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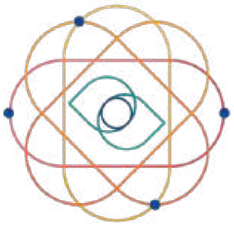
Surveillance Technologies at European Borders

An Assessment of Serbia

Border Violence Monitoring Network



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Border Violence Monitoring Network

collective aid

An assessment of Serbia, 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

BCP: Border Crossing Point

BMP: Border and Migration Police

BMVI: Integrated Border Management Fund

BVMN: Border Violence Monitoring Network

ECPA: European Community Police Assistance

EMPACT: European Multidisciplinary Platform

Against Criminal Threats

EU: European Union

FOI: Freedom of Information (Request)

IBM: Integrated Border Management

IOM: International Organisation for Migration

IPA: Instrument for Pre-Accession (EU fund)

LRAD: Long-Range Accoustic Device

MSS: Mobile Surveillance System

MS: Member State

NGO: Non-governmental Organisation

POM: People on the Move

TED: Tenders Electronic Daily

TRC: Temporary Reception Center

UAV: Unmanned aerial vehicles (drones)

UNHCR: United Nations High Commissioner for Refugees

1. Introduction

This report maps the use of technology and associated interests on the borders of Serbia as far as possible, including recent findings from the Southern border of Serbia which until now has not been researched as closely as the Northern border. It contributes to a wider body of investigations by the Border Violence Monitoring Network, researching the ways in which AI and technology have been used and misused for border management across the Balkans. In brief, despite extensive efforts and preparations, this field assessment found very little concrete evidence of border technology being used by border police on the day to day, despite evidence of substantial investments into border technologies. The assessment instead found several gaps in knowledge, and a wide variety of stakeholders and stakeholder interests.

Research for this report was carried out through the support of the Collective Aid Serbia Programme which has been consistently operating in Subotica since 2017, providing adaptive and multidisciplinary aid to POM across the Northern border of Serbia. Throughout this time the project has provided services to a large range of communities, which have changed over time, according to certain state pressures, group dynamics and seasonal changes. For these reasons, the organisation has historically been well placed to observe border dynamics and inform on border research, even in periods where state actions have heavily impacted POM communities. Collective Aid has never claimed to have distinct expertise about the experience of the POM they serve, but the organisation has consistently provided relevant and informed observations about the changing context.

1.1 Context of migration movements

In 2015 transit movements through Serbia increased, and a corridor from Greece through North Macedonia and Serbia towards central and Western Europe formed.[1] While policy actions by the EU and member states led to the closure of this route, crossing to Serbia continued - Beznec et al refer to 300 crossings to Serbia every day. Between 2017 and 2023, the organisation observed a relatively consistent number of POM communities established across the North of Serbia, floating between 10 and 15 communities at a time. It is difficult to accurately estimate what the actual number of POM might have been throughout this period however Collective Aid distribution data does show that there are periods when the project would meet just under a hundred people in a week, and there are periods when the project would meet over one thousand people in a week. Therefore, it is safe to say that until the end of 2023, the number of POM in North Serbia fluctuated, however generally there were few if any periods when the project saw no POM whatsoever.

This status quo changed at the end of October 2023 when the Serbian Minister of the Interior Bratislav Gašić announced a large-scale military and policing campaign focusing on Northern Serbia, termed the 'Special Operation' which lasted until December 2023. As part of this special military operation, people were evicted from shelters and apprehended on the streets. Additionally the Transic and Reception Centers (TRCs) were drastically scaled down and in 2024 nearly every TRC North of Belgrade was closed.

1 Barbara Beznec Marc Speer Marta Stojić Mitrović (2016) Governing the Balkan Route, https://www.rosalux.de/fileadmin/rls_uploads/pdfs/engl/Governing_the_Balkan_Route.pdf

From December 2023[2] on BVMN found fewer and fewer POM, to the point that in March 2024 we had not seen any POM for several weeks. For this reason, the majority of organisations that had been operating in the region had closed their projects.

1.2 Policy Developments

Serbia has traditionally been a country of transit for people, moving over the East Mediterranean Route via Turkey toward the EU, as one of the last European non-EU countries to stand on EU European external borders and to border with the EU Schengen zone.[3] Driven by EU pre-accession aspirations, Serbia is meticulously conducting legal, policy, and institutional reforms in order to synchronize with EU acquis. Following the adoption of its first Asylum law in 2007 Serbia continued to amend legislation to align with EU Directives leading to the adoption of the Law on Asylum and Temporary Protection as well as Law on Foreigners (LOF) in 2018.[4]

Via Turkey along the Balkan migration routes in 2015 and the newly built Hungarian fence along its borders, Serbia faced a high risk of becoming a buffer zone.[5] The fear of becoming a new European migration hotspot on the EU's periphery led Serbia to develop a practice of keeping migrants on the move, preventing migrants from being regularized/legalized and preventing more permanent stay in the country. This has been reflected in Serbia's asylum statistics that have remained strikingly low, with a consistent rejection rate between 70 and 90%. In 2023 only 16 people were granted asylum and overall only 250 people[6] were granted asylum in Serbia since the creation of its asylum system in 2008.[7]

Table 1: Asylum Statistics 2022

	Applicants in 2022	Refugee Status	Subsidiary Protection	Refugee Rate	Rejection Rate
Total	320	6	14	9%	70%

Source: UNHCR Office in Serbia, via AIDA Report 2022

2 Pink.rs (2023). Snažna Poruka Ministra Policije: Od noćas je Subotica Zaboravljeni Grad Za počinioce krivičnih dela, građani Srbije biće Bezbedni. Available online [Accessed 17 May 2024].

3 Djurovic O., Spijkerboer , T., & Djurovic , R. (n.d.). Country report serbia - asile project. https://www.asileproject.eu/wp-content/uploads/2022/08/D5.2_WP5-Serbia-Country-Report-Final.pdf

4 Ibid.

5 AIDA (2020),''Country report: Hungary'', p. 19, https://asylumineurope.org/reports/country/hungary /asylum-procedure/access-procedure-and-registration/access-territory-and-push-backs/.

6 Kovačević, N. (2024, August 22). Statistics - asylum information database: European council on refugees and exiles. Asylum Information Database | European Council on Refugees and Exiles. https://asylumineurope.org/reports/country/serbia/statistics/

7 "The Serbian borders are heavily affected by pushbacks and police brutality." PRO ASYL News. (2024, March 28). https://www.proasyl.de/en/news/the-serbian-borders-are-heavily-affected-by-pushbacks-and-police-brutality/

Table 2: Asylum Statistics 2023

	Applicants in 2023	Refugee Status	Subsidiary Protection	Humanitarian Protection	Rejection Rate
Total	196	4	2	36	85%

Source: UNHCR Office in Serbia, via AIDA Report 2023

Relationship to the EU

The EU has a complex relationship with Serbia, and the Northern border, one of the EUs most politicised external borders, is only a small element of this complexity. Serbia signed a Stabilization and Association Agreement with the EU in 2008, but it was only ratified in 2013 when Serbia became an official candidate for EU Accession.[8] Conversations started in 2014 and the Commission said there would be accession possibilities in 2025. As an EU candidate country directly bordering the EU, Serbia is a strategically important partner for the EUs border management. Through technical and financial assistance the EU has encouraged the government of Serbia to implement security regimes that support externalisation of EU border management.[9] In 2007, the EU signed a readmission agreement with Serbia, allowing EU member states to deport people back to the country.[10] In the meantime, Serbia has also worked to establish readmission agreements with countries of origin including Afghanistan, Iraq and Iran as well as third countries including Türkiye, Belarus, and Ukraine.[11] In the context of the Accession negotiations, the EU has also strongly encouraged Serbia to align with EU asylum and migration policies. Domestic asylum law, for example, was reformed so as to harmonise with EU legal frameworks and norms.[12]

In response to the formation of the Western Balkans corridor, the European Union supported financially and logistically several initiatives to strengthen border policing and prevent onward movement towards Central and Western Europe.[13] The EU Serbia Stabilization and Accession Agreement involves a five-year strategy to enable interoperability with EURODAC, the EU fingerprint database for asylum seekers, and to move forward in alignment with EU Dublin Regulation and with EU visa policies.[14]

8 Leutloff-Grandits, C. (2023) The Balkans as "Double Transit Space": Boundary Demarcations and Boundary Transgressions Between Local Inhabitants and "Transit Migrants" in the Shadow of the EU Border Regime, Journal of Borderlands Studies, VOL. 38, NO. 2, 191–209

9 Border Violence Monitoring Network (2023). Decoding Balkanac: Navigating the EU's Biometric Blueprint. Available online [Accessed 17 May 2024]. see also EUROMED Rights (2023). Artificial Intelligence: The New Frontier Of The Eu's Border Externalisation Strategy. Available online [Accessed 17 May 2024]. see also Fitzgerald, D. (2019). Refuge beyond reach : how rich democracies repel asylum seekers. New York, Ny: Oxford University Press.

10 KlikAktiv. (n.d.). The use of readmission agreements in pushback operations at the Serbian-Romanian border . https://www.proasyl.de/wp-content/uploads/klikAktiv_Formalizing-Pushbacks-the-use-of-readmission-agreements-in-pushback-operations-at-the-Serbian-Romanian-border.pdf

11 European Commission (2023). Serbia Report 2023. Available online [Accessed 17 May 2024].

12 Leutloff-Grandits, C. (2023)

13 Leutloff-Grandits 2023

14 Vijesti (2023). Serbia and the EU are strengthening measures against migrant smuggling. Available online [Accessed 17 May 2024]. See also Radio Free Europe (2024). EU Remains Serbia's Goal, Says Prime Minister-Elect. Available online [Accessed 17 May 2024].

Serbia - Hungary and Austrian Coalition

Neighbouring countries are a further actor influencing border and migration policies in Serbia. In response to the formation of the Western Balkan route in 2015, Germany and Austria amended their legislation to designate Serbia and other Western Balkan countries as safe countries of origin to reduce the number of asylum applications.[15] Since late 2022 Serbia, Hungary and Austria have been meeting to finalise a trilateral agreement to work together on issues around migration. The motive behind the agreement is a more hardline approach to migration with the Austrian Chancellor Karl Nehammer stating: "The EU's asylum system has failed. We have come to the point where individual EU countries are looking for new forms of partnership outside what is possible in the EU."[16] The two EU member states offered to help Serbia organise deportations by plane for people who they deem not eligible for asylum. They also deployed a police contingent equipped with vehicles, thermal vision goggles, and drones to strengthen border protection along the North Macedonian-Serbian border.[17] Members of the Visegrad Group as well as Austrian and Hungarian Officers, have been a really significant presence in Serbia, particularly in the South, showing their commitment to fight irregular migration together.[18] Moreover, EU Member States are also investing substantial BMVI resources in the deployment of immigration liaison officers in Serbia. Specifically Romania has committed to deploy personnel in Serbia in 2024 in the framework of bilateral police cooperation aiming for the "prevention of irregular migration".

1.3 Actors in border surveillance and control

National Actors

The Serbian state splits responsibilities for migration management and border policy between the Ministry of the Interior, the Commissariat for Refugees and Migration, and the following ministries: Labour, Employment, Veteran and Social Affairs; Foreign Affairs; Justice; Defence; Health; and Education, Science and Technological Development.[19] All ministries involved in migration affairs are under the leadership of the government working group on mixed migration run by the Commissariat for Refugees and Migration.[20] The Commissariat is therefore the main body that coordinates the running of the camp system; a network of several 'Temporary Reception Centres' (TRCs) across the country. Historically, very few POM would actively seek out these TRCs since these camps were generally unsanitary and poorly run, meaning most people who ended up staying in them were either particularly desperate or had been coerced into registering by some sort of law enforcement.[21]

15 Leutloff-Grandits 2023

16 Hill, Thomas (November 17 2022) "Austria, Serbia and Hungary strike migration deal, saying EU measures have failed" Euronews. Retrieved Aug 3rd 2023 from https://www.euronews.com/2022/11/17/austria-serbia-and-hungary-strike-migration-deal-saying-eu-measures-have-failed

17 Restelica, B. (2022a, September 6). Austria increases its police contingent on Hungarian-Serbian border to combat human smuggling. SchengenNews. https://schengen.news/austria-increases-its-police-contingent-on-hungarian-serbian-border-to-combat-human-smuggling/ , See also. Hungary Today (2023) "Important Police Mission in Serbia for the Safety of Europe" https://hungarytoday.hu/important-police-mission-in-serbia-for-the-safety-of-europe/

18 Euronews (2022) Austria, Serbia and Hungary strike migration deal. https://www.euronews.com/2022/11/17/austria-serbia-and-hungary-strike-migration-deal-saying-eu-measures-have-failed

19 European Commission (2023). Serbia Report 2023. Available online [Accessed 17 May 2024].

20 Ibid.

21 Collective Aid (2023a). Northern Serbia Advocacy Report April - May. Available online [Accessed 17 May 2024].

In terms of direct control and surveillance of border areas, the Serbian Border Police is in charge of border surveillance and management and for investigating trafficking in human beings (THB) and smuggling of irregular immigrants committed by individual perpetrators. The Serbian Criminal Police is also involved in border control activities, as mandated, to investigate human trafficking and smuggling committed by organised criminal groups or irregular immigrants cases c as well as investigating other cross-border crimes."[22] Meanwhile Serbia and North Macedonia have also shared a mutual commitment to deploy eight teams of up to 10 police officers per team on a yearly basis, in order to prevent irregular crossings.[23]

Figure 1 Photo of the Subotica TRC which was closed in 2023 (Source: NH)

EU Agencies

Frontex has officially been present in Serbia since June 2021 (after an agreement was signed in 2016), starting with 44 officers from 14 countries at the border to Bulgaria. In October, 2022, The EU Commission recommended[24] opening negotiations to allow more Frontex presence in the country (as well as in Albania, Montenegro, and Bosnia). The press release stated that existing status agreements between Frontex and Albania, Serbia, and Montenegro allow deployment only to those countries' borders with the EU without executive powers."[25] On 25 June 2024, the EU and Serbia signed an agreement on operational cooperation with Frontex. Following on from previous agreements framing Frontex involvement in Serbia, this most recent one, "will also allow Frontex to carry out joint operations and deploy the European Border and Coast Guard standing corps anywhere on the territory of Serbia, including its borders with neighbouring non-EU countries."[26] The strengthened cooperation aims to "address irregular migration and further enhance security in the region."

22 European Commission (2023).IPA II Sector Reform Contract for Integrated Border Management. Available online

23 Ecre 2024. Hungary: New Report on the Situation on the Hungary-Serbia Border. Available online

24 Council of the European Union. October 2022. ANNEX to the Recommendation for a Council Decision authorising the opening of negotiations on a status agreement between the European Union and the Republic of Serbia on operational activities carried out by the European Border and Coast Guard Agency in the Republic of Serbia. Available online via Statewatch.

25 N1 Belgrade (2022).European Commission wants new Frontex agreements in Western Balkans. Available online

26 European Commission. Migration and Home Affairs (2024). "EU signs agreement with Serbia to strengthen collaboration in migration and border management". Available online.

Europol, the European Union Agency for Law Enforcement Cooperation, signed a cooperation agreement with Serbia in 2014, formalizing its role in supporting counter-smuggling and anti-human trafficking operations in Serbia, along with countering other cross-border crime.[27] A document leaked by Statewatch in 2020 revealed Europol's extensive involvement in the Western Balkans specifically encouraging the "development of national biometric registration systems" and their convergences with EURODAC, the expansion of the European Satellite Surveillance, EUROSUR "and information exchange with Frontex, as well as supporting "return operations and interventions" and "necessary measures to neutralize threats" following early warning from EU agencies.[28] Serbia also participates in the European Multidisciplinary Platform Against Criminal Threats (**EMPACT**) which introduces an integrated approach to EU internal security, including to combating migrant smuggling and the "facilitation of movement":[29] , and receives training through **CEPOL**, the EU Agency for Law Enforcement Training.

International Organisations

The **International Organisation for Migration** has been operating in Serbia since 1992, and Serbia has been a member state of the organisation since 2001. In 2019 IOM was mandated by the EU to support the implementation of the special measure to strengthen Serbia's capacity to manage mixed flows. In this context IOM also been central in procuring technical equipment and provided "specialized tactical equipment" to the Ministry of the Interior to support officers in tackling smuggling operations.[30] Further documents show that IOM supported Serbia in procuring surveillance equipment prior to the mandate in this specific project.[31] IOM has also provided training to Serbian and Bosnian border officers on the Frontex Common Integrated Risk Analysis Model organized by the Western Balkan Readmission Capacity building Facility.[32]

Private Companies

Finally, private companies form the last group of key actors involved in border fortification in Serbia, as they not only develop the technologies but also benefit from their deployment.[33] Two Chinese companies dominate the procurement of tech in Serba. The first is NucTech, who began providing scanners to the Serbian government in late 2023.[34] The firm's scanning technology has been identified mainly across the Bulgarian border with Serbia. The second is DJI, specialised in drones, from whom the Serbian government has purchased most of the drones in their arsenal.[35] However, Serbian-based companies are most often among successful recipients of EU tenders for border technologies.[36]

27 Europol (2013). Agreement on Operational and Strategic co-operation between the republic of Serbia and Europol. Available online.
28 Europol, Frontex, EASO 2020. Joint Report: Tackling Migrant Smuggling in the Western Balkans Available online.
29 Europol (2022).EMPACT. Available at: https://www.europol.europa.eu/crime-areas-and-statistics/empact
30 IOM (2023). IOM Serbia donation of specialised equipment. Available online see also IOM Serbia (2019). EU Support to Border Management. Available online.
31 IOM Serbia (2020) Procurement Data: Available online.
32 "73 borders officers trained on Supervision over criminal intelligence work and risk analysis." IOM. Youtube. 2023. Available at: https://www.youtube.com/watch?v=W6VSBsoCG7w
33 Statewatch (2022). The EU has spent over €340 million on border AI technology that the new law fails to regulate. Available online [Accessed 18 May 2024]. see also Privacy International (2018) An Open Source Guide to Researching Surveillance Transfers. Available online [Accessed 17 May 2024].
34 Gocanin, S. (2023). High-Tech Chinese 'Border Scanners' Raise Transparency, Privacy Questions In Serbia. Radio Free Europe. Available online [Accessed 18 May 2024].
35 Tesic, A. (2023b). Watching Us: Serbian Police's Expanding Drone Arsenal Draws Concern. Balkan Insight. Available online [Accessed 17 May 2024].
36 See for example: IOM Serbia (2020) Procurement Data.

These examples are only a very small view into the wider picture of private interests and it would require extensive work to entirely map out the entirety of the private interests involved in the border technology regime of Serbia. Nonetheless it is important to draw attention to this gap as these private interests have a direct interest in perpetuating the border industrial complex.

Distribution of control actors along the different border areas

The Northern border to Hungary is controlled on each side by either the Serbian or Hungarian local border police as well as Frontex.. The Northern border is also the only region in which the Serbian Helicopter Police have been observed, largely in connection with the Special Operation. The Western borders with Bosnia & Herzegovina and Croatia are under the responsibility of the Serbian border police, but in these areas there are far fewer patrols as compared to the other borders. The Eastern borders are patrolled by Serbian border police and Frontex. Although this border touches two countries, the geography of the Romanian border is quite hostile and not frequently crossed, meaning that the majority of law enforcement attention is focussed on the Bulgarian border, where Serbian law enforcement patrol, frequently with the support of Frontex. Finally the Southern border with North Macedonia is patrolled by Serbian law enforcement, bolstered by a large contingent of Austrian and Hungarian police officers who are deployed directly by their respective governments. This arrangement is facilitated through the regional political alliance called the 'Visegrad group', which represents the combined interests of the Czech Republic, Hungary, Poland, and Slovakia, as well as the related interests of the Serbian government and Austrian government. Understanding this unevenly distributed set of external actors supporting Serbian border police is important for later discussion about the respective distribution of border technology among these different borders.

1.4 Key human rights issues

Pushbacks and Border Violence

Analysis of BVMN testimonies demonstrates the standardised and systematic nature of pushbacks at the Serbian-Hungarian border. Testimonies reveal that once people on the move are observed by the border authorities, they are quickly apprehended, beaten, and searched. The apprehended groups are commonly ordered to lie face-down on the ground while their bodies are searched and belongings destroyed or stolen. At the point of apprehension, people on the move have frequently reported being subjected to extreme acts of violence and torture (e.g., beatings). Individuals are then often transferred, either by foot or vehicle, to the transit zone at Röszke-Horgoš. If taken to official buildings their biographical and biometric data including fingerprints, and facial images are often taken before they are detained. Regardless of whether people on the move have been detained, apprehended individuals are consistently pushed back into Serbian territory often through the border gates of Horgoš and Kelebija.

Pushbacks at the Southern borders to North Macedonia and Bulgaria are less well documented. Still, at least 15 cases in the BVMN database report violent pushbacks from the southern borders of Serbia.[37] In February 2024, a recording of over 50 people being pushed back from Serbia into North Macedonia, while stripped of their clothes was pub-

37 Border Violence Monitoring Network. Testimony Database. Available online [Accessed 17 May 2024].

lished by the NGO Legis and made sounds in the media. Several of those officers were Hungarian and Austrian officers.[38] On the eastern border to Bulgaria there are also several documented cases of border violence, however most identified Bulgarian police as the perpetrators, with very few cases identifying Serbian police or Frontex.[39]

Evictions

While BVMN documented fewer pushback from Serbia over the past year, not at least due to the criminalisation concerns, violent evictions were reported more and more frequently.[40]

Apart from the mass evictions during the special military operations, evictions of people on the move from their places of shelter, has been common practice in Serbia at least since 2022. According to testimonies collected by BVMN these evictions often involve the destruction of personal belongings, as well as shelter items and infrastructure (such as tents, doors or windows) by the authorities in order to render the spaces uninhabitable, especially as the winter approached, and dissuading people from coming back. During the Military Operation in 2024, the destruction of infrastructure was taken even further, tarp constructions in between trees were left slashed and many buildings that had previously served as shelter were also burned down or demolished.[41]

Arbitrary Arrests and Detention

According to local NGOs and testimonies from people on the move, police also regularly stop them on their way to bigger cities and transport them either to official camps or detention facilities. The latter is especially concerning as additional surveillance and use of biometric records would be more likely used in a criminalisation context. In 2023 both Klikaktiv and Medecins Sans Frontieres, reported an increase of detainments. There are currently three detention centres in Serbia: in Padinska Skela (outskirts of Belgrade), Dimitrovgrad (near the border with Bulgaria) and in Plandiste (near the border with Romania).[42] According to the government these facilities are built for the purpose of accommodating foreigners who are "not allowed to enter the territory of Serbia or for foreigners who should be forcibly removed from the country based on the decision on return (expulsion orders) but who can not be returned immediately".[43] According to MSF, people are often not told how long they will be in the detention camps. BVMN testimonies also report incidents of violence in detention and substandard detention conditions.

> "The men in the group were beaten with batons by the Serbian officers. The officers took their phones and money.After this the respondent was taken to what he described as 'jail', somewhere in central Serbia. He was detained there for 2 months. He said the place was 'very bad'. Him, and other detainees, were regularly beaten by officers, were allowed to go outdoors only once a week for 5 minutes and were allowed to wash themselves only once a week."[44]

38 Fallon, K. and Tondo, L. (2024). Videos show migrants stripped of clothing in freezing temperatures at the Serbian border. The Guardian. Available online [Accessed 17 May 2024].

39 Border Violence Monitoring Network. Testimony Database. Available online [Accessed 17 May 2024].

40 No Name Kitchen (2024) Untitled Instagram Post. Available online [Accessed 17 May 2024].

41 Border Violence Monitoring Network (2024). Serbia's Special Military Operation. Available at: https://borderviolence.eu/app/uploads/IV-report-Serbia-Document-A4.pdf

42 Klik Aktiv, (July 24th, 2023) "The Second Quarterly Report in 2023" Klik Aktiv. Retrieved from https://drive.google.com/file/d/1dM1sk_y11zY5A6CQEZMq0_xEQQmgdH26/view

43 Ibid.

44 Border Violence Monitoring Network (2024). "Serbian police officers beat us at the border, the jail, everywhere." Available at: https://borderviolence.eu/testimonies/january-1-2024-near-subotica-serbia/

1.5 Overview of developments in border surveillance and control technologies

Current academic literature on the borders of Serbia overwhelmingly focuses on the Northern border and remarkably little research or material outlining the situation at the Southern border. This is peculiar as official documents from the Serbian government and the EU outline enforcement priorities along all of the borders, and there are several external actors such as Frontex and the Visegrad group supporting Serbian law enforcement along the Southern borders. Unsurprisingly, there is also remarkably little academic literature or official documentation identifying the exact border technologies currently being used in Serbia and most official documentation concerning border technologies only discusses experimental technologies and test cases, none of which strictly highlight exact border technologies that are used day to day. Some of the most recent and detailed research on the border of Serbia has been done by Kristina Korte, who observed on the Northern border a "trend of fortification" and a "trend to digitalize or 'smartify' borders."[45] Based upon this observation, her research seeks to answer the question of why fences and border fortification are continuing to expand when there is plenty of evidence that fences do not effectively address migration or smuggling, and when there is plenty of technology that enables control of POM "discreetly and almost invisibly."[46] The answer, she suggests, is that discreet border technologies may be cheaper and more effective than a fence, but are necessarily less visible.[47] Meanwhile the border fence between Hungary and Serbia serves as a visual demonstration of commitment to EU border security.

Since Serbia officially became a candidate for EU accession, the EU has invested massively in Serbia's border management and technical equipment, becoming its biggest donor. It allocated a total of 1.6 billion Euros to Serbia overall through Instrument for Pre-Accession Fund between 2014 and 2020 and roughly, 246.2 million euros allocated to the fundamental rights and rule of law, largely focusing on migration and border management. According to the EU itself, between 2015 and 2022, the technical capacities of the Serbian Border Police have been increased through procurement of specialised border surveillance equipment in the amount of over EUR 1.85 million with an additional EUR 130 million provided to Serbia in the area of migration.[48]

The European Commission started to provide funding to Serbia through the Pre-Accession Instrument in 2007 following the establishment of a European Partnership between Serbia and Montenegro, with the purpose of providing pre-accession assistance to the two countries. Funding for migration management and border infrastructure started in 2007 with 5.5 million euros, during a first phase of IPA funding for pre-accession institution-building.[49]

In 2013, 6.7 million euros were allocated to improve Serbia's border infrastructure.[50] In

45 Korte, K. (2023). 'So, if you ask whether fences work: they work'—the role of border fortifications for migration control and access to asylum. Comparative Migration Studies, 11(1), pp.1–18.

46 Ibid. see also Korte, K. (2020)."Who Is the Animal in the Zoo?" Fencing In and Fencing Out at the Hungarian-Serbian Border. Journal of Borderlands Studies 37(4), pp.1-22

47 Ibid.

48 European Commission(2022). ANNEX 1 of the Commission Implementing Decision on the financing of the individual measure to strengthen border management capacities in favour of the Western Balkans for 2022. https://neighbourhood-enlargement.ec.europa.eu/system/files/2022-10/C_2022_7584_F1_ANNEX_EN_V1_P1_2268709.PDF

49 European Commission. Serbia - financial assistance under IPA. Available online.

50 European Commission (2013). Implementing Decision adopting a National programme for Serbia under the IPA Transition Assistance and Institution Building Component for the year 2013
Available online.

2014, the EU promoted the development of a Schengen Acquis Action Plan, and emphasized the need for increased capacity in Serbia's Integrated Border Management as an essential prerequisite for border management. 27, 512 000 Euros were allocated to Home Affairs with the specific objectives to combat trafficking, fill the need of specialized equipment for border management and to develop a comprehensive Schengen Acquis Action Plan. This also included enhancing the "connectivity *between databases and biometric devices (…) in order to support the operations of the Border Police." as well as strengthening "analytical, communication, procedural, training and technical capabilities (…) in order to counter irregular migration effectively."*[51]

In 2015, an additional 8,5 million euros were made available specifically for Serbia to develop a comprehensive communications infrastructure and "reasonably functional basic infrastructure" for border management upon which further technical infrastructure could be built in the future.[52]

The project specifically mentions plans of comprehensive construction works" at border crossing points at the Serbo-Hungarian Border.[53]

Following the increase of people arriving at the EU external borders and transiting through Serbia,[54] an additional 28 million euros were allocated in 2016 to a "Sector Reform Contract for Integrated border Management".

The specific objectives for this funding was to improve the detection of cross-border crime, increase institutional and operational capacity to perform border checks and surveillance and to perform a more effective prevention of irregular migration and to detect migrants at specific border crossing points. In strong words the EU specifies its expectations for the use of its funding as follows:

> "In this framework, Serbia needs to establish effective border control, to develop a robust risk analysis capacity, to increase the use of technical surveillance means and to conduct joint surveillance and control activities with all its neighbours. Operational cooperation with FRONTEX needs to continue and to be intensified. "[55]

The document further states that Serbia's improvement of its border management, its control over its borders and the prevention of illegal crossings is directly linked to its accession aspirations.

> "Integrated Border Management is identified as an area that needs to be systematically addressed early on in the accession process."[56]

The measures of whether an Integrated Border Management Approach is reached is defined in the project as " improved facilities and strengthened cross-border and inter-agency coordination between border and criminal police, customs, and phytosanitary and veterinary services, and improved risk assessment, data collection and data-

51 European Commission. (2014). INSTRUMENT FOR PRE-ACCESSION ASSISTANCE (IPA II) 2014-2020. Support to the Home Affairs Sector. Available online.

52 European Commission. (2015) Annual Action Programme for Serbia. Available here: https://neighbourhood-enlargement.ec.europa.eu/document/download/cf8ba2a6-c96f-4c2b-be6b-2174f350f9cd_en?filename=pf_06_support_to_home_affairs.pdf

53 Ibid.

54 According to the funding document in 2015, 599,033 "irregular immigrants " were detected in Serbia which is 25 times more than in 2014.

55 European Commission (2016). IPA II Serbia - Sector Reform Contract for Integrated Border Management. Available https://neighbourhood-enlargement.ec.europa.eu/document/download/5259676b-4138-4dad-9a2e-09e66b952de6_en?filename=ipa2016-039803.06-serbia-sector_reform_contract_for_integrated_border_management.pdf

56 Ibid.

bases system.", with the later exposing links to a techno solutionist approach to border management.

Between 2017 and 2019 no new funding was approved for border management in Serbia under the IPA Instrument with the explanation that Serbian institutions needed some time to implement the goals of the previous grants. In 2019 following yet again a surge in new arrivals, a new financing instrument was adopted by the Commission "a Special measure as regards Strengthening the Response Capacity of the Republic of Serbia to Manage Effectively Mixed Migration Flows"[57] releasing 27.4 million euros to Serbia for a six year period. The project was to be implemented and managed by the EU Commission and the International Organization for Migration (IOM). While the objectives of the project cover support to migrants, refugees and asylum seekers, through adequate accommodation and healthcare services, documents released by the International Organisation for Migration reveal at least 700.00 euros were invested in surveillance technologies under this project.[58] The devices procured through IOM under this project include 30 long range night observation devices, drones, two heartbeat detectors, passport readers as well as the purchase and installation of 100 video surveillance cameras. Nearly all tenders were awarded to Serbian-based companies, including the Damiba Group, producing advanced AI-enhanced drones and radar systems.[59] We were unable to find out whether more funding was allocated to border surveillance technologies from the overall budget. In 2020, the Commission extended the special program, with an additional 11.8 million euros.

In 2022, the EU announced the implementation of a Western Balkan Action Plan, to "reduce irregular flows", "take action against smuggling" and "fostering readmission cooperation and return and achieving the alignment of visa policies".[60] 201.7 million Euros were made available from the IPA III instrument for "border management, judicial and police cooperation, strengthening capacities and key infrastructure and equipment" in Bosnia, Montenegro, Kosovo and Serbia. The specific outputs under the Western Balkan strategy cover both "strengthened technical capacities for border surveillance " and "strengthened technical capacities to implement EU-compliant identification and registration systems" as well as "increased capacities to implement effective border control and efficient integrated border management (IBM) systems". Specific activities include the procurement of surveillance technologies, construction of the relevant infrastructure as well as the "procurement of IT and communication infrastructure for identification and registration of migrants based on Frontex Masterplan "[61] 6.5 million euros are allocated to Serbia alone, specifically for the procurement of border surveillance technologies, IT systems for biometric databases as well as closer alignment to EU standards. The activities are implemented under direct management of the EU delegation in Serbia.[62]

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57 European Commission (2019). COMMISSION IMPLEMENTING DECISION of 30.9.2019 adopting a Special Measure as regards Strengthening the Response Capacity of the Republic of Serbia to Manage Effectively Mixed Migration Flows. Available at : https://neighbourhood-enlargement.ec.europa.eu/document/download/8eca7bd3-0dfb-4a56-a065-e7ea2cbab7b0_en?filename=c_2019_7077_f1_commission_implementing_decision_en_v2_p1_1043931.pdf

58 European Commission (2019). ANNEX to the Commission Implementing Decision adopting a Special Measure as regards Strengthening the Response Capacity of the Republic of Serbia to Manage Effectively Mixed Migration Flows. Available at: https://neighbourhood-enlargement.ec.europa.eu/document/download/8e35c425-052d-46cc-8335-d4343275f993_en?filename=c_2019_7077_f1_annex_en_v1_p1_1043932.pdf
See also: IOM Serbia (2019). Grant/Procurement Contract Details. Available at:
https://serbia.iom.int/sites/g/files/tmzbdl1126/files/documents/Summary%20Template%20EU%20funded%20contracts%20-%20Special%20Measure%20Phase%203%202019.pdf

59 Damiba Group 2019. Untitled Facebook Post. See: 82https://www.facebook.com/damibagroup/photos/pb.100064844501471.-2207520000/2253105111416356/?type=3

60 European Commission. (2022). EU Action Plan on the Western Balkans. Available online.

61 European Commission. (2022). ANNEX I of the Implementing Decision on the financing of the individual measure to strengthen border management capacities in favour of the Western Balkans for 2022 Available online.

62 Ibid.

While a number of tenders were released in 2022, the 2023 Progress Report on Serbian Accession to the EU, criticizes significant delays in the implementation of Serbia's Integrated Border strategy including progress on border surveillance has been delayed.[63] Indeed, despite millions of Euros allocated to border control and surveillance pre-2023, the EU tenders portal shows little evidence of the procurement of border technologies for Serbia. This also aligns with the limited evidence of functioning surveillance technologies we found during our field research. Starting in late 2023 into 2024 several concurrent tenders for advanced surveillance systems were released, pointing to a desire to "catch-up" on delays.

63 European Commission. (2023). Key findings of the 2023 Report on Serbia Available at: https://ec.europa.eu/commission/presscorner/detail/en/qanda_23_5628

2. Methodology

2.1 Research & Data Gathering Methods

The research for this report combined both desk research and an extensive literature review with an intensive field assessment and interviews with key stakeholders. The desk research for this report began in January 2024 and was conducted in the lead up to the field research which took place in March 2024, as well as in September 2024 prior to publication. The desk research process focussed primarily on literature review and reviewing resources that had been collected through Freedom of Information Act Requests. The goal of the desk research was to inform the field assessment, to assess the current state of secondary literature on the topic as well as to verify findings from the field research. The field assessment focussed on carrying out field observations, in-person interviews and testimony collection with people on the move. Visual assessments were carried out of the Northern border, Western borders, Southern borders and South Eastern border. Complementing the desk research and field assessment seven interviews were conducted with expert researchers, local actors and authorities.

2.2 Limitations of the Study

The research goal was to get a comprehensive understanding of the situation of border surveillance in Serbia without bringing in any outside assumptions or biases. As even those with extensive experience on the Balkan route are aware of the lack of research on the topic of border surveillance and its intersection with violence, it was vital to remain as open and flexible as possible in the research and shift the focus as needed. However this methodology limited the possibility of more systematic and quantitative data collection. Moreover, due to the impacts of the large-scale military observation, people on the move in Serbia were either evicted from their shelter and pushed out of Serbia or held in one of the closed and inaccessible Transit and Reception Centers along the Southern border of Serbia. This made it close to impossible to collect testimonies from people on the move, an important source of information. It should be noted that this distinct lack of POM in the country does beg several questions worthy of discussion and research, particularly with regards to the way that border technology practices might play a part. Additionally, the field assessment was conducted over the course of one month, yet even with several months of research and preparation, it was not possible to investigate all of the locations of interest.

The vagueness and opaqueness has been a recurring theme in our research. Indeed, when researching security technologies and practices, we frequently accept gaps in research, gaps in literature and gaps in observation as fundamental realities of the subject matter. Border technologies are widely categorised as national security technologies which explains why official documentation will redact or obscure details about 'equipment' and 'technical assistance'.[64]

64 Frontex (2022) Special Activity Plan: Joint Operation Serbia Land 2022. Obtained by BVMN through Freedom of Information request. see also Frontex (2021) Special Activity Plan: Joint Operation Serbia Land 2021. Obtained by BVMN through Freedom of Information request. see also Frontex (2021) Operational Plan: General Part. Multipurpose Operational Activities in Third Countries with Executive Powers. Obtained by BVMN through Freedom of Information request.

At the same time videos on the YouTube channel of the Serbian ministry of the interior shows that there is also a 'class' of border technologies that the Serbian government is prepared to declassify and publicise.[65] Drawing attention to this gap, and interrogating the differences between the spaces we get shown and the spaces we do not see, can also help us better understand the border technology regime in Serbia.

65 This also applies to border technologies like ROBORDER and iBorderCTRL; we know these technologies exist and we are allowed to know their operating principles, even though they are ostensibly national security technologies under the Horizon research programme.

3. Border technologies in Serbia

3.1 Border Surveillance Technologies in Serbia

3.1.1 Border Surveillance Technologies used by the Serbian Border police

Serbian law enforcement are the primary actors deploying border technologies in Serbia, and the ministry of the interior often showcases some technologies.[66] As mentioned above the Serbian ministry of the interior publicly advertises some of its technologies on its own Youtube Channel.[67] Most of the videos published there between November 2023 and January 2024 showcase the use of different drone systems, the recently created helicopter unit, and heavy duty military equipment such as the armoured personnel carriers shown in **figure 2**. The video descriptions clearly state that the drones, helicopters and military units showcased were only deployed as part of the Special Operation.

66 Министарство унутрашњих послова (2023). MUP Republike Srbije YouTube channel. Youtube. Available online [Accessed 17 May 2024].

67 Министарство унутрашњих послова (2023). MUP Republike Srbije YouTube channel. Youtube. Available online [Accessed 17 May 2024].

Figure 2 *Images taken from promotional video*

MUP Republike Srbije YouTube channel, 2023

While the special military operation was indeed, an occasion to showcase their most advanced equipment, the Serbian Border Police has been deploying **drones** for border surveillance at least since 2019. A procurement document by IOM indicates the purchase of unmanned aerial vehicles from the Serbian Damibia Group at a value of 36,500 euros, along with other surveillance equipment including heartbeat detectors.[68] While the Damiba Group, comes up frequently as a supplier of drones and other surveillance equipment, an investigation by the Balkan Investigative Reporting Network (BIRN) found, that most of the drones in Serbia's Arsenal have been purchased from the Chinese firm DJI .[69] These drones use sensors and artificial intelligence to automatically track, of objects, people, boats, and moving vehicles as well as to detecting, identifying, and counting objects or persons, measuring the area they occupy, detecting their geo-location from a distance of more than a kilometre, and tracking them in real-time.[70] Technical details suggest that additional facial recognition software can be integrated in certain models, including the DJI Matrice 300,[71] allowing the drone to memories a specific object or face and recognize it during subsequent recordings.[72] Drone footage is normally transmitted directly to a control Centre allowing for real-time monitoring and analysis of drone footage from police monitoring centres. This raises significant concerns regarding not only the physical tracking and apprehension of people attempting to seek safety in Europe but also the storage and analysis of their personal data.

Mobile Surveillance Systems, typically a combination of surveillance tools including thermal cameras, radars, sensors and lasers installed on a vehicle, are a common border surveillance tool used by Frontex. Frontex has an overall fleet of 27 Mobile Surveillance Systems, deployed in Albania, Romania and North Macedonia. While our field visit did not point to the deployment of an MSS in Serbia, the EU issued a call for tenders in 2023, for a range of surveillance equipment including 5 MSS Systems funded through the EU Development Fund.[73] According to the tender the main purpose of the MSS Systems is the "detection and objects recognition (people, vehicles), for determining a target's location and own position, and also for recording the results of the observation and transmission of the observed image to the local coordination centre."[74] The Technical specifications in the tender allude to advanced automated processes to be integrated in the surveillance system including automated target tracking using all sensors, as well as outside motion sensors detecting humans entering the 50m diameter circle around the MSS. All data collected by the system is transmitted to a local coordination centre. This specific MSS will likely be deployed beyond Serbia but across the EU as the tender specifies the need for different digital terrain models for each Member State of the European Union, R. North Macedonia, R. Serbia, R. Albania, Montenegro and Bosnia and Herzegovina.[75]

68 IOM Serbia (2019). Grant/Procurement Contracts.
69 Tesic, A. (2023b). Watching Us: Serbian Police's Expanding Drone Arsenal Draws Concern. Balkan Insight. Available online [Accessed 17 May 2024].
70 More information at: https://www.dji.com/de/company?site=brandsite&from=footer
71 More information at: https://www.dji.com/de/downloads/products/mic#doc
72 More information at: h
73 EU Tender Portal (2023). 404845-2023 - Competition. https://ted.europa.eu/en/notice/-/detail/404845-2023#
74 Ibid.
75 Ibid.

Figure 3 *Example of a Mobile Surveillance System developed by Dat Con[76] (Source: Dat-Con)*

Cameras and night vision devices

Thermal imaging cameras are a standard element of border surveillance, often integrated in Mobile Surveillance Systems or used as hand-held devices by border guards themselves. In 2017, IOM procured a lot of handheld thermal cameras for the Serbian Border Police, but they were likely already used before then.[77] They have since been a consistent part of Surveillance Procurements. Thermal cameras typically can detect people or objects from 15km away and identify a specific object or person from 3.5km.

In 2019, a Belgrade-based company, was commissioned by IOM to supply and install 100 surveillance cameras, likely for installation in transit and reception centers.[78]

Vehicle scanners

X-Ray vehicle scanners, used to detect illegal goods or people in vehicles, are identified mainly across the Bulgarian border with Serbia. In late 2023, a supply of vehicle scanners was reportedly donated to the Serbian government, by the controversial Chinese firm NuTech.[79]

76 Dat-Con is a Slovenian Company providing Mobile Surveillance Systems to Frontex. See Frontex answer to written question E-2853/2023. Available at: https://www.europarl.europa.eu/doceo/document/E-9-2023-002853-ASW-ANN02_EN.pdf

77 IOM Serbia (2019). Grants/Procurement Contract.

78 European Commission (2019) ANNEX to the Commission Implementing Decision adopting a Special Measure as regards Strengthening the Response Capacity of the Republic of Serbia to Manage Effectively Mixed Migration Flows. Available online. See also: IOM Serbia (2019). Grants/Procurement Contract.

79 Gocanin, S. (2023). High-Tech Chinese 'Border Scanners' Raise Transparency, Privacy Questions In Serbia. Radio Free Europe. Available online [Accessed 18 May 2024].

Long Range Acoustic Devices (LRAD)

Last but not least the Collective Aid staff have reported seeing a "gun-like sonic device" being used to "make noise and scare people during evictions", suspected to be a LRAD device which had not previously been observed in Serbia.[80]

Figure 4 *Example of an LRAD device that is typically used by Law Enforcement for crowd control (Source: Genasys, 2024)*

3.1.2 Border Surveillance Technologies used by Frontex and other external actors

Compared to Serbian law enforcement, external law enforcement actors such as Frontex, and the Visegrad group officers are less transparent about the technologies they use. Frontex has been involved as a central actor supporting the expansion of border surveillance in Serbia, by providing training and personnel on the ground. The status agreement between Frontex and Serbia involves 'technical assistance', exchange of technical equipment and technical training, however documents obtained through Freedom of Information Act requests were largely redacted, leaving open questions about what technical assistance Frontex provides to Serbia and how it is used.[81] This is not a small matter, as the 2023 Procurement plan for Frontex came to nearly €600 million, with more than €180 million earmarked for equipment.[82] While it is not transparent what kind of technologies Frontex uses in their specific countries of operation, the agency's calls for tender and other public procurement documents give a general overview of the types

80 Collective Aid (2023b). Subotica Situational Update. Available online [Accessed 17 May 2024].

81 The European Union and The Republic of Serbia (2020). Status Agreement between the European Union and the Republic of Serbia on actions carried out by the European Border and Coast Guard Agency in the Republic of Serbia. Available online [Accessed 18 May 2024]. see also Frontex and The Republic of Serbia (2009). Working Arrangement establishing operational cooperation between the European Agency for the Management of Operational Cooperation at the External Borders of the Member States of the European Union (Frontex) and the Ministry of the Interior of Republic of Serbia. Available online [Accessed 18 May 2024]. see also European Commission (2022). EU Action Plan on the Western Balkans - European Commission. Available online [Accessed 18 May 2024]. see also European Commission (2023). Serbia Report 2023. Available online [Accessed 17 May 2024]. see also Privacy International (2018) An Open Source Guide to Researching Surveillance Transfers. Available online [Accessed 17 May 2024].

82 Frontex Management Board (2023). Management Board Decision 6/2023 of 13 February 2023 adopting the Annual Procurement Plan for 2023 for the Agency. ref.Ares(2023)1027641. Available online [Accessed 18 May 2024].

of border surveillance technologies available to the agency as well as Frontex' aspirations to develop their technical capacities. Previous tenders by Frontex include radar technologies to be placed on mobile surveillance vehicles,[83] drones,[84] as well as a variety of thermal imaging and night vision cameras, heart-beat detectors, vehicle scanners and more.[85] In 2023, 168,600,000 euros - nearly the entire equipment budget for the year – were allocated to Surveillance Aircraft Services for Land and Maritime Border Surveillance.[86] The aircraft was to include thermal imaging capacities as well as a Maritime Surveillance Radar with machine learning capacities to allow for automatic target tracking.[87]

In 2024, Frontex issued a call to pilot long endurance drones which "shall incorporate a target tracking system capable of automatically detecting, identifying and tracking both stationary and moving targets within its field of view", and "identify potential threats or points of interest, and make informed decisions in real-time." This type of artificial intelligence supported drone, allows Frontex or other border police to automatically track the movement of individuals, groups of individuals or objects such as boats or vehicles. Who defines what is a target or whether all objects, cannot be inferred from the tender.[88]

In response to our questions on Frontex involvement in Serbia and the sharing of border technologies the Frontex press office provided the following briefing

> *"The primary goal of the Joint Operation is to offer enhanced technical and operational support to the host [third country] through activities in specific operational areas." ...*
>
> *"The operational activities are implemented on the territory of the Republic of Serbia at land border as follows: Serbian – Bulgarian border. Local Coordination Centre has been established in Dimitrovgrad, Serbian – Hungarian border. Local Coordination Centre has been established in Subotica. Detailed figures about operational areas in Serbia are sensitive information. Public dissemination of this kind of information could help the criminals and would jeopardise the efficiency of the border control activities."*
>
> *- Frontex briefing 2024*

83 EU Tenders Portal. Framework Contract for Provision of Mobile Surveillance Systems for Frontex Operational Activities. Frontex/OP/220/2019/JL. Available at: https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/tender-details/4688?isExactMatch=true&startDate=%5Bobject%20Object%5D&mainCpv=35120000&order=DESC&pageNumber=1&pageSize=10&sortBy=startDate&cftPartyLegalEntityId=47352434

84 EU Tenders Portal. Trial of Vertical Take-Off and Landing (VTOL) Remotely Piloted Aircraft System (RPAS) for Multi-domain Aerial Surveillance. Frontex/2022/OP/1050/JL. Available at: https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/tender-details/12447?isExactMatch=true&startDate=%5Bobject%20Object%5D&mainCpv=60440000&order=DESC&pageNumber=1&pageSize=10&sortBy=startDate&cftPartyLegalEntityId=47352434

85 EU Tenders Portal. Provision of surveillance equipment to Frontex. FRONTEX/2024/OP/0016. Available at: https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/tender-details/f0b86114-d668-4504-887d-5a8d8840b1ae-CN?order=DESC&pageNumber=1&pageSize=10&sortBy=startDate&isExactMatch=true&startDate=%5Bobject%20Object%5D&mainCpv=35120000&cftPartyLegalEntityId=47352434

86 EU Tenders Portal. FRONTEX Surveillance Aircraft Services for Land and Maritime Border Surveillance with Manned Fixed Wing Aircraft. Frontex/2023/OP/1180/JL/MS. Available at: https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/tender-details/15603?order=DESC&pageNumber=1&pageSize=10&sortBy=startDate&isExactMatch=true&startDate=1672527600000,1704063600000&cftPartyLegalEntityId=47352434

87 Ibid.

88 Frontex (2023). Annex I to Invitation to tender no. Frontex/2023/OP/1180/JL/MS. Available at: https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/tender-details/6b620333-dd23-4a7b-91fe-896955d88bdc-CN?order=DESC&pageNumber=1&pageSize=50&sortBy=startDate&keywords=land%20border&isExactMatch=true&cftPartyLegalEntityId=FRONTEX

We were also able to speak with the Fundamental Rights Monitor for Frontex, who has oversight over the fundamental rights practices across all locations where Frontex is deployed. On the topic of border surveillance technologies used by Frontex in Serbia, he specified that technologies that Frontex officers in all locations are typically provided with personal protective equipment like firearms and batons, tactical equipment like handheld night vision binoculars, and increasingly mobile surveillance systems which includes cars with radar capabilities and aerial surveillance systems. Grimheden explained at length that there are several safeguards governing the ways in which these technologies can be used and also stated that Frontex are currently going to best review GDPR and AI processing concerns across all of the tools they use.

Officers from Austria and Hungary who were sent to the Serbian Southern border as part of the new cooperation between the "sovereign states" are also equipped with modern technical equipment as emphasised by their respective heads of states.[89] In 2023, the Hungarian Minister Bence Retvari outlined that the 35 strong Hungarian police contingent on the Serbian Southern border would be equipped with similar equipment to their counterparts on the Northern border of Serbia.[90] In 2024, the European Commission issued two tenders for the provision of an automated surveillance system at the border with North Macedonia and for other surveillance equipment, including all terrain vehicles, mobile surveillance vans and drones in Serbia.[91] These actions are funded by the Instrument for Pre-accession assistance (IPA III) (2021/2027). It is also notable that these tenders were issued by the Commission themselves rather than national authorities .

3.1.3 Technologies from EU -Funded Innovation Projects

In 2024 two EU Funded Horizon research projects BORDER and iBorderCTRL concluded, both of which were tested on Serbian borders.[92] ROBORDER was a research project that was tested along the Northern border with Hungary, seeking to develop a comprehensive border surveillance system involving autonomous swarms of drones and remote command centres as part of a situational awareness suite. iBorderCTRL was also tested along the Northern border and involved the development of a lie detector reportedly capable of effective 'deception detection'. Since these projects have concluded, there is no information that confirms what was done with the hardware that was developed and tested, whether they were inherited by the government and whether this technology is being deployed presently. In trying to find the answer to this question, we identified an article by a Hungarian border official who put together a very professional proposal for how the Hungarian border force could deploy the ROBORDER system effectively, as elaborated below

89 Министарство унутрашњих послова (2020). Austrian Police Officers Will Work On Protecting The Border Near Presevo. Available online [Accessed 18 May 2024].

90 Magyar Nemzet (2023). Hungarian police also protect Serbia's southern border, besides Hungary's. Available online [Accessed 18 May 2024].

91 EU Tenders Portal. Supply of equipment for border management. EC-NEAR/BEG/2024/EA-OP/0115. Available at: https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/tender-details/171b525f-b06a-477b-bb67-a305e6da43a7-CN#anchorDocuments;

92 Frontex (2021) Assessment of Horizon, end of 2020 Research Projects. Obtained by BVMN through Freedom of Information request. see also Kilpatrick, J. Jones, C. (2022). A clear and present danger Missing safeguards on migration and asylum in the EU's AI Act. Statewatch. Available online [Accessed 17 May 2024]. see also Zsákai, L. (2022). Autonóm heterogén robotrajok a határőrizetben : Gondolatok egy lezárult kutatási projekt gyakorlati alkalmazhatóságáról. Rendvédelem. 11(2), pp.2–17. Available online [Accessed 17 May 2024].

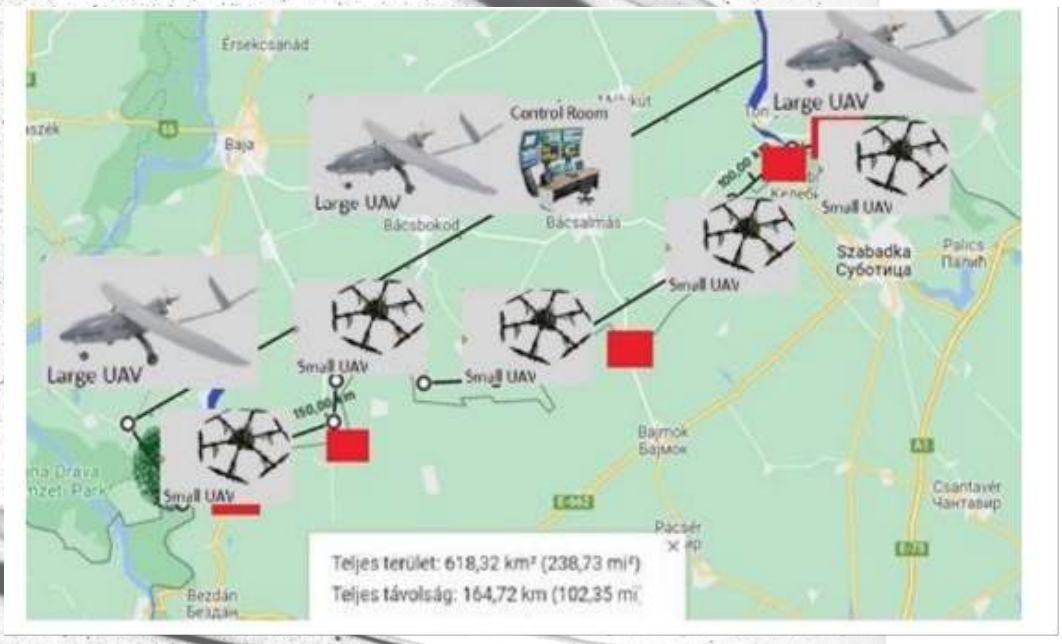

Figure 5 . *Autonóm heterogén robot rajok a határőrizetben, (Autonomous heterogeneous robot swarms in border control) Zsákai, L. (2022).*

During our interview process, researchers from Statewatch, highlighted the relevance of the experimental technologies being developed and tested in the proximity of Serbian borders, and that if new and advanced technologies were entering the Serbian border technology regime, then they would likely come through innovation projects. This includes for example surveillance technologies developed as part of ROBORDER and the database expansions to the Schengen Information System. Statewatch also discussed the important influence that private interests have in the expansion of border technology, highlighting that it is primarily in the interest of private companies that are interested in obscuring and deregulating this expansion.

3.1.4 Findings from the Field Assessment

Based on the findings from the desk research and initial interviews, the field assessment focused on visual assessments and interviews in key border areas. As mentioned above, this report purposely focuses on the Serbian borders to Hungary, Bulgaria and North Macedonia based on previous research which indicated that the borders to Romania, Bosnia and Croatia are less fortified and are less likely to feature advanced border surveillance technologies. The Serbo-Hungarian Border has been primarily in focus since the construction of a roughly 650 million euro border fence, while the southern borders have been less explored.[93] The purpose of the visual assessments was primarily to verify the information collected through desk research and document analysis.

93 Government of Hungary (2023). "Az EU döntéshozói beengedték a Közel-Kelet összes konfliktusát" Available at: https://kormany.hu/hirek/az-eu-donteshozoi-beengedtek-a-kozel-kelet-osszes-konfliktusat

Border surveillance technologies at the Serbian- Hungarian border

The assessment began in the North of Serbia in order to examine the border with Hungary as we were aware that the most visible border technology would be found along the border fence here. On the border between Serbia and Hungary we observed numerous surveillance cameras and two analog watchtowers along the border fence. Inside the two watchtowers there was no functional technology suggesting they are used solely for visual surveillance. An interview with Medecins Sans Frontieres Serbia confirmed the use of drones and helicopters in Northern Serbia during the Special Operation, as already seen on the ministries Youtube Channel. BVMN testimonies confirm that drones have been used at the Serbo-Hungarian Border even before the 2023 military operation. The first BVMN testimony to mention drones on the Serbian-Hungarian border was taken in 2021 and since then, there have been over 100 testimonies featuring drone usage, those however most likely on the Hungarian side of the border.

Figure 6 *Border fence along the Serbo-Hungarian border (Source NHW)*

Figure 7 *Watch towers across the Northern border (Source NHW)*

Border surveillance technologies at the Tri-Border Area (Serbia-North Macedonia-Bulgaria)

The field assessment continued to a trip to the tri border area in the south of Serbia. An interview with a North Macedonian Civil Society organisation, Legis, suggested that they did not identify any surveillance infrastructure and technology being used on this part of the border. We were largely able to confirm this as our assessment of the tri border and found no concrete evidence of border surveillance technology beyond a cell tower. Cell towers can be used for mobile phone location tracking, as mobile phones connect to the tower for cellular data. There is also evidence of IMSI catchers used in other European border areas, technologies that can surveil mobile phone communication by mimicking a cell tower and forcing the phone to connect.[94] We were not able to verify whether the cell towers we found also have an integrated IMSI catcher or used elsewhere in the border area.

Figure 8 *Cell tower on the hill overlooking the tri border area (Source: NH)*

Shortly after our visit to Legis, we went on to meet a representative of MSF in a town close to the Serbian border with Bulgaria. Here MSF confirmed that there are locations in which drones and thermal cameras are being used by Frontex to monitor the border. The MSF representative we spoke to was confident that the majority of drones are being stored in the south, because of how much drone activity they have observed nearby, At the same time MSF told us that there was little to concretely observe on the border with Bulgaria beyond the technologies that are deployed by Frontex and the Serbian police during the night, such as infra-red cameras and drones. A subsequent field trip to the border Serbio-Bulgarian found a watch tower equipped with several cameras, marked with a sign confirming EU funding.

94 See for example: FragdenStaat (2023). wk05498-en18. Available at: https://fragdenstaat.de/dokumente/240340-wk05498-en18/?page=1 or, https://www.vice.com/en/article/imsi-catcher-exports/

Transit and Reception Centers

Information regarding technologies used in Transit in Reception Centers, was even harder to access than information regarding technologies at the border. Our attempt to obtain a permit to visit a TRC was unsuccessful, and UNHCR staff working inside a TRC were unwilling to talk. We then attempted to establish contact with both a UNHCR representative in Presevo and the central office in Belgrade, and we found that both were entirely uncooperative with our requests for comment or interview. Finally the respondent identified that the current attitude of the state towards migration research would make it difficult to carry out productive field research in Serbia, specifically highlighting that the Commissariat for Refugees and Migration and the ministries generally are unlikely to provide any information about the current border regime. We were thus unable to find any substantive information regarding the use of surveillance technologies inside the Transit and Reception Centers. The only interesting observation relates to the discussion of biometric data collection in the TRCs. The respondent highlighted that police are the only authorities who should be doing biometric data collection, however this appears to be shifting as training is being given to Commissariat staff working at the camps to be able to do this type of data collection. We were unable to verify this information via subsequent interviews nor through Freedom of Information Requests.

3.2 Collection of biometric data and the role of databases

In 2023, a report by BVMN observed the expansion of biometric databases being used for asylum registration in Western Balkan countries like Serbia alongside the 2023 recast of EURODAC, overall paving the way for future interoperability and integration, suggesting that the EU is preparing a framework for facilitating returns of asylum applicants through Balkan countries.[95] This endeavour known as "Balkandac", is closely interlinked with the EUs plan to enhance cooperation on anti smuggling, further criminalising people on the move.

Per a 2022 report from the European Commission, Serbia now hosts a fully functional biometrics database and a system for automated fingerprint identification (AFIS) within the Ministry of the Interior; both of these are used for registering 'irregular migrants' and asylum seekers.[96] Efforts towards the creation of EURODAC compatible databases can be traced to the Action Plan for Chapter 24 - Justice, Freedom and Security released by the Serbian Government in 2020.[97] In this document, a roadmap is proposed to identify legal, strategic and technical steps needed to connect the system to enable future operations in relation to the EURODAC and Dublin regulations.[98] Further plans have been put in motion for the Liaison Officer at Europol to have direct access to the national police databases.[99] Serbia's Interior Ministry Strategy 2018-2023 stipulated that Serbia would begin implementing Dublin Regulations (now RAMM under the New Pact) and EURODAC provisions two years before joining the EU.

95 Border Violence Monitoring Network (2023). Decoding Balkandac: Navigating the EU's Biometric Blueprint. Available online [Accessed 17 May 2024].

96 European Commission. (2022). Serbia 2022 Report. Available at: https://www.stat.gov.rs/media/358410/serbia-report-2022-1.pdf

97 Government of the Republic of Serbia. (2020). Action plan for chapter 24 - justice, freedom and security. Available at: http://www.mup.gov.rs/wps/wcm/connect/9be2669f-e783-4911-94717f20ae6145ce/Revised+AP24_worksheet.pdf?MOD=AJPERES&CVID=nbcua4H

98 European Commission. (2022). Serbia 2022 Report. Available at: https://www.stat.gov.rs/media/358410/serbia-report-2022-1.pdf

99 Government of the Republic of Serbia. (2020). Action Plan for Chapter 24: Justice, Freedom, and Security. Available at: http://www.mup.gov.rs/wps/wcm/connect/9be2669f-e783-4911-94717f20ae6145ce/Revised+AP24_worksheet.pdf?MOD=AJPERES&CVID=nbcua4H

This point was re-emphasized in the 2022 Commission report, stating that preparations for EURODAC in Serbia were under way, and focusing on the internal interconnectivity of databases, connection to the central EURODAC server and a satisfactory level of automatization to create an efficient registration procedure.[100] In the Commission's 2023 EU Enlargement report on Serbia, it is stated that "Serbia has developed a roadmap for enabling future operations in relation to the EURODAC and Dublin Regulations, containing steps on legal, strategic, technical and training-related preparations."[101]

Yet, while the European Unions explicitly plans to expand biometric data collection in the Balkans, and has invested in expanding IT infrastructure and building extensive, digital biometric database ready to become interoperable with EURODAC and other EU databases, our research suggests that there is currently little political and institutional will in Serbia to systematize collection of biometric data. All the stakeholders spoke to the lack of communication with the Commissariat, the institution in charge of housing and registering POM in Serbia. The only organisations that did have communications with them were two Serbian organisations. Even then, both organisations described this relationship not being a very strong one and that the commissariat was often uncommunicative. This also seemed to be the case between Transit and Reception Camps. Officially, when an individual arrives in Serbia they have 72 hours to register with the Commissariat after which they are given a card with their name, their age, nationality, a photo of their face, an ID number and a QR code. According to InfoPark this has been the standard ID card for decades. When a person on the move moves into a new camp, these details should be taken down with the camp, that the camp is able to track how many times this POM has been in the camp and for how long. However this information is not shared between camps so even within Serbia, officials are not tracking POM's movements. This is confirmed by BVMN testimonies, which rarely mention the collection of fingerprints or taking facial images during pushback operations.

100 European Commission. (2022). Serbia 2022 Report. Available at: https://www.stat.gov.rs/media/358410/serbia-report-2022-1.pdf

101] European Commission, (Brussels, 8.11.2023) SWD(2023) 695 final. Serbia 2023 Report. Accompanying the document Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. 2023 Communication on EU Enlargement policy . Available at: https://neighbourhoodenlargement.ec.europa.eu/system/files/2023-11/SWD_2023_695_Serbia.pdf

4. Impacts of Border Technologies

4.1 Impact of Border Technologies on People on the Move

The plans to expand border surveillance technologies in Serbia as outlined above, sit within a wider auditorium of other technology concerns currently ongoing in Serbia; the Commissioner for Information of Public Importance and Personal Data Protection has been highlighting concerns about private data in Serbia for several years,[102] several organisations have expressed serious concerns about the rate at which the Serbian police are purchasing and deploying drones,[103] and multiple digital rights watchdogs have raised concerns about the recent collaboration between the Serbian government and G42, a controversial UAE technology firm specialising in biometric data.[104] There is some legislation regulating the use of surveillance technologies in public spaces, including drones, however this legislation does not apply to law enforcement and border police, making people on the move already vulnerable to exploitation and violence the targets of intrusive surveillance tech.[105]

While it is difficult to attribute the direct consequences of the slow but steady build up of border surveillance infrastructure, it is plausible to assume that advanced tools to detect and identify people on the move in Serbia will lead to more swift and effective pushbacks. To date, the Border Violence Monitoring Network has collected 12 testimonies of violent pushbacks affecting 170 people, yet the number is very likely significantly higher. The low number of testimonies is attributed to the real criminalisation of movement as well as related risks of criminalisation of solidarity in Serbia.

The special military operation that took place at the end of 2023 is a very clear example of the militarization of migration management and the direct impact of deterrence technologies. The use of advanced drones and helicopters supported an unprecedented, large-scale and systematic eviction of nearly all people on the move from the north of Serba. Although organisations had responded to previous rounds of evictions and state aggression, the team reported already at the time that this particular operation struck the team there as especially aggressive and meticulous, involving an unprecedented number of police officers and military personnel.[106] While evictions were previously used mostly for intimidation and dissuasion and carried out around specific areas that people would return to later, this operation seemed to have the goal of physically removing all people from informal settlements as well as emptying and closing all official camps in the region. Evictions were characterised by high levels of physical violence perpetrated by the authorities, mainly through beatings, with hands and batons, and kickings.

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102 Stojanovic, M. (2023). Watchdogs in Serbia Warn of Data Threat from New Information Systems. Balkan Insight. Available online [Accessed 17 May 2024].

103 Tesic, A. (2023b). Watching Us: Serbian Police's Expanding Drone Arsenal Draws Concern. Balkan Insight. Available online [Accessed 17 May 2024].

104 Tesic, A. (2023a). In Serbia's Collaboration with a UAE Tech Firm, Fears of 'Digital Autocracy'. Balkan Insight. Available online [Accessed 17 May 2024].

105] European Commission, (Brussels, 8.11.2023) SWD(2023) 695 final. Serbia 2023 Report. Accompanying the document Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. 2023 Communication on EU Enlargement policy . Available at: https://neighbourhoodenlargement.ec.europa.eu/system/files/2023-11/SWD_2023_695_Serbia.pdf

106 Collective Aid (2023b). Subotica Situational Update. Available online [Accessed 17 May 2024].

In a testimony collected by Collective Aid on October 20th, an 18 year-old boy from Syria reported on these practices after an eviction.

The respondent reported that officers arrived around 8am, when he and others were still asleep. He described that the authorities were wearing all black uniforms and black ski masks covering their faces, and that they entered the building and started to break down doors and some of the furniture. They also went through people's belongings, flipped mattresses and beds, and destroyed many electronic devices. The respondent was reportedly apprehended when he was trying to leave and beaten for several minutes. He sustained many injuries as a result of this violence, including wounds to his face, head, and ribs. "I tried to run away, but they caught me near the front gate. They hit me very hard. They beat me when I fell on the ground. I was very scared[107]" In the aftermath of the operation, the sudden and forceful relocation of thousands of people on the move to a handful of reception centres led to severe overcrowding of government-run accommodations. The conditions and amenities at many of these RTCs had already been reported as inadequate on multiple occasions before the police operation, especially with regards to unsanitary conditions and lack of access to proper medical care. Without the expansion or improvement of any of these facilities in the context of the operation, the resulting overcrowding led to a massive deterioration of conditions.[108]

4.2 Risks of Border Technologies for People on the Move

Risks to the right to privacy and data security are of significant concern not only in the context of the expansion and integration of biometric databases in Serbia to align with EU systems. Drone footage and other visual data collected through surveillance system including thermal imaging cameras and MSSs, is often stored for an unknown period of time, and in certain contexts shared in real-time with third parties.[109] Given that people on the move whose data is collected at the border, are often unaware that they are being surveilled and for what purpose there is a specific risk to the right to data protection and GDPR. As the drones used in Serbia are becoming increasingly advanced, with an ability to identify and track data subjects, there are also increasingly risks to discrimination and racial bias.[110] Given European plans to further integrate cooperation in border management and law enforcement including with Serbia, there are real concerns that data will be stored and shared with third parties, violating the purpose principle. As for biometric data, collection the integration of migration and criminal databases may unjustly criminalise migrants, hindering their access to asylum and protection. This issue highlights the conflict between personal data protection, fundamental rights, and the use of biometric systems for surveillance, especially if Western Balkan systems connect to EU databases before accession. As described in the section above, situational awareness technologies and so called smart border technologies, have not reduced the level of border violence but only rendered people on the move and their rights more invisible.

107 Border Violence Monitoring Network (2024). Serbia's Special Military Operation. Available at: https://borderviolence.eu/app/uploads/IV-report-Serbia-Document-A4.pdf

108 Ibid.

109 This is the case for example with the Ceretrab Platform designed to allow for real time data exchange between Cyprus and Greece. See the BVMN (2024). Surveillance Technologies on European Borders: Cyprus.Available here.

110 J. Hovsha & D. O Brien (2022).Drone Use Cases and their Privacy Impacts: A Taxonomy. Available online: https://tilburglawreview.com/articles/10.5334/tilr.281

5. Algorithmic Ecology

The preliminary Algorithmic Ecology for border technology in Serbia that is presented in this section serves to very simply visualise the complex web of actors that have been discussed so far. For readers who are new to the model, an algorithmic ecology is a tool developed by Stop LAPD Spying[111] and provides a methodology for identifying relationships between those experiencing criminalisation and the op-erational factors, institutional factors and ideological factors that drive criminalisation.[112] It is a useful model for stakeholder mapping in this case as it allows for a relatively basic breakdown of the level at which different actors operate and their associated interests. This then also makes the model doubly useful for this subject as it allows for readers to more precisely locate where there are gaps in understanding.

This model is far from complete as this model depicts the situation with the information that we as researchers currently have. Those who use the model should in particular consider how different gaps in information factor into the model and consider the ways in which the model will need to change and adapt as understanding improves and gaps in knowledge are resolved. Readers will almost certainly identify relationships that are not reflected on the model, many readers will also probably spot mistakes, and because of this the model should be used as a starting point. The model is only valuable if it continues to change with more research, so that it can better map where research or intervention could be fruitful and where gaps in information remain.

Some of the key things that the model highlights, help to demonstrate where it can be useful. At the community level, there is lots of focus among NGOs on the unintended consequences and the POM experience, however there is less research or intervention regarding the local stakeholder experience, and the way in which local Serbian people understand these technologies. Local stakeholders and local media typically associate border technology with policies to address organised crime and gun crime, however it has also been discussed that many Serbian people and Serbian CSAs are concerned about the expansion of surveillance and drone use by police, and so it is unclear how local stakeholders assess the use of these tools to criminalise POM. At the operational level, we know that enforcement equipment is provided by the EU and foreign government interests, however the vast majority of details regarding the exact types of enforcement equipment are still unknown, and the same is true of the link between the police officers and the enforcement equipment - there is ambiguity about which officers are able to use which equipment. Finally at the institutional and ideological level it is extremely relevant to interrogate private interests and profit incentives, and in particular the linkages that might exist between private interests and respective governmental interests.

The algorithmic ecology, as stakeholder mapping, allows for an examination of our gaps in knowledge by concretely identifying the actors, interests and pressures we know are at play.

111 StopLAPDspying (2020). The Algorithmic Ecology: An Abolitionist Tool for Organizing Against Algorithms. Medium. Available online [Accessed 17 May 2024].

112 Freerads (2020). Algorithmic Ecology Handout. Freerads blog. Available online [Accessed 17 May 2024].

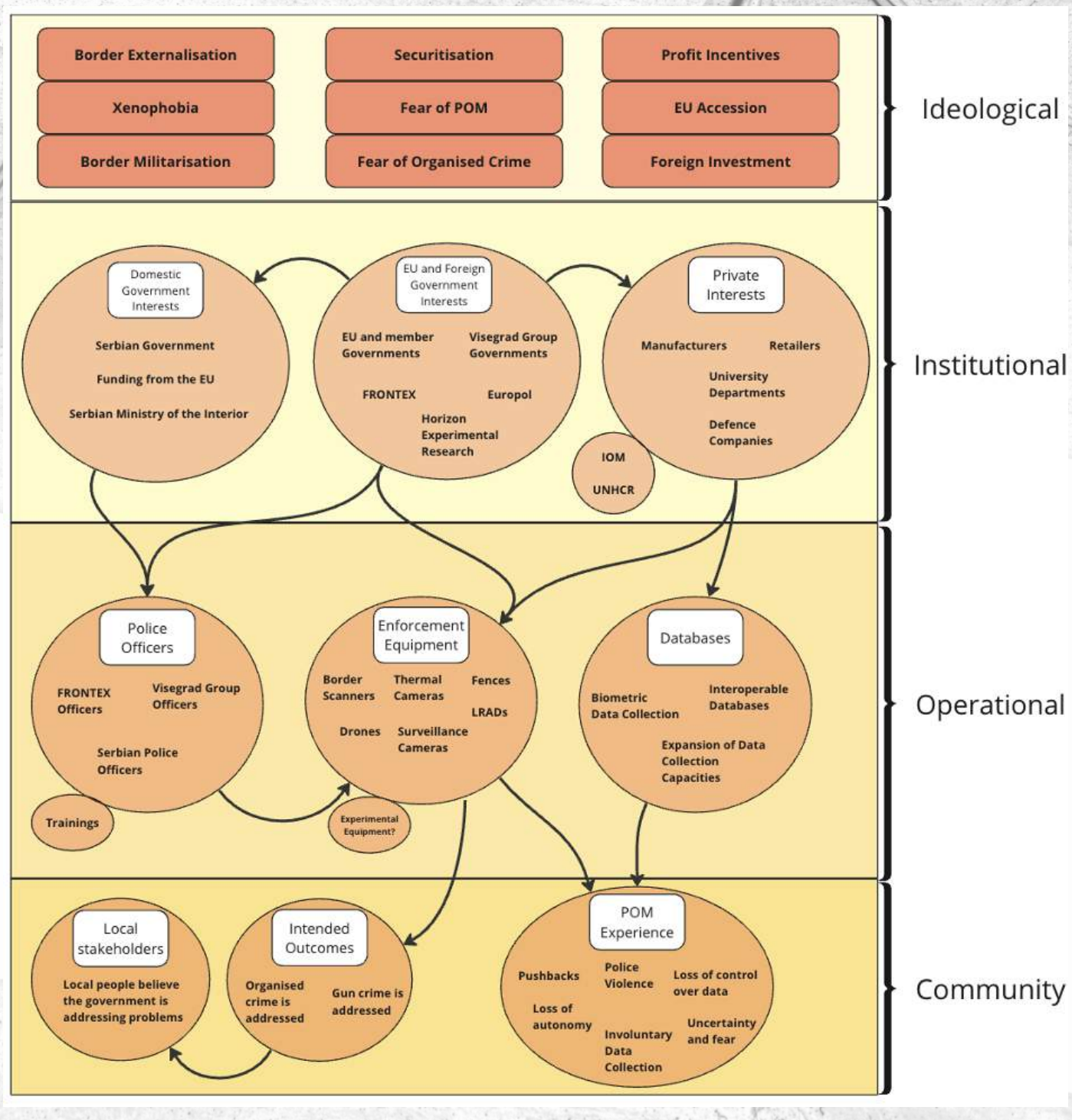

Figure 9 *Algorithmic Ecology model of the factors relating to border technology in Serbia*

6. Conclusion

This assessment yielded a more precise map of the current observable border technologies in Serbia, providing new findings from the under-researched Southern and South-Eastern borders of Serbia. The field assessment allowed for the observation of several factors that were predicted in our desk research, including the heavily surveilled Northern border fence, the lack of POM in the country overall, and the opaque situation in the TRCs. As highlighted from the start of the report, gaps in information and secrecy were a huge aspect of the entire process, however as it's been emphasised throughout the report it is not accurate to suggest all these gaps are a function of secrecy, Gaps in information do not necessarily mean that the information is being hidden by an abstract state interest, but instead that the information is subject to several separate interests. This is why the algorithmic ecology, as stakeholder mapping, better interrogates these gaps by focussing on the interests surrounding those gaps that we do know about. This is what leads this report to emphasise the stakeholder findings alongside their associated operational, institutional and ideological interests. All the actors and tools contribute to what Molnar calls a "panopticon of migration management and experimentation,"[113] and this is particularly pertinent when considering the large list of private interests who are also involved in the development of experimental technologies. The UN Working Group on the use of Mercenaries has highlighted that "the considerable and growing corporate involvement in [the border technology sector] has led to a commodification of immigration and border management services,".[114]

Further Research

Based on these findings, the following gaps in knowledge require the most urgent attention. It is necessary to find out the outcomes of the Horizon projects that were tested in Serbia, particularly given the Serbian state's interest in expanding their fleet of drones. It is also necessary to better understand the attitude of Serbian people to border surveillance, in particular Serbian people who are advocating against government surveillance practices, as this might be an effective route for advocacy. Finally it is necessary to research in greater detail what the situation is within the TRC system, particularly considering the role of the biometric data collection and databases that we know currently operate within.

On a broader scale, future research should particularly focus on the elements of the border regime that are obscure or secret. While it is difficult to effectively research the secretive practices of a state like Serbia, our findings clearly demonstrate that there is a complex web of stakeholders and factors supporting the current border technology regime, which suggests there are plenty of more accessible opportunities for research which can help to expose the more intentionally secretive factors. For example, a more precise mapping of private sector actors and private sector interests in Serbia, alongside a more precise mapping of foreign government interests, could lead to a clearer

113 Molnar, P. in conversation with PICUM (2023). Will the AI Act #ProtectNotSurveil people on the move?. Youtube. Available online [Accessed 17 May 2024].

114 UN OHCHR (2023). Digital Border Governance: A Human Rights Based Approach Digital Border Governance: A Human Rights Based Approach. Available online [Accessed 17 May 2024].

understanding of the border technology regime, than trying to gain access to state officials in Serbia.

Finally, future border technology researchers should examine the border technology situation along the Montenegro and Kosovo borders. The border technology situation within Serbia is quite difficult to research due to how few POM there are and due to the many barriers to transparency put in place by the state., There is plenty of information regarding the Bulgarian border, the North Macedonian border, the BiH and Croatian borders and the Hungarian border, but remarkably little information regarding the border technology situation in Montenegro and Kosovo. Although these two countries are particularly mountainous, they nonetheless lie on the Balkan route in very close proximity to Serbia. Given how hostile Serbia has become for POM, it is relevant to assess the possibility that POM might be using these routes instead; because if they are, it would be necessary to examine the border technology regimes of both states. This would be particularly interesting in the case of Kosovo given that the border is exceptionally militarized, meaning it is feasible that POM crossing the border are encountering military border surveillance technologies that already exist. Without entering into an entire new research proposal, it is sufficient to conclude that these questions are all worthy of examination, even if only through desk research.

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