The Use of Digital Technologies at Borders: A Migrant-centred Analysis

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TABLE OF CONTENTS

ABSTRACT

This study investigates the impacts of digital technologies at borders on migrants, and how the E.U. and the U.S. frame their discourse, regulations, and practices regarding this matter. The widespread integration of digital technologies into public and private life necessitates an in-depth analysis of their impacts. Employing the method of triangulation, this research gathered and analysed data through a document analysis, interviews with experts and migrants, and a cross-check with the literature. The findings from this triangulated approach point out several statements including the following: the intensification of digital technologies at borders significantly impacts the right to life and the right to privacy of migrants, particularly of racialised asylum seekers and refugees; there is a notable trend in the increase of border digitalisation ; there exists a problematic perception of digital technologies as neutral and objective; and, while the U.S and the EU have different regulatory frameworks for AI systems they show problems of lack of transparency and accountability in practice. The study concludes with recommendations for policymakers, civil society, and governments, aiming to foster responsible and accountable use of digital technologies at borders.

LIST OF ACRONYMS

AI	*Artificial Intelligence*
CBP	*U.S. Customs and Border Patrol*
EES	*Exit/Entry System*
FR	*Facial Recognition*
FRA	*European Union Agency for Fundamental Rights*
ICE	*U.S. Immigration and Customs Enforcement*

1. Introduction

1.1 Motivation and Relevance for International Relations

The development of new emerging technologies and their integration into many spheres of policy-making happens to be a 'locus' for the intersection between 'power' and the capacity to produce what is normatively understood as objective and neutral knowledge. In turn, this translates into the idea that actors who encounter themselves in a position to create, design, and develop digital emerging technologies might also have the capacity to exert their influence, ideological frameworks, and interests. These diffusive forms of power can be legitimised through the supposed 'objectiveness and neutrality' traditionally understood as intrinsic in the epistemology of digital technologies.

During the last decades and with the integration of digital technologies working with AI into the private and public spheres, the intersection between power, knowledge, and technology has been put in the spotlight. In the border context, this convergence appears to be of greater fascination given the character of the border as a melting pot of cultures, power relations, and ideologies. This area proves necessary as a subject of study in IR given the recent relevance of digital technologies in the political sphere and by extension in the area of migration. In a context in which new emerging technologies appear to be moving faster than policy-making, an in-depth analysis of their functioning, impacts, and possible risks seems not only interesting but also transforms into a matter of social responsibility.

In the migration context, the integration of digital technologies has been a practice that recent scholarship in the field of Border surveillance and Security Studies has highlighted. According to Nedelcu & Soysüren (2020: 2), 'The contemporary landscape is composed of migration policies and border control regimes that employ cutting-edge surveillance technologies'. These technologies include the use of biometric technologies, the establishment of large-scale

databases, and the use of satellite surveillance systems or drones for the detection of migrants in distress at sea (Amelung, 2021). Consequently, the nexus between migration control, digital technologies, and their implications is crucial for exploratory research, especially as technology rapidly expands in the various aspects of life and policy-making.

1.2 Objectives

Bearing the precedent context and relevance of the topic in mind, the following objectives were deemed appropriate for this project:

➔ Understanding *how* the use of digital technologies in border control / the migration context[1] impacts migrants.

➔ Comprehending the links between the understanding of technologies as neutral /objective and discriminatory practices.

➔ Understanding the differences and similarities between the EU and the U.S. frameworks in regards to their discourse, practice, and regulation of digital technologies and their impacts on migrant people.

➔ Spotting the legal shortcomings of regulations concerning the use of new emerging technologies in the migration context.

1.3 Research Questions

1. How are migrants impacted by the use of digital technologies in border security / the migration context?[2]

2. What is the EU and the U.S. discourse, regulation, and practice in their use of digital technologies in the migration context?

1.4 Thesis Statements

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[1] The use of 'border control / migration context' is not to signal these two terms can be interchangeable but rather to highlight that this Final Degree Project understands the notion of 'The Border' as a concept that goes beyond its physical/ tangible sphere. 'The Border' is understood rather as a notion present before, during and after the crossing (in case it is crossed) of the physical barrier.

[2] Even if this study focuses on how migrants are impacted rather than how migrants can also make use of digital technologies, by no means this FDP understands migrants as actors with little agency in this process (even if this area is not covered by this paper).

1. The understanding of digital technologies as producers of neutral knowledge might result in the use of digital technologies in border control in a way that is based on racially discriminatory assumptions. In turn, this impacts disproportionately those migrants who are already discriminated against by racially discriminatory structures.

2. The use of techno-borders[3] does not prevent migrants from crossing or attempting to cross borders but rather pushes them to choose[4] deadlier routes.

3. Legal shortcomings in the regulation of the use of digital technologies both in the U.S. and the EU pose threats to the human rights of migrants. More specifically, to their rights to privacy and right to life among many others.

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[3] *A definition provided by Statewatch (2023):* 'The extensive infrastructure of surveillance systems, databases, biometric identification techniques and information networks put in place over the last three decades to provide authorities with knowledge of – and thus control over – foreign nationals seeking to enter or staying in EU and Schengen territory'.

[4] The use of the term 'choose' here does not entail it is a completely voluntary action to go through those routes.

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2. Theoretical Framework

2.1 Literature Review

The prevailing literature on the intersection of migration and digital technologies, predominantly acknowledges that migrants increasingly encounter digital technologies. However, a discernible lack of consensus exists among scholars on two pivotal themes: 1) The debate around the neutrality of knowledge produced by digital technologies. 2) The impacts of the use of digital technology on migrants. In light of these areas of scholarly contention, this literature review aims to systematically examine the primary academic contributions on the issue by examining these two debates.

2.1.1 Is Knowledge Produced by Digital Technologies Objective and Neutral?

Knowledge stemming from technological production is very often understood as neutral and objective. Some works contest this notion. A study on Facial Recognition (FR) Biases Beyond Demographics (Terhörst et al., 2021) found that not only demographic attributes affect the recognition performance of the investigated FR models but also highlighted the need for further advances in making FR systems more robust, explainable, and fair to make facial recognition less biassed.

Critical Theory and postmodern authors challenge the neutrality of this knowledge and warn over its intrinsic discriminatory underpinnings. Wevers (2018) concludes biometrics are built around whiteness and are non-neutral-free. Biometric technologies are also subjected to errors that occur to people who are often socially marginalized, leading to a deepening of their exclusion from the system. Additionally, an important remark is made on the influence of

external factors such as environmental (light exposure at the time the body is measured) and the fact that 'scientists decide upon the gender and race of individuals to train their computers to do the same'. Likewise, Dalher (2020: 30) drives from Black Studies scholar Simone Browne's building on Fanon and agrees with (Browne, 2015: 110) description of biometrics as 'technologies that measure the living body in which subjectivity is denied and in which 'biometric information is required to speak the truth of and for muted bodies'.

Long before, Adam (1995) drew from a feminist analysis of AI to warn on the traditional rationalist nature of AI epistemology. Her research found this nature to create an effect in which the knower is made invisible and universal, which in turn leaves aside an alternative view of where feminist epistemology emphasises the standpoint of the observer which can include, race, class gender, and also the role of the body in knowledge production.

2.1.2 How Do Digital Technologies Impact Migrants?

Literature is highly divided among their findings on the impacts digital technology poses on migrants. Some authors focus on (what they understand are) the positive impacts of digital technologies in border control. Ashraj (2018) highlights the effects digital technologies can cause for acquiring a real understanding of the numbers of people in refugee camps and the consequent proper allocation and distribution of resources. In his academic work, an example is highlighted of the impact these systems proved in the case of the Ali Addeh refugee camp in Djibouti and how it helped reveal the population had been overestimated and thus allowed to develop a proper distribution of resources. Additionally, digital technology has also been used to address fraud and security concerns and attempted to improve political viability to protect refugees and asylum seekers. This analysis holds the idea that some digital technologies improve the effectiveness of identification systems by reducing the system's susceptibility to fraud since they can allow refugees who lack documentation to credibly establish their identity. Similarly, Lerman (2013) focuses on the impact accuracy of data and advanced analytics pose on policy-making. This research reinforces the idea that digital technology is key for effective data collection and analysis in efforts to improve the fair allocation of goods and services and

improve the overall well-being of a community.

A large amount of literature has been devoted to the warning on the negative effects digital technology can pose to migrants from an ethical and human rights perspective. From a legal perspective with a human rights focus, Ashraf (2011), highlighted the shortcomings of Eurodac and the Dublin System in the field of freedom of movement, violation of privacy, misidentification, and stigmatisation. It is argued that the use of digital technologies has sometimes been used to enforce laws that operate to deny migrants basic rights. Brayne (2014) emphasises the consequence of the negative effects of data-emitting structures on refugees' decisions to choose unofficial and non-monitored channels over those that are technologically controlled. A claim that matched the direction of Laternero & Kift's (2018:7) work 'This can result in new risks of exploitation and violence far beyond the reach of law enforcement or relief services'. Furthermore, a Report by the UN Special Rapporteur on Contemporary Forms of Racism, Racial Discrimination, Xenophobia, and Related Intolerance, adds a relevant finding to Lerman's (2013) and Ashraj's (2018) conclusions on the accuracy of data. This report highlights 'collection of vast amounts of data on migrants and refugees creates possible human rights violations related to data sharing and access and reminds us the use of new technologies raises issues of informed consent and the ability to opt-out' (UN, 2020: 12). Likewise, an in-depth study found FR technology in border control has a serious potential for human rights while suggesting these systems are often used for purposes that extend their initial mandates (Tamir, 2020).

Beyond analyses based on legality, other authors have suggested arguments that depart from a postmodern critical strand. Dahler (2020), draws from an anthropological background to portray a case study on the use of biometric identification on unaccompanied Afghan asylum seekers in Denmark. Her analysis understands Danish practices in this field as an example of risky applications to digital technology. In this analysis, the collection of intrusive physical data from Afghan minors is to be understood as a colonial mapping of the body. Likewise, Wevers (2018) had two years earlier dedicated an academic paper to dig into the biases and implications of biometric data. In her analysis, a similarity is made between biometric technologies and how

eugenics were used in the past. This paper highlights the necessity of avoiding using biometric data as a tool for racist justifications and, a tool for racist justifications on how society should be carefully aware of the roots and history marginalisation the latter caused to enable critical investigation and the extent to which similar dynamics are repeated in the current use of biometrics and its possible disproportionately impacts vulnerable populations.

In a similar vein, Achiume (2021: 333) research found "'racial borders' and 'digital borders' to be co-constitutive and mutually reinforcing, as they allocate and curtail mobility and migration on a racial basis, largely relying upon facially race-neutral mechanisms'. In this analysis, biometrics and digital technology are understood as mechanisms constitutive of a much broader discriminatory framework. Achiume's (2021) analysis goes beyond looking at which violations of human rights law could be infringed and instead argues the legal system created around it reinforces the various forms and layers of discrimination, as it legitimises them in border control practices.

Other studies highlight the effects of digital technologies such as biometrics, e-borders, and technological surveillance as having a non-neglectable ambivalent power. Nedelcu & Soysüren (2022), depart from Giddens's theory of structuration to put forward the idea that the impact of digital technologies cannot ignore its dual potential. In this work, the capacity to generate opportunities for the agency of migrants through empowerment cannot be forgotten. In a similar vein, Amelung and Galis (2023) focus on the examples of migrant agencies. Their research poses an example by which border control and homophobic and sexist violence are contested through the use of digital technologies confronting borderland technologies (Amelung & Galis, 2023).

Other research focuses on the effect the type of actor in charge of digital technologies has on the character of the outcome. Farraj (2011) maintains the idea that the outcome on migrants depends on the type of state policies. Likewise, Latonero & Kift, (2018), sustain there is no easy answer to the question of whether digital technologies benefit or harm vulnerable populations. Yet, their academic work creates a useful division. According to their reading, when the actor is the

European government and border control officials, these are incentivized to utilise digital infrastructures to reinforce physical borders and maximise control over migrants; whereas 'digital humanitarians' may seek to develop technologies to facilitate and support the freedom of movement.

2.1.3 ' State of the Art: The E.U and U.S'

European Union states

Dahler (2020) in her work contends the notion that the wars in Iraq and Afghanistan have served as fields for biometrical surveillance testing to the benefit of some states and corporations in Europe. These technologies would later be used to control the movement of subaltern populations when they migrated to Europe, to the benefit of an enormous biometric industry. Dalher (2020) contributes to the literature by posing the question of who are the main beneficiaries of the whole digital technology structural machinery at large.

Nedelcu & Soysüren (2022) draw on empirical studies conducted across various geographical areas including the EU and France (among many others) and multiple disciplines. Their findings on the French cases show that control technologies (fingerprinting, biometric data, and others) are available and highly recommended, however, they are not used in practice. In practice, traditional ways prevail and sometimes state officials deliberately do not use technologies that facilitate deportation, and irregular migrants are treated as potential criminals for which deportation orders are based on administrative decisions rather than judicial procedures. This study provides an example of how the potential positive use of digital technologies is in some instances erased by the way specific actors do or don't make use of them.

European Union

Some other authors focus specifically on the case study of the EU instead of the nation-states that compose it. In his case study, Tamir (2020) departs from a legal analysis of the EU

framework. This research is more driven by institutional liberalism and places less importance on the impacts these regulations have upon asylum seekers and refugees. It analyses the procedures and theoretical frameworks of regulation and implementation of FR and border control system interoperability. In his work, the author exemplifies how EU regulation on FR and the *EES* would only start functioning 'once regulatory specifications for image quality and minimum performance thresholds would be met' (Tamir, 2020: 173).

Nonetheless, Tyler (2022) expresses her suspicion on whether these theoretical frameworks will be respected and reminds the voices of human rights advocates warning on their potential future uses. The author mentions the case of the EU in the Mediterranean aerial assets deployment to exemplify her concern. Similarly, a UN Report (UN, 2020: 6) warns about the experimental concerns of digital technology use at the border and found FRONTEX to have tested various unpiloted military-grade drones for surveillance of migrants. Another report focusing on Europe's Techno-Borders concludes that 'surveillance systems in European borders make it possible to pinpoint small boats or groups of people, should be used to facilitate care and support but are instead used to intercept or ignore them' (Jones, C. et al, 2023: 41). Moreover, FRA's analysis focuses on the societal level in which persons in need of international protection are put at the centre. This information highlights the risks of personal data sharing with third countries and reminds the reader of the fact that legal frameworks are not always followed. 'In practice, legal safeguards are not always systematically followed' (FRA, 2024, para 22). UN (2020), Tyler (2022), Jones et.al (2023) and FRA (2020) findings question whether Tamir's (2020) conclusions are sufficient for the effective protection of migrants. These works contribute to the debate by raising concerns about the differences between theoretical and practical frameworks in border management through digital technologies in the European context.

<u>United States</u>

Scholar literature on the use of digital technology in border control within the U.S. framework seems more concerned with the implications of the use of digital technologies for surveillance and the transfer of biometric data through databases. Latonero & Kift (2018) found a similarity

between governments in Europe and the U.S. regarding their demands for accessing social media accounts of migrants at border crossings. In the case of the Trump Administration, the government even considered looking into the accounts of individuals seeking entry from selected muslim-majority countries. Moreover, Tyler (2022) argues the US border is 'essentially exempted from the U.S Constitution's Fourth Amendment protections against unreasonable stops and searches , and reminds U.S Customs and Border Protection that it is allowed to operate immigration checkpoints anywhere within 100 miles of the state' (Tyler, 2022, para. 10). Yet, literature goes beyond Latonero & Kift (2018) and Tyler (2022) claims of the intrusive use of these digital technologies in border control. Other authors, such as Alencar (2023) point out not only the intrusiveness but also to the discriminatory disposition of these uses. The CBP One app is resorted to by this author as an instance to signal the challenges posed by this digital technology in cases in which migrants might attempt to make appointments at border checkpoints. The author further stresses the idea that this app is more discriminatory towards particular groups of people or individuals.

Throughout this literature review, the authors have shed light on the central debates around the ethics, regulations, and practices of the use of digital technologies in border management. The first part of the literature review provided the reader with a theoretical background on the literature diving into the ethical considerations of technological knowledge production and the effect of the use of digital technologies on migrants. The second piece showcased these two debates in their application to the EU and the U.S frameworks as an attempt to produce the state-of-the-art indispensable for further researching the missing gaps on the topic.

2.2 Methodology

The epistemological and ontological assumptions of the study highlighted above go in line with qualitative research. This case study seeks to understand the impacts of the creation, use, and deployment of digital technologies from an intersectional and interdisciplinary perspective that assesses perceptions, experiences, and meanings as well as practices and regulations. For this aim, Critical Constructivist Theory of International Relations is used as a lens to understand how knowledge production is connected to the creation and deployment of digital technologies and its

implication for migrant people in the context of the U.S. and the EU through a comparative study. The selection of these two cases is based on three main criteria:

1. Availability of sources of information
2. Relationship between the two entities with the capacity to produce knowledge through technology[5]
3. Language of sources[6]

2.2.1 Primary and Secondary Sources

The project here follows the common research standard of ethics that primary data must be both original and factual for achieving the research objectives (Ajavi, 2021). This research includes two types of interviews (1) with experts and (2) with migrants. Secondary data includes a document analysis and a crosscheck with the literature.

Table 1: Primary and Secondary Sources

Primary Sources	Secondary Sources

- Interviews
    ● Experts
    ● Key participants: migrants
	- Document analysis
	    ● Reports
	 - Crosscheck with Literature

Source: Author's Ellaboration

2.3 Data Collection

2.3.1 Collection of Reports

- <u>Selection of reports:</u> reports were chosen according to a criteria based on reliability and authenticity.

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[5] Both frameworks have been historically powerful as to have the capacity to produce and 'create knowledge' through technological innovation

[6] Sources are more likely to be published in a language that can be analysed without much intrusion from an external party.

Table 2: List of Reports Analysed

N	Name & Source	Date
1	Amnesty International (2024). Primer: Defending the rights of refugees and migrants in the digital age. *Amnesty International*	*2024*
2	OHCHR (2023). Digital Border Governance: A Human Rights Based Approach. *University of Essex*	*2023*
3	EuroMed Rights-Statewatch (2023). Europe's Techno Borders. *EuroMed Rights and Statewatch.*	*2023*
4	Algorace (2023) Una Introducción a la IA y la discriminación algorítmica para movimientos sociales. *Algorace*.	*2023*
5	Transnational Institute (TNI). (2023) Telling the Story of EU Border Militarisation. *Transnational Institute (TNI)*	*2023*
6	Access Now (2023). Bodily Harm: Mapping the Risks of Emerging Biometric Tech . *Access Now*	*2023*
7	Molnar, P (2024).. Technological Testing Grounds: Migration Management Experiments and Reflections from the Ground up. *EDRI, Refugee Law Lab*.	*2020*
8	Israel, T. (2020) Facial Recognition at a Crossroads: Transformation at our Borders and Beyond.*Canadian Internet Policy & Public Interest Clinic (CIPPIC)*	*2020*
9	PICUM- Statewatch (2019). Data Protection, Immigration Enforcement and Fundamental Rights: What the EU's Regulations on Interoperability Mean for People with Irregular Status. *PICUM & Statewatch*	*2019*

2.3.2 Collection of Interviews

- Experts:
    - <u>Selection of participants</u>: selected on the basis of knowledge in the field of digital technologies, digital rights or migration.
    - <u>Sampling:</u> Number determined by the principle of redundancy (Morgan, 2022)[7]

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[7] Redundancy occurs when the same information is presented concurrently in multiple forms or is unnecessarily elaborated.

**Table 3: Expert Participants and Areas of Expertise**

Name	Main Areas of Expertise
1 Judith Membrives i Llorens	AI | Human Rights | Multimedia Design | Philosophy
2 Oyidiya Oji Pajino	Law | Discrimination | Digital Rights
3 Carlos Arce Jiménez	Human Rights | Law | Migration
4 Anabel K.Arias	Law| Digital Rights | Human Rights

- Key informants Interviews
    - <u>Selection of participants:</u> migrant persons that have crossed the U.S Border or the EU Border from a third country in the last 5 years. [8]
    - <u>Sampling:</u> 6 participants. Number determined by the principle of redundancy.

2.3.3 Triangulation Method

The analysis will proceed through the use of the triangulation method. According to Bans-Akutey (2021: 3) 'triangulation alludes to a process that supports to increase the credibility and validity of research'. Moreover, in a study that assumes the researcher as intrinsically link triangulation proves efficient in mitigating possible biases through a multi-method approach.

Figure 1: Triangulation Method

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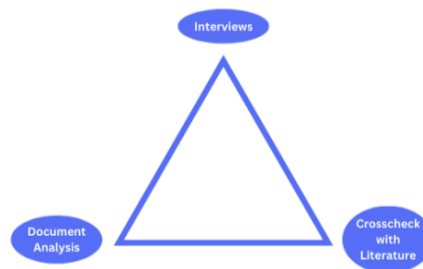
[8] 5 years period: this time period was selected for the collection of documents too. The latest document was published in 2019 and the most recent in 2024. Selecting people that crossed the border between that period follows a logic of setting the experiences and knowledge resulting from it within a similar contextual framework.

2.3 Ethical Considerations

This paper understands ethics in research as 'the norms and values that guide decisions regarding the collection of data and analysis of said data, as well as the dissemination of findings' (Mirza. et al, 2023: 442). According to this understanding, several ethical considerations have been considered in this work:

- ***Informed Consent:*** For a research project to be ethical it should be consented in its participation. This means , participation should be voluntary, informed and unambiguous, and preferably documentable (National Committee for Research Ethics in Social Sciences and Humanities, 2021). In an attempt to keep up with this ethical consideration, all participants accepted and were informed of the purposes of the project and the use of their data , and permission for audio recording for the interviews.

- ***Privacy, Anonymity and Confidentiality:*** According to Dane (1990), Miles and Huberman (1994) anonymity and privacy of data should be protected at every stage of the research process. Interviews with migrant participants were granted anonymity except when stated the opposite, to protect potentially vulnerable individuals.

- ***The Right to Withdraw and Reporting Back*** All participants were informed of their right to withdraw from the project. In this study, this means, they were informed of the fact that even after conducting the interviews they can/could refrain from accepting the information to be used in the study.

- ***Diversity-Inclusiveness :*** Authors, scholars and participants in the interviewing process have been selected taking into account an intersectional perspective that includes diversity among: gender, ethnicity, age and race.

3. Empirical Study

3.1 Analysis of Data

3.1.1 Document Analysis

A document analysis has been conducted by the use of a thematic document analysis technique for the reports selected for this study. Thematic analysis is a technique associated with qualitative research that implies versatility and enables the researcher to select the research design that is in line with their interest and areas of expertise according to Braun & Clarke (2006) in Morgan (2022: 73).

In light of the two research questions present in this study;

- How are migrants impacted by the use of digital technologies in border security / the migration context?
- What is the EU and U.S discourse, regulation, and practice in their use of digital technologies in the migration context?

Each report has been dissected in view of the following themes concerning the creation, development , and deployment of digital technologies in border security at the: 1) Global framework, 2) EU framework and 3) U.S. Framework . The thematic analysis of the reports included in this study will comprehend the 3 following themes:

A) Discourse / Narrative	B) Regulation	C) Practice

A) Discourse/ Narrative

The analysis of documents points to 9/11 as a breaking point in which a narrative discourse started being developed in the West in an attempt to justify the development and deployment of technologies in the context of border control following a security logic (Algorace, 2023:30). According to Access Now (2023:7), these securitization narratives allowed for the creation of a market of biometrics in the post-9/11 context following a discourse on 'the combat of security risks'. Third-sector reports appear quite sceptical of this 'security narrative' and challenge the normative state discourses on the objectiveness of knowledge production steaming from digital technologies and the 'security' narrative. Thus, warning over the possible negative implications this use is already having and might be able to pose in the near future.

'Institutions justify the use of digital technology systems in migration control in favour of security and efficiency '(Algorace: 2023). In a report conducted by TNI (2023:4) literature argues that 'border control technologies are presented as fairer and more impartial and even fulfilling a humanitarian function'. This report claims new intrusive technology is often presented in discourse and narrative as a less discriminatory and just alternative to individual guard bias. Thus, it takes away the 'blame' of the results of any discriminatory practice or system failure (as it assumes its objectivity and neutrality) and rather places it on the individual to whom the technology is to judge. In the report conducted by Tamir (2020), FR technologies at borders serve as an example of how technologies are presented as providing more efficient border control and enhanced security. Yet, the author points out the lack of periodic and transparent evaluations of the more pernicious potential of FR.

B) Regulation

The European Union Framework appears to be characterised by a more human-centred stand than the U.S. framework regarding the legislation on the use of digital technologies. Yet, critical reports portray the EU framework as not being exempted from a failure to properly protect migrants in the following legislation:

➔ EU General Data Protection Regulation (EU GDPR) 2016

This regulation forbids 'the processing of special categories of personal data' including biometric data for the purposes of identification, as well as 'data revealing racial or ethnic origin, political opinions, religious or philosophical beliefs or trade union membership.' Yet, the prohibition is subjected to wide exceptions in the name of 'public security' (AccessNow, 2023:6). In accordance with AccessNow (2023:20) the difference between the U.S Biometric Information Privacy Acts (BIPA) and the EU GDPR is that the latter provides individual rights in relation to data collection and processing in the biometric system, including protections for voice data.

➔ Eurodac Regulation 2013

In 2016 and 2020 successive revisions were included by the European Commission to this regulation. Reforms were formally adopted in 2024 and will expand the categories of personal data mandatory for anyone over 6 years of age (Amnesty International, 2024; EuroMed Rights- Statewatch, 2023; Molnar, 2020)

➔ EU AI Act 2024

The EU AI Act has been actively criticised by human rights advocates and humanitarian workers for making no mention on the need to uphold international legal obligations, and most importantly, for missing stringent provisions for the use of AI technologies for immigration asylum and border control purposes (Amnesty International, 2024; EuroMed Rights- Statewatch, 2023)

C) Practice

In Practice at a Global Level, The UNHCR and the WFP have developed databases as a means to prevent multiple registrations and applications of refugee data (Amnesty International, 2024:15). Yet, some critical reports warn about the effects registration of data through biometrics can have upon people with little recourse, such as refugees, in which they might surrender private

information in exchange for food. This is, for example, argued by Access Now (2023: 22), which poses the example of the use of Iris Scanning biometric systems by the UNHCR in a Jordanian refugee camp as raising concerns about the limits of informed consent in situations of power imbalance. Additionally, there appears to be a growing trend in the sharing of data between humanitarian organisations and border/immigration enforcement agencies (Amnesty International, 2024: 18). According to Molnar (2020:17), in a growing anti-migrant context migration data sharing might be a matter of concern as it can be misrepresented for political ends.

In regards to the use of systems working with AI, there is a growing trend in the experimentation of the use of these systems everywhere in society, and the migration context is no less. Molnar (2020) problematizes the use of automated decisions for visa applications as these might complicate accountability measures and make it harder to understand who is responsible for the decisions: is it the coder creating the algorithm, the immigration officer ,or the algorithm itself?

European Union

In the EU context, two main matters of controversy arise from the use of digital technologies in the migration context. The first one has to do with the externalisation of data/ resources relevant to digital technologies in non-democratic countries, whereas the second issue is related to the funding of a pilot project working with algorithmic decision-making.

1. *Border Externalisation in the EU*

    In the reports published by Amnesty International (2024), Molnar (2020), and EuroMed Rights- Statewatch (2023) it is mentioned how the EU has externalised its virtual borders in the Mediterranean and Aegean. The UE is using a range of digital technologies including radar, high-tech cameras, satellite data, electro-optical sensors, drones ,and biometric systems impacting migrant refugees and asylum seekers. Additionally, aerial surveillance footage and location data by people in distress is regularly provided to the

Libyan authorities. These might conduct pullbacks or simply neglect the information received.

2. *iBorder Control Project*

'This was a pilot project financed by the EU to be piloted in three European countries which used an AI 'polygraph' system from visa applicants and was aimed to claim who was lying or telling the truth' (AccessNow, 2023:11). Algorace (2023)) claims this pilot project was based on pseudo-scientific hypotheses that assumed lies can be told by facial expressions. Amnesty International (2024: 16) argues the project raises several human rights concerns by 'categorising data into levels of deceptiveness on the basis of a universal baseline of the intersection between facial expression and morality'.

United States _____

In the U.S. Framework two principal issues of controversy are: Border Externalisation to Mexico and Partnerships between U.S Authorities and big I.T corporations:

1. *U.S. Border Externalisation*

In the case of the U.S, Border Externalisation through surveillance technologies is of great concern along the U.S-Mexico border. According to (Molnar, 2020) and (Amnesty International, 2024) there is a correlation between the use of these technologies and the increase in mortality of migrants and its pushing towards more perilous routes. The report by Amnesty International (2024), also includes the disproportionately impact this causes on racialized communities and their higher propensity to face racial profiling at borders. Furthermore, U.S regulation made the use of the CBP 1 App mandatory in 2023 , which requires asylum seekers and their families to seek appointments through the App and slows the process (Amnesty International, 2024: 21).

2. *U.S Partnerships with Private Companies*

Most reports brought up concerns implied in U.Ss Border Agencies partnerships with Private IT Companies. The examples include:

1. U.S CBP partnership proposal with Google Cloud AI and Anduril in an attempt to produce a 'smart border composed of towers and drones in the U.S Mexico-Border (Molnar, 2020: 17)
2. 2019 Scandal after a partnership between ICE and Palantir that resulted in the detention of 700 workers during a raid with multiple media sources alleging the use of Palantir-supplied Falcon (Amnesty International, 2024: 10)
3. U.S. contraction with - Securus Technologies- as a means of acquiring voiceprints from imprisoned people under coercion. This firm is currently making its way into immigration detention purposes (Molnar , 2020: 17)

3.1.2 Analysis of Interviews

After conducting analysis of the reports, four experts were interviewed in a semi-structured format, allowing for the participants to take a more active role in the conversation and providing the opportunity for the interviewer to learn about possible future areas of expansion for the research project.

A) **Expert Interviews** The analysis of interviews was conducted thematically and the information was analysed within 4 main themes[9]:

1	2	3	4
Creation and Control: Knowledge production	Legislation: Regulatory Framework	Practice: Deployment	Impacts: Main Impacts on Migrants

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[9] The creation of 4 different themes does by no means entail these 4 topics are isolated and non-interrelated to each other.

## 1) Creation and Control: knowledge production through digital technologies

Experts agreed the creation of knowledge production through digital technologies is non-neutral. According to Membrives (2024), any form of knowledge production is always biassed towards a concrete cosmovision of the world. Moreover, Palino (2024) expresses the idea that an understanding of the knowledge stemming from digital technologies as neutral and objective reinforces existing inequalities. In fact, discourses that present technologies as 'neutral' and 'more efficient' sometimes end in a kind of 'false neutrality'. In line with Membrives (2024), this reinforcement could be explained by the unequal distribution and control of digital technologies across the globe. Technological control (the disposition of the hardware that allows the creation of the technologies themselves) is very concentrated in the Global North and there is a digital divide in terms of knowledge and access. As a consequence, knowledge production from these technologies produces inequality in the generation of knowledge. Additionally, Arias (2024) adds up the fact that control and distribution of digital technologies is usually in the hands of big private corporations, which sometimes work along the lines of opaque and non-transparent processes.

2) Legislation: Regulatory Framework

The interviews mostly provide information on the regulatory framework of the E.U. In this regard, the most mentioned piece of legislation is the EU AI Act. This Act is analysed by the experts in the context of migration for which they highlight the following insights:

One of the main issues found in the AI Act is the fact that it has several exemptions for 'national security' issues (Membrives, 2024). This means, as Arce (2024) explains, that there is a huge dichotomy between the general framework adopted for the general public, and the context of the borders and migration flows. For example, the AI Act categorises the levels of risk of AI systems into 4 levels of risks (level 1 being the 'most dangerous'). Still, some systems categorised as 'level 2' which represents 'high risk assessments' in the AI Act are still used in the migration context in a very intensive and disproportionate way, such as with biometric identifications.

Figure II : Levels of Risk According to the AI Act: Level 2 in the Migration Context
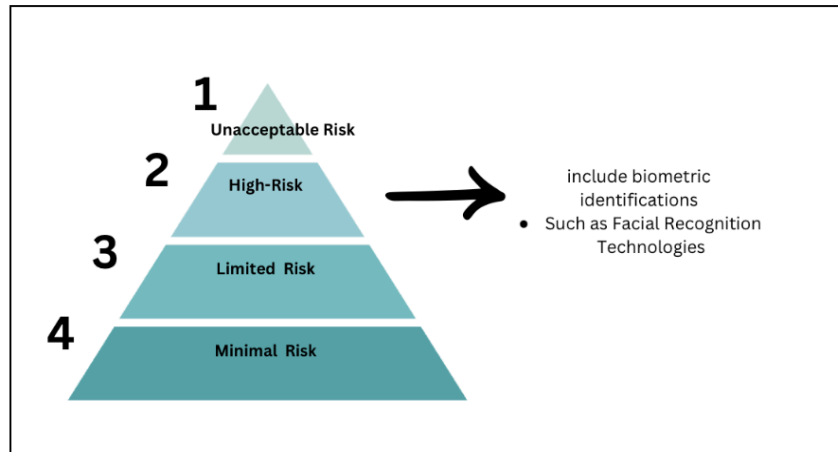
Furthermore, Palino (2024) also understands the AI Act as problematic in many ways given the exemptions it makes on the basis of 'national security'. She reinforces the idea that these porosities allow companies or the public administration to use AI freely as they won't face any kind of accountability process. Besides the AI Act, it is also mentioned that even when transparency laws exist, clarity is an arduous task to achieve from governments. Membrives (2024) states these governments on more than one occasion allude to matters of national security or privacy to avoid transparency and accountability.

In regards to the divergences between this framework and the U.S. context, the E.U appears to have pushed for more human-centric privacy regulations with the EU GDPR Regulation. In contrast, the U.S landscape seems not so protective in the regard of data privacy. Nonetheless, when we take a closer look at the EU framework in practice, the general protective perspective present in other areas different from the migration one changes radically (Arce, 2024). Another worry raised by Palino (2024) is the fact that despite the E.U's attempts to produce plenty of regulations for digital technologies (including the Digital Services Act or the Digital Markets Act) in comparison to the U.S framework , there is still a lack of tracking in previous regulations such as with the case of EU GDPR. According to Arias (2024) the EU system is much more regulated in the realms of digital technologies, as the U.S. system is based on a market logic and

operated through the Constitution instead. Even if it has the capacity to produce Executive Orders, these are not comparably comprehensive as EU regulations.

3) Practice: Deployment of digital technologies

The actual deployment of U.S and E.U digital technologies at borders raises concerns of transparency, accountability and ethics. In regards to transparency, algorithms are often called 'A Black-Box' and thus understood as hard to decode.. According to Membrives (2024), governments usually allude to this theory when asked to publish information on the uses of digital technologies. Furthermore, she stresses the idea that algorithms are not actually 'A black-Box' but rather the opposite as everything remains documented in them. This way, the idea that big corporations and states are 'the black-boxes' comes up in the debate.

When raising the issue of accountability, Palino (2024) stated the idea that the use of technologies in many cases proves a way to remove human accountability. She poses the example provided in the AI Act that allows 'those technologies created in the EU to be sold to third parties'. This means, no impact assessments or improvements can be made for these systems, possibly resulting in no real accountability mechanism. Likewise, there exist several ethical concerns on the development of emotion-recognition pilot programs at borders. Membrives (2024) mentions the *iBorderCtrl* which was a pilot project that functioned as a lie detector. According to her, this project is highly problematic as it is based on a normative understanding over how we should show our emotions. Other ethical concerns arise in the gathering of biometric data from asylum seekers and refugees. Arce (2024) mentions this can result in a situation of 'false' informed consent as people might agree to have their biometric data taken in a momentum of hardship and power imbalance.

4) Impacts: Main Impacts on Migrants

All interviews agree on the idea that most digital technologies deployed at borders follow a logic of control rather than protection of migrants. Successively, this severely impacts the human rights of migrant people in many ways.

Membrives (2024) argues a bad use of AI and data privacy at borders can mainly interfere in a negative way with: the right to privacy, the right to non-discrimination and equality, presumption of innocence and freedom of assembly expression and information among others. Arce (2024) contends that depending on the phase of the process some human rights will be more touched upon than others. Still, the right to privacy comes into play at all stages. Other rights such as the freedom of movement, access to an appropriate international protection procedure and the right to life and physical integrity can be infringed. In addition to this, his remarks underline the impact covid-19 caused on the increasing digitisation of the administration that still remains today. Ultimately, when asked about the positive possible impacts of the use of digital technologies, Arce (2024) Arias (2024) and Palino (2024) point out to the idea that there could be many positive impacts on migrants, yet, the issue remains that digital technologies are usually directed for controlling and restricting purposes.

B) Interviews with Key Informants[10]

Interviews with migrants from third countries that have crossed the E.U or U.S borders have been included as complementary to the research in an attempt to explore and expand knowledge for the research on three main areas[11]:

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[10] Six migrant interviews were conducted for this project. Nonetheless, given that these interviews were conducted as complementary to the rest of the data, only information from three of them has been included in this paper. Thus, only those three interviews have been uploaded to the folder since the other 3 are not included in the paper.

[11] Initially, the study aimed at conducting in-depth interviews on the experiences of migrants with digital technologies at borders. It was not until later that the study realised most migrants (and the public in general) were in the first place non- familiarised of the uses, functions and technologies placed at borders and thus, not very aware of their impacts on them.

1	2	3
Experiences with digital technologies at borders	Perceptions and meanings on the use of digital technologies	Understanding of participants conscience on their rights and the uses of digital technologies at borders

The most relevant insights from the interviews conducted where the following:

- There was a general lack of awareness on the processes of data extraction and storage.

- Most of the interviewees were not aware of the tools and types of digital technologies used at borders. One of the participants mentioned 'there was a moment at the airport where he/she was left alone with a technological device and no human assistance and he/she would have liked to have some human assistance'

- A participant that had crossed the US-Mexico border explained how the CBP 1 App had been made mandatory for Mexican nationals to set appointments of entry to the U.S. This person mentioned how the availability of appointments was usually very hard to get.

- Two of the participants pointed out the fact that the use of digital technologies in border control could disproportionately impact elderly people.

3.2 Findings

The findings are the result of the confirmation of the information gathered from the analysis of the sources included in the triangulation. Therefore, the findings are the information that 1) has been shared by: the document analysis, the interviews and the crosscheck with the literature and 2) provides responses to the two research questions and the thesis statements.

 They are divided into two blocks:

3.2.1 On the impacts of the use of digital technologies in the migration context

3.2.2 The U.S and E.U cases in its discourse, regulation and practice of digital technologies[12] and its impacts on migrants.

3.2.1 On the Impacts of the use of digital technologies in the Migration Context

A) *Most problematic Digital Technologies working with AI at Borders*

Triangulation shows how the way and the type of digital technology used can pose different impacts on migrants and the migration context. The main problematics in the use of these selected digital technologies appear to remain within the following digital systems working with AI, even if these are not limited to the following:

Table 4: Most Problematic Digital technologies working with AI at Borders

Facial Recognition Systems	High intrusiveness and higher proneness to error rates in comparison to other systems. Higher error rates occurring to racialised people.
Emotion Recognition Systems	Based on pseudo scientific notion that standardised ways of communicating and expressing in every human and might not take into account ● Interculturalism and cross-cultural communication ● The Autistic Spectrum
Biometric Systems	Higher error rates occurring to racialized people. Raises issues of informed consent in asylum seekers and refugees.

Source: Martín, 2024 ©

B) *Impacts of the use of Digital Technologies at Borders*

Positive	Negative
Directed to <u>Protection</u> of Migrants	Directed to <u>Control</u> of Migrants

Triangulation shows, in most cases in which digital technologies are deployed with the objective of 'protection' of migrants the impact upon them is more likely to be positive. Whereas when digital technologies are deployed with the objective of 'controlling' there is a higher chance this

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[12] Categories have been clearly defined and created as a means of simplifying the findings given the extension limit. However, by no means this division illustrates an understanding of these elements as isolated and non-interrelated to each other.

poses a negative impact on migrants, more especially on irregular migrants and/or racialised migrants.

Among the possible positive outcome of the use of digital technologies at borders, Arce (2024) suggests that when these systems are employed for: detection of possible victims of human trafficking or identification of unaccompanied minors and thus directed to the protection of migrants rather to controlling and restricting their opportunities the effects can be very positive. Additionally, Arias (2024) adds up the possible positive effect prediction systems for migratory crises working with AI could have on migrant populations when used to prepare and provide humanitarian assistance and work on alleviation. However, Arias (2024) also stressed scepticism over the fact that once developed, these systems would be deployed by state institutions to 'protective' rather than 'restrictive' policies.

For instance, triangulation overall agrees with Latoreno & Kift (2018) idea that governments and border control officials are incentivised to utilise digital infrastructures to reinforce physical borders and maximise control over migrants. There are more examples in which the impacts of the use of digital technologies by state authorities in their border management schemes are rather restraining, harmful and potentially more discriminatory against migrant populations, especially to those who come from historically racialised and marginalised communities. Often official narratives portray the deployment of these technologies as 'more secure' but later appear to be rather 'restraining'. A very clear example of this can be seen in FRONTEX use of drones in the Mediterranean and Aegean seas. The organisation has officially stated drones and plane sightseeing can save lives (Sunderland & Pezzani , 2022). However, despite evidence of torture and exploitation of migrants and refugees in Libya, FRONTEX aerial surveillance has been used to intercept migrant boats and informing the Libyan Coast Guard on their positions (Taylor, 2022).

Moreover, on the assumption that when digital technologies are portrayed as neutral and objective these might more frequently result in intended or unintended forms of negative discrimination towards marginalised communities, Achiume (2021), Amnesty (2024), Access Now (2023), Arce (2024) , Membrives (2024) and other sources in the triangulation process

confirm the use of digital technologies at borders can result in racially discriminatory practises in many cases and can even be biassed prior to their use. According to Arias (2024), the example of U.S Compass shows how parameters for predictiveness in AI systems might already be biassed.

At the human rights level, a misuse[13] of digital technologies primarily interfere with the following human rights. Arce (2024), Membrives (2024), Arias (2024), Amnesty (2024):

- Right to Privacy
- Right to life and right to physical integrity
- Freedom of Movement
- Right to non-discrimination
- Right to a fair trial

Some sources even suggested these digital technologies have an impact on every human right as they are not limited to the physical border (Arce, 2024). The case of the intersection between the right to life and physical integrity has been mentioned repeatedly. Brayne (2014), Arce (2024) & Achiume et al. (2020) underline the consequences an intensification of technology for means of controlling could have over migrant decisions to choose more dangerous, unofficial channels and ports of entry, thus interfering with their rights to life and physical integrity. This idea confirms one of the thesis statements in this research paper that suggested the increasing use of digital technologies in the border context could push migrant populations to choose unofficial and more perilous routes.

3.2.2 The U.S and EU Frameworks

I. Discourse: The 'Security' Narrative

After triangulating, the research found the existence of a general narrative proper to state institutions for the deployment of digital technologies at a public level and in the migration context that revolves around the notions of 'security', 'fairness' & 'efficiency'. In both the case

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[13] The word 'misuse' is understood in this context as any way of using digital technologies in the migration context that results in the violation of migrants rights.

of the U.S. framework and the EU Framework there appears to be an intensification of the 'security' narrative after 9/11 events and the 2015 migration crisis. Consequently, this turned into an intensification and fortification of the idea of control and protection from externalities which extended into the migration context and border control. At the same time, the security narrative and the intensification of border security facilitated an easy and rapid integration of digital technologies for control and surveillance purposes into borders in the migration context (Access Now, 2023 ; Algorace 2023 ; Arias, 2024 ; Palino, 2024; TNI 2023 ; Tamir, 2020).

The main narratives found evolved around 'efficiency, security, innovation, neutrality and objectivity, cost-free and anti-terrorism'. Arias (2024) argues that the typical narratives that evolved around the positive impacts of the use of digital technologies in the migration context have to do with matters of 'security.' Yet, there is growing scepticism over to what extent some migrants are 'more secure'. For example, according to Arce (2024) after the covid-19 there was a security narrative for the implementation of digital systems that had a clear logic. Notwithstanding, this security narrative did not stop after the spread of the virus and has had an impact on the digitalisation of the administrative tasks of migration. The issue is that the processes that were digitised have not been un-digitised. This matter is also corroborated by one migrant participant who mentions the increasing digitisation of the U.S-Mexico border through the CBP 1 App and suggests appointments are difficult to make leaving elderly people a feeling of being left behind. On the other hand, Palino (2024) suggests narratives of 'objectiveness' claim technology could actually help fasten and facilitate bureaucratic processes. Nonetheless, it has been proven that these can also dehumanise administrative tasks, and disproportionately affect migrants without access to digital technologies and the elderly.

II. Regulation: AI Regulation Landscape in the Migration Context

The matter of AI regulation appeared to be one of the most controversial according to the analysis. Thus, this section will provide an overview to the differences and similarities the two frameworks showcase in their regulation of AI systems and will later be translated into the implications for the migration context.

Table 5: AI Regulatory Framework: E.U and U.S

E.U	U.S
More centralised	Less centralised
More ethics-focused	More innovation-friendly
- AI Act - Eurodac: Fingerprinting - EU GDPR: Data Protection - Eurosur: Border Surveillance Directives - Digital Services Act - Digital Markets Act - AI Liability Act (draft)	Executive Orders - Maintaining American Leadership in AI - Promoting the Use of Trustworthy AI in the Federal Government Acts and Bills - AI Training Act - National AI Initiative Act

Source: Martín, 2024 ©

In terms of regulation, the E.U appears to have a more comprehensive and ethics-focused approach to AI systems. The U.S. framework favours a more innovation-friendly approach with sector-specific laws, voluntary guidelines and a balance between promotion AI development and addressing ethical concerns. Yet, Arias (2024) suggests these two regulatory frameworks cannot be compared given their very distinctive characteristics and nature. She stressed the idea that the U.S system being a Federal has Executive Orders that are non-binding character in character. This in turn, differs greatly from the E.U framework in which there are several regulations which are binding for all member states.

The EU presents itself as a frontrunner in AI regulation with the AI Act (Whyman, 2023 ; Oyidiya, 2024). Notwithstanding, when it comes to the provisions regarding the use of AI systems in the migration context many shortcomings are found. There appears to be consensus over the fact that this regulation lacks sufficient protection for migrant people in the migration context. (Amnesty International, 2024; Arce, 2024; Arias, 2024; EuroMed Rights- Statewatch, 2023; Membrives, 2024; Palino, 2024). In conclusion, these remarks point out to the idea that even when the E.U seems to be providing more human-centred regulation in regards to the uses of digital technologies and its intersection with migration, there are still some exceptions and shortcomings that make it fall short in its protection to migrants in practice.

III. Practice

Table 6: The E.U and the U.S in Practice

E.U	U.S
Externalisation to Northern Africa	Externalisation to Mexico
I.T Companies: less pressure	I.T Companies: more pressure
Lack of Transparency / Interoperability of Databases	

Source: (Martín, 2024) ©

A) Externalisation

European Union

One finding in regards to the EU Externalisation of migration to North.Africa has to do with the fact that the AI Act does not ban the exports of harmful surveillance technology to third countries (Access Now, 2024). Palino (2024) explains this issue translates into a lack of scope of any impact assessments or improvements in that regard beyond the EU territory. Triangulation proves this can very pose harmful consequences for non-EU citizens. In the context of the North Africa, triangulation shows the selling of these systems to authoritarian regimes could be both: 1) A way of expanding EU externalisation practices away from European accountability, 2) A way of providing tacit support (yet not judged) to autocratic regimes when these systems are used by to suppress human rights.

United States

U.S. Externalisation practices appear to be more concentrated in the Southern Border with Mexico. The case of border externalisation practices through technology in the U.S- Mexico border confirm three of the above-mentioned impacts of digital technologies to migrants:

1. The impact 'technification' of the border poses on the right to life on migrants. (Amnesty International, 2024 ; Molnar, 2020) found a correlation between the increase of

technology and mortality of migrants and its pushing towards more perilous routes. This notion is also shared by Arce (2024).

2. The idea that digital technologies used for controlling and surveillance purposes disproportionately affects racialised people. Amnesty International (2024), Arias (2024) and Membrives (2024) share the idea that these systems for control and surveillance disproportionately affect racialized people. This fact in a system that is structurally racist exacerbates and hardens through technology. It seems no coincidence that both the E.U and U.S frameworks intensify their externalisation strategies through technology especially to their southern borders, coinciding with more racialized populations.

3. The digitalisation of bureaucracy for the Southern Border: The example of the implementation of the CBP One App, confirmed by migrant interviews and literature (Amnesty International, 2024 ; U.S CBP, 2024) provides an example of the digitalisation of bureaucracy in the migration context which can be result in bureaucratic saturation.

In both frameworks there appears to be a lack of transparency and opacity in regards to data gathering and the functionality of digital technologies working with AI. These two frameworks share an issue of interoperability of databases between border agencies and other state agencies (including the criminal systems) which sometimes extend their initial mandates. This in turn:

1. Generates a link between migration and criminality,

2. Raises concerns about informed consent and the storage and uses of these data by state agencies and I.T companies.

B) Collaboration between IT Companies and Border State Agencies

The fact that the U.S is one of the world powers in terms of AI expertise and location of the main technology companies worldwide has an impact on the pressure these companies are able to exercise both for its economic capacity and consequently, their political relevance[14]. Furthermore, collaboration between U.S Border Agencies and IT Companies in the provision and exchange of information and resources of digital technologies for border security is proved by a number of

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[14] Media talks about the U.S vs China race for AI, which means these two countries are the leading ones in this field. An example can be found in Zulhusni (2023) analysis on U.S vs China in the AI Race for *Techwire Asia;* *(link)*

examples illustrated in the document analysis (Molnar, 2020: 17; Amnesty International, 20224. Furthermore, Palino (2024) confirms the U.S hosts a higher number of relevant IT companies and explains the U.S has been at the forefront of designing AI systems unlike the EU. This difference in relevance and presence of IT companies could partly help understand the bigger pressure IT companies pose to U.S policy-makers in halting human-centred regulations and appealing for technological innovation instead.

4. Conclusions

4..1 Contribution to the Field of Study

This research project contributed to research by closing the gap that exists between the intersection of digital technologies, the migration context and human rights in a context governed by lack of transparency and opacity that often difficulties critical research. This project contributes to research through the highlight of the following conclusions:

Viewing technology and AI as neutral and objective overlooks historical global power imbalances in the ability to design, control, access and produce technology. In migration, this can lead to accepting technologies are inherently unbiased, ignoring their historical and ideological roots. Thus, this notion perpetuates and hardens racial assumptions intrinsic in the system. Bearing this in mind, it is no surprise that racialized migrants are more disproportionately impacted by the negative consequences of the use of technologies at borders.

In regards to the E.U and the U.S, both provide a discourse for the deployment of these systems based on 'the security' narrative which was justified and strengthened under 9/11 and terrorism in Europe, the 2015 migration crisis and Covid-19. This narrative does not necessarily focus its efforts on protection but rather on control. When talking about the regulatory framework, it is considered the E.U to have a broader and more protective framework in the protection of migrants from the bad uses of technologies at borders. Yet, there are multiple shortcomings in the area of migration that leave migrants unprotected. National security exemptions in the EU's AI Act exemplify this matter. In practice, both frameworks externalise their borders through technology to the South, impacting mostly racialised migrants. At the practical level, U.S Border Agencies seem to be more intensive in their collaboration with I.T companies and prove bigger transparency issues in regards to data privacy.

Some of the main reflections from this study have to do with the fact that it is proven all over the research that an intensification of the 'technification' of borders does attempt against the right to light of migrants, and that there is a lack of liability for AI decisions in border control which results in no accountability mechanisms for affected migrants. Yet, even without the possibility for redress, these systems remain in place. Ultimately, the integration of digital technologies into border management shifts the concept of the borders, increasing control and surveillance before and after the crossing, digitalising bureaucracy and serving as a site for technological experimentation on individuals and groups who are in many cases unconsulted, unaware and disproportionately affected by these.

4..2 Limitations of Research

Experts involved in the project were primarily from the legal sector and NGOs, this presents a limitation in the representation of I.T workers or government officials despite extensive outreach. Consequently, the findings focus on the problematic uses of digital technologies. Moreover the lack of transparency and public awareness about digital technological deployment complicates the identification of individuals who have faced AI-driven discriminatory practices. Thus, leaving less room for the possibility of including these experiences in the study. In addition, not many sources and experts that were specifically familiarised with <u>both</u> the E.U and U.S frameworks, digital technologies and migration have been found. Moreover, more migrant experiences with digital technologies at borders should be studied and included[15].

4.3 Future Areas of Work

This research leaves room for further exploration in the field of the intersection between migration and digital technologies. These future areas include: the study of specific cases of migrants discriminated against by AI systems at borders, how the gender and ethnic imbalances in the composition of I.T company members affect design and control of digital technologies directed to the migration context, a more extensive comparison between the EU and the U.S framework , and studying how racialized women such as

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[15] Given the difficulty found in reaching out to migrants that were aware of how digital technologies impact them at borders, and whether they have been discriminated against by any of these, this paper does not include as much information on this topic as initially proposed.

Muslim women can be particularly affected by facial recognition systems or systems working with biometrics at borders.

4.4 Recommendations

Table 7: Recommendations for Actors

For Policy-Makers	For Civil Society Organisations
Pushing for human-centric regulations on technology. Developing policies from a perspective that departs from a non-neutral understanding of digital technologies and AI. Strengthening mechanisms for real accountability and transparency	Creating spaces for dialogue and the ability to produce counter-narratives. Producing sensibilization campaigns on the impacts and functions of digital technologies in the migration context. Opening spaces for the inclusion of migrant voices into the political debate. Especially for migrants in irregular situations, which are excluded from the act of voting in the host countries.
For the E.U and the U.S.	
Ensuring compliance with existing mechanisms for accountability and transparency, and developing and implement new ones that keep up with the rapid changes of digital technologies. Providing transparency over digital systems and more specifically those working with AI by: 1. Publishing where these systems are implemented, who is the server, how many there are and which purposes and functions they serve. 2. Opening the algorithms to check for biases and let people with the capacity to understand them to look for biases. Providing real and efficient human alternatives to the digitalisation of the administrative process for migration. For the EU in specific, • Adopting and Implement the AI Liability Act to offer the possibility to seek redress and a real process of justice and accountability for victims of AI-resulting discrimination.	

Source: Martín, 2024 ©

References

Access Now (2023) Bodily Harm: Mapping the Risks of Emerging Biometric Tech . *Access Now*: 1-46,https://www.accessnow.org/wp-content/uploads/2023/10/Bodily-harms-mapping-the-risks-of-emerging-biometric-tech.pdf

Access Now (2024).' Joint Statement: A dangerous precedent: how the EU AI Act fails migrants and people on the move' Access Now, March 13. https://www.accessnow.

Achiume, E. T. (2021). "Digital Racial Borders," *AJIL Unbound*. Cambridge University Press, 115, 333–338. doi: 10.1017/aju.2021.52.

Adam, A. (1995). A Feminist Critique of Artificial Intelligence. *European Journal of Women's Studies*, 2(3), 355-377. https://doi.org/10.1177/135050689500200305

Ajayi, V (2023). A Review on Primary Sources of Data and Secondary Sources of Data. European Journal of Education and Pedagogy, 2 (3) :19810.21091/edu.

Alencar, A. (2023).' Technology Can Be Transformative For Refugees But It Can Also Hold Them Back'. *Migration Policy Institute*, 27 July. Available at: https://www.migrationpolicy.org/article/digital-technology-refugees

Algorace (2023) Una Introducción a la IA y la discriminación algorítmica para movimientos sociales. *Algorace*: 4-57, https://www.algorace.org/2023/10/27/informe-i-una-introduccion-a-la-ia-y-la-discriminacion-algoritmica-para-movimientos-sociales/

Amelung, N. (2021). "Crimmigration Control" across Borders: The Convergence of Migration and Crime Control through Transnational Biometric Databases. *Historical Social Research*, *46*(3), 151-177. https://doi.org/10.12759/ hsr.46.2021.3.151-177

Amelung, N. & Galis, V (2023) Border control technologies: introduction. *Science as Culture*, 32 (3), 323-343, DOI: 10.1080/09505431.2023.2234932

Amnesty International (2024). Primer: Defending the rights of refugees and migrants in the digital age. *Amnesty International. Index Number: POL 40/7654/2024*

Arce, C (2024) Interview with Carlos Arce Jiménez. Interviewed by Marina Martín Del Río. 8 April. Available at: Annex

Arias, A (2024), Interview with Anabel K.Arias. Interviewed by Marina Martín Del Río. 19 April. Available at: Annex

Bans-Akutey, A., Tiimub, B.M. (2021). Triangulation in Research. *Academia Letters*, Article 3392. https://doi.org/10.20935/AL3392.

Brayne, S. (2014). Surveillance and system avoidance: Criminal justice contact and institutional attachment. *American Sociological Review*, 79, 367–391.

Browne, S. (2015). *Dark Matters: on the surveillance of blackness*. Durham and London: Duke University Press.

Dahler, N. (2020). Biometrics as imperialism: age assessments of young asylum seekers in Denmark. *Race and Class,* 62(1), 24-45. https://doi.org/10.1177/0306396820925648

Dane, F. C. (1990). Research Methods. Pacific Grove, CA.: Brooks/Cole

European Union Agency for Fundamental Rights (FRA) (2024). FRA Opinions: Biometrics.   Available at: FRA Europa EU Opinions Biometrics

Farraj, A. (2011). Refugees and the Biometric Future: The Impact of Biometrics on Refugees and Asylum Seekers. *Columbia Human Rights Law Review,* 42(3), 891-942.

Giddens, A. (1984). *The Constitution of Society: Outline of the Theory of Structuration.* University of California Press. California | Berkeley

EuroMed Rights-Statewatch (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*

Latonero, M., & Kift, P. (2018). On Digital Passages and Borders: Refugees and the New Infrastructure for Movement and Control. *Social Media + Society,* 4(1). https://doi.org/10.1177/2056305118764432

Lerman, J. (2013). Big Data and Its Exclusions. Stanford Law Review Online, 66 (1) : 55-63, https://review.law.stanford.edu/wp-content/uploads/sites/3/2016/08/66_stanlrevonline_55_lerman.pdf

Marx.A (2013). Qualitative Comparative Analysis at 25: State of Play and Agenda. *Political Research Quarterly,* 66 (1): 167-171.

Membrives, J. (2024), Interview with Judith Membrives i Llorens. Interviewed by Marina Martín Del Río. 22nd of March. Available at: Annex

Miles, M., Huberman, A. (1994). Qualitative data analysis: An expanded sourcebook. Thousand Oaks, CA.:*SAGE Publications.*

Mirza.H et al (2023). Considerations in Qualitative Research: Summary Guidelines for Novice Social Science Researchers. Social Studies and Research Journal, 11 (1): 441-449, https://www.researchgate.net/publication/370838199

Molnar, P (2020)..Technological Testing Grounds: Migration Management Experiments and Reflections from the Ground up. *EDRI, Refugee Law Lab.,*

https://edri.org/wp-content/uploads/2020/11/Technological-Testing-Grounds.pdf

National Committee for Research Ethics in the Social Sciences and the Humanities (2022). Guidelines for Research Ethics in the Social Sciences and the Humanities. 5th edition.

Nedelcu, M., & Soysüren, I. (2022). Precarious migrants, migration regimes and digital technologies: the empowerment-control nexus. *Journal of Ethnic and Migration Studies,* 48(8), 1821-1837, https://doi.org/10.1080/1369183X.2020.1796263

OHCHR (2023). Digital Border Governance: A Human Rights Based Approach. *University of Essex*, https://www.ohchr.org/sites/default/files/2023-09/Digital-Border-Governance-A-Human-Rights-Based-Approach.pdf

Palino,O. (2024), Interview with Oyidiya Oji Palino. Interviewed by Marina Martín Del Río. 18 April. Available at: Annex

PICUM (2019). Data Protection, Immigration Enforcement and Fundamental Rights: What the EU's Regulations on Interoperability Mean for People with Irregular Status. http://www.statewatch.org/media/documents/analyses/Data-Protection-Immigration-Enforcement-and-Fundamental-Rights-Full-Report-EN.pdf

Sunderland, J & Pezzani, L (2022). Airborne Complicit: Frontex Aerial Surveillance Enables Abuse. *Human Rights Watch,* August 12, https://www.hrw.org//2022/12/08/airborne-complicity-frontex-aerial

Tamir, I. (2020) Facial Recognition at a Crossroads: Transformation at our Borders and Beyond. *Samuelson-Glushko Canadian Internet Policy & Public Interest Clinic (CIPPIC)*, 2020, Available at SSRN: https://ssrn.com/abstract=371429

Taylor,A. (2022).' Frontex, Malta Accused of Facilitating Migrant Human Rights Violations' Euractiv, December 15th, https://www.euractiv.com/ section/ violations/

Tendayi A. Chander.S & Molnar.P (2020). 'Technology is the New Border Enforcement and it Discriminates' *Aljazeera,* 23rd November, https://www.aljazeera.co

Terhörst, P., et al. (2021). A Comprehensive Study on Face Recognition Biases Beyond. *IEEE Transactions on Technology and Society Demographic*s. doi:10.1109/TTS.2021.3111823

Transnational Institute (TNI). (2023) Telling the Story of EU Border Militarisation. *Transnational Institute (TNI)* https://www.tni.org/en/publication/telling-the-story-of-eu-border-militarization

Tyler, H. (2022). The Increasing Use of Artificial Intelligence in Border Zones Prompts Privacy Questions. *Migration Policy Institute*. 2,

https://www.migrationpolicy.org/article/artificial-intelligence-border-zones-privacy

United Nations. (2020). Report of the Special Rapporteur on contemporary forms of racism, racial discrimination, xenophobia and related intolerance. *United Nations*. https://antiracismsr.org/wp-content/uploads/2020/11/A_75_590_Advance-Unedited-Version.pdf

U.S Customs and Border Protection (2024). CBP One™ Mobile Application. U.S Customs and Border Protection, https://www.cbp.gov/about/mobile-apps-directory/cbpone

Wevers, R. (2018). Unmasking Biometric Biases Facing Gender, Race and Class and Ability in Biometric Data Collection. *TMG Journal for Media Histor*y, 21(2), 89-105. https://doi.org/10.18146/2213-7653.2018.368

Whyman, B. (2023)'AI Regulation is Coming: What is the Likely Outcome?' *Center for Strategic & International* *Studies,* October 10th. https://www.csis.org/blogs/strategic-technologies-blog/ai-regulation-coming-what-likely-outcome

Zulhusni,M (2023). ' U.S vs China: Who's Leading the AI Race' Techwire Asia, December 23rd, https://techwireasia.com/12/2023/who-is-leading-the-us-vs-china-ai-race/