bae-systems/>. <https://www.bbc.co.uk/news/world-middle-east-29319423>

^[120] <https://www.gov.uk/government/news/air-strikes-against-houthi-military-targets-in-yemen>.

^[121] https://crisisrelief.un.org/yemen-crisis?gad_source=1&gclid=CjwKCAjw0YGyBhByEiwAQmBEWktiKERyEz5MX1DbgtqfnuRjzgBLRhiG4ysBFxzMrhccQJQ7zsCsRoCYEQAvD_BwE

^[122] <https://www.gov.uk/government/news/air-strikes-against-houthi-military-targets-in-yemen>.

3. F-35 combat aircraft are currently being used to flatten Gaza and indiscriminately kill the Palestinian population. The AMRC was directly involved in the creation of these tools of genocide.

The University of Sheffield boasts that its *'novel, fully automated manufacturing process'* has been used to provide *'critical fuselage panels'* for more than 500 F-35 Lightning II aircraft, saving BAE £15 million pounds in costs in the process.[123]

The university was so proud of its role in creating F-35s that it chose to cite the project as a case study in the 2021 Research Excellence Framework (REF), which is designed to demonstrate the positive impact of university research outside academia.

It is worth noting that a Dutch court recently ordered the country's government to immediately suspend all exports of F-35 fighter jet parts to Israel, due to concerns that they were being used to violate international law. [124]

BAE AT THE FACTORY OF THE FUTURE

Between 2020 and 2023, the AMRC and BAE, along with other partners and stakeholders, collaborated on the £10 million '5G Factory of the Future' project.[125] The project involved setting up a private 5G testbed within both the AMRC and BAE Systems' premises, and explored 5G's future suitability for manufacturing **Tempest combat aircraft**. The Tempest is an even deadlier replacement for Typhoon jets, which the RAF projects will be in use from 2035. The Tempest will be able to fly unmanned, and will carry a range of horrifically destructive technologies, including swarming drones, directed-energy weapons (which release 'concentrated bursts of laser, microwave or particle beam energy') and hypersonic weapons.[126]

4. The 'Connected Tempest' project, in which the AMRC collaborated with **BAE, Rolls Royce** and **Siemens**, amongst others, also aims to explore *'model-based data exchange techniques'* for the 'Future Combat Aircraft System' (the Tempest). It will conclude this year. [127]

5. Last year, the AMRC North West facility in Samlesbury was *'testing a variety of BAE Systems'* manufactured components, including 3D printed metals and composites'. [128] There is reason to believe that the testing is ongoing. [129]

[123] <https://results2021.ref.ac.uk/impact/7dd94383-5a42-4cff-8557-57255778c57f?page=1>.

[124] <https://www.reuters.com/business/aerospace-defense/dutch-court-orders-halt-export-f-35-jet-parts-israel-2024-02-12/>.

[125] Staff profile. Reference redacted to protect staff member.

[126] <https://www.theguardian.com/uk-news/2018/jul/16/uk-tempest-fighter-jet-typhoon-farnborough-airshow>; <https://www.popularmechanics.com/military/research/a22168844/uk-new-fighter-jet-tempest/>.

[127] <https://www.sheffield.ac.uk/amrc/amrc-research-staff/aparajithan-sivanathan>.

[128] <https://www.amrc.co.uk/news/game-changing-potential-for-additive-manufacturing>

[129] 'NDT for AM Components – Commercial Project funded by BAE Systems' is listed as a current AMRC project at <https://www.sheffield.ac.uk/amrc/amrc-research-staff/evren-yasa>.

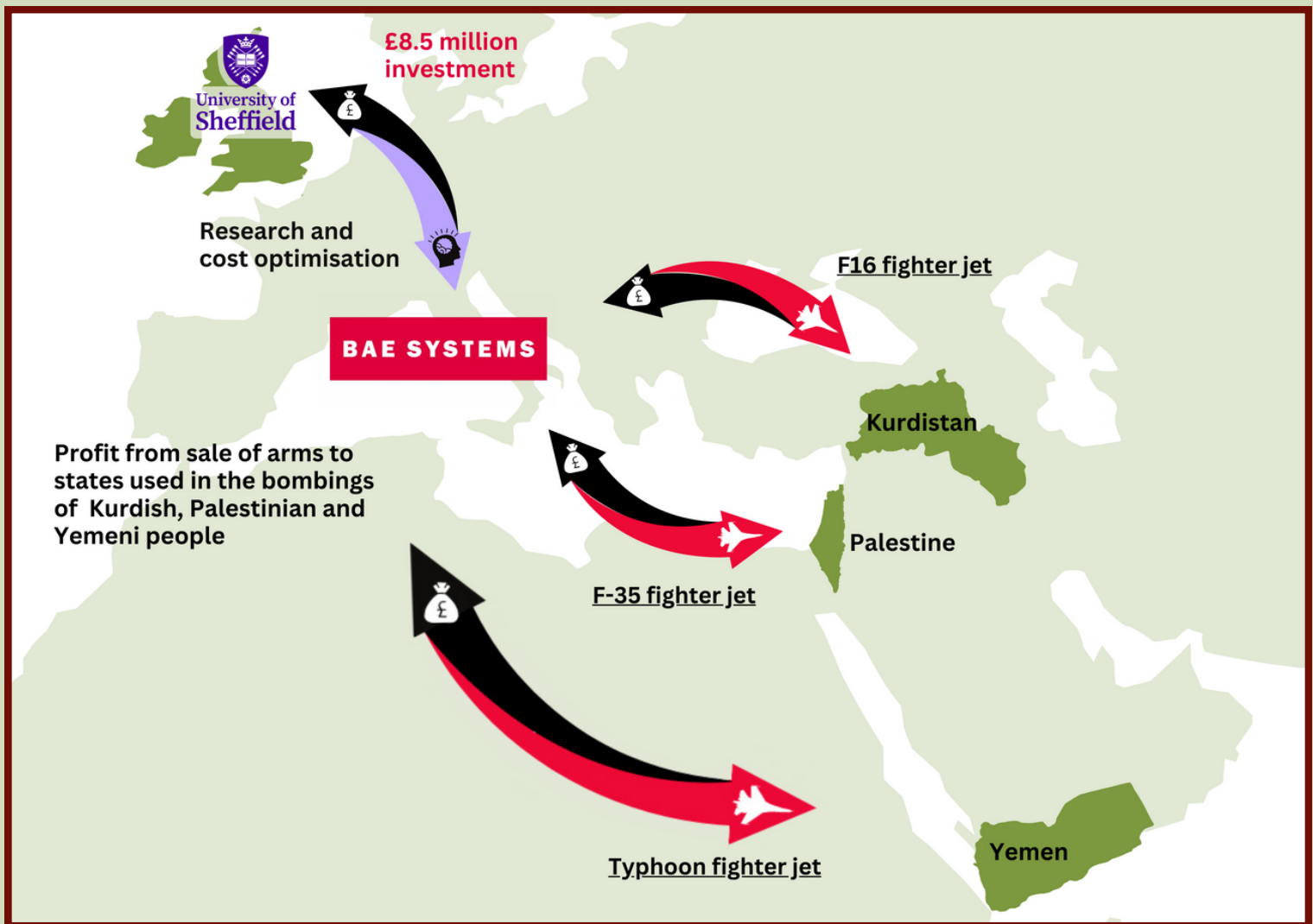


Figure 2. UoS - Profiting from and enabling war crimes

BAE AND RESEARCH IN OTHER DEPARTMENTS AT THE UNIVERSITY OF SHEFFIELD

1. The Sheffield University Management School (SUMS) collaborated with AMRC North West and BAE to '*establish a framework for conducting an environmental impact assessment across BAE Systems' Air Sector fast jets*'.^[130] The nominal aim was to help BAE transition to lower emissions, in the pursuit of 'Net Zero'. This is a classic example of 'greenwashing' – a process by which organisations or individuals present a front of positive environmental action, which is then used to mask or to distract from unethical practices.

The portrayal of war machines involved in human rights violations as clean, 'green' technology is especially cynical – the products which comprise at least 96 per cent of BAE's output represent an existential risk to human life and to a liveable environment.

[130] <https://www.sheffield.ac.uk/arec/research/projects/bae>

In the first two months of Israel’s current assault on Gaza, US supply flights released 133 thousand tonnes of CO2 equivalent and Israeli aircraft missions released 121 thousand tonnes.[131]

The Guardian reported that,

“
the planet-warming emissions generated during the first two months of the war in Gaza were greater than the annual carbon footprint of more than 20 of the world’s most climate-vulnerable nations.
”

2. The University of Sheffield is part of a consortium (the Defence Science and Technology Laboratory (Dstl) research centre)[132] led by Rheinmetall BAE Systems Land (RBSL) which aims to collaborate in the project of developing a ‘*processing route for low-cost titanium for exploitation across the land, maritime and air defence sectors*’.[133]

What this means in practice is that, yet again, Sheffield is working to save BAE money in producing its weapons. The Royce Discovery Centre at the University of Sheffield has been used to create armour plate which would give BAE military vehicles ballistic protection in land-based operations.

BAE’S INFLUENCE ON TEACHING AT THE UNIVERSITY OF SHEFFIELD

BAE directly influences teaching in at least two university departments.

1. The **Department of Electronic and Electrical Engineering** has an Industrial Advisory Board (IAB), composed of ‘*senior engineers [...] from a wide range of companies*’ in the fields of electrical and electronic engineering.[134]

[131] <https://www.theguardian.com/world/2024/jan/09/emissions-gaza-israel-hamas-war-climate-change>.

[132] <https://www.sheffield.ac.uk/engineering/news/sheffield-partner-new-ps425m-dstl-materials-centre-excellence>

[133] <https://www.sheffield.ac.uk/royce-institute/news/low-cost-titanium-armour-land-based-defence-platforms>.

[134] <https://www.sheffield.ac.uk/eee/about/working-industry>.

The stated purpose of the board is to,

“
ensure that our degrees reflect current developments and industry skills requirements, making a crucial contribution to the successful development of our students.
”

The IAB hosts representatives from BAE (Jon Pinto, Antennas and Electromagnetics Group Leader), amongst other companies which are implicated in human rights abuses such as Rolls Royce (Dr Anita Teo, Marine Research and Technology Manager).

2. The Department of Aerospace Engineering also has an Industrial Advisory Board, which features engineers from companies including ‘Rolls-Royce, Boeing, Caterpillar and BAE Systems’.[135]

The Department’s public information on the IAB is proud to announce that these partners ‘*inform what we teach and how we run our degrees*’, as well as sharing information and providing a pipeline for recruitment. Representatives from these companies also assess part of the third year MEng Group Design Project.

These are just a few examples of a general theme in Higher Education, which ultimately stems from its marketisation; education is viewed as important only insofar as it contributes to the national economy, so the needs of industry play an outsize role in moulding courses. As UK industry is so heavily oriented towards arms manufacturing, such companies are given a privileged seat at the table in universities.

[135] <https://www.sheffield.ac.uk/aerospace/about/industry/partners#AerospaceIndustrialAdvisoryBoard>.

COMPLICITY IN APARTHEID

The University of Sheffield's Endowment Investment Policy^[136] ^[137] does not prevent the University from profiting from and funding apartheid. Despite claims that it will not invest in companies whose activities directly conflict with its values, **the University maintains nearly £2 million of investments in companies that profit directly from apartheid.**

Additionally, the policy has very limited reach. The University's purchasing contracts are not within its remit, and there is no transparent process nor input from the wider University community to determine the ethical basis for research and industrial partnerships. **This is the foundation of SCCP's demand for accountability.**

The University also undertakes high-value research contracts with several apartheid enabling companies across multiple areas. Since 2017 the University of Sheffield has also spent at least £12 million on products and services from companies that directly enable and profit from Apartheid.

Calculating the total value of the research and industrial partnerships with complicit companies is complex. Much of the financial data and research specifics are not publicly or easily available but the value of these continuing relationships to the University certainly runs into the tens of millions.

[136] <https://www.sheffield.ac.uk/media/28840/download?attachment#:~:text=UNIVERSITY%20OF%20SHEFFIELD%20ENDOWMENT%20INVESTMENT%20POLICY,-INVESTING%20FUNDS%20ON&text=The%20University%20believes%20that%20to,environmental%2C%20sustainability%20and%20governance%20issues>.

[137] <https://www.sheffield.ac.uk/media/9334/download?attachment>

'ETHICAL' INVESTMENT & RESEARCH POLICIES

The University of Sheffield's Endowment Investment Policy (sometimes called its 'Ethical Investment Policy') defines the moral basis which the University should use to make decisions on investment and other partnerships.

The existence of this policy in the first instance is a direct result of student campaigning.

HISTORY

The University of Sheffield Council approved an Endowment Investment Policy in 2015, following a two-and-a-half-year campaign from the university's People and Planet society. People and Planet called for divestment from the fossil fuel industry – a move which was backed by 91% of attendees at a public meeting co-hosted by the university.[138] The Endowment Investment Policy was designed to create a framework for divestment and to commit the university to future ethical investment.

In the years after the policy's formulation, it attracted criticism from students who had been involved in the initial struggle for divestment. Campaigners accused the university of quietly backtracking on its decision to divest from all fossil fuels. As of 2018, the university was claiming that their Ethical Investment Advisory Group's guidelines only entailed cutting ties to companies which received ten percent or more of their turnover from the 'extraction of thermal coal and oil from tar sands' [139]

Chris Saltmarsh, a former member of the People and Planet society, accused university management of relying on the short organisational memory of student activist groups to effectively rewrite history by scaling back its climate pledges. This highlights the importance of continuing to hold the university to account, even after apparent victories, and of maintaining knowledge of past struggles and demands within student campaign groups. It also illustrates that the university's Endowment Investment Policy can yield varying interpretations, and open loopholes which are ripe for distinctly unethical exploitation.

As detailed below, the university's current interpretation of its Endowment Investment Policy today does seem to exclude '**companies that are classified as oil and gas producers**', alongside those which 'derive more than 5% of revenues from thermal coal or production of oil from tar sands'.[140]

[138] <http://sheffieldpeopleandplanet.weebly.com/blog/divestment-campaign-update>.

[139] <https://theecologist.org/2019/mar/11/sheffield-universitys-divestment-betrayal>

[140] 'Compliance with the Endowment Investment Policy as at 31 July 2022'. See <https://www.sheffield.ac.uk/foi/endowment-index/endowment-2021>.

THE ENDOWMENT INVESTMENT POLICY TODAY

As of 2022, the University of Sheffield's Endowment Investment Policy advises that **'the University's choice of where to invest should reflect the values it publicly espouses'**. The University, the policy claims, 'will not knowingly invest in companies whose activities are in direct conflict with its values'.^[141]

According to the University's 'vision and 2020-2027 strategic plan', these values include:

- **To 'champion an inclusive and diverse community'**.
- **To be 'responsible - for our people and the wider world'**.
- **To be 'open and transparent about the decisions we make'**.^[142]

The University's 'Investment Managers', the firm Sarasin & Partners, are advised to eliminate exposure to the following areas:

- **Explicit environmental damage**
- **Manufacture or sale of armaments**

Investment Managers are also expected to consider the following:

- **Promotion of sustainability, good business ethics and good employment practices;**
- **Protection of the global environment, its climate and its biodiversity;**
- **Promotion of international cooperation and an end to international conflict;**
- **Protection of human rights and equality.**^[143]

[141] University of Sheffield Endowment Investment Policy <[\[142\] <https://www.sheffield.ac.uk/vision/our-values>](https://www.sheffield.ac.uk/media/28840/download?attachment#:~:text=UNIVERSITY%20OF%20SHEFFIELD%20ENDOWMENT%20INVESTMENT%20POLICY,-INVESTING%20FUNDS%20ON&text=The%20University%20believes%20that%20to,environmental%2C%20sustainability%20and%20governance%20issues.></p></div><div data-bbox=)

[143] Ibid; See also 'Investing Funds on a Socially Responsible Basis', <[>](https://www.sheffield.ac.uk/media/9388/download?attachment)

THREE FORMS OF COMPLICITY

Not only does the University support direct acts of war and genocide through arms research but it is also complicit in further breaches of human rights and war crimes by,

1. Investing in,
2. Accepting money from/Conducting research on behalf of,
3. Purchasing products and services from

several other companies who **actively enable and profit from apartheid in Palestine.**

These continued investments are in direct contravention of the University's Endowment Investment Policy, which states that fund managers should,

“
eliminate exposure to ... institutional violations of human rights, including the exploitation of the workforce.
”

The following subsections outline the current investments in apartheid held by University of Sheffield, the research partnerships and the purchasing contracts with apartheid enabling companies.

University also partners with companies that are directly complicit in genocide and apartheid by inviting senior members of those companies to direct teaching and research through membership of Industrial and Strategic Advisory Boards, situated in departments and research groups. These are explored in more detail in the ***Control of teaching and research*** section.

FINANCIAL INVESTMENT IN ISRAELI APARTHEID

Using Freedom of Information requests (FOIs), Palestine Action has determined that the University of Sheffield currently has £1,845,765 invested in companies which are complicit in Israeli apartheid.[144]

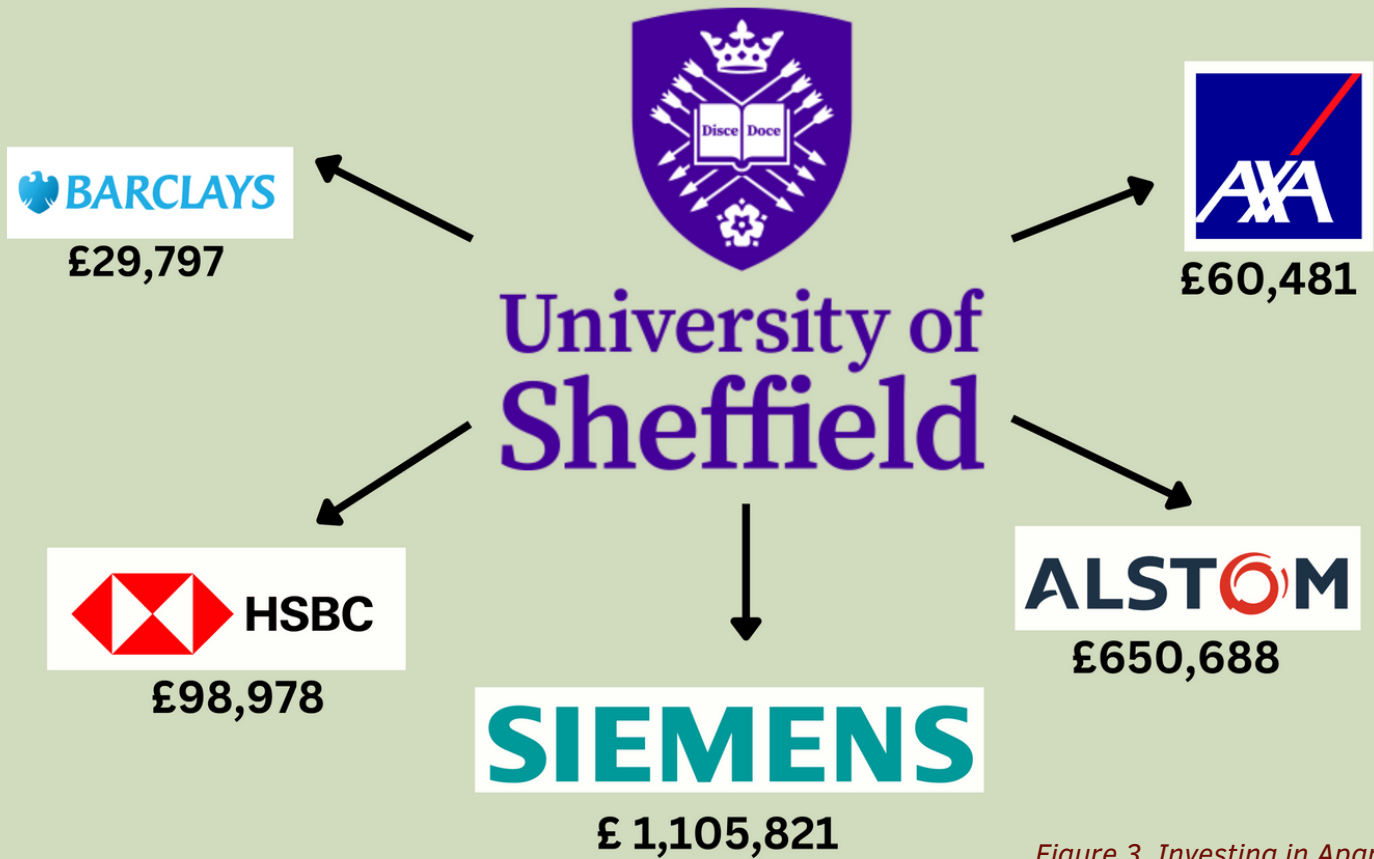


Figure 3. Investing in Apartheid

SIEMENS : £1,005,821

Siemens partners with the University primarily in the wind power centre, however, its traffic management and surveillance products have been installed by its representative company on Israeli apartheid roads. Siemens is also constructing the EuroAsia electricity connection that will allow Israel to earn billions of dollars exporting energy generated from stolen Palestinian natural resources (see **Theft of natural resources** context box for more information), deliberately undermining a sustainable Palestinian economy.

[144] <https://palestinecampaign.org/university-complicity-database/>

CONTEXT: THEFT OF NATURAL RESOURCES

The Occupied Palestinian Territory lies above reservoirs of oil and gas with a net value of \$524 billion (in 2017 prices).

Following the occupation by Israel of the Gaza Strip, the West Bank and East Jerusalem in 1967, control of land, natural resources and water has been at the heart of the Israeli-Palestinian conflict.

Since 1970 Israel has been illegally plundering oil and gas resources in the Palestinian territories to the benefit of Israeli citizens and corporations and not the Palestinian people. This is not only contrary to international law, but also in violation of natural justice and moral law.

From a legal standpoint the gas reserves belong to the Occupied Palestinian Territory. Since December 2008, the Gaza natural gas fields have been, in contravention of international law, de-facto integrated into Israel's offshore installations.[145]

It is, perhaps, unnecessary to underline how much human suffering has been caused to the people of Gaza by denying them access to the funds that would have been available had they retained access to their own resources and been free to use them to access food and medical care, clean water and sanitation and to enable a sustainable and functioning economy.

ALSTOM : £650,688

Alstom is a French transportation group. The United Nations Office of the United Nations High Commissioner for Human Rights (OHCHR) has reported that it is active in Israel's illegal settlements, based on stolen Palestinian land.[146] WhoProfits have also determined that Alstom is involved in the construction and operation of the Jerusalem Light Rail (JLR) project.[147] The JLR deepens Israel's grip on occupied Palestinian land, including East Jerusalem, in direct contravention of international law.

[145] <https://unctad.org/publication/economic-costs-israeli-occupation-palestinian-people-unrealized-oil-and-natural-gas>

[146] <https://www.ohchr.org/sites/default/files/documents/hrbodies/hrcouncil/sessions-regular/session31/database-hrc3136/23-06-30-Update-israeli-settlement-opt-database-hrc3136.pdf>

[147] Ibid.

 : £60,481

AXA is a French insurance company. According to BDS, as of 2022, AXA held shares worth US \$15.5 million in four Israeli banks that finance Israel's illegal settlements. [148] Further research by the civil-society group Don't Buy Into Occupation revealed that AXA currently invests \$957 million in companies directly involved in Israel's illegal settlement enterprise in the occupied Palestinian territories or in the Gaza genocide – among them Caterpillar, Volvo Group, IBM, Carrefour, HPE, Siemens, Airbnb and Solvay.[149]

 : £29,797

According to a recent report by the Palestine Solidarity Campaign (PSC), Barclays holds £1.3 billion in shares of companies whose *'weapons, components, and military technology have been used in unlawful violence against Palestinians'*. [150] Barclays provides an additional £3.9 billion in loans and underwriting to these companies. A short summary of relevant companies and their complicity in the apartheid regime is listed in [the report](#) - these include BAE, Boeing, Caterpillar, and Elbit (the latter has already been subject to divestment by a wide range of financial institutions, due to its *'association with the production of banned weaponry'*).

 : £98,978

Despite its 2018 decision to end investments in Elbit, HSBC remains complicit in Israeli apartheid. Most notably, HSBC holds £99.5 million worth of shares in Caterpillar [151] – a company which sells bulldozers to the Israeli military. Caterpillar bulldozers have been linked to the construction of illegal settlements on occupied Palestinian land, to the destruction of Palestinian homes, and have been used in deliberate demolition of buildings with occupants still inside.

These investments are in clear contravention of the University's core values and its own investment guidelines.

[148] <https://bdsmovement.net/news/axa-partner-crime>

[149] <https://bdsmovement.net/axa-divest>

[150] <https://palestinecampaign.org/wp-content/uploads/Barclays-Arming-Apartheid-FINAL-1.pdf>

[151] <https://waronwant.org/sites/default/files/Final%20Web%20version%20Deadly%20Investments.pdf>

COMPLICITY ACROSS MULTIPLE SECTORS

Moving back to research relationships, it is not only in Engineering where the University profits from, and undertakes research to improve the profitability of, the supporters and enablers of the apartheid regime. Interdisciplinary research and other departments are also complicit.

For many of these relationships, the financial details are not made easily available, if at all.

ENERGY INSTITUTE

Research Partners: Siemens, Rolls Royce, IBM, Boeing, AMRC

The University of Sheffield Energy Institute developed the Supply Chain Environmental Analysis Tool and research Future Proof Supply Chain Resilience and Security, funded by the ESRC and Rolls-Royce.

This research shapes resilience and security strategies and framework, enabling organisations such as Rolls-Royce to safeguard customers' delivery and future proof their organisations and supply chain against potential disruptions, including the security of critical materials supply and the flexibility of manufacturing and test facilities[152]. Rolls Royce is directly involved with the war crimes committed against the Palestinian people.

ADVANCED RESOURCE EFFICIENCY CENTRE (AREC)

Research Partners: AMRC, BAE Systems, Boeing, IBM, Rolls Royce, Siemens

The University of Sheffield's Advanced Resource Efficiency Centre (AREC) "*brings together academics, business and policymakers to meet the challenge of promoting resource efficiency and sustainability across supply chains.*"[153]

AREC has a long list of exciting and ambitious projects with environmental focus. They also, however, work closely with **BAE Systems** on Net Zero goals (see the **Greenwashing the arms trade** context box) and Rolls Royce to future-proof their supply chains.

[152] <https://www.sheffield.ac.uk/energy/news/enabling-supply-chain-resilience-and-security-rolls-royce>

[153] <https://www.sheffield.ac.uk/arec>

MANAGEMENT SCHOOL (SUMS)

Research Partners: BAE Systems, Qinetiq

The Management School at University of Sheffield has conducted a £3 million MoD funded defence support and logistics with **QinetiQ** and a £25 million Yorkshire Forward and Department of Business, Innovation and Skills contract with **Rolls Royce** and the **NAMRC**.

QUANTUM CENTRE

Research Partners: IBM, Lockheed Martin, Raytheon

As a consortium member, the University of Sheffield will develop quantum computing software for the Quantum Communication Hub, whose partners include **IBM**, **Lockheed Martin**, and **Raytheon**[154], all companies that are actively involved in apartheid and/or genocide against the Palestinian people.

DIAMOND VR SUITE

Research Partners: BAE Systems, Raytheon, Rolls Royce

Part of the £81 million development of The Diamond included the installation of a Visionary Render suite, allowing users to access and experience a real-time, collaborative and immersive Virtual Reality (VR) environment created from huge multi-source 3D datasets. It is used by **Rolls-Royce**, **BAE Systems** and **Raytheon**[155], all companies that are actively involved in apartheid and/or genocide against the Palestinian people.

[154] <https://quantum.sites.sheffield.ac.uk/about/collaborations>

[155] <https://www.virtalis.com/blogs/sheffield-universitys-diamond-features-a-virtalis-vr-suite>

PARTNERSHIPS AND PURCHASING

Through partnerships of influence, as well as purchasing contracts, the University of Sheffield is a large financial contributor to, and uses its teaching and research platforms to further the commercial interests of companies that enable Apartheid.

University of Sheffield has spent over £12 million with such companies since 2017.

For more detail about Dell, IBM and Microsoft’s complicity in Apartheid see the *Enabling an Automated Apartheid* context box.



Figure 4, Purchasing Apartheid



Caterpillar supplies the Israeli military with heavy machinery, including armoured excavators and several models from the D9 armoured bulldozer series.[156],[157]

The company’s machinery has been in use for the demolition of Palestinian houses in the occupied Palestinian territory, the construction of settlements and settlement infrastructure on occupied Palestinian land, construction of the Separation Wall in the West Bank and the wall surrounding Gaza.

[156] <https://www.whoprofits.org/companies/company/3772?caterpillar>

[157] <https://investigate.afsc.org/company/caterpillar>

Caterpillar products have also been used for creating roadblocks, dispersing demonstrations[158] and as a weapon in the ‘pressure cooker’ tactic (the demolition of buildings with people still inside)[159], at times resulting in the extrajudicial killings of Palestinian people.[160]

Craig Locke, Senior Applications Engineer at Caterpillar Inc. sits on the Industrial Advisory Board (IAB) for the Aerospace Engineering programme.

The University offers a placement year in its engineering programmes at several defence or related companies, including Caterpillar. Caterpillar is an industrial partner of the **Department of Aerospace Engineering** and collaborates with the **Department of Mechanical Engineering’s Advanced Propulsion Centre**.



In 2023, Dell Technologies won a \$150 million Israeli Ministry of Defence server tender to provide servers, related equipment and maintenance services to the Israeli military, the Israeli Ministry of Defence (IMOD) and other security bodies[161].

In 2017 the University of Sheffield AMRC signed a £50,000 contract with Dell for IT management solutions, and Dell is currently the University’s primary supplier of IT equipment for departments and staff. **In total the University has spent at least £6.6 million on Dell equipment since 2015.**[162]



In 2022 the University of Sheffield spent £100,000 to purchase Augmented Reality (AR) licences for the AMRC North West. AMRC north west partners with BAE systems in the Future Air Support project. PTC sells its Vuforia AR system to the defence industry for training pilots, including drone pilots. The purchased AR headsets form part of the research into digitising the maintenance of Eurofighter warplanes.

[158] https://www.btselem.org/video/20200227_army_bulldozer_pushes_boulders_at_protesters_in_kafr_qadum#full

[159] <https://www.timesofisrael.com/palestinian-killed-in-gunfight-with-israeli-troops-near-nablus/>

[160] <https://electronicintifada.net/blogs/ali-abunimah/israel-uses-caterpillar-equipment-apparent-extrajudicial-killing>

[161] <https://www.whoprofits.org/companies/company/7370?dell-technologies>

[162] <https://www.stotles.com/explore/buyers/2462>

Dell Technologies' fully owned subsidiary, VMware, began supplying the IMOD with virtualization systems in 2003, and provided VMware's virtualization platform (vSphere) to all Israeli military central server farms. VMware systems have been implemented in the data centres of various forces in the Israeli military, including the Intelligence Directorate and Corps, the ICT Directorate and Corps, the Air Force and others.

The University of Sheffield has an existing contract (ending in 2026) worth £130,000 with Esteem Systems Ltd to provide VMware licences.[163]

IBM is part of the Israel Innovation Authority committee, operating joint ventures supporting Israeli technology companies in the fields of cyber defence for the defence and commercial markets, as well as participating in an International Conference for Cyber and Homeland Security with the IMOD and Administration for the Development of Weapons and Technological Infrastructure.

Under a \$240 million contract, IBM also operates Israel's biometric database recording citizens' and non-citizens' data. **This database is used to deny basic rights to Palestinian people in Gaza and the West Bank, such as restricting movement, using facial recognition and CCTV to enable brutal interrogations at checkpoints and raid on their home CCTV to enable brutal interrogations at checkpoints and raids on their homes.[164]**

IBM's subsidiary Red Hat provides cloud technologies in deals worth 'tens of millions' of NIS[165] to enhance the effectiveness and lethality of the IDF.[166]

The University of Sheffield has spent £760,000 on IBM licences and subscriptions through various sub-contractors since 2021.[167] The University also partners with IBM to develop quantum computing technology.

[163] <https://www.contractsfinder.service.gov.uk/Notice/1d034331-21f7-4217-99f5-510576847d96>

[164] <https://www.mei.edu/publications/nowhere-hide-impact-israels-digital-surveillance-regime-palestinians>

[165] https://www-pc-co-il.translate.goog/news/183548/?_x_tr_sl=auto&_x_tr_tl=en&_x_tr_hl=en-GB

[166] <https://www.jpost.com/Israel-News/Mamram-Commander-the-IDF-will-become-a-lethal-effective-machine-540135>

[167] <https://www.stotles.com/explore/buyers/2462/university-of-sheffield>

Virtalis, a manufacturer of Virtual Reality (VR) systems has long term connections with the University of Sheffield's defence partners BAE Systems, Thales and Rolls Royce, developing VR systems for training.

The University has spent £535,000 on Virtalis VR equipment and upgrades for the Diamond VR suite, which itself is a partnership with BAE Systems, Raytheon and Rolls Royce.[168]

Microsoft have contracts to supply the Israeli Police, the Israeli Prisons Service (IPI) and the Israeli Ministry of Defence (IMOD). The supply of Azure cloud services to the Israeli police, that enable the apartheid control of the travel and work permits that restrict the lives of Palestinian people has netted Microsoft nearly NIS 34 million since 2019.

In 1999, Microsoft signed a NIS 50 million contract for regularising Microsoft software across Israeli military departments. This was followed in 2002 by a NIS 100 million contract for unlimited software products and cooperation between Microsoft and Israeli military software developers.

In addition, Microsoft were paid nearly NIS 1.6 million for consulting services and computing products for the Israeli Prison Service (IPS), which has imprisoned thousands of Palestinian people, including over 10,000 children, without trial or charges for decades, and subjects them to torture and 23-hour-a-day solitary confinement, directly causing mental illnesses (including schizophrenia) and permanent sight damage.[169]

The company have collaborated in the development of a Settlement Defence app to assist soldiers guarding Israeli settlements, and a weapon calibration system for training combat soldiers. Microsoft also provides Artificial intelligence (AI) courses for command level officers in the Israeli 'Military fighting methods and innovation' unit.[170]

The University of Sheffield has paid at least £3.3 million for Microsoft products and services since 2017.[171]

[168] <https://www.stotles.com/explore/buyers/2462/university-of-sheffield>

[169] <https://time.com/6548068/palestinian-children-israeli-prison-arrested/>

[170] <https://www.whoprofits.org/companies/company/7371?microsoft>

[171] <https://www.stotles.com/explore/buyers/2462/university-of-sheffield>

Through its fully owned Israeli subsidiary, Cisco has a long history of complicity in Israel's apartheid system, setting up technological hubs on occupied land, visual surveillance in Jerusalem and delivering IT services to the Israeli military.

By managing Israel's outsourcing processes, Cisco also contributes to the Palestinian peoples' forced economic dependency on the Israeli economy.[172]

Since 2018 the University of Sheffield has spent over £1 million on upgrades and maintenance of its own Cisco system.

CONTEXT: ENABLING AN AUTOMATED APARTHEID

Information Technology is at the very heart of warfighting, security and surveillance. Israel relies heavily on hardware, software and maintenance services from IBM and Dell to run its military and civilian oppression of the Palestinian people. Israeli police are given daily quotas for capturing and entering Palestinian people's personal details on these databases,[173] and Israel uses facial-recognition technology to police and repress Palestinian people.[174]

Using this wealth of information technology, the Israeli government imprisons hundreds of Palestinian people without charges or due process under 'administrative detention'. The Israeli state tries these people in a military court, and is not required to disclose any evidence to the detainee or their lawyers. [175]

During these detentions, prisoners are regularly subjected to torture and denied basic human rights such as access to lawyers and medical care. Over 100,000 Palestinian people have been detained in this way since 1987.[176]

Continues overleaf

[172] <https://www.whoprofits.org/publications/report/144>

[173] <https://www.haaretz.com/israel-news/2022-03-24/ty-article/.premium/soldiers-not-allowed-off-shifts-until-they-enter-50-palestinian-names-in-database/00000180-5ba7-d97e-a7fb-7bf7361c0000>

[174] https://www.washingtonpost.com/world/middle_east/israel-palestinians-surveillance-facial-recognition/2021/11/05/3787bf42-26b2-11ec-8739-5cb6aba30a30_story.html

[175] <https://www.bbc.co.uk/news/world-middle-east-67600015><https://www.bbc.co.uk/news/world-middle-east-67600015>

[176] <https://www.hrw.org/reports/pdfs/i/israel/israel946.pdf>

Continued...

The Israeli police have been supplied by IBM since the 1970s. VMware systems are also used by the Israeli police, and much of their systems use solely IBM equipment and software. In 2021 VMware won a £10.5 million equivalent tender to supply systems for managing the 400 CCTV cameras that conduct 24/7 monitoring of East Jerusalem civilians.

In Naqab, IBM services are built into the system of land dispossession led by the IMOD. The IBM cyber research centre is part of the Southern Relocation Plan, which strengthens Jewish settlements by relocating elite military technology units and tech companies to the Naqab and incentivises occupation by Jewish Israelis while Palestinian Bedouins face forced displacement by the IDF. [177]

The Israeli Civil Administration (ICA) manage the issuance of work permits for Palestinian people living in the occupied West Bank and Gaza. These Palestinians need special permits, issued by the ICA, to be allowed to work, engage in commerce, make family visits, have medical treatment or receive legal support outside those deliberately restricted and impoverished areas.[178]

The 'Al Munaseq' app (built on Microsoft's Azure platform) which manages this process forces Palestinian people to give access to their IP address, location, camera and files and allow extraction of data for processing by other Israeli government agencies. This requirement is not placed on Jewish citizens of Israel or those living in illegal settlements.[179]

In both 2013 and 2016, VMware signed deals worth \$21.2m with the IMOD for licensing and maintaining their SDDC platform, providing automated infrastructures and cloud management to enable virtualization of military data centres for communication, information security and storage. This process increases scalability and flexibility of IT resources.

The IDF leverages its high-tech and AI computing power for many uses, including running a "mass assassination factory" with an emphasis on the quantity not quality of airstrikes. [180]

Continues overleaf

[177] <https://jewishjournal.com/israel/151533>

[178] <https://www.whoprofits.org/companies/company/7236>

[179] <https://www.whoprofits.org/companies/company/7371?microsoft>

[180] <https://www.972mag.com/mass-assassination-factory-israel-calculated-bombing-gaza/>

“in the past we would produce 50 targets in Gaza per year. Now, (Israel’s Gospel’ AI system) produces 100 targets in a single day, with 50% of them being attacked.”

- Aviv Kochavi, (head of the IDF until January 2024)

Gospel is also used to plan the very moment of an airstrike, measuring the rate of civilians leaving a building and using an algorithm to decide how many people remain inside.[181]

The IDF’s own figures from November 2024 show that, during the first 35 days of war, Israel attacked 15,000 targets in Gaza and averaged 228 airstrikes a day between Oct 7th 2023 and Mid-February 2024. These figures are significantly higher than the 5,000 to 6,000 targets struck in the 51 days of the 2014 war.[182]

While it may feel somewhat distant to our domestic situation, the Israeli wars on Palestine are not only testing grounds for weapons, they also allow constant feedback from active soldiers, allowing companies to test and validate new military and surveillance technologies,[183] and after each war on the Palestinian people, global demand for Israeli military technology increases. [184]

“in every war against Gaza a range of weapons and surveillance tech has been deployed against the Palestinians which is then marketed and sold to ... nations around the world,”

- Antony Loewenstein, Journalist.

Israel and its partners, many of whom we ourselves support at University of Sheffield, are paving the way for ever more sophisticated methods to separate, control and discriminate against different populations.

Once these technologies are available on the global export market, how and where will they be used next?

[181] *ibid.*

[182] <https://breakingdefense.com/2024/02/israeli-air-force-struck-31000-targets-in-four-months-of-war/#:~:text=12%20the%20IDF%20said%20it,IDF%20southern%20command%20and%20close>

[183] <https://asia.nikkei.com/Politics/Middle-East-crisis/Israeli-startups-hope-to-export-battle-tested-AI-military-tech>

[184] <https://www.aljazeera.com/features/2023/11/17/israels-weapons-industry-is-the-gaza-war-its-latest-test-lab>

CONTROL OF TEACHING AND RESEARCH

The arms industry has a large presence in the planning and direction of research and teaching at the University of Sheffield. Senior arms company staff and researchers sit on the Industrial and Strategic advisory boards for a number of departments and partnered institutions.

Several departments are proudly vocal on the importance of this industrial input guiding educational choices within the institution, however, the lack of transparency and accountability to the staff or student body for these appointments and the direction of our labours is fundamentally inconsistent with the University's 'One University' vision.

While the presence of these companies are championed by their 'industrial input', many of the companies earn a significant revenue from the defence industry.

The bubble-chart below shows the percentage of total revenue for each University of Sheffield partner that is derived from arms sales.



Figure 5, Company arms revenue as a percentage of total revenue - 2022 figures

INDUSTRIAL & STRATEGIC ADVISORY BOARDS

The arms and apartheid industries are built into the fundamental structure at University of Sheffield, guiding research, teaching and funding.

University of Sheffield is enmeshed with these companies through their memberships on influential strategy boards both internally, throughout departments and schools, and externally, on similar boards of our partnered research institutes. The university also delivers honorary positions to senior managers of arms companies.

“

Industrial input is fundamental to the development, design and integrity of our courses... inform(ing) what we teach and how we run our degrees

– University of Sheffield. [185]

”

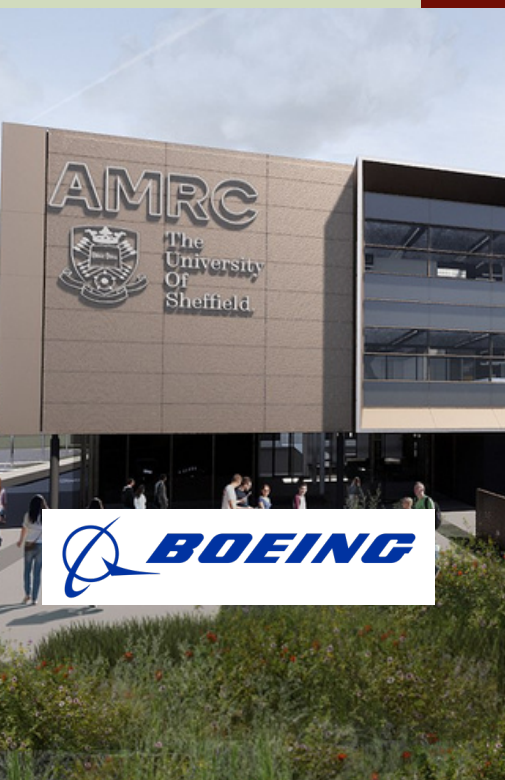
AMRC

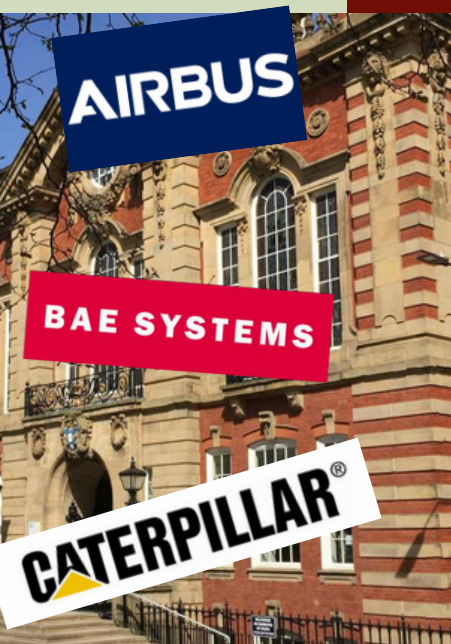
Founding member - Boeing

Boeing is a founder member and principal research partner of the AMRC. The relationship is so deep that the Boeing UK president, Maria Lane has been awarded a visiting professorship at the university to ‘cement stronger ties between Boeing, the wider University’s activities and the AMRC.’

The ties with Boeing are of incredible importance to the AMRC, and the partnership explicitly intends to ‘expand the footprint of UK aerospace manufacturing, through access to the AMRC’s ground-breaking facilities and by sharing ideas and research findings’.

It is clear that University of Sheffield is tying itself into ever longer and more in-depth relationships with the arms industry, including responding to arms industry needs in the direction of research, rather than those of the university, its graduates or the world’s humanitarian, sustainable or ethical needs.





DEPARTMENT OF AEROSPACE ENGINEERING

Industrial Advisory Board members – Airbus, BAE Systems, Caterpillar

Professor David Harra, the head of Robotic Development and Assembly Technology at Airbus sits on the Industrial Advisory Board of the Department of Automatic Control and Systems Engineering.

BAE Systems also has representation on the Aerospace IAB. Craig Locke, Senior Applications Engineer for Caterpillar Inc. is a member of the Aerospace Engineering IAB.

The full list of IAB members for the Aerospace Engineering department is not available on the University website.

DEPARTMENT OF AUTOMATIC SYSTEMS AND CONTROL ENGINEERING (ACSE)

Industrial Advisory Board members – IBM, Boeing, Thales, Qinetiq

Ian Gardner, the UK Client Technical Leader and Industry 4.0 Architect at IBM is chair of ACSE's Industrial Advisory Board (IAB).

Denzil Lawrence, Research and Technology at Boeing (and previously 10 years 'Building networks in Aerospace, Medical, Nuclear and Advanced Manufacturing sectors' with Sheffield AMRC) sits on the ACSE IAB.

Paul Wheway, another ACSE IAB member and currently Head of Systems Engineering at Thales Underwater Systems, has spent his entire working life in the Arms sector, his 11 years at Thales following 9 years with BAE Systems.[186]

Derek Wall, a System Architect Technical Specialist for Rolls Royce sits on the ACSE IAB. Derek also leads the Rolls-Royce University Technology Centre in Control, Monitoring & Systems Engineering 'on behalf of Rolls-Royce'.[187]

Mathew Morton, senior security architect at Qinetiq, sits on the ACSE IAB.



[186] <https://www.linkedin.com/in/paul-wheway/?originalSubdomain=uk>

[187] <https://www.sheffield.ac.uk/acse/research/industry/derek-wall>

HENRY ROYCE INSTITUTE

Strategic Advisory Board members - Rolls Royce, RTX (Raytheon)

The institute's strategic advisory board is chaired by Prof Jan-Theodoor Janssen, the Chief Scientist and International Director at The National Physical Laboratory (NPL), who *'have a long tradition of working with manufacturers and suppliers of the technology and equipment being used by our armed services and security industry'*.^[188]

The membership of the Royce advisory board also includes Dr Alex Rose-Parfit, the Engineering Director of Raytheon UK; Dr Andrew Barrow, a technical specialist in materials at Rolls-Royce (with a focus on Nuclear applications); Dr. Teresa Pérez Prado, who is also a member of the International Advisory Board of the European Space Agency (ESA) which in January 2021 called for more integration of (and budget increases for) the ESA to improve European defence capabilities.^[189]

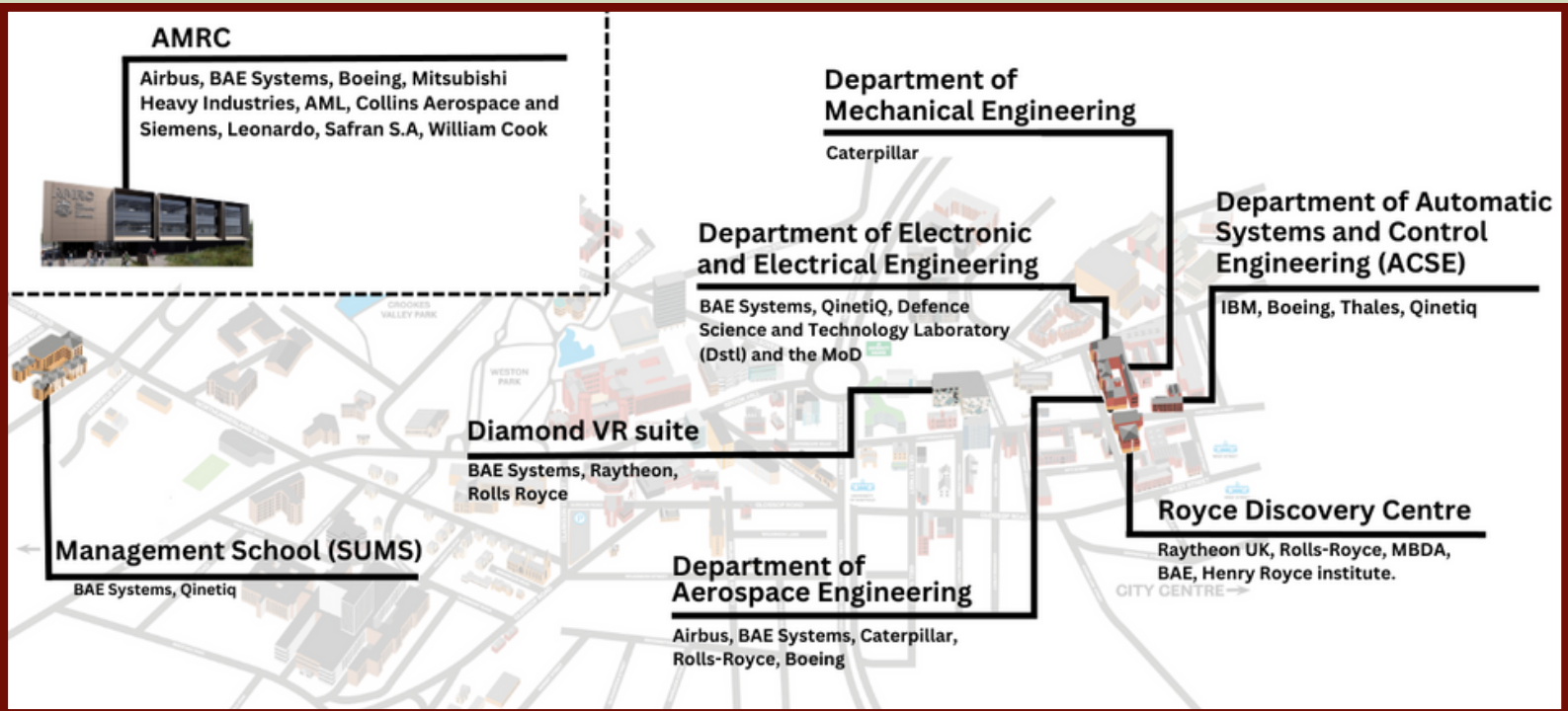


Figure 6, Map of Complicity; Arms on University of Sheffield campus

[188] <https://www.npl.co.uk/defence-and-security>

[189] <https://www.ft.com/content/731d9507-5925-43ac-9f0e-5caa03f314d4>

LACK OF TRANSPARENCY AND ACCOUNTABILITY

While the University proudly displays these deeply ingrained connections with the arms industry, **there is no formal consultation with staff or students as to which organisations are invited to sit on these boards, and no transparent process for assessing whether these organisations meet any of the University’s own ethical or social responsibility metrics.**

The University of Sheffield’s One University pillars[190] are clearly incompatible with this integration with the world’s most violent and devastating industry – the neo-colonial military industrial complex. Participation in arms research supports the production of 5 the percent of global emissions that are generated by military activity alone.[191] A more in-depth comparison of the University’s partnerships with its publicly espoused values can be found in the context box: ***Contradictory pillars of ‘One University’.***

University of Sheffield also does not demonstrate sufficient interrogation of its investment holdings, insofar as they outsource such a degree of ethical oversight to the fund managers themselves and provide inadequate specificity within the Endowment Investment Policy to protect the university’s publicly stated ideals.

CONTEXT: CONTRADICTIONARY PILLARS OF ‘ONE UNIVERSITY’

Collaborative and Supportive culture

“We will foster a collaborative culture where staff and students are all active participants in the success of the University.”

With no oversight or transparency in appointing its industrial advisory board members, and a history of resisting change and ignoring strong student sentiment, the University has shown that, in this case, it does not desire the active participation of the community in its decision making.

Continues overleaf

[190] <https://www.sheffield.ac.uk/vision/our-pillars/one-university>

[191] <https://www.theguardian.com/commentisfree/2024/jan/09/emission-from-war-military-gaza-ukraine-climate-change>

Diversity and Inclusion

“(We will) Ensure that we continue to consider equality, diversity and inclusion in the development of core policies, processes, procedures and guidance documents; be mindful of the impact of our decisions on members of our community with protected characteristics and those who traditionally have less of a voice feel they belong and are treated with respect.”

The complicity of the University of Sheffield has a devastating impact.

In the face of the UK’s Hostile Environment, rampant Islamophobia and the vastly unequal treatment of refugees fleeing different countries (Ukrainian and Palestinian for example) by the British Government and the University alike, some of the most vulnerable members of the University community have had to viscerally bear the institution’s complicity with war and genocide on a daily basis.

It is clear that consideration towards members of these communities is not a factor in the decisions to profit from the arms industry that is used to maintain neo-colonial control of global resources, and who’s victims are disproportionately from the global south.

By inviting these companies onto our campus, we directly create a hostile and violent environment for our peers.

Wellbeing

“We will create a positive environment that supports and encourages the wellbeing of our staff and students, whilst empowering individuals to be responsible for their own wellbeing.”

The psychological impact of working alongside arms research can be severe. This is further compounded by a status quo that actively and passively silences dissent. Those most affected by these conflicts and our collective complicity (often the more vulnerable members of our community) feel unable to raise these ethical and moral concerns for fear of ‘rocking the boat’ or upsetting their own or their colleagues’ careers.

Continues overleaf

Continued...

The lack of transparency and input actively disempowers staff and students from being agents of moral and sustainable change within an environment funded in no small part by war, genocide and apartheid.

Sustainability

“We will aim to be one of the most environmentally sustainable research-intensive universities in the country, ensuring sustainability runs through everything we do... actively contribute to and support all 17 of the UN’s Sustainable Development Goals (SDG)... (and) embed Education for Sustainable Development into all of our courses.”

War, Genocide and Apartheid are not sustainable. More than 5 per cent of global emission come from military sources, but most nations with large militaries refuse to publish their data. The University of Sheffield’s commitment to genocide related arms research and financial support of apartheid also actively undermines several UN SGDs in Gaza alone.

The UN reports that up to 16 years of human development could be wiped out in Israel’s continuing assault on Gaza.[192]

Goal 1: No Poverty

UN figures show that Israel’s blockade of Gaza’s left 80% of its people dependent on international aid before the most recent eruption of violence.

In just one month, Israel’s genocide of Gaza forced 500 thousand more people into poverty, with the UN reporting that the economies of Gaza and the West Bank have been set back decades.

Goal 2: Zero hunger

Israel’s war on Gaza has created an ‘entirely human-made’ crisis.[193] The ‘complete obliteration’ of the food system, the destruction of the Gaza fishing port has created a Famine in North Gaza.[194]

Continues overleaf

[192] <https://www.undp.org/press-releases/poverty-state-palestine-set-soar-more-third-if-war-continues-second-month>

[193] <https://www.nytimes.com/2024/04/11/world/middleeast/gaza-famine-hunger-crisis.html>

[194] <https://archive.ph/AnzgZ>

Goal 3: Good health & wellbeing

At least 21 of Gaza's 35 hospitals have been shut down or destroyed by Airstrikes of lack of resources due to blockades since November 2023. [195]

Goal 4: Quality education

Israel has 'systemically obliterated' Gaza's education system, destroying 80 per cent of its schools. [196]

Goal 6: Clean water and sanitation

Even before the 2023-4 war, apartheid oppression meant that less than 1 per cent of Gazans had access to clean water.[197]

Goal 8: Decent work

Apartheid has meant disenfranchisement of Palestinian people, with discriminatory travel and work permit systems preventing access to quality jobs. The current genocide has cost 390,000 jobs.[198]

Goal 10: Reduced inequalities, Goal 16 : Peace and Justice

It would hopefully go without saying that all of the above points increase inequality, and war and genocide are antithetic to peace and justice.

[195] <https://www.aljazeera.com/news/2023/11/13/patients-are-dying-what-we-know-about-gaza-hospitals-under-israeli-siege>

[196] <https://news.un.org/en/story/2024/04/1148716>

[197] <https://www.worldbank.org/en/news/video/2022/11/15/responding-to-the-water-crisis-in-gaza>

[198] <https://www.undp.org/press-releases/poverty-state-palestine-set-soar-more-third-if-war-continues-second-month>

THE PATH AHEAD

The future is not written in stone.

‘That’s just the way things are’ is only true if we let it be so.

We have a vibrant university community of talented people working on all manner of exciting and positive projects. University of Sheffield and the AMRC conduct world leading work supporting essential transitional technologies. There is also a lot to be improved upon.

There is a long history of successful action for change against genocide and apartheid in British industries and universities. Scottish Rolls-Royce workers grounded the Chilean dictatorship’s British-made ground attack jets through selective removal of labour.

The global Palestinian solidarity movement is winning divestment and more progressive commitments from UK higher education institutions, such as Southampton, York and Cambridge

There are many tools that we, the members of the local and university communities in Sheffield, can use to move us forward toward a just and sustainable future without arms funding.

The University of Sheffield must engage meaningfully on making lasting changes, working honestly and with integrity in collaborating with the entire community to develop an action plan for divestment and a sustainable transfer of jobs, skills and teaching away from arms into other areas.

We have presented some options for discussion in the following section. As with any work of this type, much of it must be held open for discussion and iteration. SCCP are committed to protecting staff and student careers alongside our campaign.

WHAT WORKS?

Across the world, the Palestinian solidarity movement is successfully using a broad range of tactics and actions to generate positive change. These tactics have ranged from internal organising to coalition building to direct action tactics.

Strategies such as blockades, occupations, and disruptions intended to halt business as usual and apply visible pressure have been successful in forcing institutions to answer the call for divestment from genocide.

Behind the scenes, organising from in-depth planning and coordination to the use of existing community, legal and institutional frameworks to advocate for progress have also been instrumental in pushing for progress. By entering into coalition, various university communities have benefited from cross-pollination of ideas, access to the breadth of expertise, resource and skill-sharing across networks and have seen improved cross-group communication develop as a result. Coalition organising has proven its effectiveness.

BOYCOTT AND DIVESTMENT

The international boycott movement has seen major US and European companies such as Orange, G4S, General Mills and ***'exit the Israeli market after high profile campaigns over their complicity with Israeli violations'***.

Public pressure on local authorities resulted in the cancellation of \$20 billion in contracts with Veolia, the transnational waste management and energy company. This action forced the company to sell its Israel based business and end its activities in illegal Israeli settlements in Palestine.[199]

There is a growing divestment movement in the UK and internationally. The combination of direct action and campus organising has been fundamental to successfully campaign for divestment by several higher education institutions.

In 2016 coalition campaigning between staff and student bodies and the broader support of the Campaign Against the Arms Trade (CAAT) resulted in strong changes to the University of Southampton Endowment fund policy. The new policy states that none of the University of Southampton's money may 'in any way' fund the arms industry.

In addition, the campaign secured further exclusions for animal testing, energy intensive industries not tackling climate change and the banking sector that have high exposure to third world debt and countries with poor human rights records.[200]

As a result of continued campaigning by a staff and student Palestinian solidarity coalition the University of York was forced to publicly confirm that it no longer holds investments in companies that primarily make or sell weapons. [201]

While both of these resolutions are incomplete solutions, they demonstrate clear positive outcomes from successful and continued campaigning.

WITHDRAWAL OF LABOUR

Withdrawal of labour, either totally or for specific aspects, projects or customers, can create the necessary conditions for an institution to provide alternatives. It can also have significant direct and life-saving impacts.

Rolls Royce workers in East Kilbride successfully grounded the fascist Chilean dictator Augusto Pinochet's entire squadron of 29 UK-manufactured Hawker Hunter fighter jets, preventing significant loss of life.[202]

In recent years, unionised dock workers have regularly prevented the loading and unloading of Israel-bound arms shipments, as well as those destined for other conflict zones where civilians may be targeted.[203]

DIRECT ACTION

Groups like Palestine Action have targeted Israel's largest arms company, Elbit Systems, with a sustained direct action campaign. they have forced the permanent closure of a factory and their London HQ. They've forced suppliers and partners to stop working with Elbit, such as the UK's Ministry of Defence which broke contracts with Elbit Systems worth 280 million pounds.[204]

Direct action gets the goods!

Closer to home, Sheffield Action Group have spent the last two years occupying University of Sheffield buildings and disrupting events.[205] Arms companies have dropped out of some careers fairs as a result and disruption has raised awareness of the university's complicity across campus and the city.

[200] <https://caat.org.uk/news/university-of-southampton-has-ended-its-investment-in-arms-companies/>

[201] <https://www.yorkpress.co.uk/news/24263054.university-york-amends-responsible-investments-statement/>

[202] https://www.heraldscotland.com/life_style/15867406.east-kilbride-engineers-defied-general-pinochet-now-stars-new-film/

[203] <https://www.commondreams.org/news/barcelona-dockworkers-weapons-israel>

[204] <https://www.aljazeera.com/opinions/2024/3/28/being-branded-as-extremist-wont-deter-palestine-action&sa=D&source=docs&ust=1715447150366516&usg=AOvVaw3gl1lqnRr6gD0tPEExCELM>

[205] <https://libcom.org/article/two-years-arms-campus-action>

UNIVERSITY OF SHEFFIELD ENDOWMENT INVESTMENT POLICY

University of Sheffield has, to its credit, already accepted the need to begin a process of divestment from harmful companies.

This process has been underway as part of the existing Endowment Investment Policy, that requires that its *'Investment Managers should seek to eliminate exposure to ... explicit environmental damage (and the) manufacture or sale of armaments'*, amongst other goals.

The policy also expects its investment managers to 'actively consider' other aspects, including sustainability, good business ethics, environmental and biodiversity considerations and an end to international conflict.

However, the policy lacks specificity about how to achieve these goals, and appointed Investment Managers are ***'left at their own discretion to select individual stocks and to operate within their own Socially Responsible Investment Policy'***.

As shown in the ***Complicity in Apartheid*** section above, the shortcomings of the current Endowment Investment Policy allow University of Sheffield to retain nearly £2 million in holdings with companies that enable war crimes, apartheid and theft of sovereign resources.

WHAT CAN WE DO TODAY?

It starts with you.

Progress can only happen with your participation. Luckily, participation is a lot easier than you might think and there are so many things you can do to get involved.

SCCP are asking you to get in touch with us to chat, share information, tell us your ideas and receive training, mentoring and support in your school or department and in the local community. There are as many ways to get involved as there are individuals willing to step up, so there's something for every interest and all capacities.

STAFF & STUDENTS: REMEMBER YOU'RE NOT ALONE

There is a huge international community taking action on a global scale to oppose genocide, to support the Palestinian people and to take responsibility for their communities.

The authors of this report are members of the university community here in Sheffield and know all too well how isolating it can feel to speak up in a work or study context. But there are tens of thousands of us, and SCCP are taking steps to bring us together. The University of Sheffield should be a resource for each and every one of Sheffield's diverse communities. We are dedicated to supporting our community in creating a university that works for us and our future, not to subsidise weapons dealing fat cats.

STAFF, STUDENTS & COMMUNITY MEMBERS: TELL US YOUR IDEAS

You know your work, study area or community better than anyone. Please tell us what you think will be effective and impactful in your personal context and be part of the solution. We can and will support you to make ideas come to life.

STAFF & STUDENTS: TALK TO EACH OTHER

Speak up!

Everything we do is political (just think who chooses the funding priorities in your work or study area!). Have the courage to raise important political issues. **If you don't feel confident, please reach out to us for support – we are here to facilitate, train and back you up to make things happen.**

Listen and learn!

Celebrate our positive impacts, but be open and honest with ourselves and each other about how a not-insignificant amount of what we do has huge negative real-world impacts for the global majority.

Be aware of your own defensiveness if a colleague or student has concerns over the ethical implications of your work. Consider lived experiences and other perspectives – being a world expert in one field does not necessarily give one an accurate understanding of the political, class, racial or colonial impacts of that technology or how it is used.

Care!

Be compassionate with each other – support each other to learn and change. Work together to generate ideas rather than winning a discussion – these will be the seeds we sow together.

Take your time!

We're in this for the long-haul, systems and people don't change overnight. Building power is slow, patient work that requires us to build trust and relationships.

Hurry up!

That said, this work is long overdue (we're talking centuries here) – be vigilant against stalling and backsliding. Hold friends, colleagues and yourselves accountable for excuses and inaction. **People are dying right now, today, and we cannot avoid our complicity.**

STAFF & STUDENTS: PUT PRESSURE ON YOUR DEPARTMENT/SCHOOL

Ask for accountability from your heads of department, heads of research groups and course leaders. Ask for explanations of how research partners were chosen, what ethical considerations were made and what they are doing to move away from profiting from genocide and apartheid.

Ask for ethical panels to discuss current strategic and research partners, to make transparent ethical assessment for the activities of these partners and make ethical recommendations.

If you don't feel comfortable asking these questions yourselves, use your legally protected trade union representatives – they are there to give voice to your concerns.

STAFF & STUDENTS: EDUCATE YOURSELVES ON GREENWASHING

Be aware of the tactics that globally destructive industries use to re-brand their genocidal and ecocidal activities as 'green' or 'sustainable'.

Spending millions on projects to de-carbonise an industry can also be another way to describe saving money and reducing material costs of conducting deforestation, oil extraction, mining or prosecuting a war.

It is important to use a critical filter to assess the 'green' or 'eco' claims made by these projects or partners. For more details see the '**Greenwashing the arms trade**' context box in the '**A research partner for the arms industry**' section.

STAFF & STUDENTS: PUT PRESSURE ON YOUR UNIVERSITY

In order to implement its commitments within the Endowment Investment Policy, the University of Sheffield promises to:

- Issue guidance to its Investment Managers responsible for the University's investments
- Consider representation from members of the University community that the University should not invest, or should disinvest, in specific companies

Within the existing structures there are two clear paths forward for students, staff and alumni at University of Sheffield. **We can:**

- A.** Demand that the university management issues renewed guidance to its Investment Managers on the subject of Israeli apartheid and;
- B.** Call on the University to refuse future investment in, and divest from, Israeli apartheid.

The Endowment Investment Policy advises us how to proceed:

“

Any expressions of concern should be made to the Treasurer or Secretary of the Investment Group and should be related to specific companies whose activities or values appear, on the basis of clear evidence, to be so far removed from the University's values as to give grounds for serious concern.

The University staff community may propose amendments to this policy via the Senate or Staff representatives on the Finance Committee or Council'.

The University student community may propose amendments to this policy via the Students' Union Council or the Students' Union representatives on the University's Finance Committee or Council.

”

UNIVERSITY MANAGEMENT: ADMIT OUR COMPLICITY AND COMMIT TO AN ARMS-FREE FUTURE

Without full and transparent accountability, and without full disclosure of the extent of the university's involvement in the arms trade, how can our community make appropriate and ethical decisions?

To build a community that is not implicated in genocide will require the University of Sheffield accept and admit its past and current complicity and make public commitments to eliminating this.

The authors understand that a total elimination of defence research may, in fact, not be entirely possible. The current situation, however, is a very low bar. It is entirely possible to aim for perfection while understanding we may never get there. The authors propose that this would be a more productive, positive and sustainable outlook, and much better than giving up because we might/can't ever achieve it.

UNIVERSITY MANAGEMENT: DIVEST FROM ISRAELI APARTHEID

SCCP and the broader Palestine solidarity movement call on the University of Sheffield to:

- 1. Immediately declare and divest all its holdings in companies listed in this report and any companies in the UN report on companies supporting illegal settlements (including any trackers or indexes that contain holdings of any such companies). [206]**
- 2. Extend this divestment to any and all companies that are listed as arms manufacturers or complicit in the arms trade, genocide, apartheid, war crimes, ecocide and the fossil fuel industry.**
- 3. To commit to an immediate amendment of the Endowment Investment Policy to permanently prevent future re-investment in such companies.**

Replacing the existing asset management company with a reputable, ethical fund should be a priority.

A 'dark green' framework can better ensure a transparent investment protocol, ensuring any sustainability claims are legitimately made and actioned, and can help prevent greenwashing and other avoidance strategies.

'Dark green' funds are required to publish:

- A transparent list of its sustainable investment objectives
- A list of how those objectives are measured and judged
- A description of how the good governance of investee companies is measured
- A description of how sustainable investments contribute to the sustainable investment objectives, and do not significantly harm any sustainable investment objective
- Whether the fund takes into account the adverse sustainability impacts
- Accountability to the fund performance against the Paris climate change and whether the fund has carbon reduction objectives

Insisting on a 'dark green' (or better) framework would significantly enhance the integrity of University of Sheffield, in both policy and practice.

WHAT CAN WE DO TOMORROW?

We are a university with global impact. But what do we want this impact to be?

What type of global impact do our students themselves want to have on the world?

Can the university make just and sustainable research one of its 'Ambitious Plans' and use the #MadeTogether public persona to engage with this collaborative process?

If students are presented with viable, exciting and creative options to bring the learning from University of Sheffield into the wider world in a truly sustainable way, we can ensure that our mental, physical and social wellbeing and the legacy of value that we offer the world can be something to be more proud of.

To build a lasting change, we need to consider how our short-term actions can act as starting points for medium and long-term goals. We will also need support and facilitation from our university to effect these changes.

Below are some ideas of commitments that the authors feel would be impactful first steps in beginning a transition and supporting positive change.

SCCP intends to conduct outreach activities, including presentations and workshops, to share the outcomes of this report and to engage staff and student bodies alongside the wider university community in developing their own solutions from their own expert perspectives.

If you would like SCCP to come to you and present or discuss this report, please get in touch at palestine.sccp@gmail.com

UNIVERSITY DEPARTMENTS: PROVIDE POSITIVE ALTERNATIVES

We have a pastoral responsibility as a university community to enable our students and graduates to do more than just earn more money as a result of receiving a University of Sheffield degree. The space of possibility that we offer acts as a guide for our graduates moving into their careers.

In 1976, facing thousands of layoffs, the workers of Lucas Aerospace Corporation presented the Lucas Plan, arguing for their right to transition away from the arms industry and towards human centred, socially useful products.

They included over 150 designs for alternative products - including wind turbines, hybrid cars, heat pumps and energy efficient houses in their plans. Whilst unsuccessful 40 years ago, the plan is still an inspiration for workers everywhere who know their labour can build a better world instead of destroying it.

If we want a better university we have to show that another world is possible. SCCP calls on departments and schools to actively, explicitly and publicly develop and promote programs and facilitate networking and careers options for alternatives to the arms and other globally destructive industries.

The initial focus could be on the disciplines of Engineering, where finding an ethical career path is arguably the most challenging. This situation is, in no small part, the result of the root and branch penetration of these industries in the research and teaching programmes of the departments.

University of Sheffield should proactively engage with verifiably sustainable and ethical companies to permanently replace any graduate placement schemes that are currently in place with any company listed in this report. This would create new and exciting opportunities to learn and develop careers in ethically responsible areas.

The university should also establish a process of transparent, student and staff led, ethical selection process for all such schemes.

UNIVERSITY DEPARTMENTS: PROVIDE POSITIVE ALTERNATIVES

By consistently inviting genocidal and destructive companies to advertise themselves to our students, we are sending a strong preferential message in favour of these unethical organisations and their profoundly negative global impact.

SCCP calls on the university to cut all recruitment ties with companies that cannot prove an in-depth and verifiable positive ethical and environmental impact.

The authors call on the University to establish an ethical review group for the invitees to careers fairs and other student or graduate outreach activities, both on and off campus. A panel of staff, students and local community stakeholders should transparently assess whether such invitees' real-world impact (not just the size of their research grants) merits their inclusion on campus and enables their marketing to graduates.

UNIVERSITY MANAGEMENT: SUPPORT STAFF AND STUDENTS TO MAKE ETHICAL CHOICES

Without explicit and clear support, the challenge to move against the status quo in the world of academia and research can be insurmountable.

How would an expert situated in a department or working group whose historical funders and current primary partners are defence contractors break out from those industries, while retaining job security and their subject area of interest?

The authors of this report believe that core-funded support should be made available by the University to pivot research and teaching areas as well as individual career paths.

One option is to establish an '**ethical research transfer group**' to both proactively and responsively look for replacement funding streams for current arms funded work and provide support in matching academic and career specialities to new arms- and exploitation-free areas or partners. This work should be public, open to scrutiny, and led by staff and student bodies.

If this report has made you interested in learning more about the research and the university's complicity in armed conflict across the globe, don't hesitate to contact SCCP.

We are actively recruiting people, and encouraging all members of our university community to join our movement and the conversation about how our research and history is tied to the profits of arm sales, and the killing of thousands.
Join us!

CONTACT US



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[@palestine.sccp](https://www.instagram.com/palestine.sccp)



[@palestine_sccp](https://twitter.com/palestine_sccp)



University of Sheffield - Genocide and Apartheid Complicity Report



Errata and Clarifications

17.05.24

At SCCP we are committed to transparency and accountability.

After receiving new information we are publishing a list of errata and changes to the University of Sheffield Genocide and Apartheid Complicity Report.

These changes are important clarifications and improvements to language that improve the factual rigour and aim to avoid misunderstandings or misinforming our readers.

Page 17:

1

The AWE is also working with the Nuclear AMRC to better understand supply chain capacity.

changed to:

The AWE has worked with the nuclear AMRC on non-weapons related research on supply chain capacity.

2

BAE Systems, with the Ministry of Defence (MoD) and Rolls Royce, make up the Dreadnought Alliance[42], who work with the University of Sheffield's Nuclear AMRC on design, development and manufacture of Nuclear Submarines and nuclear weapons. The Dreadnought alliance budget is £31 billion[43]. The value of the nuclear AMRC work is not publicly available.

changed to:

BAE Systems, with the Ministry of Defence (MoD) and Rolls Royce, make up the Dreadnought Alliance[42], developing the UK's submarine-based nuclear threat. The Dreadnought alliance budget is £31 billion[43].

Page 21:

3

The NAMRC is directly involved with the development of the Dreadnought class nuclear submarines and nuclear weapons. The NAMRC's manufacturing expertise and over £35m of manufacturing equipment – 'all of which is available to manufacturers of any size for research

and development projects' – are considered by the MoD to be essential to reducing the costs of, and strengthening the case for, nuclear technology 'in all its guises'.

changed to:

The NAMRC has an important role supporting Rolls-Royce and the wider nuclear submarine supply chain with manufacturing innovation, supply chain development and further skills initiatives. The NAMRC's manufacturing expertise and over £35m of manufacturing equipment 'is available to manufacturers of any size for research and development projects'. NAMRC manufacturing techniques are considered by the MoD to be essential to reducing the costs of, and strengthening the case for, nuclear technology 'in all its guises'.

Page 21:

4

Removal:

The University of Sheffield's arms research is not limited to 'conventional' weapons.

N.B. It was an error to attribute this to the NAMRC as it pertains only to the AMRC's hosting of nuclear weapons designer for the AWE at the Rotherham site (see pg. 16)

Page 22:

5

Addition:

The Nuclear AMRC works with Rolls Royce on a range of confidential submarine-related projects.* The value of the Nuclear AMRC work is not publicly available.

*added footnote:

<https://namrc.co.uk/industry/rolls-royce-raynesway-expansion>