BORDER LABS

*How Universities Power
Europe's Border Regime*

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List of acronyms

ABC – Automated border control

AGUPP – Airbus Global University Partner Programme

AI – Artificial intelligence

AIT – Austrian Institute for Technology

AMIF – Asylum, Migration and Integration Fund

BDS – Boycott, Divestment and Sanctions

BMVI – Border Management and Visa Instrument

CEAS – Common European Asylum System

CERIS – Community for European Research and Innovation for Security

CISE – Common Information Sharing Environment

CSDP – Common Security and Defence Policy

CSO – Civil society organisation

DG HOME – Directorate-General for Migration and Home Affairs (European Commission)

EAB – European Association for Biometrics

EASO – European Asylum Support Office

EBCG – European Border and Coast Guard

EBF – External Borders Fund

EMN – European Migration Network

EMSA – European Maritime Safety Agency

EU – European Union

EUBAM – EU Border Assistance Mission

EURODAC – European Dactyloscopy System

EUTF – EU Emergency Trust Fund for Africa

eu-LISA – European Union Agency for the Operational Management of Large-Scale IT Systems – in the Area of Freedom, Security and Justice

FCDO – Foreign, Commonwealth and Development Office (UK)

FP(s) – Framework Programme(s)

FP7 – Framework Programme 7

GoP – Group of Personalities in the field of security research

H2020 – Horizon 2020

IBMATA – International Border Management and Technologies Association

IBMF – Integrated Border Management Fund

ICMPD – International Centre for Migration Policy Development

IDF – Israel Defense Forces

IOM – International Organization for Migration

ISFB – Internal Security Fund – Borders and Visa

MENA – Middle East and North Africa

MEP – Member of the European Parliament

MFF – Multiannual Financial Framework

MPF – Migration Partnership Facility

NATO – North Atlantic Treaty Organization

NGO – Non-governmental organisation

RRI – Responsible research and innovation

SMEs – Small and medium enterprises

SRE – Security Research Event

UAS – Unmanned aerial system

UN – United Nations

UK – United Kingdom

US/USA – United States of America

VIS – Visa Information System

A note on methodology

This report on the contribution of European universities to EU border and migration policies and practices is based mainly on desk research. It provides an overview of the universities involved and focuses on some notable cases. Clearly, it was not possible to examine all European universities or to incorporate all research findings into this already lengthy report. For more information or guidance on researching a specific university, please contact the author via email (m.akkerman@stopwapenhandel.org) or Signal (mark_stopwapenhandel.40).

Foreword: No need for defence

By Michele Lancione

In early June 2025, I found myself travelling from the Punta Raisi airport to Palermo's city centre in a crumpled minivan. I started talking to a fellow traveller who I soon realised was the CEO of a new Zurich-based hedge fund specialising in University start-ups working on cutting-edge defence technologies. The gist of our 30-minute-long chat can be summarised as follows: there are plenty of financial investors looking to pour money into hi-tech University start-ups and incubators, as long as these explicitly work on defence or dual-use technologies that could be leveraged toward the growing EU-based interests in the military. The CEO explained that Universities can provide the best young, well-trained, bright minds who are willing to explore and develop the technological "solutions" needed to win the war "of the future". Ultimately, he said, we are not going to win this war with tanks, but with technologies encompassing the biosciences, cybersecurity innovation, and novel autonomous weapons systems (hence, militarily, technologies using artificial intelligence without the requirement of human interaction).

This serendipitous encounter illustrates just one speck of the increased interrelation between European Universities and the European 'defence' sector. The wonderful report you hold in your hands, or read on your screen, contains information about hundreds of cases that make up this interrelation. The EU's bordering strategies and its renewed militarist agenda have much in common. As Nicholas De Genova has recently recalled, discussing the similar case of the US, the matter of bordering is a matter of war. "Abiding by the most elemental logic of war", writes De Genova, "those designated as the enemy—those who are purported to be 'destroying our country'—must be destroyed."[1] The destruction, here, serves a rhetorical and material political project based on racist and authoritarian principles repurposed by the far-right in its mingling with techno-financial capitalism across the Atlantic. And yet, the final aim of such a project, in what seems only superficially as a counter-circuit, is not to destroy the racialised migrant per se (albeit that is one of its key effects), but it is to premise a new European (Western?) identity on the constant *necessity of defence*.

To construct an enemy

To work, such a project pivots on the need to individualise enemies. Since there is not, and there will not be, any migrant invasion (as also shown by data discussed in this report), such enemies must be constructed — very much in the same vein in which Said reminded us that the colonial other must be first constituted as a subject worth being occupied, before occupation can occur.[2] If the other is rendered as a racial subject, and the racial subject is made the recipient of all adversarial characterisations, upon this foundation, an entire political and affective economy of *violent belonging* – also known as mainstream European identity – can then find its renewed standing. In this project, the military-industrial complex and the EU bordering regime serve different purposes, but their roots are entangled and grounded in the same terrain. A relationship from which European identity does not come out as an affirmatory and emancipatory idea(l), but as one *requiring* the constitution and maintenance of racialised alterities to stand and to reproduce itself.[3]

I use the words "constitute", "maintain", "reproduce", because the *necessity of defence* is not just a discursive matter, but a cultural and material process that requires active sustenance and demands enrolment at all levels of society. From the redrawing of logistical chains to serve the needs of 'defence', to the laborious, incessant effort to silence dissent, passing through the moulding of public institutions to sustain the tempo of such nefarious march. It is in the latter category that universities play a pivotal role. There are three sets of questions to address in order to unpack how (and why) the University-'defence'-nexus operates, as well as to understand its crucial importance for the many, not just for those working within, or studying into, the EU higher education system. These are: i) What makes Universities attractive for the military/border-industrial-complex, and vice versa? ii) Why does the bulk of academics working in EU higher education not see this as a problem? iii) Why is this relationship problematic?

Reciprocal attractiveness

There are three facets to this: cultural, social and economic. To exemplify, I will refer to the established relationship between the multinational aerospace, arms and security company Leonardo and the Polytechnic University of Turin (Italy), where I work. On a cultural level, the mutual interest of Leonardo and the Polytechnic in collaborating lies in the positivist roots of what is considered "science," especially in fields such as biosciences and engineering (though this also applies to the social sciences, see below). In essence, we have two players with great epistemic power, i.e., regarding what is considered "knowledge." Leonardo benefits from its relationship with one of the most renowned academic institutions in Italy and Europe, thereby imbuing its market activities with a scientific aura. Indeed, Leonardo's adverts in Italian train stations do not pertain to its military activities (which comprise 80% of its budget), but the Master's degree in management or cybersecurity it promotes with a number of Italian Universities. Here, the 'techno-washing' operated by Leonardo thanks to its relationship with the higher education sector is evident. The Polytechnic, for its part, can rightly claim that the research carried out within its walls is not useless theoretical speculation but has direct applications. The roots of this mutual cultural affection are "positivist" because they are structured around the technical and perceived functional use-value of knowledge: it is an interpretation of the world's problems as a set of causes and effects on which to act directly and precisely.

Based on this epistemic relation, the social value of the link between the two is established: by building projects together, occupying the same laboratories, and having access to the same databases, Leonardo and the Polytechnic can increase and speed up their respective capacities for action. To use a phrase dear to the Polytechnic's management, this means 'activating synergies', i.e., optimizing the resources available to achieve the goals set. Such 'synergies' are crucial for Leonardo and the 'defence' sector at large. What competitive advantage are Italian universities offering to Leonardo by allowing this industry access to the best technological Labs across the peninsula? **Would Leonardo be one of the biggest players in the global military industry without its capacity to access our Labs, our researchers, and our social networks?** The latter do matter, and Leonardo knows this well.[4]

This is where the economic issue becomes glaringly obvious. For instance, in Turin, a public consortium is constructing a new Aerospace Citadel - a new centre for aerospace research and development[5]. This is a massive financial investment fuelled by the EU recovery fund, with three key players: Leonardo (arms manufacturer), Politecnico (in theory still a university), and NATO (a military alliance). A hub such as the Citadel is not only a large public assets – i.e., made with

citizens' taxes – but above all a great opportunity for the creation of extensive profit chains, made up of patents, projects, technologies, and goods, which will be generated synergistically in Corso Marche and sold on world markets to the highest bidder. Both Leonardo and the Politecnico will benefit, depending on the agreements made from time to time on individual contracts. Here, the question of dual-use is just a smoke screen. Consider the fact that, to use patented civilian technology for military purposes, concessions and royalties will have to be paid. There is no 'duality' here, just a clear economy of interlinked operations.[6]. In this mix of financial interests, the ethical question is not only about who we sell the Eurofighter Typhoons built by Leonardo to (spoiler alert: the Egyptian military regime has invested 4 billion euros in these). But it also becomes the following: how were the technologies within the Eurofighter generated, and who is responsible for what in its construction, when the cultural, social, and economic networks between research and 'defence' are enveloped in a common spirit and interest, and are therefore functional to each other—in a word, mutually militarized?

The problem of servient subjects

So, second, why aren't academics in Europe fighting the military/bordering-industrial-academic complex more strongly? In a recent research project we conducted with three colleagues on the relationship between Frontex and EU Universities, we sought to answer this question by advancing the notion of "positivist dissonance."[7]. 'Positivist', because the knowledge manufactured across European institutions today, after multiple waves of feminist, cultural and ontological upheavals, continues to rest on colonially-rooted quests for universal facts, transferable laws and workable outcomes. 'Dissonance', because the emotional and professional stance of conventional scholarship – certainly within Italian contexts – presumes distance from what it examines and, more importantly, from the consequences that examination unleashes upon the world. Two worlds seem to coexist: the realm crafted within 'research facilities' or elaborated through 'critical analysis', and the actual terrain shaped by or connected to these very knowledge-making spaces.

Positivist dissonance grounds how scholars and their establishments relate to the military-industrial-academic machinery. Ultimately, despite the clear epistemic, social, and economic links that co-constitute these relations, the average European academic thinks they are not fully part of them. Such a scholarly identity is made of only apparently opposed facets. On the one hand, there is the urge to show that science matters specifically, the conviction that investigation ought to produce concrete 'answers' to concrete 'challenges'. On the other hand, such conviction is built on entrenched histories of (class) privilege, enabling institutional research to escape accountability for how its findings get weaponized. Part of the latter is also a structural whiteness to the racial and colonial structures that academic knowledge production inhabits and reinforces[8]. These apparently 'schizophrenic' aspects are made to work conjunctly and coherently by the constant underfunding of public research and the push to commercial partnerships, which demands steady, immediate results without too many questions.[9].

On this threshold, and third, it is possible to unpack why all of the above is problematic. On the one hand, from an anti-militarist, no-war, no-borders and anti-racist standpoint, it is clear to the readers of this text where the problem lies. As this report clearly illustrates, Universities "play a significant, though often somewhat concealed, role in the development, perpetuation and expansion of Fortress Europe". In a sense, they contribute to the *infrastructuring* of Fortress Europe and, as we have seen, to the European military-industrial complex. This is problematic because such infrastructuring is of an economic kind – since Universities provide resources

in the form of research grants, as well as the time and effort of hundreds of precarious European researchers – but also of an epistemic kind, as discussed. When a University, such as my Polytechnic, produces maps for Frontex, it provides epistemic validation for a political discourse – that of the invasion – that lacks any scientific foundation. Such validation extends beyond the map's content. Frontex buys the logo of a major European University, sticks it on its maps, and, in the eyes of the general public, the scientific validation of its stances is done.

But on the other hand, beyond our political positions on these matters, the constitution of a European military/bordering-industrial complex is problematic because it changes the nature of the University sector. The more we, in the University, work with and for the 'defence' of Europe, the more we follow its logic. The more we work with industries that have to sell deadly things, whose functioning is dictated by geopolitical and commercial intent, the more we, institutionally, will follow those intents, and the more we, as just illustrated, become subject to those intents (ultimately becoming "deadly things" ourselves). The European higher education sector turns then into a collective subjectivity servient to the military/bordering logics, as it clearly happened, to name just an exemplary case, in Israel. According to Francesca Albanese, Israeli Universities "have sustained the political ideology underpinning the colonization of Palestinian land, developed weaponry and overlooked or even endorsed systemic violence, while global research collaborations have obscured Palestinian erasure behind a veil of academic neutrality"[10]. The effects of these relations, as illustrated also in the powerful work of Maya Wind, are that no Israeli University has said anything contrary to the ongoing genocide of the Palestinian people.[11] They haven't because they can't do that anymore: they *lost the institutional capacity to speak.* Even worse: its scientists, subjectified by the demands of positivist dissonance, have lost the capacity to imagine that speaking is possible and lost the capacity to allow dissent to safely flourish within the classroom. Once such institutional and subjective capacity is gone, it is *gone.*

Escaping the *Netanyahuisation* of the University

The three matters just discussed – the reciprocal attractiveness of the 'defence' sector and the University; the positivist dissonance underpinning academic detachment; and the loss of the University as a public locus of critical thinking – *do not happen in a vacuum*. In the last decade, these have intersected the rise of far-right movements and national governments across the continent. If the institutional 'left' has historically been imbricated with the military too, the far-right adds to the militarization process an explicit hatred for social and cultural critique, and especially for those institutions where such critique could be allowed to flourish. The violent repression of students protests against the genocidal war of Israel in Palestine and, at least in Italy, the infiltration of the police in students and popular movements querying the role of the State both in supporting Israel and in investing heavily in national military industries, is just an example of this will to control, to discourage dissent and to scare those thinking of dissent.[12].

Even more worrisome are the recent attempts, by the Meloni government, to restructure the governance of Italian Universities – including how Italian academics are evaluated research-wise – by increasing the extent and power of the Government in these matters. We are going in a direction that is not a simple *Orbanisation* of the sector, but it constitutes its *Netanyahuisation*. Meaning: it is not simply that the far-right is telling us what we can do or not do within Universities, but it is that such control is geared toward – it is made to work for – the creation of a servile military/bordering-industrial-academic-complex, as seen in Israel. In other words, the repression of dissent and the tightening of governmental control

over universities are grounded in the new political and affective economy of the *necessity of defence*. The effects of this process, of putting Universities at the service of the new cultural and economic dogma, are going to be devastating. Like in Israel, we are going to lose the University as a public institutional space of critique.

So, what can be done? One often recalled option is to return to questions about research ethics. This report clearly shows how, by engaging with the military/bordering-industrial-complex, EU Universities are becoming complicit in human rights violations. It is possible, and also fairly easy, to discursively show how the dual-use is a false issue, and how the one or two degrees of separation between the University lab and the drone do not absolve the former of the effects of the application of the latter (especially when the 'research' partner is a military one, such as Leonardo). The positivist dissonance that I have touched upon above can be attacked, critiqued, or even ridiculed to produce a counter-culture of emplaced (a term borrowed from Ananya Roy meaning situated and context-relevant) academic form of knowledge-production[13]. But the urgency provoked by the acceleration of the renewed fascist dogma, in Europe and on the other side of the Atlantic, requires also more immediate action at the level where ethical concerns are enrolled in the banal evil of bureaucratic procedures. Ethics committees, where present, have been strategically stripped of their power of control or not given such power in the first place. To start with, many of the relationships between the EU border regime and EU Universities discussed in this report *do not require formal ethics approval* to be carried out. This is because, although these are often sold as 'research', they are most often not pure research initiatives but commercial contracts or service provisions, which in most cases do not require approval by the University Ethics committee.[14]. But more worryingly, it is how 'ethics' is defined that is hollowed out, tampered with and re-appropriated to serve the *necessity of defence*.

The newly approved Regulation for Integrity and Ethics in Research at my Polytechnic is exemplar in this sense. According to this new binding regulation, researchers must commit to "repudiating war," but at the same time, they may conduct research for "military purposes" if "military uses" are limited to "defense of the state." Since the latter is undefined, anything can go in its place. Arguably, the "defence of the state" opens the door to potentially any military/bordering issue coming up in the world of contemporary racialized capitalism. Consider Bush's war on terror, which allowed anything to be dressed up as a matter of state security and state defence, with enormous consequences in domestic and foreign policy (from the need to have military personnel in our train stations to the preventive invasion of sovereign countries, such as Iraq). If we can conduct only military research for "defense" purposes, but "defense" can be plastically defined to include everything—even preventive military action—where is the limit? And crucially: if such extension of war practice to almost anything can be *formally,* by a University Regulation, called *ethical*, where is ethics?

And so a more radical anti-militarist and no-war agenda needs to be put in place. Its horizon, as recently discussed by the collective ∫connessioniprecarie, can only be transnational and can only be found at the translocal intersection of class struggles, migrant struggles, gender struggles and more[15]. We need to re-create a culture and a political economy founded on the *no need for defence*. An idea(l) built upon the direct attack and dismantling of those direct relationships between the University sector and the military/bordering-industrial-complex, to repurpose the University of its public meaning and function. But not only. That is just one of the nodes where multiple struggles can converge to break the functioning of the higher-education

sector toward its certain total coaptation and, therefore, annihilation by the 'defence' sector. Non-aligned academics, independent researchers, and students must invest more time and energy in establishing links with territories where the proletariat is given only the option of the military to sustain social reproduction. For the far right and industries such as Leonardo, as well as those like Frontex working at the physical margins of Europe, are investing in these spaces, radically changing territories and subjectivities. A *no need for defence* is an affirmatory project, because such a 'no' opens up a horizon of possibilities otherwise obscured by the constant reproduction of racialised otherness.

Going back to De Genova, the current "authoritarian project does not require a veritable fascist social movement, involving a mass mobilization of extra-state violence; it only requires complicity, complacency, and resignation in the face of the routine intrinsic despotism and brutality of immigration enforcement"[16]. Establishing that there is *no need for defence* is the starting point for collectively imagining and then practicing a liberatory form of habitation, to move beyond the violence of complicity and resignation.

Key points

Since 2016, TNI's Border Wars series has exposed the EU's efforts to securitise, militarise and externalise its borders, focusing especially on the role of the military and security industry. This report examines the role universities play in this endeavour. Its findings show that the scale and depth of university involvement in the EU border regime has led to the emergence of what can be termed a border-industrial-academic complex.

The report finds that:

- **Universities play an indispensable, if often obscured, role in the development, perpetuation and expansion of 'Fortress Europe'.** They provide research, analysis, data, and new technologies, as well as an illusion of scientific legitimacy to policies and practices that are ethically questionable and routinely violate fundamental rights. Sometimes universities take this as far as willingly involving themselves in legally dubious research and fieldwork, as shown by some of the more controversial case studies covered in the report.

- From 2002 to May 2025, over 200 universities, higher-education institutions, and academies participated in **110 EU Framework Programme projects related to border security and control, receiving a total of over €100 million in EU funding.** Most were part of consortia that often included arms and IT companies as well as EU member state border authorities. Arms corporations Leonardo and Thales and the Fraunhofer research organisation appear most frequently as partners of universities in these consortia.

- The three largest university beneficiaries of this funding are **Laurea-Ammattikorkeaukoulu (Finland), University of Reading (UK) and Katholieke Universiteit Leuven (Belgium).** All three have participated in particularly controversial projects.

- Universities play a significant role in research projects which are rooted in the humanities and social sciences. These include projects about **forecasting migration, scenario-planning, and analysing the drivers of migration and decision-making processes of people on the move.** These projects explicitly aim to generate insights that support the development of largely repressive border and migration policies.

- In "technical" Framework Programme border security and control projects, universities participate in most consortia, which arms companies often lead. These projects span a wide range of border-control technologies. The report documents **universities working on biometrics, surveillance, AI, lie detection, drones and other unmanned systems, and tools designed to automate decision-making in sensitive situations.**

- Apart from the Framework Program funding the EU uses several other instruments to fund university (research) work in the field of border security and control. The report details **funding for controversial 'awareness-raising' projects designed to deter people from migrating, as well as for border externalisation efforts.** Maastricht University (Netherlands) plays a significant role in EU-funded training of border guards from non-EU-countries.

- **Universities also seek to commercialise the results of (EU-funded) research, including through spin-off companies.** The report highlights cases in which such spin-offs have marketed controversial border-control technologies such as supposed AI "lie detectors" and heartbeat detectors, which were sold to the EU Border and Coast Guard Agency Frontex and the UK Border Force.

- Frontex, a central node in the EU's securitised border regime, is often intended as a direct end user of university-led research and development and a bridge to the industry. In December 2022, **Frontex launched its own Research Grants Programme for border security technology, funding small-scale projects largely led by universities.**

- Frontex also cooperates with universities on training and education, including on a Joint Master's programme in Strategic Border Management, and a wider network of Partnership Academies that host meetings and training activities. In the field of border externalisation Frontex also trains border guards from non-EU-countries. **This includes a longstanding cooperation with the Naif Arab University for Security Sciences (NAUSS), linked to the Saudi royal family, one of the world's most repressive regimes.**

- The EU increasingly seeks to 'bridge the gap' between academic research, policymaking and real-life applications. In doing so, it seeks to ensure that the research it funds connects to its political priorities and to that end facilitates interactions with end-users in industry and government, for example through Frontex workshops. The Community for European Research and Innovation for Security (CERIS) plays a central role in this process by aligning research agendas with official security narratives. **This approach narrows research questions from the outset, shapes which findings and recommendations are taken up, and inevitably makes future funding dependent on how well projects meet the end-user demands.**

- At universities there appears to be limited acknowledgement that findings from EU-funded research are **likely to be used to reinforce current EU border and migration policies, shaped by a strong security and deterrence narrative.** Past experience suggests that the hope, expressed by some researchers, that factual evidence and analysis will steer policymakers towards a more humane course is misplaced. Advance ethical assessments tend to avoid these issues by focusing narrowly on ethics within the research process itself. As a result, a broader question typically remains unaddressed: whether it is ethical at all to work for, or with, governments and agencies that use this research to develop and implement repressive, rights-violating border and migration policies.

- This dynamic is also reflected in the ethics checks for Framework Programmes projects. These checks are mostly based on self-assessment by the consortia partners and often treated as a box-ticking exercise, sidestepping questions about real-world harms the research results – and the policies and practices they support – may cause. Universities and other organisations involved in such research, however well-intentioned, are ultimately **complicit in the harmful outcomes of a process that falls short of its stated ethical standards.**

- Since Russia's full-scale invasion of Ukraine in February 2022 the EU has accelerated efforts to expand its military role and capacities both within NATO and alongside it, and to support the military and security industry. A "whole-of-society" militarisation trend is drawing universities into closer cooperation with military and security forces and with industry. As higher education becomes more militarised and securitised, **there is less scope and funding for research that does not serve military, border-security, or dual-use purposes, which narrows research agendas and sidelines dissent.**

Introduction

As seats of learning, the principal functions of universities revolve around teaching and research. Their members include faculty, researchers and students, be they graduate or undergraduate, as well as administrative and other critical support staff, such as librarians. With very few exceptions – at least in Europe – they are public bodies that depend mainly on public funds, supplemented in some cases with endowments.

For many decades, however, research across the social sciences as well as in technical areas such as engineering has depended on a blend of institutional (public) and external funding, whether from philanthropic organisations such as the Bill & Melinda Gates Foundation, donor agencies such as the Foreign, Commonwealth and Development Office (FCDO) in the UK, or Trócaire in Ireland, as well as industry, both private and public. Indeed, many university departments as well as think tanks expect research fellows to attract sufficient external funding to offset their salaries. All such bodies that receive a blend of public and private funding have differing sets of broad ethical requirements, such as not accepting funding from the arms industry or tobacco companies, in addition to specific obligations regarding research involving human subjects. In general, all research undertaken at a university, provided it is not subject to industrial confidentiality, is made publicly available either in university repositories or on their website, as well as in articles published in peer-reviewed journals and other publications.

In recent years, universities have been challenged to decolonise their curricula and teaching, and to acknowledge the benefits they received from colonialism and enslavement, and of their physical symbols – such as the movement to remove the statue of Cecil Rhodes gracing the façade of Oriel College, Oxford. Others have targeted the ties between universities and the fossil fuel industry, often connecting the climate crisis with broader questions of international justice.

Most recently, campus encampments have been set up – in the style of the Occupy Wall Street encampments in 2011 – to protest against universities' involvement, however tangential, in the genocide and total physical destruction of homes, schools and hospitals in Gaza, the assassination of aid workers by the very same Israel Defense Forces (IDF) who had authorised them to deliver food, water and other essentials to people living under siege and continual displacement, and Israel's encroachment on Palestinian territory on the West Bank. This follows on years of action concerning universities' ties to Israel through investment portfolios and related issues.

The many campaigns and actions regarding the relations between universities and Israel's genocidal attack on Gaza have raised new questions about what kind of research and with or for whom universities want to be involved in. They focus not just on the subject and design of a specific research project, but also on a critical assessment of partners and clients as such and on what research outcomes can possibly be used for in terms of policies and practices.

This report looks specifically at research funded by the European Union (EU) and related entities. Many universities, mainly in the EU and the United Kingdom (UK) play an important, but in some cases somewhat hidden, role at least at the level of narrative in strengthening and expanding border security and control, which informs repressive migration policies in theory and, ultimately, practice. Some of the information presented in this report has been both uncovered and criticised by university members, whether academics, researchers or student bodies.

The first chapters examine EU-funded research and other work, as well as connections with the military and security industry, with specific attention to universities' own policies regarding ethics in such cases. The next chapters take on universities' ties with EU border guard agency Frontex (the European Border and Coast Guard Agency) and the commercialisation of research via the establishment of start-ups at universities. In general, this commercial angle cannot be underestimated: in a situation where in many countries, due to shortages in government spending, universities and academic researchers are forced to look for external funding sources, available money and those who provide it, also play a significant part in determining what is on research agendas, and what not.

Finally, it deserves to be mentioned that there are other types of cooperation and ties between universities and border authorities and/or the military and security industry which fall (largely) outside the scope of this report, such as sponsoring, internships, participation in career events and investments in companies via university endowments (which in many countries are highly non-transparent). Universities can also act as border agents themselves, for example by imposing strict rules and controls on foreign students.

EU-funded research cooperation: Framework Programmes (FPs)

Photo source: Yulii Shtel, Unsplash

The EU invests billions of euros each year in a broad range of research and innovation projects, mainly under the so-called Framework Programmes. For these the EU launches calls for specific projects, inviting consortia (or in a smaller set of cases individual entities or researchers) to apply. Consortia consist of a mixture of companies, research institutes, (EU and member state) government agencies, civil society organisations (CSOs) and higher education establishment from at least three EU countries. When a consortium is selected the process includes an (insufficient) ethical assessment of the project plan, which will be discussed in chapter 4.

Security research has been included in the Framework Programmes since Framework Programme 6 (2002–2006), following the advice in a report by the Group of Personalities in the field of Security Research, an official advisory group which was dominated by representatives of arms companies.[17]

After an introductory period with the Preparatory Action on Security Research (2004–2006), security has been one of the pillars of the ensuing Framework Programmes. Universities have from the outset been part of research consortia; and for the EU strengthening border security and control has always been an important goal.[18]

Most projects are implemented by consortia of companies, research institutions, national or local authorities and/or higher education establishments. Regarding the participation of the latter, the EU stated in the regulation for the current programme 'Horizon Europe': "European higher education institutions are called to stimulate entrepreneurship, tear down disciplinary borders and institutionalise strong inter-disciplinary academia-industry collaborations".[19]

Table 1: Timeline EU security research funding		
2003	European Commission establishes 'Group of Personalities (GoP) in the field of Security Research'	
2004	GoP publishes 'Research for a Secure Europe' report	Mentions 'research centres', but not universities
2004–2006	Preparatory Action on Security Research	Regulation mentions possible participation of 'higher educational institutions'; universities involved in several projects, but not on border security and control
	Framework Programme 6 (2002–2006)	Universities involved in some projects on facial recognition for border control, (satellite) observation, monitoring and communication for border security
2007–2013	Framework Programme 7	Universities involved in many projects on border security and control
2014–2020	Horizon 2020	
2021–2027	Horizon Europe	

There has been an increasing amount of research projects on border security, border control and migration issues in this framework, mirroring the increasing securitisation of the EU's border and migration policies, especially since 2015. **Between 2007 and 2025 the EU paid universities over €100 million for their participation in these projects.**

Table 2: University participation in EU-funded Framework Programmes' projects on border security, border control and migration management (2006-May 2025)				
Programme	**Period**	**Projects with university participation**	**University participations**	**EU contribution to universities**
FP6	2006–2006	7	35	n/a
FP7	2007–2013	37	96	€32.37 million
Horizon 2020	2014–2020	50	164	€55.94 million
Horizon Europe	2021–2027*	16	75	€19.33 million
until May 2025 – source: CORDIS website				

This research can be divided into two main parts: technical research, to develop new tools and technologies for border security and control, and research in the fields of social sciences, humanities and data. This chapter will provide an overview of the involvement of universities in these projects and their cooperation with the military and security industry as part of them. The next chapters will look in more detail at social science projects, technical research and the way universities deal with ethics regarding their work in these fields.

Universities in Framework Programmes research

From 2002 to May 2025, over 200 universities, high schools and academies participated as consortium partners in 110 Framework Programme projects related to border security and control, receiving over €100 million in EU funding.[20] Apart from this, universities occasionally joined projects as subcontractors, or individual staff members participated advisory groups or were part of ethical boards.

Unlike with military and security companies, where most funding goes to a few large companies and research institutes, this trend is not replicated with universities,[21] although some are more frequently involved in these research projects than others. After Brexit, UK universities were not eligible for EU funding from 2021 to 2023, although they were still often included as unfunded partners. Following a new agreement between the EU and the UK, they can again fully participate from 2024 onwards.[22]

	Name	Country	Projects	Coordinator	EU contribution
1	Laurea-Ammattikorkeaukoulu	Finland	11	2	€ 5,104,569.00
2	University of Reading	UK	8	1	€ 4,047,612.98
3	Katholieke Universiteit Leuven	Belgium	8	1	€ 3,264,941.61
4	Vrije Universiteit Brussel	Belgium	7	2	€ 3,236,371.25
5	Norges Teknisk-Naturvitenskapelige Universitet NTNU	Norway	7		€ 2,787,809.44
6	Alma Mater Studiorum – Università di Bologna	Italy	8		€ 2,627,787.79
7	Erasmus Universiteit Rotterdam	Netherlands	4		€ 2,267,866.36
8	Universiteit Antwerpen	Belgium	3	1	€ 2,110,107.50
9	Gottfried Wilhelm Leibniz Universitaet Hannover	Germany	3	2	€ 2,043,061.25
10	Technische Universiteit Delft	Netherlands	5[23]		€ 2,033,725.54
11	Hogskolen i Gjovik	Norway	3		€ 1,977,238.75
12	Hochschule Darmstadt	Germany	5		€ 1,963,958,36
13	European University Institute	Italy	5	1	€ 1,946,715.00
14	Queen Mary University of London	UK	3		€ 1,651,564.86
15	Università degli Studi di Padova	Italy	3		€ 1,605,117.20
16	Universität fur Weiterbildung Krems	Austria	4	1	€ 1,444,351.25
17	Sheffield Hallam University	UK	5		€ 1,440,312.50
18	Munster Technological University	Ireland	4		€ 1,419,287.50
19	Universitat Autonóma de Barcelona	Spain	2	1	€ 1,373,567.00
20	Università degli Studi di Milano	Italy	4		€ 1,363,395.09

Table 3: Top 20 universities receiving FP funding for border security and control projects (2002 – May 2025)

1. Laurea University
Weaponisation, biometrics and surveillance
Vantaa, Finland

The Finnish Laurea-Ammattikorkeaukoulu (Laurea University of Applied Sciences), henceforth Laurea, has been very successful in obtaining funding from the EU Framework Programmes, in particular for security-related research.[24] Of the 41[25] projects in which it has participated with funding from FP7, Horizon 2020 and Horizon Europe, 11 are in the area of border security and control, including two in which it served as project coodinator. This makes it the university with the greatest involvement in this area within the FPs, receiving EU funding of over €5.1 million. In these projects the university cooperated with many large EU military and security companies, including Airbus, Atos, Dassault Aviatiob, Indra, GMV, Leonardo, Naval Group, Saab, Safran and Thales. Leonardo, one of the world's largest arms companies, is its most important partner in all its Framework Programmes projects.[26]

Isto Mattila, R&D director at Laurea, also co-chairs the Integrated Border Security Group of the European Organisation for Security, an important lobby organisation, together with representatives of the biometric and cryptographic technology company Idemia and threat-detection and security-screening technology company Smiths Detection.[27] Mattila, an expert on maritime surveillance, had previously worked for the Finnish Border Guard and the European Commission.[28]

Table 4: Laurea University of Applied Sciences – participation in FP projects on border security and control[29]		
Programme	**Project**	**EU contribution**
Framework Programme 7	ABC4EU – ABC gates for EUrope	€ 858,940.80
	AIRBEAM – AIRBorne information for Emergency situation Awareness and Monitoring	€ 446,475
	EU CISE 2020 – EUropean test bed for the maritime Common Information Sharing Environment in the 2020 perspective	€ 320,272.50
	PERSEUS – Protection of European seas and borders through the intelligent use of surveillance	€ 196,443.20
Horizon 2020	AI-ARC – Artificial Intelligence based Virtual Control Room for the Arctic (AI-ARC) – coordinator	€ 843,625
	ANDROMEDA – An EnhaNceD Common InfoRmatiOn Sharing EnvironMent for BordEr CommanD, Control and CoordinAtion Systems	€ 282,500
	EU-HYBNET – Empowering a Pan-European Network to Counter Hybrid Threats – coordinator	€ 583,250
	MARISA – Maritime Integrated Surveillance Awareness	€ 517,000
	NOTIONES – iNteracting netwOrk of inTelligence and securIty practitiOners with iNdustry and acadEmia actorS	€ 308,187.50
	RANGER – RAdars for loNG distance maritime surveillancE and SaR opeRations	€ 474,750
Horizon Europe	CONNECTOR – CustOms exteNded iNteroperablE Common informaTiOn shaRing environment	€ 273,125
Total		**€ 5,104,569**

Project: EU-HYBNET

Laurea University coordinates the 'EU-HYBNET' project, a Horizon 2020-funded collaboration to build a European network to prepare for and defend 'hybrid threats'.[30] Most if not all of the Framework Programmes projects on border security and control take the securitisation narrative as a given and contribute to securitised, and often militarised, responses – by developing new instruments and technologies, providing data, models or analyses or contributing to new or refined policies. EU-HYBNET took this a step further, playing into the 'instrumentalisation/weaponisation' and migration as a 'hybrid threat' approach.

Laurea's main partner in this project is the European Centre of Excellence for Countering Hybrid Threats, an intergovernmental think tank under the auspices of the EU and NATO, with 36 participating countries from Europe and North America.[31] One of the 'hybrid threats' this project identified and on which it offered training was an adversary's facilitation of irregular migrant flows.[32] This fuels the concept of 'weaponising' or 'instrumentalising' migration, framing refugees as though they were weapons of such an adversary devoid of rights and without agency, and in which, according to Felix Bender (KU Leuven), 'asylum-seekers are primarily understood as pawns in the game between two hostile states — as weapons —and hence not as subjects whom we ought to treat as ends in themselves. It legitimises their treatment as other than human [...] allowing for reactions we would otherwise find abhorrent with regard to human beings: denial of the right to protection from persecution, violent pushbacks.'[33]

At the time of the EU-HYBNET training in 2022 this precise scenario was playing out between Belarus and Poland, an EU member state. Accusing Belarus of using refugees to destabilise the country, Poland resorted to illegally deporting people without allowing them to exercise their right to seek asylum. This included exercising violence and arbitrary detention against those crossing the border as well as repression against anyone offering humanitarian support, with appalling consequences, especially during the harsh winter months. By early 2023 the death of at least 37 people along the Polish–Belarussian border had been confirmed, and almost 300 others disappeared.[34] The European Court of Human Rights has repeatedly condemned Poland's practice of forced collective expulsions and denying people their right to seek asylum.[35]

While hundreds of refugees predominantly from war-torn Afghanistan, Iraq, Syria and Yemen were being forcibly deported, disappeared, or killed[36] along the Polish–Belarussian border, a few hundred kilometres south on the Polish–Ukrainian border 6.5 million fleeing Russia's full-scale invasion of Ukraine were granted unhindered access to the EU, which activated its Temporary Protection Directive to guarantee their protection.[37]

Laurea University also participates in the CONNECTOR (CustOms exteNded iNteroperablE Common informaTiOn shaRing environment) project, which will develop an 'interoperable technical environment' for closer cooperation on border control between EU and member states' customs, border and coast guard authorities, including Frontex. The consortium for this project also includes Leonardo and Isdefe as well as border and police authorities from Bulgaria, Greece, Ireland, Moldova, Romania and Spain.[38]

2. University of Reading
Surveillance and detection at land and sea
Berkshire, England

The University of Reading received EU research funding of over €98 million.[39] While it has a much broader portfolio, with over €4 million for border security and control projects it is the second largest in this field. The projects in which it is involved focus on border-control technologies, biometrics, surveillance and detection.

Table 5: University of Reading – participation in FP projects on border security and control[40]		
Programme	**Project**	**EU contribution**
Framework Programme 7	EFFISEC – Efficient Integrated Security Checkpoints	€ 547,713.00
	FASTPASS – A harmonised, modular reference system for all European automated border-crossing points	€ 883,230.00
Horizon 2020	D4FLY – Detecting Document frauD and iDentity on the fly	€ 735,971.25
	FOLDOUT – Through-foliage detection, including in the outermost regions of the EU	€ 457.502.50
	PROTECT – Pervasive and UseR Focused BiomeTrics BordEr ProjeCT – coordinator	€ 1,082,707.50
Horizon Europe	EURMARS – An advanced surveillance platform to improve the EURopean Multi Authority BordeR Security efficiency and cooperation	€ 0.00
	EINSTEIN - Interoperable applications suite to enhance European identity and document Security and fraud detection	€ 0.00
	CarMen - Non-stop Biometric Border Control for Secure and Efficient Crossing	€ 340,448.73
Total		**€ 4,047,612.98**

FOLDOUT, in which the University of Reading cooperated with Thales Alenia Space (a joint venture between EU arms giants Thales and Leonardo) and the Austrian Institute for Technology (AIT), among others, aimed to develop more efficient border-surveillance methods for harsher environments, in particular areas covered by dense vegetation (forests) or other foliage. The project apparently accepted the 'migration crisis' narrative: 'In the last years irregular migration has dramatically increased, and is no longer manageable with existing systems. Improved methods for border surveillance are necessary to ensure an effective and efficient EU border management'. To this end, 'FOLDOUT will make the tasks of Border Guards simpler and faster by combining events from various sensors to give a complete situation threat assessment combined with suggested reaction scenarios', building an 'intelligent detection platform' based on combining various sensors and technologies, and algorithms based on machine learning to interpret data to detect unusual behaviour.[41] To enable border guards to react in time would mean discovering people 100 metres before crossing a border, vehicles a few kilometres. A prototype was tested in border zones of Bulgaria, Finland, French Guiana and Greece.[42]

The consortium was already thinking about the market possibilities of the technology: 'The FOLDOUT systems [sic] primary customers are Border Authorities. Communications to these authorities are the first steps in towards [sic] exploitation of results. The messages and contest [sic] must be clear and targeting the needs of the respective agencies and their procurement agencies.'[43] In line with this, the project was presented at several high-profile arms and security fairs, including Milipol (France), Security & Policing (UK) and the General Police Equipment Exhibition & Conference (Germany).[44]

In the EURMARS consortium, the University of Reading works with various border authorities, research institutes and companies, such as (again) Thales Alenia Space.[45] The project, which started in 2022, seeks to develop a maritime border-surveillance platform for collaboration at the EU, national and regional levels, combining the use of various technologies, including unmanned vehicles, satellites and ground-based sensors, and AI innovations.[46] According to the Data Justice Lab, EURMARS is one of the projects exploiting the way that 'AI offers novel means of furthering securitisation policies at the border'.[47] How this is used 'to make huge profits from the development of smart, securitised borders, seen as the answer to the problem of 'risky' migrants', is reflected in the objectives of EURMARS, which includes the '[c]reation of efficient pathways to rapid market entry'.[48]

The University of Reading is one of the few academic members of the International Border Management and Technologies Association (IBMATA), among dozens of IT, surveillance and consultancy companies, including Accenture, IBM, Leidos, Rapiscan Systems and Vision-Box, and border authorities from all over the world, including Frontex, EU LISA, the UK Border Force and the US Customs and Border Protection.[49] IBMATA is an international NGO, headed by the former UK Border Force head Tony Smith, with a focus on managing the movement of people and goods across international borders.[50] It organises annual Border Management and Technologies Summits and publishes the magazine 'Border Management Today'.

In recent years, James Ferryman, Professor of Computational Vision at the University of Reading, who was or is involved in all the EU-funded projects listed above, has been a regular speaker at these government-industry-academic summits on issues of biometric identification at European borders.[51] Indeed, his staff page on the university website mentions that he is 'particularly keen to see technology transfer and commercial prototypes based on research.'[52] In 2013, Ferryman was a moderator at the 2nd Global Conference and Exhibition on Future Developments of Automated Border Control (ABC) of Frontex.[53] He is also a regular speaker at other conferences, such as the international Border Security Conference and the Research Projects Conference of the European Association for Biometrics[54], and was a member of the UK Home Office's Border Vision Advisory Group (BVAG; see chapter 8).[55]

3. Katholieke Universiteit Leuven
Human rights assessment fails to stop legally questionable projects
Leuven, Belgium

The Belgian Katholieke University (Catholic University of Leuven) is the third-largest recipient of EU funding for border-security and control research projects, particularly in the areas of biometrics and ID control. Like the other large academic beneficiaries, it is a large player in the Framework Programmes, receiving almost €1 billion in research funding in total.[56]

Table 6: Katholieke Universiteit Leuven participation in FP projects on border security and control[57]		
Programme	**Project**	**EU contribution**
Framework Programme 7	BEAT – Biometrics Evaluation and Testing	€ 151,200.00
	FASTPASS – A harmonized, modular reference system for all European automated border-crossing points	€ 232,480.00
	FIDELITY – Fast and trustworthy Identity Delivery and check with ePassports leveraging Traveller privacy	€ 1,136,076.00
Horizon 2020	HUMMINGBIRD – Enhanced migration measures from a multidimensional perspective – coordinator	€ 471,875.00
	iMARS – image Manipulation Attack Resolving Solutions	€ 391,110.61
	SilentBorder – Cosmic Ray Tomograph for Identification of Hazardous and Illegal Goods hidden in Trucks and Sea Containers	€ 404,325.00
Horizon Europe	VANGUARD – adVANced technoloGical solutions coupled with societal-oriented Understanding and AwaReness for Disrupting trafficking in human beings	€ 228,750,00
	PopEye – robust Privacy-preserving biOmetric technologies for Passengers' identification and verification at EU external borders maximising the accuracY, reliability and throughput of the rEcognition	€ 249,125,00
Total		**€ 3,264,941.61**

iMARS project

The consortium for the iMARS project, which ran from September 2020 to September 2024, brought KU Leuven together with several other universities, police services and IT and security companies, such as Idemia (France), Cognitec (Germany) and Vision Box (Portugal). The project was focused on detecting ID document fraud, aiming 'to provide image morphing[58] and manipulation attack detection solutions for the evaluation of ID document authenticity, ID document verification and fraud detection' with 'mobile tools to check document integrity'.[59] The purpose was not to develop an automated decision system, but technology to support human decision-making.[60]

iMARS had high ambitions: 'We want to guarantee security within the European Union. The use of counterfeit travel documents at borders is a reality, which entails the risk of not identifying illegitimate citizens',[61] while jumping on the securitisation of migration bandwagon by stating that 'secondary movements of irregular migrants [...] pose a serious threats to the internal security and public policy'.[62] The project was presented at security fairs, congresses and meetings, including Milipol and the World Border Security Congress, and several times to Frontex.[63]

In a research project on 'legal, ethical and societal requirements' authors from KU Leuven and the Institute of Baltic Studies (Estonia) warn that certain uses of iMARS algorithms for biometric identification 'remotely in publicly accessible spaces, in real-time, and for law enforcement purposes' would probably be prohibited under the AI Act Proposal. However, if used for border control as part of migration management, the same use would not be illegal, although still classified as a high-risk AI system.[64] This distinction in regard to its place of use follows the EU AI Act which stipulates that "publicly accessible spaces should not include prisons or border control" (Recital 19).[65]

One of the authors, Dr Els de Kindt at KU Leuven, is an associate senior researcher at its Centre for IT & IP Law. She was also involved in the FP7-projects BEAT and FIDELITY.[66] In 2018, as a renowned privacy expert, Kindt was appointed to the board of the European Association for Biometrics (EAB), where she cooperated with Dr Farzin Deravi (University of Kent) and Rasa Karbauskaite (Frontex[67]) in providing expertise for EAB's privacy strategy.[68] Since 2023 she is a member of the EAB Advisory Council.[69]

Since 2014 a committee at KU Leuven, now known as the Ethics Committee on Dual Use, Military use & Misuse of Research, assesses ethical aspects of research in which the university wants to engage, checking cooperation partners, research subjects and potential misuse of results. Since 2020 this includes a human rights assessment, which can lead to the project being rejected or proceed only under certain conditions.[70] This assessment was added after an intense discussion about KU Leuven's participation in the Horizon 2020 LAW-TRAIN project, aimed at developing, coordinating and training international police interrogation methods, in particular because of the cooperation with the Israeli police, which the United Nations Committee Against Torture had condemned for its treatment of Palestinian detainees.[71]

It is hard to understand how the Horizon 2020 projects on border security and control in which KU Leuven is engaged have passed such an assessment, given the profound impact the use of their results can have on the rights of people on the move. Both iMARS, with its legally questionable methods, and SilentBorder are aimed at developing technologies to better detect and prevent them from crossing borders, while the goal of HUMMINGBIRD is to predict future migration movements in order to adapt policies and practices to stop them, as described in more detail in chapter 2.

Ties with military and security companies and research institutes

Framework Programmes' projects on border security and control are commonly executed by consortia, which often include a mix of companies, research institutes, (border) authorities and higher education establishments. To see if there are strong ties between specific universities and companies/research institutes in these projects, we made a selection of 84 projects that included universities with at least three participations in the 110 projects we identified. Only 18 of these 84 projects did not include the participation of major contractors (companies and research institutes) in the EU border and security market.[72] EU arms giants Leonardo (Italy) and Thales (France), along with German research institute Fraunhofer, were the main participants. The International Centre for Migration Policy Development (ICMPD) was also involved in several projects.

Table 7: Cooperation with universities with at least three participations in Framework Programme border security and control research projects (2002 – May 2025)	
Name	**Number of Participations**
Leonardo	
Fraunhofer	17
Thales	
TNO	14
Idemia	13
Airbus	11
Totalforsvarets Forskningsinstitut (FOI)	10
GMV	9
AIT	
Commissariat à l'Energie Atomique et Aux Energies Alternatives (CEA)	8
Isdefe	7
ICMPD	
Indra	6
Atos	
Veridos	5
Smiths	4

A detailed look at the 66 remaining projects shows a set of 15 universities which have participated together with the same company/research institute in at least three projects. Leonardo has strong connections with the Università degli Studi di Roma La Sapienza (six joint projects) and Laurea-Ammattikorkeaukoulu (five projects). Idemia, a French identity technology company, often works with the same universities, cooperating with six of them in at least three projects. Thales has such connections with four universities.

Table 8: Universities and large corporate/research institutional beneficiaries with >2 partnerships in EU-funded border-security and control research projects												
University	Airbus	AIT	CEA	Fraunhofer	ICMPD	Idemia	Indra	Isdefe	Leonardo	Thales	TNO	Veridos
Albert-Ludwigs-Universitaet Freiburg				3								
Alma Mater Studiorum - Università di Bologna						4						
Consorzo Nazionale Interuniversitario per le Telecomunicazioni									3			
Hochschule Darmstadt						5				3		
Hogskolen i Gjovik						3						
Katholieke Universiteit Leuven						3						
Laurea-Ammattikorkeaukoulu	3						3	3	5			
Norges Teknisk-Naturvitenskapelige Universitet						5						
Universidad Politécnica de Cataluña										3		
Università degli Studi di Padova			3									
Università degli Studi di Roma La Sapienza									6	4	3	
University of Oxford					3							
University of Reading		3	3			3				4		4
Uniwersytet Warszawski					3							
Vrije Universiteit Brussel		3										

Importantly, Table 8 shows only the cooperation in Framework Programme border security and control projects. Universities, military and security companies and research institutes also work together on hundreds of other EU-funded security and military R&D projects.

Ethniko Kai Kapodistriako Panepistimio Athinon (National and Kapodistrian University of Athens, Greece) and the Consorzo Nazionale Interuniversitario per le Telecomunicazioni (Italy) for example also cooperated with Leonardo, Fraunhofer, GMV and Indra (both Spain) in the Ocean2020 project. With €35.5 million EU funding, Ocean2020 was one of the largest projects under the Preparatory Action for Defence Research, a predecessor of the current European Defence Fund. It aimed to integrate unmanned naval platforms (drones) in maritime surveillance and interdiction missions using satellites to connect drones and command and control of naval vessels to land centres, which also can be used for border security purposes.[73]

Relations between universities and the military and security industry

Other structural linkages between universities and military, security and tech companies go beyond border and migration issues. Research in several countries has shown increasing ties including joint research, university investments in companies, company financing (scholarships, paid internships, sponsoring, donations), consultancy work and campus recruitment.[74] Funding for scientific research at universities increasingly comes from industry.[75] As Jinsella from the

UK campaign group 'Demilitarise Education' wrote: 'Arms companies and military bodies treat universities as sites to further their profit or defence motives, undermining universities' value-free and social-benefit model of knowledge production'.[76] It has been argued that the dependency on private partnerships, spurred by decreasing government funding for universities, endangers research integrity, openness and accountability.[77]

In the case of academic–industrial cooperation on border and migration issues there can be severe consequences, most obviously for people on the move, whose rights and lives are increasingly at risk due to the use of more refined technologies. Martin Kenney warned back in 1987 that '[t]he transformation of the university into a research institution for industry could result in the university not adequately training the scientists of tomorrow, and simultaneously, not discharging its duty to do basic research as it focuses on the more applied research that industry desires and funds'.[78]

Airbus has set up an Airbus Global University Partner Programme (AGUPP), focused mainly on recruitment, and collaborates with over 200 universities.[79] 'Technology is evolving extremely rapidly, so global cooperation and partnerships like what we have with the AGUPP are increasingly important', said Thierry Baril, Chief Human Resources Officer at Airbus.[80] Thales also has cooperation agreements with universities worldwide, through which it 'strives to build long-term partnerships with local academic institutions, design centres and high-tech firms to imagine innovative use cases, business models and technologies'.[81] Leonardo, too, sponsors drones research at several Italian universities, including for the use for surveillance and identifying and pursuing targets.[82] With this programme, 'not only have technologies been developed, but an ecosystem has been created that is able to link up large businesses, the research and education sector, SMEs and start-ups […] in the field of Artificial Intelligence as applied to drones'.[83]

Military-related research work and relations with arms companies give rise to frequent debates and campaigns at the universities in question. Some voluntarily pledge to not engage in such work and connections. Various universities in Germany have, for example, adopted a Zivilklausel (civil clause), restricting themselves to work for civil and peaceful objectives[84] – a concept which has been criticised by politicians and industry leaders who try to use Russia's full-scale invasion of Ukraine and the EU's perception of the threat posed by Russia as a pretext to abandon or retract such pledges.[85]

Another form of ties between universities and industry is that some individuals hold positions across both sectors. Two such examples are Michael Federmann, who is chair and owner of over 40% of the shares of the Israeli arms company Elbit[86] and honorary chairman of the Hebrew University of Jerusalem (Israel),[87] and Belinda Hutchinson, who combined her role as non-Executive Director (and former Board Chair) of Thales Australia with being Chancellor of the University of Sydney (2013–24).[88] The now defunct British consultancy firm Eurasylum frequently advised on and implemented EU border and migration policies, and co-managed the EU-funded establishment of migrant detention centres in Ukraine.[89] Several members of its senior staff and of its advisory board also held university positions.[90]

Business and science parks which are connected to universities are mostly aimed at stimulating cooperation, information and research exchange and recruitment with and for industry. Many universities house mainly start-up companies, but some accommodate more vested corporations, such as the Portuguese drone manufacturer Tekever located at the University of

Southampton Science Park in the UK.[91] Tekever provided drone surveillance and monitoring for the UK Home Office under the former Tory government,[92] in which the Southampton location is directly involved,[93] and for Frontex, as part of a contract with the European Maritime Safety Agency (EMSA).[94]

In the context of escalating EU militarisation in the years after Russia's full-scale invasion of Ukraine, pressure on universities to engage more in military and dual-use research and to foster closer ties with both the military and the arms industry from the side of the EU and national governments quickly built up.[95] In Germany, for example, this led to renewed discussions about the 'Zivilklauseln', with the regional government of Bavaria even prohibiting them.[96] Current Chancellor Merz has stated: "So-called civil clauses that prohibit military research at universities should be repealed. This is no longer appropriate."[97]

European Association for Biometrics (EAB)

Universities and industry also cooperate in the European Association for Biometrics (EAB), the branch and lobby organisation of the European biometrics sector. This encompasses a broad range of applications, prominently including border and migration control. EAB has members from industry, governments and universities, including police and identification services from several European countries, as well as companies such as Idemia, Sopra Steria and Thales, all important industrial players in the field of EU border security and control.[98]

Table 9: University members of the European Association for Biometrics			
Name	**Country**	**Name**	**Country**
Halmstad University	Sweden	Universidad Carlos III de Madrid	Spain
Hochschule Bonn-Rhein-Sieg	Germany	Università di Bologna – Biometrics System Laboratory	Italy
Hochschule Darmstadt	Germany	University of Cagliari	Italy
Hochschule Wismar, University of Applied Science Technology, Business and Design	Germany	University of Groningen – Security, Technology and e-Private Research Group	Netherlands
Norwegian University of Science and Technology – Norwegian Biometrics Laboratory	Norway	University of Sassari	Italy
Universidad Autónoma de Madrid	Spain	University of Twente	Netherlands

Source: EAB, Members; https://eab.org/membership/members.html

Apart from the universities, several staff members as well as many students of these and other universities are individual members of EAB.[99] Four of the seven members of its Advisory Council are based at universities, including its chair Raymond Veldhuis (University of Twente and Norwegian University of Science and Technology), as well as ten of its twenty national contact points (ambassadors) universities,[100]

EAB features an Academia Special Interest Group, aiming to "to consolidate the role of academia in the development of biometric technology" and "to stimulate independent academic research" and research collaboration. The group is chaired by Ruben Vera (Universidad Autónoma de Madrid) and Kiran Raja (Norwegian University of Science and Technology).[101]

EAB's Training & Education Committee also mainly consists of university members, led by Dr Richard Guest (University of Kent). EAB actively supports a series of university courses about biometrics,[102] and regularly co-organises events with universities.[103] At its annual Research Projects Conference, EU officials and industry and universities representatives meet to present and discuss EU-funded biometrics research.[104]

This chapter showed that universities are involved in many of the EU-funded border security and control research projects under the Framework Programmes. While there is not a small group of universities that receives the bulk of the funding, as is the case with the large EU arms companies, some universities clearly take the lead by participating in many projects. It is also clear that this involves many cases of cooperation with the military and security industry. In the next chapter we will look in more detail into the universities' involvement in the field of social sciences, humanities and data research.

EU funding of social sciences, humanities and data research

Refugees rescued off the coast of Libya.
Source: Sea Watch

Universities play a significant role in research projects within the EU Framework Programmes (FP) which are rooted in the humanities and social sciences. These include projects about forecasting future migration movements and scenario-planning as well as studying the underlying causes of migration and how people on the move reach their decisions. The explicit goal of these projects is to give insights to support the development of, mostly repressive, border and migration policies.

Predicting future migration patterns

Government and EU-level authorities increasingly seek predictions about future migration flows, despite major uncertainties about trends and causes, as well as disagreement among experts that affect all forms of forecasting and scenario development.[105] While initiated mainly by policymakers, forecasts and scenarios tend to be undertaken in cooperation with academics.[106]

Under FPs 5 and 6 this collaboration started with several projects aiming to get a better overview of migration, with data previously scattered across EU member states. Examples are COMPSTAT (Comparing National Data Sources in the Field of Migration and Integration, 2001–2002), which included universities from Germany, Italy, the Netherlands and Switzerland, THESIM (Towards Harmonised European Statistics on International Migration, 2004–2005), which was coordinated by Katholieke Universiteit Leuven (Belgium), and PROMINSTAT (Promoting comparative quantitative research in the field of migration and integration in Europe, 2007–2010), which included several universities under coordination of the International Migration Centre for Policy Development (IMCPD) in Vienna, which focused on harmonising data collection in EU member states, identifying gaps in existing data and developing common standards.[107]

Two of the FP 6 projects CLANDESTINO and IDEA focused specifically on irregular migration. The EU CLANDESTINO (2007–2009) project cost €681,480. The Carl von Ossietzky Universität Oldenburg (Germany), the University of Oxford (UK) and Warsaw University (Poland) teamed up with the Hellenic Foundation for European and Foreign Policy as project coordinator, the ICMPD and the Platform for International Cooperation on Undocumented Migrants (PICUM) to inventorise and analyse data on irregular migration in several EU countries, with the aim of 'supporting policy makers in designing and implementing appropriate policies regarding irregular migration'.[108] In contrast to later projects, which are firmly based on a securitisation approach, CLANDESTINO framed this more as socioeconomic problem for the EU. The project resulted in policy recommendations for the 12 EU countries involved as well as for the 'transit countries' studied (Morocco, Türkiye and Ukraine), as part of the EU's developing border-externalisation policies, and a database of the estimated numbers of irregular migrants.[109] Frontex used CLANDESTINO's database in its Annual Risk Analysis between 2010 and 2014.[110]

In their Final Report (2009) the CLANDESTINO project partners concluded that 'declining trends in entries and residency suggests that there is no need for hasty "emergency" interventions and budget increases for border control agencies', also questioning the effectiveness of fencing and enforcement strategies, especially in isolation from a broader policy scope[111] – conclusions that were completely ignored or disregarded in view of the subsequent development of EU border and migration policies.

IDEA (Mediterranean and Eastern European Countries as New Immigration Destinations in the European Union, 2007–2009) had a more specific geographical focus and was one of the first projects to develop tools to forecast immigration as a basis for policy recommendations. Tackling irregular migration was one of the aims, with the researchers concluding that in the Mediterranean region there 'is a persistence of a sizeable illegal, irregular or undocumented immigration and a failure or ambivalence regarding control of that phenomenon by the state'.[112] The project was coordinated by Warsaw University (Poland) and included Université Paris X Nanterre (France) and Univerzita Karlova v Praze (Czech Republic).[113]

Based on the experiences in these research projects and others, such as MIMOSA (Modelling of Statistical Data on Migration and Migrant Population, 2007–2009, financed by Eurostat and with involvement of the Katholieke Universiteit Leuven[114]), researchers for the PROMINSTAT project came to the sobering conclusion 'that internationally comparative research on migration flows in Europe are currently generally not possible. The main problem is the comparability of data, in particular the differences in definitions and sources used in various countries and in the coverage of the statistics', and that the 'availability of data on irregular migration flows is very problematic'.[115]

Climate change and future migration

The role of climate change in future migration is the subject of extensive study and widely differing views. Some estimates are that over a billion people will be forcibly displaced because of climate change, mostly within their own country. Others point to the complex causes of migration and predict that climate change will seldom be the direct reason people will be forced to leave their homes, but that it will add weight to other reasons.[116]

While the vast majority of migrants remain in their own or a neighbouring country, for the EU and other major migrant-destination regions the spectre of many more potential arrivals, coupled with the suggestion of recognising 'climate refugees', served as an incentive to fortify borders and spend more on border security.[117] By 2008 the European Commission warned that 'Europe must expect substantially increased migratory pressure' because of climate change, which 'may increase conflicts in transit and destination areas', another questionable causal relation. In the context of its securitisation frame, the Commission proposed greater efforts for monitoring and early warning and expanding planning and capabilities for 'the use of crisis management and disaster response instruments (civil and military) to contribute to the response to the security risks posed by climate change'.[118] Since then, the idea that climate change will directly lead to large migration movements into Europe seems to have been abandoned. In his 2023 article in the *European Journal of Migration and Law* Matthew Scott acknowledged this, but still concluded that 'EU-level policy initiatives, as well as priorities expressed by some EU Member States, either frame work to address climate-related human mobility as purely an issue for the EU's external dimension, or as a tool to achieve domestic priorities of preventing irregular migration from climate vulnerable countries.'[119]

The FPs include several projects which look partially at the relation between climate change and migration. One of the earliest, the FP6 project EACH-FOR (Environmental Change and Forced Migration Scenarios, 2007–2009), aimed at forecasting and developing scenarios to 'examine[...] the risk of mass migration to Europe from neighbouring regions adversely affected by global warming'.[120] The University of Liège (Belgium), Universitaet Bielefeld (Germany), Erasmus University Rotterdam (Netherlands) and Universidad del País Vasco (Spain) were part of the consortium.[121]

In keeping with later research, EACH-FOR 'demonstrated that environmental change is one of the motives for migration, but mostly these migrants move within their country or region, not to Europe' [our emphasis]. In its key recommendations the consortium proposed making more efforts towards mitigation and adaptation in vulnerable areas outside Europe and warned that '[p]olicies to curb migration could have a negative impact on the livelihood, security and economic development of a developing region, and may even accelerate the overexploitation of natural resources'.[122] Nevertheless, the EU subsequently took another course, focused on increasing border security and control.

In 2019 the Horizon 2020 programme included three projects on 'Understanding migration mobility patterns: elaborating mid and long-term migration scenarios', aimed at developing data-driven prediction of migration flows 'to identify emerging trends and anticipate future patterns', including 'projections and scenarios that are essential for appropriate planning and effective policymaking'.[123] In other words, research was aimed at enabling the EU to anticipate future migration patterns in order to pursue its migration and border policies in the most efficient way.

Table 10: Horizon 2020 projects – forecasting migration and scenario development			
Project	**Description**		
FUME (Future Migration Scenarios for Europe)	'FUME will support appropriate planning and policy-making by formulating integrated and coherent visions of how migration to and within Europe might evolve under different scenarios relating to potential demographic, socio-economic, political and environmental challenges.'[124]		
	Participating universities	**Country**	**EU contribution**
	Aalborg Universitet (coordinator)	Denmark	€ 618,037.50
	Uniwersytet Ekonomiczny W Krakowie	Poland	€ 169,740.00
	University of Manchester	UK	€ 139,787.50
HumMingBird (Enhanced migration measures from a multidimensional perspective)	'Research that aims to improve the mapping and understanding of changing migration flows. The research analyses patterns, motivations and new geographies, and tests new methods to forecast emerging and future trends' and to 'provide a holistic view of migration and migration processes, to delineate some of the major global developments around migration in the future, and to draw out policy implications as to preparedness for possible migration futures.'[125]		
	Participating universities	**Country**	**EU contribution**
	Katholieke Universiteit Leuven (coordinator)	Belgium	€ 471,875.00
	Vrije Universiteit Brussel	Belgium	€ 378,875.00
	Otto-Friedrich-Universitaet Bamberg	Germany	€ 265,900.00
	Università di Pisa	Italy	€ 159,312.50
	Universiteit Utrecht	Netherlands	€ 220,250.00
	Universidad de Salamanca	Spain	€ 165,525.00
	Malmö Universitet	Sweden	€ 217,025.00
	Universitat Zürich	Switzerland	€ 229,312.50
QuantMig (Quantifying Migration Scenarios for Better Policy)	'Produce comprehensive, multi-perspective and robust quantitative migration scenarios to support various areas of European migration policy. The project will advance the methodology of scenario generation whilst being firmly grounded in cutting-edge developments in conceptualising, explaining, estimating and forecasting migration. [...] in continuous dialogue with key users and stakeholders, QuantMig will deliver a range of directly applicable tools for policy support.'[126]		
	Participating universities	**Country**	**EU contribution**
	University of Southampton (coordinator)	UK	€ 1,138,117.50
	Universität fur Weiterbildung Krems	Austria	€ 465,750.00
	Universitetet I Oslo	Norway	€ 69,711.25
ITFLOWS (IT tools and methods for managing migration FLOWS)	'[P]redict and manage migration flows via the creation of an evidence-based information and communication technology-enabled solution, the so-called EUMigraTool.'[127]		
	Participating universities	**Country**	**EU contribution**
	Universitat Autonoma de Barcelona (coordinator)	Spain	€ 803,462.00
	Munster Technological University	Ireland	€ 534,600.00
	European University Institute	Italy	€ 319,615.00
	Brunel University London	UK	€ 595,300.00

ITFLOWS: humanitarian assistance vs security

ITFLOWS aimed to develop a practical tool for predicting and managing migration flows, with a focus on reception, relocation, settlement and integration.[128] The resulting 'EUMigraTool is conceived as a decision-support system for aiding first-line-practitioners, second-level reception organisations and municipalities. It will provide modular solutions based on the prediction of migration flows and the identification of risks of tensions between people residing in the EU [...]'.[129]

The consortium (see Table 1) constantly emphasises its human-rights-based approach, although, as researcher Matthias Monroy notes, ITFLOWS 'does not have any security measures to prevent authorities and EU agencies from using the prediction tool for border management and security purposes'.[130] For this reason, a coalition of staff from several universities and non-government organisations (NGOs) wrote an open letter to the consortium urging it to 'withdraw the EUMigraTool' and 'oppose the deployment of tools to predict migration patterns insofar they can be used to violate fundamental rights and international human rights law', as despite its 'good intentions, we are deeply concerned that the EUMigraTool will be used not as an instrument of protection, but rather of coercion'.[131]

Publicly, the consortium members rejected such criticism, pointing to the official purpose of the EUMigraTool.[132] The project coordinator Cristina Blasi Casagran (Universitat Autònoma de Barcelona) stated that 'we don't want this at any level and in any way tool to be for governments [sic]' and insisted that the software would not be 'misused'.[133] However, in informal conversations among the authors at the Stiftung Wissenschaft und Politik (SWP) with members of the consortium, they acknowledged that their financial dependence on EU funding creates pressure to make the EUMigraTool available to EU agencies, especially in the context of trying to secure follow-up funding.[134]

Frontex, for example, expressed a keen interest in the project and closely followed its development.[135] While Blasi Casagran stated that '[w]e don't want money from Frontex; we don't want money from governments', and the Italian Red Cross, another consortium member, also emphasised that Frontex is only listed as a source of open data and not as a user of EUMigraTool, its relation with ITFLOWS remains opaque.[136] Frontex is not named on its Users Board (comprising NGOs and local governments) as listed on the project website,[137] but is named as such in an early output, 'Stakeholders Database & Report on planned engagement activities', along with the International Organization for Migration (IOM) and ICMPD, which are members of its Policy Working Group.[138] Moreover, this report also states that '[p]olicymakers, members of the European Commission/institutions [...] will be invited to provide comments and test the policy recommendations and potentially the use of the EMT, participate in project's events, policy meetings, keep informed on the latest outputs, engagement via social media, blogs, interviews, videos, etc.'[139] This suggests a deeper relationship between the consortium and EU policymakers and institutions than was presented in response to critical views. In May 2021, shortly before the report's release, Blasi Casagran presented ITFLOWS at a workshop on 'Horizon Border Security Projects' organised by Frontex to the agency, the European Commission Directorate-General Migration and Home Affairs and national governments.[140] Later that year she presented ITFLOWS at the EU-LISA Industry Roundtable 'Artificial Intelligence and Large-Scale IT Systems: Opportunities and Challenges'.[141] Even if the project attempts to limit the use of the EUMigraTool to humanitarian purposes – as stated on its website that '[t]he access and use of EMT is permitted only to registered users, NGOs' and Municipalities'[142]

– and foresees contacts with policymakers only in the form of policy recommendations, it is hard to envisage guarantees that would prevent Frontex and other border and migration authorities from using it.

While the consortium members, at least in their public statements, seem to overlook the potential 'misuse' of their research, staff participants at Brunel University London had raised this very concern when the project was awarded[143] and heeded several warnings from the project's ethical board.[144] In response to a critical article about ITFLOWS, in which these warnings from draft reports were quoted, the consortium states that '[i]t is true that any potential misuse of the EMT could lead towards consequences not envisioned by the Consortium or European Union, but in identifying risk, we have then followed our strict Regulatory compliance model, and again have internal and external ethical legal and ethical teams in constant communication to prevent these risks from materializing and identify and condemn misuse of the EUMigraTool'.[145] As in many other instances, academics' reliance on their own frameworks and ways of working collide with the harsh reality of EU border and migration policies and the lengths to which policymakers and implementers will to go to remove people on the move from the EU or prevent their arrival in the first place.

Other forecasting projects

Other Horizon 2020 projects aimed more openly at supporting EU border policies. The consortium of QuantMig, for instance, described its 'overarching goal' as being 'to produce comprehensive, multi-perspective and robust quantitative migration scenarios to support various areas of European migration policy, based on the cutting-edge developments in conceptualising, explaining, estimating and forecasting migration'. For this, the project would 'offer an innovative assessment of data quality and migration scenario uncertainty, directly linking to the current European policy priorities' (read: fewer people on the move).[146]

All the same, these projects also led to tensions between academic and political realities. In a paper for the QuantMig project, titled 'Toward an Early Warning System for Monitoring Asylum-Related Migration Flows in Europe', consortium members, including researchers from the University of Southampton, wrote about the inherent uncertainty of predicting migration movements.[147] A position at odds with the EU's outspoken preference for clear predictions of numbers on which to act.[148] Other sections of the paper resonated more, for example the proposal to create 'early warning systems as a policy and operational support tool in the context of asylum migration'. Despite the authors' emphasis that this is 'very important from both humanitarian and resource perspectives', their notion that these systems 'allow for better management of flows' is the main point of interest for border and migration authorities. How this translates into practice can, for instance, be seen in Frontex's development of its own early-warning mechanism to 'strengthen [...] the capability to detect, prevent and combat illegal migration'[149] and the European Commission's establishment of the Migration Preparedness and Crisis Blueprint Network 'to support a rapid, efficient and coordinated EU response to a migration crisis'.[150]

The QuantMig researchers also promoted the use of 'alternative data sources', such as monitoring social media and tracking mobile phones. Such methods are not new[151] and are bound to be increasingly used, especially in the context of artificial intelligence (AI) technologies,[152] but remain highly controversial in terms of privacy and human rights,[153] with their potential use to harm vulnerable people.[154] In 2019 the European Asylum Support Office (EASO[155]) had to halt its

three-year project of monitoring social media to detect migrants on their way to Europe, with weekly reports provided to Member States' border forces. The project which, according to a spokesperson, for instance resulted in the interception (with the use of tear gas) of a 'convoy of hope' of hundreds of people from Afghanistan, Iran and Pakistan at the Greek-Bulgarian border, drew sharp criticism from the European Data Protection Supervisor.[156] That same year a Frontex tender for a contract to surveil the social media of (potential) migrants was cancelled after Privacy International questioned its legality in relation to privacy and data protection.[157]

Nevertheless, using mobile phone data to track migration patterns is also a key feature of the HumMingBird project. Utrecht University Professor Albert Ali Salah, who led this strand of the research, argued that 'privacy-aware and ethical processing of such data requires new approaches'.[158] In light of the way EU and Member State authorities have repeatedly treated privacy and ethical safeguards as secondary considerations, this claim appears hard to sustain. Indeed, the researchers warned that '[o]ne of the risks associated with the processing of big data is that connected databases create a number of cross-references, which, when used out of context, may result in discriminatory or restrictive decisions by law enforcement or border management authorities', such as the EU regulations on interoperability of various (biometrics) databases for use by border and law enforcement authorities.[159] In other words, the researchers knew beforehand that the data will be used for 'managing migration through border security'.[160] '[T]echnologies to monitor mobility are political tools', as Dijstelbloem writes[161], and not merely instruments for academic research.

Of course, the fact they can be used for the EU's political purposes is also the reason for funding them, which requires connections with EU authorities. QuantMig was, for example, presented by a panellist from University of Southampton at the first Frontex Risk Analysis Conference, held in Warsaw in September 2023, 'explor[ing] the applications of various risk analysis tools and methods in migration management'.[162] For an audience of border authority officials from Frontex, the EU and Schengen-associated member states, the UK and the USA,[163] the speaker for QuantMig talked about '[r]ecent advances in migration modelling and forecasting', with the possibilities and uncertainties concerning its use for border management.[164]

Under the current Horizon Europe programme, the project MIrreM (Measuring Irregular Migration and related Policies, 2022–2025) continues to search data about irregular migration, building on the work of the FP6 CLANDESTINO project.[165] The EU contribution to the project is €2,788,250, with co-funding from the governments of Canada and the UK.[166] MIrreM is coordinated by the Universität für Weiterbildung Krems (Austria), with a consortium that includes universities from seven EU countries as well as from Canada and the UK. While one of its main objectives is the development of regularisation processes, it is doubtful how this would fit in with EU political priorities. Regularisation is an unpopular policy option, with 'deterrence' and 'return' being the default for dealing with irregular migrants. Since 2008, member states have committed to use only case-by-case and no mass regularisation, as agreed by the European Council in the European Pact on Immigration and Asylum.[167] In this light the work of the MIrreM consortium concerning '[t]argeted policy responses for irregular migration require better knowledge about the characteristics of the irregular migrant population and dynamics of irregular migration, as well as about the effects of policy measures' may be an opportunity for the EU to obtain more data to further its 'fight against irregular migration'.[168] Indeed, the consortium realised the possibility that its research could be used for practices harmful to migrant populations, but it is hard to see how a proposed 'ethical benchmarking toolkit' could realistically prevent this.[169]

Researchers for IOM and the Netherlands Interdisciplinary Demographic Institute (NIDI) in the context of the CROSS-MIGRATION (Current European and Cross-National Comparative Research and Research Actions on Migration, 2018–2020) project concluded that predictive work and scenario development for policy purposes works best with the '[d]irect participation of policymakers in migration scenario exercises and direct engagement in discussion with experts'.[170] Horizon 2020 projects CROSS-MIGRATION and MARISA (Maritime Integrated Surveillance Awareness, 2017–2020) both include the integration of predictive research and migration scenarios in broader data hubs or toolkits to support policymakers and practitioners. While CROSS-MIGRATION was coordinated by the Erasmus Universiteit Rotterdam (Netherlands), and included many other universities, MARISA was dominated by large arms companies (including Leonardo (coordinator), Airbus and GMV and national ministries, with the participation of Laurea University of Applied Sciences (Finland) and Alma Mater Studiorum – Università di Bologna (Italy).[171]

In a paper discussing the use of AI for migration border control Access Now, European Digital Rights (EDRi), Migration and Technology Monitor, the Platform for International Cooperation on Undocumented Migrants (PICUM) and Statewatch criticised 'predictive analytic systems', because they 'may have concrete repercussions on fundamental rights insofar as such systems contribute to a wider framework of surveillance of the border and people on the move' and they 'may generate assumptions that particular groups of persons are deemed to present a risk of 'irregular migration' and may encourage or facilitate preventative or other responses geared toward interdiction or otherwise halting movement'.[172]

Decision-making and perceptions

Mathias Czaika (Danube University Krems) and Constantin Reinprecht (University of Oxford) concluded in 2020 that there is 'a recurring and growing academic (and political!) interest in drivers and 'root causes' of migration', and that '[w]hile some (economic) drivers are extensively studied, […] other factors are still understudied including the role of family ties in migration, or constraining and facilitating effects of various technologies', as are interactions and interlinkages between these.[173] For the EU this increasing political interest translates into three projects under Horizon Europe – AspirE, DYNAMIG and PACES – which take a step back from forecasting migration to research people's decisions to migrate and what influences these. They are part of the call 'Decision-making processes of (aspiring) migrants' and 'should shed light on the capacity of migration policies to effectively shape and/or affect migration journeys, and at what stage this occurs or may occur'.[174]

Table 11: Horizon Europe projects under the call 'Decision-making processes of (aspiring) migrants'

Project 1: AspirE
(Decision-making of aspiring (re)migrants to and within the EU: the case of labour-market-leading migration from Asia)

AspirE 'will explore the decision-making of aspiring (re)migrants from Southeast and East Asia [...] to and within the EU countries [...].' 'The results of this project will provide concrete information as to how individuals' migration decisions change over time and on the specific stage at which mobility policies are more likely to play a role in shaping migration outcomes, which will enhance EU migration policies.'[175]

Participating universities	Country	EU contribution
Université Libre de Bruxelles (coordinator)	Belgium	€ 1,046,590.00
Masarykova Univerzita	Czech Republic	€ 314,750.00
Tampereen Korkeakoulusaatio	Finland	€ 600,345.00
Johann Wolfgang Goethe-Universitaet Frankfurt am Main	Germany	€ 448,888.75
Università degli Studi di Milano	Italy	€ 404,981.00
Iscte - Instituto Universitário de Lisboa	Portugal	€ 313,650.00
Mahidol University	Thailand	€ 118,200.00
Education University of Hong Kong (partner)	China	€ 0.00
Waseda University (partner)	Japan	€ 0.00

Project 2: DYNAMIG
(How migration decisions are made: diverse aspirations, trajectories, and policy effects)

'DYNAMIG will fill critical gaps in scientific and policymakers' knowledge about how the decision-making behaviour of potential and actual migrants interacts with policies given micro, meso, and macro factors, e.g. different socioeconomic status. We focus on Africa as the most important future region of origin for migrants to Europe. [...] To maximise our impact on policymaking, we embed our research in an intentional process of joint knowledge creation with stakeholders in Europe and Africa, including the policymaking community, migrant and diaspora organisations, and civil society.'[176]

Participating universities	Country	EU contribution
European University Institute	Italy	€ 370,546.00
Université du Luxembourg	Luxembourg	€ 325,985.00
Université Mohammed VI Polytechnique	Morocco	€ 306,883.75
Elizade University	Nigeria	€ 188,485.00
Middlesex University (partner)	UK	€ 0.00

Project 3: PACES
(Making migration and migration policy decisions amidst social transformations)

'PACES focuses on [...] the factors shaping migration decision-making and the mechanisms underpinning migration policies. [...] the project systematically investigates the interactions between migration decisions, migration policies and broader social transformation. [...] By exploring the evolution of EU and national policies towards labour and family migration, PACES investigates the extent to which current migration policies are evidence-based and areas where policies will benefit from valuable insights provided by migration decision-making research. By doing so, PACES seeks to contribute to elaborating more effective models of EU migration governance that also account for the uncertainties of future social transformations.'[177]

Participating universities	Country	EU contribution
Erasmus Universiteit Rotterdam (coordinator)	Netherlands	€ 688,343.75
Université Paris 13	France	€ 149,923.75
Università degli Studi di Milano	Italy	€ 180,000.00
Universiteit Leiden	Netherlands	€ 189,500.00
Universiteit van Amsterdam	Netherlands	€ 202,718.75
Universidad de Alicante	Spain	€ 88,200.00
University of Manchester (partner)	UK	€ 0.00
Duke University (partner)	USA	€ 0.00

The project descriptions clearly point to the aims of strengthening EU migration policies. In an article on the DYNAMIG website the project's scientific coordinator Tobias Heidland (Professor of Economics at Kiel University) writes about how it can contribute to policymaking. Describing irregular migration 'among the most pressing topics in the EU', where 'many will continue to try their luck via the asylum channel, despite not having realistic chances', he states that 'what is needed are policies that create the right incentives for people to use the migration pathway they are supposed to use'. DYNAMIG aims to advise policymakers how to do this in a more informed and effective way, but it does not question the policies themselves or their effects on people on the move, nor does it ask whether policies should adapt to people's migration decisions rather than the other way around.[178]

Two Horizon 2020 projects are thematically related, as they focus on the (mis)perceptions of Europe-bound (aspiring) migrants: MIRROR (2019–2022) and PERCEPTIONS (2019–2023), each with a number of universities participating. Both projects are clearly intended to support EU border security. The aim of PERCEPTIONS was 'to identify and understand the narratives and perceptions of the EU abroad, assess potential issues related to the border and external security in order to allow better planning and outline reactions and countermeasures'.[179]

MIRROR suggested that it is 'crucial for border control and other relevant security agencies and policy makers to better understand how Europe is perceived abroad, detect discrepancies between image and reality, spot instances of media manipulation, and develop their abilities for counteracting such misconceptions and the security threats resulting from them'.[180] Consortium members from the Rijksuniversiteit Groningen even warned that the platform MIRROR developed for this 'can be interpreted as a further step toward a techno-militarisation of the EU border regime to the detriment of migrants'.[181]

Table 12: Horizon 2020 projects on perceptions with the aim of strengthening border security and control		
Project 1: MIRROR **(Migration-Related Risks caused by misconceptions of Opportunities and Requirement)**		
'The goal of the MIRROR project is to develop an integrated platform, a set of tools on top of this platform, as well as a systematic methodology for the comprehensive intermedia analysis of the perception of Europe, the detection of discrepancies between perception of and reality in Europe, and the creation of awareness for the impact of such misconceptions and the resulting threats, including hybrid threats.'[182]		
Participating universities	**Country**	**EU contribution**
Gottfried Wilhelm Leibniz Universitaet Hannover (coordinator)	Germany	€ 802,500.00
Universität Wien	Austria	€ 555.547.50
Universita ta Malta	Malta	€ 285,075.00
Rijksuniversiteit Groningen	Netherlands	€ 420,625.00
Project 2: PERCEPTIONS **(Understanding the Impact of Narratives and Perceptions of Europe on Migration and Providing Practices, Tools and Guides for Practitioners)**		
'The project will identify misperceptions of the European Union abroad. It will research social media and new communication networks in the distribution of narratives and the myths circulating about the EU. It will develop policy recommendations and action plans.'[183]		
Participating universities	**Country**	**EU contribution**
Universiteit Antwerpen	Belgium	€ 325,312.50
Hochschule für den Offentlichen Dienst in Bayern	Germany	€ 89,692.09
Alma Mater Studiorum - Università di Bologna	Italy	€ 349,220.00
Universita degli Studi di Roma La Sapienza	Italy	€ 182,660.00
Erasmus Universiteit Rotterdam	Netherlands	€ 323,562.50
Universidad de Granada	Spain	€ 123,537.50
Universidad Rey Juan Carlos	Spain	€ 179,062.50
Sheffield Hallam University	UK	€ 336,937.50
Swansea University	UK	€ 173,437.50
University of Northumbria at Newcastle	UK	€ 522,635.00

In general, research on the underlying causes of and decision-making on migration, as well as studies on perceptions, could contribute to refining border-externalisation policies, and to so-called 'awareness' campaigns the EU and its member states increasingly use to deter people from trying to come to Europe [see chapter 5].

Other projects

This report has focused on Horizon 2020 projects about forecasting and scenario-building regarding future migration movements and about decision-making of people on the move to show how universities contribute to the development of border and migration policies and practices. Other projects across the social sciences with university involvement concern issues as detention, deportations and developing more 'effective' border and asylum policies.

The Horizon 2020 project CEASEVAL (Evaluation of the Common European Asylum System under Pressure and Recommendations for Further Development, 2017–2019) aimed to 'carry out a comprehensive evaluation of the CEAS in terms of its framework and practice' to 'determine which kind of harmonisation (legislative, implementation, etc.) and solidarity is possible and necessary'. The Technische Universitaet Chemnitz (Germany) coordinated the

€2 million project, with a consortium that also included Universiteit van Amsterdam and Vrije Universiteit (Netherlands), Université du Luxembourg, University of Sussex (UK), Helsingin Yliopisto (Finland), New Bulgarian University and Koc University (Türkiye).[184]

At the end of the project the consortium was 'hopeful that the newly established European Commission will use its recommendations in a potential reform of the CEAS'.[185] In reality there is a huge discrepancy between what they proposed – better reception, more possibilities for secondary movements and a larger role for local governments, among others[186] – and actual reform of the CEAS, as proposed by the Commission and agreed by the Council and European Parliament in December 2023, which leans towards much stricter policies and procedures.[187]

Even while many of the projects, like CEASEVAL, promote alternatives to current policies, and emphasise more respect for human rights and taking migrants' perspectives into account, they appear to accept (or ignore) the fundamentals of EU border and migration policies. Alternatives to detention, such as regular reporting to authorities, for example, are often still within the realm of control policies. Moreover, for policymakers and practitioners it is easy to ignore most of the findings and recommendations of such projects and pick only those elements and results that will further their own goals and make policies and practices more effective. This is one of several key issues that are often ignored when it comes to ethical assessments of such projects, which the report will focus on next.

Technical research

In 'technical' research projects under the Framework Programmes universities are part of most project consortia. Military and security companies tend to take the lead, signalling their close involvement in the R&D aspects of border security and control. This section details some of these projects.

Artificial sniffer dogs: detecting hidden persons

Between 2012 and 2017, under Framework Programme 7, the EU funded a series of projects – DOGGIES, HANDHOLD, SNIFFER, SNIFFLES and SNOOPY – aimed at developing artificial sniffer technologies to detect controlled substances and concealed people on the move at border crossing points, to complement sniffer dogs. C-BORD, a follow-up project, was funded under Horizon 2020. All these projects involved universities as part of the R&D consortiums in which they collaborated with military and security companies, such as Airbus (SNIFFER and SNOOPY), Smiths (C-BORD) and Thales (DOGGIES), and public authorities, including the Israeli Ministry of Public Security (SNIFFER). This Ministry 'also covers the Border Police, who operate at the Apartheid Wall, oversee house demolitions, repress nonviolent Palestinian demonstrators, arrest and abuse children', according to the Boycott, Divestment and Sanctions (BDS) campaign group at the University of Manchester, which criticised the cooperation.[188]

The projects had a common goal of making it more difficult for people to cross borders without being detected. The universities and their partners sought to overcome the shortfalls of sniffer dogs: While they are the most effective, they are expensive, tire quickly and are attached to one handler. Other technologies, such as x-rays and heartbeat detectors, are problematic for health or safety reasons, and can be unreliable or difficult to deploy on a large scale.[189] As researchers from the University of Liverpool wrote in an article on the SNIFFLES project: 'This work is an attempt to assist border security crackdown on illegal human immigration'. But despite all their research, the EU's wish for a fully automated, stand-alone, reliable, weather-prone system has yet to materialise.[190]

Table 13: Framework Programme 7 projects on 'Innovative, cost-efficient, and reliable technology to detect humans hidden in vehicles/closed compartments' and 'Artificial sniffer'		
Project 1: DOGGIES **(Detection of Olfactory traces by orthoGonal Gas identification technologIES)**		
DOGGIES 'aims to demonstrate an operational, moveable, standalone sensor for detecting hidden persons, drugs and explosives, and for determining whether this technology can be adapted for a much wider range of illegal substances. [...] The final instrument should be able to complement the dogs currently being used at border and custom points.'[191]		
Participating universities	**Country**	**EU contribution**
Université de Nice - Sophia Antipolis	France	€ 253,237.60
National and Kapodistrian University of Athens	Greece	€ 291,688.00
Consorzio Interuniversitario Nazionale per la Scienza e Tecnologia dei Materiali	Italy	€ 279,567.00

Project 2: HANDHOLD
(HANDHeld OLfactory Detector)

HANDHOLD 'developed sensor technology and a mobile detection device to complement the role played by dogs as part of the detection process at airport and border crossings.'[192] 'The Handhold platform can be used as a first indication of a 'target find'. If necessary, the dog can be brought in later to help locate the specific substance'.[193]

Participating universities	Country	EU contribution
Queen's University of Belfast (coordinator)	United Kingdom	€ 735,803.44
Karlsruher Institut für Technologie	Germany	€ 668,053.00
National University of Ireland Galway	Ireland	€ 327,258.35
University College Cork - National University of Ireland, Cork	Ireland	€ 839,994.00

Project 3: SNIFFER
(A bio-mimicry-enabled artificial sniffer)

SNIFFER 'addresses a broad range of border security challenges by delivering an innovative set of highly effective, flexible, low-cost and portable solutions, integrating, adapting and improving advanced sensor technologies, thereby leveraging and complementing the capabilities of dogs', including the 'develop[ment] of artificial sniffer technologies'.[194]

Participating universities	Country	EU contribution
Università degli Studi di Padova	Italy	€ 175,051.20
Ecole Polytechnique Fédérale de Lausanne	Switzerland	€ 360,912.00
University of Manchester	UK	€ 493,552.00

Project 4: SNIFFLES
(Artificial sniffer using linear ion trap technology)

'The Sniffles project aimed to develop a universal gas sensor using modular technologies to function as an artificial sniffer. The focus was the detection of a range of substances, including but not limited to people (e.g. through CO_2 detection), drugs, explosives (including weapons) and CBRNe. The technology proposed was based on linear ion trap (LIT) mass spectrometry (MS) and its mode of operation would ensure complementary operation with trained detection dogs.'[195]

Participating universities	Country	EU contribution
Université d'Aix Marseille	France	€ 463,631.60
University of Liverpool	UK	€ 680,723.20

Project 5: SNOOPY

[T]he SNOOPY project has developed an artificial, portable electronic nose, potentially suitable to work in a 24/7 mode, able to detect the presence of hidden people through the identification of molecules produced by human body, e.g. sweats compounds.'[196]

Participating universities	Country	EU contribution
Università degli Studi di Brescia (coordinator)	Italy	€ 241,448.00
Università degli Studi di Roma Tor Vergata	Italy	€ 318,750.00

Follow-up Horizon 2020 project on topic 'Technologies for inspections of large volume freight'

Project 6: C-BORD
(effective Container inspection at BORDer control points)

The C-BORD project developed and tested an inspection toolbox of container freight with non-intrusive inspection (NII) techniques, including '5 complementary innovative detection technologies: delivering improved X-rays, Target Neutron Interrogation, Photofission, Sniffing and Passive Detection'.[197]

Participating universities	Country	EU contribution
École Normale Supérieure	France	€ 83,570.25
Hochschule Bonn-Rhein-Sieg	Germany	€ 414,522.50
Università degli Studi di Padova	Italy	€ 1,035,225.00
University of Manchester	UK	€ 491,245.00

Border surveillance

The Horizon 2020 programme included multiple projects concerning border surveillance in which universities participated, contributing to increased border security and often explicitly aiming to prevent or stop irregular border crossings.

Table 14: Horizon 2020 projects – border surveillance			
Project	**Description**		
ANDROMEDA (An EnhaNceD Common InfoRmatiOn Sharing EnvironMent for BordEr CommanD, Control and CoordinAtion Systems)	'ANDROMEDA aims to unlock the full capabilities of the CISE Model by enhancing the Maritime CISE Model and by extending its scope to the Land Surveillance Information Exchange. The project will address the "fragmentation" and close "gaps" in information sharing by providing a secure, effective common situational awareness and information exchange system integrated with CISE.'[198]		
	Participating universities	**Country**	**EU contribution**
	Laurea-Ammattikorkeaukoulu	Finland	€ 282,500.00
ARESIBO (Augmented Reality Enriched Situation awareness for Border security)	'ARESIBO aims at improving the efficiency of the border surveillance systems by providing the operational teams and the tactical command and control level with an accurate and comprehensive information. [...] The ARESIBO system will be developed incrementally during the 3 years with two major versions that will lead to sub-versions for land and maritime borders.'[199]		
	Participating universities	**Country**	**EU contribution**
	Ethniko Kai Kapodistriako Panepistimio Athinon	Greece	€ 499,375.00
BorderUAS (Semi-autonomous border surveillance platform combining next generation unmanned aerial vehicles with ultra-high-resolution multi-sensor surveillance payload)	'To support border surveillance applications, the EU-funded BorderUAS project is developing a multi-role lighter-than-air unmanned aerial vehicle with an ultra-high resolution multi-sensor surveillance payload.'[200]		
	Participating universities	**Country**	**EU contribution**
	Polytechneio Kritis	Greece	€ 552,497.89
CAMELOT (C2 Advanced Multi-domain Environment and Live Observation Technologies) Universitat Politecnica de Valencia	'The EU-funded CAMELOT project will develop and demonstrate various advanced command and control service modules for multiple platform domains' combining manned and unmanned surveillance.[201]		
	Participating universities	**Country**	**EU contribution**
	Munster Technological University	Ireland	€ 260,687.50
	Universidade de Lisboa	Portugal	€ 61,562.50
	Universitat Politécnica de Valencia	Spain	€ 755,312.50
EFFECTOR (An End to end Interoperability Framework For MaritimE Situational Awareness at StrategiC and TacTical OpeRations)	'EFFECTOR aims to enhance maritime surveillance, improve decisions support, and foster collaboration of maritime stakeholders by implementing an Interoperability Framework and associated Data Fusion and Analytics services for Maritime Surveillance and Border Security that will allow faster detection of new events, better informed decision making, achievement of a joint understanding and undertaking of a situation across borders [...].'[202]		
	Participating universities	**Country**	**EU contribution**
	Université Toulouse Capitole	France	€ 213,433.12
	Université Toulouse II-Jean Jaures	France	€ 51,875.00
	Université Paul Sabatie Toulouse III	France	€ 29,153.13

FOLDOUT (Through-foliage detection, including in the outermost regions of the EU)	'FOLDOUT will build a system that combines various sensors and technologies and intelligently fuses these into an effective and robust intelligent detection platform' for 'through foliage detection in the inner and outermost regions of the EU'.[203]		
	Participating universities	**Country**	**EU contribution**
	University of Reading	UK	€ 457,502.50
MARISA (Maritime Integrated Surveillance Awareness)	'[T]he overarching goal of MARISA project is to provide the security communities operating at sea with a data fusion toolkit, which makes available a suite of methods, techniques and modules to correlate and fuse various heterogeneous and homogeneous data and information from different sources, including Internet and social networks, with the aim to improve information exchange, situational awareness, decision-making and reaction capabilities.'[204]		
	Participating universities	**Country**	**EU contribution**
	Laurea-Ammattikorkeaukoulu	Finland	€ 517,000.00
	Alma Mater Studiorum - Università di Bologna	Italy	€ 166,000.00
NESTOR (aN Enhanced pre-frontier intelligence picture to Safeguard The EurOpean boRders)	'The EU-funded NESTOR project will demonstrate an entirely functional, next-generation, comprehensive border surveillance system offering pre-frontier situational awareness beyond sea and land borders. The system is based on the concept of the European integrated border management and relies on optical, thermal imaging and radio frequency spectrum analysis technologies fed by an interoperable sensors network.'[205]		
	Participating universities	**Country**	**EU contribution**
	Sheffield Hallam University	UK	€ 289,000.00
PROMENADE (imPROved Maritime awarENess by means of AI and BD mEthods)	'PROMENADE will improve solutions for the vessel tracking, behaviour analysis and automatic anomaly detection by means of the application Artificial Intelligence (AI) and Big Data (BD) technologies, and to promote collaborative exchange of information between maritime surveillance authorities [...] An open, service-based toolkit implementing 'state of art' AI / BD techniques also benefiting of HPC (High Performance Computing) platform is the core activity of the project.'[206]		
	Participating universities	**Country**	**EU contribution**
	Universita Cattolica Del Sacro Cuore	Italy	€ 204,000.00
RANGER (RAdars for loNG distance maritime surveillancE and SaR opeRations)	'RANGER aims at re-enforcing EU [sic] by combining innovative Radar technologies with novel technological solutions for early warning, in view of delivering a surveillance platform offering detection, recognition, identification and tracking of suspicious vessels [...]. It will be a platform, consisting of 2 radar technologies, a novel Over-The-Horizon Radar combined with a Multiple Input Multiple Output one implemented exploiting the latest photonics advancements, and an Early Warning System exploiting deep and adaptable machine learning schemes able to Automatically detect radar Targets.'[207]		
	Participating universities	**Country**	**EU contribution**
	Laurea-Ammattikorkeaukoulu	Finland	€ 474,750.00
	Technische Universität Dresden	Germany	€ 823,125.00
ROBORDER (autonomous swarm of heterogeneous RObots for BORDER surveillance)	'ROBORDER aims at developing and demonstrating a fully-functional autonomous border surveillance system with unmanned mobile robots including aerial, water surface, underwater and ground vehicles, capable of functioning both as standalone and in swarms, which will incorporate multimodal sensors as part of an interoperable network. The system will be equipped with adaptable sensing and robotic technologies that can operate in a wide range of operational and environmental settings.'[208]		
	Participating universities	**Country**	**EU contribution**
	Sisekaitseakadeemia	Estonia	€ 130,812.50
	Ethniko Kai Kapodistriako Panepistimio Athinon	Greece	€ 418,750.00
	Consorzo Nazionale Interuniversitario per le Telecomunicazioni	Italy	€ 571,812.50
	Sheffield Hallam University	UK	€ 473,375.00

SafeShore (System for detection of Threat Agents in Maritime Border Environment)	'The mission of the SafeShore project is to tackle existing problems and gaps in coastal border surveillance by developing a system for detection of Remotely Piloted Aircraft Systems (RPAS) using state-of-the-art, low cost, and low-emission technology. The system will be integrated with existing systems and create a continuous detection line along the border to help border officials in preventing crime such trafficking of human beings and smuggling of drugs.'[209]		
	Participating universities	**Country**	**EU contribution**
	École Royale Militaire (coordinator)	Belgium	€ 725,675.13
	Università del Salento	Italy	€ 401,185.51
	Queen Mary University of London	UK	€ 522,085.10
spyGLASS (Galileo-based passive radar system for maritime surveillance)	SpyGLASS 'introduced a prototype of passive bistatic radar (PBR) technology' for maritime surveillance, 'based on Galileo transmissions. The newly developed technology is completely passive (i.e. without a transmitter) low-cost, allows covert operation and reduces environmental impact.'[210]		
	Participating universities	**Country**	**EU contribution**
	Alma Mater Studiorum - Università di Bologna	Italy	€ 250,000.00
	University of Birmingham	UK	€ 250,000.00

The use of drones has become common in land and maritime border-security and control operations. Technological developments are closely watched by border authorities, such as Frontex, which in 2023 organised industry days on 'Remotely Piloted Aircraft and Autonomous Systems', describing them as 'flexible, cost-effective and scalable'.[211] Frontex employs drone surveillance flights over the Mediterranean which contribute to interceptions and pushbacks of migrant vessels to Libya.[212] The increasing use of drones has been interpreted as a shift from search and rescue to monitoring operations, in order to deter irregular migration and facilitate border externalisation,[213] and as an important aspect of the broader trend of border militarisation.[214]

Özgün E. Topak, Associate Professor at the Department of Social Sciences at the University of York (UK) warns of the dehumanising effects of using drones against people on the move: 'Computerized drone vision reduces the rich complexity of migrant subjectivities, their complex life histories, ideas, identities, belongings, religious and political beliefs, hopes, ambitions, occupations, skills, pains, fears, sufferings and many other human qualities into military categories of "risky subjects" or "threats" from a distance'.[215] The reduction to 'threats' in turn facilitates the legitimisation of violence against them, [216] and raises serious questions about why so many universities contribute to furthering this problematic trend.

Several of these projects include the use of (semi-)autonomous unmanned systems, such as drones, for surveillance. While ARESIBO, CAMELOT and NESTOR research the integration of UAS in to border security systems, BorderUAS and ROBORDER set out to develop new systems. We look in detail at two of these: BorderUAS and ROBORDER.

BorderUAS

In the €7 million BorderUAS project the Polytechneio Kritis (Technical University of Crete; TUC) cooperates with research institutes, companies – including project coordinator SIMAVI, a Romanian software company – and border authorities from Bulgaria, Greece, Moldova, Romania and Ukraine.[217] Initially, the Belarusian border guard also formed part of the consortium, with plans to conduct the first field test jointly with Ukrainian border guards.[218] This cooperation presumably ended amid the EU–Belarus dispute over migration and Belarus's stance on Russia's invasion of Ukraine, which began in February 2014 and massively intensified from 2022. The TUC Digital Image and Signal Processing Laboratory (DIsplay Lab) took a leading role in the technical part of the project, for example working on improving sensorics, evaluating sensing devices and data-fusion to refine surveillance capabilities and enable rapid decision-making in border-security operations.[219]

BorderUAS is fully in line with the securitisation of migration to emphasise the perceived need for the system it developed: 'Nowadays, one of the most important aspects of European Countries is the need to adopt systems and solutions for […] dealing with incidents of irregular migration. […] border security and surveillance are a 24/7 operation that can't afford downtime or periods of reduced readiness. The increased migratory pressures in Europe and the economy behind illegal activities, highlight the limitations of traditional surveillance and control centers to satisfy the needs and requirements of modern border control systems for homeland protection'.[220]

Obviously, this is sales talk in the context of one of its four main goals of 'achieving exploitation objectives of the project's results and delivering a concrete business plan regarding the final solution offered by BorderUAS'.[221] Unsurprisingly, the consortium views Frontex as a potential client. Frontex representatives participated both in a Progress Review Meeting,[222] and at a presentation at a Frontex online workshop for border security projects in May 2021. Peter Leškovský from the participating Spanish research centre Vicomtech announced that the BorderUAS prototype would be made available to Frontex for testing after the end of the project.[223]

ROBORDER

ROBORDER, the project to develop the use of swarms of drones in border areas, is even more outspoken: 'Frontex potential cooperation with ROBORDER could span across many of the areas of the agency's operation work, from information exchange and joint operations to research and innovation. In particular when it comes to joint operations at the border, ROBORDER could significantly contribute to Frontex activities and benefit from its support in terms of technical assistance and expertise'. In general the consortium foresaw a large potential market, given what it describes as the crisis at Europe's borders, with 'the increasing heterogeneity of threats (terrorism, illegal trafficking, migration from both land and sea borders)'.[224] To date, however, there seems to be no activity connected to ROBORDER since its completion in 2021.

The project was one of the most controversial border-security initiatives funded under the Framework Programmes. Critics raised concerns over its use of autonomous systems and AI-based decision-making, highlighting associated to privacy and the potential for bias, for example, in deciding whether a detected person should be categorised as a threat. The possible use of the system for military purposes[225] was another concern, amplified by the fact that commercial consortium partners were openly speculating about future sales countries within

and beyond Europe. Noel Sharkey (Emeritus Professor of Robotics and AI at the University of Sheffield (UK)) called the project 'a dark step into morally dangerous territory', where '[i]t's only a matter of time before a drone will be able to take action to stop people'.[226] The consortium itself tried to downplay these concerns about such systems by pointing to the boundaries of its intended use in the context of ROBORDER, ignoring other possible (mis)uses.[227]

Edin Omanovic (Privacy International) voiced concerns that 'empowering [border force] units with advanced swarms of surveillance drones risks facilitating not only unlawful surveillance but other abuses', in particular in the context of participation in the ROBORDER consortium of border forces from countries such as Greece, Hungary and Romania, which have been involved in pushbacks and violence against people on the move'.[228] According to Lucien Begault (Amnesty International), 'a system such as ROBORDER runs the risk of exacerbating the human rights violations inflicted by Fortress Europe'.[229] There were also doubts about the perceived civilian character of the project, as 'military units' were identified as potential users. Military applications would have excluded ROBORDER from Horizon 2020 funding. However, a European Commission spokesperson argued that the possible military end-use didn't "per se call into question the exclusively civilian application of the activities carried out within the framework of this project,"[230] raising serious questions about how "exclusively civilian" was interpreted in this context.

None of these serious concerns and criticisms deterred four universities or university networks from participating in the project.[231] The Estonian Sisekaitseakadeemia (Academy of Security Sciences) is a state institution focused on user requirements, evaluation and dissemination activities. The Pervasive Computing Research Group at the University of Athens (Greece) was lead partner for parts of the work package on command and control unit functionalities (designing a domain-specific language for the mission specification of the robotic devices and establishing a framework for the integration of risk models within the ROBORDER platform).[232] The Photonic Networks & Technologies National Laboraty (PNTLab) of the Italian Consorzio Nazionale Interuniversitario per le Telecommunicazioni (CNIT) was mainly involved in the development of sensing, robotics and communication technologies (development of a photonics-based radar system and an optical clock) and of detection and identification of border-related threats (pollution incidents and 'illegal activities'), and the Centre of Excellence in Terrorism, Resilience, Intelligence and Organised Crime Research (CENTRIC) of Sheffield Hallam University (UK) supported developing a 'CISE-compliant common representation model and semantic reasoning' and visual analytic methods and decision support for the system. It also planned to present ROBORDER at security and policing events.[233]

Other projects

The projects described above provide a snapshot of two fields of technical research projects under the Framework Programmes in which universities are regularly involved. The EU funds many other projects involving universities, for example on the development of smart borders and the use of biometrics, or on several forms of detection technologies. They each come with their own specific problems, but all operate within a broader agenda of strengthening border security and control. In practice, they increase the risks for people on the move and can contribute to human rights abuses. As the next chapter shows, similar issues arise in university research and related activities funded through other EU instruments.

Academic research ethics

Given the evidence from Framework Programmes projects, it is worth examining the ethical implications for academic research – not least the extent to which the participation in EU-funded research projects on (irregular) migration may compromise academic integrity. While universities commonly pay attention to research ethics, this is usually limited to the direct scope of a specific project and the interaction with people (on the move). They pay less attention to more profound questions such as how these projects, and other forms of border security and control-related work and cooperation, contribute to repressive policies and practices.

This chapter first discusses the relationship between research and practice, and efforts to 'bridge the gap', one of the EU's priorities in recent years. Then it investigates how this and other ethical issues are perceived at universities.

'Bridging the gap': researcher, policymakers and end-users

The connections, and gaps, between academic research and policymaking have long been a hot topic in many fields of research. David N. Plank identifies several obstacles, including a lack of alignment between policymakers and academics over which research questions matter and should shape agendas, ideological bias from the side of policymakers, resulting in them only seeking out research results that back up their ideas and proposals, and their preference for simple answers.[234]

For many technical border security and control research projects, plans to continue after their finalisation and predictions about future possibilities, particularly regarding the commercialisation of their resulting products or technologies, fail to materialise, or at least disappear from view once the project ends. There seem to be few projects that lead to immediately usable deliverables. Nevertheless, they still contribute to technological development. According to Bruno Oliveira Martins (Peace Research Institute Oslo), 'important material elements of contemporary EU border security technologies have its origin knowledge emerging from research funded by the EU itself', making them 'derive from pre-established political agendas, and not from basic, independent research'.[235] Together with Maria Gabrielsen Jumbert, and quoting Emma Carmel (University of Bath) he points to 'the prominence of both the tech industry and specialised EU agencies in the general architecture of border management', where major European companies have asserted 'a privileged discursive and political position in the 'linked ecologies' of formal scientific research, product development and EU policymaking'.[236] Meanwhile, the EU increasingly tries to ensure that the research it funds connects to its priorities and to that end facilitates interactions with end-users, for example through Frontex workshops.

For research grounded in the social sciences and humanities, the EU is similarly trying to 'bridge the gap', in this case between researchers and policymakers. The Community for European Research and Innovation for Security (CERIS) plays a central role in this process. It continues the work of the Community of Users for Safe, Secure and Resilient Societies (CoU) which the Commission established in 2014 to facilitate interactions between researchers and users of their output.[237] CERIS has about 2,000 participants from academia, EU and national

institutions, industry and civil society.[238] Border management ('European integrated border management, including border control, risk analysis, information exchange, inter-agency cooperation, the use of state-of-the-art technology including large-scale information systems and the compliance with fundamental rights, among others') is one of its key thematic areas.[239]

To pursue its objectives CERIS, for example, organises events such as an annual Project to Policy seminar 'to strengthen the cooperation between research and policy in the area of security and borders', where researchers from Horizon Europe security projects discuss their work with Commission services representatives.[240] Border security and control is again one of the major themes at these seminars. Apart from this, more targeted CERIS events included for example a 'Workshop on methods and examples of piloting and validation of innovative border management solutions' in March 2023.[241] In September 2025 the University of Turku and the Turku University of Applied Sciences (both from Finland) co-organised 'a Joint Demonstration Event showcasing the latest European Innovation on Border Surveillance' in Turku with the European Commission and the Finnish Border Guard. Prototypes spanning 'from drones and artificial intelligence platforms to advanced data fusion systems, digital twins, next-generation sensors, and autonomous maritime vessels' were showed to an audience of over a hundred participants, including representatives of national authorities and Frontex.[242]

CERIS also supports the annual Security Research Event (SRE), organised by the European Commission (DG HOME).[243] Hundreds of policymakers, practitioners, researchers and industry representatives meet to present Framework Programmes projects and to discuss research and its translation into practice and policy, and, conversely, how policy priorities shape research. Speakers include high-level officials from EU institutions, including Frontex, and researchers, including academics.[244]

These events emphasise two central objectives: improving the usability of research for practitioners and increasing market opportunities.[245] At the SRE 2018 the Commissioner for the Security Union, Julian King, said: 'We are now better than we used to be in turning ideas into solutions. This is the result of a deeper involvement of practitioners in research and thus we need to keep this approach. There are good projects delivering results in countering criminal activity or next-generation border surveillance systems, yet, there is still a challenge in turning research outcomes into assets deployed in real operations'.[246] This issue of ensuring that research contributes to EU security policies means pushing the researchers involved in EU-funded projects into the framework of official security narratives, inevitably making future funding dependent on how well they meet the demands of end-users. In the words of King at the previous edition of the SRE, 'to ensure adequate funding, we need to demonstrate how research contributes in practice to Europe's security'.[247]

Bert van Wee concluded that in general academic researchers face pressure from funders that try to influence them to produce results that fit their goals and discourses.[248] In recent years the EU has made greater efforts to 'bridge these gaps'. In December 2023 the European Commission organised a roundtable workshop 'Bridging Research and Policy – Horizon 2020 and Horizon Europe Shaping Migration Policy'. Researchers from thirteen projects attended,[249] including GAPs[250] and MirreM.[251]

Under the Horizon Europe 2023 programme the Commission launched the call 'Bridging the migration research to policy gap', seeking projects that would strengthen links between research and policymakers and engage policymakers throughout the project cycle. This went

beyond 'feeding research into policy' to 'include innovative methodologies for exchange and learning, such as, but not limited to: case study analysis, scenario building, and other useful strategies that may help simulate how to manage disagreements and the intrinsic complexity of migration policy making' and 'create a network […] with a view to be sustainable as a basis for exchange beyond the lifetime of the project.'[252]

The first project to be selected was INNOVATE (Innovating to Enhance Dialogues on Migration Policies and Practices, 2024–2027), which 'aims to facilitate a step change in the types, scope, forms and impacts of Migration Research to Policy (MR2P) engagement' and aims to produce a (real and virtual) MR2P Collaboratory with a Research Exchange, Engagement Hub and Training Facility to support policymaking. The project, with €3.2 million EU funding, is led by the European University Institute (Italy), with a consortium that includes Technische Universitaet Chemnitz (Germany), Université du Luxembourg, Radboud Universiteit (Netherlands) Uniwersytet Warszawski (Poland) and Suleyman Demirel University (Turkey), with the University of Edinburgh (UK) as a partner.[253]

The INNOVATE project launched the website 'Migration Research to Policy'[254] which provides a tool-kit for researchers, based on the experiences of the consortium partners, which emphasises the need to build long-term relationships and trust with policymakers, tailoring research to their needs and keeping them involved in the research and dissemination.[255]

For academic researchers, such meetings and projects may appear like an easy route to make their voices heard and see research and evidence translated into policy.[256] However, the EU is more likely to view them as a means of ensuring that research remains aligned with its policy priorities and stays within the boundaries of its migration policies. Scholars as Maurice Stierl (Institute for Migration Research and Intercultural Studies, Osnabrück University (Germany) warn about the consequences and risks of the ongoing efforts to foster a closer relationship between research, policymaking and practice, with 'migration research … at risk of adapting to what is considered digestible and useable for policymakers', who 'pick research findings à la carte, thus only those findings suiting dominant political interests'. Apart from the selective use of outcomes this also influences initial research scopes and questions. Stierl is highly critical about the migration scholarship community that, under 'the idea of having an impact in 'the real world'', not only lets itself be used for political interests, but has 'actively sought to become 'co-opted'', by 'seeking to partake in a political process that is driven by the overwhelming desire to govern, contain, and deter human movements from the Global South'. According to him, '[t]he pressure on knowledge workers to produce output of relevance for policy does not erase the responsibility of scholars to consider the implications of produced findings. There is a need to acknowledge that researching migration is never a neutral, objective, or unpolitical undertaking.'[257]

Aligning research too closely with policy can have more profound long-term consequences than the increasingly close relationship between researchers, industry and end-users in technical research projects. It shapes the agenda for years to come and discourages work that departs from the dominant border and migration discourse towards more humane, social, emancipatory and rights-respecting policies, let alone the vision of a world without borders.

Ethics

In 2008 the Framework Programme 6 project CLANDESTINO, in which the Uniwersytet Warszwaski (Poland), the University of Oxford (UK) and the Carl von Ossietzy Universität Oldenburg (Germany) participated [see chapter 2], published the briefing 'Ethical issues in irregular migration research', which provides key points researchers should consider while directly working with (irregular) migrants. The briefing underlines that researchers 'hold a set of complex responsibilities for high quality and ethical research. They have responsibilities towards their subjects, their profession, their funders, the various social institutions and society at large and must balance between these'. Accordingly, 'they will not be able to promote a single perspective' and should 'offer their expertise to' anyone requesting it.[258] Indeed, Peter Scholten, Professor of Migration and Diversity Policy at the Erasmus University Rotterdam (Netherlands), argues that '[m]igration research can end up being used for the wrong purpose. Studies can be misused or misinterpreted. People will regard you as a populist, or conversely, as the exact opposite, a 'friend to migrants', but neither of those appellations is correct. We're just academic researchers'.[259]

These positions are difficult to sustain. Ethical considerations cannot be confined to the research process itself and possible interactions with people on the move, while ignoring where and for whom EU-funded research is undertaken and how the research outcomes may be used. This matters all the more given the increasing close relation between research, policymaking and practice outlined above.

In almost all cases of EU-funded research concerning migration, the findings are meant to strengthen its current border and migration policies, guided by a strong security narrative. In April 2023, the migration forecasting projects FUME, HumMingbird and QuantMig organised the 'Future Migration to Europe' conference to present and discuss the findings of their ongoing research work. On the first Academic Day, many researchers avoided questions about ethics and how the EU might use their work by presenting themselves as 'neutral' scientists, narrowly focusing on gathering and analysing data and numbers while ignoring the broader political picture. Others expressed the hope that by giving policymakers accurate data they would be more inclined to adopt evidence-based policies. Only a few took either a more realistic – 'our work won't influence the course of policies' – or moral stance – 'we have to think about what we contribute to'. Time constraints meant that a panel that was going to discuss ethics was rushed through, while a proposal to bring a joint statement to policymakers on the next 'Policy Day' was quickly dismissed.[260]

In relation to more technical research, Clemens Binder (Austrian Institute for International Affairs) noted that 'the problematic notions underpinning policies and practices relating to the border, are reproduced and embedded in the technologies produced. R&D in border security is therefore not merely a technical process in order to assist the objectives at the EU's external border, but a political practice of making a specific, exclusionary and violent kind of border'.[261] According to David Newman (Dean of the Faculty of Humanities at Ben-Gurion University in Israel), since 9/11 scholars 'have reintroduced a strong securitisation dimension which focuses on the resealing and closing of borders'.[262] Apart from the fundamental moral questions participation in such EU-funded research projects should raise for universities, there are also more practical ethical issues.

While, for example, the FP projects include ethical checks, their scope is very limited as they are bound to be embedded in current policies. Such checks rely heavily on initial ethical self-assessments by the consortia partners, a method which is not uncommon but problematic since it relies on the beneficiaries of project funding to identify problems and issues that may complicate or threaten that very same project. An EU guide on how to perform such assessments focuses mainly on the research process, i.e., the involvement of humans or animals in experiments, the processing of personal data, and health and safety standards. There is some attention to issues regarding the use and development of AI, including avoidance of bias and discrimination, and possible misuse of research outcomes.[263] While the EU acknowledges that certain research may be 'misused for unethical purposes' – the guide mentions that research that 'involves developing surveillance technologies that could curtail human rights and civil liberties' is especially vulnerable to this – it only seeks to identify such misuse in terms of 'materials/methods/technologies [...] end[ing] up in the wrong hands' or 'serv[ing] any other purposes than the intended ones', which does not challenge the EU's and member states' *intended* use.[264]

A general screening by either qualified European Commission staff or 'independent experts' is also part of the FP processes. If this screening identifies serious ethical issues, a complete ethics assessment by 'independent experts' must be ordered. A screening may also lead to the obligation to appoint an ethics advisor or advisory board for a project. This takes place during the initial grant-preparation or assessment phases. An 'ethics check or audit' by 'independent experts' during implementation, 'on the basis of the information provided by the concerned beneficiaries', takes place only when the need to do so has already been identified during the self-assessment or general screening phase.[265] The Commission contracts experts from a database on a case-by-case basis, but does not publish information on who was contracted to conduct an ethical screening and/or assessment for a project.

A separate 'Guidance note – Research on refugees, asylum seekers and migrants' refers only to *participants* in research projects, again avoiding the question of possible consequences for people on the move due to the research outcomes.[266]

In other words, the formal EU structure for ethical checks leaves much room for evasion and circumvention. This lacklustre approach to applied ethics in individual projects arises from and amplifies the problematic approach of EU-funded border security and control research overall. As Leese et al. point out, 'scholarly engagements can run the risk of sustaining established power structures and institutions rather than critically challenging them', 'turning what was intended to be the critical corrective of applied ethics into a legitimizing function of mere 'ethics approval', reducing ethics 'to a formalized and blunted instrument that serves the intertwined interests of politics, markets and practitioners'. In this context, participating academics face 'the risk of legitimizing problematic research and development activities'.[267]

Since the Horizon 2020 programme the EU has upped its rhetoric on ethics, introducing the concept of 'Responsible research and innovation' (RRI). RRI, in the words of an EU expert group, 'refers to the comprehensive approach of proceeding in research and innovation in ways that allow all stakeholders that are involved in the processes of research and innovation at an early stage (A) to obtain relevant knowledge on the consequences of the outcomes of their actions and on the range of options open to them and (B) to effectively evaluate both outcomes and options in terms of societal needs and moral values and (C) to use these considerations (under A and B) as functional requirements for design and development of new research, products

and services.' Notably, this expert group also writes that 'the individual researchers are often not aware of the societal and ecologic impacts or the ethical dimension that their research activities might have in the future', as 'RRI plays – if at all – a minor role in the education and training of researchers', such as in university teaching programmes.[268]

The first time RRI was applied to an EU-funded border-security research project was for the Horizon 2020 project BODEGA, aimed at 'provid[ing] innovative socio-technical solutions for enhancing border guards' performance of critical tasks and support[ing] border management decision-making', with the Belgian Université de Namur as one of the consortium partners.[269] Klimburg-Witjes and Huettenrauch studied the use of RRI in this project and concluded that rather than being 'an apolitical space where social issues surrounding technology and innovation can be discussed and safeguarded against any political agenda', RRI itself embodies a political agenda embedded in a normative understanding of values that are considered 'the right way to go', in this case study about border management and more generally, the creation of a smart fortress Europe from the EU's standpoint'.[270]

EU policies and interests take the lead in the ethical assessment process for EU-funded programmes. Another example is the Horizon 2020 project MIRROR, aimed at providing border agencies and policymakers with tools to 'detect discrepancies between perception [by prospective migrants] and reality' in order to deter migrants from coming to Europe.[271] The Rijksuniversiteit Groningen (RUG; Netherlands) leads its 'legal and ethical analysis work package'. However, the framework simply repeats current EU policies and language, building on the narrative of migration being a security issue: 'The perception of Europe and individual European countries has a high impact on expectations and decisions of citizens from outside Europe (considering) coming to Europe, especially from countries of origin for migration. Misperceptions and targeted misinformation campaigns can lead to security threats'[272] as 'these misperceptions may lead to disappointments, hinder integration and, as a consequence, lead to threats such as fostering radicalization and migration-related criminality'. According to 'Ethical Principles and Practices' developed by the RUG, 'the earlier understanding of potential problems that the MIRROR tool aims to offer will help to address societal security needs such as avoiding social unrest and radicalization [...]'.[273] Rather than offering an actual assessment of the project, its ethical framework throws up unproven, questionable causalities ('misperceptions of Europe...may lead to criminality') and justifies the project through the need to protect (perceived) EU security interests. This once again disregards the impact on people on the move affected by the tool developed, including their stigmatisation. The researchers are trying to present as ethical what is fundamentally unethical research.

For yet another Horizon 2020 project, FOLDOUT – developing a migrant detection system for border surveillance in extreme climates, based on combining sensors and technologies – in which the University of Reading (UK) is involved, the ethical guidelines acknowledge that 'the systems developed by FOLDOUT may directly affect people belonging to groups that are considered vulnerable, such as survivors of trafficking, asylum seekers, migrants, persons with disabilities and the elderly'. Following this, the consortium states 'it is important that the system is designed in a manner that always ensures their fundamental rights and an ethical treatment'.[274] It however fails to explain how it would be possible to design a system whose goal it is to detect people in a manner that ensures that these people are treated 'ethically' by border guards, migration authorities, or the police. In reality, of course, the consortium developing the system has no control whatsoever about the way it will be used.

A group of researchers from several universities and research institutions, part of the Horizon 2020 NewHoRRizon project, analysed 13,644 Horizon 2020 projects on the functioning of the RRI framework. They concluded that 'while societal values and ethics are relatively well embedded at the level of declarative and strategic policies', they are 'mostly superficially implemented at the level of actual research projects by actual researchers'. One of the reasons was that RRI had to compete with other objectives, such as the economic value or social impact of research.[275]

While the EU claims a commitment to ethics in the border security and control research and innovation it funds, in practice this is overshadowed both by the policies that the research is expected to support and by commercial interests. Entities involved in such research, including universities, however well-intentioned, are ultimately complicit in this dishonesty regarding ethical standards. Lengthy reports and briefings on ethics in EU-funded research projects cannot conceal the reality that their findings are likely to be used to advance the EU's border and migration policy priorities: reducing the number of people on the move, combating irregular migration, and preventing people on the move from reaching the EU in the first place.

Border and migration control funding instruments

Apart from the funding for research and innovation, the EU has several other means to finance work in the field of border security and control both in EU member states and third countries. Some are explicitly meant for border security (External Borders Fund (EBF, 2007–2013), Internal Security Fund – Borders (ISF-B, 2014–2020) and the Integrated Border Management Fund (IBMF, 2021–2027)), while others, such as the current Asylum, Migration and Integration Fund (AMIF) and the EU Emergency Trust Fund for Africa (EUTF, 2015–2021), have a broader scope.

Universities as such are not among the main beneficiaries of these funds, but play a significant role in specific aspects, such as border externalisation efforts and awareness raising to deter migration. They may also undertake research, training or evaluation work as part of EU migration cooperation with non-EU countries, including dialogues, partnerships and deals with individual states.

Border externalisation

EU border externalisation refers to the outsourcing/exporting of policies and practices from the EU to non-EU countries aimed at controlling and restricting human movement. It is the continuation of a colonial strategy by the EU and European states rooted in extraction, coercion, and transactional diplomacy for political and financial gain.Under this strategy the EU and/or individual member states cooperate with dozens of countries from the MENA region to sub-Saharan Africa and Central Asia. Countries are rewarded for their cooperation, for example with more liberal visa regimes or government funding, and punished for non-compliance, including by withholding development cooperation funds. Billions of euros each year go to a wide range of projects, including training, equipment and policy advice. This often legitimises and strengthens authoritarian regimes, in particular their military and security forces, thus resulting in more violence and human rights abuses of migrants and also more internal repression, fuelling the reasons why people are forced to flee.[276]

Maastricht University: training for border externalisation

Maastricht University (Netherlands) is a key player in the EU's border externalisation regime, for example through training and education for border guards. A flagship initiative is the 'Migration Management Diploma Programme for Representatives of MP and CAMM[277] Countries (MMDP)', which has been running since 2013 and has received funding from the EU (including almost €700,000 from AMIF for 2020–2023), the German Corporation for International Cooperation (GIZ) and the Dutch Ministry of Foreign Affairs. The three-month full-time course, implemented by the Maastricht Graduate School of Governance (MGSoG), is meant to teach *'civil servants and policy practitioners working in migration management in the countries of the EU Neighbourhood, Eastern Partnership, Africa, Western Balkans and South Asia' to think and work along the lines of EU border and migration policies:*[278]

> 'The MMDP training curriculum addresses all the central tenets of the EU migration cooperation frameworks: better organisation of legal migration, preventing and combatting irregular migration and trafficking in human beings, maximising the development impact of migration, and promoting international protection. Furthermore, the MMDP supports participants in assessing their own policy systems according to common standards and methodologies and integrating evidence-based research into national dialogues, policy design and migration governance frameworks.'[279]

In February 2025 plans to expand the course with a French-language program and more country-specific training programs were announced.[280] That same month a group of civil servants from Gambia received 'The Migration Management The Gambia' (MMTG) training. The training included a field trip to several EU institutions in Brussels, as a 'platform for networking'. This two-week course was also funded by the EU, via the Migration Partnership Facility (MPF), run by the ICMPD.[281]

The current MMDP programme is also part of the MPF.[282] In this capacity, representatives of Maastricht University attended an MPF Steering Committee Meeting in June 2020, where the programme was praised by the representative of the European Commission's Directorate-General Migration & Home Affairs[283]. While the content of such courses is often presented in quite neutral terms it is clear that the focus is on aligning with EU policies and interests, in particular 'preventing and combatting irregular migration', which often leads to increases in violence and human rights violations, as research into EU border externalisation efforts has shown. In September 2025 Council of Europe Commissioner for Human Rights Michael O'Flaherty wrote: 'There have been numerous warnings from international bodies, national human rights watchdogs, civil society organisations and academics about the human rights implications of externalisation. Given the amount of evidence available, it should be assumed that member states are aware of the serious human rights violations suffered by refugees and migrants in a number of countries with which they are partnering'. Even more so, 'In some cases, these [human rights] risks do not stem simply from how [...] models of externalisation are implemented; rather, they are inherent in them. The serious impacts on human rights may even be built into the model, in certain cases, for the sole purpose of deterring migrants and refugees'.[284]

Another project in which MGSoG is involved is a postgraduate diploma course in migration studies at the Kenya Institute of Migration Studies (KIMS) in Nairobi, for which it helped develop the curriculum and delivers part of its courses on migration management.[285] The course is part of the controversial Better Migration Management in the Horn of Africa, funded by the EU Emergency Trust Fund for Africa and implemented by GIZ, which includes support to strengthen border-security and control capacities of authoritarian regimes in the region.[286]

The MGSoG is integrated into the United Nations University – Maastricht Economic and Social Research Institute on Innovation and Technology (UNU-MERIT), research and training institute of the United Nations University (UNU). One of its other 'capacity-building' programmes, which has been running since 2015 with funding from the Swiss Development Cooperation (SDC), is 'Strengthening Migration Management Authorities in Kosovo (MIMAK)'. This joint project with the ICMPD – a frequent cooperation partner for UNU-MERIT and Maastricht University – 'aims to improve migration management and discourage irregular migration by strengthening the capacities of the migration management authorities in Kosovo'.[287] This includes assistance 'to develop and implement awareness-raising campaigns that discourage irregular migration' (also see chapter 5).[288] In an ICMPD project with similar goals regarding Azerbaijan, again with EU funding, UNU-MERIT facilitated a workshop on migration policy.[289]

In mid-2019, together with academics from other universities, including Leiden (Netherlands), Oxford and Sussex (UK), professors from Maastricht University lectured at an ICMPD-organised summer school on migration management for young professionals from countries involved in the Prague Process. This is one of the EU migration dialogues, aimed at cooperation with countries to the east, in which authoritarian-ruled states such as Belarus, Kazakhstan, Russia,

Turkey, Turkmenistan and Uzbekistan participated.[290] In September 2022 professors from the same universities again attended the International Summer School of Migration in Azerbaijan, for young graduates and professionals from that country and Ukraine.[291] Again, ICMPD organised both summer schools as part of EU-funded migration projects in the region.[292]

In 2018 the MGSoG produced an 'Independent Evaluation of the Mobility Partnerships between the European Union and Cape Verde, Georgia and Moldova' for the Migration Partnership Facility (MPF), an EU border-externalisation initiative, funded by AMIF and ISF and implemented by ICMPD.[293] The MPF includes support to countries that have signed a Mobility Partnership or a Common Agenda on Migration and Mobility with the EU and are thus eligible for funding for '[p]reventing and combatting irregular migration'.[294] The evaluation of the partnerships with Cape Verde, Georgia and Moldova found that EU member states put much more emphasis on this goal than on the other objectives such as legal migration and migration and development. Nevertheless, the authors end their report with recommendations to sustain migration partnerships, based on their questionable conclusion that 'the majority of issues identified within the evaluation are relatively easily addressed and several key changes can be made that would greatly increase the efficiency and effectiveness of the MPs', including more attention to other objectives, ignoring the extent to which EU policies are fixated on stopping migration.[295] The report was discussed in the meeting of the MPF Steering Committee – mainly made up of European Commission and ICMPD representatives – in December 2018, in which this was reduced to the even vaguer notion that 'there is a need to reflect a large number of stakeholder's views engaging in clear communication activities, including on the expectations around 'mobility' and legal migration opportunities'.[296]

The IOM has also nominated Maastricht University as an important research partner.[297] Work undertaken for IOM includes studies on (so-called 'voluntary' and forced) returns and gender as part of the EU-funded EU–IOM Knowledge Management Hub (KMH)[298] and a literature review on the 'Push and Pull Factors of Asylum-Related Migration', commissioned by the European Asylum Support Office (EASO).[299]

Vilnius Gediminas Technical University: surveillance drones for Moldova

A smaller MPF project with AMIF funding of just over €0.8 million concerned the strengthening of Moldova's aerial border surveillance capabilities. The project 'Novel concept of relocatable aerial surveillance for border security' was implemented by the Vilnius Gediminas Technical University (Vilnius Tech in Lithuania) in cooperation with the Estonian Academy of Security Sciences (EASS), under a contract with ICMPD. The project included support to assess the situation at Moldova's borders, donations of surveillance drones and a mobile surveillance tower, and training border guards in how to use them.[300] 'In my view, adding remote-controlled drone technology to existing border surveillance tools is an effective solution for tracking illegal activities and securing our borders. In this way, such technologies can complement and work together with border management personnel to prevent and combat organized crime and illegal migration', reported one of the officers of the Moldovan Border Police after receiving training from Vilnius Tech and EASS.[301]

The project ran from June 2021 to mid-2022. This period coincided with what the TNI Longread 'How the EU has used the war in Ukraine to expand its border regime' describes as the EU's use of Russia's invasion of Ukraine to expand Moldova's border security and control capacity

in line with EU priorities.[302] At the event to transfer the equipment in June 2022, Moldova's Secretary of State for Internal Affairs, Jana Costachi, said: 'We have demonstrated that we are part of the European community and we will strive to develop our capacities to secure borders, this is what we work on, this motivates us'.[303]

EU Emergency Trust Fund for Africa: research

The EU Emergency Trust Fund for Africa (EUTF) was launched in 2015 following a major migration summit between the EU and African countries, to advance EU efforts in border externalisation to stop migration from and via African countries. The EUTF ran until 2021 and funded almost 600 projects in 26 countries with a total of €4.8 billion. The projects covered a wide range of activities, from employment creation to strengthening border security and control capacities.

One of the EUTF's project's was the 'Research and Evidence Facility' (REF) which ran from December 2015 until January 2025 and received €6.6 million in several phases. The main implementing body was the School of Oriental and African Studies, University of London (SOAS). The International Migration Institute, the Manchester University and the think tank Sahan Research in Kenya were also involved.[304]

They maintain that REF was 'created to conduct research to generate a better understanding of the drivers of instability, migration, and displacement in the greater Horn of Africa with the aim of informing EU policy on the region and supporting the programming of activities under the EU Emergency Trust Fund for Africa'.[305] They produced dozens of research reports and briefings, which, according to the UK government, 'have directly informed the policy and operational approach in the region'.[306] SOAS paints a very rosy picture of the EUTF, stating that it 'will help address the root causes of destabilisation, displacement and irregular migration, by promoting economic and equal opportunities, security and development'.[307] However, a thorough analysis of the funding and projects published by Oxfam International showed that the EUTF mainly served the domestic political priorities of EU donor countries, in particular preventing the arrival of irregular migrants and enhancing return efforts, which – far from being beneficial – actually had a negative effect on stability in the African target countries.[308]

Funding to strengthen national border security and control capacities

The consecutive External Borders Fund (2007–13), Internal Security Fund – Borders and Visa (2014–20) and Integrated Border Management Fund (2021–27) – aim to strengthen border management and the common visa policy, and are implemented mainly by funding member states' 'national programmes', with a smaller share of their budgets earmarked for union actions.[309] The EU Return Fund (2008-13) had the objective of supporting member states in returning irregular migrants to their countries of origin, mostly via action programmes at the national level.[310]

Correspondingly, the bulk of the spending takes place on the national level, with reporting scattered, lagging behind and often not transparent to the level of contracted third parties, making it difficult to find out if universities are involved, although they occasionally pop up as beneficiaries of EU-level contracts.

Internal Security Fund – Borders and Visa (ISFB)

ISF was the EU instrument to fund member states to strengthen their border-security and control capacities, with a €2.76 billion budget under the MFF 2014–2020.[311] In 2018 two Union actions on border security and control included the participation of universities: The project 'CoopERation for incrEased siTuational Awareness estaBlishment' (CERETAB) was meant to increase situational awareness at the Greek-Cypriot borders and improve exchange of information between Cyprus and Greece, for example through the deployment of drones.[312] The Ionian University (Greece) and KIOS Research and Innovation Center of Excellence at the University of Cyprus participated in the project, receiving €172,805 and €129,095 respectively.[313] Both Greece and Cyprus have been condemned by the European Court of Human Rights for their pushback practices.[314]

The €1 million funding for the project 'State of the art Morphing Detection' (SOTAMD) largely went to four universities: Università di Bologna (Italy; €169,150), Hochschule Darmstadt (Germany; €234,537), Norges Teknisk-Naturvitenskapeluge Universitet (Norway; €246,591) and Universiteit Twente (The Netherlands, €204,885).[315] The work included compiling a database of bona fide and morphed images to test and develop improved mechanisms for detecting morphing attacks, in which image-editing software merges photographs of two different faces into a single image, and to evaluate detection algorithms.[316] While the researchers claim that 'the SOTAMD database was created by selecting the morph pairing candidates with high similarity with careful considerations to age, gender and ethnicity', the actual composition of the 150-person strong testing population (which was 'selected amongst university staff and student corpus, and a casting agency website') suggests a familiar bias by an overrepresentation of white men, which could lead to more errors for other populations. Moreover, first testing results were not very promising, with the researchers warning that '[f]rom a practical point of view, this behaviour would cause a considerable number of false alarms and, as a consequence, a high number or false rejections during face verification at ABC gates'.[317]

Border Management and Visa Instrument (BMVI)

BMVI is part of the Integrated Border Management Fund (IMBF), with a budget of €6.7 billion under the MMF 2021–2027. The Policy Academia in Bratislava (Slovakia), for example, was granted €188,846 in a joint project (2023–26) with the Hungarian Ministry of Interior to 'support the development of complex national border control quality assurance mechanisms [...] for all border control processes and types of border crossing points.'[318]

The project 'REal-time ArtifiCial InTelIligence for BOrders Surveillance via RPAS data aNalytics to support Law Enforcement Agencies' (REACTION; 2024–27) aims to develop "a next-generation, holistic border surveillance platform to provide real-time situational awareness and early identification of threats in remote areas", with a focus on the use of drones and AI. It should connect to existing EU border surveillance infrastructure, such as EUROSUR. The KIOS Research and Innovation Center of Excellence - University of Cyprus, and the Greek National and Kapodistrian University of Athens and University of West Attica are part of the consortium, which is co-funded by the EU, the BMVI, and Cyprus. The universities cooperate with Greek and Cypriot law enforcement agencies and research institutes, referencing the "long-lasting cooperation" between them.[319]

The REACTION project

The REACTION project is part of a broader union action to "promot[e] the uptake (validation, piloting in real environment, procurement and/or deployment) of new technologies and methods for border surveillance, especially those coming from Union-funded research projects on border security."[320] As such it builds on the outcomes of previous EU-funded research projects in which the universities were involved, including the controversial ROBORDER project[321] with its highly criticized use of autonomous systems and AI for border surveillance.

EU Return Fund

The budget of the Return Fund was €676 million.[322] The Odysseus Network, the Academic Network for Legal Studies on Immigration and Asylum in Europe at the Université Libre de Bruxelles, which was established with financial support of the European Commission in 1999, [323] co-coordinated two projects: CONtrol of DeTENTION (CONTENTION; 2013-14) and its follow-up project REturn Directive DIALogue (REDIAL; 2014–16), both aimed at judicial cooperation and coordination, including dialogue between judges as well as between EU member states on pre-deportation detention and the application of the Return Directive.[324] The latter, which stipulates common standards and procedures for returns to member states, was criticised by UN human rights experts, in particular for its provisions on detention.[325]

Deterrence: awareness-raising campaigns

The €9.88 billion Asylum, Migration and Integration Fund (AMIF, 2021–2027) aims to strengthen EU member states' capacities for migration management, including 'contribut[ing] to countering irregular migration and ensuring effectiveness of return and readmission in third countries.'[326] One way the EU hopes to achieve the 'prevention of irregular migration' is 'through awareness raising and information campaigns on the risks of irregular migration in selected third countries and within Europe'.[327]

Such campaigns are increasingly seen as an important tool for 'migration management', and 'to counter the narrative of smugglers'.[328] They are not a new phenomenon. Between 2014 and 2021 the EU and member states funded more than 100 awareness-raising campaigns aimed at (potential) migrants.[329]

NOVA University Lisbon (Portugal) coordinated the project 'Information Gaps and Irregular Migration (INFOMIGTRAIN, 2019–2021) in The Gambia with €637,129.47 from AMIF.[330] Despite its relatively small population, The Gambia, which had suffered under the decade-long dictatorship of Yahya Jammeh, was a major country of origin of migrants coming to Europe.[331] INFOMIGTRAIN combined 'awareness raising' with a study on the kind of information that is most effective in preventing migration. The central part of the project was '[a] cluster-randomized experiment with 3,702[332] young men from 391 settlements in the Gambia' to 'test three different approaches designed to reduce risky, irregular migration': a sole focus on talking about the risks of irregular migration or adding either the provision of a safer migration alternative (to Senegal) or vocational skill training at home.[333]

There are serious questions about the ethics of this 'experiment' on selected citizens, despite the ethical approval granted by the Nova School of Business and Economics at the University. For the selection process village elders were interviewed and asked 'to select the 11 males aged 18-30 most likely to migrate from the village in the next 12 months out of a list of 20'.[334]

2M Corp, a data analytics firm from The Gambia, was hired by the university to conduct a survey in which the selected persons were subsequently confronted with highly invasive questions such as whether a 'household member skipped meal in last month due to no funds', 'no. people they know who died going the backway'[335] and 'knows someone deported from Europe'.[336] These questions were not intended to determine how to best support the interviewees, but solely to finetune EU policies. The interviewees were then randomly (by settlement) assigned to one of four 'treatment groups':

- 'information and deterrence', who were shown a video about the risks of irregular migration to Europe;

- 'information and Senegal alternative', who were shown the same video and 'given additional information about migration to Dakar ..., and offered financing and support to pay the cost of travel to Dakar' (about €35 in total);

- 'information and vocational training alternative', who were also shown the same video 'and additionally given the opportunity to enrol in a tuition-free vocational skill training program' by The Gambia Technical Training Institute;

- and a 'control group', that was only shown 'a video that explained the importance of exclusive breastfeeding'.

The 'subjects' were not informed 'that this was an experiment, or that alternative interventions were being offered in other settlements' and they were lied to about the goals of the survey, which was presented 'as a research study aimed at understanding the desires and needs of Gambian youth'.[337] In their report the researchers set out possible reasons why not everyone in the second or third group had taken up the offers and proposed possible alternatives to migration, while overlooking the fact that not everyone in these groups had ever expressed any intention to migrate. Furthermore, in the middle of the follow-up period of the 'experiment' the COVID-19 pandemic broke out, severely hampering the research. Nevertheless, the researchers concluded that '[p]roviding information about the risks of migration [...] had only small and statistically insignificant impacts on longer-term intentions to migrate to Europe'.[338]

The limited effect of deterrence campaigns was also one of the conclusions of the international conference 'Migration and Communication - Information Campaigns in Countries of Origin and Transit', organised for the National Contact Point Austria of the European Migration Network (EMN) by the IOM Country Office for Austria.[339] Moreover, 'there is a lack of externally valid evaluations and evidence on the causal effects that would qualify information campaigns as an established, functional migration policy tool'.[340] INFOMIGTRAIN was one of the projects presented during the programme, that also included speakers from the University of Konstanz (Germany) and the London School of Economics and Political Science (LSE) (UK).[341]

Ignoring this, the Austrian Federal Ministry of the Interior saw the conference as reflecting 'the increasing importance of the methodology of information campaigns as a possible effective instrument of proactive prevention work in the field of irregular migration at European and international level'.[342] In general, according to Jan-Paul Brekke and Kjersti Thorbjørnsrud (Institute for Social Research (Norway)) 'information campaigns have become a central part of European immigration management aimed at deterring migrants before they reach European borders'.[343] After studying European awareness-raising campaigns about irregular migration

Verena K. Brändle (University of Vienna) concluded that 'contested policies and claims are […] presented as 'truths' and 'facts' about migration, keeping the dominant understanding of irregularity as an immoral, sometimes criminal act' and that they 'contribute to maintaining the current status-quo and thus hinder constructive social and political change towards an improvement of the current situation around the EU's external borders.'[344] Eleanor Paynter (Brown University (USA)) and Sara Riva (University of Queensland, Australia) add to this that such 'strategies that discourage people from moving enact neoliberal ideologies that treat migration as a purely individual decision, decontextualised from issues of structural inequality', urging 'migrants to stay home as good citizens, while at the same time ignoring the violence and extreme precarity prompting people to flee'.[345]

In the Senegal-focused IDEAL-M (Informant Diasporas in EurAfrica for Legal Migration) project (2020–2022) the University of the Peloponnese (Greece; consortium leader) and the Universidad Autónoma de Madrid (Spain) work together with several non-profit organisations to 'raise awareness about the dangers of illegal migration and misinformation about the journey to Europe and the opportunities for legal migration to Europe', including creating 'a robust and targeted information campaign towards prospective migrants from Senegal exposing them to the reality of a decision to embark upon illegally entering the EU.'[346] The project was funded with €409.466 from AMIF (with additional funding from the Maltese government), about half of which went to the two universities.[347]

The project actively promotes EU member states' illegal practices as a deterrent, broadcasting them through billboards, leaflets, articles and social media posts: 'Yes, for those lucky enough to make it to Europe, immediate deportation to places outside Europe and indiscriminate return to holding cells in Libya (where conditions have been described by inmates as worse than hell), are the fates of some'. It even acknowledges the illegality of these practices: 'The indiscriminate deportation of migrants to Libya or any such countries of the choosing of European countries violates many international treaties. When a migrant […] is deported back to the same country he had fled originally, then, the international laws that seek to protect people being persecuted are violated by European countries who should be better examples'.[348] **In a nutshell, this means that universities participate in a project in which the EU funds them to warn prospective migrants that it will not hesitate to use illegal measures against them.**

Another 'awareness-raising' project with funding from AMIF (€645,070; 2021–2023) is 'Shababuna – our youth informed and well prepared to choose their future', which aims to 'strengthen the capacity of regional and local authorities in the Moroccan region of the East to promote awareness and sensitization about the risks of irregular migration among young people in Morocco' and also ' focuses on the role that regional and local governments can and have in managing migration policies in both EU Member States and third countries.'[349] According to the grant agreement, Shababuna is expected to 'trigger a behavioural change on Moroccan youth at-risk of migrating irregularly towards Spain/Europe and contribute to a direct reduction of the migration flow from Morocco towards Spain/Europe. Such impact will benefit not only Spain but a number of European countries'.[350]

The Autonomous University of Barcelona (Spain; €59,856) and the University of Girona (Spain; €70,760) participate in this project led by the Government of Catalonia.[351] They are involved in developing a communications strategy, which like IDEAL-M will use audiovisual materials (for example in classrooms[352]) and social media aimed at 14–25-year-olds in Morocco.[353] Both

universities also provide awareness-raising and communication training workshops to local and regional authorities as well as civil society organisations (CSOs) in Morocco, contributing to 'the establishment of new relations of EU decentralized cooperation with Africa in a field where this type of cooperation is stillW rather incipient'.[354]

As Jones, Lanneau and Maccanico (Statewatch) point out, 'there is no doubt that irregular journeys to the EU are dangerous. It is also evident that life for many undocumented migrants in the EU is extremely difficult […]. Nevertheless, making this clear to people will do nothing to alleviate the structural factors that lead so many people to wish to emigrate in the first place', also noting that legal pathways, the propagated alternative, 'tend to be in rather short supply'.[355] Nevertheless, the EU continues its focus on 'awareness raising', having reserved another €10 million in AMIF funds for several campaigns that were supposed to start in the autumn of 2025.[356]

Policy advice: fingerprinting six-year-olds

In 2018 the Vrije Universiteit Amsterdam (VU; Netherlands), together with research organisations Ecorys (Netherlands) and Fraunhofer (Germany) published a report for the European Commission on the 'Feasibility and implications of lowering the fingerprinting age for children and on storing a scanned copy of the visa applicants' travel document in the Visa Information System (VIS)'. Based on an assessment 'from the perspective of economic costs and benefits realised by affected stakeholders; policy (or operational) impacts related to the achievement of the defined policy objectives in the area of security, migration and the implementation of returns; and fundamental rights impact', the authors conclude that 'the preferred option to emerge from this study is Option 1: lowering the fingerprinting age to 6 years'.[357]

While the reasons for this advice include prevention of child trafficking and reuniting families, it becomes clear that it should also serve the goal of 'better meeting the various VIS objectives (facilitation of the fight against fraud, facilitation of checks at external border crossing points, facilitate the application of the Dublin II Regulation)', including for example possible forced returns. Explicitly referring to this, lowering the age of fingerprinting to six was included in the VIS regulation agreed by the Council and Parliament in July 2021.[358]A similar proposal by the European Commission to lower the age for fingerprinting – a 'proportionate degree of coercion' may be used – for the Eurodac database from 14 to six years, referred to the study 'Fingerprint Recognition from Children' by the Joint Research Centre, with assistance of the universities of Göttingen (Germany) and Bologna (Italy).[359] These proposals met with objections from the EU Agency for Fundamental Rights and human rights organisations.[360] 'Taking and retaining the biometric data of children for nonprotection related purposes is a seriously invasive and unjustified infringement on the rights of the child, their rights to privacy and data protection, and also undermines the principles of proportionality and necessity', according to an open letter signed by 31 NGOs.[361] Fundamental rights expert Bianca-Ioana Marcu pointed to concerns about the increasing interoperability between EU biometrics databases,[362] since 'addressing asylum, migration, crime and security as one', poses 'risks that migrants [including children] and migration are treated as a priori threats'.[363] The EU nevertheless proceeded with its plans and came to a provisional agreement in December 2023. The Parliament's rapporteur Jorge Buxadé Villalba (ECR) portrayed Eurodac as a tool for countering irregular migration and security threats.[364] In May 2024 the new Eurodac Regulation lowered the age for mandatory fingerprinting to six years and stipulated that "a proportionate degree of coercion may be used against minors to ensure their compliance with that obligation" (though "no form of force"), was adopted as part of the broad Migration and Asylum Pact.[365]

To ensure that fingerprinting is as effective as possible, the EU can turn to the Biometric System Laboratory at the Alma Mater Studiorum – Università di Bologna (Italy), which has been running a Fingerprint Verification Competition since 2000. This now an ongoing online evaluation campaign of fingerprint verification and other biometric algorithms. Hundreds of academic research groups, companies and independent developers have participated with algorithms on fingerprints, palmprints, face images and morph-attack detection.[366] This process has become an international benchmark, and for the EU it is a point of reference for the future of smart borders.[367]

Apart from the comprehensive Framework Programmes, universities also receive funding for work in the field of border security and control from other EU instruments. This includes both one-off projects, such as the highly controversial 'awareness raising'-campaigns, and longstanding relations, as the example of the University of Maastricht has shown. Through these projects universities are involved in various aspects of the EU's repressive border regime.

Frontex and universities

tasks and budget have since expanded massively. This has particularly been the case since the 2015 as forced displacement—shaped by war, persecution, and capitalist extraction and inequality—has become more visible in Europe. Frontex has a say on member states border management capacities and can intervene in their territory. It deploys its own border security operations, mainly in the Mediterranean and is also operational in non-EU-countries. The agency has its own Standing Border Guard Corps and buys its own equipment, and often initiates or leads joint deportations from member states. Finally, it maintains a close relation with the military and security industries.[368] Frontex has faced regular and growing criticism for its involvement in violence and human rights violations, including illegal deportations, denial of the right to seek asylum at the borders, lack of accountability, failures to respond when boats capsize and people are drowning, and its cooperation with authoritarian regimes.[369]

Frontex draws on many EU-funded border security and control research projects and, as the previous sections have shown, is sometimes directly involved in their development. According to Aija Kalnaja, one of the agency's deputy executive directors, **'Frontex plays an important role in ensuring that the results of security research are turned into tools that can be used in the operational field'.**[370] In turn, such projects are increasingly expected to address Frontex's priorities and strengthen its long-term capabilities.[371]

In 2020 Frontex and the European Commission (Directorate-General for Migration and Home Affairs) signed the Terms of Reference (ToR) to establish collaboration on Horizon 2020 and Horizon Europe projects. The role of Frontex includes filling gaps in research and facilitating the testing and monitoring of research results, with the aim of making them useful on an operational level and position new technologies on the market.[372] Since then, 'Frontex provided diverse, numerous and user-perspective contributions to the EU-funded border-security research projects: feedback on projects, participation in Horizon project reviews, meetings, workshops and demonstrations, facilitation of interaction with Frontex operational departments and initiation of common endeavours, and dissemination of the projects content and results to the EBCG community'.[373]

Every year Frontex organises a workshop where participants of EU-funded border-security projects present their research to Frontex and member states' border authorities, with the regular participation of university consortium members.[374] In 2021 Frontex launched its Research for Innovation Network (R4IN) to strengthen collaboration on border-security research, including by regularly observing project demonstrations.[375] In March 2023, for example, a Frontex delegation attended the final demonstration of the Horizon 2020 project NESTOR, where the 'detection of irregular migration and human trafficking using enhanced sensing and robotic technologies' was tested in the Evros region in Greece[376]—an area notorious for pushbacks and violence against people on the move.[377] Frontex also has an in-house testing facility: the Border Management Innovation Centre (BoMIC), 'a Frontex lab-space designed to strengthen the European research and innovation capacity in the field of border security by bringing together the European Border and Coast Guard (EBCG) community and key institutional, industrial and academic stakeholders'. Situated in its headquarters in Warsaw, BoMIC provides testing, simulation, demonstration, and accreditation possibilities.[378]

Frontex Research Grants Programme

In December 2022 Frontex launched its own Research Grants Programme for technological

research for border security and control. The programme is meant for small-scale projects conducted by non-profit research organisations and academic institutions, ranging from six to twelve months. The first call focused on 'novel technologies for border management', with a budget of €250,000 (up to €60,000 per project).[379] In December 2023 Frontex presented the four selected projects, all led by universities and higher education establishments.[380] Unsurprisingly, the projects focus on developing new tools to strengthen border-security and control capacities, including two that centre on the use of unmanned vehicles. While no grants were awarded in 2024, the call from spring 2025 asked for 'Novel Technologies for Futureproofing the EU External Borders".[381] At the end of October 2025, six new grant agreements were signed.[382]

Table 15: Frontex Research Grants Programme – projects with university participation (2023 and 2025)		
Project	**Frontex funding[383]**	**Description**
2023		
DMDLBVEC[384] (Developing the collecting and digitalising methodology of data from violations of the land border using unmanned aircraft systems, which can be used as evidence in court)	unknown[385]	'The project aims to demonstrate the use of unmanned aircrafts, equipped with multiple sensors, to collect data from scenes of land border violations, and to develop a novel methodology for data analysis that ensures its admissibility as evidence in court cases. Different aerial vehicles and sensors will be tested to gather data under various weather and light conditions in experiments simulating different scenarios of border violation. Data analysis will then be conducted with the aid of forensic methodologies.'
		Beneficiary
		Estonian Academy of Security Sciences · Estonia
SEMS4USV[386] (Smart energy management system for sustainable extended-range marine unmanned surface vehicles)	€ 54,973.60	'The project is focused on the development of a fossil-free Unmanned Marine Surface Vehicle (USV) [...] capable of extended (to unlimited) range. [...] [A] prototype of the novel USV will be experimentally tested under real river and sea conditions to demonstrate its viability for maritime border surveillance missions.'
		Beneficiaries
		Escola Superior Náutica Infante D. Henrique · Portugal
		Instituto Superior Técnico, Universidad de Lisboa · Portugal
SWEETIDS[387] (Sweet spot ID documentation system)	unknown	'The project aims to introduces a novel cost-effective, reliable, and easy-to-operate device for travel document checks that uses multiple light sources [...] to acquire a series of images of the most vulnerable security features ('sweet spots') on travel documents. [...] It will constitute a basis for further development into an industrial-grade product capable of responding to the needs of the European Border and Coast Guard community for optical travel document checks.'
		Beneficiary
		CAMPUS 02 Fachhochschule der Wirtschaft · Austria

TUTELARY[388] (Coastal surveillance system exploiting photonics-based radar security)	€ 59,845.50	'The TUTELARY project aims to develop a coastal surveillance system based on a coherent photonic radar and – thanks to the use of novel, coherent signal processing techniques – to offer high-performance target detection, tracking, and imaging, thus enhancing coastal security.'
		Beneficiary
		Consorzio Nazionale Interuniversitario per le Telecomunicazioni / Italy
2025		
BSENSED[389] (Digital twin from multi-sensor data for enhanced border surveillance and situational awareness)	unknown	"The project proposes a framework for a digital twin from multi-sensor data for enhanced border surveillance and situational awareness. …. The BSENSED platform will allow updated mapping of the border area under surveillance, with immediate detection and localisation of people and vehicles."
		Beneficiary
		Instituto Superior Técnico (University of Lisbon) / Portugal
CANOPER-1[390] (Identifying human-made objects under the forest canopy with drone borne LiDAR data)	unknown	"The CANOPER-1 project aims to develop a technology to detect human-made objects, like vehicles and tents, hidden under forest canopies using UAV-borne LiDAR data and artificial intelligence."
		Beneficiary
		Universidad Pública de Navarra[391] / Spain
IS4ASV[392] (Intelligent Surveillance for Autonomous Unmanned Marine Surface Vehicle)	€ 59,711,36[393]	"The iS4ASV project aims to develop a small-scale electric autonomous unmanned surface vehicle (AUSV) for border surveillance missions with intelligent automated detection and guidance capabilities."
		Beneficiaries
		Escola Superior Náutica Infante D. Henrique / Portugal
		Instituto Superior Técnico (University of Lisbon) / Portugal
MANTLE[394] (Multistatic MIMO radar basedon radio-over-fibre technology for drone detection)	€ 59,759.98[395]	"The MANTLE project aims to develop a photonics-enabled multistatic MIMO (multi-input-multi-output) radar system using radio-over-fibre technology for detecting flying drones. It focuses on creating a prototype capable of improved sensitivity, flexibility, and spatial resolution, which can detect flying drones in sensitive environments like ports and airports."
		Beneficiary
		Consorzio Nazionale Interuniversitario per le Telecomunicazioni / Italy

Contracting universities

Frontex's Research and Innovation Unit "continuously seeks to engage" with research partners in developing new border security technological applications.[396] According to Frontex, "[p]ooling the research capabilities of non-profit research organisations and academia is essential in developing technologies", which is why it occasionally contracts universities for specific projects or to outsource certain tasks. Under a framework contract running from 2019 to 2021, the agency paid the Italian Sant'Anna School of Advanced Studies €148,000 for the provision of 'Hostile Environment Awareness Trainings (HEAT)'.[397] Athens University of Economics and Business (Greece), Florida Atlantic University (USA) and Maastricht University (Netherlands) also feature on its list of training course providers.[398]

The University of Physical Education in Warsaw (Poland) received a total of €222,805 for two contracts (2020–21) for the provision of 'physical aptitude testing' for candidates for Frontex's Standing Corps.[399] A €4 million contract awarded in 2021 to the Polytechnic University of Turin and two partners for the production of high-quality cartographic and infographic maps drew strong criticism from faculty and students, beginning with an open letter from Professor Michele Lancione.[400]

Sometimes universities play more of a backstage role, for example by advising on studies commissioned by the Frontex Research and Innovation Unit.[401] For the 2011 study 'Futures of Borders' which examined the use of forecasting tools to estimate future migrant numbers and characteristics for border security and control, the University of Southampton (UK) and the Ben Gurion University (Israel) provided input to Liron Systems, which conducted the research.[402] Liron Systems presents itself as an inactive Israeli consulting company led by Gil Ad Ariely, a former colonel in the IDF and now a researcher at Reichman University in Israel. He was also a speaker at the European Day of Border Guards in 2014, an annual event organised by Frontex.[403] One of the co-authors of the report was Jakub Bijak of the University of Southampton, who later went on to coordinate the QuantMig Horizon 2020 project (see chapter 2)

A few years before the start of the iBorderCtrl Horizon-2020 project Frontex had already tested the use of the 'Automated Virtual Agent for Truth Assessments in Real-time' (AVATAR) system, developed by the Borders project at the University of Arizona.[404] AVATAR is a screening system 'designed to flag suspicious or anomalous behavior that warrants further investigation by a trained human agent in the field'.[405] The US Department of Homeland Security also funded development and border testing, but ultimately dropped the project because the system did not operate quickly enough.[406]

While the involvement of Frontex in AVATAR seems to have stopped after tests between 2012 and 2014, the possible use of AI for border security and control remains on the agency's agenda. In the report 'Artificial Intelligence-based capabilities for the European Border and Coast Guard' (2021) by the think-tank RAND Europe, the Kozminski University (Poland), Rey Juan Carlos University (Spain) and Tel Aviv University (Israel) were thanked for their support. The report argues for more use of AI for border security, with Frontex taking a leading and coordinating role and universities playing 'a crucial role in providing the knowledge and evidence base for AI development as well as adoption'.[407] In general, the use of AI for border security has been heavily criticized from a human rights perspective, including on issues such as privacy, discrimination, non-refoulement and increasingly dangerous journeys. Petra Molnar (Associate Director of the Refugee Law Lab at York University) also highlights the part universities play in this dynamic: "Academia has a big role to play here in legitimizing the way

that technology is developed. […] Projects like [iBorderCtrl] are extremely inappropriate and discriminatory – nor does it even work. What these partnerships also highlight, however, is this hubris of academia thinking that we are the experts, and then using that framing to legitimize these extremely problematic projects."[408]

In March 2024 the Brussels Privacy Hub, a research centre at the Vrije Universiteit Brussel (Belgium), provided a two-day 'Training on Fundamental Rights Impact Assessments in the AI Act' to Frontex Fundamental Rights Monitors.[409] While the training may not in itself be problematic, it nevertheless reinforces the misconception that Frontex has a functioning fundamental rights control and accountability mechanism. In reality, the role of its fundamental rights office is limited to monitoring and advising the Executive Director, who holds the sole decision power on the issues concerned.[410]

Finally, in another field of work, Frontex consulted the Niederrhein University of Applied Sciences (Germany) and Aalto University (Finland) about 'European uniform concepts' when preparing a 2020 document on the design and specifications for the uniforms for its Standing Corps.[411]

Meetings with universities

For the *Frontex Files,* researchers from 'Frag den Staat' analysed documents obtained through an access-to-documents request relating to 16 Frontex meetings with industry representatives between 2017 and 2019.[412] They found that 138 private entities participated in these meetings, including representatives from 13 universities.

Table 16: Participation of universities and high schools in Frontex meetings with industry (2017–2019)			
Name	**Country**	**Meeting**	**Date**
Vrije Universiteit Brussel Brussels (VUB)	Belgium	Workshop on EU-funded border-security research projects	14 June 2018
University of Antwerp	Belgium	Workshop on EU-funded border-security research projects	27 June 2019
Braunschweig University of Technology	Germany	Workshop on EU-funded border-security research projects	26 June 2019
Hochschule Darmstadt	Germany	International Conference on Biometrics for Borders	9–10 October 2019
Otto von Guericke University Magdeburg	Germany	International Conference on Biometrics for Borders	9–10 October 2019
Università di Bologna	Italy	International Conference on Biometrics for Borders	9–10 October 2019
Norwegian University of Science and Technology (NTNU)	Norway	International Conference on Biometrics for Borders	9–10 October 2019
Maritime University of Szczecin	Poland	Workshop on EU funded border security research projects	27 June 2019
Wojskowa Akademia Techniczna	Poland	International Conference on Biometrics for Borders	9–10 October 2019
Universidad de Alcala	Spain	Workshop on EU-funded border-security research projects	26 June 2019
Queen Mary University of London	UK	Workshop on EU-funded border-security research projects	14 June 2018
University of Reading	UK	Workshop on EU-funded border-security research projects	26 June 2019
University of Strathclyde	UK	International Conference on Biometrics for Borders	9–10 October 2019

The publication led to some unrest at several of the universities involved, particularly in Germany. In its response to an open letter from the Allgemeiner Studierendenausschuss at the Hochschule (AStA; General Students' Committee) and Seebrücke Darmstadt,[413] Hochschule Darmstadt acknowledged that the allegations of illegal deportations against Frontex are indeed alarming. However, it failed to take responsibility for its own actions arguing that it cannot take political positions and invoking academic freedom, independency and trust in the personal responsibility of the scientists concerned, including Professor Christoph Busch, to defend their participation in the biometrics conference.[414]

Shortly after the *Frontex Files* were published, Braunschweig University issued a statement saying that it 'does not currently cooperate, nor has it cooperated in the past, with Frontex'. It nevertheless was required to present a Horizon 2020-project (Alfa) in which it participated to Frontex, as the agency was a potential end-user of the project.[415]

Frontex's own Transparency Register, which was set up in May 2021, lists no meetings with university representatives as of mid-June 2025.[416] However, because of the narrow scope of the register ('all meetings and contacts of the Executive Director, Deputy Executive Directors and Heads of Divisions in matters concerning procurement procedures and tenders for services, equipment or outsourced projects and studies'[417]) this gives a false sense of transparency, listing only 23 meetings in the over two years since its inception. It does not, for example, include the regular meetings with industry or those regarding research projects in which several universities participated, as they do not concern specific tenders or procurement procedures.

Joint Master's in Strategic Border Management

In 2012 Frontex started to develop a common higher education study programme for mid- and high-level border guards, in cooperation with a group of universities from several EU member states.[418] In 2015 six higher education institutions – Netherlands Defence Academy, Faculty of Military Science in Breda (the Netherlands), Estonian Academy of Security Sciences in Tallinn (Estonia), Rezekne Academy of Technologies in Rezekne (Latvia), Mykolas Romeris University in Vilnius (Lithuania), National University for Distance-Learning Education in Madrid and University of Salamanca in Salamanca (Spain) signed a consortium agreement with Frontex.[419]

In the autumn of that same year, the Joint Master's in Strategic Border Management was launched. Following an 18-month programme for people already working at and nominated by national border authorities, with courses provided by border guard professionals and academics, the first students were awarded their degrees – "a joint diploma signed by all the academic partners and recognised internationally as a master's degree" – in June 2017. For the assessment of dissertations groups of experts from 'partner border security organisations, [...] academic partners and external examiners' were called in, with professors from the Royal Military Academy (Belgium), Vytautas Magnus University (Lithuania), Fern University (Germany), Erasmus University of Rotterdam and Leiden University (The Netherlands), among others, as chairs.[420] In September 2019, the third class of 34 persons commenced its studies, after 46 students had graduated in the first two batches.[421]

After a prolonged process to conclude a new consortium agreement, a new cohort of the programme - starting in January 2026 - was announced in September 2025.[422] The consortium remains unchanged from the previous iteration, except that it no longer includes Spain's National University for Distance Education. According to Frontex, the Joint Master's,

for which students need security clearance from a national authority, is 'designed to enable mid- to high-level border guard managers across the EU to advance the practice and theory of European border management and to encourage further developments in the field', based on 'the strong demand for higher standards of education in the border management sector'. While the agency emphasises the inclusion of 'fundamental rights' in the curriculum,[423] this is limited to one course, making up only five of the 90 (or 60 without the dissertation) total study credits. The other courses address practical, technological, and strategic approaches to 'border management'.[424]

Partnership Academies network

From the outset Frontex has been working with Partnership Academies, 'support[ing] Frontex by hosting meetings and training activities and by promoting the share of expertise in education and training projects.'[425] According to former Executive Director Laitinen, by 2010 there were 11 Partnership Academies across the EU, providing training for all member states.[426] Since then, the network has continued to expand. In April 2021, in response to an Access to Documents request, Frontex provided a list of 38 Partnership Academies in 25 countries: all EU member states except Greece and Luxembourg, as well as Norway.

Table 17: Frontex Partnership Academies network (April 2021)[427]		
Country	**Location**	**Name**
Austria	Vienna	SIAK –Federal Police Academy (Sicherheitsakademie)
Belgium	Brussels	National Police Academy of Belgium
Bulgaria	Sofia	Academy of Ministry of the Interior of Bulgaria
Croatia	Zagreb	Police Academy, General Police Directorate, Ministry of the Interior
Cyprus	Nicosia	Cyprus Police Academy
Czech Republic	Prague	Police Education and Training Unit, Police of the Czech Republic,
Denmark	Brøndby	Danish National Police Academy
Estonia	Tallinn	Estonian Academy of Security Sciences
	Tallinn	Tallinn University of Technology Estonian Maritime Academy [TalTech]
Finland	Imatra	Border and Coast Guard Academy
France	Lyon	Ecole Nationale Supérieure de la Police (ENSP)
Germany	Lübeck	German Federal Police Academy
	Neustadt	German Federal Police Maritime Education and Training Centre (MaST)
Hungary	Budapest	National University of Public Service
	Szeged	Police Education and Training centre, Police Training Academy, Patrol Training Department of Szeged, Hungary
Italy	Cesena	State Police Training Centre - for the activities of Traffic Police, Railway Police, Immigration and Border Police, Postal and Communication Police
	Lido di Ostia	Scuola di Polizia Economico-Finanziaria, Guardia di Finanze
	Rome	Interagency Law-Enforcement College of Advanced Studies (Scuola di Perfezionamento per le Forze di Polizia
	Messina	Italian Coast Guard - Centro di formazione specialistica VTMIS ed attività operative del Comando generale del Corpo delle capitaneriedi porto – Guardia Costiera
Latvia	Rezekne	State Border Guard College
Lithuania	Vilnius	Mykolas Romeris University Academy of Public Security
	Medininkai	State Border Guard Service under the Ministry of Interior of the Republic of Lithuania

Malta	Valletta	University of Malta
Netherlands	Amsterdam (Apeldoorn)	Border Security Training Centre, Royal Netherlands Marechaussee
	Eindhoven	IDcentre
Norway	Oslo	The Norwegian Police University College
Poland	Gdynia	Polish Naval Academy
	Lubań	Border Guard Centre for Specialised Training in Luban
Portugal	Queluz	Escola da Guarda (School of the Guard) of the Portuguese Guarda Nacional Republicana
	Lisbon	Higher Institute of Police Sciences and Internal Security
	Barcarena	Immigration and Border Service (SEF)
Romania	Bucharest	"Alexandru Ioan Cuza" – Police Academy, Border Police Faculty, Border Police, Immigration, Passports and Schengen Training Department
	Bucharest	General Inpectorate of Romanian Border Police
Slovakia	Bratislava	Academy of the Police Force in Bratislava
Slovenia	Ljubljana Šmartno	Police Academy
Spain	Madrid	Guardia Civil Borders and Maritime Police Command
	Madrid	General Directorate of the Police, Training and Development Division
Sweden	Stockholm	Swedish Police Authority

As with some of the universities involved in the Joint Master's programme, most of the Partnership Academies are police, security or military academies. Their involvement may appear more self-evident than that of public universities, but it also illustrates the securitisation of migration and the militarisation of borders.

For a period, twice a year a Partnership Academy hosted an 'ED4BG on the road'-event to present topics related to border management. The European Border and Coast Guard Day (formerly called European Day for Border Guards) was organised every year from 2010 to 2019 to express 'appreciation and celebration of Europe's border-management authorities and their personnel', usually including university speakers.[428]

Border externalisation: training authoritarian regimes

In 2023 Frontex reported that the network of Partnership Academies has extended well beyond the EU. It now includes partners in Albania, Georgia and Ukraine, and 'is ready to expand further to other interested third countries'.[429] The network also played a role in Frontex's border-externalisation efforts as a location for workshops and study visits from border guard authorities from North Africa and the Middle East (MENA),[430] as part of Frontex's EU4BorderSecurity project (2018–2023).[431] This project aimed to strengthen border-security capacities in these regions and received €6.5 million from the European Neighbourhood Instrument.[432] In March 2020, for instance, border guards from Egypt, Jordan, Lebanon and Morocco made a study visit for 'dialogue and cooperation' to the Estonian Academy of Security Sciences.[433]

Under the EU4BorderSecurity project Frontex has also entered into cooperation with the Naif Arab University for Security Sciences (NAUSS), 'the academic body of the Arab Interior Ministers Council' in Riyadh, where it enjoys 'unlimited financial and moral support' from the Saudi royal family, one of the world's most authoritarian regimes.[434] Prince Abdulaziz bin Saud bin Naif bin Abdulaziz, Minister of Interior of Saudi Arabia, is the chairperson of the university's

governing body, the Supreme Council. This council also includes other representatives of repressive regimes in the region: Abdellatif Hammouchi (Director General of National Security and of Territorial Surveillance in Morocco), Major General Hani Abu Al-Makarem (Head of the Police Academy and assistant to Egypt's president Al-Sisi) and Major General Obaidallah Abd Rabbo Al-Maaytah (Director of Public Security in Jordan).[435] Hammouchi has been accused of complicity in the torture of detained activists and involvement in brutal police actions.[436]

Training of security forces in Arab countries is an important part of the university's programme, which is where Frontex has stepped in. Institutional contacts date back to at least 2020, at a time when Saudi Arabia was playing an active role in the Yemen War.[437] The first joint activity, a three-day workshop in Warsaw on document fraud for representatives from 11 Arab countries, took place in late 2022.[438] This was followed by a workshop on 'Combating terrorism and firearms smuggling' in Hammamet (Tunisia) in May 2023, co-organised with the Tunisian Ministry of Justice, the University of Tunis El Manar and the Portuguese Public Security Police.[439] A few days later a joint seminar on 'Integrated Border Management' was organised at the Arab Academy for Science, Technology and Maritime Support in El Alamein (Egypt), with participants from Libya and Sudan.[440]

NAUSS also has a longstanding cooperation with the IOM, based on an MoU signed in 2011 and 2019, which has led to numerous joint training and scientific activities.[441] In 2015, together with the University Hassan I Settat (Morocco), it organised a symposium in Rabat on irregular migration for Arab countries.[442] In July 2021 their workshop about the use of biometrics and traveller information to enhance border-security capacities brought together senior law-enforcement and security forces officials at the Police Academy in Cairo, including participants from Egypt, Sudan, Tunisia, Sudan and Yemen, with presentations from the Austrian Institute on Technology (AIT) and the Belgian government.[443] In December 2021 Dr Fahad Alharby, the university's Vice President for Scientific Research, held a presentation on 'Biometrics and its role in enhancing border security in Arab countries' at the Border Management and Identity Conference in Thailand, co-organised by the IOM.[444] Cooperating with the Metropolitan College in Greece, the IOM and NAUSS held a 'Workshop on "Document Fraud Detection at Border Crossings"' in September 2024, including a speaker from Frontex.[445] In July 2025, NAUSS and the IOM organised a Scientific Symposium on Integrated Border Management (IBM) in Jordan, in coordination with the country's Ministry of Interior. Frontex also attended.[446]

In 2022 the IOM and NAUSS agreed to establish an Arab Centre for Technical Cooperation on Migration and Border Management.[447] In May 2025 both entities signed a Letter of Intent to move forward with the second phase of the project (2025–29, $6 million budget) to "deepen institutional cooperation, scale up technical assistance, and enhance policy dialogue and capacity-building across the region". At the signing, Ugochi Daniels, the IOM's Deputy Director General for Operations, said: "This partnership with NAUSS and other key institutions in the Kingdom of Saudi Arabia is strategically important to IOM's global and regional mission. ACTC-MBM has already made a real difference in how migration and border management are addressed."[448]

With this work in cooperation with Frontex and the IOM, NAUSS plays a significant role in building up border-security and control capacities in the MENA region. This process is pushed by the EU and its member states who have granted the many repressive regimes in this region billions of euros to act as their border guard outposts with the aim of preventing migrants from even reaching the EU's borders and asking for asylum. In many cases this has been accompanied

by violence, racist abuse, pushbacks and other human rights violations.[449] Since the summer of 2022, the EU and/or individual member states have concluded new or extended existing border externalisation agreements with Egypt, Libya, Morocco and Tunisia. These agreements include hundreds of millions of euros in financial and equipment donations.[450]

NAUSS is most closely associated with the Saudi regime, including a cooperation agreement with the Directorate General for Border Guards.[451] In 2017 45 border guard graduates of NAUSS, to be deployed at Saudi's borders, received training in Germany from the German federal police.[452] Saudi Arabia enforces its own harsh migration policies, for example by systematically killing Ethiopian refugees at its border with Yemen.[453] In October 2022 several Special Rapporteurs and Working Groups of the United Nations raised alarm about this, reporting that 'Saudi security forces use sniper attacks of migrants in small groups, mortars or shelling of migrants in larger groups and shooting of migrants caught in Saudi territory', as well as reporting allegations of systematic torture and sexual abuse.[454]

The expansion of Frontex's mandate, budget and organisation, in particular since 2015, has broadened its possibilities for cooperation with universities, for example via research grants. This has contributed to the militarisation and securitisation of border studies and broadened Frontex's influence on the academic sector. The next chapter examines how universities attempt to move beyond government funding by commercializing innovations - often the result of government-funded research - and entering the market through spin-offs.

Bringing research to the market: university spin-offs selling heartbeat and "lie detectors"

A less transparent way in which universities are involved in border-security and control work is via spin-off companies. Such companies are often established to commercialise knowledge, products or technologies developed at a university. Researchers involved in that development frequently set up and lead them, supported by, and sometimes based, at the same university. The creation of spin-offs has become increasingly common as higher education becomes more commercialised. It raises questions about conflicts of interests, the prioritisation of economic considerations above academic research, the erosion of scientific objectivity, and the risk of reputational damage.[455]

iBorderCtrl

The latter could certainly be the case for Manchester Metropolitan University (MMU, UK), one of the leading participants in iBorderCtrl, one of the most controversial Horizon 2020 projects, which ran from 2016 to 2019. A key feature of the algorithm-based 'Intelligent Portable Border Control System' it sought to develop was the use of an AI-based 'lie detector'.[456] A spin-off company called *Silent Talker* – described as 'a pioneering adaptive psychological profiling system which was developed by the UK's leading experts in Behavioural Neuroscience and Artificial Intelligence'[457] – was established in 2015 and dissolved in 2022. [458] The company was led by Dr Zuhair Bandar, Dr James O'Shea and Dr Keeley A. Crockett, all tenured at MMU.

The European Commission presented iBorderCtrl as a success even before it entered the testing phase at the borders of Hungary, Greece and Latvia[459]: '[T]ravellers will use […] a webcam to answer questions from a computer-animated border guard, personalised to the traveller's gender, ethnicity and language. The unique approach to "deception detection" analyses the micro-gestures of travellers to figure out if the interviewee is lying'.[460] The project promised quicker and cheaper border crossings by enabling border guards to determine who required more detailed checks, based on the system's 'lie detector'.

The project—particularly its 'lie detector'—faced severe criticism from other academics and experts, as well as from NGOs and activists. Ray Bull, Professor of Criminal Investigation at the University of Derby, who specialises in methods of detecting deception, deemed iBorderCtrl 'not credible' and said that 'the technology is based on a fundamental misunderstanding of what humans do when being truthful and deceptive'.[461] According to Dr Vera Wilde, political scientist at Hertie School Berlin, '[l]ie detection doesn't exist, because there is no unique lie response to detect'.[462] It was especially the assumption that facial micro-expressions can be used to detect deception – lying – that other scientists disputed,[463] calling the whole system 'pseudoscientific' and also pointing to poor accuracy rates and the risk of false positives.[464] Other academics, privacy experts and campaigners were concerned about the intrusiveness of lie-detectors as well as bias and potential discrimination, further marginalising non-white individuals, asylum seekers, women and LGBTQ+ persons.[465] Indeed the researchers' own article reported that testing showed greater accuracy for European men, which the system was trained on, than for women and non-European individuals.[466]

Sánchez-Monedero and Dencik from Cardiff University and the Data Justice Lab concluded that the mass screenings foreseen in using the technology developed in the iBorderCtrl project, taking into account its statistical limitations, have 'significant implications for the rights of people, especially marginalised groups and vulnerable populations that are often least able to challenge such systems'. Such screenings are part of the 'politics of constructing problems and selling solutions in the context of a perceived security crisis'.[467] The MMU researchers failed to assimilate the many concerns about the functioning of the system. According to Silent Talker's co-director James O'Shea, they 'don't know how it works. The AI system learned how to do it by itself'.[468]

After the project ended, the consortium was reticent about iBorderCtrl, instead emphasising its purely research-oriented character.[469] It even acknowledged that 'some technologies are not covered by the existing legal framework, meaning that they could not be implemented without a democratic political decision establishing a legal basis' and admitted that 'the automatic deception detection system (ADDS), which relies on AI, poses various risks with regard to fundamental rights'.[470]

Unlike most other projects, much of the work, including on ethical issues, remain confidential.[471] A request for access to documents submitted by German jurist and MEP Patrick Breyer was refused. The European Commission's lawyer argued that 'democratic control of research funding is not necessary' and that disclosure would harm the commercial interests and reputation of the consortium partners.[472] The MMU itself also cited 'commercial interests' as one of the reasons to deny another freedom of information request for the project's ethics reports.[473]

This consortium position stands in sharp contrast to the way those who were directly involved in the project aggressively promoted the technology they had developed. Initially MMU was seeking commercial partners to turn *Silent Talker* into a fully-fledged product,[474] but later the developers launched their own company. Bandar, Crockett and O'Shea were shareholders, along with Keith Ashcroft and Zaid Noori[475], then Iraq's Consul General in the UK (and later Ambassador)[476]. Ashcroft, a renowned psychologist and forensic investigator, had previously criticised lie detection as unethical and as contributing to a climate of erosion of civil liberties,[477] but exempted Silent Talker from his criticism and Zaid Noori, then Iraq's Consul General (and later Ambassador) in the UK.

From the outset, MMU researchers described the technology in numerous newspaper articles as the most accurate and sophisticated lie detector available, claiming it was 'producing superior results'.[478] The MMU itself backed such claims, claiming that the technology 'could transform the future of international border security'.[479] According to a researcher involved in the project's early start-up phase in the early 2000s, Zuhair Bandar had always been 'keen to have a commercial product', and he and other Silent Talk executives dismissed criticism of the technology and pushed ethical concerns aside.[480] It is therefore striking that one of them, Keeley Crockett, who made the highly contested claim that *Silent Talker* technology is able to 'say for a particular question whether someone's lying or not'[481] later became chair of both the Task Force on Ethical and Social Implications of Computational Intelligence and the Technical Committee on Ethical, Legal, Social, Environmental and Human Dimensions of AI/CI at the Institute of Electrical and Electronics Engineers (IEEE), the world's most important professional organisation in its field.[482]

Despite claims about the great interest in *Silent Talker* the company was dissolved in 2022, and there have been no subsequent updates on the technology. This suggests that it failed to gain traction commercially and did not deliver scientifically.[483] It clearly did not meet the researchers' prediction that the 'research and technology developed in the heart of Manchester could revolutionise the future of travel and international security' and would rake in millions for the university and themselves.[484] That the project in the end turned out unsuccessful doesn't diminish the fact that it sets an alarming precedent: it proofs that the EU is willing to fund the development of technologies that clearly violate its own standards.

The failure of iBorderCtrl however did not usher in the end of the EU's interest in the use of lie detectors at border crossings. The Horizon 2020 project, 'robusT Risk basEd Screening and alert System for PASSengers and luggage' (TRESSPASS), with the Albert-Ludwigs-Universitaet Freiburg (Germany), the National University of Ireland Maynooth and the Wojskowa Akademia Techniczna Im.Jaroslawa Dabrowskiego (Poland) among its consortium partners, investigated their possible use 'to help specifically trained border guards to more quickly and accurately assess the sincerity of the traveler [sic] and his statements'.[485] InTRESSPASS, lie detection formed part of a larger risk-assessment framework that also includes real-time behavioural analysis via video surveillance and a pre-entry query of open sources on the internet, including social media,[486] which also raises ethical objections in terms of privacy and possible discrimination.[487]

ClanTect

A more successful example of a spin-off is another British company called ClanTect, which provides heartbeat detectors for border checks to Frontex under a four-year €400,000 framework contract concluded in 2019.[488] Founded in 2016 as a university-supported start-up, ClanTect is housed at the University of Southampton (UK), which 'maintains an active partnership and shareholding'.[489] The company produces several systems to detect 'hidden human presence in vehicles', and its clients include the UK Border Force and Prison Service as well as the Polish Border Guard.[490] The system is used in Calais among other places.[491] In 2021 Clantect teamed up with UAE-based security company ePm to target the market in that country.[492] According to the company, '[t]ens of thousands of clandestines and fugitives are detected by ClanTect systems each year'.[493] Its website and other publications show that ClanTect is well aware of the plight of millions of refugees and the wars, repression and economic circumstances driving their displacement but nevertheless promotes its technologies as a 'a key component in maintaining the integrity of Europe's borders' against 'the threat of illegal and clandestine entry', aggravated by 'the desperation, determination and ingenuity of the hidden clandestines'.[494]

A report by the UK's Independent Chief Inspector of Borders and Immigration shed some light on the actual workings of ClanTect at Calais and Coquelles, where Border Officers said the system was '"very hit and miss", as its effectiveness was impacted by the weather and by the type of load in the vehicle', and was "prone to malfunctions". It was however still seen as a "a useful tool in the layered approach to deterrence and detection", having detected almost 2,000 "clandestine entry attempts" between January 2022 and November 2024.[495]

ClanTect is led by Steve Daley, Professor of Industrial Active Control at the Institute of Sound and Vibration Research and Director of the BAE Systems Centre for Research in Active Control (CRAC), which is part of the university's same institute.[496] The close connections between Daley, the institute and the military and security industry also become apparent from this

institutional cooperation with BAE Systems, the UK's largest arms-producing company. CRAC was initially established at the University of Sheffield in 2008, and received €2.5 million from BAE Systems during its first five years of existence.[497] In 2010, BAE Systems signed a five-year Memorandum of Understanding with the University of Southampton on 'reciprocal secondments between the company and University staff, industrial placements for Master's students and long-term collaborative research', worth at least £1.25 million.[498] In parallel, the university prides itself on its strong links with industry, including other arms companies such as Airbus and Rolls Royce.[499]

ClanTect maintains close ties with the University of Southampton. The co-founder and co-director Dr Ilias Zazas works together with Daley at the university's Institute of Sound and Vibration Research, and between 2017 and 2019 the University's then director of Innovation and Entrepreneurism, Don Spalinger, was also director of ClanTect. Daley, Zazas and University of Southampton Holdings Ltd. each hold a third of the shares in the company. ClanTect has no paid employees, so they undertake this as part of their university role.[500]

Heat detection and facial recognition

Sequestim, a joint venture between Cardiff University (UK) and QMC Instruments, itself a spin-off from Queen Mary University of London and now based at Cardiff University,[501] launched in 2016. It commercialises university-developed cameras, based on tetrahertz-imaging technology, for airport security screening.[502] One of its applications is heat detection of people hidden in freight trucks. 'Our truck scanning solution is entirely new to the world and will be a great help in the fight against people smuggling and illegal immigration', said CEO Paul Simmons in 2019.[503]

Mobai is a spin-off biometrics company from the Norwegian University of Science and Technology (NTNU), established to commercialise technology developed at the Norwegian Biometrics laboratory, in particular a facial-recognition system, for example to counter identity fraud.[504] Its main client is the banking industry, but Mobai was also awarded a multi-million euro contract by eu-LISA, the EU agency that manages several large-scale (biometrics) identity databases, to 'generate representative artificial data for fingerprints and facial images, and the provisioning of biometric data quality requirements for the curation of test datasets' for the Entry-Exit System (EES)[505] that will eventually apply across all EU external borders.[506] In October 2019 Mobai was a panellist and exhibitor at the International Conference on Biometrics for Borders in Warsaw which was organised by Frontex.[507] Together with several universities the company also acted as a consortium partner for the Horizon 2020 project iMARS (see chapter 1).[508] 'We work with all the relevant universities in the world and have close ties to NTNU […]. The close collaboration between academia and industry here distinguishes us from many other start-ups', said CEO Brage Strand, who attended the NTNU.[509]

The cases of iBorderCtrl and ClanTect show that universities sometimes not merely cooperate with the military and security industry; they sometimes seek to become actors within them, despite the human-rights implications at stake.

National and international context

This report focuses primarily on how universities contribute to EU border and migration policies. Many European universities also operate in this field at the national level, both within and beyond the EU. Some examples have already been noted in connection with EU projects and participating universities, but the practice is widespread.

The Estonian University of Tartu, for example, has a long-standing collaboration with the national Police and Border Guard, with which they signed a cooperation agreement in 2014 on issues such as research, education and training.[510] In 2023 they organised several collaboration exercises in the centre of Tartu, also including the Rescue Board, Tartu Ambulance and the local government.[511]

Another example is the research cooperation between the Technische Universität (TU) Graz (Austria) and the Austrian Interior Ministry on the use of drones for border security. According to Harald Kainz, Rector of TU Graz, the partnership 'offers the opportunity to test our research results on practice-relevant problems and to contribute to the benefit of society and its security needs'.[512]

In the UK the campaign group Unis Resist Border Controls targets the role universities take in implementing border controls on international students and staff, including such measures as regular passport controls or the obligation to report their whereabouts on a daily basis.[513] According to their member Sanaz Raji, '[n]on-EU staff and students find themselves perpetually precarious because of the xenophobic atmosphere that shrouds immigration policy in this country'.[514] One of its consequences is limiting (political) participation for those affected, for examples in strikes, described by Bagelman and Cinnamon as 'a political product of surveillance strategies that create a sense of precarity to both shape and prevent certain activities'.[515]

In the UK, academics also joined industry representatives in the Border Vision Advisory Group (BVAG), which the then Conservative government established in 2021 to give advice on its '2025 UK Border Strategy', with an explicit focus on 'combatting illegal migration'. The strategy aimed to foster cooperation between government and industry, including 'build[ing] the capability of […] the border industry responsible for delivering border processes, particularly in an environment of greater automation'. In this context BVAG was meant 'to work closely with academic and industry experts to drive theoretical research into cutting edge border solutions'.[516] Richard Gutsell at the defence and security consultancy company Atkins, a member of the group, commented: 'From drone surveillance and biometric security to data analytics and scenario planning, the Border Vision Advisory Group is an opportunity to contribute our global, cross-industry expertise to help shape the future of our borders'.[517]

According to corporate member SITA, an IT company from the air transport industry, the now seemingly defunct group had around 20 members from industry and academia.[518] While the list of individual BVAG members remains confidential, some have nevertheless been publicly announced. For instance, Christian Kaunert, Professor of Policing and Security at the University of South Wales who had previous been critical of the EU's securitisation approach towards migration[519] was keen to contribute to the UK's border regime when asked to co-chair the BVAG, seeing this as providing opportunities for students to get 'important jobs in the security industry [or] civil service (such as the Home Office or the Border Force)'. According to him, they would be able to benefit from 'real life practical application experience of theoretical and

original research on securing the UK border and for controlling migration' and 'from significant experience acquired through research exchange on enhancing border security, increasing the use of innovative technology and developing new ways of working with industry which will help shape the border of the future'.[520]

University involvement in border security and control is not limited to Europe. Other parts of the Global North, such as the United States, Israel and Australia, have developed similar policies and infrastructures, in which universities play roles in research, advise, training, data collection and processing and recruitment.[521]

Meanwhile, the world—and Europe in particular—faces rising geopolitical tensions and rapid militarisation, marked by escalating military spending and calls for societies as a whole to contribute to preparations for war. Universities are not exempt. Policymakers increasingly steer them towards military-relevant research and push them to intensify cooperation with armed forces and the military and security industry.[522] These expectations extend across the academia, from STEM fields to the social sciences. This strengthening of ties is also likely to draw universities further into border security and control.

Conclusion

In recent years universities all over Europe have faced criticism and protest actions in response to their ties to the fossil fuel industry and to Israel's genocidal war machine. These protests have highlighted the extent to which universities are deeply entrenched in violent and repressive systems, providing research, data and advise to keep them running, refine and expand them. The need to secure external funding is often one of the drivers to participate in such work in the first place, especially in times where many governments impose significant cuts to higher education and research budgets.

This report shows that universities are similarly deeply involved in Europe's repressive border and migration policies in multiple ways. They receive research and innovation funding from the EU's Framework Programmes and a range of other EU instruments; strengthen their ties with border authorities, including Frontex, and with the military and security industry; contribute to the EU's border externalisation efforts; and sometimes seek to commercialise academic work through the market.

As such **universities play a significant, if often obscured, role in the development, perpetuation and expansion of Fortress Europe:** the EU's tunnel vision approach of stopping people on the move through an ever-expanding infrastructure of militarised and smart borders; detention and deportation capacities; the denial of rights and support; and the (forced) enlistment of non-EU-countries as outpost border guards.

Shortly after US president Eisenhower gave his infamous warning about the rise and influence of the military-industrial complex in 1961[523], some experts were already identifying universities as a third pillar in a 'military-industrial-academic complex'. In line with this, it is arguable that a border-industrial-academic complex has developed over the last few decades. Universities play an indispensable role in this system as they provide some its essential elements – research, analytics, data, new technologies – as well as an illusion of scientific legitimacy to what are in their core fundamentally unethical policies and practices. Sometimes universities take this as far as willingly involving themselves in legally dubious research and fieldwork, as shown by some of the more controversial case studies in this report.

There multiple drivers that leads universities and individual academics to engage in this way. Many adopt a relatively naïve position, hoping to contribute to better, more evidence-based and humane policies. In practice, however, authorities and companies often treat research instrumentally and simply look for aspects that confirm their own visions and help to refine their policies and practices, while ignoring criticism and results that don't fit their narrative. On top of that, money is often the deciding factor. Universities, and individual researchers, depend on external funding to sustain themselves.

The outlook is bleak. The current wave of militarisation across Europe promotes a whole-of-society approach, mobilising universities to intensify their ties with armed forces and the military and security industry. Meanwhile, authorities seek to bridge the 'gap' between academic research and policy-making: academic work should as much as possible be directly applicable in practice. This trend narrows research agendas (and outcomes), sidelines academic dissent and risks reducing academics to pawns in the game.

To break this downward spiral, universities and academics should refuse to play this role and defend academic independency and integrity. Many people within universities produce fundamental and critical research that could pave the way for political change away from the EU's untenable, violent and escalating border and migration policies. Students and faculty therefore have an important role in pushing universities to take action against their involvement in the border-industrial-academic complex that continuously expands and raises the walls of Fortress Europe.

Annex

Border security and control projects with participation of higher education establishments

(Framework Programme 6 – Horizon Europe)

Framework Programme 6 (2006)		
3D FACE	HUMBOLDT	LIMES
CLANDESTINO	IDEA	TANGO
GMOSS		

Framework Programme 7 (2007–2013)		
ABC4EU	FASTPASS	SECTRONIC
ACXIS	FIDELITY	SIMTISYS
AEROCEPTOR	GMOSAIC	SNIFFER
AIRBEAM	HANDHOLD	SNIFFLES
AMASS	I2C	SNOOPY
ARGUS 3D	INGRESS	SUNNY
BEAT	LOBOS	SUPPORT
CASSANDRA	MOBILEPASS	TALOS
CONSORTIS	NEREIDS	TERASCREEN
DOGGIES	ORIGINS	VIRTUOSO
DOLPHIN	PERSEUS	WIMAAS
EFFISEC	SEABILLA	XP-DITE
EU CISE 2020		

Horizon 2020 (2014–2020)		
AI-ARC	FOLDOUT	PEN-CP
ANDROMEDA	FUME	PERCEPTIONS
ARESIBO	Governmigration	PERSONA
ARIES	HumMingBird	PROFILE
BODEGA	iBorderCtrl	PROMENADE
BorderSens	ILEAnet	PROTECT
BorderUAS	iMARS	QuantMig
C-BORD	ISOLA	RANGER
CAMELOT	ITFLOWS	RefBORDER
CEASEVAL	MARISA	ROBORDER
CRiTERIA	MEDEA	SafeShore
CROSS-MIGRATION	METICOS	SilentBorder
D4FLY	MIGNEX	SMILE
eBORDER	MIRROR	spyGLASS
EFFECTOR	MULTISCAN 3D	TARGET
ENTRANCE	NESTOR	TRESSPASS
EU-HYBNET	NOTIONES	

Horizon Europe (2021–May 2025)		
AI4COPSEC	EURMARS	PopEye
AspirE	INNOVATE	SafeTravellers
CarMen	MELCHIOR	SEAGUARD
CONNECTOR	MIrreM	TRACHMED
DYNAMIG	PACES	VANGUARD
EINSTEIN		

Endnotes

1   De Genova, Nicholas. 2025. 'We Are All "Illegal" Now: Border Despotism, Authoritarianism, Civil War'. Portolan. https://portolan-journal.org/?post=we-are-all-illegal-now-border-despotism-authoritarianism-civil-war

2   Said, Edward W. 1994. Culture and Imperialism. Reprint. New York: Vintage books.

3   See Lancione, Michele. 2023. For a Liberatory Politics of Home. Duke University Press. Also, the latest from Mezzadra and Neilson offers a vivid discussion of the transnational political economies involved in the construction and maintenance of these alterities in global racial capitalism: Mezzadra, Sandro, and Brett Neilson. 2024. The Rest and the West: Capital and Power in a Multipolar World. Verso.

4   The constitution of Leonardo's Med-Or foundation is exemplary in this sense. This is a Foundation, as per their website, "seeking to combine the skills and capabilities of industry and academia for the development of geo-economic and socio-cultural partnerships" with a specific geopolitical focus on " countries in the Med-Or area, which spans the Mediterranean, the Sahel, the Horn of Africa, the Red Sea, as well as the Near and Far East and South America." On its board and scientific committee sit dozens of Italian University Chancellors and various academics. Given that Leonardo's mandate is to sell weaponry, it's easy to conclude what kind of geo-economic partnerships Med-Or is there to establish. See: https://www.med-or.org/en/the-foundation

5   https://www.leonardo.com/it/focus-detail/-/detail/citta-aerospazio-di-torino-decolla-il-progetto

6   Mezzadra, Sandro, and Brett Neilson. 2019. The Politics of Operations: Excavating Contemporary Capitalism. Duke University Press Books.

7   Corgnier, Giulia, Michele Lancione, Patrícia Nunes Gomes, and Devra Waldman. n.d. 'Frontex and the University: Positivist Dissonance and the Institutionalisation of Border Violence through Research'. Antipode. The paper is available open-access here: https://doi.org/10.1111/anti.70090.

8   Bhambra, Gurminder K, Dalia Gebrial, and Kerem Nişancıoğlu, eds. 2018. De-Colonising the University. Pluto Press.

9   Here, I am referring to a process of subjectification in which capitalism intersects with and arranges forms of intimate and social desire to serve needs transcending the benefit of the individual; see Deleuze, Gilles, and F. Guattari. 1977. Anti-Oedipus. Capitalism and Schizophrenia. Penguin Books.

10   Albanese, Francesca. 2025. From Economy of Occupation to Economy of Genocide. United Nations. (Page 6)

11   Wind, Maya. 2024. Towers of Ivory and Steel: How Israeli Universities Deny Palestinian Freedom. Verso Books.

12   For more info, see https://www.michelelancione.eu/blog/2025/07/03/police-infiltrating-student-organisation-in-italy-an-appeal/

13   In relation to the topics discussed in this report, see Roy, Ananya, Veronika Zablotsky, Leisy J. Abrego, Gaye Theresa Johnson, and Maite Zubiaurre. 2025. Beyond Sanctuary: The Humanism of a World in Motion. Duke University Press

14   This is, for instance, precisely what happened with the Frontex agreement in my Department at the Polytechnic of Turin.

15   ∫connessioni precarie. 2025. Nella Terza guerra mondiale. Un lessico politico per le lotte del presente. DeriveApprodi.

16   De Genova, Nicholas. 2025. 'We Are All "Illegal" Now: Border Despotism, Authoritarianism, Civil War'. Portolan. https://portolan-journal.org/?post=we-are-all-illegal-now-border-despotism-authoritarianism-civil-war

17   Group of Personalities in the field of Security Research (2004) 'Research for a Secure Europe'. Available at: https://op.europa.eu/en/publication detail/-/publication/deb0efd2-89c9-4404-8881-8439a708db90

18   Hayes, B. (April 2006) 'Arming Big Brother: The EU's Security Research Programme'. TNI/Statewatch. Available at: https://www.tni.org/files/download/bigbrother_0.pdf; Hayes, B. (June 2009) 'NeoConOpticon: The EU Security-Industrial Complex'. TNI/Statewatch. Available at: https://www.tni.org/files/download/neoconopticon_0.pdf

19   https://eur-lex.europa.eu/eli/reg/2021/695/oj/eng

20   See the annex for a complete overview; an exact number is not known because for projects under Framework Programme 6 the EU contribution by beneficiary has not been published.

21   Akkerman, M., Brunet, P., Feinstein, A, et al. (March 2022) 'Fanning the Flames: How the European Union is fuelling a new arms race'. ENAAT/Stop Wapenhandel/TNI. Available at: https://enaat.org/wp-content/uploads/2022/03/FanningtheFlames.pdf

22   European Commission (7 September 2023) 'EU-UK relations: Commission and UK reach political agreement on UK participation in Horizon Europe and Copernicus'. Press release. Available at: https://ec.europa.eu/commission/presscorner/detail/en/ip_23_4374

23   Includes one project under Framework Programme 6 for which the EU's contribution per beneficiary is unknown.

24   Laurea (11 February 2021) 'Laurea is closely involved in European research projects'. Available at: https://www.laurea.fi/en/current-topics/news/laurea-is-closely-involved-in-european-research-projects/

25   https://dashboard.tech.ec.europa.eu/qs_digit_dashboard_mt/public/sense/app/dc5f6f40-c9de-4c40-8648-015d6ff21342/sheet/3bcd6df0-d32a-4593-b4fa-0f9529c8ffb0/state/analysis

26   https://dashboard.tech.ec.europa.eu/qs_digit_dashboard_mt/public/sense/app/dc5f6f40-c9de-4c40-8648-015d6ff21342/sheet/bd74d193-03ef-418b-b9f1-2000691598a9/state/analysis

27   https://www.eos-eu.com/border-security

28   https://www.linkedin.com/in/isto-mattila-343489aa/

29   Source: project factsheets at https://cordis.europa.eu/

30   Laurea University of Applied Sciences (5 February 2020) 'Laurea to coordinate a significant EU project focusing on hybrid threats'. Available at: https://www.laurea.fi/en/current-topics/news/laurea-to-coordinate-a-significant-eu-project-focusing-on-hybrid-threats/

31   https://www.hybridcoe.fi/about-us/; https://www.hybridcoe.fi/wp-content/uploads/2024/08/Hybrid_CoE_Participating-states_Albania_240830.pdf

32   See for example: EU-HYBNET (September 2022) 'EU-HYBNET Training and Exercise Event'.
Available at: https://euhybnet.eu/wp-content/uploads/2022/09/Innovation-DTAG-training.pdf

33   Bender, F. (10 November 2021) 'Against 'weaponised migration'. Social Europe.
Available at: https://www.socialeurope.eu/against-weaponised-migration

34   ECRE (17 February 2023) 'EU Eastern Borders: More Deaths at Poland Belarus Border as Reports of Pushbacks,
Detention and Crackdown on Solidarity Continue, Council of Europe Concerned over Pushbacks and Criminalisation'.
Available at: https://ecre.org/eu-eastern-borders-more-deaths-at-poland-belarus-border-as-reports-of-pushbacks-
detention-and-crack-down-on-solidarity-continue-council-of-europe-concerned-over-pushbacks-and-criminalisation-
in-lat/

35   European Committee for the Prevention of Torture and Inhuman or Degrading Treatment or Punishment
(March 2023) '32nd General Report of the CPT: 1 January – 31 December 2022'. Council of Europe.
Available at: https://rm.coe.int/1680aabe2b

36   https://www.hrw.org/news/2022/06/07/violence-and-pushbacks-poland-belarus-border

37   https://www.europarl.europa.eu/RegData/etudes/BRIE/2024/762373/EPRS_BRI(2024)762373_EN.pdf

38   Project fact sheet, available at: https://cordis.europa.eu/project/id/101121271

39   https://dashboard.tech.ec.europa.eu/qs_digit_dashboard_mt/public/sense/app/dc5f6f40-c9de-4c40-8648-
015d6ff21342/sheet/3bcd6df0-d32a-4593-b4fa-0f9529c8ffb0/state/analysis

40   Project factsheets at https://cordis.europa.eu/

41   Project fact sheet, available at: https://cordis.europa.eu/project/id/787021;
project reporting, available at: https://cordis.europa.eu/project/id/787021/reporting

42   Ulevičius, V. and Klimuk, M. (31 August 2022) 'Deliverable 2.7: Through-foliage detection, including in the outermost
regions of the EU project Joint Evaluation and Recommendations report'. FOLDOUT. Available at: https://ec.europa.eu/
research/participants/documents/downloadPublic?documentIds=080166e5f0b6602f&appId=PPGMS

43   Venturi, G. (28 February 2019) 'Deliverable 11.3: Dissemination and Communication Plan'. FOLDOUT. Available at: https://
ec.europa.eu/research/participants/documents/downloadPublic?documentIds=080166e5c1fe7c91&appId=PPGMS

44   https://foldout.eu/activities/

45   https://eurmars-project.eu/consortium/

46   https://eurmars-project.eu/about-eurmars/

47   Metcalfe, P., Dencik, L., Chelioudakis, E. and van Eerd, B. (August 2023) 'Risking Lives: Smars Borders, Private Interests
and AI Policy in Europe'. Data Justice Lab, Cardiff University, ERC. Available at: https://datajusticeproject.net/wp-content/
uploads/sites/30/2023/08/Risking-Lives-report.pdf

48   https://eurmars-project.eu/

49   https://www.ibmata.org/ibmata-members/

50   https://www.ibmata.org/about/

51   https://www.ibmata.org/wp-content/uploads/2020/01/BMTS-2020-Europe-Conference-Programme-1.pdf;
https://www.ibmata.org/wp-content/uploads/2021/01/BMTS-2021-Europe-Conference-Programme.pdf;
https://www.ibmata.org/wp-content/uploads/2021/10/BMTS-2021-Europe-Conference-Programme.pdf;
https://www.ibmata.org/wp-content/uploads/2022/11/BMTS-2022-Asia-Conference-Programme.pdf;
https://www.ibmata.org/wp-content/uploads/2023/05/BMTS-2023-AFRICA-Conference-Programme.pdf

52   https://www.reading.ac.uk/computer-science/staff/professor-james-ferryman

53   https://www.frontex.europa.eu/assets/Images_News/ABC_Conference_Report.pdf

54   https://www.airport-suppliers.com/press-release/rise-biometric-technology-border-security-perspectives-us-dhs-uk-
australia-eu/;
https://www.smgconferences.com/defence/archive/2-2020/conference/border-security#tab_speakers;
https://eab.org/events/program/151; https://eab.org/events/program/177

55   University of Reading (21 July 2022) 'Plans to introduce contactless corridors in UK airports'.
Available at: https://www.reading.ac.uk/news/2022/Expert-Comment/Plans-to-introduce-contactless-corridors

56   https://dashboard.tech.ec.europa.eu/qs_digit_dashboard_mt/public/sense/app/dc5f6f40-c9de-4c40-8648-
015d6ff21342/sheet/3bcd6df0-d32a-4593-b4fa-0f9529c8ffb0/state/analysis

57   Project factsheets at https://cordis.europa.eu/

58   The blending of one or more images into another

59   https://cordis.europa.eu/project/id/883356

60   https://imars-project.eu/faq/

61   https://imars-project.eu/

62   Kindt, E., Fontanillo López, C.A., Tiits, M. and Kalvet, T. (30 September 2021) 'Deliverable 3.1: Legal, ethical
and societal requirements'. iMARS. Available at: https://ec.europa.eu/research/participants/documents/
downloadPublic?documentIds=080166e5e2ae47e0&appId=PPGMS

63   https://www.linkedin.com/feed/update/urn:li:activity:7130214224508678144/; https://twitter.com/iMARS_h2020/
status/1446024921990275079; https://twitter.com/busch_christoph/status/1334420574785974272; https://imars-
project.eu/news/imars-speaks-at-the-exp-doc-group-meeting-of-frontex/; also see the list on pages 18-19 of the
'iMARS Dissemination and Communication Plan', available at: https://ec.europa.eu/research/participants/documents/
downloadPublic?documentIds=080166e5d8d3bbb6&appId=PPGMS

64   Kindt et al. (2021), op.cit.

65   https://eur-lex.europa.eu/eli/reg/2024/1689/oj/eng

66   Profile at: https://www.law.kuleuven.be/citip/en/staff-members/staff/00016922/

67   https://twitter.com/euro_biometrics/status/910268314647187461; also see: Sorge, Petra and Ludovica Jona (13 April 2019) 'Neues Überwachungssystem: Die EU plant eine gigantische Datenbank, die Cyber-Experten alarmiert'. Business Insider. Available at: https://www.businessinsider.de/tech/neues-ueberwachungssystem-die-eu-plant-eine-gigantische-datenbank-die-cyber-experten-alarmiert-2019-4/

68   https://www.biometricupdate.com/201809/privacy-expert-dr-els-kindt-joins-eab-board

69   https://eab.org/about/eabac.html

70   Cörvers, S. (28 March 2022) 'Onderzoek met een luchtje? Niet als het aan deze mensen ligt: Commissie beoordeelt onderzoek dat misbruikt kan worden'. Veto. Available at: https://www.veto.be/onderzoek/onderzoek-met-een-luchtje-niet-als-het-aan-deze-mensen-ligt/104947

71   Broeck, M. Van den (14 December 2017) 'Exit: LAW-TRAIN, enter: mensenrechtencharter: De diplomatieke evenwichtsoefening van Sels'. Veto. Available at: https://www.veto.be/internationaal/exit-law-train-enter-mensenrechtencharter/124040; Committee against Torture (3 June 2016) 'Concluding observations on the fifth periodic report of Israel'. CAT/C/ISR/CO/5. United Nations. Available at: https://docstore.ohchr.org/SelfServices/FilesHandler.ashx?enc=6QkG1d%2FPPRiCAqhKb7yhsmEKqNhdzbzr4kqou1ZPE79BvBJe97SSM1KP2v4ng3Dhx74ohsby7×4AlEgvGh wtvav7rPvZmtwpwObldkyK%2BM9cNY7svWLlYmp6PB4chW8O

72   3M, Accenture, Airbus, AIT, Atos, BAE Systems, Commissariat a'l Energie Atomique et Aux Energies Alternatives, Dassault Aviation, Fraunhofer, GMV, Hensoldt, HP, Idemia, Isdefem Leonardo, Safran, Smiths, Sopra Steria, Thales, TNO, Totalforsvarets Forskningsinstitut, Veridos; Selection based on previous research in the TNI Border Wars series and Lemberg-Pedersen, M., Rübner Hansen, J. and Halpern, O.J. (2020) 'The Political Economy of Entry Governance'. ADMiGOV. Available at: https://admigov.eu/upload/Deliverable_13_Lemberg-Pedersen_The_Political_Economy_of_Entry_Governance.pdf

73   Akkerman, M. (November 2019) 'The business of building walls'. Stop Wapenhandel/Centre Delàs/TNI. Available at: https://www.tni.org/files/publication-downloads/business_of_building_walls_-_full_report.pdf

74   For example: Broek, M. (2 June 2015) 'Universities a pool of knowledge and personnel for defence production'. Stop Wapenhandel. Available at: https://stopwapenhandel.org/universities-a-pool-of-knowledge-and-personnel-for-defence-production/; Boncourt, T., Debos, M., Delori, M., Pelopidas, B. and Wasinski, C. (2020) 'Que faire des interventions militaires dans le champ académique?: Réflexions sur la nécessaire distinction entre expertise et savoir scientifique'. Revue d'Histoire 2020/1, 145. https://www.cairn.info/revue-vingt-et-vingt-et-un-revue-d-histoire-2020-1-page-135.htm; Espejo, D. (8 November 2021) 'Universities are deeply embedded in Australia's military buildup'. Honi Soit. Available at: https://honisoit.com/2021/11/universities-are-deeply-embedded-in-australias-military-buildup/; Wallach, W. (18 February 2022) 'The techno-military-industrial-academic comples'. Fortune. https://fortune.com/2022/02/18/techno-military-industrial-academic-complex-eric-schmidt-google-yale-defense-politics-universities-wendell-wallach/; Olivier, I. (18 August 2022) 'US universities are pipelines to the defense industry. What does that say about our morals?'. The Guardian. Available at: https://www.theguardian.com/commentisfree/2022/aug/18/us-universities-are-pipelines-to-the-defense-industry-what-does-that-say-about-our-morals; industry efforts stretch to secondary education also: Doward, J. (1 September 2018) 'Arms industy spends millions to promote brands in schools'. The Observer. Available at: https://www.theguardian.com/world/2018/sep/01/arms-industry-spending-millions-normalise-weapons-in-schools

75   Hillerbrand, R. and Werker, C. (October 2019) 'Values in university-industry collaborations: the case of academics working at universities of technology'. Science and Engineering Ethics. 25. https://link.springer.com/article/10.1007/s11948-019-00144-w

76   Jinsella (7 February 2023) 'Explained: The £1bn-plus deals between UK universities and the arms trade'. Declassified UK. Available at: https://www.declassifieduk.org/explained-the-1bn-plus-deals-between-uk-universities-and-the-arms-trade/

77   Dohery, L. (13 March 2023) 'Investment, Influence and Integrity: How arms industries compromise universities' research agendas'. Rethinking Security. Available at: https://rethinkingsecurity.org.uk/2023/03/13/investment-influence-and-integrity-how-arms-industries-compromise-universities-research-agendas/

78   Kenney, M. (February 1987) 'The ethical dilemmas of university-industry collaborations'. Journal of Business Ethics, 6(2). https://www.jstor.org/stable/25071641

79   Airbus (2023) 'Annual Report - Universal Registration Document 2022'. Available at: https://www.airbus.com/sites/g/files/jlcbta136/files/2023-04/Universal%2520Registration%2520Document%25202022.pdf

80   Airbus (7 November 2018) 'Airbus expands global partner university network to deliver digital skills for the future'. Press release. Available at: https://www.airbus.com/en/newsroom/press-releases/2018-11-airbus-expands-global-partner-university-network-to-deliver-digital

81   Thales (10 March 2017) 'Thales and Bristol University sign strategic agreement to collaborate in research and education'. Press release. Available at: https://www.thalesgroup.com/en/united-kingdom/press-release/thales-and-bristol-university-sign-strategic-agreement-collaborate

82   Leonardo (10 November 2023) 'Complex missions and Artificial Intelligence: Sant'Anna School Wins Leonardo's Drone Contest'. Press release. Available at: https://www.leonardo.com/en/press-release-detail/-/detail/10-11-2023-complex-missions-and-artificial-intelligence-sant-anna-school-wins-leonardo-s-drone-contest

83   Leonardo (2022) 'Drone Contest 2022: the Polytechnic University of Milan wins the challenge'. Available at: https://www.leonardo.com/en/focus-detail/-/detail/leonardo-drone-contest-third-edition-1

84   http://zivilklausel.de/index.php/bestehende-zivilklauseln; blurring lines between civil and military research and dual-use possibilities for many forms of (technical) research sometimes make it difficult to distinguish between types of research. The field of border security and control might still have a civilian function, notwithstanding its ongoing militarisation.

85   Deutschlandfunk (27 October 2023) 'Sollen Hochschulen fürs Militär forschen?' Available at: https://www.deutschlandfunk.de/zivilklausel-sollen-hochschulen-fuers-militaer-forschen-100.html

86   https://www.marketscreener.com/quote/stock/ELBIT-SYSTEMS-LTD-56536814/company/ (February 2024)

87   https://en.huji.ac.il/presentors#block-boxes-1609932588

88   https://www.thalesgroup.com/en/australia-board-directors/belinda-hutchinson-ac

89   http://www.eurasylum.org/eurasylums-selected-project-activities/; also see: Global Detention Project (22 April 2022)
      'Immigration Detention amidst War: The Case of Ukraine's Volyn Detention Centre'. Available at: ukraines

90   http://www.eurasylum.org/about-us/; http://www.eurasylum.org/advisory-board/

91   https://www.science-park.co.uk/about-the-park/business-directory/tekever-ltd

92   Menezes, S. (4 March 2023) 'The UK is using drones to prosecute small-boat migrant smugglers'. Bloomberg.
      Available at: https://www.bloomberg.com/news/articles/2023-03-04/the-uk-is-using-drones-to-prosecute-small-boat-
      migrant-smugglers

93   Burt, P. and Frew, J. (December 2020) 'Crossing a line: The use of drones to control borders'. Drone Wars UK.
      Available at: https://dronewars.net/wp-content/uploads/2020/12/DW-Crossing-a-Line-WEB.pdf

94   EMSA (27 September 2018) 'Remotely Piloted Aircraft Systems enter into operation in Portugal for border surveillance'.
      Press release. Available at: https://www.emsa.europa.eu/newsroom/press-releases/download/5378/3366/23.html

95   Gibney, E. (15 January 2025) 'Will Europe ramp up defence research? War promps major rethink'. Nature.
      Available at: https://www.nature.com/articles/d41586-025-00117-z

96   Forschung & Lehre (1 April 2025) 'Debatte über Zivilklauseln'.
      Available at: https://www.forschung-und-lehre.de/zeitfragen/debatte-ueber-zivilklauseln-7005

97   Der Spiegel (14 July 2023) 'Merz fordert ungehinderten Bundeswehrzugang zu Schulen und Forschung'.
      Available at: https://www.spiegel.de/politik/deutschland/friedrich-merz-cdu-fordert-ungehinderten-bundeswehr-
      zugang-zu-schulen-und-forschung-a-e39b0011-1383-4e51-b8bd-14bc39e76b3c

98   https://eab.org/membership/members.html

99   https://eab.org/membership/members.html

100   https://eab.org/about/eabac.html; https://eab.org/information/ambassadors.html

101   https://eab.org/expertise/sig/academia.html

102   https://eab.org/expertise/com/tec.html

103   https://eab.org/events/past_events.html

104   2023 edition: https://eab.org/events/program/300

105   https://www.migrationdataportal.org/themes/future-migration-trends

106   Sohst, R.R., Tjaden, J., de Valk, H. and Melde, S. (April 2020) 'The Future of Migration to Europe: A Systematic Review of
      the Literature on Migration Scenarios and Forecasts'. IOM and NIDI. Available at: https://publications.iom.int/system/
      files/pdf/the-future-of-migration-to-europe.pdf

107   https://www.efms.uni-bamberg.de/prsteuce.htm;
      https://cordis.europa.eu/project/id/501667;
      https://cordis.europa.eu/article/id/87789-better-understanding-european-migration-statistics

108   https://cordis.europa.eu/project/id/44103

109   https://cordis.europa.eu/article/id/88213-the-challenge-of-illegal-migration; the website with the database was revived
      in 2020, though the last updates are from 2015: https://irregular-migration.net/irregular-migration-too-important-to-let-
      pass-into-oblivion/

110   https://www.frontex.europa.eu/assets/Publications/Risk_Analysis/Annual_Risk_Analysis_2010.pdf;
      https://www.frontex.europa.eu/assets/Publications/Risk_Analysis/Annual_Risk_Analysis_2012.pdf;
      https://www.frontex.europa.eu/assets/Publications/Risk_Analysis/Annual_Risk_Analysis_2013.pdf;
      https://www.frontex.europa.eu/assets/Publications/Risk_Analysis/Annual_Risk_Analysis_2014.pdf

111   CLANDESTINO Project (2009) 'Final Report'.
      Available at: https://cordis.europa.eu/docs/results/44/44103/126625701-6_en.pdf

112   IDEA (14 August 2009) 'Final Activity Report'.
      Available at: https://cordis.europa.eu/docs/results/44/44446/126792191-6_en.pdf

113   Project fact sheet, available at: https://cordis.europa.eu/project/id/44446

114   http://www.cefmr.pan.pl/projects/mimosa.html

115   Kupiszweska, D., Kupiszweski, M., Martí, M. and Ródenas, C. (2010) 'Possibilities and limitations of comparative
      quantitative research on international migration flows'. Working Paper No. 04. PROMINSTAT.
      Available at: https://migrant-integration.ec.europa.eu/sites/default/files/2010-12/docl_17578_748874414.pdf

116   For example: Chaturvedi, S. (20 June 2022) 'There's no such thing as a climate refugee'. 360info.org.
      Available: https://360info.org/theres-no-such-thing-as-a-climate-refugee/

117   Miller, T. (October 2021) 'Global climate wall: How the world's wealthiest nations prioritise borders over climate action'.
      Transnational Institute. Available at: https://www.tni.org/en/publication/global-climate-wall

118   High Representative and European Commission (14 March 2008) 'Climate change and international security'. S113/08.
      Available at: https://www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/en/reports/99387.pdf

119   Scott, M. `(2023) 'Adapting to climate-related human mobility into Europe: Between the protection agenda and the
      deterrence paradigm, or beyond?'. European Journal of Migration and Law, 25(1). https://brill.com/view/journals/
      emil/25/1/article-p54_3.xml

120   Project 'Results in brief', available at: https://cordis.europa.eu/article/id/88316-predicting-flows-of-climate-change-
      refugees-to-europe

121   Project fact sheet, available at: https://cordis.europa.eu/project/id/44468

122   EACH-FOR consortium (14 May 2009) 'Specific Targeted Project: Scientific support to policies - SSP'.
      Available at: https://rosamartinez.org/wp-content/uploads/2015/11/Migraciones-y-Cambio-Climatico_EACHFOR.pdf

123   https://cordis.europa.eu/programme/id/H2020_MIGRATION-01-2019

124   Project fact sheet, available at: https://cordis.europa.eu/project/id/870649

125   Project website, available at: https://hummingbird-h2020.eu/

126   Project fact sheet, available at: https://cordis.europa.eu/project/id/870299

127   Project fact sheet, available at: https://cordis.europa.eu/project/id/882986

128   Ibid.

129   Project website: https://www.itflows.eu/about/project/

130   Monroy, M. (2022) 'Criticism over research: EU Commission funds platform to predict "migration flows"'. Available at: https://digit.site36.net/2022/10/05/criticism-over-research-eu-commission-funds-platform-to-predict-migration-flows/

131   Access Now et al. (27 September 2002) 'Open letter to the ITFlows Consortium: stop tech tools for predicting migration that can be repurposed to violate fundamental rights'. Available at: https://www.accessnow.org/press-release/open-letter-itflows-consortium/

132   Angenendt, S., Koch, A. and Tjaden, J. (2023) 'Predicting Irregular Migration: High Hopes, Meagre Results'. SWP Research Paper 2023/RP 11. Stiftung Wissenschaft un Politik. Available at: https://www.swp-berlin.org/10.18449/2023RP11/

133   Campbell, Z. and D'Agostino, L. (26 July 2022) 'Predicting migration flows with artificial intelligence - The European Unions' risky gamble'. Disclose. Available at: https://disclose.ngo/en/article/predicting-migration-flows-with-artificial-intelligence-the-european-unions-risky-gamble; Bizzini, P. (2023) 'Predicting migration: the opaque science behind AI technologies'. EUobserver. Available at: https://euobserver.com/digital/157056

134   Angenendt et al. (2023), op. cit.

135   Campbell and D'Agostino (2022), op. cit.

136   Ibid.; Bizzini (2023), op. cit.

137   https://www.itflows.eu/about/boards/the-users-board/

138   https://www.itflows.eu/about/boards/the-policy-working-group/

139   Mir, M. (June 2021) 'Stakeholders Database & Report on planned engagement activities'. Deliverable 9.3. ITFLOWS. Available at: https://ddd.uab.cat/pub/infpro/2021/263150/13._D9.3_ITFLOWS_R_.pdf

140   https://www.itflows.eu/2021/05/21/itflows-participated-in-a-workshop-organised-by-frontex/; for the presentation: https://www.frontex.europa.eu/assets/EUresearchprojects/News/ITFLOWS.pdf;

141   https://www.itflows.eu/2021/12/06/itflows-presented-at-roundtable-with-eu-agency-for-operational-management-of-large-scale-it-systems-eu-lisa/; also see the report of the roundtable at: https://www.eulisaroundtable.eu/eulisa_content/uploads/2022/01/IR-Nov21-Event-report_compressed.pdf

142   https://emt.itflows.eu/login/?redirect_to=https%3A%2F%2Femt.itflows.eu%2Faccount%2F

143   Brunel University London – Press Office (22 January 2020) 'New project to model migrant flows aims for better service provision'. Available at: https://www.brunel.ac.uk/news-and-events/news/articles/New-project-to-model-migrant-flows-aims-for-better-service-provision)

144   Campbell and D'Agostino (2022), op.cit.

145   Boland, C. (2022) 'ITFLOWS Response to July 26, 2022 Publication by Disclose'. ITFLOWS. Available at: https://www.documentcloud.org/documents/22124878-itflows-response-to-disclose. The statement includes responses by the consortium to what it perceives to be 'direct and unfounded allegations'.

146   https://www.quantmig.eu/res/files/QuantMig_Project_Summary.pdf

147   Napierala, J., Hilton, J., Forster, J.J., Carammia, M. and Bijak, J.(2021) 'toward an early warning system for monitoring asylum-related migration flows in Europe'. International Migration Review, 56(I). https://journals.sagepub.com/doi/pdf/10.1177/01979183211035736

148   Author's observations at the conference 'Future Migration to Europe' in April 2023 (https://hummingbird-h2020.eu/news/event-items/futuremigration260423)

149   Frontex (13 January 2021), 'Management Board Decision 1/2021 adopting the Single Programming Document 2021-2023 including the Multiannual Plan 2021-2023, the Programme of Work 2021 and the Budget 2021 (the Establishment Plan as part of it)'. Available at: https://www.frontex.europa.eu/assets/Key_Documents/MB_Decision/2021/MB_Decision_1_2021_adopting_SPD_2021-2023.pdf

150   https://home-affairs.ec.europa.eu/networks/european-migration-network-emn/emn-asylum-and-migration-glossary/glossary/migration-preparedness-and-crisis-blueprint_en; European Commission (23 September 2020) 'Commission Recommendation on an EU mechanism for Preparedness and Management of Crises related to Migration (Migration Preparedness and Crisis Blueprint)'. C(2020) 6469 final. Available at: https://www.eerstekamer.nl/eu/europeesvoorstel/c_2020_6469_commission/document/f=x.pdf; For a critique of the 'crisis' narrative regarding migration and its political use, see for example: Steinhilper, E. and Gruijters, R.J. (2018) 'A contested crisis: Policy narratives and empirical evidence on border deaths in the Mediterranean'. Sociology, 52(3). Available at: https://journals.sagepub.com/doi/abs/10.1177/0038038518759248; Grabowska, Izabela (18 January 2023) 'Societal dangers of migrant crisis narratives with a special focus on Belarussian and Ukrainian borders with Poland'. Frontiers in Sociology, 7:1084732. https://www.frontiersin.org/articles/10.3389/fsoc.2022.1084732/full

151   An early example of research using mobile phone data for tracking mobility patterns was in 2007, funded by the US Office of Naval Research, a part of the US Navy. González, M. C., Hidalgo, C.A. and Barabási, A.-B. (2008) 'Understanding individual human mobility patterns'. Nature 453. Available at: https://www.nature.com/articles/nature06958

152   For example: Deloitte (May 2020) 'Opportunities and Challenges for the Use of Artificial Intelligence in Border Control, Migration and Security - Volume 1: Main Report'. European Commission. Available at:

153 For example: Molnar, P. (2020) 'Technological testing grounds: migration management experiments and reflections from the ground up'. EDRi and the Refugee Law Lab. Available at: https://edri.org/wp-content/uploads/2020/11/Technological-Testing-Grounds.pdf ; Monroy, Matthias (25 October 2021) 'Frontex and Europol: How refugees are tracked digitally'. Available at: https://digit.site36.net/2021/10/25/frontex-and-europol-how-refugees-are-tracked-digitally/; Jones, C., Lanneau, R. and Maccanico, Y. (July 2023) 'Europe's Techno Borders'. EuroMed Rights and Statewatch. Available at: https://www.statewatch.org/media/3964/europe-techno-borders-sw-emr-7-23.pdf; Napolitano, A.(July 2023) 'Artificial Intelligence: the new frontier of the EU's border externalisation strategy'. EuroMed Rights. Available at: https://euromedrights.org/wp-content/uploads/2023/07/Euromed_AI-Migration-Report_EN-1.pdf

154 Tjaden, J. (21 December 2021) 'Measuring migration 2.0: a review of digital data sources'. Comparative Migration Studies 9. https://comparativemigrationstudies.springeropen.com/articles/10.1186/s40878-021-00273-x

155 Now called the European Union Agency for Asylum.

156 Fanta, A. (9 December 2019) 'Data watchdog raps EU asylum body for snooping'. EUobserver. Available at: https://euobserver.com/investigations/146856

157 Privacy International (19 November 2019) '#PrivacyWins: EU Border Guards Cancel Plans to Spy on Social Media (for now)'. Available at: https://privacyinternational.org/advocacy/3289/privacywins-eu-border-guards-cancel-plans-spy-social-media-now

158 Utrecht University (23 April 2021) 'Researchers use big data to derive migration indicators'. Available at: https://www.uu.nl/en/news/researchers-use-big-data-to-derive-migration-indicators

159 Salah, A. A., Canca, C. and Erman, B. (2022) 'Ethical and legal concerns on data science for large scale human mobility'. In: Salah. A.A. et al. (eds.) Data Science for Migration and Mobility. Proceedings of the British Academy. Oxford: Oxford University Press; also see the Statewatch observatory 'EU: Interoperability of Justice and Home Affairs databases: a 'point of no return'', available at: https://www.statewatch.org/observatories/interoperability-eu-big-brother-database/; and Jones et al. (2023), op.cit.

160 Bircan, T., Yar, A.W. A.Purkayastha, D. and Yilmaz, S.(March 2021) 'Finding the gap: Addressing the international migration data gaps'. Policy brief. HumMingBird. Available at: https://hummingbird-h2020.eu/images/publicationpdf/d2-3-short-eind.pdf

161 Dijstelbloem, H. (2017) 'Migration tracking is a mess'. Nature, 543. https://www.nature.com/articles/543032a

162 Frontex (September 2023) '1st Risk Analysis Conference: Growing with partners - Agenda'. As obtained via an access to documents request via FragdenStaat. Available at: https://fragdenstaat.de/anfrage/risk-analysis-conference-growing-with-partners/840243/anhang/imported-frontex-risk-analysis-conference-final-agenda-ready.pdf

163 List of participants available at: https://fragdenstaat.de/anfrage/risk-analysis-conference-growing-with-partners/840243/anhang/imported-frontex-risk-analysis-conference-participants-list-ready.pdf

164 QuantMig presentation, available at: https://fragdenstaat.de/anfrage/risk-analysis-conference-growing-with-partners/840243/anhang/imported-2-presentation-quantmig.pdf

165 https://irregularmigration.eu/about/#

166 https://irregularmigration.eu/funding/; project fact sheet available at: https://cordis.europa.eu/project/id/101061314

167 González Beilfuss, M.and Koopmans, J. (2021) 'Legal pathways to regularisation of illegally staying migrants in EU Member States'. ADMIGOV. Available at: https://admigov.eu/upload/Deliverable_27_Legal_pathways_Gonzales.pdf; Council of the European Union (24 September 2008), European Pact on Immigration and Asylum. Available at: https://data.consilium.europa.eu/doc/document/ST-13440-2008-INIT/en/pdf; it has been noted that several member states have initiated mass regularization programmes since 2008, including Greece, Italy, Portugal and Spain: Wallis, Emma (27 January 2026) 'Spain: Mass regularization of migrants set to start', InfoMigrants. Available at: https://www.infomigrants.net/en/post/69473/spain-mass-regularization-of-migrants-set-to-start

168 Project fact sheet, available at: https://cordis.europa.eu/project/id/101061314

169 Cyrus, Norbert (October 2023) 'Ethical Benchmarking in Irregular Migration Research'. MIrreM Working Paper No. 3. Available at: https://zenodo.org/records/8389189

170 Acostamadiedo, E., Rhea Sohst, R., Tjaden, J., Groenewold, G. and de Valk, H. (April 2020) 'Assessing Immigrations Scenarios for the European Union in 2030: Relevant, realistic and reliable'. IOM and NIDI. Available at: https://publications.iom.int/system/files/pdf/assessing-immigration-scenarios-eu.pdf

171 Project fact sheets, available at: https://cordis.europa.eu/project/id/770121 (CROSS-MIGRATION) and https://cordis.europa.eu/project/id/740698 (MARISA)

172 Access Now, European Digital Rights (EDRi), Migration and Technology Monitor, the Platform for International Cooperation on Undocumented Migrants (PICUM) and Statewatch (May 2022) 'Uses of AI in migration and border control: A fundamental rights approach to the Artificial Intelligence Act'. Available at: https://edri.org/wp-content/uploads/2022/05/Migration_2-pager-02052022-for-online.pdf

173 Czaika, M. and Reinprecht, C. (April 2020) 'Drivers of migration: A synthesis of knowledge'. Working Paper 163. International Migration Institute (IMI). Available at: https://www.migrationinstitute.org/publications/drivers-of-migration-a-synthesis-of-knowledge

174 https://cordis.europa.eu/programme/id/HORIZON_HORIZON-CL2-2022-TRANSFORMATIONS-01-04/en

175 Project fact sheet, available at: https://cordis.europa.eu/project/id/101095289

176 Project factsheet, available at: https://cordis.europa.eu/project/id/101094347

177 Project fact sheet, available at: https://cordis.europa.eu/project/id/101094279

178 Heidland, T. (20 November 2023) 'From data to decisions: How DYNAMIG can contribute to better migration policies'. DYNAMIG. Available at: https://dynamig.org/publications/data-decisions-how-dynamig-can-contribute-better-migration-policies

179 Project fact sheet, available at: https://cordis.europa.eu/project/id/833870

180 Project fact sheet, available at: https://cordis.europa.eu/project/id/832921

181 Cannataci, J, A., Mifsud Bonnici, J.PI Milaj-Weishaar, J., D'Andrea, L. and Mezzana, D. (13 June 2022) 'MIRROR - Deliverable D3.6: Policy Recommendations'. MIRROR. Available at: https://ec.europa.eu/research/participants/documents/downloadPublic?documentIds=080166e5ed66a924&appId=PPGMS

182 Project fact sheet, available at: https://cordis.europa.eu/project/id/832921

183 Project fact sheet, available at: https://cordis.europa.eu/project/id/833870

184 Project fact sheet, available at: https://cordis.europa.eu/project/id/770037

185 Project 'Results in brief', available at: https://cordis.europa.eu/article/id/415467-there-s-the-rub-the-eu-migrant-crisis-and-the-ceas

186 Gomes, V. and Doomernik, J. (2019) 'Report containing the detailed models for a sustainable CEAS'. CEASEVAL. Chemnitz: Technische Universität Chemnitz. Available at: https://www.tu-chemnitz.de/phil/iesg/professuren/geographie/Publikationen/CEASEVAL/40_GomesDoomernik_SustainableCEAS.pdf

187 Council of the EU (20 December 2023) 'The Council and the European Parliament reach breakthrough in reform of EU asylum and migration system'. Press release. Available at: https://www.consilium.europa.eu/en/press/press-releases/2023/12/20/the-council-and-the-european-parliament-reach-breakthrough-in-reform-of-eu-asylum-and-migration-system/

188 Ammori, H. and Dropkin, G. (April 2018) 'Entangled: Graphene, Arms, Israel and The University of Manchester'. University of Manchester BDS campaign. Available at: https://bdsuom.files.wordpress.com/2018/04/entangled1.pdf

189 Bugbrother (5 May 2019) 'EU spent millions in <<mechanized dogs>> to look for hidden migrants'. Le Monde. Available at: https://www.lemonde.fr/blog/bugbrother/2019/05/05/eu-spent-millions-in-mechanized-dogs-to-look-for-hidden-migrants/

190 Andres, J. (November 2021) 'EU Border Regime: Profiteering from Dehumanisation and Mythologised Technologies'. Brussels: The Left in the European Parliament. Available at: https://left.eu/content/uploads/2021/11/EU-Border-Regime-Profiteering-from-Dehumanisation-and-Mythologised-Technologies_.pdf

191 Project 'Results in brief'. Available at: https://cordis.europa.eu/article/id/157604-addressing-security-challenges

192 Project 'Results in brief'. Available at: https://cordis.europa.eu/article/id/92157-mobile-detection-and-sensor-technology-for-safer-european-borders

193 Final Report Summary - HANDHOLD (HANDHold - HANDHeld OLfactory Detector). Available at: https://cordis.europa.eu/project/id/284456/reporting

194 Final Report Summary - SNIFFER (A bio-mimicry-enabled artificial sniffer). Available at: https://cordis.europa.eu/project/id/285203/reporting

195 Final Report Summary - SNIFFLES (Artificial sniffer using linear ion trap technology). Available at: https://cordis.europa.eu/project/id/285045/reporting

196 Final Report Summary - SNOOPY (Sniffer for concealed people discovery). Available at: https://cordis.europa.eu/project/id/313110/reporting

197 https://cordis.europa.eu/project/id/653323

198 https://www.andromeda-project.eu/project/ambition.html

199 https://cordis.europa.eu/project/id/833805

200 https://cordis.europa.eu/project/id/883272

201 https://cordis.europa.eu/project/id/740736

202 https://cordis.europa.eu/project/id/883374

203 https://cordis.europa.eu/project/id/787021

204 https://cordis.europa.eu/project/id/740698

205 https://cordis.europa.eu/project/id/101021851

206 https://cordis.europa.eu/project/id/101021673

207 https://cordis.europa.eu/project/id/700478

208 https://cordis.europa.eu/project/id/740593

209 http://safeshore.eu/

210 Project results, available at: https://cordis.europa.eu/article/id/227895-maritime-embraces-galileo-technology

211 Meeting report, available at: https://www.frontex.europa.eu/assets/EUresearchprojects/2023/Frontex_Industry_Days_RPA_and_Autonomous_Systems_September2023_REPORT.pdf

212 Sunderland, J. and Pezzani, L. (1 August 2022) 'EU's Drone Is Another Threat to Migrants and Refugees: Frontex Aerial Surveillance Facilitates Return to Abuse in Libya'. Human Rights Watch and Border Forensics. Available at: https://www.hrw.org/news/2022/08/01/eus-drone-another-threat-migrants-and-refugees; Monroy, M. (22 July 2021) 'Border drones (Part 1): Unmanned surveillance of the EU's external borders by Frontex'. Available at: https://digit.site36.net/2021/07/22/border-drones-part-1-unmanned-surveillance-of-the-eus-external-borders-by-frontex/

213 Blay Puntas, I. (June 2022) 'The use of drones for maritime surveillance and border control'. Centre Delàs. Available at: https://centredelas.org/wp-content/uploads/2022/06/WP_DronesFrontex_ENG.pdf

214 Burt, P. and Frew, J. (December 2020) 'Crossing a line: The use of drones to control borders'. Drone Wars UK. Available at: https://dronewars.net/wp-content/uploads/2020/12/DW-Crossing-a-Line-WEB.pdf

215 Topak, Ö.E. (22 September 2023) 'Drones: Robot eyes on racialized migrant bodies'. International Migration 61(5). https://onlinelibrary.wiley.com/doi/full/10.1111/imig.13183

216 Koslowski, R. and Schulzke, M. (25 May 2018) 'Drones along Borders: 'Border Security UAVs in the United States and the European Union'. International Studies Perspectives. Available at: http://eprints.whiterose.ac.uk/127015/1/Drones_along_Borders_Final.docx

217   On the EU's efforts to involve Moldova and Ukraine in its border security regime, see: Akkerman, M., Ní Bhriain, N. and Valeske, J. (14 June 2023) 'How the EU has used the war in Ukraine to expand its border regime'. Amsterdam: Transnational Institute. Available at: https://www.tni.org/en/article/how-the-eu-has-used-the-war-in-ukraine-to-expand-its-border-regime

218   https://borderuas.eu/objectives/

219   Project newsletters, available via: https://borderuas.eu/newsletter/

220   BorderUAS Consortium (10 January 2022) 'ADD-C3: An integrated solution for enriched situation awareness for surveillance border security'. Available at: https://borderuas.eu/add-c3-an-integrated-solution-for-enriched-situation-awareness-for-surveillance-border-security/

221   https://borderuas.eu/objectives/

222   BorderUAS consortium (17 November 2022) 'Press release: 2nd Review Meeting'. Available at: https://borderuas.eu/press-2nd-review/

223   https://www.frontex.europa.eu/assets/EUresearchprojects/News/BorderUAS.pdf

224   ROBORDER consortium (25 October 2018) 'Market Analysis: ROBORDER'. Available at: https://roborder.eu/wp-content/uploads/2019/01/D7.3_740593_Market-Analysis.pdf

225   No longer just a future option, see for example: Kozhukhar, O. (18 December 2023) 'Russia and Ukraine launch swarm of drones at each other's territory'. Reuters. Available at: https://www.reuters.com/world/europe/russia-says-it-downs-33-ukraine-launched-drones-over-russian-regions-2023-12-17/; the European Defence Agency (EDA) also 'will explore the key technologies required to manage maritime unmanned drone swarms'; European Commission and High Representative for Foreign Affairs and Security Policy (10 March 2023) 'Joint Communication to the European Parliament and the Council on the update of the EU Maritime Security Strategy and its Action Plan 'An enhanced EU Maritime Security Strategy for evolving maritime threats''. JOIN(2023) 8 final. Available at: https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:52023JC0008

226   Campbell, Z. (10 May 2019) 'Swarms of drones, piloted by Artificial Intelligence, may soon patrol Europe's borders'. The Intercept. Available: https://theintercept.com/2019/05/11/drones-artificial-intelligence-europe-roborder/; also see: Verbruggen, Maaike (December 2019) 'The Question of Swarm Control: Challenges to Ensuring Human Control over Military Swarms'. Non-Proliferation and Disarmament Papers No. 65. EU Non-Proliferation an Disarmament Consortium. Available at: https://www.nonproliferation.eu/wp-content/uploads/2019/12/EUNPDC_no-65_031219.pdf;

227   Oliveira, A., Rodrigues, F. and Carvalho, J. (31 July 2017) 'ROBORDER Project Management and Quality Assurance Plan'. ROBORDER. Available at: https://roborder.eu/wp-content/uploads/2018/10/ROBORDER_D8.1.pdf

228   Butterly, L. (7 June 2021) 'ROBORDER: PSNI developing AI-controlled border surveillance system'. The Detail. Available at: https://www.thedetail.tv/articles/roborder-psni-developing-fully-functional-autonomous-border-surveillance-system

229   Begault, L. (27 March 2019) 'Automated technologies at EU borders and the future of Fortress Europe'. Euronews. Available at: https://www.euronews.com/2019/03/27/automated-technologies-at-eu-borders-and-the-future-of-fortress-europe-view?utm_medium=Social&utm_source=Facebook#Echobox=1553694747

230   Chiusi, Fabio (24 May 2024) 'The Automated Fortress Europe: No Place for Human Rights'. AlgorithmWatch. Available at: https://algorithmwatch.org/en/automated-fortress-europe/

231   Oliveira et al. (2017), op.cit.

232   Kyrampalidou, S. and Konstantinos, I. (31 January 2020) 'ROBORDER: Self-assessment and Data Management Plan V2'. ROBORDER. Available at: https://roborder.eu/wp-content/uploads/2020/07/740593-ROBORDER-D8.4_Self-assessment_and_data_management_plan_V2_v0.4.pdf

233   Kokstaité, M. et al. (12 January 2018) 'ROBORDER Dissemination Plan'. ROBORDER. Available at: https://roborder.eu/wp-content/uploads/2019/01/D7.1_740593_Dissemination-Plan.pdf

234   Plank, D. N. (2011) 'Minding the Gap between Research and Policy Making'. In: Conrad, Clifton F. and Ronald C. Serlin (ed.) The SAGE Handbook for Research in Education: Pursuing Ideas as the Keystone of Exemplary Inquiry. Thousand Oaks, CA: SAGE Publications.

235   Martins, Bruno Oliveira (2023) 'Security knowledges: circulation, control, and responsible research and innovation in EU border management'. Scince as Culture. Available at: https://www.tandfonline.com/doi/full/10.1080/09505431.2023.2222739

236   Martins, Bruno Oliveira and Maria Gabrielsen Jumbert (2020) 'EU border technologies and the co-production of security 'problems' and 'solutions'. Journal of Ethnic and Migration Studies, vol 48:6. Available at: https://www.tandfonline.com/doi/full/10.1080/1369183X.2020.1851470

237   https://home-affairs.ec.europa.eu/networks/ceris-community-european-research-and-innovation-security_en

238   European Commission - Directorate-General for Migration and Home Affairs (4 April 2023) 'Security research for policy community CERIS shares its news'. Available at: https://home-affairs.ec.europa.eu/news/security-research-policy-community-ceris-shares-its-news-2023-04-04_en

239   https://home-affairs.ec.europa.eu/networks/ceris-community-european-research-and-innovation-security/thematic-areas_en

240   European Commission - Directorate-General for Migration and Home Affairs (25 July 2023) 'Bringing research and policy together: Projects to Policy Seminar wrap-up'. Available at: https://home-affairs.ec.europa.eu/news/bringing-research-and-policy-together-projects-policy-seminar-wrap-2023-07-25_en

241   European Commission - Directorate-General for Migration and Home Affairs (17 March 2023) 'CERIS Workshop on methods and examples of piloting and validation of innovative border management solutions'. Available at: https://home-affairs.ec.europa.eu/news/ceris-workshop-methods-and-examples-piloting-and-validation-innovative-border-management-solutions-2023-03-17_en

242 Directorate-General for Migration and Home Affairs (4 September 2024) 'European innovation strengthens border management with new EU technology'. European Commission. Available at: https://home-affairs.ec.europa.eu/news/ european-innovation-strengthens-border-management-new-eu-technology-2025-09-04_en

243 https://security-research-event.ec.europa.eu/index_en

244 https://security-research-event.ec.europa.eu/speakers_en

245 https://home-affairs.ec.europa.eu/policies/internal-security/innovation-and-security-research/security-research-event_ en

246 European Commission (2019) 'Security Research Event 2018 - Newsletter N. 03: SRE 2018: a success in Brussels'. Available at: https://home-affairs.ec.europa.eu/system/files/2019-01/20181109_sre_2018_newsletter_3.pdf

247 European Commission (January 2018) 'Proceedings of the Security Research, Innovation andEducation Event (SRIEE) 2017'. Available at: https://home-affairs.ec.europa.eu/system/files/2020-09/sriee_2017_report_summary_january_2018. pdf

248 Wee, Bert van (27 January 2015) 'Towards a code of conduct for clients of research'. Transport Reviews, Vol. 35:1. Available at: https://www.tandfonline.com/doi/full/10.1080/01441647.2015.1005278

249 https://www.linkedin.com/posts/angel-m-fuentes-mateos-78a2559_researchmatters-soteu-migration-activity-7141043951637102593-FliB/

250 https://www.returnmigration.eu/gaps-news/gaps-project-coordinator-dr-zeynep-sahin-mencutek-in-ec-roundtable-workshop

251 https://www.donau-uni.ac.at/en/research/project/U7_PROJEKT_4294970546

252 https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-cl2-2023-transformations-01-04

253 https://cordis.europa.eu/project/id/101132593

254 https://migrationresearchtopolicy.eu/about/

255 https://migrationresearchtopolicy.eu/engagement-hub/

256 Singh, S. Anand, C. C. L., Huang Jun Song David and Hung Wei Loong, D. (2023) Mending the research-policy-practice gap: Conceptualising research as social change in education. Educational Research for Social Change (ERSC), 12(2). http://ersc.nmmu.ac.za/articles/ERSC_October_2023_Vol_12_No_2_Sing_et_al_pp_130-146.pdf

257 Stierl, Maurice (2022) 'Do no harm? The impact of policy on migration scholarship'. EPC: politics and Space, Vol 40(5) 1083-1102. Available at: https://journals.sagepub.com/doi/10.1177/2399654420965567

258 Duvell, F., Triandafyllidou, A. and Vollmer, B. (October 2008) 'Ethical issues in irregular migration research'. CLANDESTINO. Available at: https://ec.europa.eu/migrant-integration/sites/default/files/2009-07/ docl_9062_895712459.pdf

259 Leiden-Delft-Erasmus Universities (16 February 2020) 'If you really want to understand migration, you need multiple disciplines' - prof. Peter Scholten. Available at: https://www.leiden-delft-erasmus.nl/en/news/if-you-really-want-to-understand-migration-you-need-multiple-disciplines-prof-peter-scholten

260 Author's observations at the conference (https://hummingbird-h2020.eu/news/event-items/futuremigration260423)

261 Binder, C. (21 June 2022) 'How the EU policies research and development in border security'. New voices in global security. King's College London. Available at: https://www.kcl.ac.uk/how-the-eu-politicises-research-and-development-in-border-security

262 Reisz, M. (10 December 2015) 'Border studies: relevant for international relations and 'border guard' university staff'. Times Higher Education. Available at: https://www.timeshighereducation.com/news/border-studies-relevant-for-international-relations-and-border-guard-university-staff

263 European Commission (13 July 2021) 'EU Grants: How to complete your ethics self-assessment'. Version 2.0. Available at: https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/common/guidance/how-to-complete-your-ethics-self-assessment_en.pdf

264 European Commission (14 September 2021) 'Guidance note - Potential misuse of research'. Available at: https:// ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/guidance-note-potential-misuse-of-research-results_he_en.pdf

265 European Commission (1 April 2023) 'Horizon Europe (HORIZON) - Programme Guide'. Version 3.0. Available at: https:// ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/programme-guide_horizon_en.pdf

266 European Commission (14 September 2021) 'Guidance note - Research on refugees, asylum seekers and migrants'. Available at: https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/guidance-note-research-on-refugees-asylum-seekers-migrants_he_en.pdf

267 Leese, M., Lidén, K. and Nikolova, B. (2019) 'Putting critique to work: Ethics in EU security research'. Security Dialogue, 50(1): 59-76. https://journals.sagepub.com/doi/full/10.1177/0967010618809554

268 European Commission (2013) 'Options for Strengthening Responsible Research and Innovation – Report of the Expert Group on the State of Art in Europe on Responsible Research and Innovation'. Available at: https://op.europa.eu/en/ publication-detail/-/publication/1e6ada76-a9f7-48f0-aa86-4fb9b16dd10c/language-en

269 https://cordis.europa.eu/project/id/653676

270 Klimburg-Witjes, N. and Huettenrauch, F.C. (18 February 2021) 'Contextualing Security Innovation: Responsible Research and Innovation at the Smart Border'. Science and Engineering Ethics 27, 13. https://link.springer.com/article/10.1007/ s11948-021-00292-y

271 https://cordis.europa.eu/project/id/832921

272 https://www.rug.nl/rechten/onderzoek/expertisecentra/step-research-group/project-descriptions/ongoing/ mirror?lang=en

273 Bonnici, J. M et al. (24 June 2020) 'Report of MIRROR Ethical Principles and Practices'. Available at: https://h2020mirror.eu/wp-content/uploads/2020/12/MIRROR-D3-1-Ethical-Principles-and-Practices-1.pdf

274 Galdon Clavell, G., Zamorano, M.M. and Valbuena León, M.A. (8 April 2022) 'FOLDOUT - Ethical Guidelines'. Available at: https://ec.europa.eu/research/participants/documents/downloadPublic?documentIds=080166e5f0b65f00&appId=PPGMS

275 Novitzy, P. (9 July 2020) 'Needed: tougher ethics policies in EU research projects'. Science | Business. Available at: https://sciencebusiness.net/framework-programmes/viewpoint/needed-tougher-ethics-policies-eu-research-projects

276 Akkerman, M. (May 2018) 'Expanding the Fortress: The policies, the profiteers and the people shaped by EU's border externalisation programme'. Amsterdam: Transnational Institute/Stop Wapenhandel. Available at: https://www.tni.org/files/publication-downloads/expanding_the_fortress_-_1.6_may_11.pdf; Akkerman, Mark (16 December 2022) 'Border externalisation - an update'. Available at: https://stopwapenhandel.org/border-externalisation-an-update/

277 MP: Migration Partnerships; CAMM: Common Agendas for Migration and Mobility; both are migration cooperation agreements between the EU and third countries.

278 https://www.merit.unu.edu/training/migration-management-diploma-programme/

279 Migration Partnership Facility (n.d.) 'Migration Management Diploma Programme for Representatives of MP and CAMM Countries (MMDP)'. Available at: https://www.migrationpartnershipfacility.eu/mpf-projects/22-migration-management-diploma-programme-for-representatives-of-mp-and-camm-countries-mmdp/preview

280 Laar, Mindel van de en Melissa Siegel (25 February 2025) 'MMDP 2025: A Journey in Migration Management Training'. UNI-MERTI. Available at: https://unu.edu/merit/article/mmdp-2025-journey-migration-management-training

281 UNU-MERIT (2025), 'Migration Management The Gambia Training'. Available at: https://unu.edu/merit/course/migration-management-gambia-training

282 For more information on the controversial role the ICMPD plays in EU border externalisation policies, see: Campbell, Z. and D'Agostino, L. (31 May 2023) 'How an EU-funded agency is working to keep migrants from reaching Europe'. Coda Story. Available at: https://www.codastory.com/authoritarian-tech/icmpd-eu-refugee-policy/

283 Migration Partnership Facility (2020) 'Ninth Steering Committee Meeting - 19 June 2020, 10.00 - 13.00'. Available at: https://fragdenstaat.de/dokumente/sammlung/134-icmpd/

284 O'Flaherty, Michael (4 September 2025) 'Externalised asylum and migration policies and human rights law'. Council of Europe. Available at: https://rm.coe.int/report-on-externalisation-of-migration-by-michael-o-flaherty-council-o/488028300a

285 European Commission (April 2021) 'Training experts for better migration management in the Horn of Africa'. Available at: https://international-partnerships.ec.europa.eu/news-and-events/stories/training-experts-better-migration-management-horn-africa_en; https://www.merit.unu.edu/training/capacity-development/tailor-made-programmes/

286 Akkerman, M. (2018), op.cit.

287 https://www.merit.unu.edu/training/capacity-development/tailor-made-programmes/

288 https://www.icmpd.org/our-work/projects/strengthening-migration-management-authorities-in-kosovo-mimak-ii

289 ICMPD (29 October 2021) 'MOBILAZE 2 project organised an interactive two-day workshop on Migration Policy Cycle'. Available at: https://www.icmpd.org/news/mobilaze-2-project-organised-an-interactive-two-day-workshop-on-migration-policy-cycle

290 Prague Process (16 July 2019) 'Better management of migration – major initiative to train young professionals from Southern/Eastern Europe and Central Asia'. Available at: https://www.pragueprocess.eu/en/news-events/news/334-better-management-of-migration-major-initiative-to-train-young-professionals-from-southern-eastern-europe-and-central-asia

291 About EU pressure on Ukraine to keep paying attention to guarding its borders with the EU amidst the Russian invasion, see: Akkerman, M., Ní Bhriain, N. and Valeske, J. (14 June 2023) 'How the EU has used the war in Ukraine to expand its border regime'. TNI. Available at: https://www.tni.org/en/article/how-the-eu-has-used-the-war-in-ukraine-to-expand-its-border-regime

292 ICMPD (5 October 2022) 'MOBILAZE 2 and the Prague Process organised international summer school on migration'. Available at: https://www.icmpd.org/news/mobilaze-2-and-the-prague-process-organised-international-summer-school-on-migration

293 https://www.migrationpartnershipfacility.eu/about

294 https://www.icmpd.org/our-work/projects/migration-partnership-facility-mpf

295 Langley, S. and Alberola, C. (April 2018) 'Independent Evaluation of the Migration Partnerships between the European Union and Cape Verde, Georgia and Moldova'. Maastricht Garduate School of Governance, Maastricht University. Available at: https://macimide.maastrichtuniversity.nl/wp-content/uploads/2019/05/Evaluation-of-EU-Mobility-Partnerships.pdf

296 ICMPD 'Migration Partnership Facility - Sixth Steering Committee Meeting (13 December 2018); Draft minutes'. Available at: https://fragdenstaat.de/dokumente/sammlung/134-icmpd/ (as obtained by Frag Den Staat through an access to documents request).

297 International Organization for Migration (November 2015) 'Migration Initiatives 2016: Migration governance and sustainable development'. Available at: https://publications.iom.int/system/files/pdf/migration_initiatives2016.pdf

298 International Organization for Migration (November 2022) 'Final evaluation of the EU-IOM Knowledge Management Hub (KMH)'. Available at: https://returnandreintegration.iom.int/system/files/resources/ba75eb34-a113-4eb7-b915-e115cc7d086f/document/EU-IOM%20KMH%20Final%20Evaluation_REPORT.pdf99

299 International Organization for Migration (9 June 2017) 'IOM´s Data Analysis Centre, Maastricht University Review Determinants of Asylum-Related Migration'. Available at: https://www.iom.int/news/ioms-data-analysis-centre-maastricht-university-review-determinants-asylum-related-migration

300 https://www.migrationpartnershipfacility.eu/mpf-projects/29-novel-concept-of-relocatable-aerial-surveillance-for-border-security/preview

301 Migration Partnership Facility (15 June 2022) 'MPF project makes a dream come true'.
Available at: https://www.migrationpartnershipfacility.eu/news/mpf-project-makes-a-dream-come-true

302 Akkerman et al. (2023), op.cit.

303 Poliției de Frontieră a Republicci Moldova (22 June 2022) 'Tehnologii inovative de supraveghere aeriană și relocabilă implementate în cadrul Poliției de Frontieră printr-un proiect European'. Available at: https://border.gov.md/tehnologii-inovative-de-supraveghere-aeriana-si-relocabila-implementate-cadrul-politiei-de

304 https://trust-fund-for-africa.europa.eu/our-programmes/research-and-evidence-facility_en

305 https://blogs.soas.ac.uk/ref-hornresearch/publications/call-for-working-papers/; https://blogs.soas.ac.uk/ref-hornresearch/publications/

306 UK - Foreign, Commonwealth Development Office (FCDO) (June 2022), 'European Union Emergency Trust Fund for stability and addressing root causes of irregular migration and displaced persons in Africa - Annaul review (June 2020-June 2021)'. (D0000843) 300165'. Available at: https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fiati.fcdo.gov.uk%2Fiati_documents%2FD0000842.odt&wdOrigin=BROWSELINK

307 https://www.soas.ac.uk/research/research-and-evidence-facility-informing-migration-policy-horn-africa; in a personal capacity project leader Professor Laura Hammond (SOAS) seems to be a lot more critical of the approach that typically underpins the EUTF and similar instruments, see for example: https://committees.parliament.uk/writtenevidence/95179/html/; Hammond, Laura (2018) "Forced displacement in Africa' - Witten evidence'. Available at: https://committees.parliament.uk/writtenevidence/95179/pdf/; House of Commons - International Development Committee (6 November 2018) 'Oral evidence: Forced displacement in Africa, HC 1433'. Available at: https://committees.parliament.uk/oralevidence/8572/pdf/

308 Raty, T. and Shilhav, R. (January 2020) 'The EU Trust Fund For Africa: Trapped between aid policy and migration politics'. Oxford: Oxfam International. Available at: https://oxfamilibrary.openrepository.com/bitstream/handle/10546/620936/bp-eu-trust-fund-africa-migration-politics-300120-en.pdf;jsessionid=914D2C2C98754CC1C4B423CEA9745146?sequence=1

309 https://home-affairs.ec.europa.eu/funding/borders-and-visa-funds/integrated-border-management-fund-border-management-and-visa-instrument-2021-27_en

310 Decision No 575/2007/EC of the European Parliament and of the Council of 23 May 2007 establishing the European Return Fund for the period 2008 to 2013 as part of the General Programme Solidarity and Management of Migration Flows. Available at: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv%3AOJ.L_.2007.144.01.0045.01.ENG&toc=OJ%3AL%3A2007%3A144%3ATOC

311 https://eur-lex.europa.eu/EN/legal-content/summary/financial-support-for-eu-s-external-borders-and-the-common-visa-policy-internal-security-fund.html

312 https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/how-to-participate/org-details/999999999/project/823774/program/31077833/details

313 European Commission, Financial Transparency System: https://ec.europa.eu/budget/financial-transparency-system/analysis.html

314 European Court of Human Rights (8 October 2024) 'Preventing refugees from disembarking in Cyprus to claim asylum violated the Convention'. Press release. Available at: https://hudoc.echr.coe.int/app/conversion/pdf/?library=ECHR&id=003-8056561-11258448&filename=Judgment%20M.A.%20and%20Z.R.%20v.%20Cyprus%20-%20Preventing%20refugees%20from%20disembarking%20in%20Cyprus%20to%20claim%20asylum%20violated%20the%20Convention.pdf; Kienzle, Isabel and Melina Riemer (30 January 2025) 'Feeble recognition of a systematic pusback practice: The latest ECtHR rulings on Greek pushback cases'. Verfassungsblog. Available at: https://verfassungsblog.de/pushbacks-echr-greece-turkiye/

315 https://ec.europa.eu/budget/financial-transparency-system/analysis.html

316 https://eab.org/files/events/2019-09-16-18_rpc-darmstadt/SOTAMD-poster.pdf

317 Raja, Kiran et al (2021) 'Morphing Attack Detection-Database, Evaluation Platform, and Benchmarking'. IEEE Transactions on Information Forensics and Security, vol. 16, pp. 4336-4351.
Available at: https://ieeexplore.ieee.org/document/9246583

318 https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/projects-details/43251530/101102709/BMVI

319 REACTION (January 2025) '1st Press Release'. Available at: https://reaction-bmvi.eu/?page_id=357&lang=en

320 Committee for the Home Affairs Funds (2022) 'Launch of the call for expression of interest under the Specific Action "Innovation sea/shore, and/or land border surveillance (operational testing in pilot projects)", under the Instrument for Financial Support for Border Management and Visa Policy (BMVI) – Reference No BMVI/2021-2022/SA/1.2.1'. European Commission. Available at: https://www.vsfsvvp.lt/data/public/uploads/2023/09/call-for-interest_sa1.2.1-tf-bmvi-21-22.pdf

321 https://reaction-bmvi.eu/?page_id=284&lang=en

322 https://eur-lex.europa.eu/EN/legal-content/summary/return-fund-2008-13.html

323 https://odysseus-network.eu/about-odysseus/

324 https://odysseus-network.eu/contention-project/; https://odysseus-network.eu/research/redial/

325 OHCHR - Human Rights Council (18 July 2008) 'UN experts express concern about proposed EU return directive'. Press release. Available at: https://www.ohchr.org/en/press-releases/2009/10/un-experts-express-concern-about-proposed-eu-return-directive

326 https://home-affairs.ec.europa.eu/funding/asylum-migration-and-integration-funds/asylum-migration-and-integration-fund-2021-2027_en

327 European Commission (25 November 2021) 'Annex to the Commission Implementing Decision on the financing of components of the Thematic Facility under the Asylum, Migration and Integration Fund and adoption of the Work Programme for 2021 and 2022'. C(2021) 8458 final. Available at: https://home-affairs.ec.europa.eu/system/files/2021-12/AMIF%20-%20Thematic%20Facility%20Work%20Programme%202021-2022_en.pdf; European Commission (23 November 2022) 'Annex to the Commission Implementing Decision on the financing of components of the Thematic Facility under the Asylum, Migration and Integration Fund and adoption of the Work Programme for 2023, 2024 and 2025'. C(2022) 8340 final. Available at: https://home-affairs.ec.europa.eu/system/files/2022-12/AMIF-Work%20Programme%202023-2025_en.pdf

328 European Commission (29 September 2021) 'A renewed EU action plan against migrant smuggling (2021-2025)'. COM(2021) 591 final. Available at: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52021DC0591

329 Seefar (April 2021) 'Study on best practices in irregular migration awareness-raising campaigns - Final Report'. European Commission. Available at: https://op.europa.eu/en/publication-detail/-/publication/e282eddd-f985-11eb-b520-01aa75ed71a1/language-en

330 https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/projects-details/31077795/824432/AMIF

331 Faal, G. (2020) 'Civil society input to EU-Africa cooperation on migration: The case of the Gambia'. ECRE Working Paper 12. Available at: https://www.ecre.org/wp-content/uploads/2020/12/Working-Paper-12-The-Gambia.pdf

332 Elsewhere 3,641 persons are mentioned.

333 https://ncid.unav.edu/es/research/projects/information-gaps-and-irregular-migration

334 Bah, T.L., Batista, C., Gubert, F. and McKenzie, D. (July 2023) 'Can Information and Alternatives to Irregular Migration Reduce 'Backway' Migration from The Gambia?'. Discussion Paper Series, IZA DP No. 16296. Bonn: IZA - Institute of Labor Economics. Available at: https://docs.iza.org/dp16296.pdf

335 'The backway' is a term that is often used and 'describes an overland journey through West Africa, across the Sahara Desert, and into Libya or Morocco, from which youth attempt to catch boats to Italy and other European destinations'; op. cit.

336 Op. cit.; https://2m-corp.com/projects/information-gaps-and-irregular-migration-baseline-and-endline-surveys/

337 Bah, T. Et al., (2023) 'Can Information and Alternatives to Irregular Migration Reduce 'Backway' Migration from The Gambia?'. Discussion Paper Series, IZA DP No. 16296. Bonn: IZA - Institute of Labor Economics. Available at: https://docs.iza.org/dp16296.pdf

338 Op.cit.

339 https://austria.iom.int/national-emn-conference-2019; EMN is 'an EU network of migration and asylum experts who work together to provide objective, comparable policy-relevant information and knowledge on emerging issues relating to asylum and migration in Europe', established by The Council in 2008; https://home-affairs.ec.europa.eu/networks/european-migration-network-emn_en.;

340 National Contact Point Austria in the European Migration Network (2019) 'Migration and Communication: Information and awareness-raising campaigns in countries of origin and transit. Austrian National EMN Conference 2019 - Briefing paper'. Available at: https://www.emn.at/wp-content/uploads/2019/11/austrian-national-emn-conference-2019_briefing-paper.pdf

341 https://www.emnitalyncp.it/wp-content/uploads/2019/11/Austrian-National-EMN-Conference-2019_draft-programme_update.pdf

342 Ebner, P. and Humer, L. (June 2020) 'Austria: Annual policy report'. Vienna: National Contact Point Austria in the European Migration Network and IOM Country Office for Austria. Available at: https://home-affairs.ec.europa.eu/system/files/2020-09/01_austria_arm2019_part1_en.pdf

343 Brekke, J.P. and Thorbjørnsrud, K. (March 2020) Communicating borders – Governments deterring asylum seekers through social media campaigns. Migration Studies, 8(1): 43-65. https://doi.org/10.1093/migration/mny027

344 Brändle, V.K. (2023) 'Claiming Authority Over 'Truths' and 'Facts': Information Risk Campaigns to Prevent Irregular Migration'. In: Conrad, M., Hálfdanarson, G., Michailidou, A., Galpin, C. and Pyrhönen, N. (eds.) Europe in the Age of Post-Truth Politics. Palgrave Studies in European Political Sociology. Cham: Palgrave Macmillan. Available at: https://doi.org/10.1007/978-3-031-13694-8_8

345 Paynter, E. and Riva, S. (14 July 2023) 'Performing Border Externalisation: Media Deterrence Campaigns and Neoliberal Belonging'. Geopolitics 1-25. Available at: https://www.tandfonline.com/eprint/ZXDBTRUXPGNVMFZPXRJN/full?target=10.1080/14650045.2023.2234826

346 https://www.ideal-migration.com/

347 European Commission – Financial Transparency System; https://ec.europa.eu/budget/financial-transparency-system/

348 IDEAL-M (2021) 'Work Package 4, Deliverable 4.2. Communication PlanVersion 1.0'. Available at: https://www.ideal-migration.com/resources

349 Ministry for Foreign Action and European Union (12 March 2021) 'Catalonia leads a European project to tackle misinformation about migration among youth in Morocco'. Government of Catalonia. Available at: https://exteriors.gencat.cat/en/ambits-dactuacio/afers_exteriors/mediterrania/shababuna/not_210312_Shababuna

350 European Commission – Directorate-General for Migration and Home Affairs (22 September 2022) 'Grant agreement number – 958054 – AMIF SHABABUNA'. Available at: https://www.statewatch.org/media/3641/11-eu-com-grant-agreement-shababuna.pdf; the document was obtained by Statewatch via an Access to Documents request and was heavily redacted before release.

351 European Commission – Financial Transparency System; https://ec.europa.eu/budget/financial-transparency-system/

352 Del Rio Sánchez, O. (Universitat de Girona) (n.d.) 'Stratégie de communication sur les risques et les alternatives à la migration irrégulière'. Shababuna. Available at: https://exteriors.gencat.cat/web/.content/saeue/mediterrania/shababuna/recursos/eines/strategie-communication-risques.pdf

353 Shababuna (n.d.) 'Module 4: Techniques liées aux campagnes de communication et d'information'. Available at: https://exteriors.gencat.cat/web/.content/saeue/mediterrania/shababuna/recursos/formation/module-formation-4.pdf; European Commission – Directorate-General for Migration and Home Affairs (22 September 2022) 'Grant agreement number – 958054 – AMIF SHABABUNA'. Available at: https://www.statewatch.org/media/3641/11-eu-com-grant-agreement-shababuna.pdf

354 Ministry for Foreign Action and European Union (14 October 2022) 'First Shababuna project training workshop by the UdG and the UAB on migration and career opportunities'. Government of Catalonia. Available at: https://exteriors.gencat.cat/en/ambits-dactuacio/afers_exteriors/mediterrania/shababuna/not_221014_shababuna

355 Jones, C., Lanneau, R. and Maccanico, Y. (December 2022) 'Access denied: Secrecy and the externalisation of EU migration control'. Brussels: Heinrich-Böll-Stiftung European Union. Available at: https://eu.boell.org/sites/default/files/2023-03/secrecy_externalisation_migration_web.pdf

356 Directorate-General for Migration and Home Affairs (November 2024) 'Prevention of irregular migration through awareness raising and information campaigns on the risks of irregular migration in selected third countries and within Europe - AMIF Call for proposals'. European Commission. Available at: https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/amif/wp-call/2024/call-fiche_amif-2024-tf2-ag-info_en.pdf

357 Ecorys, Fraunhofer and Vrije Universiteit Amsterdam (March 2018) 'Feasibility and implications of lowering the fingerprinting age for children and on storing a scanned copy of the visa applicants' travel document in the Visa Information System (VIS) : final report'. European Commission, Directorate-General for Migration and Home Affairs. Available at: https://data.europa.eu/doi/10.2837/451825

358 Regulation (EU) 2021/1134 of the European Parliament and of the Council of 7 July 2021 amending Regulations (EC) No 767/2008, (EC) No 810/2009, (EU) 2016/399, (EU) 2017/2226, (EU) 2018/1240, (EU) 2018/1860, (EU) 2018/1861, (EU) 2019/817 and (EU) 2019/1896 of the European Parliament and of the Council and repealing Council Decisions 2004/512/EC and 2008/633/JHA, for the purpose of reforming the Visa Information System. Available at: https://eur-lex.europa.eu/legal-content/en/TXT/?uri=CELEX%3A32021R1134

359 European Commission (4 May 2016) 'Proposal for a Regulation of the European Parliament and of the Council on the establishment of 'Eurodac' for the comparison of fingerprints for the effective application of [Regulation (EU) No 604/2013 establishing the criteria and mechanisms for determining the Member State responsible for examining an application for international protection lodged in one of the Member States by a third-country national or a stateless person] , for identifying an illegally staying third-country national or stateless person and on requests for the comparison with Eurodac data by Member States' law enforcement authorities and Europol for law enforcement purposes (recast)'. COM(2016) 272 final. Available at: https://www.europarl.europa.eu/RegData/docs_autres_institutions/commission_europeenne/com/2016/0272/COM_COM(2016)0272_EN.pdf; Joint Research Centre (2013) 'Fingerprint Recognition for Children - Final Report'. Luxembourg: Publications Office of the European Union. Available at: https://op.europa.eu/en/publication-detail/-/publication/10c44b8a-7409-479c-b01d-a64ab7cf2159/language-en

360 Mayhew, S. (20 June 2018) 'EU adds face photos to EURODAC fingerprint database'. Biometric Update. Available at: https://www.biometricupdate.com/201806/eu-adds-face-photos-to-eurodac-fingerprint-database; Pivcevic, Katya (5 May 2021) 'Analysis says proposed Eurodac children's biometrics collection carries legal risks'. Biometric Update. Available at: https://www.biometricupdate.com/202105/analysis-says-proposed-eurodac-childrens-biometrics-collection-carries-legal-risks; Rankin, Jennifer (8 September 2021) 'EU 'seeking to turn migrant database into mass surveillance tool''. The Guardian. Available at: https://www.theguardian.com/world/2021/sep/08/eu-seeking-to-turn-migrant-database-into-mass-surveillance-tool

361 https://missingchildreneurope.eu/download/eurodac-open-letter/?wpdmdl=2737&refresh=64efe8d4b5dea1693444308&ind=0&filename=EURODAC-open-letter_final.pdf

362 See: https://www.statewatch.org/observatories/interoperability-eu-big-brother-database/

363 Marcu, B.-I. (29 April 2021) 'Eurodac: Biometrics, Facial Recognition, and the Fundamental Rights of Minors'. European Law Blog. Available at: https://europeanlawblog.eu/2021/04/29/eurodac-biometrics-facial-recognition-and-the-fundamental-rights-of-minors/

364 European Parliament (20 December 2023) 'Eurodac: deal on better identification of asylum seekers and irregular migrants'. Press release. Available at: https://www.europarl.europa.eu/news/en/press-room/20231214IPR15934/eurodac-deal-on-better-identification-of-asylum-seekers-and-irregular-migrants

365 Eurodac Regulation, https://eur-lex.europa.eu/eli/reg/2024/1358/oj/eng

366 https://biolab.csr.unibo.it/fvcongoing/UI/Form/Home.aspx

367 EU-LISA (2015) 'Smart Borders Pilot: The results in brief'. Available at: https://www.eulisa.europa.eu/Publications/Reports/Smart%20Borders%20-%20The%20results%20in%20brief.pdf

368 Ruiz Benedicto, A. (November 2019) Guarding the Fortress: The role of Frontex in the militarisation and securitisation of migrations flows in the European Union. Centre Delàs/TNI/Stop Wapenhandel. Available at: https://www.tni.org/files/publication-downloads/informe40_eng_ok.pdf; Douo, M., Izuzquiza, L. and Silva, M. (5 February 2021) 'Lobbying Fortress Europe: The making of a border-industrial complex'. Corporate Europe Observatory. Available at: https://corporateeurope.org/en/lobbying-fortress-europe

369 Allison, N. et al (23 October 2020) 'Frontex Complicit in Pushbacks: Pushbacks in Greece undertaken with support or connivance of EU super agency'. Lighthouse Reports. Available at: https://www.lighthousereports.com/investigation/frontex-chapter-ii-complicit-in-pushbacks/; Christides, G. and Lüdke, S. (27 April 2022) 'Frontex in illegale Pushbacks von Hunderten Flüchtlingen involviert'. Der Spiegel. Available at: https://www.spiegel.de/ausland/frontex-in-illegale-pushbacks-von-hunderten-fluechtlingen-involviert-a-086f0e5a-0172-4007-b59c-7bced325cc75; Abolish Frontex (5 JUly 2022) 'New director, same tragedy'. Available at: https://abolishfrontex.org/blog/2022/07/05/new-director-same-tragedy/#more-1562

370 Frontex (27 October 2023) 'Security research: Where do we go from here'. Available at: https://www.frontex.europa.eu/media-centre/news/news-release/security-research-where-do-we-go-from-here--4Dc2fj

371   European Commission (31 March 2023) 'Horizon Europe Work Programme 2023-2024 - 6. Civil Security for Society'. C(2023) 2178. Available at: https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/wp-call/2023-2024/wp-6-civil-security-for-society_horizon-2023-2024_en.pdf

372   Frontex (6 February 2020) 'Frontex to provide border security expertise to European Commission's research projects'. News release. Available at: https://www.frontex.europa.eu/media-centre/news/news-release/frontex-to-provide-border-security-expertise-to-european-commission-s-research-projects-ZrCBoM

373   Frontex (June 2023) 'Results of Research & Innovation activities - 2022'. Available at: https://www.frontex.europa.eu/assets/Publications/Research/ares-e_annual-report-on-the-research-and-innovation-2022.pdf

374   For example: Frontex (15 June 2022) 'Minutes of meeting: Workshop - Horizon Border Security Projects - 1 June 2022'. Available at: https://www.frontex.europa.eu/assets/EUresearchprojects/News/Minuted_of_meeting_workshop.pdf

375   Frontex (June 2022) 'Results of Research & Innovation activities - 2021'. Available at: https://www.frontex.europa.eu/assets/Publications/Research/Results_of_Frontex_Research_and_Innovation_Activities_2021.pdf; Frontex (June 2022) 'Minutes of meeting: Research for Innovation Network meeting - 2 June 2022'. Available at: https://www.frontex.europa.eu/assets/EUresearchprojects/News/Minutes_of_meeting_research_for_innovation_network_meeting.pdf

376   Frontex (22 March 2023) 'NESTOR: Showcasing a new border surveillance system'. Available at: https://www.frontex.europa.eu/innovation/eu-research/news-and-events/nestor-showcasing-a-new-border-surveillance-system-NIV4SC

377   Amnesty International (23 June 2021) 'Greece: Pushbacks and violence against refugees and migrants are de facto border policy'. Press release. Available at: https://www.amnesty.org/en/latest/press-release/2021/06/greece-pushbacks-and-violence-against-refugees-and-migrants-are-de-facto-border-policy/; Human Rights Watch (7 April 2022) '"Their Faces Were Covered": Greece's Use of Migrants as Police Auxiliaries in Pushbacks'. Available at: https://www.hrw.org/report/2022/04/07/their-faces-were-covered/greeces-use-migrants-police-auxiliaries-pushbacks

378   https://www.frontex.europa.eu/assets/EUresearchprojects/News/Day2/4_BoMIC.pdf

379   https://www.frontex.europa.eu/assets/About_Frontex/Grants/2022/Novel_Technologies_for_Border_Management/FRONTEX_RESEARCH_GRANTS_CALL.pdf

380   Frontex (18 December 2023) 'Frontex Research Grants: four projects selected'. Available at: https://www.frontex.europa.eu/innovation/eu-research/news-and-events/frontex-research-grants-four-projects-selected-o3aqhR

381   https://www.frontex.europa.eu/assets/grants/Research_Grants_Programme_2024_Call_for_Proposals/Call_for_Proposals.pdf

382   Frontex (29 October 2025) 'Frontex Research Grants Programme: six projects selected'. Available at: https://www.frontex.europa.eu/innovation/eu-research/news-and-events/frontex-research-grants-programme-six-projects-selected-0WK7za

383   There seems to be no apparant reason why for some projects this financial information is published and for others not.

384   https://www.frontex.europa.eu/innovation/eu-research/research-grants/dmdlbvec-developing-of-the-collecting-and-digitalising-methodology-of-the-data-from-the-land-border-violation-places-using-unmanned-aircraft-systems-which-is-suitable-as-evidence-in-court-IvUFrE

385   Total project budget is € 70,539.90. Available at: https://www.frontex.europa.eu/assets/EUresearchprojects/2023/Research_grants_2023/DMDLBVEC_KOM_Report.pdf

386   https://www.frontex.europa.eu/innovation/eu-research/research-grants/sems4usv-smart-energy-management-system-for-sustainable-extended-range-marine-unmanned-surface-vehicles-b8qAek

387   https://www.frontex.europa.eu/innovation/eu-research/research-grants/sweetids-sweet-spot-id-documentation-system-hO4gLn

388   https://www.frontex.europa.eu/innovation/eu-research/research-grants/tutelary-coastal-surveillance-system-exploiting-photonics-based-radar-security-rtVqHt

389   https://www.frontex.europa.eu/innovation/eu-research/research-grants/project-bsensed-SHthT1

390   https://www.frontex.europa.eu/innovation/eu-research/research-grants/project-canoper-1-5QHhMF

391   Together with Tracasa Instrumental, a company of the government of Navarra (Spain)

392   https://www.frontex.europa.eu/innovation/eu-research/research-grants/project-is4asv-LgYkcu

393   https://www.frontex.europa.eu/assets/Innovations/2.KOM_Report_iS4ASV.pdf

394   https://www.frontex.europa.eu/innovation/eu-research/research-grants/project-mantle-s926a1

395   https://www.frontex.europa.eu/assets/Innovations/2.KOM_Report_MANTLE.pdf

396   https://www.frontex.europa.eu/assets/grants/Research_Grants_Programme_2024_Call_for_Proposals/Call_for_Proposals.pdf

397   Annual overviews of aggregate volumes contracted by Frontex under existing framework contracts (2019, 2020, 2021), via its Public Register of Documents: https://prd.frontex.europa.eu/; does not include contracts for external experts nor contracts granted to individual university employees.

398   https://frontex.europa.eu/assets/Data_Protection/Records/141_Annexes.pdf; Frontex (June 2022) 'Minutes of meeting: Research for Innovation Network meeting - 2 June 2022'. Available at: https://www.frontex.europa.eu/assets/EUresearchprojects/News/Minutes_of_meeting_research_for_innovation_network_meeting.pdf

399   Frontex (2021) 'Annual list of low and middle value contracts concluded by Frontex in 2020'. Available at: https://frontex.europa.eu/assets/Key_Documents/Contracts_awarded/2020/Low_Middle_value_contracts.pdf; Frontex (2022) 'Annual list of low and middle value contracts concluded by Frontex in 2021'. Available at: https://prd.frontex.europa.eu/document/low-and-middle-value-contracts-2021/

400   Tenders Electronic Daily (2 July 2021) 'Poland-Warsaw: FWC for Map Production Services - 2021/S 126-330048 - Contract award notice'. Available at: https://ted.europa.eu/udl?uri=TED:NOTICE:330048-2021:TEXT:EN:HTML; Lancione, Michele (24 October 2021) '"Non a fianco di Frontex". Chi si dissocia dall'accordo del Politecnico di Torino'. Alteconomia. Available at: https://altreconomia.it/non-a-fianco-di-frontex-chi-si-dissocia-dallaccordo-del-politecnico-di-torino/

401   Formerly: Research and Development Unit.

402   Frontex (2011) 'Futures of Borders: A forward study of European border checks'. Available at: https://frontex.europa.eu/assets/Publications/Research/Futures_of_Borders.pdf

403   http://www.liron.net/about.html; https://ebcgday.eu/ed4bg/2014/speakers/

404   Frontex (13 November 2012) 'Spotting deception: Man against machine'. Available at: https://frontex.europa.eu/media-centre/news/focus/spotting-deception-man-against-machine-xFsNz0

405   https://eller.arizona.edu/departments-research/centers-labs/border-security-immigration/research

406   Daniels, J. (15 May 2018) 'Lie-detecting computer kiosks equipped with artificial intelligence look like the future of border security'. CNBC. Available at: https://www.cnbc.com/2018/05/15/lie-detectors-with-artificial-intelligence-are-future-of-border-security.html

407   RAND Europe (March 2021) 'Artificial Intelligence-based capabilities for the European Border and Coast Guard'. Frontex. Available at: https://frontex.europa.eu/assets/Publications/Research/Frontex_AI_Research_Study_2020_final_report.pdf

408   Stefes, Katharina and Leonie Dorn (10 September 2024) 'AI and Surveillance at the Border – "The technology doesn't actually work at all"'. Weizenbaum Institut. Available at: https://www.weizenbaum-institut.de/news/detail/ai-and-surveillance-at-the-border-the-technology-doesnt-actually-work-at-all/

409   Brussels Privacy Hub (6 May 2024) 'BPH delivers training to Frontex'. Available at: https://brusselsprivacyhub.com/bph-delivers-training-to-frontex/

410   https://www.frontex.europa.eu/fundamental-rights/fundamental-rights-at-frontex/fundamental-rights-office/

411   Frontex (1 August 2020) 'Management Board decision 20/2020 establishing the design and specifications for the uniforms of the statutory staff in the European Border and Coast Guard Standing Corps'. Available at: https://frontex.europa.eu/assets/Key_Documents/MB_Decision/2020/MB_Decision_20_2020_establishing_the_design_and_specifications_for_the_uniforms_of_the_statutory_staff_in_the_EBCG_Standing_Corps.pdf

412   https://frontexfiles.eu/en.html

413   https://www.seebruecke.org/mach-mit/deutschland/hessen/darmstadt

414   Stengler, R. (2021) 'Forschung zum Erkennen von Passfälschungen: Die Hintergründe transparent'. Hochschule Darmstadt. Available at: https://h-da.de/hochschule/forschung-internetsicherheit#102282

415   Technische Universität Braunschweig (18 Feburary 2021) 'EU Project Presented at a Conference'. Available at: https://magazin.tu-braunschweig.de/en/m-post/eu-project-presented-at-a-conference/

416   https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fwww.frontex.europa.eu%2Fassets%2FTransparency_Register%2FTRANSPARENCY_REGISTER_NOTIFICATION_01_25.xlsx

417   Frontex (5 May 2021), 'ED Decision on the Transparency Register'. No R-ED-2021-67. Available at: https://frontex.europa.eu/assets/Transparency_Register/Decision_No_R-ED-2021-67_on_the_Transparency_Register.pdf

418   Frontex (2013) 'General Report 2012'. Available at: https://frontex.europa.eu/assets/Key_Documents/Annual_report/2012/EN_General_Report_2012.pdf

419   Frontex (2015) 'Consortium Agreement - European Joint Master's in Strategic Border Management'. Available at: https://descargas.uned.es/publico/pdf/guias/posgrados/262001/Convenio_anexos_ingles.pdf; the Estonian Academy can't award degrees, but remain part of the consortium as a collaborative partner.

420   Frontex (26 June 2017) 'Better knowledge is better management – first European Joint Master's in Strategic Border Management'. Available at: https://frontex.europa.eu/media-centre/news/focus/better-knowledge-is-better-management-first-european-joint-master-s-in-strategic-border-management-KyMj8P

421   Frontex (6 September 2019) 'Frontex welcomes new class of Joint Master's programme'. Available at: https://frontex.europa.eu/media-centre/news/news-release/frontex-welcomes-new-class-of-joint-master-s-programme-d2lCWm

422   https://www.frontex.europa.eu/assets/About_Frontex/Grants/2025/EJMSBM/Call_for_Proposals_SGA_-_2nd_iteration_EJMSBM..pdf; https://www.frontex.europa.eu/publications/european-joint-master-s-in-strategic-border-management-Eyppoo; https://www.frontex.europa.eu/assets/About_Frontex/Grants/2025/EJMSBM/QuestionsAnswers..pdf

423   See, for example, https://twitter.com/frontex/status/1144552412855898112

424   Frontex (2017) 'European Joint Master's in Strategic Border Management: Polices & Procedures'. Available at: https://prd.frontex.europa.eu/document/european-joint-masters-in-strategic-border-management-procedures-and-policies/; Frontex (July 2025) 'European Joint Master's in Strategic Border Management - Prospectus'. Available at: https://www.frontex.europa.eu/assets/Publications/General/2025-09-17_EJMSBM_-_Prospectus_2025.pdf

425   Frontex (31 May 2017) 'Training Portfolio 2017'. Available at: https://frontex.europa.eu/assets/Publications/Training/2017_Training_portfolio.pdf

426   Eurasylum (September 2010) 'FRONTEX five years on: a short discussion on the Agency's key activities and outcomes to date'. Interview with Gen. Brig. Ilkka Laitinen. Available at: http://www.eurasylum.org/092010-gen-brig-ilkka-laitinen/

427   List provided by Frontex in response to an Access to Documents request by Stop Wapenhandel; original document available upon request.

428   https://ebcgday.eu/

429   Frontex (22 March 2023) 'Management Board decision 13/2023 on adopting the preliminary Annual Work Programme for 2024 and the final draft estimates of the Agency's revenue and expenditure, including the draft Establishment Plan for 2024 (as part of it).' Available at: https://prd.frontex.europa.eu/document/management-board-decision-13-2023-on-adopting-the-preliminary-annual-work-programme-for-2024-and-the-final-draft-estimates-of-the-agencys-revenue--and-expenditure-including-the-draft-establishment-p/

430   Algeria, Egypt, Israel, Jordan, Lebanon, Libya, Morocco and Tunisia; https://south.euneighbours.eu/project/eu4bordersecurity-project/

431   Frontex (October 2020) 'EU4BorderSecurity at a Glance'. Available at: https://op.europa.eu/en/publication-detail/-/publication/06c457fc-bdd0-11eb-8aca-01aa75ed71a1

432 European Commission – Financial Transparency System; https://ec.europa.eu/budget/financial-transparency-system/

433 Sisekaitseakadeemia (2022) 'Sisekaitseakadeemia Aastaraamat 2020'. Available at: https://www.sisekaitse.ee/sites/default/files/inline-files/2020.pdf

434 https://nauss.edu.sa/en-us/about-nauss/Pages/about.aspx

435 https://nauss.edu.sa/en-us/about-nauss/Pages/supreme-council.aspx

436 Human Rights Watch (28 July 2022) "'They'll get you no matter what': Morocco's playbook to crush dissent'. Available at: https://www.hrw.org/report/2022/07/28/theyll-get-you-no-matter-what/moroccos-playbook-crush-dissent

437 Naif Arab University for Security Sciences (12 January 2021) '3633 participants from 35 countries participated in the scientific activities of Naif Arab University during the year 2020'. Available at: https://nauss.edu.sa/en-us/news/Pages/news-6-1-2021-Hazem.aspx

438 https://www.linkedin.com/posts/frontex_frontex-documentfraud-workshop-activity-7001589528440262656-BjFC/

439 Saudi Press Agency (24 May 2023) 'NAUSS holds workshop in Tunisia on 'Combating terrorism and firearms smuggling'. Available at: https://www.spa.gov.sa/w1907804

440 https://aast.edu/en/news.php?language=1&view=1&unit_id=1&event=7566

441 Saudi Gazette (16 November 2022) 'NAUSS, IOM sign MoU to establish Arab Center'. Available at: https://saudigazette.com.sa/article/627020/SAUDI-ARABIA/NAUSS-IOM-sign-MoU-to-establish-Arab-Center

442 Conseil de la communauté marocaine à l'étranger (5 February 2015) 'Rabat: International symposium on irregular migration; security and humanitarian dimensions'. Available at: https://www.ccme.org.ma/en/what-s-new/40582

443 IOM (30 July 2021) 'IOM and partners host regional workshop on border management and security in Cairo'. Available at: https://mena.iom.int/news/iom-and-partners-host-regional-workshop-border-management-and-security-cairo

444 https://cb4ibm.iom.int/bmic6/#about

445 Metropolitan College (18 September 2024) 'Workshop on "Document Fraud Detection at Border Crossings" at Metropolitan College'. Available at: https://www.mitropolitiko.edu.gr/en/news/workshop-on-document-fraud-detection-at-border-crossings-at-metropolitan-college/

446 IOM Regional Office for Middle East and North Africa (21 July 2025) 'Arab Experts Convene in Amman for High-Level Scientific Symposium on Integrated Border Management'. Available at: https://mena.iom.int/news/arab-experts-convene-amman-high-level-scientific-symposium-integrated-border-management

447 Saudi Gazette (16 November 2022) 'NAUSS, IOM sign MoU to establish Arab Center'. Available at: https://saudigazette.com.sa/article/627020/SAUDI-ARABIA/NAUSS-IOM-sign-MoU-to-establish-Arab-Center

448 IOM (13 May 2025) 'IOM and NAUSS Strengthen Regional Cooperation on Migration and Border Governance'. Available at: https://www.iom.int/news/iom-and-nauss-strengthen-regional-cooperation-migration-and-border-governance

449 Akkerman, Mark (May 2018) 'Expanding the Fortress: The policies, the profiteers and the people shaped by EU's border externalisation programme'. Amsterdam: Transnational Institute/Stop Wapenhandel. Available at: https://www.tni.org/files/publication-downloads/expanding_the_fortress_-_1.6_may_11.pdf

450 Jacqué, P. (29 June 2023) 'EU seeks migration cooperation agreements with North African countries'. Le Monde. Available at: https://www.lemonde.fr/en/international/article/2023/06/29/eu-seeks-migration-cooperation-agreements-with-north-african-countries_6039105_4.html

451 Naif Arab University for Security Sciences (29 September 2021) 'Naif Arab University and the GD of Border Guards organize a workshop on Port Security: Border guards and their role in maritime search and rescue'. Available at: https://nauss.edu.sa/en-us/news/Pages/29_9_2021.aspx

452 Saudi Gazette (29 January 2017) 'Saudi female border guards hone skills in Germany'. Available at: https://www.saudigazette.com.sa/article/171939

453 Frouws, B. and Horwood, C. (5 July 2023) 'Murderous border controls'. Mixed Migration Centre. Available at: https://mixedmigration.org/articles/murderous-border-controls-ethiopian-migrants/

454 Mandates of the Special Rapporteur on extrajudicial, summary or arbitrary executions; the Working Group on Arbitrary Detention; the Special Rapporteur on the human rights of migrants; the Special Rapporteur on trafficking in persons, especially women and children; the Special Rapporteur on violence against women and girls, its causes and consequences and the Working Group on discrimination against women and girls (3 October 2022). Letter to the government of Saudi Arabia. SAU 9/2022. Geneva: OHCHR. Available at: https://spcommreports.ohchr.org/TMResultsBase/DownLoadPublicCommunicationFile?gId=27562

455 Slaughter, S. and Rhoades, G. (2004) 'Academic capitalism and the new economy: Markets, state, and higher education'. Baltimore and London: The John Hopkins University Press

456 https://cordis.europa.eu/project/id/700626

457 Silent Talker, LinkedIn profile, https://www.linkedin.com/company/silent-talker-ai/?originalSubdomain=uk

458 Johnson, Khari (30 June 2022) "The Fight Over Which Uses of AI Europe Should Outlaw', Wired. Available at: https://www.wired.com/story/europe-law-outlaw-ai/

459 The system was not tested on migrant populations, but on consortium volunteers.

460 European Commission (24 October 2018) 'Smart lie-detection system to tighten EU's busy borders'. Available at: https://ec.europa.eu/research-and-innovation/en/projects/success-stories/all/smart-lie-detection-system-tighten-eus-busy-borders

461 Gallagher, R. and Jona (26 July 2019) 'We tested Europe's new lie detector for travelers - and immediately triggered a false positive'. The Intercept. Available at: https://theintercept.com/2019/07/26/europe-border-control-ai-lie-detector/

462 Wilde, V. (11 January 2019) 'Biomarkers of Scientific Deceit'. Available at: https://iborderctrl.no/blog:biomarkers_of_scientific_deceit

463 For example: Barrett, L.F. et al. (17 July 2019) 'Emotional expressions reconsidered: Challenges to inferring emotion from human facial movements'. Psychological Science in the Public Interest, 20(1), 1-68. https://journals.sagepub.com/doi/full/10.1177/1529100619832930; Jupe, L.M/ and Keatley, D.A./ (24 September 2019) 'Airport artificial intelligence can detect deception: or am i lying'. Security Journal 33, 622-635. Available at: https://link.springer.com/article/10.1057/s41284-019-00204-7; Ozkul, D. (2023) 'Automating Immigration and Asylum: The Uses of New Technologies in Migration and Asylum Governance in Europe'. Oxford: Refugee Studies Centre, University of Oxford. Available at: https://www.rsc.ox.ac.uk/publications/automating-immigration-and-asylum-the-uses-of-new-technologies-in-migration-and-asylum-governance-in-europe/@@download/file

464 Bittle, J. (13 March 2020) 'Lie detectors have always been suspect. AI has made the problem worse'. MIT Technology Review. Available at: https://www.technologyreview.com/2020/03/13/905323/ai-lie-detectors-polygraph-silent-talker-iborderctrl-converus-neuroid/; Kurz, C. (21 January 2019) 'Wollen Sie wirklich nur Urlaub machen'. Frankfurter Allgemeine Zeitung. Available at: https://www.faz.net/aktuell/feuilleton/aus-dem-maschinenraum/die-eu-kauft-die-grenzkontroll-software-iborderctrl-15998859-p2.html

465 https://iborderctrl.no/; several critics of the project pointed out that the lie-detector part of iBorderCtrl was only one of its problematic aspects, which also included large data collection, social media screenings and broader surveillance ambitions; Greene, T. (6 November 2018) 'The EU's border control 'lie detector' AI is hogwash'. TNW. Available at: https://thenextweb.com/news/the-eus-border-control-lie-detector-ai-is-hogwash; Lomas, Natasha (26 October 2022) 'UK watchdog warns against AI for emotional analysis, dubs 'immature' biometrics a bias risk. Tech Crunch. Available at: https://techcrunch.com/2022/10/26/no-to-voight-kampff-tests/; Hall, L. and William (7 December 2021) 'Programming the machine: gender, race, sexuality, AI, and the construction of credibility and deceit at the border' Internet Policy Review 10(4). Available at: https://policyreview.info/articles/analysis/programming-machine-gender-race-sexuality-ai-and-construction-credibility-and

466 Rothwell, J., Bandar, Z., O'Shea, J. and McLean, D. (12 April 2006) 'Silent talker: a new computer-based system for the analysis of facial cues to deception'. Applied Cognitive Psychology, 20 (6), pp 757-777. Available at: https://onlinelibrary.wiley.com/doi/abs/10.1002/acp.1204

467 Sánchez-Monedero, J.and Dencik, L. (3 August 2020) 'The politics of deceptive borders: 'biomarkers of deceit' and te case of iBorderCtrl. Information, Communication & Society, 25 (3), pp 413-430. https://www.tandfonline.com/doi/full/10.1080/1369118X.2020.1792530

468 Katwala, A. (5 September 2019) 'The race to create a perfect lie detector - and the dangers of succeeding'. The Guardian. Available at: https://amp.theguardian.com/technology/2019/sep/05/the-race-to-create-a-perfect-lie-detector-and-the-dangers-of-succeeding

469 Similarly, a spokesperson for the European Commission stated that 'iBorderCtrl was not expected to deliver ready-made technologies or products. Not all research projects lead to the development of technologies with real-world applications'; Bacchi, U. (5 February 2021) 'EU's lie-detecting virtual border guards face court scrutiny'. Reuters. Available at: https://www.reuters.com/article/europe-tech-court/eus-lie-detecting-virtual-border-guards-face-court-scrutiny-idUSL8N2KB2GT

470 https://www.iborderctrl.eu/Frequently-Asked-Questions/

471 https://www.iborderctrl.eu/Publications/

472 Breyer, P. (22 April 2021) 'EU-funded technology violates fundamental rights'. about:intel. Available at: https://aboutintel.eu/transparency-lawsuit-iborderctrl/; Also see: Tanachnick, C. and Hruby, D. (28 May 2020) 'Face matching and digital avatars coming to the EU's borders'. Coda. Available at: https://www.codastory.com/authoritarian-tech/tech-eu-border/

473 https://www.whatdotheyknow.com/request/iborderctrl_ethical_report; MMU also refused an freedom of information request about its ties with Silent Talker; https://www.whatdotheyknow.com/request/information_with_regard_to_silen

474 Manchester Metropolitan University (10 January 2014) 'Catching killers - MMY techology on TV'. Available at: https://www.mmu.ac.uk/news-and-events/news/story/?id=2260

475 https://www.linkedin.com/in/zaid-noori-4114bb52/

476 Silent Talker (15 March 2016) 'Annual return made up to 15 March 2016 with full list of shareholders. Statement of capital on 2016-03-15'. Available at: https://find-and-update.company-information.service.gov.uk/company/09533454/filing-history/MzE0NDA4MTY1NmFkaXF6a2N4/document?format=pdf&download=0

477 The Herald (26 October 2007) 'Truth behind an industry full of fibs'. Available at: https://www.heraldscotland.com/default_content/12772732.truth-behind-industry-full-fibs/

478 Irish Examiner (27 January 2003) 'Body language camera "most accurate lie-detector"'. Available at: https://www.irishexaminer.com/world/arid-30085916.html; Lloyd Vries (28 January 2003) 'Smile! It's You-Better-Be-Candid Camera'. CBS News. Available at: https://www.cbsnews.com/news/smile-its-you-better-be-candid-camera/; Hijink, M. (27 December 2018) 'Hoe ziet de computer of je liegt?'. NRC. Available at: https://www.nrc.nl/nieuws/2018/12/27/hoe-ziet-de-computer-of-je-liegt-a3127140

479 Manchester Metropolitan University (18 October 2018) 'Can you fool an AI lie detector? University at Manchester Science Festival. Available at: https://www.mmu.ac.uk/news-and-events/news/story/11639/

480 Bittle, J. (13 March 2020) Lie detectors have always been suspect. AI has made the problem worse. MIT Technology Review. Available at: https://www.technologyreview.com/2020/03/13/905323/ai-lie-detectors-polygraph-silent-talker-iborderctrl-converus-neuroid/

481 Miner, L. (20 October 2018) 'Avatar passport controls at airports'. Euronews.
Available at: https://www.euronews.com/2018/10/20/avatar-passport-controls-at-airports

482 https://cis.ieee.org/activities/30-technical-committees; https://www.mmu.ac.uk/computing-and-maths/staff/profile/professor-keeley-crockett

483 Official financial filings (accessible via https://find-and-update.company-information.service.gov.uk/company/09533454/filing-history?page=1) also show very little activity.

484 Manchester Evening News (9 August 2004) 'Varsity's lie detector could make millions'. Available at: https://www.manchestereveningnews.co.uk/news/greater-manchester-news/varsitys-lie-detector-could-make-1136099.amp; Manchester Metropolitan University (18 October 2018) 'Can you fool an AI lie detector? University at Manchester Science Festival'. Available at: https://www.mmu.ac.uk/news-and-events/news/story/11639/

485 Monroy, M. (26 April 2021) 'EU project iBorderCtrl: Is the lie detector coming or not?'. Available at: https://digit.site36.net/2021/04/26/eu-project-iborderctrl-is-the-lie-detector-coming-or-not/

486 Boer, H. de (29 april 2021) 'Pilot TRESSPASS: grenscontrole van de toekomst'. KMarMagazine, Vol. 8:4. Available at: https://magazines.defensie.nl/kmarmagazine/2021/04/01_tresspass-roy. Monroy, Matthias (8 February 2021) 'Behavioural analysis and Twitter check: EU security research tests new 'lie detector' for border control'. Available at: https://digit.site36.net/2021/02/08/behavioural-analysis-and-twitter-check-eu-security-research-tests-new-lie-detector-for-border-control/

487 Weydner-Volkmann, S. (1 June 2023) 'Using Open, Public Data for Security Provision: Ethical Perspectives on Risk-Based Border Checks in the EU'. European Journal for Security Research. Available at: https://link.springer.com/article/10.1007/s41125-023-00092-4

488 Tenders Electronic Daily (19 December 2019) 'Poland-Warsaw: Framework Contract for the Supply of Heart Beat Detectors (HBD) for Border Checks - 2019/S 248-611273 - Contract award notice'. Available at: https://ted.europa.eu/udl?uri=TED:NOTICE:611273-2019:TEXT:EN:HTML

489 ClanTect 'Company Profile: Founding Members and Board of Directors.' Available at: https://www.clantect.com/company-profile/

490 Clantect 'Why use Clantect?'. Available at: https://www.clantect.com/why-use-clantect/; Kingham, Tony (3 February 2022) 'Mobile technology for land border crossings?'. Border Security Report. Available at: https://www.border-security-report.com/mobile-technology-for-land-border-crossings/

491 UK Government (21 July 2021) 'Purchase of a ClanTect V3D Dual Vehicle Service - Awarded contract'. Available at: https://www.contractsfinder.service.gov.uk/notice/03fb3c3f-5af6-4aa5-aa7c-9ad02c71f8f1

492 Sourcesecurity.com (31 March 2021) 'ClanTect and ePm sign agreement to offer next-gen systems for the detection of humans in vehicles in the UAE'. Available at: https://www.sourcesecurity.com/news/clantect-epm-systems-detection-humans-vehicles-uae-co-1540294087-ga-co-1617109956-ga.1617111205.html

493 Kingham, T. (3 February 2023) 'CLanTect has launched a fully mobile Human Presence Detection System (or Heart-Beat Detector) for mobile vehicle check points. Border Security Report. Available at: https://www.border-security-report.com/clantect-has-launched-a-fully-mobile-human-presence-detection-system-or-heart-beat-detector-for-mobile-vehicle-check-points/

494 https://www.clantect.com/why-use-clantect/; Summers, Colin (September 2019) 'Protecting Europe's borders with second generation motion detection technology'. Border Security Report, September/October 2019, pp 21-23. Available at: https://world-border-congress.com/wp-content/uploads/2019/09/BSRSepOct2019.pdf

495 Bolt, David (March 2025) 'An inspection of the Border Force operation to deter and detect clandestine entrants to the UK - August 2024–November 2024". Independent Chief Inspector of Borders and Immigration. Available at: https://assets.publishing.service.gov.uk/media/67e27169c6194abe97358d2b/An_inspection_of_the_Border_Force_operation_to_deter_and_detect_clandestine_entrants_to_the_UK_August_2024___November_2024_20pt.pdf

496 Profile at website University of Southampton: https://www.southampton.ac.uk/people/5×7sy9/professor-stephen-daley

497 Noise & Vibration Worldwide (July 2008) 'Active control research centre launched'. 39(7). Available at: https://journals.sagepub.com/doi/abs/10.1260/095745608785260620

498 BAE Systems (26 July 2010) 'University partnership helps secure future of engineering'. Available at: https://www.baesystems.com/en/article/university-partnership-helps-secure-future-of-engineering

499 https://www.clantect.com/company-profile/

500 Company filings, available via: https://find-and-update.company-information.service.gov.uk/company/10439105/filing-history

501 http://www.qmcinstruments.co.uk/about-us

502 https://sequestim.com/; https://www.cardiff.ac.uk/physics-astronomy/research/research-groups/chart/terahertz-instrumentation-for-security-applications

503 Sequestim (12 August 2019) 'Sequestim demonstrates ability to detect people and animals in moving trucks'. Available at: https://sequestim.com/truck-scanning/

504 https://www.mobai.bio/

505 The Entry-Exit System is a system to register the crossings of EU external borders by short-stay visa holders and visa-exempt travellers from non-EU-countries. The database will contain name, travel document, biometric data and place of entry and exit. Refusals of entry will also be recorded.

506 Mobai (8 June 2021) 'Proud to be working with eu-LISA'. Available at: https://www.mobai.bio/2021/06/08/proud-to-be-working-with-eu-lisa/; Gjøvik Kommune (2021) 'Tech-stjernene landet millionkontrakt med EU: - Skal bli best i verden'. Available at: https://www.gjovik.no/de-gode-historiene/tech-stjernene-landet-millionkontrakt-med-eu-skal-bli-best-i-verden.20462.aspx

507 Frontex (February 2020) 'International Conference on Biometrics for Borders: Morphing and Morphing Attack Detection Methods - Conference proceedings'. Available at: https://frontex.europa.eu/assets/Publications/Research/International_Conference_on_Biometrics_for_Borders.pdf

508 https://cordis.europa.eu/project/id/883356

509 Gjøvik Kommune (2021) 'Tech-stjernene landet millionkontrakt med EU: - Skal bli best i verden'. Available at: https://www.gjovik.no/de-gode-historiene/tech-stjernene-landet-millionkontrakt-med-eu-skal-bli-best-i-verden.20462.aspx; https://www.linkedin.com/in/brage-strand-15270512/

510 University of Tartu (13 February 2014) 'The University enters into cooperative agreement with the Police and Border Guard Board'. Available at: https://ut.ee/en/content/university-enters-cooperative-agreement-police-and-border-guard-board

511 University of Tartu (24 October 2023) 'Collaboration exercise is organised in Tartu with training also taking place around the university's buildings in the city centre'. Available at: https://ut.ee/en/content/collaboration-exercise-organised-tartu-training-also-taking-place-around-universitys

512 Bundesministerium Inneres (28 October 2021) 'Nehammer: Zusammenarbeit zwischen Innenministerium und TU Graz von hoher Relevanz'. Available at: https://bmi.gv.at/news.aspx?id=49752F70696970335570773D

513 Griffiths, M. and Yeo, C. (11 January 2021) 'The UK's hostile environment: Deputising immigration control'. Critical Social Policy, 41: 4. https://journals.sagepub.com/doi/full/10.1177/0261018320980653; Murray, R. and Taher, M. (2 March 2023) 'Revisiting borders and the hostile environment in higher education'. LSE. Available at: https://blogs.lse.ac.uk/highereducation/2023/03/02/revisiting-borders-and-the-hostile-environment-in-higher-education/; https://www.unisresistbordercontrols.org.uk/facts/

514 Batty, D. (18 January 2019) 'Birmingham University in row over 'racist' treatment of non-EU staff'. The Guardian. https://www.theguardian.com/education/2019/jan/18/birmingham-university-in-row-over-racist-treatment-of-non-eu-staff

515 Bagelman, J. and Cinnamon, J. (29 May 2018) 'Border Enforcement & The University: A Conversation'. Society + Space. Available at: https://www.societyandspace.org/articles/border-enforcement-the-university-a-conversation

516 HM Government (July 2022) 'New Plan for Immigration: Legal Migration and Border Control'. CP 706. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1092488/CCS204_CCS0722436296-001_Plan_for_Immigration_E-Laying.pdf

517 ADS (9 June 2021) 'Atkins appointed to Home Office's Border Vision Advisory Group'. Available at: https://www.adsgroup.org.uk/knowledge/industry-member-news/atkins-appointed-to-home-office-s-border-vision-advisory-group/

518 SITA (2023) 'Activity Report 2022: Transforming travel for a sustainable future'. Available at: https://www.sita.aero/globalassets/docs/surveys--reports/activity-report-2022.pdf

519 For example: Léonard, S. and Kaunert, C. (December 2020) 'The securitisation of migration in the European Union: Frontex and its evolving security practices'. In: Journal of Ethnic and Migration Studies. Vol. 48 Issue 6. Available at: https://pure.southwales.ac.uk/en/publications/the-securitisation-of-migration-in-the-european-union-frontex-and

520 University of South Wales (17 January 2021) 'USW Professor asked to join border security advisory group'. Available at: https://www.southwales.ac.uk/news/news-2021/usw-professor-asked-join-border-security-advisory-group/

521 Besteman, C. (February 2019) 'Militarized global apartheid'. Cultural Anthropology, 60, Suppl 19. https://www.journals.uchicago.edu/doi/full/10.1086/699280; Ruiz Benedicto, A., Akkerman, M. and Brunet, P. (November 2020) 'A Walled World: Towards a global apartheid'. Centre Delàs, TNI, Stop the Wall and Stop Wapenhandel. Available at: https://www.tni.org/en/publication/a-walled-world; Akkerman, M. (April 2021) 'Financing Border Wars: The border industry, its financiers and human rights'. Stop Wapenhandel and TNI. Available at: https://www.tni.org/files/publication-downloads/financingborderwars-report-tni_2.pdf; Gibney, M.J. (21 September 2021) 'The Global North Is Closing Its Doors to Migration'. World Politics Review. Available at: https://www.worldpoliticsreview.com/states-are-outsourcing-migration-to-avoid-non-refoulement-rules/

522 Gibney, Elizabeth (15 January 2025) 'Will Europe ramp up defence research? War prompts major rethink'. Nature. Available at: https://www.nature.com/articles/d41586-025-00117-z

523 President Dwight D. Eisenhower's Farewell Address (1961). Available at: https://www.archives.gov/milestone-documents/president-dwight-d-eisenhowers-farewell-address
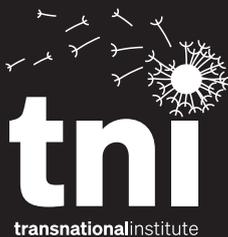
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