Who profits from EU funding for military research and development?

Since 2017 the European union has funded military Research and Development (R&D) projects.
It has so far allocated €285 million from annual budgets in 2017, 2018 and 2019. Which countries and companies are benefiting most from EU subsidies to research and develop military technologies and weapon systems?

Which technologies are being developed and how are projects controlled from an ethical point of view?

These are key questions this publication intends to answer: EU citizens are entitled to know what is being done with taxpayers' money.

How did we get here? A process under heavy influence of the arms industry

EU funding for military research and development was adopted under heavy influence from the arms companies and private research groups that will most benefit from these subsidies. Nine of the 16 members of the Group of Personalities that, in 2016, advised the European Commission to create this funding represented profit-making interests.
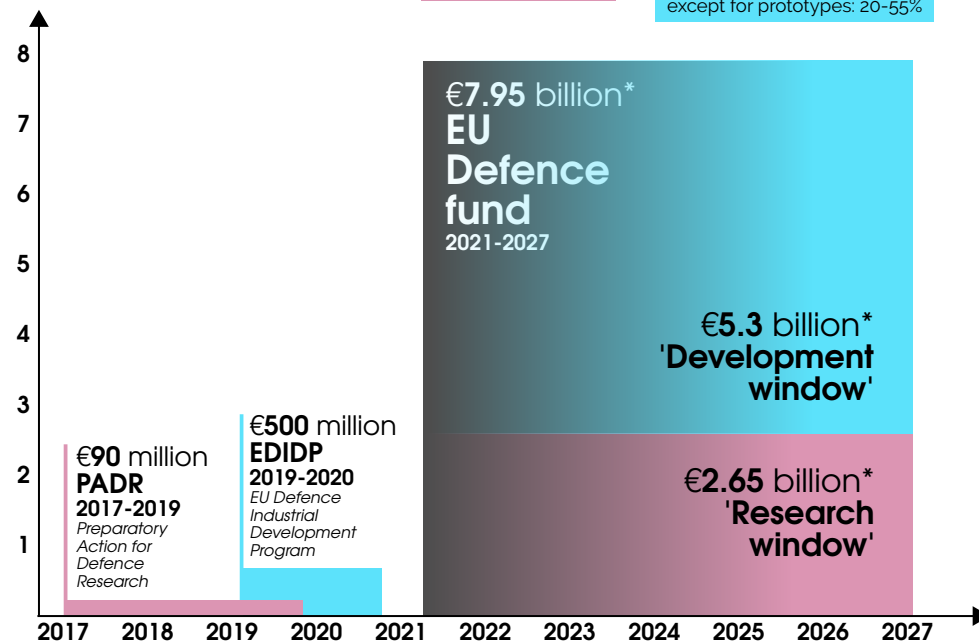
A former director of the Frauenhofer Institute co-authored a study for the European Parliament as "independent expert", advocating a programme of which the Frauenhofer Institute is now an important beneficiary. The military industry has built a privileged relationship with key EU Parliamentarians (MEPs) and its national corporate lobbies have developed a symbiotic relationship with national governments making the decisions at EU level.

The EU Defence Fund

The EU budget for **military** research and development.

100% EU-funding

80-100% EU-funding except for prototypes: 20-55%

€90 million
PADR
2017-2019
Preparatory Action for Defence Research

€500 million
EDIDP
2019-2020
EU Defence Industrial Development Program

€7.95 billion*
EU Defence fund
2021-2027

€5.3 billion*
'Development window'

€2.65 billion*
'Research window'

2017 2018 2019 2020 2021 2022 2023 2024 2025 2026 2027

* In current prices, according to EU council position of 1st October (2018/0254(COD)), still under negotiation with EU Parliament National contributions are expected to co-fund development projects, in theory up to 4 times the EU funding size. In practice so far the level of national co-funding under EDIDP is low.

What is the current state of play of implementation?

18 research projects have been selected under the *Preparatory Action for Defence Research (PADR)*, to fund the first step of an R&D process, also called Research & Technology.
Grants allocated amount to €85,16 million.

16 development projects have been selected under the *European Defence Industrial Development Programme (EDIDP)* in 2019, to fund the second phase of an R&D process (the last phase before production, such as prototypes, testing or certification).
Grants allocated amount to €200 million.

2 projects are being negotiated by the Commission for direct awards, amounting to €137 million (see p.3).

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Who benefits most
from the EU Defence Fund in 2017-2019?

Four countries are largely benefiting from this funding: **France, Italy, Germany and Spain.**

These are also the biggest EU arms exporters. However, according to available information[1] about 40% of EU countries receive no or very limited funding.

PADR
2017-2019

Under the PADR, the big four receive 59.9% of all grants and make up 55% of beneficiaries

total: 182 grants	total: 121 beneficiaries
FRANCE 42 grants	**FRANCE** 24 beneficiaries
ITALY 31 grants	**ITALY** 21 beneficiaries
GERMANY 19 grants	**GERMANY** 12 beneficiaries
SPAIN 17 grants	**SPAIN** 10 beneficiaries
NL 10 grants	**PT** 7 beneficiaries
GR, PT 8 grants	**BE, GR** 6 ben.
BE, PL, UK 7 grants	**NL, PL, UK** 5 ben.
SW 6 grants	**LT, SW** 3 ben.
LT 4 gr. **RO** 3 gr.	**CZ, FI, RO** 2 ben.
BG, CZ, FI 2 gr.	**AUS, BG, DK, EST, LV, SK** 1
AUS, DK, EST, LV, SK 1 gr.	

EDIDP
2019 budget

Under the EDIDP, the big four receive 53% of all grants and make up 47% of beneficiaries

total: 166 grants	total: 133 beneficiaries
FRANCE 28 grants	**FRANCE** 18 beneficiaries
SPAIN 23 grants	**SPAIN** 17 beneficiaries
GERMANY 19 grants	**GERMANY** 16 beneficiaries
ITALY 18 grants	**GREECE** 16 beneficiaries
GREECE 17 grants	**IT** 12 beneficiaries
BE 11 grants	**BE** 10 beneficiaries
CY 9 grants	**CY** 6 beneficiaries
EST 6 gr. **PT** 5 gr.	**EST, PT** 5 ben.
NL, SW 4 grants	**NL** 4 ben.
BG, DK, PL 3 grants	**BG, DK, PL** 3 ben.
FI, HU, RO 2 grants	**FI, HU, RO, SW** 2 ben.
AUS, CZ, IRL, LT, LUX, LV, SL 1	**AUS, CZ, IRL, LT, LUX, LV, SL** 1

Data also reveals which companies benefit most of EU funding

PADR
the companies profiting most:
THALES, LEONARDO*, TNO* INDRA*, ONERA, Frauenhofer*, SAAB*, Wojskowa Akademia TJD

Under the Research funding in particular (PADR), 7 companies**, out of 106 beneficiaries (e.g. 6.6%), received 34% of the budget allocated through 11 projects. They were all members of the Group of Personalities (GoP) which advised the European Commission to create this funding in 2016. The detailed breakdown is still missing for 7 projects, but 6 GoP members are involved in 5 of them and receive 9 grants. The CROWN project in particular, with the second biggest budget (€10 million), sees 5 of the GoP members involved.

EDIDP
the companies profiting most:
THALES, LEONARDO*, INDRA*, Signal, SAFRAN, Diehl, GMV, SAAB*

Under the Development funding (EDIDP), 8 companies which were part of the GoP** are involved in 9 projects, mainly the ones with the biggest budgets, and get 20 grants. This is 12% of the number of grants, but they represent 6% of beneficiaries. They are coordinators of 6 of those 9 projects.

* *members of the Group of personalities advising the Commission on EU funding for military research in 2016*

** *Those are: Airbus, Frauenhofer, INDRA, Leonardo, MBDA, SAAB and TNO. The 8th company member of the GoP is BAE Systems.*

(1) *public information for 33 projects is accessible on the Commission or European Defence Agency (EDA) websites and in the INDRA press release (dated 24/05/20) for the research project CROWN. For 2 research projects (≈ 13,5% of the PADR budget), the EDA only provided the topic and total amount of the grant, but not which countries and companies are involved. The EDA provided detailed information about 11 PADR projects, including breakdown of the grant per beneficiary. This led to interesting findings. However the funding breakdown per beneficiary is not published yet for 7 research projects, nor for any of the development projects under EDIDP. Thus we could only consider the number of grants and number of beneficiaries for this paper, except when specified otherwise.*
The direct award projects are not considered except when specified otherwise, as the same level of details is not available. We consider only direct European beneficiaries receiving funding, not the subcontractors and other participating entities not receiving EU funding. This explains diverging numbers compared with EU official data.

Which military technologies are being funded?

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The budget share illustrates where the priorities are, and it is no coincidence that the two projects benefiting from direct awards relate to the **two categories** receiving almost **90% of the funding** so far:

Intelligence-surveillance-reconnaissance (ISR)
Secured communication, cybersecurity

ESSOR
€37 million under direct award.
European Secure Software Defined Radio, developing common technologies for European military radios and a secure military communications system between EU forces.

Next generation of combat capabilities

EURODRONE
€100 million under direct award
Supports the development of the Medium Altitude Long Endurance Remotely Piloted Aircraft (MALE RPAS). This European drone could then be armed for use.

The Fund's main goal is to develop the next generation of weapon systems and combat capabilities, with a strong focus on integrating new technologies. This is meant to provide the arms industry with a technological superiority over competitors in order to 'boost its competitiveness', including for exports.

Three main areas of 'technological progress' are at the core of projects selected, and often intertwined:

The research and development of new weapon systems poses fundamental ethical, legal and societal questions about the technologies being developed for future use.

In light of the risks entailed, EU funding should require specific precautionary measures until these issues, including future exports, are properly addressed in European and International Law. Unfortunately this is not the case.

UNMANNED SYSTEMS
Drones and other unmanned vehicles
RISKS ENTAILED
global proliferation (state and non-state actors) and easy to arm

'targeted killings' amounting to extra-judicial killings violating international law, with numerous civilian casualties

'risk-free' perception and physical distance may lower threshold for using lethal force or entering into war

loitering drones and 'clustered' drones (e.g. drone swarms): increased unpredictability and civilians casualties, resurgence of large-scale attacks with swarms

PROJECTS APPROVED:

OCEAN2020
(PADR - €35,480,000)
Enhancing unmanned systems integrated into fleet operations (swarms) for maritime surveillance and interdiction missions (demonstrator in Med. sea

EUDAAS
(EDIDP - €21,200,000)
Detect And Avoid solution for safe insertion of large drones in European air traffic and enable their use in much wider and flexible way

ARTIFICIAL INTELLIGENCE
increasingly autonomous weapons
RISKS ENTAILED
increasingly complex (swarm) systems, largely unmanned: limited effective human control, biased algorithms, inherent un-predictability, communication disruptions, etc. serious risks of 'errors', conflict escalation and important civilian casualties

preparing path to fully autonomous weapons that would select and shoot targets without human control, e.g. killer-robots

'risk-free' and 'dehumanization' may foster military answers

challenging legal responsibility: designer, operator, decision-maker, machine?

PROJECTS APPROVED:

ARTUS & iMUGS
(PADR - €1.5m & EDIDP - €30.6m)
Research and AI developments for unmanned ground vehicles (UGVs, incl. tanks) capable to team with other manned-unmanned systems or UGV swarms for support to platoon or for participation in combat

LynkEUs
(EDIDP - €6,450,000)
Contribute to development of Beyond-Line-of-Sight missiles with autonomous target designation capability

DISRUPTIVE TECHNOLOGIES
that will radically change how to conduct war
RISKS ENTAILED
disruptive technologies being researched include:

hypersonic weapons: extreme speed and manoeuvrability, making them very difficult to defend against; dual-use nature increasing potential for accidental nuclear war

directed energy weapons, like microwave and lasers: causing damage by intense heating (burning/blinding); fast, silent and invisible, with high risk to contribute to human rights abuses

PROJECTS APPROVED:

PILUM (PADR - €1,400,000)
Research for demonstrator of EMRG (electromagnetic railgun) to launch projectiles over extremely long distance with electromagnetic acceleration

TALOS (PADR - €5,400,000)
Develop and demonstrate critical Laser Directed Energy Weapon technologies paving the way to design and build a EU high-power laser effector

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What about the ethical control of projects and technologies?

While spending hundreds of million of euros of taxpayers' money on developing new weapons is already highly unethical, it seems the EU is also disregarding international law and human rights standards in setting up these projects. Furthermore it does so largely behind closed doors.

Ethical checks, when they exist, fall short of being credible and violate international law

The decision to export EU-funded technologies and weaponry will remain in the hands of national governments. In light of current practices, there is a serious risk that weapon systems developed with EU public money will feed the global arms race and end in areas under conflict or tension.

Lack of transparency and parliamentary control

These developments are happening with very limited public scrutiny. On alleged 'security' or 'commercial interests', the European Commission has denied access to most of the documents requested by researchers, and the ones that have been were only released after complaints to the European Ombudsman.

As for the European Parliament, its normal oversight role over EU funding programmes has been drastically limited under exemption rules. MEPs have no say on how the funding is being used and depend on the Commission's goodwill for information. It seems that only a handful of MEPs from the Industry Committee can look at project details.

For Research projects under the PADR,

The EDA has put in place Ethical, Legal and Societal Assessment (ELSA) reviews. These reviews lack a proper assessment of legal and societal risks related to weapons research, and are not in accordance with international obligations, in particular protocol I of the 1949 Geneva Convention: its art. 36 requires that in the study, development or acquisition of military systems or technology, states have to determine if their use could violate International Law.

"Given the possible ethical, legal and societal implications of the funded projects, it is also important to assure the public that these aspects are examined carefully, and that necessary safeguards are put in place, most notably, to ensure that no fundamental rights are violated."

EU Ombudsman decision dated 27/11/19, following a complaint by Vredesactie (case 1529/2019/MIG)

For Development projects under the EDIDP,

The Commission will not conduct specific ethical checks. The applicant companies are self-assessing that their projects do not include technologies prohibited under international law. Funding for 'killer-robots' technology will be prohibited from 2021, but loopholes in the definition still allow fortechnological 'progress' in this area, and the Commission did not answer precise requests about how they will define 'meaningful human control' nor where the red line of lethal autonomous weapons is.

"Regarding the European Defence Industrial Development Programme (EDIDP), Regulation (EU) 2018/1092 (...) does not provide for Ethical, Legal and Societal Aspects (ELSA) or similar reviews to be performed on the proposals received."

Answer given by Mr Breton on behalf of the European Commissionto the written question of MEP Luke Ming Flanagan, 18 November 2019

The **European Network Against Arms Trade (ENAAT)** is an informal network of 20 European peace groups working together in research, advocacy and campaigning.

Visit our website **www.enaat.org** or contact us at info@enaat.org
Detailed data compiled for this fact-sheet is available upon request.

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