Surveillance technologies at European borders

Assessment on Cyprus

European
Philanthropic
Initiative for
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Border Violence Monitoring Network

An assessment of Cyprus, 2024

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For a while now, civil society organizations have been denouncing the dangers of the use of new technologies and Artificial Intelligence in the field of migration and border control, including the deployment of intrusive surveillance technology and the collection of biometric data from people on the move. The lack of transparency and regulation surrounding these processes and their impact results in a lack of accountability on the part of the authorities, tech companies, as well as public research institutions, as it poses severe difficulties in the monitoring of likely violations of human rights. The recently adopted EU Artificial Intelligence Act is a missed opportunity to safeguard against the harms of intrusive AI. Instead, it excludes the field of migration and law enforcement from important regulations. This report is one in a series of research publications produced by the members of the Border Violence Monitoring Network, with the objective of expanding the knowledge and evidence of new technologies being used as part of the European migration regime. With a lack of concrete case studies and research from countries along the so-called Balkan Route, we look into the developments in border surveillance in these regions and analyze the (actual and potential) harmful impacts of these technologies on people crossing borders.

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List of abbreviations

AIU	Aliens and Immigration Unit
BZ	Buffer Zone
BMVI	Border Management and Visa Policy Instrument
CSS	Coastal Surveillance System
EC	European Commission
EUAA	European Union Agency for Asylum
Frontex	European Border and Coast Guard Agency
GC	Greek Cypriot
INGO	International Non-Governmental Organisation
IOM	International Organisation for Migration
ISF	Internal Security Fund
JRCC	Joint Rescue and Coordination Center
NCC	National Coordination Center
NG	National Guard
nm	Nautical miles
PoM	People on the move
RoC	Republic of Cyprus
SAR	Search and Rescue
SBA	Sovereign Base Areas
SOP	Standard Operating Procedures
TC	Turkish Cypriot
TRNC	Self proclaimed Turkish Republic of Northern Cyprus
UNFICYP	UN Peacekeeping Force in Cyprus
UNODC	United Nations Office on Drugs and Crime

1. Introduction

1.1 Context of migration movements

Since 1974, the island of Cyprus has been de facto divided into two areas, separated by a UN-controlled demilitarised "Buffer Zone" (BZ). North of the BZ is the self-proclaimed Turkish Republic of Northern Cyprus (TRNC), while the area south of the BZ is administered by the Republic of Cyprus (RoC). Additionally, the United Kingdom maintains two British Sovereign Base Areas (SBAs), Dhekelia and Akrotiri, on the island. The BZ, also referred to as the "Green Line", is not considered a border by the RoC or the international community, as the TRNC is not a recognised state, and the RoC's territory spans the whole island with exception of the SBAs. Political matters in Cyprus, including regarding migration, are strongly influenced by the division of the island. This report deals mainly with border technologies deployed in the territories under the effective control of the RoC.

The first boats carrying people on the move (PoM) arrived in Cyprus in the late 1990s/early 2000s leading to the first conversations around the securitization of migration[1]. A further change in the migratory movements came after the opening of crossing points along the BZ in 2003. PoM started crossing through the regular crossing points from the North to the RoC-controlled territories as well as the SBAs. Arrivals rose in the aftermath of the 2016 EU-Turkey deal and especially since 2019, as PoM were faced with increased securitization and violent practices at other external borders and started considering different routes to reach Europe[2]. The majority of PoM arrive by plane into Northern Cyprus, many on student visas, and cross into the RoC-controlled areas through the "Green Line"[3]. Others, and increasingly Syrians - who need a visa to enter the North[4] - reach Cyprus by boat from Türkiye, Lebanon or Syria directly. Additionally, a significant number of asylum applicants are individuals who have already been in the country on a domestic worker or student residence permit who apply for asylum after the expiration of their status[5].

In 2024, arrivals by boat, mainly by Syrians, are the most common form of accessing the territory of the RoC. In April 2024, the RoC government announced the suspension of all asylum applications by Syrian PoM[6]. According to some sources including 3tat, the RoC is also the EU country with the highest numbers of asylum seekers per capita[7]. However, the actual number of asylum seekers living in Cyprus is unclear and varies depending on the source. Some claim that the number from Eurostat includes asylum seekers that have long left the country[8].

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1   Academic 1, Personal Communication, 25 September 2023.
2   EUAA, Asylum Report 2023: Annual Report on the Situation of Asylum in the European Union. (LU: Publications Office, 2023), https://data.europa.eu/doi/10.2847/82162; For examples of testimonies of violence see BVMN, 'Testimonies Archive', BVMN, accessed 27 June 2024, https://borderviolence.eu/testimonies/.
3   Corina Drousiotou and Manos Mathioudakis, 'Cyprus AIDA Report 2022 Update April 2023', AIDA Report (Cyprus Refugee Council for ECRE, April 2023), 24–25, https://asylumineurope.org/wp-content/uploads/2023/04/AIDA-CY_2022update.pdf.
4   NGO Member 2, Personal Communication, 18 September 2023.
5   Drousiotou and Mathioudakis, 'Cyprus AIDA Report 2022 Update April 2023', 24–25.
6   Corina Drousiotou and Manos Mathioudakis, 'Cyprus AIDA Report 2023 Update May 2024', Country Report, AIDA (ECRE, May 2024), 15, https://asylumineurope.org/wp-content/uploads/2024/05/AIDA-CY_2023-Update.pdf; Reuters, 'Cyprus Suspends Syrian Asylum Applications as It Struggles with Arrivals Spike', Reuters, 14 April 2024, sec. Middle East, https://www.reuters.com/world/middle-east/cyprus-suspends-syrian-asylum-applications-it-struggles-with-arrivals-spike-2024-04-14
7   IHD, 'Migration Profile Cyprus', Migrants & Refugee Section (Integral Human Development, 9 September 2020), 1, https://migrants-refugees.va/country-profile/cyprus/; IND, 'Asylum Trends Appendix: Eurostat Data' (Immigratie- en Naturalisatiedienst (Netherlands), n.d.); Jonathan Shkurko, 'Cyprus Tops Number of Asylum Applicants per Capita in EU', Cyprus Mail Online, 23 March 2022, sec. Cyprus, https://cyprus-mail.com/2022/03/23/cyprus-tops-number-of-asylum-applicants-per-capita-in-eu/.
8   NGO Member 1, 2nd Personal Communication, 26 March 2024.

1.2 Policy Developments

Since its accession into the EU in 2004, the RoC has been a destination country for migrants, especially from South Asia, through its domestic work program, which offers temporary residence to third-country nationals as domestic workers.

With the increased securitization of other migration routes, Cyprus has become a transit country for individuals who want to reach Europe, as they depart from Lebanon or Syria toward Greece or Italy[9]. Following the increase in the number of arrivals on the island, the RoC authorities have adopted stricter policies with regards to access to its territory as well as asylum procedures, including carrying out rights violations in the form of illegal pushbacks (more in section 1.4.1), closing the island's First Reception Center Pournara (more in section 1.4.3) and installing border surveillance and control technologies (more in section 1.5 and section 3).

In 2022, the RoC together with the European Commission (EC) and several EU agencies signed a Memorandum of Understanding agreeing on the sharing of resources, coordination of responses between EU and Cypriot actors ranging from the reception of newly arrived migrants to asylum procedures, integration and return[10].

The new government, elected in 2023, decided to stop implementing some of these measures. It however implemented other measures relating to migration, such as the creation of a new Deputy Ministry for Immigration and Asylum, as well as increasing cooperation with Lebanon[11]. In early April 2024 Cyprus and Lebanon agreed on stronger cooperation for maritime patrols. One week later the Cypriot authorities started their first patrols in international waters, 30 nautical miles (nm) from the Lebanese shores[12].

In May 2024, EC president Von der Leyen, Cypriot President Christoudoulides and

Lebanese caretaker Prime Minister Mikati announced a €1 billion aid deal between the EU and Lebanon, of which €200 million are meant for bolstering Lebanese security agencies' so-called border and migration management[13]. Cyprus had strongly advocated for this deal before the agreement was reached. As a member state of the EU, Cyprus furthermore receives support in the form of resources and funding for migration-related costs. Between 2015 and 2021[14] the RoC received some €117.61 million in funding[15].

The RoC boasts for having attained the top position in the number of returns conducted among all EU member states, per capita[16].

9   Abby Sewell, 'Lebanon Crisis Drives New Migration to Cyprus', The New Humanitarian, 21 September 2020, https://archive.ph/iGgDj.
10   European Commission, 'Migration Management in Cyprus', 2022, https://home-affairs.ec.europa.eu/policies/migration-and-asylum/migration-management/migration-management-cyprus_en.
11   NGO Member 1, Personal Communication, 19 September 2023.
12   Jonathan Shkurko, 'Mutual Commitment Reached in Lebanon on Migration (Update 2)', Cyprus Mail, 8 April 2024, https://cyprus-mail.com/2024/04/08/all-available-tools-will-be-used-to-tackle-migration/; Nikolaos Prakas, 'Cyprus Ships Patrolling off Lebanon to Deter Migrants', Cyprus Mail, 16 April 2024, https://cyprus-mail.com/2024/04/16/cyprus-ships-patrolling-off-lebanon-to-deter-migrants/.
13   Abby Sewell, 'EU Announces 1 Billion Euros in Aid for Lebanon amid a Surge in Irregular Migration', AP News, 2 May 2024, https://archive.ph/yo1oM.
14   More up to date numbers were not available
15   European Commission, 'Factsheet Managing Migration EU Financial Support to Cyprus', February 2021, https://home-affairs.ec.europa.eu/system/files/2021-02/202102_managing-migration-eu-financial-support-to-cyprus_en.pdf.
16   Financial Mirror, 'Cyprus First in EU for Asylum Returns', Financial Mirror, 13 October 2023, https://www.financialmirror.com/2023/10/13/cyprus-first-in-eu-for-asylum-returns/.

1.3 Actors in Border Surveillance and Control

1.3.1 National Actors

Responsibility over the surveillance and control of the border in the Republic of Cyprus is shared between the police, under the authority of the Ministry of Interior, and the National Guard (NG), and JRCC under the authority of the Defence Ministry.

The **Aliens and Immigration Unit (AIU)** is the main police actor when it comes to border and BZ patrol on land [17], whilst the maritime border patrols are mainly conducted by the **Cyprus Port and Marine Police**[18]. Furthermore, a new special police unit of 226 officers was set up for the monitoring of the BZ. They are however stationed at Pournara and different immigration district offices instead of the BZ[19]. **The Joint Rescue and Coordination Center (JRCC)** is coordinating, controlling and directing the maritime operations, including Search and Rescue[20]. Lastly, the **National Guard (NG)**, has regular outposts along the 'Green Line' and is involved in controls along it in cooperation with the police[21] , as well as having a fleet that is used for maritime operations.

1.3.2 International Actors

The main international actors involved are the **UN Peacekeeping Force (UNFICYP)** which is monitoring the entirety of the BZ and has a mandate to "report and facilitate hand over of alleged illegal immigrants located within the buffer zone"[22] to the police at the crossing points. Furthermore, **Frontex** has been operating in Cyprus since 2019. Their officers are working on the identification and screening of migrants at the first reception centre 'Pournara', assist in return operations, the detection of document fraud and the collection of information for risk analyses[23]. It is not clear how many Frontex staff members are deployed on the island, since the agency only reports the number of deployments of its Standing Corps in work-days"[24] . By 2025 Frontex aims to have 32 staff members deployed in Cyprus[25]. The EUAA has been active in Cyprus since 2014, providing support in the area of asylum procedures, including registration and appeals, and reception[26]. **Europol** has been operating in Cyprus since 2019, supporting the relevant authorities, with a focus on counter-smuggling and counter-terrorism[27].

Several non-governmental actors are involved in the reception system, such as the organisation Codeca that operates in Pournara and Kofinou camp and the organisation.

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17   Cyprus Police, 'Αστυνομία Κύπρου - Immigration Office', accessed 19 May 2024, https://web.archive.org/web/20240519164624/ https://www.police.gov.cy/police/police.nsf/department7_en/department7_en?opendocument.
18   Cyprus Police, 'Αστυνομία Κύπρου - Police Border Marine', accessed 6 November 2023, https://www.police.gov.cy/police/police.nsf/ portmarine_en/portmarine_en?opendocument.
19   UNHCR Cyprus, Personal Communication, 21 September 2023; NGO Member 3, Personal Communication, 28 June 2023.
20   JRCC, 'The Mission of the Cyprus Joint Rescue Coordination Center', Joint Rescue Coordination Center, accessed 6 November 2023, https://web.archive.org/web/20230925195531/http://jrcc-cyprus.mod.gov.cy/mod/cjrcc.nsf/cjrcc01_en/cjrcc01_en?OpenDocument.
21   Marion MacGregor, 'Cyprus to Tighten Controls against "illegal" Migrants from the North', InfoMigrants (blog), 28 November 2019, https://www.infomigrants.net/en/post/21172/cyprus-to-tighten-controls-against-illegal-migrants-from-the-north.
22   UNFICYP, 'UNPOL of the United Nations Peacekeeping Force in Cyprus', UNFICYP, 19 November 2015, https://unficyp.unmissions.org/unpol.
23   Frontex, 'Frontex Support in Cyprus', Frontex News Release (blog), 24 June 2022, https://frontex.europa.eu/media-centre/news/ news-release/frontex-support-in-cyprus-jAjSaN.
24   Frontex, 'Management Board Decision 24/2024 Adopting adopting the annual activity report 2023 and its assessment', 12 June 2024.
25   Frontex, 'Management Board Decision 14/2024 Adopting the European Border and Coast Guard Standing Corps Annual Planning for 2025 and Indicative Multiannual Planning of Profiles Description', 15 April 2024.
26   EUAA, 'EUAA Country Operations', European Union Agency for Asylum, accessed 7 November 2023, https://euaa.europa.eu/operations/country-operations.
27   European Commission, 'Migration Management in Cyprus'.

1.4 Key Human Rights Issues

1.4.1 Pushbacks

Illegal pushbacks of boats by Cypriot authorities have been documented since March 2020[28]. Through a social media analysis BVMN has since identified 32 illegal pushbacks at sea and another 8 attempted pushbacks from within the Cypriot SAR zone[29].

Pushbacks constitute a violation of the non-refoulement principle (Geneva Convention) and the prohibition of collective expulsion (European Convention on Human Rights). In some cases, boats departing from Türkiye, Syria or Lebanon were intercepted by Cypriot authorities and were redirected into Northern Cyprus[30], where there are no asylum procedures in place[31], therefore preventing PoM from applying for asylum. In other cases, the boats were turned back even after they had made landfall when they arrived from Lebanon[32]. In some of these cases, Lebanese authorities were involved: vessels were towed back and left in Lebanese waters by the Cypriot Coast Guard, from where the Lebanese Navy collected them. There have also been reports of Cypriot authorities leasing private boats to return PoM[33]. Victims of pushbacks report threats with guns, their mobile devices being thrown into the sea, refusal of assistance, handcuffing people, beatings and administering electric shocks[34].

The RoC authorities have used the COVID-19 pandemic and a return agreement with Lebanon, which was originally discussed in 2002 as a reaction to the post-civil war developments[35], which was however never ratified by the Lebanese government, as justifications for illegal pushbacks[36]. The RoC have used an informal return agreement with Lebanon to justify these pushbacks . In a letter to the Commissioner for Human Rights at the Council of Europe, the Minister of Interior justified Cyprus' pushback practices by claiming that all individuals who were returned to Lebanon "stated that their destination was not Cyprus but Italy". As part of these practices both countries have exchanged data, further details on the type of information and exchange is unspecific[37]. According to a member of the JRCC there is no formal channel of communication, however the Lebanese army and navy call or email the Cyprus JRC in case of a boat with PoM[38]. The Cyprus government in general has a strong collaboration with Lebanon on border control. According to a project coordinator of the Cyprus Police, Cyprus regularly offers support and advice to the Lebanese authorities[39].

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28   Corina Drousiotou and Manos Mathioudakis, 'Cyprus AIDA Report 2021 Update April 2022', Country Report, AIDA (ECRE, April 2022), https://asylumineurope.org/wp-content/uploads/2022/04/AIDA_CY_2021update.pdf.

29   BVMN, 'Instagram Post by BVMN (@borderviolence)', 2 August 2024, https://www.instagram.com/p/C-KdbuqNkcG/?utm_source=ig_web_copy_link&igsh=MzRlODBiNWFlZA==.

30   Corina Drousiotou and Manos Mathioudakis, 'Cyprus AIDA Report 2020 Update April 2021', AIDA Report (Cyprus Refugee Council for ECRE, April 2021), 23, https://asylumineurope.org/wp-content/uploads/2021/04/AIDA-CY_2020update.pdf.

31   NGO Member 2, Personal Communication, 18 September 2023.

32   HRW, '"I Can't Go Home, Stay Here, or Leave": Pushbacks and Pullbacks of Syrian Refugees from Cyprus and Lebanon', 4 September 2024, https://www.hrw.org/report/2024/09/04/i-cant-go-home-stay-here-or-leave/pushbacks-and-pullbacks-syrian-refugees-cyprus

33   Nicos Trimikliniotis, Dimitris Parsanoglou, and Vassilis Tsianos, 'Mobile Commons in the Pre-Pandemic, Pandemic and Post-Pandemic Era: Drawing from Mobility Experiences in Post-Migrant Times', Praktyka Teoretyczna, no. 4(46) (2022): 9–26, https://doi.org/10.19195/prt.2022.4.1.

34   HRW, 'Cyprus: Asylum Seekers Summarily Returned', 29 September 2020, https://www.hrw.org/news/2020/09/29/cyprus-asylum-seekers-summarily-returned.

35   NGO Member 1, 2nd Personal Communication.

36   Andria Kades, 'Lebanon no longer accepting migrants returns from Cyprus', Cyprus Mail Online, 5 April 2024, https://cyprus-mail.com/2024/04/05/lebanon-no-longer-accepting-migrant-returns-from-cyprus/.

37   JRCC, Personal Communication, 29 March 2024.

38   JRCC.

39   Project Coordinator at Cyprus Police, 2nd Personal Communication, 28 March 2024.

Pushbacks were reported to have also taken place at the Buffer Zone. In 2020 an Iranian asylum seeker was pushed back and got stuck in the Buffer Zone for three weeks[40]. In May 2020 another 27 PoM got stuck in the Buffer Zone as they were refused entry into the RoC controlled area in Nicosia, this time close to the campus of the University of Cyprus. The PoM were from Afghanistan, Sudan, Cameroon, and Iran and include unaccompanied minors[41]. Two pushbacks took place in 2021[42]. The first concerned three Cameroonian nationals that were pushed back at the Ledra Palace crossing into the Buffer Zone, where they remained for 6 months. One of these individuals later entered the RoC-controlled areas irregularly, while the other was relocated to Italy following a visit by Pope Francis. The second documented pushback in 2021 at the 'Green Line' affected a Nigerian woman that was pushed back at the Ledra Palace crossing point and consequently returned to the North, not controlled by the RoC. In December 2022 another two Kurdish men were pushed back at Ledra palace, one of the two men remained stranded in the buffer zone for 9 months, until September 2023[43]. An Iranian woman requested asylum from the RoC authorities at the Ledra Palace crossing in November 2023 and was pushed back and left in the Buffer Zone until she returned back to an area not controlled by the RoC authorities three days later[44]. Since mid-May, PoM have been more systematically pushed back and trapped in several locations of the Buffer Zone by the Cypriot authorities. The number of people stuck continuously increases: as of August 2024, it was reported to be 70 people[45].

1.4.2 Detention

In November 2020[46], Pournara, the First Reception Center[47], was transformed into a closed camp. As of 2024, all PoM residing in the camp are not allowed to leave the premises except for appointments that are organised through the camp administration. This restriction of movement is enforced through a double high perimeter fence along with CCTV surveillance and police patrols. As there is no legal justification for the restriction of movement, this is considered de facto detention. On average people stay in Pournara for 30-40 days, while unaccompanied minors stay for an average of 80 days[48]. We furthermore observed fencing in the camp between sections. During informal conversations with the Immigration Police at Pournara, BVMN was told that many residents are held for longer in Pournara due to them being classified as "security threats" and have to stay in the camp until the Crime and Investigation department has either cleared them, or until they receive a detention order. One police officer said that 80% of those arriving by boat are classified as a "security threat", mainly Syrian POM[49]. BVMN could not confirm these numbers.

40   KISA, 'Facebook Post', 8 October 2020, https://www.facebook.com/KISACYPRUS/photos/a.452106748147772/4751461764878894.
41   ECRE, 'ECRE Weekly Bulletin June 7', 7 June 2024, https://ecre.org/mediterranean-migrants-stuck-in-limbo-in-cyprus-buffer-zone-%e2%80%95-italy-extends-state-of-emergency-yet-again-%e2%80%95-possible-plan-for-italy-and-usa-to-swap-migrants-%e2%80%95-european/; Philenews, 'Migrants Stranded in Cyprus Buffer Zone as Asylum Applications Suspended', 8 June 2024, https://in-cyprus.philenews.com/local/migrants-stranded-in-cyprus-buffer-zone-as-asylum-applications-suspended/.
42   Susannah Walden and Valentine Graveleau, 'Iranian Asylum Seeker Stuck in Limbo on Divided Cyprus', Jordan Times, 26 September 2020, https://jordantimes.com/news/region/iranian-asylum-seeker-stuck-limbo-divided-cyprus.
43   Drousiotou and Mathioudakis, 'Cyprus AIDA Report 2022 Update May 2024'.
44   Drousiotou and Mathioudakis.
45   Κουρούση, Νικολέττα. 'Μεταναστευτικό: Ενισχύεται η επιτήρηση στη Νεκρή Ζώνη – Αυτοψία Υφυπουργού στην Αυλώνα'. Philenews, 8 August 2024. https://www.philenews.com/politiki/article/1497972/enischiete-i-epitirisi-sti-nekri-zoni-aftopsia-ifipourgou-metanastefsis-stin-avlona/.
46   Drousiotou and Mathioudakis, 'Cyprus AIDA Report 2021 Update April 2022', 100.
47   Nicos Trimikliniotis, Dimitris Parsanoglou, and Vassilis Tsianos, 'Mobile Commons in the Pre-Pandemic, Pandemic and Post-Pandemic Era: Drawing from Mobility Experiences in Post-Migrant Times', Praktyka Teoretyczna, no. 4(46) (2022): 78, https://doi.org/10.19195/prt.2022.4.1.
48   Drousiotou and Mathioudakis, 'Cyprus AIDA Report 2022 Update May 2024'.
49   Management of Pournara, Personal Communication, 27 March 2024.

Another form of detention is prolonged custody in police stations, which should be for a maximum of 24 hours. However a recent report from the European Committee for the Prevention of Torture and Inhuman or Degrading Treatment or Punishment (CPT) observed detention periods varying from days, weeks, months and in rare occasions could even last for more than one year. During BVMN's visit to the Lakatamia police station a detainee in administrative detention who had been detained for months was interviewed. Many detainees spoke of lack of access to legal aid, as well as information around procedures. One detainee, who was shown a pamphlet detailing detainees' rights by one of our researchers, which meant to be shared at arrival for detention, stated he had not received it.

1.4.3 Increased xenophobia

Politicians in the RoC have long framed the arrival of PoM on the island as a national security threat. This rhetoric, combined with increased gains by ELAM, a far-right political party, have created an environment of normalisation of anti-migrant policies and actions.

On the 27th of August 2023 a violent pogrom took place against PoM coordinated by far-right groups from all over the island with reported active participation of the community council leader in the town of Chloraka. The attacks injured adults and children and destroyed several properties[50]. The program in Chloraka was followed by similar scenes in Limassol where around 500 people came together in a mob to destroy property and injured at least five[51].

On 5 January 2024, the office of KISA, the island's largest human rights organisation, was bombed[52]. Its former executive director had received multiple threats against himself and his family by far-right anti-migrant groups.

In April 2024, the Republic of Cyprus government announced that it suspended the processing of asylum applications for all Syrians[53]. The Republic's President justified the decision, stating that it was meant to "protect the interests of Cyprus".

1.5 Overview of Developments in Border Surveillance and Control Technologies

As a member of the European Union the Republic of Cyprus participates in information sharing agreements for the purpose of border surveillance (see section 1.5.1 and 1.5.2). The RoC is receiving EU funding in the current funding period for inter-agency cooperation with national (€651,172) and international actors (€160,000) and there are ongoing efforts to promote cooperation with other EU and non-EU countries[54].

The RoC is furthermore an early adopter of the use of new technology in the context of migration such as the camera surveillance system for the monitoring of the BZ and the coastal surveillance system (see section 1.5.3), many of these have been purchased with EU funding.

50   Drousiotou and Mathioudakis, 'Cyprus AIDA Report 2022 Update May 2024', 15–16; KISA, 'Sunday's Pogrom in Chloraka and the Day after', KISA Movement for Equality, Support, Anti-Racism, 31 August 2023, https://kisa.org.cy/sundays-pogrom-in-chloraka/.
51   Al Jazeera, 'Police Arrest 20 in Cyprus as Anti-Migrant Violence Spreads', Al Jazeera, 3 September 2023, sec. Migration, https://www.aljazeera.com/news/2023/9/3/over-a-dozen-arrested-in-cyprus-as-anti-migrant-violence-spreads.
52   Front Line Defenders, 'Office of human rights organisation KISA bombed', 5 January 2024, https://www.frontlinedefenders.org/en/statement-report/office-human-rights-organisation-kisa-bombed
53   Reuters, 'Cyprus Suspends Syrian Asylum Applications as It Struggles with Arrivals Spike'.
54   European Commission, 'Cyprus National Programme BMVI 2021-2027', n.d.

Some of the technologies implemented are developed by Cypriot companies and research institutions (see more on this in sections 3.1.2.5.1 and 3.1.2.5.1). Cypriot authorities regard these technologies in a favourable light, especially within law enforcement[55].

1.5.1 Seahorse Mediterranean Network

The Republic of Cyprus was part of the "Seahorse Mediterranean Network'' alongside Spain, Italy, Malta, France, Greece, Portugal and Libya. This network was an EU funded project between 2013 and 2019 with the aim to monitor and stop irregularised migration between Mediterranean countries through strengthening the capacities of the authorities involved, most notably the so-called Libyan Coast Guard and the establishment of a secure communication network between the participants for strengthened cooperation[56].

1.5.2 EUROSUR

Since its establishment in 2013, Cyprus has implemented the European Border Surveillance System (EUROSUR), the EU's control and surveillance system. EUROSUR was established as a platform facilitating information exchange and collaboration between Member States and Frontex. EUROSUR is organised through different National Coordination Centres, or national hubs, located in each EU Member State. These hubs form an interconnected network that includes Frontex. In Cyprus, the National Coordination Center (NCC) is part of the Cyprus Port and Marine Police and operates 24/7 to establish a situational picture with surveillance data from itself, the Aviation Police and the JRCC which it shares via close to real-time incident alerts and monthly reports with Frontex[57][58].

The EUROSUR services, according to Frontex, provide constant open-source monitoring of the area through weekly and monthly information by the Risk Analysis Unit of Frontex where further open-source data is analysed and support Cyprus' situational awareness as well as pre-frontier data collection. They further train staff to perform more "intelligence gathering" on the ground[59]. Frontex processes personal data from operation reports to collect information, including personal data related to suspects of cross-border crime[60].

EUROSUR uses various surveillance tools, including the European Union's Satellite Centre Copernicus. Here, Frontex manages EUROSUR Fusion Services (EFS), meaning that Frontex shares information collected from satellites and other surveillance tools such as the ones used by the European Maritime Safety Agency and the EU Satellite Centre with Member States[61]. EUROSUR, aims to offer diverse support for border surveillance, including services such as recordings from sea vessels, drone surveillance, and the utilisation of satellite imagery. The program defines situational pictures as an aggregation of geo-referenced near-real-time data and information gathered from various authorities, sensors, plat-

55   Project Coordinator at Cyprus Police, Personal Communication, 2023.
56   European Commission, '5th Annual Report on Immigration and Asylum (2013)', 22 May 2014; European Commission, 'Question for Written Answer E-002882/23 to the Commission Özlem Demirel (The Left)', 2 October 2023; Ruben Andersson, 'Hardwiring the Frontier? The Politics of Security Technology in Europe's "Fight against Illegal Migration"', Security Dialogue 47, no. 1 (February 2016): 22–39, https://doi.org/10.1177/0967010615606044.
57   European Commission, 'Cyprus National Programme ISF 2014-2020', n.d.
58   European Commission, 'Cyprus National Programme BMVI 2021-2027'.
59   Frontex, 'Frontex Evaluation Report JO Ledra 2022', 2023; Frontex, 'Specific Activity Plan, JO Cyprus 2021', 2021.
60   Frontex.
61   European Commission, 'Eurosur', accessed 16 May 2024, https://home-affairs.ec.europa.eu/policies/schengen-borders-and-visa/border-crossing/eurosur_en.

forms, and other sources. This information is transmitted across secure communication and information channels. It can be processed and selectively displayed, and shared with relevant authorities to achieve situational awareness. This approach aims to bolster reaction capabilities at, along, or in the proximity of external borders and the pre-frontier area.

The Cypriot authorities have received continuous EU-funding for the effective implementation of the EUROSUR directive. Between 2014 and 2021 the Republic of Cyprus received €11,636,000 under the objective of EUROSUR[62]. In the new funding period further money is allocated to the development of the NCC infrastructure and further inter-agency cooperation with eg. the AIU and customs authorities[63].

1.5.3 Installation of Border Surveillance and Control Technologies at the Coast and 'Buffer Zone'

In November 2021, the Cypriot government announced the implementation of control and surveillance technologies also at the BZ in the form of the installation of a fence along parts of the BZ and the purchase of a camera surveillance system to monitor the BZ (more in Section 3.1.2).

In recent years, especially since 2020, the Cyprus government started implementing further technologies for coastal surveillance, such as the Integrated Coastal Surveillance System. In total the JRCC has received €20 million in EU funding in the last 20 years, this includes projects such as the coastal surveillance system, drones, boats and the establishment of the Zenon Coordination centre in its premises[64]. The Zenon centre amongst other things is responsible for the control and early warning of migratory movement flow, aiming "to manage a complete surveillance, location, identification, prevention, command and control system, covering the maritime area of responsibility and jurisdiction of [the RoC]"[65].

For the years 2021 to 2027 Cyprus will receive €49,884,805.00 from the EU's Border Management and Visa Policy Instrument (BMVI) to increase border control capacities. Much of this is going towards the purchase of new equipment and technologies: €160,000 for air equipment, €1,865,625 for land equipment, €7,989,562.50 for maritime equipment, €2,287,500 for automated border surveillance systems and €7,185,286.03 for new technology surveillance equipment and infrastructure to support surveillance missions, including long and short range aeronautical and maritime systems[66]. The authorities further aim to register 60 pieces of equipment in the Frontex Technical Equipment Pool by 2029[67].

62   European Commission, 'Cyprus National Programme ISF 2014-2020'.
63   European Commission, 'Cyprus National Programme BMVI 2021-2027'.
64   JRCC, 'Presentation by the Joint Rescue Coordination Center Larnaca'; JRCC, '2. Presentation by the Joint Rescue Coordination Center Larnaca', https://www.icao.int/EURNAT/Other%20Meetings%20Seminars%20and%20Workshops/_Search%20and%20Rescue%20 events%202023/SAR%20WS%20PPT01.pdf.
65   JRCC, 'Mission of Zenon, Cyprus Joint Rescue Coordination Center', Cyprus Joint Rescue Coordination Center, accessed 25 September 2023, https://web.archive.org/web/20230925194527/https://jrcc-cyprus.mod.gov.cy/mod/cjrcc.nsf/cjrcc45_en/cjrcc45_en?opendocument.
66   European Commission, 'Cyprus National Programme BMVI 2021-2027'.
67   European Commission.

2. Methodology

2.1 Research & Data Gathering Methods

The research was conducted using a combination of methods, including document analysis, interviews, observation and field visits. This study has two main research approaches: first, through desk research, we created a mapping of the border technologies under study and followed up on information received; second, through field assessments, we visited several key sites to identify border technologies and conduct interviews with key stakeholders.

2.1.1 Desk Research

Desk research was used to develop a knowledge about border technologies in Cyprus at the beginning of our study, as well as after the two field assessments to follow up, verify and extend our knowledge on information we obtained through the interviews, observations, and field visits.

In this study, the desk research consisted of several components. A literature review of existing academic and non-academic reports, articles, books, and publications related to the research topic was conducted. e collected and analysed government reports, policy documents, technical manuals, and any available records that are relevant to the research topic. Documents were mainly collected from public documents registers of Frontex, the European Commission, Parliament and Council, as well as through 'Google Dorking'; a method that exploits the Google search engine to find search results that a simple search would not reveal. Further, we submitted Freedom of Information requests to Frontex and the European Commission to obtain specific documents or data related to the research topic.

The initial desk research provided the context and knowledge needed to make decisions about further research strategies and the selection of interviewees. We developed a site-overview on Cyprus that reports on recent developments in border technologies, the types of technologies in use, and the main actors. This approach ensured that the subsequent fieldwork was more focused and the interviews more specific. Furthermore, desk research was used to follow up on information gathered through interviews in the field assessments. As such, much of the information obtained through desk research is used in the final analysis of the study.

2.1.2 Interviews

We conducted a total of 39 semi-structured interviews with a range of stakeholders to gather in-depth information on the subject. Due to the absence of BVMN member organisations in Cyprus gaining access to people on the move proved logistically and ethically challenging. Therefore, the majority of our interviews were expert interviews with individuals such as NGOs, academics, lawyers and activists who work closely with or advocate for refugees and migrants in the region. These participants included:

Table 1: Interview respondents

Category of Interviewed	Number Interviews	Details
Local Community Members	2	We spoke with residents who lived in the relevant area.
Authorities	11	We spoke with local authorities and government officials responsible for the policies and practices related to the research topic.
INGOs	4	We spoke with two different INGOs working in fields related to the research topic both in the first and in the second field assessment to follow up on more recent developments.
Local Actors / NGOs	9	We spoke with 15 actors that offer support to people on the move or are engaged with border technologies, some organisations were interviewed in group settings and one organisation was interviewed twice, once in each field assessment.
Researchers	8	We spoke with researchers working on migration or technologies, one academic was interviewed twice, one time in each field assessment.
People-on-the-move	11	We spoke with one PoM individually, the others in a group setting. In the individual interview due to the lack of private space and precarious situation, we decided to avoid sensitive topics, such as border technologies. The interview in a group setting equally avoided this topic, as none of the people had crossed recently, and was more focused on general difficulties PoM face in Cyprus.

2.1.3 Informal Conversations

Another method used in this study was informal conversations. They were a valuable research tool to gather insights, opinions, and experiences in a less intimidating and structured approach. This method was used during our field visits to various key locations where we visited local sports clubs, restaurants, and coffee shops along or within the Buffer Zone.

2.1.4 Observations

In addition to interviews, the team spent a total of four weeks in the field, spread over a period of 10 months.The first field assessment lasted one week in June 2023. The team stayed for a further two weeks in September 2023. The third field visit took place in March 2024, as part of a delegation from a Member of the European Parliament on a mission to assess the situation regarding migration in Cyprus. During these field visits the team spent several days in various key locations where border technologies were being deployed.

Figure 1: Map with Locations visited by the field team, map by Google Earth

2.2 Limitations of the Study

We encountered several challenges during the research process.

One of the main limitations was the limited time and resources available for the research. This limited the amount of data collected (number of interviews and site visits).

Access to certain stakeholders, particularly those in positions of authority, proved challenging. Convincing them to participate required considerable effort and time, which was often not forthcoming despite letters of reference from EPIM and Members of the EU Parliament.

In some cases, language posed a communication challenge. We addressed this by using local interpreters to ensure effective communication with participants.

Ethical considerations, particularly when working with vulnerable or marginalised communities, were essential. As BVMN does not have a partner organisation in Cyprus, we decided not to conduct many interviews with PoM. However, the lived experiences, personal stories and unique perspectives of these individuals are essential to a full understanding of how technology and AI affect their lives. The lack of interviews with people on the move in Cyprus is a significant limitation of our study.

3. Border technologies in Cyprus

3.1 Surveillance technologies in Cyprus

3.1.1 UN Buffer Zone Surveillance Technologies

The UN Buffer Zone is a demilitarised zone that stretches nearly across the entirety of the island. The BZ is solely patrolled by the UNFICYP, however authorities from the North and South have military outposts outside the BZ, along the line and operate close to it. In a strip of the east of the island, the two sides are divided not by the BZ, but the road to Agios Nikolaos. All four authorities, the UNFICYP, the RoC authorities, the 'authorities' in the North and the SBA authorities utilise different technologies.

3.1.1.1 Electric Gates in the Republic of Cyprus

In early March 2021, the Ministry of Interior announced the construction of a barbed wire fence along parts of the BZ, initially stretching from the town of Astromeritis to the area of the old Nicosia Airport and later extended to Athine
way to hold back undocumented migrants"[68] Electric, remote-controlled gates were installed to give local farmers access to the farmland inside the BZ. When the team visited Astromeritis, the electric gate was left open: a local farmer explained that this was the common practice to make the access easier[69]. The deployment of the fences is unpopular, especially in the impacted areas, as local residents report that they are ineffective, disrupt their activities such as farming in the BZ and lower the price of land they own in the BZ[70].

Figure 2: Electric gate in Astromeritis, 30/06/2023, BVMN

68 Philenews, 'A Fence in Astromeritis to Keep Migrants out (PHOTOS)', Φιλελεύθερος, 9 March 2021, sec. Local, https://in-cyprus.philenews.com/local/a-fence-in-astromeritis-to-keep-migrants-out-photos/; Nick Theodoulou, 'Green Line Barbed Wire Set to Be Expanded to Athienou | Cyprus Mail', Cyprus Mail Online, 20 January 2023, sec. Cyprus, https://cyprus-mail.com/2023/01/20/green-line-barbed-wire-set-to-be-expanded-to-athienou/; KNEWS, 'Border Barbs: Former Minister Takes on Migration Policies', Knews.Com.Cy, 2 August 2023, https://knews.kathimerini.com.cy/en/news/border-barbs-former-minister-takes-on-migration-policies.
69 Farmer in Astromeritis, Personal Communication, 30 June 2023.
70 BVMN, 'Field Trip Observations', 17 September 2023; Farmer in Astromeritis, Personal Communication; Local Residents of Mammari, 12 September 2023; Nick Theodoulou, 'Gate in Buffer Zone Barbed Wire Fence Knocked down | Cyprus Mail', Cyprus Mail, 7 July 2022, sec. Cyprus, https://cyprus-mail.com/2022/07/07/gate-in-buffer-zone-barbed-wire-fence-knocked-down/.

Figure 3: Part of the barbed wire fence set up along the BZ in Astromeritis, 30/06/2023, BVMN

3.1.1.2 'Green Line' Surveillance Cameras by the Republic of Cyprus

On 4 November 2021, shortly after the fence was installed, Bloomberg reported that Cyprus' Defense Ministry had purchased a "land surveillance system [...] to stem the flow of asylum seekers and illegal goods from the Turkish-controlled north of the island" for €27.5 million[71]. The system, developed by the Israeli defence manufacturer Elbit, was intended to be operational "within three years". Different information on the elements of the system are reported: One newspaper article mentions the use of cameras and drones transmitting live footage and audio 24/7[72].

71   Daniel Avis, 'Israel to Build Surveillance System for Cyprus Green Line', Bloomberg, 4 November 2021, https://www.bloomberg.com/news/articles/2021-11-04/israel-s-elbit-to-develop-land-surveillance-system-for-cyprus.
72   Proto Thema, 'Ισραηλινό Σύστημα Επιτήρησης Με Κάμερες Και Drones Στην Πράσινη Γραμμή Στην Κύπρο', Proto Thema, 4 November 2021, sec. Κοσμος, https://www.protothema.gr/world/article/1178210/israilino-sustima-epitirisis-stin-prasini-grammi-stin-kupro/AMP/.

A defence magazine reported that it included "the installation of [...] electrical systems – including thermal cameras and laser rangefinders"[73]. A central command centre shall guarantee that several different authorities can benefit from the system. The live image is reportedly primarily controlled by the National Guard, which then relays information to the police, fire department or UNFICYP[74]. Speaking to SigmaLive on 7 April 2023 about the purchased system, the Cypriot Defense Minister Michalis Giorgallas explained that "about 179 cameras would be installed along the entire length of the Buffer Zone", adding that "the installation of the cameras has begun and we have [received] the first images"[75].

As part of its field trip, the team conducted several visits to different parts of the Buffer Zone, in search for signs of these cameras. They were not able to determine if the cameras were in the process of being deployed or operational, as claimed. During the first field assessment there were no signs of large surveillance cameras, drones or laser rangefinders. During our interviews, several respondents mentioned that they are aware of the surveillance system, however, they did not have information if it is being used. Some local actors suggested that the project could have been canned as the current Cypriot government had taken a different approach from its successor when dealing with the topic of migration[76]. During one informal conversation as part of the second field assessment one respondent, who runs a shop at the BZ close to the cameras we identified, told us that these cameras were Israeli cameras set up in early 2024.

However, we were unable to confirm this.

The Ministry of Defense refused to share any information about the surveillance system, stating that "the information in question [...] is considered information related to the Security of the Republic, therefore it has been marked with a security level of 'CONFIDENTIAL'"[77].

We, however, did identify CCTV cameras along the BZ in different areas of Nicosia in the second field assessment. Cameras were located in central Nicosia, it is unclear if these cameras were set up by the RoC authorities or belonged to the UNFICYP CCTV surveillance system, as some were set up south of the BZ and some inside the BZ.

According to a local resident near the BZ area of Aglantzia, Nicosia, relaying information he obtained from a police officer, cameras had been put up in the area of Sopaz, Nicosia. When BVMN visited spots close to Sopaz, we found CCTV cameras on an outpost and similar cameras in an abandoned building, facing the BZ. It is unclear if any of the CCTV cameras are connected to the Buffer Zone surveillance system.

73   Χρίστος Λοΐζου, 'Σύστημα Επιτήρησης Της ELBIT Για Την Εθνική Φρουρά - Το Ιστορικό Του Προγράμματος', DEFENCE ReDEFiNED (blog), 5 November 2021, https://defenceredefined.com.cy/σύστημα-επιτήρησης-της-elbit-για-την-εθνικ/.
74   Nick Theodoulou, '"All Seeing" Monitoring System of Green Line Set to Be Operational by September | Cyprus Mail', Cyprus Mail Online, 10 May 2022, sec. Cyprus, https://cyprus-mail.com/2022/05/10/all-seeing-monitoring-system-of-green-line-set-to-be-operational-by-september/.
75   SigmaLive, 'Στην Κύπρο Ουκρανοί Εμπειρογνώμονες-Μπαίνουν 179 Κάμερες Στην Πράσινη Γραμμή | News', SigmaLive, 7 April 2023, sec. News, https://www.sigmalive.com/news/politics/1087772/stin-kypro-oukranoi-empeirognomones-mpain-oun-179-kameres-stin-prasini-grammi.
76   NGO Member 3, Personal Communication.
77   Nikolas Zakos, 'Personal Communication' (Ministry of Defense of the Republic of Cyprus, 24 February 2023).

Figure 4: Camera at the BZ in central Nicosia, 24/03/2024, BVMN

Figure 5: Camera attached to a NG outpost in Nicosia, the round camera is facing the BZ, 01/07/2024, BVMN

Figure 6: Cameras of the same type as above in Nicosia, attached to an abandoned building facing the BZ 01/07/2024, BVMN

3.1.1.3 Potential Drone use in the Buffer Zone by the Republic of Cyprus

One interviewee who used to work for the British military in the Sovereign Base Areas, stated that the Republic of Cyprus has started trialling the use of drones on land and sea over the last five years, and finally deployed them in early 2022. One of the authorities that purchased drones is the police. However, they only use them in the event of a tip-off, e.g. in a suspected human trafficking case. In the event of a deployment, the authorities would avoid flying over properties, so they would probably not be noticed by residents[78]. No residents living close to the BZ that we talked to had observed the use of drones.

3.1.1.4 Surveillance by Sovereign Base Area Authorities

The SBA employs various technologies for controlling the BZ, utilising cameras to detect irregular movements, smuggling, drug trafficking, and activities such as hunting or the use of nets by poachers. Footage from these cameras is retrieved every 24 hours and undergoes analysis by the intelligence department of the SBA police. Follow-up actions may include investigations against individuals (with the assistance of informants) or the setup of ambushes. The head of the SBA Intelligence Unit declined to be interviewed.

If regular activity at a specific crossing point is identified, the police will increase surveillance in those specific areas. In addition to cameras, the SBA uses drones, tablets, and heat-sensitive binoculars. The manually operated drones, can ascend up to 500 metres in the sky, approximately 50 to 80 cm, was visually demonstrated.

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78   Former SBA Employee, Personal Communication, 14 September 2023.

The former officer of the SBA who was previously involved with the bird poaching unit, collaborated closely with the Drone unit, which comprises around five drone operators managing four drones, distributed in pairs across two bases. The SBA authorities share information with the RoC authorities when relevant. Poaching, drug trafficking and irregularized border crossings were mentioned to us as specific areas where information is exchanged. The dynamics of control of the Buffer Zone underwent significant changes after 2004, primarily due to increased crossings across the BZ, aligning with the information presented in the country report[79].

3.1.1.5 UNFICYP CCTV System

Due to the high costs associated with manned observation posts (OPs), UNFICYP has moved towards the deployment of CCTV surveillance equipment along the Buffer Zone. Dorn estimates that "a camera system is over 10 times cheaper [than OPs] the first year and over 100 times cheaper in subsequent years"[80]. In total, UNFICYP has installed "about a dozen cameras" within the Buffer Zone[81]. These are mostly located in Nicosia, and they do not record beyond the Buffer Zone. The surveillance cameras are monitored by UNFICYP personnel. According to Dorn, this is the same surveillance system that's used to monitor UN premises. It is important to note that UNFICYP engaged with both sides regarding the Security Council's request to un-staff opposing forces' positions along the Buffer Zone and instead install cameras. However, the overall level of mistrust and the increasing number of crossings through the buffer zone did not allow for progress on that topic[82].

3.1.2 Coastal Surveillance Technologies

The entirety of the coast, apart from the SBA, is claimed by the RoC and the RoC is officially responsible for the entire SAR zone around the island. However, the RoC de facto only monitors the areas under its effective control in the south of the island. The Joint Rescue Coordination Center (JRCC) in Larnaca was established in 1995 as the coordinator of Search and Rescue operations and is in charge of the majority of surveillance of migratory movements. However the assets it coordinates and receives information from are often operated by other national actors. As such, the JRCC's air and sea units mainly come from the the NG and Police[83] However, units can also come from the Civil Defense, private companies operating high specs vessels, merchant ships or warships, cruising in the vicinity of the incident[84].

In recent years the coastal surveillance of the Cypriot coast has undergone upgrades. In 2016 €2.475.229 (90% paid by the EU) was spent on a Coastal Surveillance System through which the JRCC monitors the southern shores 24/7. In 2019 €1,877.250 (75% paid by the EU under the Internal Security Fund (ISF) 2014-2020) were spent on the expansion of the coastal surveillance system, the budget having been even further expanded in order to include additional equipment[85]. These upgrades include the repeated relocation

79   SBA Police Officer, Personal Communication, 17 September 2023.
80   A. Walter Dorn, 'Electronic Eyes on the Green Line: Surveillance by the United Nations Peacekeeping Force in Cyprus', Intelligence and National Security 29, no. 2 (4 March 2014): 184–207, https://doi.org/10.1080/02684527.2013.834216.
81   UNFICYP consultant, Personal Communication, 2 October 2023.
82   UN Secretary General, 'United Nations Operation in Cyprus - Report of the Secretary-General', 5 July 2022.
83   Airborne Units from the Police Aviation Unit and Maritime Units from the Port and Maritime Police
84   JRCC, '2. Presentation by the Joint Rescue Coordination Center Larnaca'.
85   European Commission, 'EU Action Plan for the Eastern Mediterranean Route', 18 October 2023, https://home-affairs.ec.europa.eu/eu-action-plan-eastern-mediterranean-route_en; RoC European Funds Unit, 'Projects under ISF Borders 2014-2020', n.d.; European Commission, 'Cyprus ISF Implementation Report 2021', 2021; European Commission, 'Cyprus National Programme ISF 2014-2020'; JRCC, Personal Communication.

and growth of the JRCC which was supported with €801.000 by the EU[86], which also led to the establishment of the Zenon Center in 2016[87]. In addition, the NCC by the Marine Police has received upgrades in the form of new infrastructure and purchase of new equipment (see sections below).

In July 2024 the RoC Ministry of Interior announced additional EU funding of €30 million had been approved for the upgrade of the coastal surveillance system[88].
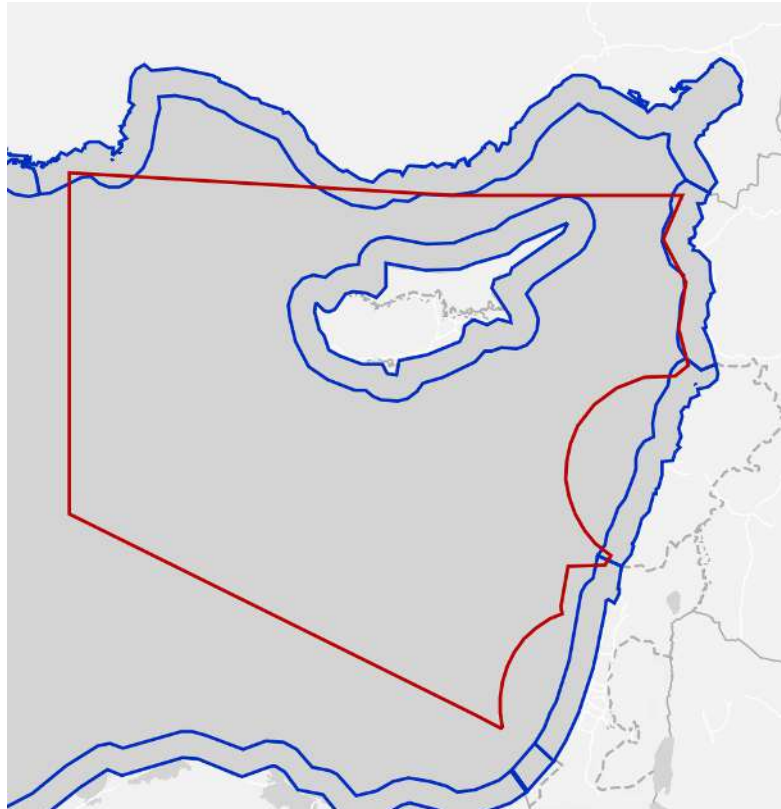

Figure 7: Map of Cyprus, the red lines indicate the SAR Zone,

the blue lines indicate territorial waters

3.1.2.1 Vessel Traffic Management and Information System

The RoC authorities, like most coastal states, utilise a National Vessel Traffic Management and Information System (VTMIS). The VTMIS was not developed to control irregularized mobility, but it now plays an important role in the infrastructure of border surveillance that monitors boat crossings.

VTMIS is a system that collects, processes, stores and displays information from different surveillance assets in a certain area. The RoC VTMIS was manufactured and upgraded by the company Wärtsilä. According to Wärtsilä[89], the Cypriot system incorporates information from four high-performance coastal surveillance shore-based radars, an AIS subsystem comprising seven Transas T214 Automatic Identification System (AIS) Base Stations, two Radio Direction Finders, and a Distributed Communications subsystem

86   RoC European Funds Unit, 'Projects under ISF Borders 2014-2020'.
87   JRCC, '2. Presentation by the Joint Rescue Coordination Center Larnaca'.
88   RoC Ministry of Interior, 'Εξασφάλιση Πρόσθετης Χρηματοδότησης Από Την Ευρωπαϊκή Επιτροπή Για Αναβάθμιση Του Συστήματος Επιτήρησης Των Θαλάσσιων Συνόρων Της Δημοκρατίας', 18 July 2024, http://www.moi.gov.cy/moi/moi.nsf/index_gr/index_gr?opendocument.
89   Wärtsilä, 'VTMIS for the Republic of Cyprus', USA, accessed 16 May 2024, https://www.wartsila.com/usa/reference/vtmis-cyprus.

featuring nine VHF Base Stations[90]. The radio direction finders establish a ship's position based on the location of fixed transmitting stations. The surveillance shore-based radars use radio waves to determine the distance, position and speed of objects on the sea, such as crossing boats. It is partly responsible for the planning and coordination of search and rescue operations during border surveillance, locating and rescuing people whose lives are at risk; it operates 24/7[91][92]. According to a presentation by the JRCC there are five coastal radars along the shore which is one more than originally reported by Wärtsilä. The communication system is used to inform mariners of any danger but it is also used for border surveillance and border control[93].
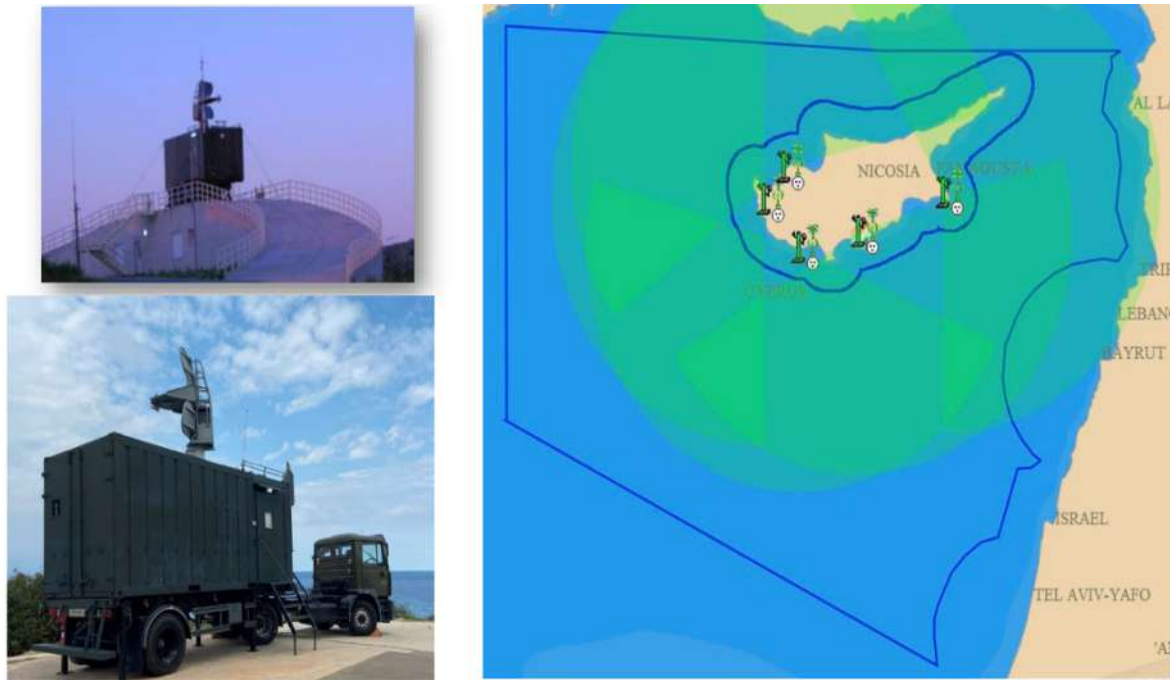

Figure 8: JRCC, 2023, Photos of coastal radars and map of location and range of coastal radars, Presentation by the Joint Rescue Coordination Center Larnaca, accessed 17/05/2024

AIS is a technology used in maritime communication and navigation. It automatically broadcasts and receives information about a ship's identity, position, course, and speed. AIS transponders are installed on most commercial vessels and some larger recreational boats. These transponders continuously transmit AIS data on designated VHF radio frequencies[94], allowing other vessels and shore-based stations to receive and process the information. The AIS will potentially be updated with EU funding during the 2021–2027 period[95].

This integration of radar and AIS data creates a more comprehensive picture of maritime activity The radars are capable of detecting boats even when they are not broadcasting AIS signals. When a vessel appears on radar but not broadcasting an AIS data, it triggers suspicion, prompting the possibility of deploying further technologies, such as drones for investigation[96]. According to funding documents new radar consoles and other surveillance equipment (including observation and surveillance platforms), radio telephony, and an emergency generator were purchased through the EU's ISF funding

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90 Wärtsilä.
91 JRCC, Personal Communication.
92 European Commission, 'Cyprus National Programme BMVI 2021-2027'; JRCC, Personal Communication.
93 European Commission, 'Cyprus National Programme BMVI 2021-2027'.
94 VHF stands for very high frequency (VHF) radio bands in the frequency range between 156 and 174 MHz that are used for maritime purposes.
95 European Commission, 'Cyprus National Programme BMVI 2021-2027'.
96 Project Coordinator at Cyprus Police, Personal Communication.

scheme[97].

3.1.2.2 Camera Surveillance Technologies

In 2020, an Integrated Coastal Surveillance System (CSS) was established for the JRCC, to target PoM arriving by boat to Cyprus by detecting, identifying and continuously monitoring the territorial waters of the Republic of Cyprus using visual technologies[98]. The system was financed through EU funds[99].

The system consists of 12 long-range day and night (thermal) cameras strategically located at 9 coastal and 3 inland sites. They have a range of 20 kilometres in good weather. The cameras are used when other information, such as radar, triggers the SAR system[100]. In addition, three vehicles equipped with mobile sensors and UAVs (see section 3.1.2.3) are part of the system and are used to prevent and detect the movement of PoM. Real-time video feeds from these devices are relayed to control centres at the ZENON Coordination Centre within the JRCC[101]. The JRCC also has operational control and coordination of maritime and air assets with police and National Guard cameras[102].

Figure 9: JRCC, 2023, Map of location and range of fixed surveillance cameras radars, Presentation by the Joint Rescue Coordination Center Larnaca, accessed 17/05/2024, <https://www.icao.int/EURNAT/Other%20Meetings%20Seminars%20and%20Workshops/_Search%20and%20Rescue%20events%202023/SAR%20WS%20PPT01.pdf>

97   European Commission, 'Cyprus National Programme ISF 2014-2020'.
98   European Commission.
99   JRCC, 'Integrated Coastal Surving System', accessed 25 September 2023, https://web.archive.org/web/20230925202919/http://jrcc-cyprus.mod.gov.cy/mod/cjrcc.nsf/cjrcc44_en/cjrcc44_en?OpenDocument; JRCC, Personal Communication.
100   JRCC, Personal Communication.
101   JRCC, 'Integrated Coastal Surving System'.
102   European Commission, 'Cyprus National Programme BMVI 2021-2027'.

Figure 10: JRCC, n.d., Surveillance Vehicles, Integrated Coastal Surveillance System, accessed 16/05/2024, <https://web.archive.org/web/20230401012119/http://jrcc-cyprus.mod.gov.cy/mod/CJRCC.nsf/cjrcc44_en/cjrcc44_en?opendocument>

3.1.2.3 Drone (UAV) Surveillance

We identified two drones used by the JRCC and one by the Cyprus Police for maritime surveillance. However, more drones might be used for the same purpose through the sharing of equipment with the NG that partly operates out of the JRCC's Zenon centre and police units as is the case for example with the UAS Edomon (see section 3.1.2.5.1)

One Israeli drone of the type Aerostar Tactical Unmanned System (TUAS) by the company Aeronautics Defence Systems was procured by the JRCC in 2021/22, co-funded by the EU Internal Security fund[103]. According to the tender they spent €5.003.164,00 on the drone including two spare engines[104]. The drone can carry up to 50kg of equipment for eg. surveillance and can fly up to 12 hours on end, being able to reach speeds up to 110 knots (204 km/h), in a range up to 250 km[105]. However, the actual range depends on the weather conditions.

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103   TED, 'Tender: 54274-2022 - Result' (Ted • tenders electronic daily, 1 February 2022), https://ted.europa.eu/en/notice/-/detail/54274-2022.
104   TED.
105   Defence Redefined, 'JRCC | Procurement of an Aerostar TUAS - VIDEO', Defence Redefined, 16 January 2022, https://defenceredefined.com.cy/jrcc-procurement-of-tuas-type-uav-video/.i

Figure 11: Defence Redefined, 2022, Aerostar Tactical Unmanned System (TUAS), ΚΣΕΔ | Προμήθεια μη επανδρωμένου αεροσκάφους τύπου TUAS – VIDEO, accessed 17/07/2024,‹https://defenceredefined.com.cy/%ce%ba%cf%83%ce%b5%ce%b4-%cf%80%cf%81%ce%bf%ce%bc%ce%ae%ce%b8%ce%b5%ce%b9%ce%b1-%ce%bc%ce%b7-%ce%b5%cf%80%ce%b1%ce%bd%ce%b4%cf%81%cf%89%ce%bc%ce%ad%ce%bd%ce%b-f%cf%85-%ce%b1%ce%b5%cf%81%ce%bf%cf%83/›

As part of the CERETAB research project (see section 3.1.2.5.1) the Cyprus Police acquired an UAS Edomon by the Greek based company ALTUS LSA. The UAV Edomon can operate for up to six hours, is equipped with night vision capabilities, and can travel up to 80 nm (148 km) from the shore. However, in practice the drone is not used further than 40 nm (74.08 km) from the shore line[106]. According to the tender, the drone was purchased for €265,971.70[107].
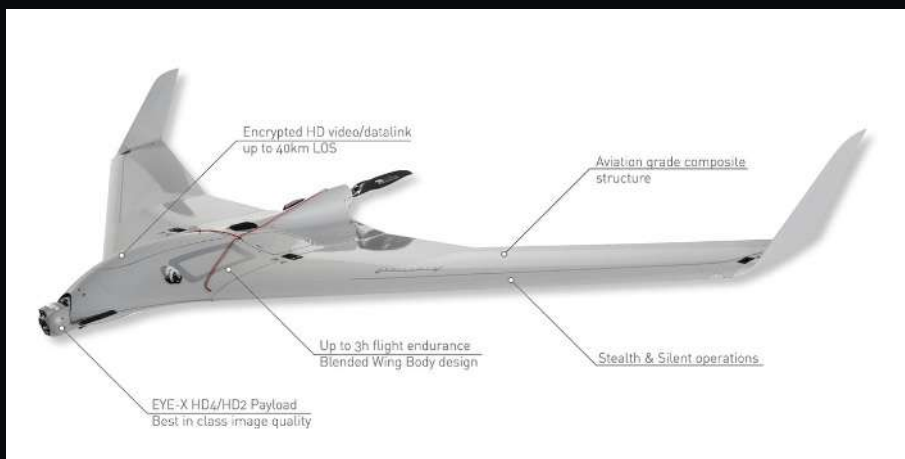
Figure 12: C-Astral, n.d., UAS Edomon, The Cyprus based JRCC has upgraded systems from C-Astral Aerospace, accessed 17/07/2024, ‹https://www.c-astral.com/en/newsroom/61/the-cyprus-based-jrcc-has-upgraded-systems-from-c-astral-aerospace›

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106   Redefined, 'DEFEA 2023 | ALTUS LSA - Impressive Presence with ATLAS 8 Aerial "Cannon" and Drones Control Station', Defence Redefined, 24 May 2023, https://defenceredefined.com.cy/defea-2023-altus-lsa-impressive-presence-with-atlas-8-aerial-cannon-and-drones-control-station/.
107   TED, '164633-2021 - Result', TED, accessed 17 July 2024, https://ted.europa.eu/en/notice/-/detail/164633-2021.

The drones are integrated into the Coastal Surveillance System and provide real-time video feeds to the JRCC, which is used for maritime surveillance. According to the Cypriot police the use of drones is a recent addition to its surveillance arsenal[108]. The Port and Marine Police is responsible for policing the coastline of the RoC, its ports, its territorial waters and contiguous zone. During Search and Rescue, the drone may operate in the wider sea area of Nicosia Flight Information Region[109]. The drones are used as primary means in cases where other surveillance means, such as radars, identify a particular incident to get a better picture of the situation, but also for almost daily surveillance in the Cavo Greco area, where most boats arrive[110].

In 2020 Frontex announced that it had cooperated with the European Fisheries Control Agency to conduct its first airborne mission in Cyprus. Their surveillance aircraft performed nearly 80 flying hours in the southern part of Cyprus' Exclusive Economic Zone (EEZ). No new airborn activity has been mentioned since then[111].

3.1.2.4 Helicopter Surveillance

Since 2021, four helicopters have been used for operations and maritime surveillance to monitor the coast, including the prevention of irregular migration[112]. Surveillance means, such as helicopters, will be upgraded/replaced with the contribution of EU funding, including for example night vision goggles[113]. Presumably in 2022, new surveillance equipment was installed on police helicopters for the mentioned purpose[114]. The upgrade included new IP Cameras[115], which are video cameras that receive and send images via an IP network. They are connected to a router[116] and are used to transfer surveillance images wirelessly to the control centres of the Police & Rescue departments. The router and the camera can be managed remotely from the ground, using a Remote Management System[117].

108   Project Coordinator at Cyprus Police, Personal Communication.
109   Project Coordinator at Cyprus Police.
110   JRCC, Personal Communication.
111   Frontex PAD Office, 'Frontex Teams up with EFCA to Support Cyprus in Fisheries Control', 8 October 2020, https://www.frontex. europa.eu/media-centre/news/news-release/frontex-teams-up-with-efca-to-support-cyprus-in-fisheries-control-vn91cv.
112   European Commission, 'Cyprus National Programme ISF 2014-2020'.
113   European Commission, 'Cyprus National Programme BMVI 2021-2027'.
114   The equipment was supplied in cooperation with Lithuanian company TELTONIKA NETWORKS and Cypriot company EyeScan
115   PTZ type IP Cameras (by Eye Scan)
116   industrial cellular router RUT951 by Teltonika Networks using Ethernet interface for the data transfer. RUT951 is equipped with LTE Cat 4 and is capable of 50 Mbps uplink, which is more than enough for multiple 1080p30 CCTV streams.
117   Teltonika, 'CONNECTED SURVEILLANCE IN CYPRUS POLICE HELICOPTERS', accessed 17 May 2024, https://teltoni-ka-iot-group.com/use-cases/transportation/connected-surveillance-in-cyprus-police-helicopters.
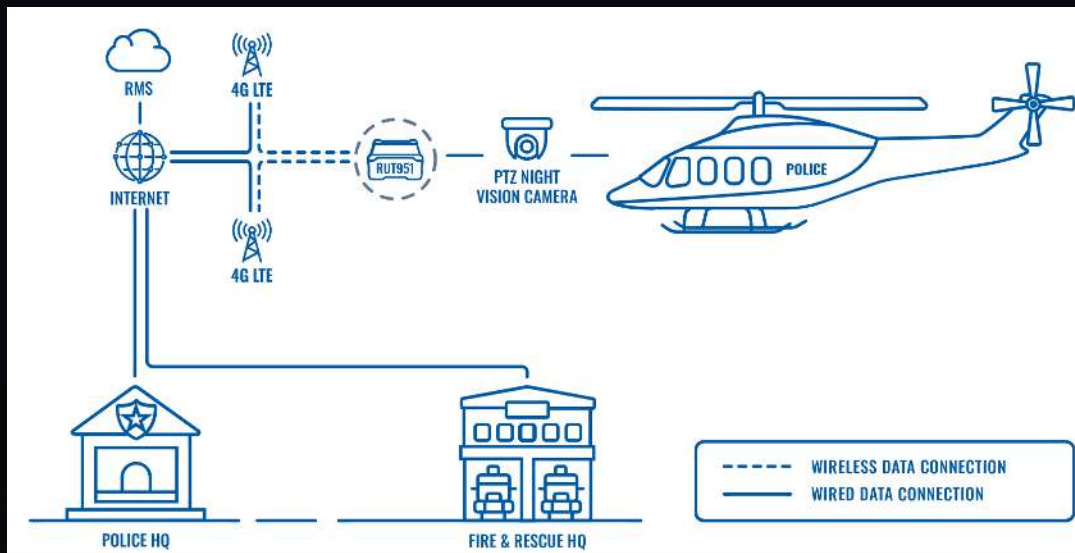
Figure 13: Teltonika, n.d., Helicopter Camera System, 'CONNECTED SURVEILLANCE IN CYPRUS POLICE HELICOPTERS', accessed 17/05/2024, <https://teltonika-iot-group.com/use-cases/transportation/connected-surveillance-in-cyprus-police-helicopters>

3.1.2.5 Boat Surveillance

Most of the border surveillance assets are maritime units from the Navy and Coast Guard, many of which have been purchased with EU funding[118]. In 2021 they consisted of 13 patrol boats and 5 fast patrol vessels along the coast[119]. Cyprus was given funding under the Internal Security Funding Programme of 2014-20 for the purchase of 5 medium size patrol boats and 10 rigid inflatable boats that were supposed to be operational by 2020[120]. It received 3 boats for the Port and Marine police for a total of €9,592,700 (90% funded by the EU, 10% RoC) which were operational by 2022[121]. An undisclosed number of RHIBS for the JRCC were purchased for €1.558.068 (90% funded by the EU, 10% RoC)[122]. The fleet of the Port and Maritime Police is supposed to be renewed under the new funding period in order to increase border surveillance and improve early detection, identification and intervention at sea borders[123]. This includes 10 new RHIBS and training which are intended to be purchased by October 2024 and will be used in all naval stations of the RoC. The total cost for this will be €5,640,311.87 (75% financed by the EU)[124]. Three more vessels for border surveillance will be purchased for €4,377,093.37 (75% EU funded)[125][126]. Another €510,000 will be spent on the maintenance of large (above 60m) migration surveillance vessels[127].

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118 JRCC, Personal Communication.
119 European Commission, 'Cyprus National Programme ISF 2014-2020'.
120 European Commission.
121 RoC European Funds Unit, 'Projects under ISF Borders 2014-2020'.
122 RoC European Funds Unit.
123 European Commission, 'Cyprus National Programme BMVI 2021-2027'.
124 The contracts have gone to CYPRUS BUREAU OF SHIPPING LTD, SERBAS LTD and KEWATEC ALUBOAT OY AB
125 The contracts have gone to Tehnomont Shipyard Pula Ltd and Consortium Kyriakos Mavris and Sergej Krstanovic
126 JRCC, Personal Communication.
127 The contracts have gone to CYPRUS BUREAU OF SHIPPING LTD, SERBAS LTD and KEWATEC ALUBOAT OY AB; Cyprus European Funds Unit, 'Grant Agreement Signed for the "Maintenance of Surveillance Vessels" Project', accessed 18 May 2024, https://www.moi.gov.cy/MOI/eufundsunit.nsf/All/03EDAAE41870B8F6C2258ADD00271EBB?OpenDocument.

The Cypriot authorities are in the process of upgrading the current fleet with more forms of new tech, such as night vision goggles[128].

3.1.2.6 Research Projects on Coastal Surveillance Technologies

Cypriot government authorities and research centres have taken part in several EU funded research projects for the development of coastal surveillance technologies.

3.1.2.6.1 CERETAB

Since 2018, the governmental actors, universities and private companies in Cyprus and Greece, with the financial support of the EU, have conducted collaborative research projects. The research projects aim to increase the maritime surveillance capabilities through the purchase and development of new border technologies such as drones to facilitate information collection and sharing.

The Cypriot-Greek research project CERETAB (Collaboration for the Establishment of Increased Awareness of the Situation) ran between December 2018 and February 2023 and included the Hellenic Ministry of Citizen Protection, Ionian University, Department of Informatics (IURC), Cyprus Police and the KIOS Research Center at the University of Cyprus. The authorities received €1,023,990 in total from the EU for the execution of the project, with the goal of enhancing cooperation between Greek and Cypriot sea patrols in the 200 nm-area between the two countries. Paphos, Cyprus, and Megisti, Greece through the purchase of new drones. It also aims at developing a shared platform for the exchange of border surveillance data between the countries[129]. This Common Information Exchange platform between the two countries gives the Greek authorities access to a live feed of the drone in Cyprus and is also used to communicate further information on cases of irregularised migration in the 200 nm area between the two countries[130]. However, according to the Project Coordinator at Cyprus Police we interviewed, the platform has not been actually made use of, as there have been no incidents in the mentioned region[131].

As part of the project the Cypriot authorities purchased the drone UAS Edomon (see section 3.1.2.3) and training for UAV operators for a total of 265 971.70 EUR, according to its tender[132]. According to the Project Coordinator at Cyprus Police, the use of the drone has become indispensable for monitoring of the approximately 200 kilometre strip between the two countries, as the earth's curvature makes the surveillance with other means difficult[133]. The use of drones is more cost-effective than traditional surveillance methods, with an estimated hourly cost of around €100 compared to helicopters which cost €3,500 per hour. The drones enable a faster response as well, as they can travel long distances in smaller time than other methods, according to the Police coordinator[134].

Furthermore a software algorithm was developed by the KIOS research centre together with the Port and Marine Police of Cyprus based on collected data from field tests which will enable the system to "track and follow vessels and persons"., However it is unclear if the system was implemented during the project timeline. Furthermore historical data on the area was attempted to be acquired by the Ionian University to develop "intelligent"

128   European Commission, 'Cyprus National Poggramme BMVI 2021-2027'.
129   Project Coordinator at Cyprus Police, 2nd Personal Communication.
130   European Commission, 'CERETAB "CoopERation for incrEased siTuational Awareness estaBlishment" D1.1 Meeting Minutes', 2023.
131   Project Coordinator at Cyprus Police, 2nd Personal Communication.
132   TED, 'Tender: 164633-2021 - Result' (Ted • tenders electronic daily, 2 April 2021), https://ted.europa.eu/en/notice/-/detail/164633-2021.
133   Project Coordinator at Cyprus Police, Personal Communication.
134   Project Coordinator at Cyprus Police.

routes[135].

The project was deemed a success and both the two drones and the information sharing platform are still in use, even after the projects have ended[136].

3.1.2.6.2 REACTION

The REACTION[137] project built on the insights from the 2022 CERETAB project to incorporate AI into the surveillance systems. The project is a cooperation between the Greek Ministry of Migration and Asylum, Hellenic Police, Cyprus Police, Centre for Research & Technology Hellas (CERTH), KIOS Research and Innovation Centre of Excellence - University of Cyprus, National and Kapodistrian University of Athens, University of West Attica and Centre for Security Studies. The incorporation of the different types of technologies with the help of AI are intended to build a "holistic border surveillance and awareness platform, providing pre-frontier situational awareness for early identification of critical situations"[138]. The EU supports the project with a total of €3,716,100.

The limited public information on the project suggests new drones will be purchased to monitor EU border territories in real time remotely. These drones carry a number of heterogeneous sensors (including optical, thermal and multispectral cameras, LIDAR) which are part of a command system that collects a large amount of data. The collected data is processed through intelligent algorithms which will produce an alert, identifying the type of incident and its coordinates, as well as crisis classifications and risk or threat assessments for the enhancement of border surveillance and SAR operations. This information will be interoperable with the systems of Frontex, the Greek law enforcement authorities, and Reception and Identification Centers (RICs), since the platform integrates into the Cypriot-Greek Common Information Exchange Platform, the enhanced Common Information Sharing Environment (e-CISE), as well as EUROSUR, the EU border surveillance system.

In a demonstration video, optimal automatic drone paths are calculated for a swarm of drones that survey a defined area of interest and create a 2D and 3D map which can be used for a wide range of applications. Another demonstration shows the automatic identification of objects and subjects in the area, such as "car", "person" and automatic tracking of objects of interest[139].

Figure 14: Greek Ministry of Immigration & Asylum, 2023, Demonstration of technologies used in the research project Reaction, REACTION VID V 3 2, accessed 17/07/2024, <https://www.youtube.com/watch?v=faYufytEb-Jc>

135   European Commission, 'Ares(2023)3762116'.
136   Project Coordinator at Cyprus Police, 2nd Personal Communication.
137   REACTION stands for REal-time ArtifiCial InTelligence for BOrders Surveillance via RPAS data aNalytics to support Law Enforcement Agencies
138   European Commission, 'Cyprus National Programme BMVI 2021-2027'.
139   REACTION VID V 3 2, 2022, https://www.youtube.com/watch?v=faYufytEbJc.

Because the project is still ongoing, it is difficult to discuss and present any further implementation and potential implications of the project.

3.1.2.6.3 NESTOR

The JRCC and RoC Ministry of Transport, Communication and Works have participated in and are named as end users of the EU funded research project NESTOR (aN Enhanced pre-frontier intelligence picture to Safeguard The EurOpean boRders). Nestor took place between 2021 and 2022 and aimed "to demonstrate a fully functional next-generation holistic border surveillance system providing pre-frontier situational awareness"[140] at land and maritime borders. Its focus was on combining surveillance technologies with AI, visual and social media analysis for improving situational awareness and intelligence, including of pre-frontier areas[141]. Technologies were trialled in Cyprus in early 2023. A video of the trial shows the use of fixed radio frequency detectors at the Evangelos Florakis Naval Base in Mari, the use of cameras by the Greek company MILTECH, a drone, an unmanned underwater vehicle[142].

RF localization through fixed sensors

Visual detection through MILTECH camera

Tethered-drone assigned to the incident for more comprehensive surveillance

Assignment of the UUV, to search underwater for the fallen migrants' belongings.
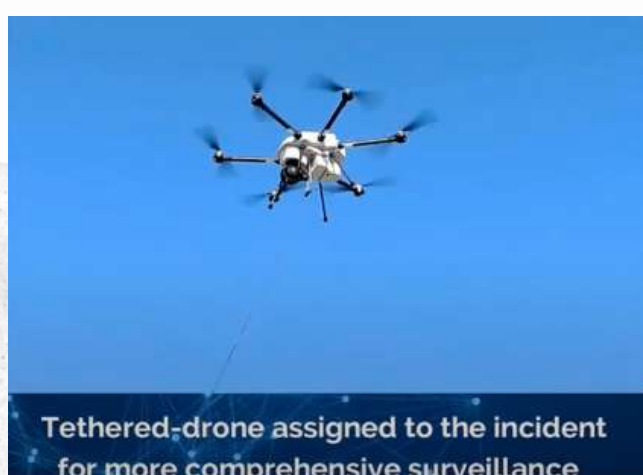
Figure 15: Nestor Project H2020, 2023, Photos of technologies trialled in the Nestor Cyprus trial, NESTOR H2020 Project final video, accessed 17/07/2024, <https://www.youtube.com/watch?v=W-PRARClOxI&ab_channel=NestorProjectH2020>

140   Frontex, 'New EU funded border security projects', 23 March 2022, https://archive.is/0mANM
141   Nestor, 'Approach', 2023, https://web.archive.org/web/20230325115804/https://nestor-project.eu/approach/; Georgia Melenikou and Sofoklis Efremidis, 'Nestor: D2.2 Report on the Legal, and Security Requirements for Border Security', 2020.
142   NESTOR H2020 Project Final Video, 2023, https://www.youtube.com/watch?v=W-PRARClOxI.

3.2 Collection of biometric data and the role of databases in Cyprus

3.2.1 Reception Center Surveillance

The Republic of Cyprus currently operates two reception centres, Pournara and Kofinou, and is currently renovating the so-called Detention Centre for Returns in Limnes[143]. Since 2019, all irregularly arrived individuals that wish to apply for asylum are referred to the Pournara First Reception Centre for registration. Pournara is a closed camp, residents are not allowed to leave the premises. After Pournara, asylum seekers either move into private housing or in some cases to housing in the Kofinou reception centre, which is an open centre with a curfew. The Limnes centre, which is due by August 2025[144], is meant to house rejected asylum seekers, and people in the voluntary return process. During the renovation period, all individuals due to stay at Limnes are currently housed in Kofinou.

Much of the reception centre costs are covered by EU funding. In the 2021-2027 funding period of BMVI, €6,670,700 go to the so-called Hot Spot areas [145], which include Cyprus. For example, Pournara has received financial support from the EU since 2013 for the upgrade of the existing infrastructure[146].

3.2.1.1 Pournara First Reception Center

Since 2020, there has been significant investment into infrastructure, such as fencing and CCTV surveillance, to enforce Pournara's closed-camp policy. While people on the move await their processing at Pournara, they are subject to 24/7 CCTV surveillance in certain areas of the camp. During our visit we saw cameras at the gate facing outwards from the camp, in the camp entrance area, along the entire perimeter fence facing outwards into the area between the first and second fence. Interviewees spoke of the presence of cameras in common areas such as the kitchen, cameras outside the main square of the section for unaccompanied children and in outdoor residential areas[147]. The camp administration confirmed to us that camera footage is transmitted to a control room that only security guards with special training have access to[148].

Our team was able to document the reported construction of a second, much larger fence around the camp[149]. A former Pournara employee who worked at the camp in summer 2023 mentioned an increased police presence around the camp since 2023. The police were performing 24/7 patrols around the camp, enforcing the prohibition to leave the camp[150].

143   European Commission, 'Migration Management in Cyprus', 24 June 2024, https://archive.is/ajacf
144   Management of Kofinou, Personal Communication, 29 March 2024.
145   The Platform for International Cooperation on Undocumented Migrants, 'New Research finds that the EU funds digital walls and police dogs at the EU's borders', 4 July 2024, https://archive.is/tkgwT
146   European Commission, 'Cyprus National Programme BMVI 2021-2027'; OCP-CY, 'Working Group on First Reception - Operational Conclusions of 3rd Meeting' (EU Operational Coordination Platformon migration management support to Cyprus, 2020); European Commission, 'Cyprus ISF Implementation Report 2021'.

147   UNHCR Cyprus, Personal Communication; Former Pournara Staff 2, Personal Communication, 22 September 2023; Management of Pournara, Personal Communication.
148   Management of Pournara, Personal Communication.
149   Former Pournara Staff 2, Personal Communication.
150   Former Pournara Staff 2.

Figure 16: Main Entry of Pournara (Fencing is marked in blue, cameras in red), 12/09/2023, BVMN

Figure 17: Second parameter fence from the outside with externally facing camera (Fencing is marked in blue, cameras in red), 12/09/2023, BVMN
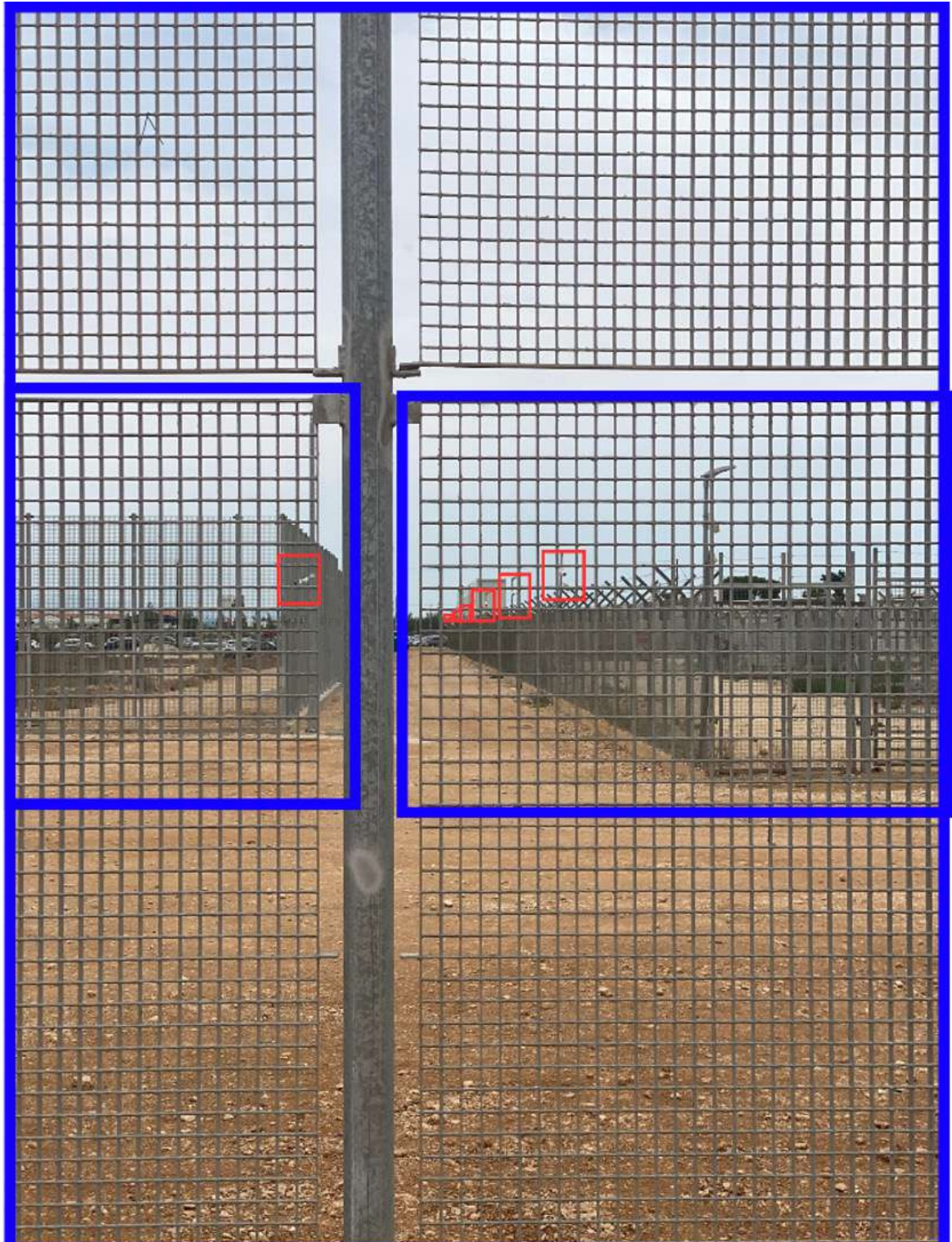
Figure 18: Fencing between the first and second parameter fence at Pournara (Fencing is marked in blue, cameras in red), 12/09/2023, BVMN

Figure 19: Second perimeter fence and outward facing camera at Pournara (Fencing is marked in blue, cameras in red),12/09/2023, BVMN
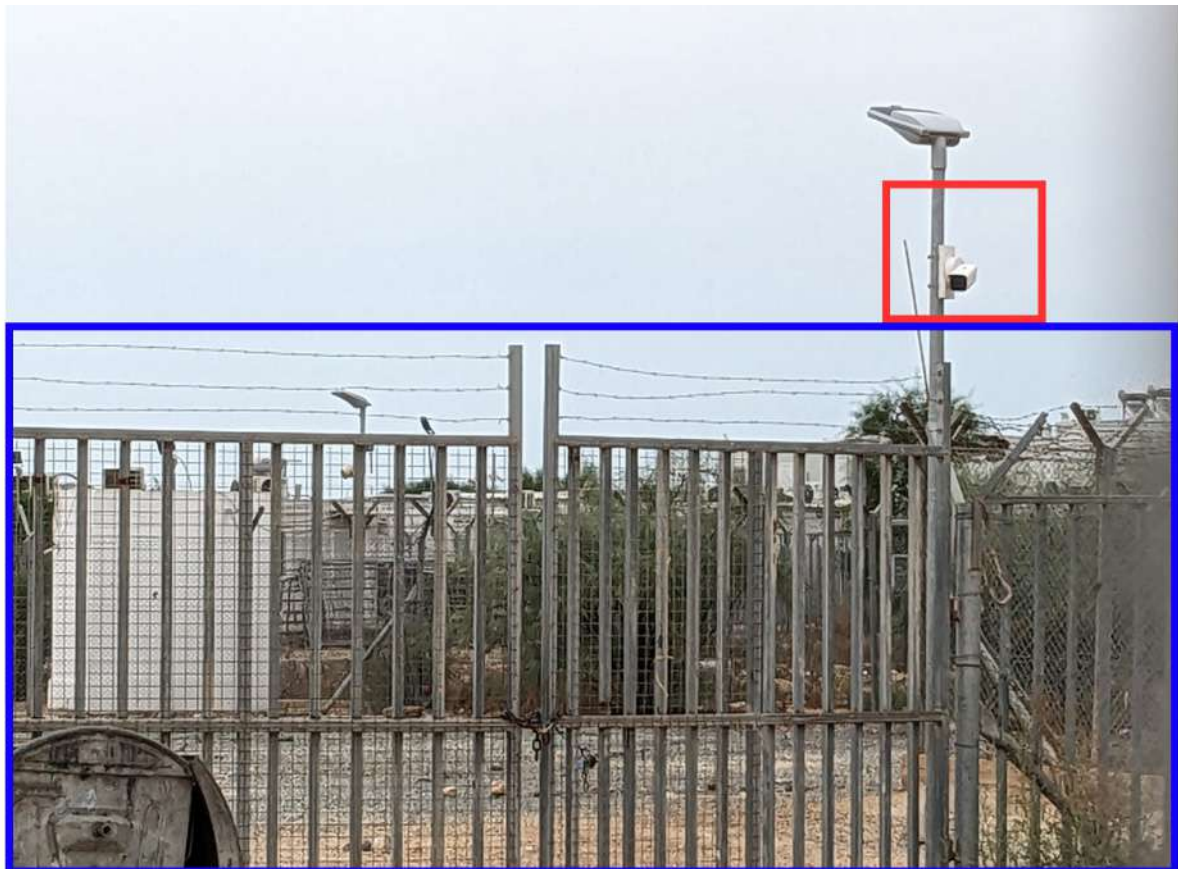
Figure 20: First fence with camera facing to section in between first and second perimeter fence (Fencing is marked in blue, cameras in red), 12/09/2023, BVMN

Figure 21: Close up of outward facing camera on the second perimeter fence at Pournara, 12/09/2023, BVMN

Figure 22: Fencing and cameras in the area in Pournara after entering (fencing is marked in blue, cameras in red), 27/03/2024, BVMN

Figure 23: Fencing inside to the safe zone of Pournara, 27/03/2024, BVMN

3.2.1.2 Kofinou Reception and Accommodation Center

The camp management has decided against using cameras and CCTV surveillance in Kofinou. The camp's curfew was enforced through signing in and out with your ID with the staff. The camp management has been in communication with the KIOS research centre at the University of Cyprus about establishing an automated card-scanning system overviewing entry / exit to the camp and the use of services in Kofinou. It is unclear how exactly this system would look like[151].

3.2.1.3 Limnes Center

In Limnes the limited entry and exit rules in the open section were enforced through a fingerprinting system, in which residents had to scan their fingerprints for passing [152]. It is unclear what system will be used once the centre will be open again.

3.2.2 Biometric Data Collection during the Registration

Most of the data on persons applying for asylum in the Republic of Cyprus is recorded at the Pournara Reception Center. Following their arrival at the closed centre all PoM go through a screening, registration and identification procedure with the police, partly in collaboration with Frontex, Europol and the NGO Codeca. The security agencies collect both biometric and non-biometric data. The biometric data consists of peoples fingerprints and photos. The non-biometric information collected includes their name, nationality, gender, document numbers, religion, family members, kinship in the EU, if they travelled to the EU before, their aim in seeking asylum, how they came to Cyprus and their intention in Cyprus[153]. Based on PoMs data in these assessments, some are classified as "high risk" and further data is collected. The NGO Codeca, presumably separate from the official security actors, collects people's non-biometric data for administration and creating statistics.Since June 2021, photographs in the manner resembling mugshots with people holding up their IDs for identification purposes are also taken. The process, however, lacked systematic order, with pictures taken of everyone and an employee manually checking for duplicates[154]. The incentive for individuals to participate in Codeca's facial data collection process is the prospect of obtaining a card which was a prerequisite for receiving food within the Pournara camp.

Further information is collected in debriefing interviews which are conducted on a voluntary basis, however nearly all PoM participate. The data collected includes the countries of origin, reasons for travelling, the routes people took and involvement of facilitators. Frontex told us that no personal data is collected except for suspects of crime, in the SOPs it is said explicitly that the debriefing interviews are also specifically conducted to collect personal data, it is not specified if this only includes suspects of crimes.

We do not have any information on how the security actors store the personal information collected. The data collected by Codeca was stored in Excel sheets and a Google Drive, accessible to Codeca employees[155]. All data by the Asylum Service was stored in red paper files with file numbers which we were also able to see during a brief visit to the

151   Management of Kofinou, Personal Communication, 29 March 2024.
152   UNHCR Cyprus, Personal Communication.
153   Frontex, 'Specific Activity Plan, JO Cyprus 2021'.
154   Former Pournara Staff 2, Personal Communication.
155   Former Pournara Staff 2.

Asylum Service office in the summer of 2023[156].

Codeca shares the data they collect with entities like the Asylum Service, Police, and Frontex, and during official visits with embassies or councils. The fingerprints, photos and personal information taken by the security actors are checked against national, Interpol and the Eurodac databases. Information from the screening process is further fed into the Frontex' JORA database where all registrations of PoM are recorded[157]. The Frontex Activity plan mentions that personal data of PoM suspected to have been involved in smuggling, trafficking, terrorism or other cross-border crimes is recorded in the database and further shared with all operational actors. However, in our conversation with Frontex they mentioned that so far no personal data is recorded in JORA[158]. Data from the debriefing interviews is shared with another Frontex team working on the agency's situational awareness assessment. In the standard operating procedures (SOP) of Pournara it is mentioned that the data is also forwarded to the Police in cases where it supports criminal investigations and information on criminal acts is forwarded to the Police.

In the new EU funding period money is allocated for equipment for fingerprinting readers[159].

3.2.3 Data Sharing/ Databases

As an EU member state, and a potential candidate for Schengen accession, Cyprus has received funding to revamp its IT systems for so-called border management. In the funding period from 2021-2027, the RoC will receive €3,585,175 for large-scale IT systems for border management purposes, and a further €927,854.72 for the interoperability of large-scale IT systems[160]. Some of these projects will scale up the RoC's ability to collect data on people on the move. Databases and information sharing agreements are used for the exchange of both biometric and surveillance data, some of the databases affecting POM and their movement are described followingly.

3.2.3.1 Eurodac

Cyprus is fully integrated into the Eurodac database. Eurodac records fingerprints and sex of people on the move in order to determine whether previous asylum applicants are already registered in the database[161]. All PoM over 13 years are required to provide their information. The personal information is stored for 18 months. If the PoM has already applied for asylum and their information is already registered in the database, they might be returned to that country according to the Dublin III regulation. The Eurodac database can be accessed by the Police of Cyprus, law enforcement in other countries integrated into the Eurodac database, as well as by Europol[162].

156   Former Pournara Staff 2.
157   Frontex, 'Specific Activity Plan, Operational Activities in Cyprus, JO Focal Points 2020', 2020.
158   Frontex, 'II. Specific Activity Plan, Amendment No. 1., Operational Acitivities in Cyprus', 2019; Frontex, Personal Communication, 29 March 2024.
159   European Commission, 'Cyprus National Programme BMVI 2021-2027'.
160   European Commission.
161   eu-LISA, 'Eurodac', accessed 27 June 2024, https://www.eulisa.europa.eu/Activities/Large-Scale-It-Systems/Eurodac.
162   Asylum Service, 'Eurodac Regulation Illegally Crossing Information Leaflet All Languages', n.d., https://www.moi.gov.cy/moi/asylum/asylumservice.nsf/asylumservice09_gr/2D246403B0A22260C2257FE000355BC6/$file/Eurodac%20Regulation%20Illegally%20Crossing%20Information%20Leaflet%20All%20languages.PDF.

3.2.3.2 Schengen Information System (SIS)

In July 2023, Cyprus was integrated into the Schengen Information System (SIS), and issued their first alerts. SIS is an IT system and database that enables the sharing of information of so-called persons of interest among national police, border control, customs, visa, and judicial authorities within the Schengen Area. It operates by maintaining data in the form of alerts, each encompassing personal details like name, date of birth, gender, and nationality for individuals of interest. SIS alerts can contain fingerprints and photographs associated with a person flagged in an alert. Member State authorities employ the system through queries to identify matches with stored alerts[163].

The development of SIS in Cyprus was supported by EU funding, such as through the purchase of 900 PCs, 100 laptops, 5 advanced type biometric scanners[164]. In the new EU funding period Cyprus is receiving €1,749,146.24 for the further development of SIS including software, hardware and maintenance[165].

3.2.3.3 CPCS

The Cypriot authorities further use a national database called "Cyprus Police Computerized System" (CPCS) which holds all the Police and Border information[166]. In the new EU funding period Cyprus will receive money to make the CPCS interoperable with other systems[167].

3.2.3.4 Potential UNODC-initiated Fusion Regional Information Center

The United Nations Office on Drugs and Crime, which has been increasingly facilitating training and knowledge exchanges between Cypriot and neighbouring state actors on "migration management" is planning the establishment of a Fusion Regional Information Center in Larnaca, Cyprus. The centre has the purpose of exchanging surveillance information between different EU and third countries such as the RoC, UK, Egypt, Lebanon, Jordan. The UNODC has asked Frontex about a possible participation in the centre, however the agency has not made a final decision on this[168].

163   eu-LISA, 'Cyprus Fully Integrated into SIS', 25 July 2023, https://www.eulisa.europa.eu/Newsroom/News/Pages/Cyprus-fully-integrated-into-SIS.aspx.
164   European Commission, 'Cyprus ISF Implementation Report 2021'; European Commission, 'Cyprus National Programme ISF 2014-2020'.
165   European Commission, 'Cyprus National Programme BMVI 2021-2027'.
166   European Commission, 'Cyprus National Programme ISF 2021-2027', n.d.
167   European Commission, 'Cyprus National Programme BMVI 2021-2027'.
168   Frontex, Personal Communication.

4. Impacts and Risks of Tech

4.1. Impact of technologies on People on the Move

We faced several limitations in the impact assessment of the technologies identified. First, information about technologies and more specifically the implementation of technologies in operation was treated with a high degree of secrecy by the state authorities. This was most prevalent in the case of the BZ surveillance system, about which no authorities could share information with us, both in person and in Freedom of Information requests. Second, this secrecy is further exacerbated by the visual limitations of "seeing" the technologies, as pointed out in the interview with a former SBA employee, where it was said that authorities would avoid flying over properties, so they would probably not be noticed by residents. Last, due to the low numbers of interviews with PoM who were further unable to assess the impact from their perspective.

Generally speaking, the increased use of surveillance technologies lead to a decentralisation of the border and extension of state power. PoM through these technologies increasingly are turned into data- and security objects to be analysed, supporting the criminalisation of migration. This is furthered by the usage of military or quasi-military technology developed for facing security threats[169].

4.1.1 Impact of Surveillance Technologies

Direct impact of coastal surveillance technologies, most explicitly drones, was reported. One of the NGOs we interviewed reported instances where people have observed the presence of drones during pushbacks[170] and a report published by Human Rights Watch describes two instances of surveillance with a helicopter and military vessels, and one with a drone of boats that were later pushed back[171]. Furthermore, in video footage from the JRCC you can see night vision footage being implicated in an operation that eventually led to a pushback of 177 people to Lebanon[172]. We have no information from what technology the footage exactly originated, however due to the low angle it could have been one of the coastal cameras of the CSS.

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169   Petra Molnar, 'Technological Testing Grounds: Migration Management Experiments and Reflections from the Ground Up' (EDRi and the Refugee Law Lab, 2020), 19.

170   NGO Member 1, Personal Communication.
171   Human Rights Watch, '"I Can't Go Home, Stay Here, or Leave"', Human Rights Watch, 4 September 2024, 1, 41, 46, https://www.hrw.org/report/2024/09/04/i-cant-go-home-stay-here-or-leave/pushbacks-and-pullbacks-syrian-refugees-cyprus.
172   Consolidated Rescue Group [@UnifiedRescue], 'Update / #Lebanon_boats The Cypriot Coast Guard Returned the Boat Carrying 177 Migrants to Lebanon. It Is Reported That the Boat Set out on Thursday from Tripoli and Their Destination Was Italy, but It Broke down 30 Miles South of Larnaca Port. Cyprus Is Returned to Lebanon) Https://T.Co/2WgmFabzHH', Tweet, Twitter, 21 September 2022, https://x.com/UnifiedRescue/status/1572478544466542592.

Lebanon, accessed 17/07/2024, <https://www.facebook.com/watch/?v=407518398233001>

4.1.2 Creation of de facto Detention

In Pournara, the use of technology contributes to the enforcement of de facto detention. The cameras mounted along the entire fence detect people trying to enter or leave the camp. This raises questions about the humanitarian implications and the potential infringement of the rights of PoM in these spaces and systematic detention of PoM.

4.2 Potential risks of technology for People on the Move

We identified risks for all, the BZ and coastal surveillance technologies and the collection of biometrics. Some of these are risks concerning situations of the past or present, however due to the limitations mentioned in section 4.1 we were unable to assert any impact.

4.2.1 Risks of Surveillance Technologies
4.2.1.1 Buffer Zone Surveillance and Land Pushbacks

The purpose of the fence and camera surveillance system discussed in sections 3.1.1.1 and 3.1.1.2 was to stop the movement of PoM through the BZ. However, it is not clear whether this objective has been achieved. During our visit to Astromeritis we were told that the fence does not prevent crossings, as it is easy to climb over or pick up the fence and crawl under it. It is not clear whether the camera surveillance system is fully operational, as no announcement has been made about it since spring 2023. Nevertheless, there is a risk that these technologies could be used to infiltrate the BZ, as they provide the authorities with increased detection capabilities in an area that is very difficult to monitor and control due to its very large size and varied terrain.

4.2.1.2 Coastal Surveillance and Sea Pushbacks

In addition to the impacts assessed, we identified several risks stemming from the increased deployment of surveillance technologies, however, no evidence could be identified.

In addition to the impact of drones and cameras, the upgrades of radars can pose further risks. Radars are the most commonly reported tool the Cypriot authorities detect boats with[173] and could therefore be implicated in pushback operations.

Further, collaboration between Cypriot and Greek authorities could result in Cyprus being complicit in Greece's human rights violations. The development of the common data exchange platform between the two countries initially under the CERETAB project and now further developed under REACTION raises several serious concerns regarding Cyprus' potential complicity in Greece's systematic and violent pushback practices. Instances, particularly in the Aegean, where Greece has been involved in pushbacks from Greek territorial waters to Turkish territorial waters have been reported by many CSOs and journalists. Forensic Architecture's drift back platform documents 2,010 pushbacks in the Aegean sea[174].

With the CERETAB platform, Greece has access to the live stream of the Cypriot border surveillance system. Such early detection could potentially mobilise Greek authorities to prevent boats from entering Greek territorial waters that come from Lebanon and pass by Cyprus, or to push people to Turkish territorial waters. No evidence exists on the Greek use of the Cypriot surveillance data, however the existence of the platform and cases where people have taken the journey passing Cyprus and having been violently pushed back from Greece afterwards leading to deaths caused by the pushback operations show the risks in these technologies and the cooperation of Cypriot authorities with their Greek counterparts. The pushback operation of the 13th of September 2022 exemplifies these risks. 97 people attempted to reach Italy from Lebanon, passing by Cyprus and Greece.

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173   Examples of reported detections via radar Katy Turner, 'New Migrant Boat Arrives', Cyprus Mail, 14 April 2024, https://cyprus-mail.com/2024/04/14/new-migrant-boat-arrives/; Nikolaos Prakas, 'Irregular Migrants Arrive off Cape Greco', Cyprus Mail, 21 February 2024, https://cyprus-mail.com/2024/02/21/irregular-migrants-arrive-off-cape-greco/; Iole Damaskinos, 'Second Irregular Migrant Landing in 24 Hours, Captains Remanded (Updated)', Cyprus Mail, 14 July 2023, https://cyprus-mail.com/2023/07/14/second-irregular-migrant-landing-in-twenty-four-hours/; Cyprus Mail, 'Two Boats Carrying 39 Irregular Migrants Arrive in Cyprus', 27 May 2023, 39, https://cyprus-mail.com/2023/05/27/two-boats-carrying-39-irregular-migrants-arrive-in-cyprus/; Tom Cleaver, '41 Irregular Migrants Arrive in Cyprus, Teen Arrested (Updated)', Cyprus Mail, 9 February 2024, https://cyprus-mail.com/2024/02/09/two-boats-carrying-41-migrants-arrive-in-cyprus/.
174   Forensic Architecture, 'Drift-Backs in the Aegean Sea', January 2024, https://aegean.forensic-architecture.org/.

The group eventually ran out of fuel off the coast of Rhodos. The passengers were consequently pushed back by the Greek coastguard which forced them in four inflatable life rafts in the middle of the sea and left them drifting close to Turkish waters. One of the life rafts broke and started to take in water, the people were holding on the parts of the life rafts that were still holding air, but in the morning the people started drowning. 6 dead bodies were later found and 5 remain missing, among them four children[175].

Although the technologies have had an impact on the detection of boats and pushbacks, they have been used selectively, in some cases with the aim of stopping the movement, and not when they could assist in a rescue. However, rescues are mandatory under international law. This further shows the rights-violating intentions of the technology holders. The JRCCs National Search and Rescue Plan "NEARCHOS" requires all primary SAR units on standby to be able to take off within 30 minutes and air assets to be able to be at the most remote point of the Search and Rescue Region of the Republic of Cyprus, within 90' from the time of take-off[176].

However, several cases have been reported where the RoC authorities did not rescue people for days, dismissing information and despite knowing about boats in severe distress refusing to carry out a search operation with the vast amount of technologies at their disposal which eventually led to delayed rescues and preventable deaths. In two cases in January and February this year, NGOs contacted the JRCC about the presence of boats that had already been at sea for several days and had encountered problems with their engines, leaving them adrift at sea without food and water. In the case in January 60 people were rescued after a week at sea and after three days of the authorities receiving information about the boat. When they were eventually rescued four people including three children were found unconscious and brought to the hospital, one of them, a three year old girl tragically died from cardiac arrest and attempts to revive her through CPR were unsuccessful.

The NGO Kisa tweeted that the Cyprus ministry of Justice, Interior and the Cyprus Police had known about the boat already three days earlier "What have they done or failed to do to have loss of human life today"[177]. In the case in February 13-40 people were rescued after nine days at sea, seven days after the authorities were alerted of the boat. Two days before the rescue a six year old child died probably from hunger, another three persons had jumped over the boat in an attempt to find help before the authorities rescued them and were never found, presumed dead[178].

175   Aegean Boat Report, '11 People Drowned, 7 of Them Children, after a Pushback Performed by Greek Authorities', Aegean Boat Report, 14 September 2022, https://aegeanboatreport.com/2022/09/14/11-people-drowned-7-of-them-children-after-a-pushback-performed-by-greek-authorities/; Aegean Boat Report, '11 People Drowned, 7 of Them Small Children, All Killed by Greek Authorities in the Name of Border Protection. When Will Enough Be Enough?', 17 September 2022, https://www.facebook.com/watch/?v=448170117374258; Turkish Coast Guard, 'Push Back Incidents', accessed 30 June 2024, https://en.sg.gov.tr/pushback-news.

176   JRCC, '"NEARCHOS" National Search and Rescue Plan', 14 September 2022.

177   JRCC, 'ΕΠΙΧΕΙΡΗΣΗ ΓΙΑ ΕΝΤΟΠΙΣΜΟ ΚΑΙ ΔΙΑΣΩΣΗ ΜΕΤΑΝΑΣΤΩΝ 24 ΙΑΝ 2024', Facebook video, 24 January 2024, https://www.facebook.com/watch/?v=1397752137548703; @alarmphone [@alarm_phone], '□ from 50-60 People Somewhere between #Lebanon & #Cyprus. Concerned Relatives Informed Us about a Group That Left Lebanon on January 18th. Since Then, All Contact with Them Has Been Lost. We Informed Competent Authorities. A Search Operation for This Missing Group Is Needed Now!', Tweet, Twitter, 21 January 2024, https://x.com/alarm_phone/status/1749053002399277363; KISA - Official [@KISAOfficial], 'Κ.κ. Υπουργοί @MinJusticeCY & @MinInteriorCY η @Cyprus_Police ήταν ενήμερη από την Κυριακή 20.01.2023 ότι είχαν χαθεί τα ίχνη της συγκεκριμένης βάρκας. Τί έχουν ή παρέλειψαν να κάνουν για να έχουμε σήμερα απώλεια ανθρώπινης ζωής? Η ευθύνη διάσωσης ζωών δεν μεταβιβάζεται στο □□', Tweet, Twitter, 25 January 2024, https://x.com/KISAOfficial/status/1750460881501086045; Agence France-Presse, 'Migrant Syrian Girl, 3, Dies after Rescue off Cyprus', NEOS KOSMOS (blog), 26 January 2024, https://neoskosmos.com/en/2024/01/27/news/migrant-syrian-girl-3-dies-after-rescue-off-cyprus/; AP News, 'A Child Dies after Being Rescued off Cyprus with 59 Other Syrian Migrants | AP News', 25 January 2024, https://apnews.com/article/cyprus-syria-migrants-boat-children-lebanon-738b0d871a1885086ea42aecb3f499b3.

178   euronews with RIK, 'Κύπρος: Σύροι Μετανάστες Έριξαν Στη Θάλασσα Το Άψυχο Σώμα 6χρονου Παιδιού', Euronews, 4 March 2024, https://gr.euronews.com/2024/03/04/kypros-syroi-metanastes-eriksan-sth-thalassa-to-apsyxo-soma-6xronoy-paidioy; Associated Press, 'Father Buries 6-Year-Old Child at Sea after a Migrant Boat Went Adrift for Days, Cyprus Police Say', ABC News, 4 March 2024, https://web.archive.org/web/20240308115534/https://abcnews.go.com/International/wireStory/father-buries-6-year-child-sea-after-migrant-107786135; @alarmphone [@alarm_phone], '□□ ~34 People in Distress by #Cyprus! Relatives Say They Lost Contact with the People Yesterday Afternoon. We Could Never Reach Them. We Worry about Their Safety and Hope There Has Not Been a #pushback. #Cypriot Authorities Say They Don't Have Any Information: Where Are They?', Tweet, Twitter, 22 February 2024, https://x.com/alarm_phone/status/1760757537765253556.

4.2.2 Data collection and sharing

Concerns regarding data protection and the abuse of data arise from the context of informal and intransparent data collection and sharing, especially regarding the absence of explicit consent from PoM regarding data collection and storage practices.

It is unclear if and how the residents of Pournara are informed about the CCTV surveillance or provide consent, especially since no mitigating measures such as face blurring or privacy masking have been reported[179]. No signs with information notices were visible during our visit. We identified several actors collecting personal data from people on the move.

Our access to details on the procedures was limited, however according to the interviews no consent was taken or information given on the right to receive information and access or erase personal data for the facial photos of people taken with Codeca staff.

Moreover, the collection of personal data, including medical data, in excel sheets and Google Drive is highly susceptible to breaches of the General Data Protection Regulation[180]. While practices may have improved, this information points to gross violations of PoMs privacy and data rights. These risks are further reflected in the global increasing role of NGOs and the private sector in data collection and storage, where it is unclear what exactly happens to the data and there is a lack of accountability mechanisms[181].

Additionally, we fear that the data collection might be abused and facilitate increased detention of PoM, as an officer from the immigration police told us that 80% of the arrivals at the time were classified as "high risk", this information has however not been confirmed. This is especially concerning considering the prolonged detention, especially of Syrian nationals. Further, risks arise from Frontex' risk assessment. The details of Frontex' data processing are unclear, however, the analyses could serve as justification for further increased border enforcement. Lastly, as part of the unratified return agreement between Cyprus and Lebanon both countries have exchanged data[182], however the information is unspecific so according to the UNHCR there could be data privacy breaches[183]. Additionally, shared information could potentially be utilised for pushbacks.

179   Greek Data Protection Authority, 'Αυτεπάγγελτη Έρευνα Για Την Ανάπτυξη Και Εγκατάσταση Των Προγραμμάτων «Κένταυρος» Και «Υπερίων» Από Το Υπουργείο Μετανάστευσης Και Ασύλου Αναφορικά Με Τον Έλεγχο Των Δομών Υποδοχής Και Φιλοξενίας Πολιτών Τρίτων Χωρών.', Website of the Greek Data Protection Authority, 2 April 2024, https://www.dpa.gr/el/enimerwtiko/prakseisArxis/aytepaggelti-erey-na-gia-tin-anaptyxi-kai-egkatastasi-ton-programmaton.
180   Former Pournara Staff 2, Personal Communication.
181   Petra Molnar, 'Technological Testing Grounds: Migration Management Experiments and Reflections from the Ground Up' (EDRi and the Refugee Law Lab, 2020), 17–18.
182   JRCC, Personal Communication.
183   UNHCR Cyprus, 2. Personal Communication, 26 March 2024.

5. Conclusion

Since 2020, Cypriot authorities are ramping up the deployment of new technologies at both the Buffer Zone (BZ) and its maritime borders. This shift coincides with more securitized narratives surrounding migration as well as the start of practices of illegal pushbacks at the BZ and maritime area. The technologies primarily consist of visual surveillance assets, both stationary and mobile, mounted to cars, helicopters and drones. Maritime technologies have been largely funded through EU funding programs such as ISF and BMVI.

Findings from the study highlight two primary concerns. First, the potential abuse of so-called situational awareness technologies in facilitating pushback operations at land and sea, potentially violating the rights of people on the move, including their right to life. Second, the study emphasises the risk of compromising data security and privacy due to the sharing of information among various agencies. Unauthorised access or misuse of such data poses severe risks for people on the move.

However, our assessment of the impact of the technologies is limited due to secrecy from the authorities and few interviews with PoM, as well as a constrained time frame. Further, the inclusion of technologies leading to a very large number of human and non-human actors involved in bordering further the difficulties of asserting certain impact, causality and accountability, as we were able to see in this report. The mere contribution of technologies in this web of violent practices and narratives and the purchase of technologies with the intention of stopping movement, however, clearly shows how technologies in Cyprus have become central to Cypriot border enforcement and oppressive state control.

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